
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

FORM 20-F

- REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR 12(g) OF THE SECURITIES EXCHANGE ACT OF 1934
- OR
- ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2020.

- OR
- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
- OR
- SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.

For the transition period from _____ to _____
Commission file number: 001-39127

Canaan Inc.

(Exact name of Registrant as specified in its charter)

Cayman Islands
(Jurisdiction of incorporation or organization)

1-2/F, QianFang Science Building C
Building No. 27, Zhongguancun Software Park (Phase I)
No. 8 Dongbeiwang West Road
Haidian District, Beijing, 100193
People's Republic of China
(Address of principal executive offices)

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People's Republic of China

* (Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act.

<u>Title of each class</u>	<u>Trading Symbol</u>	<u>Name of each exchange on which registered</u>
American Depositary Shares, each representing 15 Class A ordinary share Class A ordinary shares, par value US\$0.00000005 per share*	CAN	NASDAQ Global Market. NASDAQ Global Market.

* Not for trading, but only in connection with the registration of American Depositary Shares representing such Class A ordinary shares pursuant to the requirements of the Securities and Exchange Commission.

Securities registered or to be registered pursuant to Section 12(g) of the Act. None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act. None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.

2,060,597,778 Class A ordinary shares were outstanding as of December 31, 2020

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes No

Note — Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those Sections.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T

(§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” and “emerging growth company” in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards[†] provided pursuant to Section 13(a) of the Exchange Act.

[†] The term “new or revised financial accounting standard” refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark whether the registrant has filed a report on and attestation to its management’s assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP International Financial Reporting Standards as issued by the International Accounting Standards Board Other

If “Other” has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.

Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No

(APPLICABLE ONLY TO ISSUERS INVOLVED IN BANKRUPTCY PROCEEDINGS DURING THE PAST FIVE YEARS)

Indicate by check mark whether the registrant has filed all documents and reports required to be filed by Sections 12, 13 or 15(d) of the Securities Exchange Act of 1934 subsequent to the distribution of securities under a plan confirmed by a court.

Yes No

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CANAAN INC.

FORM 20-F ANNUAL REPORT
FISCAL YEAR ENDED DECEMBER 31, 2020

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Conventions that Apply to this Annual Report on Form 20-F

In this annual report, unless otherwise indicated:

- “ADR” are to American depositary receipts, which, if issued, evidence the ADSs;
- “ADSs” are to the American depositary shares, each of which represents 15 of our Class A ordinary shares;
- “China” and the “PRC” are to the People’s Republic of China, excluding, for the purposes of this annual report only, Taiwan, the Hong Kong Special Administrative Region and the Macao Special Administrative Region;
- “RMB” or “Renminbi” are to the legal currency of China;
- “US\$,” “U.S. dollars,” or “dollars” are to the legal currency of the United States; and
- “we,” “us,” “our company,” “our” and “Canaan” are to Canaan Inc. and its subsidiaries, as the context requires.

The translations from Renminbi to U.S. dollars and from U.S. dollars to Renminbi in this annual report were made at a rate of RMB6.5250 to US\$1.00, the exchange rates set forth in the H.10 statistical release of the Federal Reserve Board on December 31, 2020. We make no representation that the Renminbi or U.S. dollar amounts referred to in this annual report could have been or could be converted into U.S. dollars or Renminbi, as the case may be, at any particular rate or at all.

Our ADSs are listed on the NASDAQ Global Market under the symbol “CAN.”

Glossary of Technical Terms

This glossary contains explanations of certain terms used in this annual report in connection with our company and our business. In this annual report, unless otherwise indicated:

- “AI” are to artificial intelligence;
- “ASICs” are to application-specific ICs, meaning ICs designed for a specific application;
- “CPU” are to computing processing unit;
- “GPU” are to graphic processing unit;
- “edge computing” are to a method of optimizing cloud computing systems by performing data processing at the edge of the network, near the source of the data;
- “FPGA” are to field programmable gate array, an integrated circuit designed to be configured by a customer or a designer after manufacturing;
- “hash” are to a function used to map data of arbitrary size to data of fixed size and, in the context of Bitcoin mining, a function to solve the mining puzzle;
- “hash rate” are to the processing power of the Bitcoin network and represents the number of computations that is processed by the network in a given time period;
- “ICs” or “chips” are to integrated circuits;

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- “IoT” are to Internet-of-Things, the extension of internet connectivity into physical devices and everyday objects;
- “ISO” are to the International Organization of Standardization;
- “network computing power” are to the processing power of all the machines in the Bitcoin network;
- “neural-network accelerator” are to a class of microprocessor designed as hardware acceleration for AI applications;
- “nm” are to nanometer;
- “PMU” are to power management unit, which is a microcontroller that governs power functions;
- “POW” are to proof-of-work;
- “Risc-V” are to an open source instruction set architecture, which is a set of instructions that describes the way in which software talks to an underlying processor, and Risc-V’s open source nature means that anyone can build a processor to support it without paying high royalty fees;
- “SoC” are to a chip that integrates all components of a computer or other electronic systems;
- “tape-out” are to the final result of the design process for ICs when the graphic for the photomask of the IC is sent to the fabrication facility, and a successful tape-out means all the stages in the design and verification process of ICs have been completed;
- “Thash” are to Terahash, the measuring unit of the processing power of the Bitcoin mining machine; and
- “Thash/s” or “TH/s”, “GH/s” are to the measuring unit of hash rate. 1 TH/s = 1,000 GH/s;

Forward-Looking Information

This annual report contains statements of a forward-looking nature. All statements other than statements of historical facts are forward-looking statements. These forward-looking statements are made under the “safe harbor” provision under Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and as defined in the Private Securities Litigation Reform Act of 1995. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from those expressed or implied by the forward-looking statements. In some cases, these forward-looking statements can be identified by words or phrases such as “may,” “will,” “expect,” “anticipate,” “aim,” “estimate,” “intend,” “plan,” “believe,” “potential,” “continue,” “is/are likely to” or other similar expressions. These forward-looking statements relate to, among others:

- our goal and strategies;
- our expansion plans;
- our future business development, financial condition and results of operations;
- our expectations regarding demand for, and market acceptance of, our products; and
- general economic and business conditions.

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We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy and financial needs.

You should read these statements in conjunction with the risks disclosed in “Item 3. Key Information—D. Risk Factors” of this annual report and other risks outlined in our other filings with the Securities and Exchange Commission, or the SEC. Moreover, we operate in an emerging and evolving environment. New risks may emerge from time to time, and it is not possible for our management to predict all risks, nor can we assess the impact of such risks on our business or the extent to which any risk, or combination of risks, may cause actual results to differ materially from those contained in any forward-looking statements. The forward-looking statements made in this annual report relate only to events or information as of the date on which the statements are made in this annual report. Except as required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances after the date on which the statements are made or to reflect the occurrence of unanticipated events. You should read this annual report and the documents that we have referred to in this annual report, completely and with the understanding that our actual future results may be materially different from what we expect.

PART I

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not required.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not required.

ITEM 3. KEY INFORMATION

A. Selected Financial Data

The following Summary Consolidated Statements of Comprehensive Income (Loss) for the years ended December 31, 2017, 2018, 2019, and 2020 and summary consolidated statements of financial position as of December 31, 2017, 2018, 2019, and 2020 have been derived from our audited consolidated financial statements included elsewhere in this annual report.

You should read the selected consolidated financial data in conjunction with the financial statements and the related notes included elsewhere in this annual report and “Item 5. Operating and Financial Review and Prospects.” Our consolidated financial statements are prepared and presented in accordance with U.S. GAAP. Our historical results do not necessarily indicate our results expected for any future periods.

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Summary Consolidated Statements of Comprehensive Income (Loss):

	Year ended December 31,				
	2017	2018	2019	2020	
	RMB	RMB	RMB	RMB	US\$
	(in millions)				
Net revenues:					
Products revenue	1,303.1	2,698.6	1,392.9	427.5	65.5
Leases revenue	—	—	24.5	19.0	2.9
Service revenue	4.7	6.0	2.7	0.3	0.0
Other revenues	0.3	0.7	2.5	0.9	0.1
Total net revenues	1,308.1	2,705.3	1,422.6	447.7	68.6
Cost of revenues	(703.7)	(2,197.2)	(1,938.6)	(409.9)	(62.8)
Gross profit (loss)	604.4	508.1	(516.0)	37.8	5.8
Operating expenses:					
Research and development expenses ⁽¹⁾	(99.8)	(189.7)	(169.0)	(140.0)	(21.5)
Sales and marketing expenses ⁽¹⁾	(20.7)	(38.7)	(21.9)	(20.0)	(3.0)
General and administrative expenses ⁽¹⁾	(125.3)	(146.7)	(347.6)	(131.6)	(20.2)
Total operating expenses	(245.8)	(375.1)	(538.5)	(291.6)	(44.7)
Income (loss) from operations:					
Interest income	0.2	4.2	3.9	3.2	0.5
Investment income	5.6	3.2	3.1	5.8	0.9
Interest expense and guarantee fee	—	(53.1)	(20.0)	(3.6)	(0.6)
Foreign exchange (loss) gain, net	(1.2)	(1.2)	6.8	2.4	0.4
Value added tax refunds	38.8	110.2	1.3	—	—
Other (loss) income, net	(1.1)	3.8	25.1	31.0	4.7
Income (loss) before income tax expenses	401.0	200.2	(1,034.5)	(215.1)	(33.0)
Income tax expense	(25.2)	(77.8)	—	—	—
Net income (loss)	375.8	122.4	(1,034.5)	(215.1)	(33.0)
Foreign currency translation adjustment, net of nil tax	—	(65.2)	9.7	(24.2)	(3.7)
Total comprehensive income (loss)	375.8	57.2	(1,024.8)	(239.3)	(36.7)

Note:

(1) Share-based compensation expenses were allocated to the following expense items:

	Year ended December 31,				
	2017	2018	2019	2020	
	RMB	RMB	RMB	RMB	US\$
	(in millions)				
Research and development expenses	25.1	9.6	22.5	0.7	0.1
Sales and marketing expenses	0.1	1.1	0.4	0.0	0.0
General and administrative expenses	70.3	7.9	247.4	2.3	0.3

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Summary Consolidated Statements of Financial Position:

	As of December 31,				
	2017	2018	2019	2020	
	RMB	RMB	RMB	RMB	US\$
	(in millions)				
Cash and cash equivalents	176.5	258.9	516.6	391.3	60.0
Restricted cash	—	286.3	8.2	4.5	0.7
Accounts receivable	1.3	23.7	2.9	7.1	1.1
Inventories	259.8	585.7	196.1	225.5	34.6
Prepayments and other current assets	636.4	186.7	206.0	316.4	48.5
Income tax receivable	—	27.1	—	—	—
Property, equipment and software	18.4	27.9	22.6	12.2	1.9
Total assets	1,203.2	1,402.7	991.4	1,036.4	158.8
Short-term debts	—	1,049.0	99.9	34.8	5.3
Contract liabilities	202.5	6.9	8.3	430.4	66.0
Accrued liabilities and other current liabilities	69.2	58.0	40.7	63.3	9.7
Total liabilities	346.0	1,161.7	298.6	603.8	92.5
Total shareholders' equity	857.2	241.0	692.8	432.6	66.3
Total liabilities and shareholders' equity	1,203.2	1,402.7	991.4	1,036.4	158.8

Summary Consolidated Statements of Cash Flow:

	Year ended December 31,				
	2017	2018	2019	2020	
	RMB	RMB	RMB	RMB	US\$
	(in millions)				
Net cash provided by / (used in) operating activities	91.2	(12.7)	(280.1)	42.3	6.5
Net cash (used in)/ provided by investing activities	(86.8)	84.0	(16.3)	(49.6)	(7.6)
Net cash provided by/ (used in) financing activities	150.0	295.2	278.0	(111.9)	(17.2)
Net increase/(decrease) in cash and cash equivalents, restricted cash	154.4	366.4	(18.4)	(119.2)	(18.3)
Effect of exchange rate changes on cash and cash equivalents, restricted cash	(1.3)	2.3	(1.9)	(9.8)	(1.5)
Cash and cash equivalents, restricted cash at the beginning of year	23.4	176.5	545.2	524.8	80.4
Cash and cash equivalents, restricted cash at the end of year	176.5	545.2	524.8	395.8	60.7

Non-GAAP Financial Measures

In evaluating our business, we consider and use adjusted net income as a supplemental measure to review and assess our operating performance. The presentation of this non-GAAP financial measure is not intended to be considered in isolation or as a substitute for financial information prepared and presented in accordance with U.S. GAAP. We define adjusted net income as net income excluding share-based compensation expense.

We believe that adjusted net income helps to identify underlying trends in our business that could otherwise be distorted by the effect of the expenses that we exclude in adjusted net income. We believe that adjusted net income provides useful information about our operating results, enhances the overall understanding of our past performance and future prospects and allows for greater visibility with respect to key metrics used by our management in its financial and operational decision-making.

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The non-GAAP financial measure “adjusted net income” is not defined under U.S. GAAP, is not presented in accordance with U.S. GAAP and has limitations as an analytical tool. One of the key limitations of using adjusted net income is that it does not reflect all of the items of income and expense that affect our operations. Share-based compensation has been and may continue to be incurred in our business and is not reflected in the presentation of adjusted net income. Further, the non-GAAP financial measure “adjusted net income” may differ from the non-GAAP information used by other companies, including peer companies, and therefore their comparability may be limited.

We compensate for these limitations by reconciling the non-GAAP financial measure to the nearest U.S. GAAP performance measure, all of which should be considered when evaluating our performance. We encourage you to review our financial information in its entirety and not to rely on a single financial measure.

The table below sets forth a reconciliation of our net income to adjusted net income (loss) for the period indicated:

	Year ended December 31,				
	2017	2018	2019	2020	
	RMB	RMB	RMB	RMB	US\$
Net income (loss)	375.8	122.4	(1,034.5)	(215.1)	(33.0)
Add:			(in millions)		
Share-based compensation expenses	95.5	18.6	270.2	3.0	0.4
Adjusted net income (loss)	471.3	141.0	(764.3)	(212.1)	(32.6)

Selected Operating Data

The following table sets forth the sales volume and average selling prices generated by our different Bitcoin mining machines for the periods indicated:

	Year ended December 31,							
	2017		2018		2019		2020	
	Volume set	ASP RMB	Volume set	ASP RMB	Volume set	ASP RMB	Volume set	ASP RMB
A7 series ⁽¹⁾	294,523	4,402	20,576	3,710	—	—	—	—
A8 series ⁽²⁾	—	—	503,237	4,842	276,571	1,189	47,993	130
A9 series ⁽³⁾	—	—	35,324	3,665	88,347	2,068	2,551	650
A10 series ⁽⁴⁾	—	—	—	—	122,134	7,082	116,550	3,010
A11 series ⁽⁵⁾	—	—	—	—	—	—	3,898	10,437
A12 series ⁽⁶⁾	—	—	—	—	—	—	967	14,633
Total	294,523	4,402	559,137	4,726	487,052	2,826	171,959	2,405

Notes:

- (1) Mainly includes our A721, A741 and A761 Bitcoin mining machines.
- (2) Mainly includes our A821, A841, A851 and A852 Bitcoin mining machines.
- (3) Mainly includes our A921 and A911 Bitcoin mining machines.
- (4) Mainly includes our A1047, A1066 and A1066 Pro Bitcoin mining machines.
- (5) Mainly includes our A1146 Pro, A1166 and A1166 Pro Bitcoin mining machines.
- (6) Mainly includes our A1246 Bitcoin mining machines.

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The following table sets forth the total computing power sold and average selling prices of our Bitcoin mining machines expressed in terms of computing power for the periods indicated:

	Year ended December 31							
	2017		2018		2019		2020	
	Total Computing Power Sold Thash/s	ASP per Thash RMB	Total Computing Power Sold Thash/s	ASP per Thash RMB	Total Computing Power Sold Thash/s	ASP per Thash RMB	Total Computing Power Sold Thash/s	ASP per Thash RMB
A7 series ⁽¹⁾	2,114,637	613	151,131	505	—	—	—	—
A8 series ⁽²⁾	—	—	6,305,119	386	4,025,762	82	699,292	9
A9 series ⁽³⁾	—	—	702,416	184	1,645,421	111	47,536	35
A10 series ⁽⁴⁾	—	—	—	—	4,856,618	178	5,477,423	64
A11 series ⁽⁵⁾	—	—	—	—	—	—	297,170	137
A12 series ⁽⁶⁾	—	—	—	—	—	—	79,307	178
Total	2,114,637	613	7,158,666	369	10,527,801	131	6,600,729	63

Notes:

- (1) Mainly includes our A721, A741 and A761 Bitcoin mining machines.
- (2) Mainly includes our A821, A841, A851 and A852 Bitcoin mining machines.
- (3) Mainly includes our A921 and A911 Bitcoin mining machines.
- (4) Mainly includes our A1047, A1066 and A1066 Pro Bitcoin mining machines.
- (5) Mainly includes our A1146 Pro, A1166 and A1166 Pro Bitcoin mining machines.
- (6) Mainly includes our A1246 Bitcoin mining machines.

The table below sets forth the sales cost, per unit costs and the selling cost in terms of computing power of our Bitcoin mining machines for the periods indicated:

	Year ended December 31											
	2017			2018			2019			2020		
	Cost ⁽¹⁾ RMB in millions	Per unit cost RMB	Cost per Thash RMB	Cost ⁽¹⁾ RMB in millions	Per unit cost RMB	Cost per Thash RMB	Cost ⁽¹⁾ RMB in millions	Per unit cost RMB	Cost per Thash RMB	Cost ⁽¹⁾ RMB in millions	Per unit cost RMB	Cost per Thash RMB
A7 series ⁽²⁾	693.3	2,354	328	51.1	2,482	338	—	—	—	—	—	—
A8 series ⁽³⁾	—	—	—	1,243.9	2,472	197	689.1	2,492	171	119.6	2,492	171
A9 series ⁽⁴⁾	—	—	—	154.9	4,385	221	370.4	4,193	225	10.7	4,193	225
A10 series ⁽⁵⁾	—	—	—	—	—	—	672.4	5,506	138	838.2	7,191	153
A11 series ⁽⁶⁾	—	—	—	—	—	—	—	—	—	47.1	12,077	158
A12 series ⁽⁷⁾	—	—	—	—	—	—	—	—	—	8.4	8,680	106
Total	693.3	2,354	328	1,449.9	2,593	203	1,731.9	3,556	165	1,023.9	5,954	155

Notes:

- (1) Without taking into consideration the inventory and prepayment write down provision of nil, RMB786.0 million, RMB729.0 million, RMB44.9 million (US\$6.9 million), in 2017, 2018, 2019 and 2020, respectively, as well as a realized inventory and prepayment write down of nil, RMB71.1 million, RMB589.5 million, RMB794.6 million (US\$121.8 million), respectively, for the same periods.
- (2) Mainly includes our A721, A741 and A761 Bitcoin mining machines.
- (3) Mainly includes our A821, A841, A851 and A852 Bitcoin mining machines.
- (4) Mainly includes our A921 and A911 Bitcoin mining machines.
- (5) Mainly includes our A1047, A1066 and A1066 Pro Bitcoin mining machines.
- (6) Mainly includes our A1146 Pro, A1166 and A1166 Pro Bitcoin mining machines.
- (7) Mainly includes our A1246 Bitcoin mining machines.

B. Capitalization and Indebtedness

Not required.

C. Reasons for the Offer and Use of Proceeds

Not required.

D. Risk Factors

Risk Factor Summary

The following summary highlights some of the principal risks that could adversely affect our business, financial condition or results of operations. This summary is not complete and the risks summarized below are not the only risks we face. These risks are discussed more fully further below in this section entitled “Risk Factors.” These risks include, but are not limited to, the following:

- Our results of operations have been and are expected to continue to be negatively impacted by sharp Bitcoin price decreases.
- We derive a significant portion of our revenues from our Bitcoin mining machines. If the market for Bitcoin mining machines ceases to exist or diminishes significantly, our business and results of operations would be materially harmed.
- If we fail to succeed in the AI market or other new application markets we seek to penetrate into, our revenues, growth prospects and financial condition could be materially and adversely affected.
- The industries in which we operate are characterized by constant changes. If we fail to continuously innovate and to provide products that meet the expectations of our customers, we may be unable to attract new customers or retain existing customers, and hence our business and results of operations may be adversely affected.
- We are subject to risks associated with legal, political or other conditions or developments regarding holding, using or mining of Bitcoins, which could negatively affect our business, results of operations and financial position.
- The outbreak of the novel coronavirus (“COVID-19”) could have a material adverse effect on our business operations, results of operations, cash flows and financial position.
- A substantial majority of our revenues are generated from sales to customers in the PRC. Any adverse development in the regulatory environment in the PRC could have a negative impact on our business.
- Changes in the Bitcoin algorithm or the mining mechanism may materially and adversely affect our business and results of operations.
- Substantial increases in the supply of mining machines connected to the Bitcoin network would lead to an increase in network capacity, which in turn would increase mining difficulty. This development would negatively affect the economic returns of Bitcoin mining activities, which would decrease the demand for and/or pricing of our products.
- We may be unable to make the substantial research and development investments that are required to remain competitive in our business.
- We face intense competition and our competitors may employ aggressive pricing strategies, which can lead to a price reduction of our products and material adverse effect on our results of operations.
- Our Bitcoin mining machine business depends on supplies from very few third-party foundry partners, and any failure to obtain sufficient foundry capacity from these third-part foundry partners would significantly delay the shipment of our products.
- Failure to maintain inventory levels in line with the approximate level of demand for our products could cause us to lose sales, expose us to increased inventory risks and subject us to increases in holding costs, risk of inventory obsolescence, increases in markdown allowances and write-offs, any of which could have a material adverse effect on our business, financial condition and results of operations.
- Our limited operating history and rapid revenue growth may make it difficult for us to forecast our business and assess the seasonality and volatility in our business.
- We may be unable to execute our growth strategies or effectively maintain our rapid growth trends.
- We rely on a limited number of third parties to package and test our products.
- Bitcoin exchanges and wallets, and to a lesser extent, the Bitcoin network itself, may suffer from hacking and fraud risks, which may adversely erode user confidence in Bitcoin which would decrease the demand for our Bitcoin mining machines.

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- We face risks associated with the expansion of our scale of operations globally, and if we are unable to effectively manage these risks, they could impair our ability to expand our business abroad.
- We have incurred negative cash flows from operating activities and net losses in the past and can provide no assurance of our future operating results.
- Shortages in, or increases in the prices of, the components of our products may adversely affect our business.
- Our prepayments to suppliers may subject us to counterparty risk associated with such suppliers and negatively affect our liquidity and cash position.
- If we experience difficulty in collecting our trade receivables, our liquidity, financial condition and results of operations would be negatively impacted.
- Failure at tape-out or failure to achieve the expected final test yields for our ASICs could negatively impact our operating results.
- The administrators of the Bitcoin network's source code could propose amendments to the Bitcoin network's protocols and software that, if accepted and authorized by the Bitcoin network's community, could adversely affect our business, results of operations and financial condition.
- The acceptance of Bitcoin network software patches or upgrades by a significant, but not overwhelming, percentage of the users and miners in the Bitcoin network could result in a "fork" in the blockchain, resulting in the operation of two separate networks that cannot be merged. The existence of forked blockchains could erode user confidence in Bitcoin and could adversely impact our business, results of operations and financial condition.
- AI technologies are constantly evolving, and any flaws in or misuse of AI, even if committed by other third parties, could have a negative impact on our business, reputation, brands and the general acceptance of AI solutions by society.
- Any failure of our products to meet the necessary quality standards could adversely affect our reputation, business and results of operation.
- Our Bitcoin mining machines use open source software and hardware as their basic controller system, which may subject us to certain risks.
- Power shortages, labor disputes and other factors may result in constraints on our production activities.
- If we fail to adequately protect our IP rights, our ability to compete effectively or to defend ourselves from litigation could be impaired, which could reduce our total revenue and increase our costs.
- We may face IP infringement claims or other related disputes, which could be time-consuming, costly to defend or settle and result in the loss of significant rights and lower sales.
- Cyber-security incidents, including data security breaches or computer viruses, could harm our business by disrupting our delivery of services, damaging our reputation or exposing us to liability.
- We require various approvals, licenses, permits and certifications to operate our business. Any failure to obtain or renew any of these approvals, licenses, permits or certifications could materially and adversely affect our business and results of operations.
- We may be involved in legal and other disputes from time to time, whether arising out of our operations, including disputes with our raw material or component suppliers, production partners, customers or employees, or class action lawsuits from our shareholders.
- Our ADSs may be delisted under the Holding Foreign Companies Accountable Act if the PCAOB is unable to inspect auditors who are located in China. The delisting of our ADSs, or the threat of their being delisted, may materially and adversely affect the value of your investment. Additionally, the inability of the PCAOB to conduct inspections deprives our investors with the benefits of such inspections.

An investment in our ADSs involves a high degree of risk. You should carefully consider the following information about these risks, together with the other information appearing elsewhere in this annual report, before deciding to invest in our ordinary shares. The occurrence of any of the following risks could have a material adverse effect on our business, financial condition, results of operations and future growth prospects. In these circumstances, the market price of our ADSs could decline, and you may lose all or part of your investment.

Risks Relating to Our Business and Industry

Our results of operations have been and are expected to continue to be negatively impacted by sharp Bitcoin price decreases.

The demand for, and pricing of, our Bitcoin mining machines is determined primarily by the expected economic return of Bitcoin mining activities, which in turn is significantly affected by expectations with respect to the Bitcoin price, among other factors. The price of Bitcoin has experienced significant fluctuations over its relatively short existence and may continue to fluctuate significantly in the future. According to Blockchain.info, Bitcoin prices ranged from approximately US\$3,792 per coin as of December 31, 2018, US\$7,220 per coin as of December 31, 2019, to US\$28,949 per coin as of December 31, 2020. According to the same source, from January 1, 2020 to December 31, 2020, the highest Bitcoin price was approximately US\$28,949 per coin and the lowest was US\$4,826 per coin. In particular, the Bitcoin price had risen significantly since the fourth quarter of 2020 and reached US\$58,764 per coin as of March 31, 2021. The decrease in the Bitcoin price in 2018 resulted in a material decrease in our sales volume and in the average selling price of our Bitcoin mining machines. As the Bitcoin price remained relatively low throughout the first quarter of 2019 and only started to recover in the second quarter of 2019, we continued to experience low demand of our Bitcoin mining machines despite a low selling price in the first half of 2019. The price of Bitcoin gradually decreased in the second half of 2019. As a result, our revenue for 2019 decreased by 47.4% from 2018. In the first three quarters of 2020, the Bitcoin price had fluctuated, while in the fourth quarter of 2020, it increased significantly. As such, the total computing power sold and the average selling price per Thash/s stayed low during the first three quarters of 2020. As the price of Bitcoin surged in the fourth quarter of 2020, the market demand for mining machines started to recover and the Company had received a large number of orders which were mainly scheduled for delivery in 2021. As a result, our revenue in 2020 decreased by 68.5% from 2019.

We expect our results of operations to continue to be affected by the Bitcoin price, as 99.7%, 97.7%, and 94.4% of our revenue were from sales of our Bitcoin mining machines and other Bitcoin mining machine parts and accessories in 2018, 2019, and 2020, respectively. In particular, as we do not have any long-term sales contracts for our Bitcoin mining machines, the sales volume of our Bitcoin mining machines can be significantly affected by short-term fluctuations of Bitcoin price. Moreover, the Bitcoin price may also be affected by its market share in the cryptocurrency market. For example, in 2020, the People's Bank of China began piloting a digital yuan, a central bank digital currency intended to replace some cash in circulation in the PRC. In May 2019, Facebook announced its plans for a cryptocurrency called Libra. If the digital yuan and/or Libra are successful and largely expand their market share to the detriment and potential exclusion of the Bitcoins in the cryptocurrency market, the value and price of the Bitcoins may be adversely affected. Any future significant reductions in the price of Bitcoin will likely have a material and adverse effect on our results of operations and financial condition. We cannot assure you that the Bitcoin price will remain high enough to sustain the demand for our Bitcoin mining machines or that the Bitcoin price will not decline significantly in the future. Furthermore, fluctuations in the Bitcoin price can have an immediate impact on the trading price of the ADSs even before our financial performance is affected, if at all.

Various factors, mostly beyond our control, could impact the Bitcoin price. For example, the usage of Bitcoins in the retail and commercial marketplace is relatively low in comparison with the usage for speculation, which contributes to Bitcoin price volatility. Additionally, the reward for Bitcoin mining is designed to decline approximately every four years, with the most recent halving event occurring in May 2020, which has further contributed to Bitcoin price volatility and made our products less productive and therefore decreased the demand for and pricing of our Bitcoin mining machines in the first three quarters of 2020.

If the Bitcoin price or Bitcoin network transaction fees drop, the expected economic return of Bitcoin mining activities will diminish, thereby resulting in a decrease in demand for our Bitcoin mining machines. As a result, we may need to reduce the price of our Bitcoin mining machines. At the same time, if transaction fees increase to such an extent as to discourage users from using Bitcoins as a medium of exchange, it may decrease the transaction volume of the Bitcoin network and may affect the demand for our Bitcoin mining machines. In addition, any shortage of power supply due to government control measures or other reasons, and any increase in energy costs, would raise the costs of Bitcoin mining. This in turn could affect our customers' expected economic return for mining activities and the demand for and pricing of our current Bitcoin mining machines.

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Furthermore, fluctuations in Bitcoin price may affect the value of inventories as well as the provision we make to the inventory as we manage our inventories based on, among others, the sales forecast of our Bitcoin mining machines. As we generally increase our procurement volume and stock up finished goods for the launch of new products or we expect a surge of demand of Bitcoin mining machine, a significant drop in the Bitcoin price can lead to a lower expected sales price and excessive inventories, which in turn will lead to impairment losses with respect to such inventories. For example, in 2018, 2019, and 2020, as a result of the significant drop in the Bitcoin price, we recorded inventories and prepayments write downs of RMB786.0 million, RMB729.0 million, and RMB44.9 million (US\$6.9 million), respectively, which in turn had a significant negative impact on our profitability. If the Bitcoin price drops significantly in the future, we may need to make similar write-downs again. To the extent we are able to sell such inventories above its carrying value, our gross profit may also be inflated by such write down.

The Bitcoin price drop in 2018, the fourth quarter of 2019, and the first half of 2020 also caused our customers who purchased our Bitcoin mining products on credit to be less willing to make payment. We consider the portion of the contract price on credit and not yet collected as implicit price concession and we recognize revenue based on subsequent information regarding our collection of such portion of the contract price. In 2018, 2019, and 2020, we recognized such price concessions of RMB152.8 million, RMB22.4 million, and RMB11.5 million (US\$1.8 million), respectively. We may continue to offer sales on credit to some of our customers, and if the Bitcoin price drops significantly in the future, we will need to recognize such as implicit price concession.

We derive a significant portion of our revenues from our Bitcoin mining machines. If the market for Bitcoin mining machines ceases to exist or diminishes significantly, our business and results of operations would be materially harmed.

Sales of our Bitcoin mining machines, which incorporate our proprietary ASICs, historically generated substantially all of our revenue, and are expected to continue to generate a significant portion of our revenue in the foreseeable future. In 2018, 2019 and 2020, sales of our Bitcoin mining machines and other Bitcoin mining machine parts and accessories accounted for 99.7%, 97.7%, and 94.4% of our revenues, respectively. If the market for Bitcoin mining machines ceases to exist or diminishes significantly, we would experience a significant loss of sales, cancelation of orders, or loss of customers for our Bitcoin mining machines. Adverse factors that may affect the market for Bitcoin mining machines include:

- Another cryptocurrency displaces Bitcoin as the mainstream cryptocurrency, thereby causing Bitcoin to lose value or become worthless, which could adversely affect the sustainability of our business;
- Bitcoin fails to gain wide market acceptance and fails to become a generally accepted medium of exchange in the global economy due to certain inherent limitations to cryptocurrencies;
- Over time, the reward for Bitcoin mining (in terms of the amount of Bitcoin awarded) will decline, which may reduce the incentive to mine Bitcoin. Specifically, the halving event occurred in May 2020, and Bitcoins are expected to be fully mined out by the year 2140. Therefore, Bitcoin mining machines may become less productive as the available rewards for Bitcoin mining decrease.

If we cannot maintain the scale and profitability of our Bitcoin mining machines and, at the same time, successfully expand our business in the AI market, our business, results of operations and ability to continue to grow will suffer. Furthermore, excess inventories, inventory markdowns, brand image deterioration and margin squeeze caused by declining economic returns for miners or pricing competition for our Bitcoin mining machines could all have a material and adverse impact on our business, financial condition and results of operations.

If we fail to succeed in the AI market or other new application markets we seek to penetrate into, our revenues, growth prospects and financial condition could be materially and adversely affected.

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While we endeavor to expand our AI business, sales of Bitcoin mining machines continue to account for a substantial majority of our total revenue. As of December 31, 2020, we shipped about 239,878 AI chips and development kits. Our future revenue growth will depend largely on our ability to successfully expand our business in the AI market and penetrate into new application markets. We cannot predict how or to what extent the demand for our products in the AI market will develop going forward. Furthermore, as ASICs may not develop into mainstream solutions for AI technologies and applications, we might not be able to capitalize on the growth in the market for AI technologies and applications with our ASICs. If the AI market does not develop as we currently anticipate and we are unable to penetrate into new application markets, our future revenue and profits could be materially and adversely affected.

We plan to work closely with our partners in product development to enhance our visibility in new market trends and meet customer demand by devoting more resources to research and development. We may also need to recruit more employees for research and development and product development, such as software engineers. We intend to continue to capitalize on market opportunities for introducing new product applications and conduct advance planning for our next-generation products in a timely manner. However, if we fail to penetrate into any of these or other new markets to which we devote our resources, we may not be able to generate returns on our investments and our financial condition could suffer.

The industries in which we operate are characterized by constant changes. If we fail to continuously innovate and to provide products that meet the expectations of our customers, we may be unable to attract new customers or retain existing customers, and hence our business and results of operations may be adversely affected.

The industries in which we operate are characterized by constant changes, including rapid technological evolution, continual shifts in customer demands, frequent introductions of new products and solutions and constant emergence of new industry standards and practices. Thus, our success will depend, in part, on our ability to respond to these changes in a cost-effective and timely manner. We need to anticipate the emergence of new technologies and assess their market acceptance. We also need to invest significant resources in research and development in order to keep our products competitive in the market.

However, research and development activities are inherently uncertain, and we might encounter practical difficulties in commercializing our research and development results, which could result in excessive research and development expenses or delays. Given the fast pace with which blockchain and AI technologies have been and will continue to be developed, we may not be able to timely upgrade our technologies in an efficient and cost-effective manner, or at all. In addition, new developments in AI, deep learning, IoT, computer vision, blockchain and cryptocurrency could render our products obsolete or unattractive. If we are unable to keep up with the technological developments and anticipate market trends, or if new technologies render our technologies or solutions obsolete, customers may no longer be attracted to our products. As a result, our business, results of operations and financial condition would be materially and adversely affected.

As our current mining machines are designed for Bitcoin mining, any limitation on the usage and adaptation of Bitcoin and any actual or perceived adverse development in the Bitcoin market, which is rapidly and continuously evolving, can impact our results of operations. As there is no wide consensus with respect to the value and application of Bitcoin, any future development may continue to affect the price of Bitcoin and hence affect the demand for our current Bitcoin mining machines. In addition, any event or rumor that generates negative publicity for the Bitcoin industry and market, such as allegations that Bitcoin is used for money laundering or other illicit activities, could result in harm to our reputation, which in turn may negatively affect our results of operations.

Decentralization, or the lack of control by a central authority, is a key reason that cryptocurrencies like Bitcoin have attracted many committed users. However, the decentralized nature of Bitcoin is subject to growing discussion and suspicion. Some claim that most of the actual services and businesses built within the Bitcoin ecosystem are in fact centralized since they are run by specific people, in specific locations, with specific computer systems, and that they are susceptible to specific regulations. Individuals, companies or groups, as well as Bitcoin exchanges that own vast amounts of Bitcoins, can affect the market price of Bitcoin. Furthermore, mining equipment production and mining pool locations are becoming centralized. Some argue that the decentralized nature of cryptocurrencies is a fundamental flaw rather than a strength. The suspicion about the decentralized nature of Bitcoin may cause our customers to lose confidence in the prospect of the Bitcoin industry. This in turn could adversely affect the market demand for our Bitcoin mining machines and our business. For more details, see “—If any person, institution or a pool of them acting in concert obtains control of more than 50% of the processing power active on the Bitcoin network, such person, institution or a pool of them could prevent new transactions from gaining confirmations, halt payments between users, and reverse previously completed transactions, which would erode user confidence in Bitcoin.”

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We are subject to risks associated with legal, political or other conditions or developments regarding holding, using or mining of Bitcoins, which could negatively affect our business, results of operations and financial position.

Our customers are based globally. As such, changes in government policies, taxes, general economic and fiscal conditions, as well as political, diplomatic or social events, expose us to financial and business risks. In particular, changes in domestic or overseas policies and laws regarding holding, using and/or mining of Bitcoins could result in an adverse effect on our business operations and results of operations. Moreover, if any domestic or international jurisdiction where we operate or sell our Bitcoin mining machines prohibits or restricts Bitcoin mining activities, we may face legal and other liabilities and will experience a material loss of revenue.

There are significant uncertainties regarding future regulations pertaining to the holding, using or mining of Bitcoins, which may adversely affect our results of operations. While Bitcoin has gradually gained more market acceptance and attention, it is anonymous and may be used for black market transactions, money laundering, illegal activities or tax evasion. As a result, governments may seek to regulate, restrict, control or ban the holding, use and mining of Bitcoins. In addition, due to compliance risk, cost, government regulation or public pressure, banks and financial institutions may not provide banking services, or may cut off services, to businesses that provide cryptocurrency-related services or that accept cryptocurrencies, including Bitcoins, as payment. Our existing policies and procedures for the detection and prevention of money laundering and terrorism-funding activities through our business activities have only been adopted in recent years and may not completely eliminate instances in which we or our products may be used by other parties to engage in money laundering and other illegal or improper activities. We cannot assure you that there will not be a failure in detecting money laundering or other illegal or improper activities which may adversely affect our reputation, business, financial condition and results of operations.

With advances in technology, cryptocurrencies are likely to undergo significant changes in the future. It remains uncertain whether Bitcoin will be able to cope with, or benefit from, those changes. In addition, as Bitcoin mining employs sophisticated and high computing power devices that need to consume a lot of electricity to operate, future developments in the regulation of energy consumption, including possible restrictions on energy usage in the jurisdictions where we sell our products, may also affect our business operations and the demand for our Bitcoin mining machines. There have been public backlashes surrounding the environmental impacts of Bitcoin mining, particularly the large consumption of electricity, and governments of various jurisdictions have responded.

The outbreak of the novel coronavirus (“COVID-19”) could have a material adverse effect on our business operations, results of operations, cash flows and financial position.

We are closely monitoring the impact of the COVID-19 pandemic on all aspects of our business, including how it will impact our employees, customers, suppliers and business partners, as well as the cryptocurrency market generally. The COVID-19 pandemic has created significant volatility, uncertainty and economic disruption, which will adversely affect our business operations and may materially and adversely affect our results of operations, cash flows and financial position.

For example, during the first several months of 2020, we experienced a decrease in product demand and pricing, which we believe is, at least to a certain extent, the result of the on-going spread of COVID-19 and resulting market disruption. Many of our customers have been facing increasing disruptions to their business, including the maintenance or expansion of their Bitcoin mining sites.

The spread of pandemics or disease outbreaks such as COVID-19 has also disrupted logistics necessary to import, export, and deliver products to us or our customers. Ports and other channels of entry have been closed or operated at only a portion of capacity, as workers have been prohibited or otherwise unable to report to work, and means of transporting products within regions or countries have been limited for the same reason.

Our operations, or those of our suppliers and business partners have been limited in their ability to produce our products because of transport restrictions related to quarantines or travel bans. We, our suppliers and business partners face workforce limitations and travel restrictions and related government actions which impact many aspects of our business. As a significant percentage of our employees or the employees of our suppliers and business partners have been unable to work, including because of illness or travel or government restrictions in connection with pandemics or disease outbreaks, our operations have been negatively impacted.

The extent to which the COVID-19 pandemic impacts us will depend on numerous evolving factors and future developments that we are not able to predict, including: the severity of the virus; the duration of the outbreak; governmental, business and other actions; the impacts on our supply chain; the impact of the pandemic on economic activity; the extent and duration of the effect on consumer confidence and spending; the health of and the effect on our workforce and our ability to meet staffing needs in our facilities, particularly if members of our work force are quarantined as a result of exposure; any impairment in value of our tangible or intangible assets which could be recorded as a result of a weaker economic conditions; and the potential effects on our internal controls including those over financial reporting as a result of changes in working environments such as shelter-in-place and similar orders that are applicable to our team members and business partners, among others. In addition, if the pandemic continues to create disruptions or turmoil in the credit or financial markets, it could adversely affect our ability to access capital on favorable terms and continue to meet our liquidity needs, all of which are highly uncertain and cannot be predicted.

In addition, we cannot predict the impact that COVID-19 will have on our customers, suppliers and other business partners, and each of their financial conditions; however, any material effect on these parties could adversely impact us. This situation is changing rapidly and additional impacts may arise that we are not aware of currently. Given the dynamic circumstances and significant uncertainty associated with the pandemic and resulting market disruption, which has had an impact to our operations in 2020, we are unable to estimate the adverse impact of these events on the results of operations, financial position and cash flows for the year-ended December 31, 2021, although we expect these impacts to be adverse, and which may be material.

A substantial majority of our revenues are generated from sales to customers in the PRC. Any adverse development in the regulatory environment in the PRC could have a negative impact on our business.

We primarily sell our Bitcoin mining machines to customers in the PRC. In 2018, 2019, and 2020, revenue from customers in the PRC accounted for 76.1%, 74.8%, and 84.8%, respectively, of our total revenue. If there is any adverse development in the regulatory environment concerning Bitcoin mining or AI application in the PRC, our business, financial condition and results of operations will be materially and adversely affected and we will need to further strengthen our efforts in expanding our international sales. There is no assurance that we will be able to effectively respond to any changes in PRC industrial policies as well as their implementation and interpretation. To the extent we are not able to generate sufficient sales from overseas markets to offset any decrease in demand from our PRC customers, our business and results of operations will be negatively impacted. In particular, if the PRC government completely bans the mining, possession and use of Bitcoin, we will not be able to sell our products in the PRC, and we may not be able to generate sufficient sales overseas to make up for such loss of business in the PRC.

Changes in the Bitcoin algorithm or the mining mechanism may materially and adversely affect our business and results of operations.

Our ASICs for Bitcoin mining machines are designed for the POW mechanism which the Bitcoin network uses to validate Bitcoin transactions. Another cryptocurrency that uses the POW mechanism is known as “Bitcoin cash,” developed in mid-2017, which our current Bitcoin mining machines can also mine. Many people within the Bitcoin community believe that POW is a foundation within Bitcoin’s code that should not be changed. However, there have been debates on mechanism change to avoid the “de facto control” by a great majority of the network computing power. With the possibility of a change in rule or protocol of the Bitcoin network, if our Bitcoin mining machines cannot be modified to accommodate any such changes, our Bitcoin mining machines will not be able to meet customer demand, and the results of our operations will be significantly affected. For more details, see “—The administrators of the Bitcoin network’s source code could propose amendments to the Bitcoin network’s protocols and software that, if accepted and authorized by the Bitcoin network’s community, could adversely affect our business, results of operations and financial condition” and “—The acceptance of Bitcoin network software patches or upgrades by a significant, but not overwhelming, percentage of the users and miners in the Bitcoin network could result in a “fork” in the blockchain, resulting in the operation of two separate networks that cannot be merged. The existence of forked blockchains could erode user confidence in Bitcoin and adversely impact our business, results of operations and financial condition.”

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Substantial increases in the supply of mining machines connected to the Bitcoin network would lead to an increase in network capacity, which in turn would increase mining difficulty. This development would negatively affect the economic returns of Bitcoin mining activities, which would decrease the demand for and/or pricing of our products.

The difficulty of Bitcoin mining, or the amount of computational resources required for a set amount of reward for recording a new block, directly affects the expected economic returns for Bitcoin miners, which in turn affects the demand for our Bitcoin mining machines. Bitcoin mining difficulty is a measure of how much computing power is required to record a new block and it is affected by the total amount of computing power in the Bitcoin network. The Bitcoin algorithm is designed so that one block is generated, on average, every ten minutes, no matter how much computing power is in the network. Thus, as more computing power joins the network, and assuming the rate of block creation does not change (remaining at one block generated every ten minutes), the amount of computing power required to generate each block and hence the mining difficulty increases. In other words, based on the current design of the Bitcoin network, Bitcoin mining difficulty would increase together with the total computing power available in the Bitcoin network, which is in turn affected by the number of Bitcoin mining machines in operation. Additionally, the amount of Bitcoin awarded for solving each block is designed to decline approximately every four years, with the most recent halving event occurred in May 2020. As a result, a strong growth in sales of our Bitcoin mining machines can contribute to further growth in the total computing power in the network, thereby driving up the difficulty of Bitcoin mining and coupled with the decrease in Bitcoin reward, resulting in downward pressure on the expected economic return of Bitcoin mining and the demand for, and pricing of, our products.

We may be unable to make the substantial research and development investments that are required to remain competitive in our business.

Advances in AI technology, Bitcoin mining technology and the semiconductor industry have led to increased demand for ICs of higher speed and power efficiency for solving computational problems of increasing complexity. In 2018, 2019 and 2020, we incurred research and development expense of RMB189.7 million, RMB169.0 million, and RMB140.0 million (US\$21.5 million), respectively. We are committed to investing in new product development in order to stay competitive in our markets. Driven by market demand, we intend to continue to broaden and enhance our product portfolio in order to deliver the most effective solutions to our customers. Nevertheless, if we are unable to generate enough revenue or raise enough capital to make adequate research and development investments going forward, our product development and relevant research and development initiatives may be restricted or delayed, or we may not be able to keep pace with the latest market trends and satisfy our customers' needs, which could materially and adversely affect our results of operations. Furthermore, our substantial research and development expenditures may not yield the expected results that enable us to roll out new products, which in turn will harm our prospects and results of operations.

We face intense competition and our competitors may employ aggressive pricing strategies, which can lead to a price reduction of our products and material adverse effect on our results of operations.

We operate in highly competitive industries for Bitcoin mining solutions and AI products, and we may look to enter into markets with very competitive landscapes. Our competitors include many well-known domestic and international players, and we face competitors that are larger than us and have advantages over us in terms of economies of scale and financial and other resources. We expect that competition in our markets will continue to be intense, as we compete not only with existing players that have been focusing on Bitcoin mining or AI, but also new entrants that include well-established players in the semiconductor industry, or players who have not been predisposed to this industry in the past. Some of these competitors may also have stronger brand names, greater access to capital, longer histories, longer relationships with their suppliers or customers and more resources than we do. Furthermore, these competitors may be able to adapt to changes in the industry more promptly and efficiently. Intense competition from existing and potential competitors could result in material price reductions in the products we sell or a decrease in our market share. Aggressive pricing strategies by our competitors and an abundant supply of Bitcoin mining machines or AI products in the market may cause us to reduce the prices of our products and also negatively affect the demand for our products or harm our profitability. If we fail to compete effectively and efficiently or fail to adapt to changes in the competitive landscape, our business, financial condition and results of operations may be materially and adversely affected.

Our Bitcoin mining machine business depends on supplies from very few third-party foundry partners, and any failure to obtain sufficient foundry capacity from these third-party foundry partners would significantly delay the shipment of our products.

As a fabless IC design company, we do not own any IC fabrication facilities and depend on very few third-party foundry partners. Semiconductor Manufacturing International Corporation, or SMIC, has been our major third-party foundry partner for our Bitcoin mining machine business, but we have also worked with Samsung and Taiwan Semiconductor Manufacturing Company Limited. In 2018, 2019 and 2020, the value of the ICs we purchased from Taiwan Semiconductor Manufacturing Company Limited, or TSMC accounted for 63.1%, 58.3%, and 1.4%, respectively, of our total procurement for the respective periods. In 2019 and 2020, the value of the ICs we purchased from SMIC accounted for 1.4% and 22.7%, respectively, of our total procurement for the respective periods. It is important for us to have a reliable relationship with SMIC and other current and future third-party foundry partners to ensure adequate product supply to respond to customer demand.

We cannot guarantee that our very limited third-party foundry partners will be able to meet our manufacturing requirements. The ability of our third-party foundry partners to provide us with foundry services is limited by their technology migration, available capacity, existing obligations and global semiconductor supply. In particular, we have experienced a global shortage in semiconductors beginning 2021, which may have adversely impacted the production activity and capacity of our third-party foundry partners. If these third-party foundry partners fail to succeed in their technology migration or secure enough semiconductors, they will not be able to deliver to us qualified ICs in a sufficient amount, which will significantly affect our technological advancement and shipment of Bitcoin mining machines. This could in turn result in lost sales and have a material adverse effect on our relationships with our customers and on our business and financial condition.

In addition, we do not have a guaranteed level of production capacity from our third-party foundry partners. We do not have long-term contracts with them, and we source our supplies on a purchase order basis and prepay the purchase amount. As a result, we depend on our third-party foundry partners to allocate to us a portion of their manufacturing capacity sufficient to meet our needs, to produce products of acceptable quality and at acceptable final test yields and to deliver those products to us on a timely basis and at acceptable prices. If our third-party foundry partners raise their prices or are unable to meet our required capacity for any reason, such as shortages or delays in the shipment of semiconductor equipment or raw materials required to manufacture our ICs, or if our business relationships with them deteriorate, we may not be able to obtain the required capacity and would have to seek alternative foundries, which may not be available on commercially reasonable terms, or at all. Moreover, it is possible that other customers of our third-party foundry partners that are larger and/or better financed than we are, or that have long-term contracts with them, may receive preferential treatment in terms of capacity allocation or pricing. In addition, if we do not accurately forecast our capacity needs, our third-party foundry partners may not have available capacity to meet our immediate needs or we may be required to pay higher costs to fulfill those needs, either of which could materially and adversely affect our business, operating results or financial condition.

In particular, the production of our ASICs may require advanced IC fabrication technologies, and foundries other than our third-party foundry partners might not have sufficient production capacity for such technologies, if at all, to meet our requirements. This may expose us to risks associated with engaging new foundries. For example, using foundries with which we have not established relationships could expose us to potentially unfavorable pricing, unsatisfactory quality or insufficient capacity allocation. We have historically contracted with a single foundry for a specific generation of our ASICs, which means that the failure, for whatever reason, of a single third-party foundry partner could materially and adversely affect a whole generation of our products.

Other risks associated with our dependence on a few third-party foundry partners include limited control over delivery schedules and quality assurance, lack of capacity in periods of excess demand, unauthorized use of our intellectual property and limited ability to manage inventory and parts. In particular, although we have entered into confidentiality agreements with our third-party foundry partners for the protection of our intellectual property, it may not protect our intellectual property with the same degree of care as we use to protect our intellectual property. See “—If we fail to adequately protect our IP rights, our ability to compete effectively or to defend ourselves from litigation could be impaired, which could reduce our total revenue and increase our costs.” If we fail to properly manage any of these risks, our business and results of operations may be materially and adversely affected.

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Moreover, if any of our third-party foundry partners suffers any damage to its facilities, suspends manufacturing operations, loses benefits under material agreements, experiences power outages or computer virus attacks, lacks sufficient capacity to manufacture our products, encounters financial difficulties, is unable to secure necessary raw materials from its suppliers or suffers any other disruption or reduction in efficiency, we may encounter supply delays or disruptions. For example, in early August 2018, the operation of certain factories of TSMC in Taiwan was temporarily suspended as a result of a computer virus attack caused by an improper installment procedure administered by TSMC. The TSMC facilities affected by this computer virus included those that manufacture wafers for us, and TSMC's operational suspension resulted in a delay in its shipment to us of 125 wafers for our 7nm ASICs for up to nine weeks.

Failure to maintain inventory levels in line with the approximate level of demand for our products could cause us to lose sales, expose us to increased inventory risks and subject us to increases in holding costs, risk of inventory obsolescence, increases in markdown allowances and write-offs, any of which could have a material adverse effect on our business, financial condition and results of operations.

To operate our business successfully and meet our customers' demands and expectations, we must maintain a certain level of finished goods inventory to ensure immediate delivery when required. Furthermore, we are required to maintain an appropriate level of inventory of parts and components for our production. However, forecasts are inherently uncertain. If our forecasted demand is lower than actual demand, we may not be able to maintain an adequate inventory level of our finished goods or produce our products in a timely manner, and we may lose sales and market share to our competitors. On the other hand, we may also be exposed to increased inventory risks due to accumulated excess inventory of our products or raw materials, parts and components for our products. Excess inventory levels may lead to increases in inventory holding costs, risks of inventory obsolescence and provisions for write-downs. We recorded inventory and prepayment write down provision of RMB786.0 million, RMB729.0 million and RMB44.9 million (US\$6.9 million), in 2018, 2019 and 2020, respectively. The carrying value of our inventories were RMB585.7 million, RMB196.1 million and RMB225.5 million (US\$34.6 million) as of December 31, 2018, 2019 and 2020, respectively.

The average selling prices of our products may decrease from time to time due to technological advancement and we may not be able to pass onto our suppliers such decreases, which may in turn adversely affect our profitability.

The IC design industry is characterized by rapid launches of new products, continuous technological advancements and changing market trends and customer preferences, all of which translate to a shorter life cycle and a gradual decrease in the average selling prices of products over time. For example, the average selling price per Thash for our Bitcoin mining machines decreased from RMB369 in 2018 to RMB131 in 2019 and further decreased to RMB63 (US\$9.7) in 2020. Because we compete in the environment of rapidly-evolving technology advancement and market trends and developments of the IC design industry, there are no assurances that we will be able to pass on any decrease in average selling prices of our products to our suppliers. In the event that average selling prices of our products unusually or significantly decrease and such decreases cannot be offset by a corresponding decrease in the prices of the principal components of our products, our gross profit margins may be materially and adversely affected, which in turn, may adversely affect our profitability.

Our limited operating history and rapid revenue growth may make it difficult for us to forecast our business and assess the seasonality and volatility in our business.

As the markets for Bitcoin mining machines and AI applications are relatively young and still developing, we cannot forecast longer-term demand or order patterns for our products. Because of our limited operating history and historical data, as well as the limited visibility into future demand trends for our products, we may not be able to accurately forecast our future total revenue and budget our operating expenses accordingly. As most of our expenses are fixed in the short-term or incurred in advance of anticipated total revenue, we may not be able to adjust our expenses in a timely manner in order to offset any shortfall in revenue.

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Our business is subject to the varying order patterns of the Bitcoin mining machine and AI products markets. In addition, many of the regions in which our products are purchased have varying holiday seasons that differ from traditional patterns observed by other semiconductor suppliers and these seasonal buying patterns can impact our sales. We have experienced fluctuations in orders during our limited operating history, and we expect such volatility to occur in the future. Our recent significant growth in revenue also makes it difficult to assess the impact of seasonal factors on our business. If we or any of our third-party manufacturing service providers are unable to increase production of new or existing products to meet any increases in demand due to seasonality or other factors, our total revenue would be adversely affected and our reputation with our customers may be damaged. Conversely, if we overestimate customer demand, we may reduce our orders or delay shipments of our products from units forecasted, and our total revenue in a particular period could be lower than expected.

We may be unable to execute our growth strategies or effectively maintain our rapid growth trends.

Historically, we have grown our scale of operations rapidly while our revenues experienced fluctuations due to, among others, the fluctuations of Bitcoin prices. We may not be able to grow our revenue in the future if we are not able to successfully execute our product development and diversification, geographic expansion and other growth plans. In addition, our rapid growth has placed and will continue to place significant demands on our management and our administrative, operational, research and development and financial resources.

To accomplish our growth strategies and manage the future growth of our operations, we will be required to enhance our research and development capabilities, improve our operational and financial systems, and expand, train and manage our growing employee base. Furthermore, we need to maintain and expand our relationships with our customers, suppliers, research institutions, third-party manufacturers and other third parties. Moreover, as we introduce new products or enter new markets, we may face new market, technological, operational and regulatory risks and challenges with which we are unfamiliar.

Our current and planned operations, personnel, systems, internal procedures and controls may not be adequate to support our future growth and expansion. In addition, the success of our growth strategies depends on a number of external factors, such as the growth of the semiconductor market and the demand for Bitcoin, the level of competition we face and evolving customer behavior and preferences. If we are unable to execute our growth strategies or manage our growth effectively, we may not be able to capture market opportunities or respond to competitive pressures, which may materially and adversely affect our business prospects and results of operations.

We rely on a limited number of third parties to package and test our products.

In addition to IC fabrication, we rely on a limited number of production partners for the testing and packaging of our ASICs. Reliance on these third parties for the testing and packaging of our ASICs presents significant risks to us, including the following:

- limited control over delivery schedules, quality assurance, final test yields and production costs;
- potential failure to obtain, or delay in obtaining, key process technologies;
- failure by us to find an alternative supplier;
- capacity shortages during periods of high demand;
- shortages of materials;
- unauthorized use of our IP;
- limited warranties on ICs or products supplied to us; and
- potential increases in prices.

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The ability and willingness of our production partners to adequately and timely perform is largely beyond our control. If one or more of these production partners fails to perform its obligations in a timely manner or at satisfactory quality levels, our ability to bring products to market and our reputation could suffer. If these production partners fail to deliver quality products and components to us on time and at reasonable prices, we could face difficulties in fulfilling our customers' orders, our total revenue could decline and our business, financial condition and results of operations would be adversely affected.

Bitcoin exchanges and wallets, and to a lesser extent, the Bitcoin network itself, may suffer from hacking and fraud risks, which may adversely erode user confidence in Bitcoin which would decrease the demand for our Bitcoin mining machines.

Bitcoin transactions are entirely digital and, as with any virtual system, are at risk from hackers, malware and operational glitches. Hackers can target Bitcoin exchanges and Bitcoin transactions, to gain access to thousands of accounts and digital wallets where Bitcoins are stored. Bitcoin transactions and accounts are not insured by any type of government program and all Bitcoin transactions are permanent because there is no third party or payment processor. Bitcoin has suffered from hacking and cyber-theft as such incidents have been reported by several cryptocurrency exchanges and miners, highlighting concerns about the security of Bitcoin and therefore affecting its demand and price. Also, the price and exchange of Bitcoin may be affected due to fraud risk. While Bitcoin uses private key encryption to verify owners and register transactions, fraudsters and scammers may attempt to sell false Bitcoins. All of the above may adversely affect the operation of the Bitcoin network which would erode user confidence in Bitcoin, which would negatively affect demand for our products.

We face risks associated with the expansion of our scale of operations globally, and if we are unable to effectively manage these risks, they could impair our ability to expand our business abroad.

As part of our growth strategy, we plan to further expand our sales both inside and outside of the PRC. As we continue to grow our business and expand our operations globally, we will continue to sell our products into new jurisdictions in which we have limited or no experience and in which our brands may be less recognized. The expansion exposes us to a number of risks, including:

- we have a limited customer base and limited sales and relationships with international customers;
- difficulty in managing multinational operations;
- we may face competitors in the overseas markets who are more dominant and have stronger ties with customers and greater financial and other resources;
- fluctuations in currency exchange rates;
- challenges in providing customer services and support in these markets;
- challenges in managing our international sales channels effectively;
- unexpected transportation delays or interruptions or increases in international transportation costs;
- difficulties in and costs of exporting products overseas while complying with the different commercial, legal and regulatory requirements of the overseas markets in which we offer our products;
- difficulty in ensuring that our customers comply with the sanctions imposed by the Office of Foreign Assets Control, or OFAC, on various foreign states, organizations and individuals;
- inability to obtain, maintain or enforce intellectual property rights;

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- inability to effectively enforce contractual or legal rights or intellectual property rights in certain jurisdictions under which we operate, including contracts with our existing and future customers and partners;
- changes in a specific country or region's political or economic conditions or policies;
- unanticipated changes in prevailing economic conditions and regulatory requirements; and
- governmental policies favoring domestic companies in certain foreign markets or trade barriers including export requirements, tariffs, taxes and other restrictions and charges. In particular, there have been concerns over the exit of the United Kingdom from the European Union, a worldwide trend in favor of nationalism and protectionist trade policy and the ongoing trade dispute between the United States and China as well as other potential international trade disputes, all of which could cause turbulence in international markets. These government policies or trade barriers could increase the prices of our products and make us less competitive in such countries.

If we are unable to effectively manage these risks, our ability to expand our business abroad will be impaired, which could have a material and adverse effect on our business, financial condition, results of operations and prospects.

We have incurred negative cash flows from operating activities and net losses in the past and can provide no assurance of our future operating results.

We have experienced negative cash flows from operating activities in the amount of RMB12.7 million, RMB280.1 million, and positive cash flows RMB42.3 million (US\$6.5 million) for 2018, 2019 and 2020, respectively, and we incurred a net loss in the amount of RMB215.1 million (US\$33.0 million) for 2020. We will need to generate and sustain increased revenue and net income levels in future periods in order to increase profitability, and, even if we do, we may not be able to maintain or increase our level of profitability over the long term. We cannot assure you that we will be able to generate positive cash flow from operating activities in the future or that we will be able to continue to obtain financing on acceptable terms or at all. Our ability to achieve profitability and positive cash flow from operating activities will depend on a mix of factors, some of which are beyond our control, including the price of Bitcoin, our ability to grow our AI business and manage our product mix and our ability to secure favorable commercial terms from suppliers.

Shortages in, or increases in the prices of, the components of our products may adversely affect our business.

In addition to our proprietary ASICs, the components we use for our Bitcoin mining machines include printed circuit board, other electronic components, fans and aluminum casings. The use of our Bitcoin mining machines also requires certain ancillary equipment and components such as controllers, power adaptors and connectors. The production of our current Bitcoin mining machines depends on obtaining adequate supplies of these components on a timely basis and at competitive prices. We do not typically maintain large inventories of components, but rather we purchase them on a just-in-time basis from various third-party component manufacturers that satisfy our quality standards and meet our volume requirements. Given the long lead times that may be required to manufacture, assemble and deliver certain components and products, problems could arise in planning production and managing inventory levels that could seriously interrupt our operations, including the possibility of defective parts, an increase in component costs, delays in delivery schedules, and shortages of components. Furthermore, we may have to turn to less reputable suppliers if we cannot source adequate components from our regular suppliers. Under such circumstances, the quality of the components may suffer and could cause performance issues in our Bitcoin mining machines.

Shortages of components could result in reduced production or delays in production, as well as an increase in production costs, which may negatively affect our abilities to fulfill orders or make timely shipments to customers, as well as our customer relationships and profitability. Component shortages may also increase our costs of revenue because we may be required to pay higher prices for components in short supply, not being able to pass such costs to customers, and redesign or reconfigure products to accommodate substitute components.

Our prepayments to suppliers may subject us to counterparty risk associated with such suppliers and negatively affect our liquidity and cash position.

We may incur net cash outflows at an early stage of our production because we are required to prepay our third-party foundry partners before the service is provided in order to secure the third-party foundry partners' production capacity. As of December 31, 2018, 2019 and 2020, the outstanding balance of prepayments we made to our third-party foundry partners amounted to RMB62.3 million, RMB18.4 million, and RMB182.6 million (US\$28.0 million), respectively. The amount of our prepayments can significantly increase at the beginning of our launch of advanced products in the future. We are subject to counterparty risk exposure to our suppliers. Any failure by our suppliers to perform their contractual obligations in a timely manner and/or in accordance with our requested quality may result in us not being able to fulfill customers' orders accordingly. In such event, we may not be able to receive back the prepayments in a timely manner or in full, notwithstanding that our suppliers are obligated to return such prepayments upon meeting certain conditions. Furthermore, such prepayments also put cash pressure on us and if the cash outflows for the prepayments significantly exceed the cash inflows during any period, our future liquidity and cash position will be adversely affected.

If we experience difficulty in collecting our trade receivables, our liquidity, financial condition and results of operations would be negatively impacted.

We derive our revenues from the sale of products and are subject to counterparty risks such as our customer's inability to pay. As of December 31, 2018, 2019 and 2020, our trade receivables amounted to RMB27.5 million, RMB2.9 million, and RMB7.1 million (US\$1.1 million), respectively. There can be no assurance that we will be able to collect our trade receivables on a timely basis, and our trade receivable turnover days may increase, which in turn could materially and adversely affect our liquidity, financial condition and results of operations.

Failure at tape-out or failure to achieve the expected final test yields for our ASICs could negatively impact our operating results.

The tape-out process is a critical milestone in our business. A successful tape-out means all the stages in the design and verification process of our ASICs have been completed, and the product is ready to be sent for manufacturing. A tape-out is either a success or a failure, and in the latter case design modifications are needed. The tape-out process is very costly, and repeated failures can significantly increase our costs, lengthen our product development period and delay our product launch. While we have consistently achieved successful tape-out in the initial batch historically, we cannot assure you that we will be able to continue to have a high tape-out success rate in the future.

Once tape-out is successful, the ASIC design is sent for manufacturing, and the final test yield is a measurement of the production success rate. The final test yield is a function of both product design, which is developed by us, and process technology, which typically belongs to a third-party foundry. While we have historically achieved high final test yields, we cannot assure you that we will be able to maintain such yields in the future. Low final test yields can result from either a product design deficiency or a process technology failure or a combination of both. As such, we may not be able to identify problems causing low final test yields until our product designs go to the manufacturing stage, which may substantially increase our per unit costs and delay the launch of new products.

For example, if any of our third-party foundry partners experiences manufacturing inefficiencies or encounters disruptions, errors or difficulties during production, we may fail to achieve acceptable final test yields or experience product delivery delays. We cannot be certain that such third-party foundry partner will be able to develop, obtain or successfully implement process technologies needed to manufacture future generations of our products on a timely basis. Moreover, during the periods in which foundries are implementing new process technologies, their manufacturing facilities may not be fully productive. A substantial delay in the technology transitions to smaller geometry process technologies could have a material and adverse effect on us, particularly if our competitors transition to such technologies before us.

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In addition, resolution of yield problems requires cooperation among us, our third-party foundry partners and package and test partners. We cannot assure you that the cooperation will be successful and that any yield problems can be fixed.

If any person, institution or a pool of them acting in concert obtains control of more than 50% of the processing power active on the Bitcoin network, such person, institution or a pool of them could prevent new transactions from gaining confirmations, halt payments between users, and reverse previously completed transactions, which would erode user confidence in Bitcoin.

If the award of Bitcoins for solving blocks and transaction fees for recording transactions are not sufficiently high to incentivize miners, miners may cease expending processing power to solve blocks. Miners ceasing operations would reduce the collective processing power on the Bitcoin network, which would adversely affect the confirmation process for transactions and make the Bitcoin network more vulnerable to any person, institution or a pool of them which has obtained over 50% control over the computing power on the Bitcoin network. In such event, such person, institution or a pool of them could prevent new transactions from gaining confirmation, halt payments between users, and reverse previously completed transactions. Such changes or any reduction in confidence in the confirmation process or processing power of the Bitcoin network may erode user confidence in Bitcoin, which would decrease the demand for our products.

The administrators of the Bitcoin network's source code could propose amendments to the Bitcoin network's protocols and software that, if accepted and authorized by the Bitcoin network's community, could adversely affect our business, results of operations and financial condition.

The Bitcoin network is based on a cryptographic, algorithmic protocol that governs the end-user-to-end-user interactions between computers connected to the Bitcoin network. A loosely organized group can propose amendments to the Bitcoin network's source code through one or more software upgrades that alter the protocols and software that govern the Bitcoin network and the properties of Bitcoins, including the irreversibility of transactions and limitations on the mining of new Bitcoins. To the extent that a significant majority of the users and miners on the Bitcoin network install such software upgrade(s), the Bitcoin network would be subject to new protocols and software that may render our products less desirable, which in turn may adversely affect our business, results of operations and financial condition. If less than a significant majority of the users and miners on the Bitcoin network install such software upgrade(s), the Bitcoin network could "fork."

The acceptance of Bitcoin network software patches or upgrades by a significant, but not overwhelming, percentage of the users and miners in the Bitcoin network could result in a "fork" in the blockchain, resulting in the operation of two separate networks that cannot be merged. The existence of forked blockchains could erode user confidence in Bitcoin and could adversely impact our business, results of operations and financial condition.

Bitcoin is based on open source software and has no official developer or group of developers that formally controls the Bitcoin network. Any individual can download the Bitcoin network software and make any desired modifications, which are proposed to users and miners on the Bitcoin network through software downloads and upgrades. However, miners and users must consent to those software modifications by downloading the altered software or upgrade implementing the changes; otherwise, the changes do not become part of the Bitcoin network. Since the Bitcoin network's inception, changes to the Bitcoin network have been accepted by the vast majority of users and miners, ensuring that the Bitcoin network remains a coherent economic system. However, a developer or group of developers could potentially propose a modification to the Bitcoin network that is not accepted by a vast majority of miners and users, but that is nonetheless accepted by a substantial population of participants in the Bitcoin network. In such a case, a fork in the blockchain could develop and two separate Bitcoin networks could result, one running the pre-modification software program and the other running the modified version. An example is the introduction of a cryptocurrency known as "Bitcoin cash" in mid-2017. This kind of split in the Bitcoin network could erode user confidence in the stability of the Bitcoin network, which could negatively affect the demand for our products.

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AI technologies are constantly evolving, and any flaws in or misuse of AI, even if committed by other third parties, could have a negative impact on our business, reputation, brands and the general acceptance of AI solutions by society.

AI technologies are still in a preliminary stage of development and are constantly evolving. As with many disruptive innovations, AI presents risks and challenges that could affect user perception and its adoption. Any flaws in or insufficiencies of AI, and any inappropriate or premature usage thereof, whether actual or perceived, and whether by us or by other third parties, may dissuade prospective customers from adopting AI solutions, and may impair the general acceptance of AI by society. Moreover, AI is covered extensively, and in many instances critically, by various news media across the world. There is no assurance that our AI products will not be misused or applied in a way that is inconsistent with public expectations. Any misuse of our AI technologies, whether actual or perceived, and whether by us or by other third parties, could negatively impact our brands and reputation, and in turn our business, financial condition and results of operation.

Any failure of our products to meet the necessary quality standards could adversely affect our reputation, business and results of operation.

The quality of our products is critical to the success of our business and depends significantly on the effectiveness of our and our manufacturing service providers' quality control systems. In our efforts to quickly meet new market trends and demand and adopt new technologies, our products may not have adequate time to go through our normal rigorous testing procedures and final inspection, which could result in instances where our products cannot reach the required performance standard, or our products are found to be defective. These instances could result in our customers suffering losses. Defects detected before product delivery to our customers may result in additional costs for remediation and rework. Defects detected after the delivery and installation of our products may result in our incurring further costs relating to inspection, installation, remediation or product return, which may result in damages to our reputation, loss of customers, government fines and disputes and litigation.

In addition, we outsourced to certain production partners a portion of our product manufacturing process, which require them to purchase parts and components from other third-party suppliers. Although we carry out quality inspections for the manufacturing process and the parts and components purchased, we cannot assure you that we will always be able to detect defects in the manufacturing process or the parts and components purchased. Any defect in such manufacturing process or parts and components purchased may lead to defects in our finished products, which may in turn increase our costs as well as damage our reputation and market share. We may not be able to procure contractual or other indemnities from the suppliers of the defective parts and components adequately, or at all. We may be subject to product liability claims and litigation for compensation which could result in substantial and unexpected expenditures and could materially and adversely affect our cash flow and operating results.

Our Bitcoin mining machines use open source software and hardware as their basic controller system, which may subject us to certain risks.

We use open source software and hardware in our Bitcoin mining machines. For example, the AvalonMiner controller open source software needs to be installed on open source Raspberry Pi hardware, which serves as the basic controller system for the AvalonMiner, and we expect to continue to use Raspberry Pi and other open source software and hardware in the future. We may face claims from others claiming ownership of, or seeking to enforce the terms of, an open source license, including by demanding the release of the open source software, derivative works or our proprietary source code that was developed using such software. These claims could also result in litigation, requiring us to purchase a costly license or to devote additional research and development resources to change our technologies, either of which would have a negative effect on our business and operating results. In addition, if the license terms for the open source software we utilize change, we may be forced to re-engineer or discontinue our solutions or incur additional costs.

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If we are unable to maintain or enhance our brand recognition, our business, financial condition and results of operations may be materially and adversely affected.

Maintaining and enhancing the recognition, image and acceptance of our brand are important to our ability to differentiate our products from and to compete effectively with our peers. Our brand image, however, could be jeopardized if we fail to maintain high product quality, pioneer and keep pace with evolving technology trends, or timely fulfill the orders for our products. If we fail to promote our brand or to maintain or enhance our brand recognition and awareness among our customers, or if we are subject to events or negative allegations affecting our brand image or the publicly perceived position of our brand, our business, operating results and financial condition could be adversely affected.

Power shortages, labor disputes and other factors may result in constraints on our production activities.

Historically, we have not experienced constraints on our production activities, including at our assembly plant, due to power shortages, labor disputes or other factors. However, there can be no assurance that our operations will not be affected by power shortages, labor disputes or other factors in the future, thereby causing material production disruptions and delays in our delivery schedule. In such event, our business, results of operations and financial condition could be materially and adversely affected.

If we fail to adequately protect our IP rights, our ability to compete effectively or to defend ourselves from litigation could be impaired, which could reduce our total revenue and increase our costs.

We rely primarily on a combination of protections provided by patent, IC layout and design rights, copyright, trademark and trade secret laws, as well as confidentiality, non-compete and non-disclosure agreements and other means for protecting our proprietary technologies and know-how. However, we cannot assure you that the strategies and steps we are taking are sufficient to protect our intellectual property rights or that, notwithstanding legal protection, others do not or will not infringe or misappropriate our intellectual property rights. If we fail to adequately protect our intellectual property rights, or if changes in laws diminish or remove the current legal protections available to them, the competitiveness of our products may be eroded and our business could suffer. The rights granted to us under our patents, IC layout-design rights and copyrights, including prospective rights sought in our pending patent applications, may not be meaningful or provide us with any commercial advantage. In addition, they could be opposed, contested, circumvented or designed around by our competitors or be declared invalid or unenforceable in judicial or administrative proceedings. Any failure of our patents, IC layout-design rights and copyrights to adequately protect our technologies may allow our competitors to offer similar products or technologies. We may not be able to protect our IP rights in some countries where our products are sold or may be sold in the future. Even if IP rights are granted outside of the PRC, effective enforcement in those countries may not be available to us, primarily due to the relatively weak legal regime protecting IP rights in those countries and the difficulties to defend and enforce such rights. Accordingly, we may not be able to effectively protect our IP rights in those countries. Many companies have encountered substantial intellectual property infringement in countries where we sell or intend to sell our products.

Monitoring unauthorized use of our IP is difficult and costly. Unauthorized use of our IP may have occurred or may occur without our knowledge. Any failure by us to effectively protect our IP could reduce the value of our technologies and impair our ability to compete. We may in the future need to initiate infringement claims or litigation. Litigation can be expensive and time-consuming and may divert the efforts of our technical staff and managerial personnel, which could result in lower total revenue and higher expenses, whether or not such litigation results in a determination favorable to us.

We may face IP infringement claims or other related disputes, which could be time-consuming, costly to defend or settle and result in the loss of significant rights and lower sales.

As is typical in the semiconductor industry, we may be subject to infringement claims from time to time or otherwise become aware of potentially relevant patents or other IP rights held by other parties that may cover some of our technology, products and services. The semiconductor industry is characterized by companies that hold large numbers of patents and other IP rights and that vigorously pursue, protect and enforce these rights. Patent litigation has increased in recent years owing to increased assertions made by IP licensing entities and increasing competition and overlap of product functionality in our markets. Additionally, we have in the past entered and may continue in the future to enter into licensing agreements with third parties for the use of their proprietary technologies, primarily software development tools, in the development of our products. As with any business relationship, we may face disputes and lawsuits related to those IP licensing agreements. As our operations continue to grow in size and scale, the likelihood of us becoming involved in IP related lawsuits and disputes to protect or defend our IP rights and the use of third-party IP rights will increase.

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In addition, it is extremely difficult for us to monitor all of the patent applications that have been filed in the PRC, the United States or in other countries or regions and whether, if such pending patents are granted, such patents would have a material and adverse effect on our business if our product and service offering were to infringe upon them.

Other third parties may file claims against us or our customers alleging that our products, processes, or technologies infringe third-party patents or IP rights. Regardless of their merits or resolutions, such claims could be costly to defend or settle and could divert the efforts and attention of our management and technical personnel. In addition, some of our customer agreements in the future may require us to indemnify and defend our customers from third-party infringement claims and to pay damages in the case of adverse rulings. As such, claims of this sort also could harm our relationships with our customers and may deter future customers from doing business with us. We do not know whether we could prevail in any such proceeding given the complex technical issues and inherent uncertainties involved in IP litigation. If any pending or future proceedings result in an adverse outcome, we could be required to:

- cease the manufacturing, use or sale of the infringing products, processes or technologies;
- stop shipment to certain geographic areas;
- pay substantial damages for infringement;
- expend significant resources to develop non-infringing processes, technologies or products;
- license technology from the third-party claiming infringement, which license may not be available on commercially reasonable terms, or at all;
- cross-license our technology to a competitor in order to resolve an infringement claim, which could weaken our ability to compete with that competitor; or
- pay substantial damages to our customers to discontinue their use of or replace infringing products sold to them with non-infringing products.

Any of the foregoing results could have a material adverse effect on our business, financial condition and results of operations.

The loss of any member of our senior management team, or our failure to attract, train and retain qualified personnel, especially our design and technical personnel, could impair our ability to grow our business and effectively execute our business strategy.

Since our inception, the growth and expansion of our business operations have been dependent upon the business strategies and foresight of our senior management. Our future success depends, in large part, on the continued contributions of our senior management team, specifically Mr. Nangeng Zhang.

In addition, our future success depends on our ability to retain, attract and incentivize qualified personnel, including our management, sales, marketing, finance and especially research and development personnel. As the driver of our technological and product innovations, our research and development personnel represent a very significant asset of ours. As the technology in the semiconductor industry is advancing at a quick pace, there is an increasing need for skilled engineers. Many companies across the world are struggling to find suitable candidates for their research and development positions. The process of hiring employees with the combination of skills and characteristics required to implement our strategy can be extremely competitive and time-consuming. We cannot assure you that we will be able to attract adequate personnel as we continue to pursue our business strategies.

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Moreover, we cannot assure you that we will be able to retain key existing employees. The loss of any of our co-founders, senior management or research and development team members could harm our ability to implement our business strategies and respond to the rapidly changing market conditions in which we operate, or could result in other operating risks. The loss of one or more of our key employees, especially our key design and technical personnel which includes our co-founders, or our inability to retain, attract and motivate qualified design and technical personnel, could have a material adverse effect on our business, financial condition and results of operations.

Our corporate actions are significantly influenced by our principal shareholders, including Nangeng Zhang, our Chairman and Chief Executive Officer, who have the ability to exert significant influence over important corporate matters that require approval of shareholders while their interests may differ from those of the other shareholders. This may deprive you of the opportunity to receive a premium for your ADSs and materially reduce the value of your investment.

Our share capital is designated into Class A ordinary shares and Class B ordinary shares. Each Class A ordinary share is entitled to one vote and each Class B ordinary share is entitled to 15 votes at general meetings of our shareholders. Nangeng Zhang, our Chairman and Chief Executive Officer, beneficially own 100% of our Class B ordinary shares, representing approximately 69.5% of the aggregate voting power of our issued and outstanding share capital as of December 31, 2020. However, the interests of our Chairman and Chief Executive Officer may differ from the interests of other shareholders. This concentration of ownership and the protective provisions in our amended and restated memorandum and articles of association may discourage, delay or prevent a change in control of our company, which could have the dual effect of depriving our shareholders of an opportunity to receive a premium for their shares as part of a sale of our company and reducing the price of the ADSs. We may not be able to enter into other transactions that could be beneficial to us without the consent of our Chairman and Chief Executive Officer. As a result of the foregoing, the value of your investment could be materially reduced.

We are a “controlled company” under the Nasdaq Stock Market Rules and, as a result, will rely on exemptions from certain corporate governance requirements that provide protection to shareholders of other companies.

We are a “controlled company” as defined under the Nasdaq Stock Market Rules because Nangeng Zhang, our Chairman and Chief Executive Officer, holds more than 50% of the aggregate voting power of our total issued and outstanding share capital. For so long as we remain a controlled company under that definition, we are permitted to elect to rely, and will rely, on certain exemptions from corporate governance rules, including an exemption from the rule that a majority of our board of directors must be independent directors. As a result, you will not have the same protection afforded to shareholders of companies that are subject to these corporate governance requirements.

We may engage in acquisitions or strategic alliances that could disrupt our business, result in increased expenses, reduce our financial resources and cause dilution to our shareholders. We cannot assure you that such acquisitions or strategic alliances may be successfully implemented.

Although we have not engaged in acquisitions or strategic alliances in the past, we may look for potential acquisitions or strategic alliances in the future to expand our business. However, we may not be able to find suitable acquisition candidates, complete acquisitions on favorable terms, if at all, or integrate any acquired business, products or technologies into our operations. If we do complete acquisitions, they may be viewed negatively by customers or investors and they may not enable us to strengthen our competitive position or achieve our goals. In addition, any acquisitions that we make could lead to difficulties in integrating personnel, technologies and operations from the acquired businesses and in retaining and motivating key personnel from these businesses. Moreover, acquisitions may disrupt our ongoing operations, divert management from day-to-day responsibilities and increase our expenses. Future acquisitions may reduce our cash available for operations and other uses, and could result in increases in amortization expenses related to identifiable intangible assets acquired, potentially dilutive issuances of equity securities or the incurrence of debt. We cannot predict the number, timing or size of future acquisitions, or the effect that any such acquisitions might have on our operating results.

Changes in international trade policies and international barriers to trade may have an adverse effect on our business and expansion plans.

We have exported our products to a number of countries outside of the PRC and derive sales from exporting to those countries, and we intend to continue to sell our current and future products to countries outside of the PRC. Sales to the United States accounted for 10.5%, 3.2%, and 0.8% of our total sales in 2018, 2019 and 2020, respectively, while Kazakhstan accounted for 10.7% of our total sales in 2020. Further, we rely on certain overseas suppliers, including suppliers in the United States, for the supply of certain equipment and tools, such as our electronic design automation, a development tool. Changes to trade policies, treaties and tariffs in or affecting the jurisdictions in which we operate and to which we sell our products, or the perception that these changes could occur, could adversely affect the financial and economic conditions in those jurisdictions, as well as our international sales, financial condition and results of operations.

The U.S. administration under President Donald Trump has advocated greater restrictions on trade generally and significant increases on tariffs on goods imported into the United States, particularly from China, and has recently taken steps toward restricting trade in certain goods. On June 15, 2018, the U.S. Trade Representative announced the imposition of an additional duty of 25% on approximately US\$50 billion worth of Chinese imports, including those related to China's "Made in China 2025" industrial policy. This list of products consists of two sets of U.S. tariff lines. The additional duty assessed on the first set, which includes photosensitive semiconductor devices, parts and accessories for measuring semiconductor devices, came into effect on July 6, 2018. These tariffs impact Chinese semiconductor companies that manufacture and export to the United States. The second set, which includes electronic integrated circuits, came into effect on August 23, 2018. On September 21, 2018, the U.S. Trade Representative further announced the imposition of additional duties on approximately US\$200 billion worth of Chinese imports. The additional duties came into effect on September 24, 2018. The products that we exported to the United States were not included in the tariff lists for the above additional duties. Additionally, we plan to sell our AI products to domestic manufacturers who will then incorporate our AI products into final products such as smart appliances and smart toys. Therefore, while our AI products are not currently subject to these tariffs directly, the products of our customers that incorporate our AI products may be subject to these tariffs. We cannot assure you that future restrictions on trade and tariffs implemented by the United States will not affect our products, which would negatively affect our expansion plans as well as our financial condition and results of operations.

In response to the additional tariffs by the United States that came into effect on July 6, 2018, China has imposed retaliatory tariffs on various goods imported from the United States. In the event that China adopts further retaliatory measures against the United States or any adverse trade policies of other countries that affect the importation of equipment and tools that we require, we may not be able to find alternative suppliers on comparable terms, or at all, which may lead to an increase in our costs or significant delays in our product releases. In addition, such policy retaliations could result in further trade policy responses by the United States and other countries, which would cause an adverse effect on manufacturing levels, trade levels and industries in the jurisdictions in which we operate and to which we sell our products and may result in a material and adverse effect on our business and results of operations.

We could be adversely affected by political tensions between the United States and China.

Political tensions between the United States and China have escalated in recent years due to, among other things, the trade war between the two countries since 2018, the COVID-19 outbreak, the PRC National People's Congress' passage of Hong Kong national security legislation, the imposition of U.S. sanctions on certain Chinese officials from China's central government and the Hong Kong Special Administrative Region by the U.S. government, and the imposition of sanctions on certain individuals from the U.S. by the Chinese government, various executive orders issued by former U.S. President Donald J. Trump, such as the one issued in August 2020 that prohibits certain transactions with ByteDance Ltd., Tencent Holdings Ltd. and the respective subsidiaries of such companies, the executive order issued in November 2020 that prohibits U.S. persons from transacting publicly traded securities of certain "Communist Chinese military companies" named in such executive order, as well as the executive order issued in January 2021 that prohibits such transactions as are identified by the U.S. Secretary of Commerce with certain "Chinese connected software applications," including Alipay and WeChat Pay, as well as the Rules on Counteracting Unjustified Extra-territorial Application of Foreign Legislation and Other Measures promulgated by China's Ministry of Commerce on January 9, 2021, which will apply to Chinese individuals or entities that are purportedly barred by a foreign country's law from dealing with nationals or entities of a third country. Rising political tensions between China and the U.S. could reduce levels of trades, investments, technological exchanges and other economic activities between the two major economies, which would have a material adverse effect on global economic conditions and the stability of global financial markets. The measures taken by the U.S. and Chinese governments may have the effect of restricting our ability to transact or otherwise do business with entities within or outside of China and may cause investors to lose confidence in Chinese companies and counterparties, including us. If we were unable to conduct our business as it is currently conducted as a result of such regulatory changes, our business, results of operations and financial condition would be materially and adversely affected.

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Furthermore, there have been recent media reports on deliberations within the U.S. government regarding potentially limiting or restricting China-based companies from accessing U.S. capital markets, and delisting China-based companies from U.S. national securities exchanges. In January 2021, after reversing its own delisting decision, the NYSE ultimately resolved to delist China Mobile, China Unicom and China Telecom in compliance with the executive order issued in November 2020, after receiving additional guidance from the U.S. Department of Treasury and its Office of Foreign Assets Control. These delistings have introduced greater confusion and uncertainty about the status and prospects of Chinese companies listed on the U.S. stock exchanges. If any further such deliberations were to materialize, the resulting legislation may have a material and adverse impact on the stock performance of China-based issuers listed in the United States such as us, and we cannot assure you that we will always be able to maintain the listing of our ADSs on a national stock exchange in the U.S., such as the NYSE or the Nasdaq Stock Market, or that you will always be allowed to trade our shares or ADSs.

Our operations and those of our production partners and customers are vulnerable to natural disasters, pandemics and other events beyond our control, the occurrence of which may have an adverse effect on the supply chain of our suppliers and on our facilities, personnel and results of operations.

Our business operations and those of our production partners and customers are faced with numerous risks and dangers, including capacity constraints, labor strikes, fire, natural disasters (e.g. earthquakes, typhoons), pandemics (e.g. COVID-19) and environmental or occupational disasters. Any of these events could have a material adverse effect on our business.

We have one assembly plant and one warehouse in the PRC which could suffer significant business disruption due to earthquakes or other natural disasters or pandemics. We are currently not covered by insurance against such business disruption. Similarly, the manufacturing facilities of our production partners and the mining facilities of our customers are principally located in Asia and their operations may be reduced or eliminated due to natural disasters or pandemics. The risk of earthquakes in these geographic regions is significant due to the proximity of major earthquake fault lines, and Taiwan in particular, where our IC foundry supplier is located, is also subject to typhoons and other Pacific storms. In addition, some of our customers may place their Bitcoin mining facilities near streams within mountainous regions to take advantage of hydroelectric power, which causes them to be at risk of flooding. For example, a flood in Sichuan in June 2018 caused significant damage to certain Bitcoin mining facilities in the area and to the mining equipment at these facilities.

Our business could also be adversely affected by epidemics, outbreaks or pandemics such as avian flu, H1N1, also known as swine flu, as well as COVID-19. An outbreak of avian flu or H1N1 or COVID-19 in the human population, or another similar health crisis, could adversely affect the economies and financial markets of entire regions, particularly in Asia. Moreover, any related disruptions to transportation or the free movement of persons could hamper our operations and force us to close our offices temporarily.

The occurrence of any of the foregoing or other natural or man-made disasters could cause damage or disruption to us, our employees, operations, markets and customers, which could result in significant delays in deliveries or substantial shortages of our products and could adversely affect our business, financial condition, results of operations or prospects.

Cyber-security incidents, including data security breaches or computer viruses, could harm our business by disrupting our delivery of services, damaging our reputation or exposing us to liability.

We receive, process, store and transmit, often electronically, the data of our customers and others, much of which is confidential. Unauthorized access to our computer systems or stored data could result in the theft, including cyber-theft, or improper disclosure of confidential information, and the deletion or modification of records could cause interruptions in our operations. These cyber-security risks increase when we transmit information from one location to another, including over the Internet or other electronic networks. Despite the security measures we have implemented, our facilities, systems and procedures, and those of our third-party service providers, may be vulnerable to security breaches, acts of vandalism, software viruses, misplaced or lost data, programming or human errors or other similar events which may disrupt our delivery of services or expose the confidential information of our customers and others. Any security breach involving the misappropriation, loss or other unauthorized disclosure or use of confidential information of our customers or others, whether by us or a third party, could (i) subject us to civil and criminal penalties, (ii) have a negative impact on our reputation, or (iii) expose us to liability to our customers, third parties or government authorities. We are not aware of such breaches to date. Any of these developments could have a material adverse effect on our business, financial condition and results of operations.

Preferential tax treatment currently available to us in the PRC could be discontinued or reduced.

As an enterprise selling self-developed software, Hangzhou Canaan Creative Information Technology Co., Limited, or Hangzhou Canaan, a subsidiary of ours, received VAT tax refunds of RMB110.2 million, RMB1.3 million, and nil in 2018, 2019 and 2020, respectively. We cannot assure you that we will continue to qualify for the VAT tax refund, or that the policies providing for the VAT tax refund will continue to be effective.

Additionally, Hangzhou Canaan was accredited as a software enterprise, and was therefore entitled to preferential tax treatment, paying no income taxes in 2017 and subject to an enterprise income tax rate, or EIT rate, of 12.5% for 2018, 2019, and 2020. Furthermore, Hangzhou Canaan was accredited as a key software enterprise in 2018, and was subject to an EIT rate of 10.0% for that year. We took advantage of the lowest EIT rate available to us each year.

Following our accreditation as a key software enterprise falling within the State's planning lay-out or high-tech enterprise, we will independently determine whether we meet the conditions required for EIT preferences annually. Under the PRC Enterprise Income Tax Law (《中华人民共和国企业所得税法》), or the PRC EIT Law and its relevant regulations, PRC companies are typically subject to an income tax rate of 25% under the PRC EIT Law. Meanwhile, we shall, in accordance with the requirements of the tax authority and other relevant authorities, retain and submit our financial statements together with details of our research and development activities and other technological innovation activities for future reference to enjoy the preferential tax treatment. As advised by Commerce & Finance Law Offices, our PRC legal adviser, if we fail to provide materials retained for future reference, we will not be entitled to enjoy the preferential tax treatment, as well as other benefits conferred under the accreditations.

We require various approvals, licenses, permits and certifications to operate our business. Any failure to obtain or renew any of these approvals, licenses, permits or certifications could materially and adversely affect our business and results of operations.

In accordance with the laws and regulations in the jurisdictions in which we operate, we are required to maintain various approvals, licenses, permits and certifications in order to operate our business. Complying with such laws and regulations may require substantial expense, and any non-compliance may expose us to liability. In the event of non-compliance, we may have to incur significant expenses and divert substantial management time to rectify the incidents. In the future, if we fail to obtain all the necessary approvals, licenses, permits and certifications, we may be subject to fines or the suspension of operations at the production facilities and research and development facilities that do not have all the requisite approvals, licenses, permits and certifications, which could materially and adversely affect our business and results of operations. See "Regulation" for further details on the requisite approvals, licenses, permits and certifications necessary for our business operations. We may also experience adverse publicity arising from non-compliance with government regulations, which would negatively impact our reputation.

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We cannot assure you that we will be able to fulfill all the conditions necessary to obtain the required government approvals, or that relevant government officials will always, if ever, exercise their discretion in our favor, or that we will be able to adapt to any new laws, regulations and policies. There may also be delays on the part of government authorities in reviewing our applications and granting approvals, whether due to the lack of human resources or the imposition of new rules, regulations, government policies or their implementation, interpretation and enforcement. If we are unable to obtain, or experience material delays in obtaining, necessary government approvals, our operations may be substantially disrupted, which could materially and adversely affect our business, financial condition and results of operations.

Our assembly plant is located on property whose owner has not obtained the approval of relevant authorities, and we may be ordered to relocate from that property.

Our assembly plant for Bitcoin mining machines in Hebei province with a gross floor area of 7,538.5 square meters was constructed by our landlord without the approval of housing use planning authorities. As advised by Commerce & Finance Law Offices, our PRC legal adviser, such buildings may be considered to be in violation of relevant zoning laws and the government may order the demolition or relocation of such building.

If we are evicted from such property, we may need to find alternative properties and relocate our assembly plant. Unless we are able to make timely alternative arrangements for relocating our assembly plant, we may not be able to fulfill purchase orders received, which may have a material and adverse effect on our business, results of operations and financial condition.

We may be involved in legal and other disputes from time to time, whether arising out of our operations, including disputes with our raw material or component suppliers, production partners, customers or employees, or class action lawsuits from our shareholders.

We may from time to time be involved in disputes with various parties arising out of our operations, including raw material or electronic components suppliers, production partners, customers or employees. These disputes may lead to protests or legal or other proceedings and may result in damage to our reputation, substantial costs and diversion of resources and management's attention from our core business activities. In addition, we may encounter compliance issues with regulatory bodies in the course of our operations, in respect of which we may face administrative proceedings or unfavorable decisions that may result in liabilities and cause delays to our production and delivery. We may be involved in other proceedings or disputes in the future that may have a material adverse effect on our business, financial condition, results of operations or cash flows.

In the past, shareholders of public companies have often brought securities class action suits against those companies following periods of instability in the market price of their securities, or after the publication of third-party research reports. For example, a negative research report was published about us by Marcus Aurelius Value on February 20, 2020. Subsequently, on March 4, 2020, a putative class action was filed in the United States District Court of Oregon (the "Federal Action") against us and certain of our officers and directors, among others. The complaint alleges that the Form F-1 registration statement for our initial public offering contained material misstatements and omissions in violation of federal securities laws. On March 6, 2020, another putative class action, making substantially similar allegations, was filed in New York County Supreme Court (the "State Action") against us and certain of our officers and directors. On June 1, 2020, we filed a motion to stay all proceedings in the State Action pending adjudication of the Federal Action, which was granted on July 21, 2020. Subsequently, the Federal Action was transferred to the U.S. District Court for the Southern District of New York on September 2, 2020. On December 7, 2020, we filed a motion to dismiss the amended complaint which was fully briefed on March 8, 2021. On April 5, 2021, the complaint filed a letter motion to dismiss briefing or, in the alternative, convert the motion to dismiss into a motion for summary judgment.

The class action suits that we are aware of and if we were involved in a class action suit in the future, it could divert a significant amount of our management's attention and other resources from our business and operations and require us to incur significant expenses to defend the suit, which could harm our results of operations. Any such class action suit, whether or not successful, could harm our reputation and restrict our ability to raise capital in the future. In addition, if a claim is successfully made against us, we may be required to pay significant damages, which could have a material adverse effect on our financial condition and results of operations.

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Our insurance coverage is limited and may not be adequate to cover potential losses and liabilities. A significant uninsured loss or a loss in excess of our insurance coverage could have a material adverse effect on our results of operations and financial condition.

The insurance products available to us are limited, and the insurance policies we have obtained may not cover all risks associated with our business. The occurrence of certain incidents including severe weather, earthquake, fire, war, power outages, flooding and the consequences resulting from them may not be covered by our insurance policies adequately, or at all. If we were subject to substantial liabilities that were not covered by our insurance, we could incur costs and losses that could materially and adversely affect our results of operations and financial condition.

We may need additional capital but may not be able to obtain it in a timely manner and on favorable terms or at all.

Our operations may require additional capital or financing from time to time in order to achieve further growth. We had outstanding borrowings of RMB34.8 million (US\$5.3 million) as of December 31, 2020, incurred primarily to support our operation. We may require additional cash resources due to the future growth and development of our business. Our future capital requirements may be substantial as we seek to expand our operations, diversify our product offering, and pursue acquisitions and equity investments. If our cash resources are insufficient to satisfy our cash requirements, we may seek to issue additional equity or debt securities or obtain new or expanded credit facilities or enter into additional factoring arrangements.

Our ability to obtain external financing in the future is subject to a variety of uncertainties, including our future financial condition, results of operations and cash flows and the liquidity of international capital and lending markets. In addition, our loan agreements may contain financial covenants that restrict our ability to incur additional indebtedness or to distribute dividends. Any indebtedness that we may incur in the future may also contain operating and financial covenants that could further restrict our operations. There can be no assurance that financing will be available in a timely manner or in amounts or on terms acceptable to us, or at all. A large amount of bank borrowings and other debt may result in a significant increase in interest expense while at the same time exposing us to increased interest rate risks. Equity financings could result in dilution to our shareholders, and the securities issued in future financings may have rights, preferences and privileges that are senior to those of our ordinary shares or ADSs. Any failure to raise needed funds on terms favorable to us, or at all, could severely restrict our liquidity as well as have a material adverse effect on our business, financial condition and results of operations.

We rely on third-party logistics service providers to deliver our products. Disruption in logistics may prevent us from meeting customer demand and our business, financial condition and results of operations may suffer as a result.

We engage independent third-party logistics service providers to deliver the ICs from our production partners to our assembly plant and our products from our warehouses to our customers. Disputes with or termination of our contractual relationships with one or more of our logistics service providers could result in delayed delivery of products or increased costs. There can be no assurance that we can continue or extend relationships with our current logistics service providers on terms acceptable to us, or that we will be able to establish relationships with new logistics service providers to ensure accurate, timely and cost-efficient delivery services. If we are unable to maintain or develop good relationships with our preferred logistics service providers, it may inhibit our ability to offer products in sufficient quantities, on a timely basis, or at prices acceptable to our consumers. If there is any breakdown in our relationships with our preferred logistics service providers, we cannot assure you that no interruptions in our product delivery would occur or that they would not materially and adversely affect our business, prospects and results of operations.

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As we do not have any direct control over these logistics service providers, we cannot guarantee their quality of service. In addition, services provided by these logistics service providers could be interrupted by unforeseen events beyond our control, such as poor handling provided by these logistics service providers, natural disasters, pandemics, adverse weather conditions, riots and labor strikes. If there is any delay in delivery, damage to products or any other issue, we may lose customers and sales and our brand image may be tarnished.

Bitcoin mining activities are energy-intensive, which may restrict the geographic locations of miners and have a negative environmental impact.

Bitcoin mining activities are inherently energy-intensive and electricity costs account for a significant portion of the overall mining costs. The availability and cost of electricity will restrict the geographic locations of mining activities.

Any shortage of electricity supply or increase in electricity cost in a jurisdiction may negatively impact the viability and the expected economic return for Bitcoin mining activities in that jurisdiction, which may in turn decrease the sales of our Bitcoin mining machines in that jurisdiction.

In addition, the significant consumption of electricity may have a negative environmental impact, including contribution to climate change, which may give rise to public opinion against allowing the use of electricity for Bitcoin mining activities or government measures restricting or prohibiting the use of electricity for Bitcoin mining activities. Any such development in the jurisdictions where we sell our Bitcoin mining machines could have a material and adverse effect on our business, financial condition and results of operations.

Our business operation and international expansion is subject to geopolitical risks.

Our business operation and international expansion is subject to geopolitical risks. We rely on our production partners in Taiwan for the fabrication, testing and packaging of our ASICs. Any significant deterioration in the cross-strait relationship may have a negative impact on the ability of our production partners in Taiwan to fulfill their contractual obligations and ship the ASICs to us, which could have a material and adverse effect on our business, financial condition and results of operations.

In addition, there might be significant changes to United States trade policies, treaties and tariffs, including trade policies and tariffs regarding the PRC. China may respond by imposing retaliatory trade measures against the United States. We rely on suppliers in the United States for the supply of certain equipment and tools, such as our electronic design automation, a development tool. If the United States restricts or prohibits the importation of ASICs or related products from China, our international expansion may be negatively affected. If China imposes retaliatory trade measures that affect the importation of the equipment and tools we require, we may face difficulty in our production. In both cases, our business, financial condition and results of operations could be materially and adversely affected.

We may be subject to fines and other administrative penalties resulting from the operation of our business, which could materially and adversely affect our business, financial condition and results of operation.

We are subject to regulation by the PRC government authorities. These relevant regulatory authorities have broad powers to adopt regulations and other requirements affecting or restricting our operations, including tax policies. Moreover, these relevant regulatory authorities possess significant powers to enforce applicable regulatory requirements in the event of our non-compliance, including the imposition of fines, sanctions or the revocation of licenses or permits to operate our business. Any of these events could have a material adverse impact on our results of operation.

Any global systemic economic and financial crisis could negatively affect our business, results of operations, and financial condition.

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Any prolonged slowdown in the Chinese or global economy may have a negative impact on our business, results of operations and financial condition. The global financial markets have experienced significant disruptions since 2008 and the United States, Europe and other economies have experienced periods of recession. The recovery from the lows of 2008 and 2009 has been uneven and there are new challenges, including the escalation of the European sovereign debt crisis from 2011 and the slowdown of the PRC's economic growth since 2012, which may continue. There is also the prospect of a brewing global recession as the result of the COVID-19 pandemic. There is considerable uncertainty over the long-term effects of the expansionary monetary and fiscal policies adopted by the central banks and financial authorities of some of the world's leading economies, including the United States and the PRC. There have also been concerns over unrest in Ukraine, the Middle East and Africa, which have resulted in volatility in financial and other markets. There have also been concerns over the United Kingdom leaving the European Union as well as the significant potential changes to United States trade policies, treaties and tariffs, including trade policies and tariffs regarding the PRC. There have also been concerns about the economic effect of the tensions in the relationship between the PRC and surrounding Asian countries. There were and could be in the future a number of domino effects from such turmoil on our business, including significant decreases in orders from our customers; insolvency of key suppliers resulting in product delays; inability of customers to obtain credit to finance purchases of our products and/or customer insolvencies; and counterparty failures negatively impacting our operations. Any systemic economic or financial crisis could cause revenues for the semiconductor industry as a whole to decline dramatically and could materially and adversely affect our results of operations.

If counterfeit products are sold under our brand names and trademarks, our reputation and financial results could be materially and adversely affected.

Third-party merchants and dealers are separately responsible for sourcing counterfeit products that are sold under our brand names and trademarks. Counterfeit products may be defective or inferior in quality as compared to authentic products. If our customers are not satisfied by counterfeit products sold under our brand names and trademarks, we may be subject to reputational damage. We believe our brand and reputation are important to our success and our competitive position. The discovery of counterfeit products sold under our brand names and trademarks may severely damage our reputation and cause customers to refrain from making future purchases from us, which would materially and adversely affect our business operations and financial results.

Risks Relating to Doing Business in the PRC

Economic, political and social conditions as well as governmental policies in the PRC could adversely affect our business, prospects, financial condition and financial results.

A majority of our business operations is currently conducted in the PRC and we derive a majority of our revenue from the PRC. The PRC economy differs from the economies of most developed countries in many aspects, including:

- political structure;
- level of government involvement and control;
- growth rate and level of development;
- level and control of capital investment and reinvestment;
- control of foreign exchange; and
- allocation of resources.

The PRC economy has been transitioning from a centrally planned economy to a more market-oriented economy for approximately four decades as the PRC government has implemented economic reform measures to utilize market forces in the development of the PRC economy. We cannot predict whether changes in the economic, political and social conditions of the PRC and in its laws, regulations and policies will have any adverse effect on our current or future business, financial condition or results of operations.

More specifically, many of the economic reforms carried out by the PRC government are unprecedented or experimental and are expected to be refined and improved over time. This refining and adjustment process may not necessarily have a positive effect on our operations and business development. These actions, as well as other actions and policies of the government of the PRC, could cause a decrease in the overall level of economic activity in the PRC and the surrounding regions and, in turn, have an adverse impact on our business and financial condition.

Changes to and uncertainties in the legal system of the PRC may have a material adverse impact on our business, financial condition and results of operations. Legal protections available to you under the legal system of the PRC may be limited.

The PRC is still in the process of developing a comprehensive statutory framework. Since 1979, the PRC government has established a commercial law system, and significant progress has been made in promulgating laws and regulations relating to economic affairs and matters such as corporate organization and governance, foreign investment, commerce, taxation and trade. However, many of these laws and regulations are relatively new, and the implementation and interpretation of these laws and regulations remain uncertain in many areas. It may be difficult to obtain swift and equitable enforcement or to obtain enforcement of a judgment by a court of another jurisdiction. Consequently, developments and changes in the PRC laws and regulations, including their interpretation and enforcement, may have a material and adverse effect on our business, financial condition and results of operations. Furthermore, the legal protections available to you under the PRC legal system may be limited.

You may experience difficulties enforcing judgments against us and our management in the PRC.

We were advised by Commerce & Finance Law Offices, our PRC legal adviser, that the recognition and enforcement of foreign judgments are governed by the PRC Civil Procedures Law. PRC courts may recognize and enforce foreign judgments in accordance with the requirements of the PRC Civil Procedures Law based either on treaties between the PRC and the country where the judgment is made or on reciprocity between jurisdictions, provided that the foreign judgments do not violate the basic principles of laws of the PRC or its sovereignty, security or social and public interest.

PRC regulations relating to the establishment of offshore special purpose vehicles by PRC residents may subject our PRC-resident beneficial owners or our PRC subsidiaries to liability or penalties, limit our ability to make capital contributions into our PRC subsidiaries, limit our PRC subsidiaries' ability to distribute profits to us, or otherwise adversely affect our financial position.

Under several regulations promulgated by the State Administration of Foreign Exchange of the People's Republic of China, or SAFE, PRC residents and PRC corporate entities are required to register with and obtain approval from local branches of SAFE or designated qualified foreign exchange banks in China in connection with their direct or indirect offshore investment activities. In addition, any PRC resident who is a direct or indirect shareholder of an offshore company is required to update the previously filed registration with the local branch of SAFE, with respect to any material change involving that offshore company, such as an increase or decrease in capital, transfer or swap of shares, merger or division. These regulations apply to all direct and indirect shareholders and beneficial owners of our company who are PRC residents, or PRC-Resident Shareholders, and may apply to any offshore acquisitions that we make in the future. To the best of our knowledge, as of the date of this annual report, each of our principal shareholders who is required to make the foreign exchange registration under SAFE Circular 37 had completed such registration. However, we may not at all times be fully aware or informed of the identities of all the PRC residents holding direct or indirect interests in our company, and we cannot assure you that all of our shareholders and beneficial owners who are PRC residents will comply with these foreign exchange regulations.

If any PRC-Resident Shareholder fails to make the required registration or update a previously filed registration, our PRC subsidiaries may be prohibited from distributing their profits and proceeds from any reduction in capital, share transfer or liquidation to us, and we may also be prohibited from injecting additional capital into our PRC subsidiaries. Moreover, failure to comply with the various foreign exchange registration requirements described above could result in liability on the related PRC-Resident shareholder or our PRC subsidiaries under the PRC laws for evasion of applicable foreign exchange restrictions.

Our ADSs may be delisted under the Holding Foreign Companies Accountable Act if the PCAOB is unable to inspect auditors who are located in China. The delisting of our ADSs, or the threat of their being delisted, may materially and adversely affect the value of your investment. Additionally, the inability of the PCAOB to conduct inspections deprives our investors with the benefits of such inspections.

The Holding Foreign Companies Accountable Act, or the HFCA Act, was enacted on December 18, 2020. The HFCA Act states if the SEC determines that we have filed audit reports issued by a registered public accounting firm that has not been subject to inspection by the PCAOB for three consecutive years beginning in 2021, the SEC shall prohibit our shares or ADSs from being traded on a national securities exchange or in the over the counter trading market in the U.S.

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Our auditor, the independent registered public accounting firm that issues the audit report included elsewhere in this annual report, as an auditor of companies that are traded publicly in the United States and a firm registered with the PCAOB, is subject to laws in the United States pursuant to which the PCAOB conducts regular inspections to assess its compliance with the applicable professional standards. Since our auditor is located in China, a jurisdiction where the PCAOB has been unable to conduct inspections without the approval of the Chinese authorities, our auditor is currently not inspected by the PCAOB.

On March 24, 2021, the SEC adopted interim final rules relating to the implementation of certain disclosure and documentation requirements of the HFCA Act. We will be required to comply with these rules if the SEC identifies us as having a “non-inspection” year under a process to be subsequently established by the SEC. The SEC is assessing how to implement other requirements of the HFCA Act, including the listing and trading prohibition requirements described above.

The SEC may propose additional rules or guidance that could impact us if our auditor is not subject to PCAOB inspection. For example, on August 6, 2020, the President’s Working Group on Financial Markets, or the PWG, issued the Report on Protecting United States Investors from Significant Risks from Chinese Companies to the then President of the United States. This report recommended the SEC implement five recommendations to address companies from jurisdictions that do not provide the PCAOB with sufficient access to fulfil its statutory mandate. Some of the concepts of these recommendations were implemented with the enactment of the HFCA Act. However, some of the recommendations were more stringent than the HFCA Act. For example, if a company was not subject to PCAOB inspection, the report recommended that the transition period before a company would be delisted would end on January 1, 2022.

The SEC has announced that the SEC staff is preparing a consolidated proposal for the rules regarding the implementation of the HFCA Act and to address the recommendations in the PWG report. It is unclear when the SEC will complete its rulemaking and when such rules will become effective and what, if any, of the PWG recommendations will be adopted. The implications of this possible regulation in addition the requirements of the HFCA Act are uncertain. Such uncertainty could cause the market price of our ADSs to be materially and adversely affected, and our securities could be delisted or prohibited from being traded “over-the-counter” earlier than would be required by the HFCA Act. If our securities are unable to be listed on another securities exchange by then, such a delisting would substantially impair your ability to sell or purchase our ADSs when you wish to do so, and the risk and uncertainty associated with a potential delisting would have a negative impact on the price of our ADSs.

The PCAOB’s inability to conduct inspections in China prevents it from fully evaluating the audits and quality control procedures of our independent registered public accounting firm. As a result, we and investors in our ordinary shares are deprived of the benefits of such PCAOB inspections. The inability of the PCAOB to conduct inspections of auditors in China makes it more difficult to evaluate the effectiveness of our independent registered public accounting firm’s audit procedures or quality control procedures as compared to auditors outside of China that are subject to the PCAOB inspections, which could cause investors and potential investors in our stock to lose confidence in our audit procedures and reported financial information and the quality of our financial statements.

In May 2013, the PCAOB announced that it had entered into a Memorandum of Understanding on Enforcement Cooperation with the CSRC and the PRC Ministry of Finance, which establishes a cooperative framework between the parties for the production and exchange of audit documents relevant to investigations undertaken by the PCAOB in the PRC or by the CSRC or the PRC Ministry of Finance in the United States. The PCAOB continues to be in discussions with the CSRC and the PRC Ministry of Finance to permit joint inspections in the PRC of audit firms that are registered with the PCAOB and audit Chinese companies that trade on U.S. exchanges.

Proceedings instituted by the SEC against “big four” PRC-based accounting firms, including our independent registered public accounting firm, could result in financial statements being determined to not be in compliance with the requirements of the Exchange Act.

Starting in 2011 “big four” PRC-based accounting firms, including our independent registered public accounting firm, were affected by a conflict between U.S. and Chinese law. Specifically, for certain U.S.-listed companies operating and audited in mainland China, the SEC and the PCAOB sought to obtain from the Chinese firms access to their audit work papers and related documents. The firms were, however, advised and directed that under Chinese law, they could not respond directly to the U.S. regulators on those requests, and that requests by foreign regulators for access to such papers in China had to be channeled through the CSRC.

In late 2012, this impasse led the SEC to commence administrative proceedings under Rule 102(e) of its Rules of Practice and also under the Sarbanes-Oxley Act of 2002 against the Chinese accounting firms, including our independent registered public accounting firm. A first instance trial of the proceedings in July 2013 in the SEC’s internal administrative court resulted in an adverse judgment against the firms. The administrative law judge proposed penalties on the firms including a temporary suspension of their right to practice before the SEC, although that proposed penalty did not take effect pending review by the Commissioners of the SEC. On February 6, 2015, before a review by the Commissioner had taken place, the firms reached a settlement with the SEC. Under the settlement, the SEC accepted that future requests by the SEC for the production of documents will normally be made to the CSRC. The firms were to receive matching Section 106 requests, and were required to abide by a detailed set of procedures with respect to such requests, which in substance require them to facilitate production via the CSRC. If they failed to meet specified criteria, the SEC retained authority to impose a variety of additional remedial measures on the firms depending on the nature of the failure.

Under the terms of the settlement, the underlying proceeding against the four China-based accounting firms was deemed dismissed with prejudice four years after entry of the settlement. The four-year mark occurred on February 6, 2019. While we cannot predict if the SEC will further challenge the four China-based accounting firms’ compliance with U.S. law in connection with U.S. regulatory requests for audit work papers or if the results of such a challenge would result in the SEC imposing penalties such as suspensions. If additional remedial measures are imposed on the “big four” PRC-based accounting firms, including our independent registered public accounting firm, we could be unable to timely file future financial statements in compliance with the requirements of the Exchange Act.

In the event the “big four” PRC-based accounting firms become subject to additional legal challenges by the SEC or PCAOB, depending upon the final outcome, listed companies in the United States with major PRC operations may find it difficult or impossible to retain auditors in respect of their operations in China, which could result in financial statements being determined to not be in compliance with the requirements of the Exchange Act, including possible delisting. Moreover, any negative news about any such future proceedings against these audit firms may cause investor uncertainty regarding China-based, U.S.-listed companies and the market price of our common stock may be adversely affected.

If our independent registered public accounting firm was denied, even temporarily, the ability to practice before the SEC and we were unable to timely find another registered public accounting firm to audit and issue an opinion on our financial statements, our financial statements could be determined not to be in compliance with the requirements of the Exchange Act. Such a determination could ultimately lead to the delisting of the ADSs from the Nasdaq Global Market or deregistration from the SEC, or both, which would substantially reduce or effectively terminate the trading of the ADSs in the United States.

Our corporate structure may restrict our ability to receive dividends from, and transfer funds to, our PRC operating subsidiaries, which could restrict our ability to act in response to changing market conditions in a timely manner.

We are a Cayman Islands holding company and a certain portion of our operations are conducted through our operating subsidiaries. The ability of our operating subsidiaries to make dividend and other payments to us may be restricted by factors that include changes in applicable foreign exchange and other laws and regulations.

In particular, under the PRC law, each of our PRC operating subsidiaries may only pay dividends after 10% of its net profit has been set aside as reserve funds, unless such reserves have reached at least 50% of its registered capital. In addition, the profit available for distribution from our PRC operating subsidiaries is determined in accordance with generally accepted accounting principles in the PRC. This calculation may differ if it were performed in accordance with U.S. GAAP. As a result, we may not have sufficient distributions from our PRC operating subsidiaries to enable necessary profit distributions to our shareholders in the future, which would be based upon our financial statements prepared under U.S. GAAP.

Distributions by our PRC operating subsidiaries to us other than as dividends may be subject to governmental approval and taxation. Any transfer of funds from our company to our PRC operating subsidiaries, either as a shareholder loan or as an increase in registered capital, is subject to registration or approval of PRC governmental authorities, including the relevant administration of foreign exchange and/or the relevant examining and approval authority. These limitations on the free flow of funds between us and our PRC subsidiaries could restrict our ability to act in response to changing market conditions in a timely manner.

Dividends payable by us to our foreign investors and gains on the sale of the ADSs may become subject to withholding taxes under the PRC tax laws.

Under the EIT Law and EIT Implementation Rules, our foreign corporate shareholders may be subject to a 10% income tax upon any gains realized from the transfer of their ADSs and dividends distributable to such foreign corporate shareholder, if such income is regarded as income from “sources within the PRC.” According to the EIT Implementation Rules, whether income generated from transferring equity investments is to be regarded as sources within the PRC or from foreign territory shall depend upon the locations in which the enterprises accepting the equity investment are located. However, it is unclear whether income received by our shareholders will be deemed to be income from sources within the PRC and whether there will be any exemption or reduction in taxation for our foreign corporate shareholders due to the promulgation of the EIT Law. If our foreign corporate shareholders are required to pay PRC income tax on the transfers of the ADSs that they hold or on the gains on the sale of the ADSs by them, the value of our foreign corporate shareholders’ investments in the ADSs may be materially and adversely affected.

We may be classified as a “resident enterprise” for PRC enterprise income tax purposes, which could result in unfavorable tax consequences to us and our non-PRC shareholders.

The EIT Law provides that enterprises established outside of the PRC whose “de facto management bodies” are located in the PRC are considered “resident enterprises” and are generally subject to the uniform 25% enterprise income tax rate on their worldwide income. In addition, a circular issued by the State Administration of Taxation on April 22, 2009 regarding the standards used to classify certain Chinese-invested enterprises controlled by Chinese enterprises or Chinese group enterprises and established outside of the PRC as “resident enterprises” clarified that dividends and other income paid by such “resident enterprises” will be considered to be PRC source income, subject to PRC withholding tax, currently at a rate of 10%, when recognized by non-PRC enterprise shareholders. This circular also subjects such “resident enterprises” to various reporting requirements with the PRC tax authorities. Under the implementation regulations to the enterprise income tax, a “de facto management body” is defined as a body that has material and overall management and control over the manufacturing and business operations, personnel and human resources, finances and properties of an enterprise. In addition, the circular mentioned above sets out criteria for determining whether “de facto management bodies” are located in the PRC for overseas incorporated, domestically controlled enterprises. However, as this circular only applies to enterprises established outside of the PRC that are controlled by PRC enterprises or groups of PRC enterprises, it remains unclear how the tax authorities will determine the location of “de facto management bodies” for overseas incorporated enterprises that are controlled by individual PRC residents like us and some of our subsidiaries. Therefore, although substantially all of our management is currently located in the PRC, it remains unclear whether the PRC tax authorities would require or permit our overseas registered entities to be treated as PRC resident enterprises. We do not currently consider our company to be a PRC resident enterprise. However, if the PRC tax authorities disagree with our assessment and determine that we are a “resident enterprise” we may be subject to enterprise income tax at a rate of 25% on our worldwide income and dividends paid by us to our non-PRC shareholders as well as capital gains recognized by them with respect to the sale of the ADSs may be subject to a PRC withholding tax.

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This will have an impact on our effective tax rate, a material adverse effect on our net income and results of operations, and may require us to withhold tax on our non-PRC shareholders.

Government control of foreign currency conversion may affect the value of your investment.

The PRC government imposes controls on the convertibility of Renminbi into foreign currencies and, in certain cases, the remittance of currency out of the PRC. Under existing PRC foreign exchange regulations, payments of certain current account items can be made in foreign currencies without prior approval from the local branch of the SAFE by complying with certain procedural requirements. However, approval from appropriate government authorities is required where Renminbi is to be converted into foreign currency and remitted out of the PRC to pay capital expenses such as the repayment of bank loans denominated in foreign currencies. The restrictions on foreign exchange transactions under capital accounts could also affect the ability of our subsidiaries in the PRC to obtain foreign exchange through debt or equity financing, including by means of loans or capital contributions from us. The PRC government may also at its discretion restrict access in the future to foreign currencies for current account transactions.

Risks Relating to the ADSs

The trading price of the ADSs is likely to be volatile, which could result in substantial losses to investors.

The trading price of the ADSs is likely to be volatile and could fluctuate widely due to factors beyond our control. This may happen because of broad market and industry factors, including the performance and fluctuation of the market prices of other companies with business operations located mainly in China that have listed their securities in the United States. The securities of some of these companies have experienced significant volatility since their initial public offerings, including, in some cases, substantial price declines in their trading prices. The trading performances of other PRC companies' securities after their offerings may affect the attitudes of investors toward PRC companies listed in the United States in general and consequently may impact the trading performance of our ADSs, regardless of our actual operating performance.

In addition to market and industry factors, the price and trading volume of our ADSs may be highly volatile due to factors specific to our own operations, including the following:

- variations in our revenues, earnings and cash flow;
- announcements of new investments, acquisitions, strategic partnerships or joint ventures by us or our competitors;
- announcements of new offerings, solutions and expansions by us or our competitors;
- changes in financial estimates by securities analysts;
- detrimental adverse publicity about us, our products or our industry;
- additions or departures of key personnel;

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- the release of lockup or other transfer restrictions on our outstanding equity securities or sales of additional equity securities; and
- potential litigation or regulatory investigations.

Any of these factors may result in large and sudden changes in the volume and price at which our ADSs will trade.

In the past, shareholders of public companies have often brought securities class action suits against those companies following periods of instability in the market price of their securities. On March 4, 2020, a putative class action was filed in the United States District Court of Oregon (the “Federal Action”) against us and certain of our officers and directors, among others. The complaint alleges that the Form F-1 registration statement for our initial public offering contained material misstatements and omissions in violation of federal securities laws. On March 6, 2020, another putative class action, making substantially similar allegations, was filed in New York County Supreme Court (the “State Action”) against us and certain of our officers and directors. On June 1, 2020, we filed a motion to stay all proceedings in the State Action pending adjudication of the Federal Action, which was granted on July 21, 2020. Subsequently, the Federal Action was transferred to the U.S. District Court for the Southern District of New York on September 2, 2020. On December 7, 2020, we filed a motion to dismiss in the Federal Action and our motion to dismiss was fully briefed on March 8, 2021. As of the date of this annual report, we are in the process of preparing our response to the letter motion that the complaint filed to exclude three exhibits cited in our motion to dismiss briefing or, in the alternative, convert the motion to dismiss into a motion for summary judgment.

The class action suits that we are aware of and if we were involved in a class action suit in the future, it could divert a significant amount of our management’s attention and other resources from our business and operations and require us to incur significant expenses to defend the suit, which could harm our results of operations. Any such class action suit, whether or not successful, could harm our reputation and restrict our ability to raise capital in the future. In addition, if a claim is successfully made against us, we may be required to pay significant damages, which could have a material adverse effect on our financial condition and results of operations.

If securities or industry analysts do not publish research or reports about our business, or if they adversely change their recommendations regarding the ADSs, the market price for the ADSs and trading volume could decline.

The trading market for the ADSs will be influenced by research or reports that industry or securities analysts publish about our business. If one or more analysts who cover us downgrade the ADSs, the market price for the ADSs would likely decline. If one or more of these analysts cease to cover us or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could, in turn, cause the market price or trading volume for the ADSs to decline.

Because we do not expect to pay dividends in the foreseeable future, you must rely on price appreciation of the ADSs for a return on your investment.

We currently intend to retain most, if not all, of our available funds and any future earnings to fund the development and growth of our business. As a result, we do not expect to pay any cash dividends in the foreseeable future. Therefore, you should not rely on an investment in our ADSs as a source for any future dividend income.

Our board of directors has discretion as to whether to distribute dividends, subject to certain requirements of Cayman Islands law. Under Cayman Islands law, a Cayman Islands company may pay a dividend out of either profit or share premium account, provided that in no circumstances may a dividend be paid if this would result in the company being unable to pay its debts as they fall due in the ordinary course of business. Even if our board of directors decides to declare and pay dividends, the timing, amount and form of future dividends, if any, will depend on our future results of operations and cash flow, our capital requirements and surplus, the amount of distributions, if any, received by us from our subsidiaries, our financial condition, contractual restrictions and other factors deemed relevant by our board of directors. Accordingly, the return on your investment in the ADSs will likely depend entirely upon any future price appreciation of the ADSs. There is no guarantee that the ADSs will appreciate in value or even maintain the price at which you purchased the ADSs. You may not realize a return on your investment in the ADSs, and you may even lose your entire investment in the ADSs.

The dual-class structure of our ordinary shares may adversely affect the trading market for our ADSs.

Certain shareholder advisory firms have announced changes to their eligibility criteria for inclusion of shares of public companies on certain indices, including the S&P 500, to exclude companies with multiple classes of shares and companies whose public shareholders hold no more than 5% of total voting power from being added to such indices. In addition, several shareholder advisory firms have announced their opposition to the use of multiple class structures. As a result, the dual-class structure of our ordinary shares may prevent the inclusion of our ADSs representing Class A ordinary shares in such indices and may cause some shareholder advisory firms to publish negative commentary about our corporate governance practices or otherwise seek to cause us to change our capital structure. Any such exclusion from indices could result in a less active trading market for our ADSs. Any negative actions or publications by shareholder advisory firms could also adversely affect the value of our ADSs.

Our Amended and Restated Memorandum and Articles of Association contain anti-takeover provisions that could have a material adverse effect on the rights of holders of our Class A ordinary shares and ADSs.

Our amended and restated memorandum and articles of association contain provisions to limit the ability of others to acquire control of our company or cause us to engage in change-of-control transactions, including a provision that entitles each Class B ordinary share to 15 votes in respect of all matters subject to a shareholders' vote. These provisions could have the effect of depriving our shareholders of an opportunity to sell their shares at a premium over prevailing market prices by discouraging third parties from seeking to obtain control of our company in a tender offer or similar transaction. If any Class B ordinary shares are converted into Class A ordinary shares or canceled for any reasons, our board of directors will have the authority without further action by our shareholders to issue additional Class B ordinary shares, which will be dilutive to our Class A ordinary shareholders. In addition, our board of directors has the authority, without further action by our shareholders, to issue preferred shares in one or more series and to fix their designations, powers, preferences, privileges, and relative participating, optional or special rights and the qualifications, limitations or restrictions, including dividend rights, conversion rights, voting rights, terms of redemption and liquidation preferences, any or all of which may be greater than the rights associated with our Class A ordinary shares, in the form of ADS or otherwise. We could issue preferred shares quickly with terms calculated to delay or prevent a change in control of our company or make removal of management more difficult. If our board of directors decides to issue preferred shares, the price of our ADSs may fall and the voting and other rights of the holders of our Class A ordinary shares and ADSs may be materially and adversely affected.

You may face difficulties in protecting your interests, and your ability to protect your rights through U.S. courts may be limited because we are incorporated under Cayman Islands law.

We are an exempted company incorporated under the laws of the Cayman Islands. Our corporate affairs are governed by our memorandum and articles of association, as amended, the Companies Act of the Cayman Islands, as amended and the common law of the Cayman Islands. The rights of shareholders to take action against our directors, actions by our minority shareholders and the fiduciary duties of our directors to us under the Cayman Islands law are to a large extent governed by the common law of the Cayman Islands. The common law of the Cayman Islands is derived in part from comparatively limited judicial precedent in the Cayman Islands as well as from the common law of England, the decisions of whose courts are of persuasive authority, but are not binding, on a court in the Cayman Islands. The rights of our shareholders and the fiduciary duties of our directors under Cayman Islands law are not as clearly established as they would be under statutes or judicial precedent in some jurisdictions in the United States. In particular, the Cayman Islands have a less developed body of securities laws than the United States. In addition, Cayman Islands companies may not have standing to initiate a shareholder derivative action in a federal court of the United States.

Shareholders of Cayman Islands exempted companies like us have no general rights under Cayman Islands law to inspect corporate records (other than the memorandum and articles of association and our register of mortgages and charges) or to obtain copies of lists of shareholders of these companies. Our directors have discretion under our articles of association to determine whether or not, and under what conditions, our corporate records may be inspected by our shareholders, but are not obligated to make them available to our shareholders. This may make it more difficult for you to obtain the information needed to establish any facts necessary for a shareholder motion or to solicit proxies from other shareholders in connection with a proxy contest.

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Certain corporate governance practices in the Cayman Islands, which is our home country, differ significantly from requirements for companies incorporated in other jurisdictions such as the United States. We may follow the home country practice for certain corporate governance practices after the closing of this offering which may differ from the requirements of the Nasdaq Global Market. If we choose to follow the home country practice, our shareholders may be afforded fewer protection than they otherwise would under rules and regulations applicable to U.S. domestic issuers.

As a result of all of the above, our public shareholders may have more difficulty in protecting their interests in the face of actions taken by management, members of the board of directors or controlling shareholders than they would as public shareholders of a company incorporated in the United States.

Certain judgments obtained against us by our shareholders may not be enforceable.

We are a Cayman Islands exempted company and all of our assets are located outside of the United States. All of our current operations are conducted in China. In addition, all of our current directors and officers are nationals and residents of countries other than the United States. A substantial portion of the assets of these persons are located outside the United States. As a result, it may be difficult or impossible for you to bring an action against us or against these individuals in the United States in the event that you believe that your rights have been infringed under the U.S. federal securities laws or otherwise. Even if you are successful in bringing an action of this kind, the laws of the Cayman Islands and of China may render you unable to enforce a judgment against our assets or the assets of our directors and officers.

Fluctuations in the exchange rate between the Renminbi and the U.S. dollar could result in foreign currency exchange losses and could materially reduce the value of your investment.

The value of the Renminbi against the U.S. dollar and other currencies may fluctuate and is affected by, among other things, changes in political and economic conditions and the foreign exchange policy adopted by the PRC government. On July 21, 2005, the PRC government changed its policy of pegging the value of the Renminbi to the U.S. dollar. Following the removal of the U.S. dollar peg, the Renminbi appreciated more than 20% against the U.S. dollar over the following three years. Between July 2008 and June 2010, this appreciation halted and the exchange rate between the Renminbi and the U.S. dollar remained within a narrow band. Since June 2010, the Renminbi has fluctuated against the U.S. dollar, at times significantly and unpredictably. On November 30, 2015, the Executive Board of the International Monetary Fund (IMF) completed the regular five- year review of the basket of currencies that make up the Special Drawing Right, or the SDR, and decided that with effect from October 1, 2016, the Renminbi is determined to be a freely usable currency and will be included in the SDR basket as a fifth currency, along with the U.S. dollar, the Euro, the Japanese yen and the British pound. In the fourth quarter of 2016, the Renminbi had depreciated significantly in the backdrop of a surging U.S. dollar and persistent capital outflows of China. This depreciation halted in 2017, and the Renminbi appreciated approximately 7% against the U.S. dollar during this one-year period. Starting from the beginning of 2019, the Renminbi has depreciated significantly against the U.S. dollar again. In early August 2019, the PBOC set the Renminbi's daily reference rate at RMB7.0039 to US\$1.00, the first time that the exchange rate of the Renminbi to the U.S. dollar exceeded 7.0 since 2008. The Renminbi appreciated approximately 6% in 2020, with an approximately 8% rise over the second half of the year alone. With the development of the foreign exchange market and progress towards interest rate liberalization and Renminbi internationalization, the PRC government may in the future announce further changes to the exchange rate system, and we cannot assure you that the Renminbi will not appreciate or depreciate significantly in value against the U.S. dollar in the future. It is difficult to predict how market forces or PRC or U.S. government policy may impact the exchange rate between the Renminbi and the U.S. dollar in the future.

Substantially all of our revenues and costs are denominated in Renminbi. We are a holding company and we rely on dividends paid by our operating subsidiaries in China for our cash needs. Any significant revaluation of the Renminbi may materially and adversely affect our results of operations and financial position reported in Renminbi when translated into U.S. dollars, and the value of, and any dividends payable on, the ADSs in U.S. dollars. To the extent that we need to convert U.S. dollars we receive from this offering into Renminbi for our operations, appreciation of the Renminbi against the U.S. dollar would have an adverse effect on the Renminbi amount we would receive. Conversely, if we decide to convert our Renminbi into U.S. dollars for the purpose of making payments for dividends on our ordinary shares or ADSs or for other business purposes, appreciation of the U.S. dollar against the Renminbi would have a negative effect on the U.S. dollar amount.

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We are an emerging growth company within the meaning of the Securities Act and may take advantage of certain reduced reporting requirements.

We are an “emerging growth company,” as defined in the JOBS Act, and we may take advantage of certain exemptions from requirements applicable to other public companies that are not emerging growth companies including, most significantly, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002 for so long as we are an emerging growth company until the fifth anniversary from the date of our initial listing.

The JOBS Act also provides that an emerging growth company does not need to comply with any new or revised financial accounting standards until such date that a private company is otherwise required to comply with such new or revised accounting standards. We intend to avail ourselves of the extended transition period.

We are a foreign private issuer within the meaning of the rules under the Exchange Act, and as such we are exempt from certain provisions applicable to United States domestic public companies.

Because we are a foreign private issuer under the Exchange Act, we are exempt from certain provisions of the securities laws and regulations in the United States that apply to U.S. domestic issuers, including:

- the rules under the Exchange Act requiring the filing of quarterly reports on Form 10-Q or current reports on Form 8-K with the SEC;
- the sections of the Exchange Act regulating the solicitation of proxies, consents, or authorizations in respect of a security registered under the Exchange Act;
- the sections of the Exchange Act requiring insiders to file public reports of their stock ownership and trading activities and liability for insiders who profit from trades made in a short period of time; and
- the selective disclosure rules by issuers of material nonpublic information under Regulation FD.

We are required to file an annual report on Form 20-F within four months of the end of each fiscal year. In addition, we intend to publish our results on a quarterly basis through press releases, distributed pursuant to the rules and regulations of the Nasdaq Global Market. Press releases relating to financial results and material events will also be furnished to the SEC on Form 6-K. However, the information we are required to file with or furnish to the SEC will be less extensive and less timely than that required to be filed with the SEC by U.S. domestic issuers. As a result, you may not be afforded the same protections or information that would be made available to you were you investing in a U.S. domestic issuer.

The voting rights of holders of ADSs are limited by the terms of the deposit agreement, and you may not be able to exercise your right to vote your ordinary shares.

As a holder of the ADSs, you will only be able to exercise the voting rights with respect to the underlying ordinary shares represented by your ADSs in accordance with the provisions of the deposit agreement. Under the deposit agreement, you must vote by giving voting instructions to the depositary. Upon receipt of your voting instructions, the depositary will vote the underlying ordinary shares represented by your ADSs in accordance with these instructions. You will not be able to directly exercise your right to vote with respect to the underlying ordinary shares represented by your ADSs unless you cancel and withdraw such ordinary shares. Under our amended and restated memorandum and articles of association, the minimum notice period required for convening a general meeting is ten days. When a general meeting is convened, you may not receive sufficient advance notice to withdraw the underlying ordinary shares represented by your ADSs to allow you to vote with respect to any specific matter. If we ask for your instructions, the depositary will notify you of the upcoming vote and will arrange to deliver our voting materials to you. We cannot assure you that you will receive the voting materials in time to ensure that you can instruct the depositary to vote the underlying ordinary shares represented by your ADSs. In addition, the depositary and its agents are not responsible for failing to carry out voting instructions or for their manner of carrying out your voting instructions. This means that you may not be able to exercise your right to vote and you may have no legal remedy if the underlying ordinary shares represented by your ADSs are not voted as you requested.

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The depositary for the ADSs will give us a discretionary proxy to vote our ordinary shares underlying your ADSs if you do not vote at shareholders' meetings, except in limited circumstances, which could adversely affect your interests.

Under the deposit agreement for the ADSs, if you do not vote, the depositary may give us a discretionary proxy to vote the ordinary shares underlying the ADSs at shareholders' meetings if we have timely provided the depositary with notice of meeting and related voting materials and (i) we have instructed the depositary that we wish a discretionary proxy to be given, (ii) we have informed the depositary that there is no substantial opposition as to a matter to be voted on at the meeting, and (iii) a matter to be voted on at the meeting would not have a material adverse impact on shareholders.

The effect of this discretionary proxy is that you cannot prevent the underlying ordinary shares represented by the ADSs from being voted, except under the circumstances described above. This may make it more difficult for holders to influence the management of the company. Holders of ordinary shares are not subject to this discretionary proxy.

ADS holders may not be entitled to a jury trial with respect to claims arising under the deposit agreement, which could result in less favorable outcomes to the plaintiff(s) in any such action.

The deposit agreement governing the ADSs representing our Class A ordinary shares provides that, to the fullest extent permitted by law, ADS holders waive the right to a jury trial of any claim they may have against us or the depositary arising out of or relating to our shares, the ADSs or the deposit agreement, including any claim under the U.S. federal securities laws. As the waiver relates to claims arising as a matter of contract in relation to the ADSs, we believe that, as a matter of construction of the clause, the waiver would likely to continue to apply to ADS holders who withdraw the Class A ordinary shares represented by the ADSs from the ADS facility with respect to claims arising before the withdrawal, and the waiver would most likely not apply to ADS holders who subsequently withdraw the Class A ordinary shares represented by ADSs from the ADS facility with respect to claims arising after the withdrawal. However, to our knowledge, there has been no case law on the applicability of the jury trial waiver to ADS holders who subsequently withdraw the Class A ordinary shares represented by the ADSs from the ADS facility.

If we or the depositary oppose a jury trial demand based on the waiver, the court would determine whether the waiver was enforceable based on the facts and circumstances of that case in accordance with the applicable state and federal law. To our knowledge, the enforceability of a contractual pre-dispute jury trial waiver in connection with claims arising under the federal securities laws has not been finally adjudicated by the United States Supreme Court. However, we believe that a contractual pre-dispute jury trial waiver provision is generally enforceable, including under the laws of the State of New York, which govern the deposit agreement, by a federal or state court in the City of New York, which has non-exclusive jurisdiction over matters arising under the deposit agreement. In determining whether to enforce a contractual pre-dispute jury trial waiver provision, courts will generally consider whether a party knowingly, intelligently and voluntarily has waived the right to a jury trial. We believe that this is the case with respect to the deposit agreement and the ADSs. It is advisable that you consult legal counsel regarding the jury waiver provision before investing in the ADSs.

If you or any other holders or beneficial owners of ADSs, including purchasers of ADSs in secondary market transactions, bring a claim against us or the depositary in connection with matters arising under the deposit agreement or the ADSs, including claims under federal securities laws, you or such other holder or beneficial owner may not be entitled to a jury trial with respect to such claims, which may have the effect of increasing the cost of bringing a claim and limiting and discouraging lawsuits against us and the depositary. If a lawsuit is brought against either or both of us and the depositary under the deposit agreement, it may be heard only by a judge or justice of the applicable trial court, which would be conducted according to different civil procedures and may result in different outcomes than a trial by jury would have, including results that could be less favorable to the plaintiff(s) in any such action.

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Nevertheless, if this jury trial waiver provision is not permitted by applicable law, an action could proceed under the terms of the deposit agreement with a jury trial. No condition, stipulation or provision of the deposit agreement or ADSs serves as a waiver by any holder or beneficial owner of ADSs or by us or the depository of compliance with U.S. federal securities laws and the rules and regulations promulgated thereunder.

You have the right to arbitration under the deposit agreement. However, it may not be most beneficial.

The deposit agreement provides that ADS holders and the depository have the right to elect to have any claim they may have against us arising out of or relating to the Class A ordinary shares or ADSs or the deposit agreement settled by arbitration in New York, New York rather than in a court of law, and to have any judgment rendered by the arbitrators entered in any court having jurisdiction. An arbitral tribunal in any such arbitration would not have the authority to award any consequential, special, or punitive damages and its award would have to conform to the provisions of the deposit agreement. The deposit agreement does not give us the right to require that any claim, whether brought by us or against us, be arbitrated.

The deposit agreement may be amended or terminated without your consent.

We may amend or terminate the deposit agreement without your consent. If you continue to hold your ADSs after an amendment to the deposit agreement, you agree to be bound by the deposit agreement as amended. However, amendment to certain rights that may increase costs or prejudice a substantial right of ADS holders will not take effect until 30 days after notice thereof in accordance with the deposit agreement.

You, as holders of ADSs, may have fewer rights than holders of our ordinary shares and must act through the depository to exercise those rights.

Holders of ADSs do not have the same rights as our registered shareholders. As a holder of the ADSs, you will not have any direct right to attend general meetings of our shareholders or to cast any votes at such meetings. You will only be able to exercise the voting rights that are carried by the underlying ordinary shares represented by your ADSs indirectly in accordance with the provisions of the deposit agreement. Under the deposit agreement, you may vote only by giving voting instructions to the depository. Upon receipt of your voting instructions, the depository will try, as far as is practicable, to vote the underlying ordinary shares represented by your ADSs in accordance with your instructions. If we ask for your instructions, then upon receipt of your voting instructions, the depository will try to vote the underlying ordinary shares represented by your ADSs in accordance with these instructions. If we do not instruct the depository to ask for your instructions, the depository may still vote in accordance with instructions you give, but it is not required to do so. You will not be able to directly exercise your right to vote with respect to the underlying ordinary shares represented by your ADSs unless you withdraw such ordinary shares and become the registered holder of such shares prior to the record date for the general meeting.

You may experience dilution of your holdings due to the inability to participate in rights offerings.

We may, from time to time, distribute rights to our shareholders, including rights to acquire securities. Under the deposit agreement, the depository will not distribute rights to holders of ADSs unless the distribution and sale of rights and the securities to which these rights relate are either exempt from registration under the Securities Act with respect to all holders of ADSs, or are registered under the provisions of the Securities Act. The depository may, but is not required to, attempt to sell these undistributed rights to third parties, and may allow the rights to lapse. We may be unable to establish an exemption from registration under the Securities Act, and we are under no obligation to file a registration statement with respect to these rights or underlying securities or to endeavor to have a registration statement declared effective. Accordingly, holders of ADSs may be unable to participate in our rights offerings and may experience dilution of their holdings as a result.

You may be subject to limitations on the transfer of your ADSs.

Your ADSs are transferable on the books of the depository. However, the depository may close its books at any time or from time to time when it deems it expedient in connection with the performance of its duties. The depository may close its books from time to time for a number of reasons, including in connection with corporate events such as a rights offering, during which time the depository needs to maintain an exact number of ADS holders on its books for a specified period. The depository may also close its books in emergencies, and on weekends and public holidays. The depository may refuse to deliver, transfer or register transfers of our ADSs generally when our share register or the books of the depository are closed, or at any time if we or the depository thinks it is advisable to do so because of any requirement of law or of any government or governmental body, or under any provision of the deposit agreement, or for any other reason.

We have identified two material weaknesses in our internal controls as of December 31, 2020, and if we fail to maintain an effective system of internal controls, our ability to accurately and timely report our financial results or prevent fraud may be adversely affected, and investor confidence and the market price of the ADSs may be adversely affected.

In the course of preparing and auditing our consolidated financial statements for the year ended December 31, 2020, we and our independent registered public accounting firm identified two material weaknesses in our internal control over financial reporting as of December 31, 2020. In accordance with reporting requirements set forth by the SEC, a material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our company's annual or interim consolidated financial statements will not be prevented or detected on a timely basis. The material weaknesses identified are related to (i) our lack of competent financial reporting and accounting personnel with appropriate knowledge of U.S. GAAP and SEC reporting and compliance requirements, and (ii) our lack of documented financial closing policies and procedures, specifically those related to the period end expenses cut-off and accruals.

We have begun and will continue to implement measures to address the material weaknesses. However, the implementation of those measures may not fully remediate the material weaknesses in a timely manner. In the future, we may determine that we have additional material weaknesses or other deficiencies, or our independent registered public accounting firm may disagree with our management's assessment of the effectiveness of our internal controls. Our failure to correct these material weaknesses or our failure to discover and address any other material weaknesses could result in inaccuracies in our financial statements and impair our ability to comply with the applicable financial reporting requirements and related regulatory filings on a timely basis. Moreover, ineffective internal control over financial reporting could significantly hinder our ability to prevent fraud.

We have incurred and expect to continue to incur significant costs as a public company, which could lower our profits or make it more difficult to run our business.

As a public company, we have incurred and expect to continue to incur significant legal, accounting and other expenses that we did not incur as a private company to ensure that we comply with the various requirements on corporate governance practices imposed by the Sarbanes-Oxley Act of 2002, as well as rules subsequently implemented by the SEC and Nasdaq Global Market.

For example, we have increased the number of independent directors and adopted policies regarding internal controls and disclosure controls and procedures. We have also incurred additional costs associated with our public company reporting requirements. We expect that these rules and regulations will continue to cause us to incur elevated legal and financial compliance costs, devote substantial management effort to ensure compliance and make some corporate activities more time-consuming and costly. We are currently evaluating and monitoring developments with respect to these rules and regulations, and we cannot predict or estimate with any degree of certainty the amount of additional costs we may incur or the timing of such costs.

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As a company with less than US\$1.07 billion in net revenues for our last financial year, we qualify as an “emerging growth company” pursuant to the JOBS Act. An emerging growth company may take advantage of specified reduced reporting and other requirements that are otherwise applicable generally to public companies. These provisions include exemption from the auditor attestation requirement under Section 404 of the Sarbanes-Oxley Act of 2002 in the assessment of the emerging growth company’s internal control over financial reporting and permission to delay adopting new or revised accounting standards until such time as those standards apply to private companies. Once we are no longer an “emerging growth company,” we expect to incur significant expenses and devote substantial management effort toward ensuring compliance with the requirements of Section 404 of the Sarbanes-Oxley Act of 2002 and the other rules and regulations of the SEC.

In the past, shareholders of a public company often brought securities class action suits against companies following periods of instability in the market price of those companies’ securities. If we were involved in a class action suit, it could divert a significant amount of our management’s attention and other resources from our business and operations, which could harm our results of operations and require us to incur significant expenses to defend the suit. Any such class action suit, whether or not successful, could harm our reputation and restrict our ability to raise capital in the future. In addition, if a claim is successfully made against us, we may be required to pay significant damages, which could have a material adverse effect on our financial condition and results of operations.

As an exempted company incorporated in the Cayman Islands, we are permitted to adopt certain home country practices in relation to corporate governance matters that differ significantly from the requirements of the Nasdaq Stock Market Rules; these practices may afford fewer protection to shareholders than they would enjoy if we complied fully with the Nasdaq Stock Market Rules.

As a Cayman Islands exempted company listed on the Nasdaq Global Market, we are subject to the Nasdaq Stock Market Rules. However, Nasdaq Stock Market Rules permit a foreign private issuer like us to follow the corporate governance practices of its home country. Certain corporate governance practices in the Cayman Islands, which is our home country, may differ significantly from the Nasdaq Stock Market Rules. For instance, we are not required to: (i) have a majority of the board be independent; (ii) have a compensation committee or a nominating and corporate governance committee consisting entirely of independent directors; or (iii) have regularly scheduled executive sessions with only independent directors each year. We intend to rely on some of these exemptions. As a result, you may not be provided with the benefits of certain corporate governance requirements of the Nasdaq Global Market. We may also follow the home country practice for certain corporate governance practices, which may differ from the requirements of the Nasdaq Global Market. If we choose to follow the home country practice, our shareholders may be afforded fewer protection than they would otherwise enjoy under the Nasdaq Stock Market Rules applicable to U.S. domestic issuers.

We may become a passive foreign investment company, or PFIC, which could result in adverse U.S. tax consequences to U.S. investors.

Based upon the past and projected composition of our income and assets and the valuation of our assets, including goodwill, we do not believe that we were a PFIC for 2020, and we do not expect to be a PFIC in 2021 or to become one in the foreseeable future, although there can be no assurance in this regard.

In general, we will be a PFIC for any taxable year in which:

- at least 75% of our gross income is passive income; or
- at least 50% of the value (determined based on a quarterly average) of our assets is attributable to assets that produce or are held for the production of passive income.

The determination of whether we are a PFIC is made annually. Accordingly, it is possible that we may become a PFIC in the current or any future taxable year due to changes in our asset or income composition. Because we have valued our goodwill based on the market value of the ADSs, a decrease in the price of the ADSs may also result in our becoming a PFIC.

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If we are a PFIC for any taxable year during which you hold our ADSs or ordinary shares, our PFIC status could result in adverse United States federal income tax consequences to you if you are a United States Holder, as defined under “Item 10. Additional Information—E. Taxation—United States Federal Income Tax Considerations.” For example, if we are or become a PFIC, you may become subject to increased tax liabilities under United States federal income tax laws and regulations, and will become subject to burdensome reporting requirements. See “Item 10. Additional Information—E. Taxation—United States Federal Income Tax Considerations—Passive Foreign Investment Company.” There can be no assurance that we will not be a PFIC for the current or any future taxable year.

ITEM 4. INFORMATION ON THE COMPANY

A. Our History

We are a Cayman Islands holding company and conduct our operations in China through our PRC subsidiaries. We first started our business developing Bitcoin mining machines incorporating ASIC technology in 2013 through Beijing Canaan Creative Information Technology Co., Ltd. which was subsequently renamed Hangzhou Canaan Creative Information Technology Co., Limited, or Hangzhou Canaan, in September 2015. Empowered by the academic training and technical expertise of our co-founders, we have focused on the design of high performance, repeated computing ICs since our inception. As we further developed, Hangzhou Canaan went through a series of capital injections and became a holding company for our PRC operating subsidiaries.

With the growth of our business and in order to facilitate international capital investment in us, we underwent an offshore reorganization in the first quarter of 2018. In February 2018, Canaan Cayman Holdings Ltd. was incorporated under the laws of the Cayman Islands as an exempted company with limited liability. It was later renamed Canaan Inc. in April 2018. In March 2018, in order to mirror the shareholding structure of the then shareholders of Hangzhou Canaan, we issued and allotted our ordinary shares at par value to investment holding companies held by the then shareholders of Hangzhou Canaan. Further, an intermediate holding company, Canaan Creative (HK) Holdings Limited, or Canaan HK, our wholly-owned subsidiary, was also established in Hong Kong in February 2018. In March 2018, Canaan HK acquired a 100% equity interest in Hangzhou Canaan and Canaan Inc. became our ultimate holding company. In June 2018, we completed a one-for-2,000 shares subdivision, and the number of total issued and outstanding ordinary shares became 2,000,000,000. Accordingly, our authorized share capital of US\$50,000 is divided into 1,000,000,000,000 ordinary shares of US\$0.00000005 each.

Our principal executive offices are located at 1-2/F, QianFang Science Building C, Building No. 27, Zhongguancun Software Park (Phase I), No. 8 Dongbeiwang West Road, Haidian District, Beijing, People’s Republic of China. Our telephone number at this address is +86-010-5874-1858. Our registered office in the Cayman Islands is located at the offices of Sertus Chambers, Suite #5-204, 23 Lime Tree Bay Avenue, P.O. Box 2547, Grand Cayman, KY1-1104, Cayman Islands. Investors should submit any inquiries to the address and telephone number of our principal executive offices set forth above.

B. Business Overview

We provide supercomputing solutions through our proprietary high performance computing ASICs. Our visionary management team has a clear strategy to commercialize supercomputing technology. In January 2013, Mr. Nangeng Zhang, our chairman and chief executive officer, and his team, invented and delivered one of the first Bitcoin mining machines incorporating ASIC technology. Our founders and management team have a clear strategy to commercialize supercomputing technology. We initially dedicated our research and development efforts to ASIC applications for Bitcoin mining, which rapidly built up our know-how of ASIC design. Such experience provided us with a solid foundation in terms of both technology and capital resources, which better prepared us for further research and development involving AI chips. In September 2018, we became the first in the industry to deliver commercial edge computing AI chips based on Risc-V architecture and self-developed neural-network accelerator with outstanding performance. As we are a fabless IC designer, the ICs that we design are manufactured, packaged and tested by industry-leading suppliers, including SMIC, TSMC and Samsung.

We have developed significant advantages in our business and technological capabilities, including the following:

- Our mastery of the whole IC design process;

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- Our years of accumulated engineering experience in applying theoretical research to the mass production of new products, producing in aggregate over 217 million chips in 2018, 2019, and 2020;
- Our ability to achieve a fast time-to-market with our products and our successful early monetization of the ASIC design in blockchain applications have provided us with an early advantage with respect to both technology and capital reserve to pursue our strategic initiatives;
- Our breakthroughs in various technological fields to improve ASIC performance, such as low voltage and high power efficiency operations and high computing density, all of which are crucial features for ASICs for blockchain and AI solutions;
- Our ownership of most of the intellectual property we employ, and our accumulation of valuable know-how and multiple generations of proprietary silicon data through our years of ASIC design experience;
- Our ability to provide a holistic AI solution to our customers, including AI chips, algorithm development and optimization, hardware module, end-product and software services; and
- Our close and trusted partnerships with leading global suppliers, which have enabled us to achieve high-quality, high yield rate and stable production.

Our Business Model

We are a fabless IC designer that provides advanced semiconductor solutions for supercomputing hardware. We are engaged in the front-end and back-end of IC design, which are the major components of the IC product development chain. We currently sell Bitcoin mining machines under our AvalonMiner brand that feature our proprietary ASICs which we design in-house, as well as ASICs designed for AI applications. We also sell Bitcoin mining machine parts and offer after-sales technical services for our products. In addition, we started to lease our Bitcoin mining machine in July 2019 to achieve better liquidity management when the Bitcoin price is low. We typically lease our Bitcoin mining machines for a period of six months, but with the option, at the mutual agreement of the parties, of ending the lease in three months. Our customer is responsible for the maintenance of the Bitcoin mining machines during the lease period.

We closely partner with industry-leading third-party suppliers to fabricate, test and package the IC products we design. For our Bitcoin mining machine, we assemble the final Bitcoin mining machines by integrating the ICs produced by us and related components we procure. Our front-end design capability ensures the robustness of our ICs, which can recover from any logic fault. Further, we carry out a complete verification process notwithstanding the significant time pressure to roll out new designs. We use FPGA based prototyping and simulation to ensure that the functionality and performance of our products are consistent with their design intent. Moreover, our rich experiences from previous tape-outs provide us with a vast amount of data that enable us to more accurately estimate the product's power efficiency, performance and yield rate at the back-end design stage.

We have endeavored to leverage the trend of early and large-scale adoption of advanced process technologies to build a world-class semiconductor company. We aim to continuously introduce ICs of higher performance and power efficiency for application in both the blockchain and AI fields.

Our Products

Bitcoin Mining Solutions

In 2009, CPUs were the initial Bitcoin mining solution. As the requirements for computing power grew, Bitcoin miners gradually migrated to chips with stronger computing power, including GPU and FGPA. In 2013, Mr. Nangeng Zhang, our chairman and chief executive officer, began to offer ASIC-based hardware as a more effective Bitcoin mining solution.

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Set forth below is a summary of the milestones and status of the development of our ASICs developed for Bitcoin mining solutions.

<u>ASICS</u>	<u>Status and expected timeline*</u>
28nm	<ul style="list-style-type: none">• Production end of life
16nm, First Generation	<ul style="list-style-type: none">• Production end of life
16nm, Second Generation	<ul style="list-style-type: none">• Mass production of final products in 4th quarter 2017
16nm, Third Generation	<ul style="list-style-type: none">• Mass production of final products in 2nd quarter 2018
7nm, First Generation	<ul style="list-style-type: none">• Mass production of final products in 3rd quarter 2018
16nm, Fourth Generation	<ul style="list-style-type: none">• Mass production of final products in 2nd quarter 2019
8nm, First Generation	<ul style="list-style-type: none">• Mass production of final products in 1st quarter 2020
14nm, First Generation	<ul style="list-style-type: none">• Mass production in 2nd quarter 2020
N+1nm, First Generation	<ul style="list-style-type: none">• Mass production in 3rd quarter 2020

* The expected timeline of the mass production of 14nm ASICs is based on our best estimates, which can be affected by factors beyond our control, including but not limited to, delays cause by our suppliers.

We offer a single line of Bitcoin mining machines, under the AvalonMiner brand. The AvalonMiner Bitcoin mining machines feature our proprietary ASICs, and the ASICs are integrated with components procured by us including a circuit board, PMU boards, a cooling fan, heat sensors, and enclosed with an aluminum casing. We typically introduce new series of Bitcoin mining machines every year incorporating the latest technological development in terms of ASIC design and process technology. We also sell Bitcoin mining machine parts, mainly battery packs, that our customers, especially our overseas customers, purchase along with Bitcoin mining machines.

Set forth below are certain specifications of our selected AvalonMiner products.

Bitcoin Mining Machine	Release Date	ASICs	Number of ASICs in Each Product	Computing Power (GH/s)	Power Consumption (W/GHs)
A841	March 2018	16nm, Second Generation	104	13,000	0.10
A851	July 2018	16nm, Third Generation	104	14,500	0.10
A852	April 2019	16nm, Third Generation	104	15,000	0.10
A921	August 2018	7nm, First Generation	104	20,000	0.09
A911	January 2019	16nm, Third Generation	204	19,500	0.09
A1047	April 2019	16nm, Fourth Generation	240	37,000	0.07
A1066	July 2019	16nm, Fourth Generation	342	50,000	0.07
A1066 pro	September 2019	8nm, First Generation	324	55,000	0.06
A1246	September 2020	N+1nm, First Generation	360	90,000	0.04

ASICs for AI Applications

We began to develop ASICs for AI applications in 2016 and completed the tape-out of our AI chips in June 2018. Our AI chips are miniaturized chips characterized by high-performance and low energy consumption. Each AI chip is designed with an artificial neural-network and high-performance processors, which mainly provides heterogeneous, real-time and off-line AI applications. In September 2018, we released the first generation of our AI chip, Kendryte K210, and we began mass production in the fourth quarter of 2018. K210 is a SoC that integrates machine vision and machine hearing functions. We were the first in the industry to deliver commercial edge computing AI chips based on Risc-V architecture and self-developed neural-network accelerator with outstanding performance.

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Through the development of various generations of ASICs for Bitcoin mining, we have accumulated rich experience in reducing the size and increasing the power efficiency of the ASICs while achieving high computing power, which is fundamental to designing commercially successful ASICs for AI applications. Specifically, using TSMC's ultra-low-power 28nm advanced process with dual-core 64-bit processors for better power efficiency, stability and reliability, K210 is able to achieve low voltage and high power efficiency compared to other systems with the same processing power. Further, K210 is a SoC and provides a "single" chip solution, as compared with competing products that require separate chips to perform. As such, our AI chips will involve less set up costs for our customers and are able to avoid potential function loss when any of the chips malfunctions.

Set forth below is a summary of the milestones and status of the development of our AI products.

<u>Product</u>	<u>Status</u>
Kendryte K210—28nm	<ul style="list-style-type: none">• Released in September 2018• Mass production and shipment of final products in 4th quarter 2018

K210 empowers our clients to provide AI solutions in the field of IoT through its machine vision and machine hearing capabilities. Details of these capabilities are set out below:

- *Machine Vision.* K210 is a highly adaptive embedded machine vision solution. It can perform convolutional neural-network calculations with high power efficiency. It is capable of object detection, image classification, face detection and recognition, obtaining size and coordinates of targets in real time and analyzing the type of detected targets in real time.
- *Machine Hearing.* K210 comes with a high-performance microphone array audio processor capable of real-time source orientation detection, sound field imaging, beamforming, voice wake-up and speech recognition.

Our AI chips' capabilities have the potential to be applied in a number of AI solutions in the field of IoT that involve automation, image and voice recognition, motion control and authentication. We currently focus on the following applications:

- *Smart Homes.* Our chips can be applied in smart home appliances and security systems, including air conditioners, microwave ovens, gas meters, speakers, robot vacuum, electronic door locks featuring facial recognition functions, and household monitoring systems.
- *Agriculture.* Our chips can increase crop yields when used for AI-powered agricultural monitoring, pest and disease monitoring and automated control.
- *Smart Retail.* Our chips can power AIoT devices in smart retail to elevate customer experience, including supporting facial recognition for payment, automatically classifying items in vending machines, and tracking and analyzing customer flows.
- *Surveillance and Security.* AI applications in image and voice recognition can be used by companies, schools or hotels for security purposes.
- *Advanced driver-assistance systems.* Our chips can empower image or video capturing devices installed in cars to detect human movements and facial expression for driver fatigue warning.

Our AI chips can also be used for the following applications:

- *Smart Industrial Applications.* Our chips can be applied in logistics solutions, including intelligent sorting and transportation in complex warehousing environments, smart industrial machinery and robots, monitoring of electrical equipment, equipment fault detection and analysis of industrial equipment data. End users of such applications will mainly be logistics companies and manufacturers who wish to become more cost-efficient.

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- *Medical Industry.* Our chips can be utilized in medical solutions, including intelligent auxiliary diagnosis and treatment, medical image recognition, medicine identification search, medicine excavation, health management and medical care.
- *Education.* Our chips can enhance the process of providing education to students and help teachers improve their teaching methods by allowing for the use of educational robots, virtual tutors, self-adaptive/personalized teaching, intelligent interactive platforms, educational efficiency inspection, teaching interaction and educational review. In addition, our AI chips can be utilized in body gesture detection or emotion detection technologies to identify child abuse, bullying or school violence incidents.
- *Authentication.* Image and voice recognition can also be used as an authentication method for devices, such as AI-powered face unlock for smartphones, and commercial transactions, such as ATM and bank transactions.

To enhance the robustness of our AI development ecosystem and ultimately to provide better user experiences, we offer comprehensive developer support to facilitate the development of AI applications. In particular, we provide schematic diagrams, reference printed circuit board and comprehensive design guidelines for hardware engineers, and we provide software development kits, debugging tools, an integrated development environment and their source codes for software engineers. We have also actively explored collaboration with business partners, including iSoftStone, and have integrated our AI chips in different IoT vertical markets, such as smart lock, smart toy and smart meter.

Sales and Marketing

We have assembled a dedicated team of marketing personnel and software engineers to focus on the development and marketing of our AI products. Our AI marketing team is organized around application scenarios, with dedicated team members. To generate interest from our customers, we also actively promote our latest research and development achievements and display our sample products. We are also in the process of working with a number of industry participants in the industries of smart city management systems, smart home devices, lighting solutions, smart apparel, telecommunications, intelligent entertainment devices and intelligent security devices, to further explore their interest in our AI products. In addition, we participate in industry associations, including the Zhejiang Software Industry Association, the Zhejiang Blockchain Technology Application Association, the Chinese Private Technology Entrepreneur Association, the Hangzhou Association of Enterprises with Foreign Investment and the China Communications Industry Association (IoT Application Branch), which help us acquire customers and discover potential partners.

Our Customer Base

Bitcoin Mining Machines

We generally provide our Bitcoin mining products to individual or corporate customers on a first-pay-first-serve basis, while we prioritize potential customers whom we believe have stronger potential for a longer-term relationship. However, we do not restrict or control the end-use of our Bitcoin mining products.

Except for situations where our Bitcoin mining products have major defects upon delivery, our customers cannot return or exchange their purchases for upgrades, despite the possibility that their old Bitcoin mining products may no longer be economical for Bitcoin mining for them.

AI Applications

Our target customers are companies that are in the IoT industry, including, among others, those engaged in intelligent security solutions, smart appliances and instruments, intelligent medical solutions, logistic solutions, AI-powered educational solutions, robotics and authentication. We plan to increase our sales and marketing efforts to cover major customer groups in the IoT field. We currently focus on customers operating in large to mid-sized cities. While our current distribution method is to sell our AI ASICs directly to AI product developers, we plan to also sell our products through distributors in the future.

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K210 has received strong interest from the Risc-V developer community. As of December 31, 2020, we have shipped over 239,000 AI chips and development kits to AI product developers, the majority of which are from overseas, and we have initiated cooperation with more than 110 AI algorithm companies to develop holistic AI solutions for end consumers.

Research and Development

We became a global pioneer in offering ASIC solutions for blockchain computation purposes as a result of the work done by our research and development team led by our chairman and chief executive officer, Mr. Zhang. Mr. Zhang and his team are credited with inventing one of the first cryptocurrency mining machines incorporating ASIC technology.

To implement our research and development roadmap and our plan to diversify our product offering, members of our research and development team are primarily organized under two focus groups, including (i) a high power-efficiency computing group consisting of 32 team members, which is responsible for chip design and optimization and (ii) an AI products group consisting of 53 team members, which are responsible for the design of our Kendryte series including algorithm optimization and end application, both as of December 31, 2020.

As of December 31, 2020, our research and development team is comprised of 85 members, representing approximately 34.3% of our total employees. Our research and development team includes 40 members with a master's degree or above. In addition to Mr. Zhang heads our research and development efforts and has extensive experience in the industry. The members of our research and development team have relevant educational backgrounds, including undergraduate and advanced degrees in computational science and design and other relevant fields, and many are fluent in multiple coding languages. Many of our research and development personnel have gained relevant design and engineering experiences at other leading IC design houses.

We believe we are one of the few companies in the world to possess advanced technological know-how for ASIC design, including algorithm development and optimization, standard cell design and optimization, low voltage and high power efficiency operations, design of high performance system and heat dissipation technology. We were also the first in the industry to deliver commercial edge computing AI chips based on Risc-V architecture and self-developed neural-network accelerator with outstanding performance for commercial adoption. We are devoted to in-house research and development of core advanced technologies, such as energy-efficient computing. As it requires a substantial amount of time and production engineering experience to integrate the results of research and development and master the core technologies in the ASICs field, we have created high barriers to entry against our competitors.

Hangzhou Canaan was recognized by the Zhejiang Ministry of Science and Technology, Ministry of Finance and State Administration of Taxation as a High-tech Enterprise in 2016 for an initial three year period, and such recognition was renewed for another three year period in 2019.

Research and Development Achievements

Our research and development efforts have yielded significant results which enable us to establish our brand recognition and our competitive position. Some of our research and development results are protected by copyrights and patents while the rest are part of our proprietary trade secrets. As of December 31, 2020, we have registered a total of 135 patents in the PRC, including 15 inventions, 92 utility model patents and 28 exterior design patents. As of the same date, we have registered 105 software copyrights and 70 IC layout-design rights in the PRC. In particular, we have been focusing on designing ASICs utilizing the most advanced process technologies available and achieved the following technological breakthroughs:

- mass production of 28 nm ASICs in 2015, which positioned us among the leading global players using the then most advanced process technology in the world;

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- mass production of the first generation of 16nm ASICs in 2016, which made us among the first-movers in the world to use this advanced process technology on blockchain-related ASICs;
- mass production of the second generation of 16nm ASICs in 2017;
- mass production of the third generation of 16nm ASICs in 2018;
- mass production of the fourth generation of 16nm ASICs in 2019;
- release and mass production of the first generation of ASICs for AI application in 2018;
- 7nm ASICs design tape-out in April 2018 and mass production by TSMC in August 2018;
- 8nm ASIC design tape-out in June 2019 and mass production of 8nm ASIC in first quarter of 2020; and
- 14nm ASIC design tape-out in November 2019 and expected mass production of 14nm ASIC in second quarter 2020.

Research and Development Roadmap

The core strength of our capabilities consists of designing products with high computing power and high energy efficiency. We aspire to develop advanced IC designs for supercomputing hardware and innovative applications, including blockchain and AI. We follow a market-oriented research and development approach, and we focus on research and development projects that have a relatively clear path toward market acceptance and commercialization opportunities. We are also able to diversify the application of our technology from pure blockchain application to the AI field, and we plan to increase our investment in the development of our AI chips and the establishment of an AI development ecosystem by providing AI chips with better performance and fostering an interactive developer community using our products.

Our Fabless Model

We do not directly manufacture ICs used for our products. Instead, we utilize what is known as a fabless model, whereby we cooperate with world-class production partners for all phases of the manufacturing process of our ICs, including wafer fabrication and packaging and testing. Under the fabless model, we are able to leverage the expertise of industry leaders that are certified by the ISO in such areas as fabrication, assembly, quality control and assurance, reliability and testing. In addition, the fabless model allows us to avoid many of the significant costs and risks associated with owning and operating various fabrication and packaging and testing facilities. Our fabrication partners are responsible for procurement of the majority of the raw materials used in the production of our ICs. As a result, we can focus our resources on research and development, product design and additional quality assurances.

We closely work with leading global production partners, including SMIC, TSMC and Samsung for IC fabrication.

IC Fabrication

We work with SMIC, currently our main IC fabrication partner, to formulate semi-annual purchase plans in order for them to allocate their production resource, and we place actual orders according to our business needs. After we place our orders, and once SMIC accepts our orders, we are required to prepay 50% of the purchase price in order to secure production capacity from SMIC. It takes an average of approximately three months from the time when we place our order to the delivery of wafers. We started our cooperation with SMIC in 2019, and we do not maintain any long-term contract or framework agreement.

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Packaging and Testing

We work with leading packaging and testing partners. According to our agreements, we provide rolling forecasts and firm orders for our packaging and testing partners to purchase necessary materials. We typically settle with our packaging and testing partners on a monthly basis and we are required to pay them within 30 days upon receipt of invoices.

Assembly Plant

We currently operate an assembly plant located in Hebei Province that has a gross floor area of 7,538.5 square meters. Subject to the amount of ICs we can obtain from our production partners, we have the flexibility to adjust the production capacity of our Bitcoin mining machines. For example, we can adjust the assembly worker's shifts in response to the purchase orders we receive.

Quality Control

We emphasize quality control in all aspects of our operations. From product development, component sourcing to product assembly and delivery, we strictly control the quality of our products and components, to ensure our Bitcoin mining machines meet our stringent internal standards as well as international and industry standards. We also require our fabrication, packaging and testing service providers to apply their stringent quality control standards. In particular, we have attained the CE certification and U.S. Federal Communication Commission certification for some of our AvalonMiner products.

We have implemented various quality-control checks into our production process and the IC fabrication process by our production partners. In addition, we provide timely and effective after-sales services and support to our users.

We devote significant resources to quality control of our products with a dedicated team.

Warranty and After Sales Services

We provide warranties of not longer than six months, which we believe is in line with prevailing industry practice. Our warranties cover regular maintenance services and parts and labor for repairs. The components used in our products are typically covered by warranties provided by the respective suppliers.

We have devised a standard operating procedure for customer service. We collect and record customer feedback and complaints from different channels and make timely responses in order to achieve customer satisfaction.

We accept exchanges of our Bitcoin mining machines only for major defects. We believe our exchange policy is consistent with relevant PRC laws and regulations governing product quality and consumer rights and interests. We have not received any requests for exchange which individually or in aggregate has had a material adverse effect on our business and financial condition. In addition, as of the date of this annual report, we have not experienced any product recall that adversely impacted our reputation, business operations or financial condition.

Competition

Cryptocurrency mining machines comprise the overwhelming majority of blockchain hardware. The global Bitcoin mining machine market is relatively concentrated with a few large players. Most of the leading players are based in the PRC.

Our competitors include many well-known domestic and international players. We expect that competition in the Bitcoin mining industry will continue to be intense as we compete not only with existing players that have been focused on Bitcoin mining, but also new entrants that include well-established players in the semiconductor industry, and players who were not predisposed to this industry in the past. In the IC industry for AI products, we expect to face competition from existing and new players that are more established than us. Some of these competitors may also have stronger brand names, greater access to capital, longer histories, longer relationships with their suppliers or customers and more resources than we do.

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Intellectual Property

We regard our patents, IC layout and design rights, copyrights, trademarks, domain names, know-how, proprietary technologies and similar intellectual property as critical to our success, and we rely on a combination of protections provided by patents, IC layout design rights, copyrights, trademark and trade secret law and confidentiality agreements, non-compete agreements and nondisclosure agreement with our employees and others to protect our proprietary rights. As of December 31, 2020, we had registered 200 trademarks, including 59 in the PRC, 56 in Hong Kong, 16 in Taiwan, 20 in Japan, 17 in Republic of Korea, 12 in the United States, 20 in Russia.

As of December 31, 2020, we have registered a total of 135 patents in the PRC, including 15 inventions, 92 utility model patents and 28 exterior design patents. As of the same date, we have registered 105 software copyrights and 70 IC layout-design rights in the PRC.

Proprietary know-how that is not patentable and proprietary technologies and processes for which patents, IC layout design rights and copyrights are difficult to enforce are also of significant importance to our operations. We rely on trade secret protection and confidentiality agreements to safeguard our interests in this respect. Certain elements in our operations are not covered by patents, IC layout design rights or copyrights. We have taken security measures to protect these elements.

Despite our efforts to protect our proprietary rights, unauthorized parties may attempt to copy or otherwise obtain and use our technology. Monitoring unauthorized use of our technology is difficult and costly, and we cannot be certain that the steps we have taken will prevent misappropriation of our technology. From time to time, we may have to resort to litigation to enforce our intellectual property rights, which could result in substantial costs and diversion of our resources.

We have in the past entered and may continue in the future to enter into IP licensing agreements with third parties for the use of their proprietary technologies, primarily software development tools, in the development of our products. Third parties may initiate litigation against us alleging infringement of their proprietary rights or breach of a licensing agreement or declaring their non-infringement of our intellectual property rights. In the event of a successful claim of infringement or breach of a licensing agreement and our failure or inability to develop non-infringing technology or license the infringed or similar technology or cure the breach on a timely basis, our business could be harmed. Moreover, even if we are able to license the infringed or similar technology, license fees could be substantial and may adversely affect our results of operations.

Insurance

We do not maintain business liability or interruption insurance, which, based on publicly available information available to us relating to IC design companies based in the PRC, is in line with customary industry practice in the PRC. Any uninsured occurrence of business disruption, litigation or natural disaster, or significant damages to our uninsured equipment or facilities could have a material adverse effect on our results of operations.

Employees

As of December 31, 2020, we employed a total of 248 employees that are classified as follows:

<u>Function</u>	<u>Number of Employees</u>	<u>Percentage of Total Number of Employees</u>
Management	47	19.0%
Sales and marketing	19	7.7%
Research and development	85	34.3%
Others	97	39.0%
Total	248	100.0%

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We operate in a highly competitive and fast-growing industry in which recruiting and retaining talent is crucial to our continued growth and profitability. We compensate our employees based on historical contributions, potential for further contributions, as well as the market rate for qualified talent. We are committed to attracting and retaining top talent in the industry, and our emolument policy reflects that commitment. We offer various incentives to our employees including performance-based bonuses and share-based compensation. We also provide accidental insurance for the benefit of our employees. Pursuant to local regulations in each of the regions where we operate, we make contributions to various employee benefit plans. Employee benefits covered by these arrangements include employee benefits required by PRC laws and regulations as well as incentives for increasing production quantity, accommodations, meals and travel allowances. We believe that maintaining a stable and motivated workforce is critical to the success of our business. As a fast-growing company, we believe we are able to provide our employees with ample career development choices and advancement opportunities. We organize and launch various training programs on a regular basis for our employees. We believe that the current emolument policy has contributed to our ability to attract, incentivize and retain talents in such a competitive and fast-growing industry.

Properties

We lease all our properties in China in connection with our business operations. They mainly include premises for our assembly plants, warehouses and offices. As of December 31, 2020, we occupied a total of 17 properties with an aggregate gross floor area of approximately 14,500 square meters.

Environmental Matters

We are subject to PRC environmental laws and regulations including the Environmental Protection Law of the PRC. These laws and regulations govern a broad range of environmental matters, including air pollution, noise emissions and water and waste discharge. We consider the protection of the environment to be important and have implemented measures in the operation of our business to ensure our compliance with all applicable requirements under PRC environmental laws and regulations. Due to the nature of our operations, the waste we produce is not hazardous and has minimal impact on the environment.

Our operations are subject to regulation and periodic monitoring by local environmental authorities. If we fail to comply with present or future laws and regulations, we could be subject to fines, suspension of production or cessation of operations.

Legal Proceedings

On March 4, 2020, a putative class action was filed in the United States District Court of Oregon against us, certain of our officers and directors and the underwriters in our IPO. The complaint alleges that the Form F-1 registration statement for our IPO contained material misstatements and omissions in violation of federal securities laws. On March 6, 2020, another putative class action, making substantially similar allegations, was filed in New York County Supreme Court (the "State Action") against us and certain of our officers and directors. On June 1, 2020, we filed a motion to stay all proceedings in the State Action pending adjudication of the Federal Action, which was granted on July 21, 2020. Subsequently, the Federal Action was transferred to the U.S. District Court for the Southern District of New York on September 2, 2020. On December 7, 2020, we filed a motion to dismiss in the Federal Action and our motion to dismiss was fully briefed on March 8, 2021. As of the date of this annual report, we are in the process of preparing our response to the letter motion that the complaint filed to exclude three exhibits cited in our motion to dismiss briefing or, in the alternative, convert the motion to dismiss into a motion for summary judgment.

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Other than the above, we are currently not a party to, and we are not aware of any threat of, any legal, arbitral or administrative proceedings, which, in our opinion, is likely to have a material and adverse effect on our business, financial conditions or results of operations. We may from time to time become a party to various legal, arbitral or administrative proceedings arising in the ordinary course of our business.

Regulatory

This section summarizes the principal current PRC laws and regulations relevant to our business and operations.

We are a fabless IC designer in the PRC. This section sets forth a summary of the applicable PRC laws, rules, regulations, government and industry policies and requirements that have a significant impact on our operations and business in the PRC. This summary does not purport to be a complete description of all the laws and regulations, which apply to our business and operations. Investors should note that the following summary is based on relevant laws and regulations in force as of the date of this annual report, which may be subject to change.

PRC Policies and Regulations relating to the IC Industries

Investments in the PRC conducted by foreign investors and foreign-owned enterprises shall comply with the Catalog of Industries for Encouraged Foreign Investment (2020 Edition) (《鼓励外商投资产业目录(2020修订)》), or the Foreign Investment Catalog, which was jointly promulgated by the Ministry of Commerce of the PRC, or MOFCOM, and the National Development and Reform Commission of the PRC, or NDRC, on December 27, 2020 and became effective on January 27, 2021. The Foreign Investment Catalog contains specific provisions guiding market access of foreign capital, stipulating in detail different areas of entry, which include encouraged foreign-invested industries. Our business falls within the category of encouraged foreign-invested industries, according to catalogs 321, 322, 326, 327, 330 and 331 of encouraged foreign invested industries listed in the Foreign Investment Catalog.

Pursuant to the Provisions for Guiding the Foreign Investment Direction (《指导外商投资方向规定》), projects with foreign investment fall into 4 categories, namely encouraged, permitted, restricted and prohibited. Projects with foreign investment that are encouraged, restricted or prohibited shall be listed in the Foreign Investment Catalog. Projects with foreign investment not listed as encouraged, restricted or prohibited projects are permitted projects.

As demonstrated by the Circular of the State Council on Printing and Distributing Policies for Encouraging the Development of the Software Industry and the Integrated Circuit Industry (《国务院关于印发鼓励软件产业和集成电路产业发展若干政策的通知》) issued on June 24, 2000, the PRC continues to enact policies encouraging new and advanced technology and supporting the software and IC industries.

Pursuant to the Circular of the State Council on Printing and Distributing Policies for Further Encouraging the Development of the Software Industry and the Integrated Circuit Industry (《国务院关于印发进一步鼓励软件产业和集成电路产业发展若干政策的通知》) effective from January 28, 2011 and the Announcement of the State Administration of Taxation on Issues Concerning the Accreditation and the Administration for Software and Integrated Circuit Enterprises (《关于软件和集成电路企业认定管理有关问题的公告》) effective from May 30, 2012 (abolished on May 29, 2016), the following financial and tax policies were formulated:

- (i) Preferential value-added tax policies for software enterprises shall continue to be implemented;
- (ii) Relevant preferential business tax policies shall be further implemented and improved. Eligible software enterprises shall be exempt from business tax and relevant procedures applicable to them shall be simplified;
- (iii) Upon certification, corporate income tax, or EIT, shall be exempt or levied thereon at half of the statutory rate of 25%;

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- (iv) Granting software and IC manufacturing enterprises more preferential policies on investment and financing in central budgets, policy-oriented financial institutions and commercial institutions;
- (v) Other preferential policies on intellectual properties, research and development human resources, input and output and marketing; and
- (vi) Key software industries falling within the State's planned industries layout that are not eligible for preferential tax exemption in a given year will have enterprise income tax levied at the reduced rate of 10%.

PRC Policies and Regulations relating to the Bitcoin Industry

The policies and regulations relating to the Bitcoin industry do not have a direct impact on the Company. However, they could have an impact on the Company's customers in the PRC, which could indirectly impact the demand for the Company's Bitcoin mining machines.

According to the Circular of the People's Bank of China, Ministry of Industry and Information Technology, China Banking Regulatory Commission, China Securities Regulatory Commission, and China Insurance Regulatory Commission on the Prevention of Risks from Bitcoin (《中国人民银行、工业和信息化部、中国银行业监督管理委员会、中国证券监督管理委员会、中国保险监督管理委员会关于防范比特币风险的通知》) jointly promulgated by People's Bank of China, Ministry of Industry and Information Technology, China Banking Regulatory Commission, China Securities Regulatory Commission, or CSRC, and China Insurance Regulatory Commission on December 3, 2013, or the Circular, Bitcoin shall be a kind of virtual commodity in nature, which shall not be in the same legal status with currencies and shall not be circulated as currencies and used in markets as currencies. The Circular also provides that financial institutions and payment institutions shall not engage in business in connection with Bitcoin.

According to Announcement of the People's Bank of China, the Cyberspace Administration of China, the Ministry of Industry and Information Technology, the State Administration for Industry and Commerce, the China Banking Regulatory Commission, the China Securities Regulatory Commission and the China Insurance Regulatory Commission on Preventing Initial Coin Offerings (ICO) Risks (《中国人民银行、中央网信办、工业和信息化部、工商总局、银监会、证监会、保监会关于防范代币发行融资风险的公告》) promulgated by seven PRC governmental authorities including the People's Bank of China on September 4, 2017, or the Announcement, activities of offering and financing of tokens, including initial coin offerings, have been forbidden in the PRC since they may be suspected to be considered as illegal offering of securities or illegal fundraising. All so-called token trading platform should not (i) engage in the exchange between any statutory currency with tokens and "virtual currencies," (ii) trade or trade the tokens or "virtual currencies" as central counterparties, or (iii) provide pricing, information agency or other services for tokens or "virtual currencies." The Announcement further provides that financial institutions and payment institutions shall not engage in business in connection with transactions of offering and financing of tokens.

PRC Laws and Regulations relating to Intellectual Property Rights

Trademark

The Trademark Law of the PRC (《中华人民共和国商标法》) was promulgated on August 23, 1982 with the last amendment effective from November 1, 2019. The Implementing Regulations of the Trademark Law of the PRC (《中华人民共和国商标法实施条例》) was promulgated on August 3, 2002 by the State Council and amended on April 29, 2014 and became effective on May 1, 2014. These current effective laws and regulations provide the basic legal framework for the regulations of trademarks in the PRC, covering registered trademarks including commodity trademarks, service trademarks, collective marks and certificate marks. The Trademark Office under the CNIPA is responsible for the registration and administration of trademarks in the PRC. Trademarks are granted on a term of 10 years commencing on its registration date. Twelve months prior to the expiration of the 10-year term, an application may renew the trademark for another 10 years.

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Under the Trademark Law, any of the following acts may be regarded as an infringement of the exclusive right to use a registered trademark:

- Use of a trademark that is identical with or similar to a registered trademark on the same or similar kind of commodities without the authorization of the trademark registrant;
- Sale of commodities infringing upon the exclusive right to use a registered trademark;
- Counterfeiting or making, without authorization, representations of a registered trademark, or sale of such representation of a registered trademark; and
- Infringing upon other person's exclusive right to use a registered trademark in other ways and causing damages.

Violation of the Trademark Law may result in imposition of fines, confiscation and destruction of infringing commodities.

Patent

Pursuant to the Patent Law of the PRC (《中华人民共和国专利法》), promulgated on March 12, 1984 with the last amendment effective from June 1, 2020, and the Detailed Implementing Rules of the Patent Law of the PRC (《中华人民共和国专利法实施细则》) promulgated on June 15, 2001 with the last amendment effective from February 1, 2010, respectively, an inventor or a designer may apply to China National Intellectual Property Administration, or the CNIPA for the grant of an invention patent, an utility model patent or a design patent. According to the Patent Law of the PRC, the right to apply for a patent (a patent application) and of registered patent can be transferred upon completion of registration with CNIPA. The patent right duration is 20 years for invention and 10 years for utility model and design, starting from the date of application. A patentee is obligated to pay annual fee beginning with the year in which the patent right is granted. Failure to pay the annual fee may result in a termination of the patent right duration.

Copyright

The Copyright Law of the PRC (《中华人民共和国著作权法》), promulgated on September 7, 1990 with the last amendment promulgated on November 11, 2020 and to be effective on June 1, 2021, protects copyright and explicitly covers computer software copyright. The Regulations on the Computer Software Protection (《计算机软件保护条例》), promulgated on December 20, 2001 and amended on January 30, 2013 and came into force on March 1, 2013, protects the rights and interests of the computer software copyright holders and encourages the development of the software industry and information economy. In the PRC, software developed by PRC citizens, legal persons or other organizations are automatically protected immediately after its development, whether published or not. Foreigners or stateless persons having software first published within the territory of the PRC enjoy copyright in accordance with these regulations. Software owned by foreigners or stateless persons are protected in the PRC under these regulations according to an agreement signed between the country to which the foreigner belongs or the habitual residence of its developer and the PRC or according to the international conventions the PRC participated in. A software copyright owner may register with the software registration institution recognized by the copyright administration department of the State Council. A registration certificate issued by the software registration institution is a preliminary proof of the registered items. On February 20, 2002, the National Copyright Administration of the PRC promulgated the Measures for the Registration of Computer Software Copyright (《计算机软件著作权登记办法》), which came into force on the date of promulgation and outlines the operational procedures for registration of software copyright, as well as registration of software copyright licenses and transfer contracts. The copyright Protection Center of PRC is mandated as the software registration agency under the regulations.

Layout Designs of Integrated Circuits

The Regulations on the Protection of Layout-Designs of Integrated Circuits (《集成电路布图设计保护条例》) was promulgated by the State Council on April 2, 2001 and became effective on October 1, 2001, and the Detailed Implementing Rules of the Regulations on the Protection of Layout-Designs of Integrated Circuits (《集成电路布图设计保护条例实施细则》) were promulgated by CNIPA, the authority to receive and examine applications for registrations of layout IC designs, on September 18, 2001 and came into effect on October 1, 2001, or collectively the Layout-design Regulations.

Pursuant to the Layout-design Regulations, layout-design created by a PRC citizen, legal person or other organization shall be eligible for the exclusive right of layout-design in accordance with the Layout-design Regulations. The holder of the right of a layout design shall enjoy the following exclusive right:

- (1) Reproducing a protected layout-design in its entirety or any part thereof that complies with the requirement of originality; and
- (2) Commercially exploiting a protected layout-design, an IC incorporating a protected layout-design, or an article incorporating such an IC.

The exclusive right of a layout-design is acquired after it is registered with the intellectual property administration department of the State Council. Any unregistered layout-design shall not be protected under the Layout-design Regulations. The term of protection of the exclusive right of a layout-design shall be 10 years starting from the date of filling for registration or from the date on which it was first commercially exploited anywhere in the world, whichever expires earlier. However, no matter whether it has been registered or commercially exploited, a layout-design shall no longer be protected under the Layout-design Regulations 15 years after the date of the completion of its creation.

Any layout-design, if no application for its registration has been filled with the intellectual property administration department of the State Council within two years from the date on which it was first commercially exploited anywhere in the world, shall no longer be registered by the intellectual property administration department of the State Council.

The following acts, without the authorization of the holder of the right of a layout-design, would constitute an infringement of the layout-design:

- (1) reproducing a protected layout-design in its entirety or any part thereof that complies with the requirement of originality;
- (2) importing, selling, or otherwise distributing for commercial purposes a protected layout design, an IC incorporating such a layout-design, or an article incorporating such an IC.

The amount of compensation for the damage caused by an infringement of the exclusive right of a layout-design shall be the profits which the infringer has earned through the infringement or the losses suffered by the person whose right was infringed, including the reasonable expenses paid by the infringing person for the purposes of stopping the infringement.

Domain Name

Internet domain name registration and related matters are primarily regulated by the Administrative Measures on Internet Domain Names (《互联网域名管理办法》) issued by the Ministry of Industry and Information Technology (中华人民共和国工业和信息化部), or the MIIT, on August 24, 2017 which became effective on November 1, 2017, the Measures on Domain Name Disputes Resolution (《中国互联网络信息中心域名争议解决办法》) issued by China Internet Network Information Center (中国互联网络信息中心), or the CENIC, which became effective on June 28, 2012 (abolished on November 21, 2014), and the Announcement of Issuance and Implementation on the Detailed Implementing Rules of national TLD (《关于发布并实施<国家顶级域名注册实施细则>系列规定的公告》) issued by CENIC, which became effective on June 18, 2019. Domain name registrations are handled through domain name service agencies established under the relevant regulations, and the applicants become domain name holders upon successful registration. Domain name disputes shall be submitted to institutions authorized by the CENIC for resolution.

PRC Laws relating to Product Quality

The Product Quality Law of the PRC (《中华人民共和国产品质量法》) was promulgated on February 22, 1993 and amended on July 8, 2000, August 27, 2009 and December 29, 2018, respectively. The product quality supervision department under the State Council is responsible for nationwide product quality supervision. All the relevant departments under the State Council are in charge of product quality supervision according to their respective responsibilities. Local product quality supervision departments at or above the county level are responsible for product quality supervision within their own administrative areas.

Manufacturers and sellers shall establish and improve their internal product quality management systems and rigorously implement quality norms, quality responsibilities and corresponding measures for their assessment.

The PRC government encourages the use of scientific quality management methods and adoption of advanced science and technology, and encourages enterprises to ensure that their product quality reach or surpass trade standards, national standards and international standards. The entities and individuals that have made outstanding achievements in exercising advanced management of product quality and in bringing product quality up to the advanced international levels shall be awarded.

PRC Laws relating to Production Safety

The Work Safety Law of the PRC (《中华人民共和国安全生产法》) promulgated on June 29, 2002, with the latest amended version effective from December 1, 2014, is the principal law governing the supervision and administration of production safety in the PRC. Entities engaged in production and business activities within the territory of the PRC shall abide by the relevant legal requirements such as providing its staff with training on production safety and providing safe working environment in compliance with relevant laws and regulations. Any entities unable to provide the required safe working environment may not engage in production activities. Any failure to comply with the aforesaid provisions or to rectify noncompliance within a time limit may subject the relevant entities to fines and penalties, suspension of operations, ceasing of operations, or even criminal liability in severe situations.

PRC Laws and Regulations relating to Taxation

Enterprise Income Tax

According to the Enterprise Income Tax Law of the PRC (《中华人民共和国企业所得税法》), or the EIT Law which was promulgated by the National People's Congress on March 16, 2007 with the latest amended version effective from December 29, 2018, and its implementing rules, a unified EIT rate of 25% is applied equally to both domestic enterprises and foreign invested enterprises, excluding non-resident enterprises. The EIT rate could be reduced to 15% for High-tech enterprises in need of special support from the PRC government.

Pursuant to the newly revised Administrative Measures for the Accreditation of High-tech Enterprises (《高新技术企业认定管理办法》), or the Administrative Measures, which became effective on January 1, 2016, High-tech enterprises, which are recognized in accordance with the Administrative Measures, may apply for the tax preferential policy in accordance with the EIT Law and the Implementing Measures thereof, the Law of the PRC on the Administration of Tax Collection (《中华人民共和国税收征收管理法》) and the Detailed Implementing Rules of the Law of the PRC on the Administration of Tax Collection (《中华人民共和国税收征收管理法实施细则》). The qualified high-tech enterprises would be taxed at a rate of 15% on EIT. The validity period of High-tech enterprises shall be three years from the date of issuance of the certificate of High-tech enterprise. After obtaining the High-tech enterprise qualification, such enterprise shall retain its financial statements together with details of its research and development activities and other technological innovation activities for future reference in accordance with the requirements of the tax authority and other relevant authorities. Where a significant change occurred such as change of name or other conditions related to the High-tech enterprises identified (e.g., separation, merger, restructuring and change of business), such enterprise shall report it to the relevant competent tax authority, which would accredit such enterprise within three months. Upon such accreditation, the High-tech enterprise would either remain its qualification or be disqualified. For enterprises undergoing a change of name, the authority would re-issue the certificate with the certificate number and duration of validity remains unchanged.

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Pursuant to the Announcement of the State Administration of Taxation on Several Issues Concerning the Enterprise Income Taxes on the Indirect Transfer of Properties by Non-resident Enterprises (《关于非居民企业间接转让财产企业所得税若干问题的公告》) promulgated and with effect from February 3, 2015, or Circular 7, and the Announcement of the State Administration of Taxation on Issues Concerning Withholding of Income Tax of Non-resident Enterprises at Source (《国家税务总局关于非居民企业所得税源泉扣缴有关问题的公告》) promulgated on October 17, 2017 with last amendment on June 15, 2018, or Circular 37, where a non-resident enterprise indirectly transfers equities and other properties of a PRC resident enterprise, or PRC Taxable Properties, to evade its obligation of paying EIT by implementing arrangements that are not for bona fide commercial purpose, such indirect transfer shall be re-identified and recognized as a direct transfer of equities and other properties of the PRC resident enterprise, in accordance with the provisions of Article 47 of the EIT Law. PRC Taxable Properties in this announcement include properties of a PRC entity or establishment located in the PRC, real estate in the PRC and an equity investment in a PRC resident enterprise, that are directly held by a non-resident enterprise and proceeds from such transfer shall be subject to EIT in the PRC in accordance with the PRC tax laws. An indirect transfer of PRC Taxable Properties refers to a transfer by a non-resident company of an equity interest or other similar right or interest in an overseas enterprise (excluding the PRC resident enterprise registered overseas), or the Overseas Enterprises, that in turn directly or indirectly holds the PRC Taxable Properties, which effectively has the same or a similar effect as a direct transfer of such PRC Taxable Properties. Circular 7 also provides that an indirect transfer of PRC Taxable Properties, which satisfies one of the following conditions, will not be subject to the aforesaid provisions:

- A non-resident enterprise buys and sells the shares of one same overseas listed company in a public stock exchange; and
- If the non-resident enterprise directly held and transferred PRC Taxable Properties, the proceeds derived thereof would be exempt from EIT under the applicable tax treaty or arrangement.

Value-added Tax

Pursuant to the Interim Regulations on Value-Added Tax of the PRC (《中华人民共和国增值税暂行条例》) promulgated by the Stated Council on December 13, 1993 with the latest amended version effective from November 19, 2017, and its implementing rules (《中华人民共和国增值税暂行条例实施细则》) promulgated by MOF on December 25, 1993 and revised on December 15, 2008 and October 28, 2011, respectively, tax payers engaging in sale of goods, provision of processing services, repairs and replacement services or importation of goods within the territory of the PRC shall pay value-added tax, or the VAT. Unless stated otherwise, the rate of value-added tax is 17%.

Pursuant to the Circular of Value-added Tax Policies of Software Products (《关于软件产品增值税政策的通知》), a general taxpayer who sells its self-develop software products and borne a VAT more than 3%, could enjoy a levy-refund policy on VAT after being taxed at the fixed rate of 17%. However, in practice, such general taxpayer should present the registration certificate for software products (软件产品登记证书) or registration certificate for software copyrights (计算机软件著作权登记证书) to prove the software products were developed and produced by its own.

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In April 2018, MOF and SAT jointly promulgated the Circular of the Ministry of Finance and the State Administration of Taxation on Adjustment of Value-Added Tax Rates (《财政部、税务总局关于调整增值税税率的通知》), or Circular 32, according to which (i) for VAT taxable sales or imports of goods originally subject to value-added tax rates of 17% and 11% respectively, such tax rates were adjusted to 16% and 10%, respectively; and (ii) for exported goods originally subject to a tax rate of 17% and an export tax refund rate of 17%, the export tax refund rate was adjusted to 16%. Circular 32 became effective on May 1, 2018 and superseded existing provisions which were inconsistent with Circular 32.

Pursuant to the Announcement on Relevant Policies for Deepening Value-Added Tax Reform (《关于深化增值税改革有关政策的公告》), which was promulgated by MOF, State Administration of Taxation and the General Administration of Customs on March 20, 2019, where (i) for VAT taxable sales or imports of goods originally subject to value-added tax rates of 16%, such tax rates shall be adjusted to 13%; (ii) for the exported goods originally subject to a tax rate of 16% and an export tax refund rate of 16%, the export tax refund rate shall be adjusted to 13%.

PRC Laws and Regulations relating to Dividend Distribution

Under the Foreign Investment Law of the People's Republic of China (《中华人民共和国外商投资法》), which was promulgated by the National People's Congress of the PRC on March 15, 2019 and became effective on January 1, 2020, foreign-invested enterprises in the PRC may pay dividends only out of their accumulated profits, if any, determined in accordance with PRC accounting standards and regulations. In addition, wholly foreign-owned enterprises in the PRC are also required to allocate at least 10% of their respective accumulated profits after tax each year, if any, to certain reserve funds unless these accumulated reserves have reached 50% of the registered capital of such enterprises. These reserves are not distributable as cash dividends.

According to the EIT Law and its implementing rules, dividends paid to investors of an eligible PRC resident enterprise can be exempted from EIT and dividends paid to foreign investors are subject to a withholding tax rate of 10%, unless relevant tax agreements entered into by the PRC government provide otherwise.

The PRC and the government of Hong Kong entered into the Arrangement between the Mainland of the PRC and the Hong Kong Special Administrative Region for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with respect to Taxes on Incomes (内地和香港特别行政区关于对所得避免双重征税和防止偷漏税的安排), or the Arrangement, on August 21, 2006. According to the Arrangement, 5% withholding tax rate shall apply to the dividends paid by a PRC company to a Hong Kong resident, provided that such Hong Kong resident directly holds at least 25% of the equity interests in the PRC company, and 10% of withholding tax rate shall apply if the Hong Kong resident holds less than 25% of the equity interests in the PRC company.

Pursuant to the Circular on Relevant Issues Concerning the Implementation of Dividend Clauses in Tax Treaties (《关于执行税收协定股息条款有关问题的通知》), which was promulgated by the State Administration of Taxation, or SAT, and became effective on February 20, 2009, all of the following requirements shall be satisfied where a fiscal resident of the other party to a tax agreement needs to be entitled to such tax agreement treatment as being taxed at a tax rate specified in the tax agreement for the dividends paid to it by a PRC resident company: (i) such a fiscal resident who obtains dividends shall be a company as provided in the tax agreement; (ii) owner's equity interests and voting shares of the PRC resident company directly owned by such a fiscal resident reaches a specified percentage; and (iii) the equity interests of the PRC resident company directly owned by such a fiscal resident, at any time during the 12 months prior to obtaining the dividends, reach a percentage specified in the tax agreement.

According to the Tentative Administrative Measures on Tax Convention Treatment for Non-Residents (《非居民享受税收协定待遇管理办法(试行)》), which was promulgated by the SAT on August 24, 2009 and became effective on October 1, 2009, where a non-resident enterprise that receives dividends from a PRC resident enterprise wishes to enjoy the favorable tax benefits under the tax arrangements, it shall submit an application for approval to the competent tax authority. Without being approved, the non-resident enterprise may not enjoy the favorable tax treatment provided in the tax agreements.

However, the Tentative Administrative Measures on Tax Convention Treatment for Non-Residents (《非居民享受税收协定待遇管理办法(试行)》) has been repealed by the Administrative Measures on Tax Convention Treatment for Non-Resident Taxpayers (《非居民纳税人享受税收协定待遇管理办法》), which was promulgated by the SAT on August 27, 2015 and became effective on November 1, 2015 with last amendment on June 15, 2018, where a non-resident enterprise that receives dividends from a PRC resident enterprise, it could directly enjoy the favorable tax benefits under the tax arrangements at tax returns, and subject to the subsequent regulation of the competent tax authority.

Since January 1, 2020, the Administrative Measures on Tax Convention Treatment for Non-Resident Taxpayers (《非居民纳税人享受税收协定待遇管理办法》) has been replaced by the Announcement of the State Taxation Administration on Issuing the Administrative Measures for Entitlement to Treaty Benefits for Non-resident Taxpayers (《国家税务总局关于发布<非居民纳税人享受协定待遇管理办法>的公告》), which was promulgated on October 14, 2019, Entitlement to treaty benefits for non-resident taxpayers shall be handled by means of “self-judgment of eligibility, declaration of entitlement, and retention of relevant materials for future reference”, and non-resident taxpayers shall retain relevant information proving the status of “beneficial owner” in the case of entitlement to dividends clauses.

PRC Laws and Regulations relating to Labor

Pursuant to the PRC Labor Law (《中华人民共和国劳动法》) promulgated on July 5, 1994 and effective from January 1, 1995, and last revised on December 29, 2018, as well as the PRC Labor Contract Law (《中华人民共和国劳动合同法》) promulgated on June 29, 2007, revised on December 28, 2012 and effective from July 1, 2013, if an employment relationship is established between an entity and its employees, written labor contracts shall be executed between them. The relevant laws stipulate the maximum number of working hours per day and per week, respectively. Furthermore, the relevant laws also set forth the minimum wages. The entities shall establish and develop systems for occupational safety and sanitation, implement the rules and standards of the PRC government on occupational safety and sanitation, educate employees on occupational safety and sanitation, prevent accidents at work and reduce occupational hazards.

Pursuant to the Interim Regulations on Levying Social Insurance Premiums (《社会保险费征缴暂行条例》) promulgated on January 22, 1999 and revised on March 24, 2019, Decisions of the State Council on Modifying the Basic Endowment Insurance System for Enterprise Employees (《国务院关于完善企业职工基本养老保险制度的决定》) promulgated on December 3, 2005, the Decision of the State Council on Establishment of Basic Medical Insurance System for Urban Employee (《国务院关于建立城镇职工基本医疗保险制度的决定》) issued by State Council with effect from December 14, 1998, the Regulations on Unemployment Insurance (《失业保险条例》) effective from January 22, 1999, Regulations on Work-Related Injury Insurance (《工伤保险条例》) promulgated on April 27, 2003 with effect from January 1, 2004, and as amended on December 20, 2010, and the Interim Measures concerning the Maternity Insurance for Enterprise Employees (《企业职工生育保险试行办法》) promulgated on December 14, 1994 with effect from January 1, 1995, employers are required to register with the competent social insurance authorities and provide their employees with welfare schemes covering pension insurance, unemployment insurance, maternity insurance, work-related injury insurance and medical insurance.

Pursuant to the Social Insurance Law of the PRC (《中华人民共和国社会保险法》), which became effective on July 1, 2011 with last amendment on December 29, 2018, all employees are required to participate in basic pension insurance, basic medical insurance schemes and unemployment insurance, which must be contributed by both the employers and the employees. All employees are required to participate in work-related injury insurance and maternity insurance schemes, which must be contributed by the employers. Employers are required to complete registrations with local social insurance authorities. Moreover, the employers must timely make all social insurance contributions. Except for mandatory exceptions such as force majeure, social insurance premiums may not be paid late, reduced or be exempted. Where an employer fails to make social insurance contributions in full and on time, the social insurance contribution collection agencies shall order it to make all or outstanding contributions within a specified period and impose a late payment fee at the rate of 0.05% per day from the date on which the contribution becomes due. If such employer fails to make the overdue contributions within such time limit, the relevant administrative department may impose a fine equivalent to 1—3 times the overdue amount.

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Pursuant to the Administrative Regulations on the Housing Provident Fund (《住房公积金管理条例》) effective from April 3, 1999, amended on March 24, 2002 and March 24, 2019, enterprises are required to register with the competent administrative centers of housing provident fund and open bank accounts for housing provident funds for their employees. Employers are also required to timely pay all housing fund contributions for their employees. Where an employer fails to submit and deposit registration of housing provident fund or fails to go through the formalities of opening housing provident fund accounts for its employees, the housing provident fund management center shall order it to go through the formalities within a prescribed time limit. Failing to do so at the expiration of the time limit will subject the employer to a fine of not less than RMB10,000 and up to RMB50,000. When an employer fails to pay housing provident fund due in full and in time, housing provident fund center is entitled to order it to rectify, failing to do so would result in enforcement exerted by the court.

PRC Laws and Regulations relating to Foreign Exchange

Foreign Exchange

Pursuant the Administrative Regulations of the PRC on Foreign Exchange (《中华人民共和国外汇管理条例》) promulgated by the State Council on January 29, 1996 and amended on August 5, 2008 with effect from August 5, 2008, and various regulations issued by the State Administration of Foreign Exchange (国家外汇管理局), or the SAFE, and other PRC regulatory agencies, foreign currency could be exchanged or paid through two different accounts, namely current account and capital account. Payment of current account items, including commodity, trade and service-related foreign exchange transactions and other current payment, may be made by conversion between Renminbi and foreign currencies without approval of the SAFE, but are subject to procedural requirements including presenting relevant documentary evidence of such transactions. Capital account items, such as direct equity investment, loans and repatriation of investment, require the prior approval from or registration with the SAFE or its local branch for conversion between Renminbi and the foreign currency, and remittance of the foreign currency outside the PRC.

SAFE Circular 59

On November 19, 2012, SAFE promulgated the Circular on Further Improving and Adjusting Foreign Exchange Administration Policies on Foreign Direct Investment (《国家外汇管理局关于进一步改进和调整直接投资外汇管理政策的通知》), or SAFE Circular 59, which became effective on December 17, 2012, with last amendment on December 30, 2019. SAFE Circular 59 substantially amends and simplifies the current foreign exchange procedure. According to SAFE Circular 59, the opening of various special purpose foreign exchange accounts (e.g. pre-investment expenses account, foreign exchange capital account, asset realization account, guarantee account) no longer requires SAFE's approval. Furthermore, multiple capital accounts for the same entity may be opened in different provinces, which was not possible before the issuance of SAFE Circular 59. Reinvestment of lawful incomes derived by foreign investors in the PRC (e.g. profit, proceeds of equity transfer, capital reduction, liquidation and early repatriation of investment) no longer requires SAFE's approval or verification, and purchase and remittance of foreign exchange as a result of capital reduction, liquidation, early repatriation or share transfer in a foreign-invested enterprise no longer requires SAFE's approval.

SAFE Circular 19

On March 30, 2015, SAFE promulgated the Circular on Reforming the Management Approach regarding the Settlement of Foreign Exchange Capital of Foreign-invested Enterprises (《国家外汇管理局关于改革外商投资企业外汇资本金结汇管理方式的通知》), or SAFE Circular 19, which came into effect on June 1, 2015. According to SAFE Circular 19, the foreign exchange capital of foreign-invested enterprises, or the FIE, shall be subject to a discretionary foreign exchange settlement, or the Discretionary Foreign Exchange Settlement. The Discretionary Foreign Exchange Settlement refers to the foreign exchange capital in the capital account of an FIE for which the rights and interests of monetary contribution has been confirmed by the local foreign exchange bureau (or the book-entry registration of monetary contribution by the banks) and can be settled at the banks based on the actual operational needs of the FIE. The proportion of Discretionary Foreign Exchange Settlement of the foreign exchange capital of an FIE is temporarily determined as 100%. Renminbi converted from a foreign exchange capital will be kept in a designated account and if an FIE needs to make further payment from such account, it still needs to provide supporting documents and go through the review process with the banks.

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Furthermore, SAFE Circular 19 stipulates that the use of capital by foreign-invested enterprises shall follow the principles of authenticity and self-use within the business scope of enterprises. The capital of an FIE and capital in Renminbi obtained by the FIE from foreign exchange settlement shall not be used for the following purposes:

- (1) directly or indirectly used for the payment beyond the business scope of the enterprises or the payment prohibited by relevant laws and regulations;
- (2) directly or indirectly used for investment in securities unless otherwise provided by relevant laws and regulations;
- (3) directly or indirectly used for granting the entrust loans in Renminbi (unless permitted by the scope of business), repaying the inter-enterprise borrowings (including advances by the third party) or repaying the bank loans in Renminbi that have been sub-lent to the third party; and
- (4) paying the expenses related to the purchase of real estate that is not for self-use (except for the foreign-invested real estate enterprises).

SAFE Circular 37

On July 4, 2014, the Circular of the State Administration of Foreign Exchange on Issues Concerning Foreign Exchange Administration over the Overseas Investment and Financing and Round-trip Investment by Domestic Residents via Special Purpose Vehicles (《国家外汇管理局关于境内居民通过特殊目的公司境外投融资及返程投资外汇管理有关问题的通知》), or SAFE Circular 37, became effective on July 4, 2014. Pursuant to SAFE Circular 37, SAFE and its branches shall enforce registration management for establishment of a special purpose vehicle, or SPV, by domestic residents (including domestic institutions and domestic resident individuals, and domestic resident individuals shall refer to PRC citizens holding the identity cards for PRC domestic residents, military identity certificates or identity certificates for armed police force, and overseas individuals that do not hold any domestic legitimate identity certificates but have habitual residences within the territory of the PRC due to relationships of economic interests). Prior to contributing domestic and overseas legitimate assets or interests to an SPV, a domestic resident shall apply to SAFE for foreign exchange registration of overseas investment. Where a registered overseas SPV undergoes changes of its domestic resident individual shareholders, name, operating period or other basic information, or experiences substantial changes including without limitation the increase or reduction of registered capital by domestic resident individuals, transfer or replacement of equity and merger or split, the SPV shall go through modification registration of foreign exchange for overseas investment with SAFE. Where a non-listed SPV uses its own equity interests or options to grant equity incentives to the directors, supervisors and senior management of a domestic enterprise under its direct or indirect control, as well as other employees in employment or labor relationships with the aforesaid company, relevant domestic resident individuals may, before exercising their rights, apply to SAFE for foreign exchange registration of the SPV.

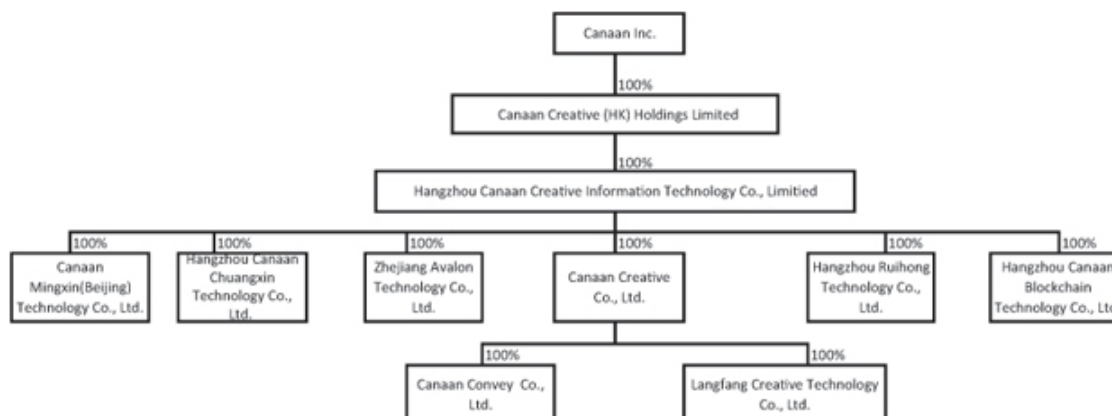
SAFE Circular 13

Pursuant to the Circular on Further Simplifying and Improving the Direct Investment-related Foreign Exchange Administration Policies (《关于进一步简化和改进直接投资外汇管理政策的通知》), or SAFE Circular 13, which was promulgated by SAFE on February 13, 2015 and became effective on June 1, 2015, the foreign exchange registration under domestic direct investment and the foreign exchange registration under overseas direct investment will be directly reviewed and handled by banks in accordance with SAFE Circular 13, and SAFE and its branches shall perform indirect regulation over the foreign exchange registration via banks.

C. Organizational Structure

Our Corporate Structure

The following diagram illustrates our corporate structure as of the date of this annual report. It omits certain entities that are immaterial to our results of operations, business and financial condition. Unless otherwise indicated, equity interests depicted in this diagram are 100%-owned.



Subsidiaries of Canaan Inc.

An exhibit containing a list of our significant subsidiaries has been filed with this annual report.

D. Property, Plants and Equipment

Please refer to “B. Business Overview—Properties” for a discussion of our property, plants and equipment.

ITEM 4A. UNRESOLVED STAFF COMMENTS

None.

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

Unless otherwise stated, the discussion and analysis of our financial condition and results of operation in this section apply to our financial information as prepared according to U.S. GAAP. You should read the following discussion and analysis of our financial condition and operating results in conjunction with our consolidated financial statements and the related notes included elsewhere in this annual report. The following discussion contains forward-looking statements based upon current expectations that involve risks and uncertainties. Our actual results and the timing of selected events may differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth under “Item 3. Key Information—D. Risk Factors.”

A. Operating Results

Overview

We provide supercomputing solutions through our proprietary high performance computing ASICs. Our visionary management team has a clear strategy to commercialize supercomputing technology. In January 2013, Mr. Nangeng Zhang, our chairman and chief executive officer, and his team, invented and delivered one of the first cryptocurrency mining machines incorporating ASIC technology. We initially dedicated our research and development efforts to ASIC applications for Bitcoin mining, which rapidly built up our know-how of ASIC design. Such experience provided us with a solid foundation in terms of both technology and capital resources, which better prepared us for further research and development involving AI chips. In September 2018, we became the first in the industry to deliver commercial edge computing AI chips based on Risc-V architecture and self-developed neural-network accelerator with outstanding performance. As we are a fabless IC designer, the ICs that we design are manufactured, packaged and tested by industry-leading suppliers, including SMIC, TSMC and Samsung.

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We have developed significant advantages in our business and technological capabilities, including the following:

- Our mastery of the whole IC design process;
- Our years of accumulated engineering experience in applying theoretical research to the mass production of new products, producing in aggregate over 217 million ASICs in 2018, 2019 and 2020;
- Our ability to achieve a fast time-to-market with our products and our successful early monetization of the ASIC design in blockchain applications have provided us with an early advantage with respect to both technology and capital reserve to pursue our strategic initiatives;
- Our breakthroughs in various technological fields to improve ASIC performance, such as low voltage and high power efficiency operations and high computing density, all of which are crucial features for ASICs for blockchain and AI solutions;
- Our ownership of most of the intellectual property we employ, and our accumulation of valuable know-how and multiple generations of proprietary silicon data through our years of ASIC design experience;
- Our ability to provide a holistic AI solution to our customers, including AI chips, algorithm development and optimization, hardware module, end-product and software services; and
- Our close and trusted partnerships with leading global suppliers, which have enabled us to achieve high-quality, high yield rate and stable production.

Key Factors Affecting Our Results of Operations

Our results of operations have been, and are expected to continue to be, affected by a number of factors, which primarily include the following:

- fluctuation of the Bitcoin price;
- acceptance and development of blockchain technology applications, especially Bitcoin;
- development of AI technology, especially edge computing;
- the performance and cost of our products;
- production capacity;
- investment in research and development
- COVID-19 pandemic; and
- the regulatory environment.

Fluctuation of the Bitcoin Price

The demand and pricing for our Bitcoin mining machines are significantly affected by the Bitcoin price, the most significant factor affecting the expected returns generated by Bitcoin mining activities. In addition, other factors such as the power efficiency of mining machines, the amount of reward for solving a block, and transaction fees also have an inverse relationship with the expected economic return of Bitcoin mining, while factors such as network computing power, price of mining machines and other operating costs such as electricity costs typically have a converse relationship with the expected return on Bitcoin mining activities.

In general, our financial performance, particularly our revenue and gross margin, would fluctuate in response to the factors below:

- Bitcoin miners' purchasing behavior are primarily driven by the expectation about future Bitcoin price, as well as the expected economic returns of Bitcoin mining based on a series of abovementioned factors, which impact the demand and selling price of our Bitcoin mining machines.
- As the Bitcoin price fluctuates, we will adjust our selling price of Bitcoin mining machines to match Bitcoin miners' typical target payback cycle of 150 to 300 days.
- Although our technology upgrade for new generation of our Bitcoin mining machine will reduce the average production cost for our Bitcoin mining machines in general, a sudden decrease of the Bitcoin price may lead to stagnant demand and decrease of selling price for our Bitcoin mining machines, which further lead to inventories and prepayments write-down that impact our gross margin.

Our results of operations generally lag behind the change of the Bitcoin price. Historically, a strong increase in the Bitcoin price in late 2017 drove the significant increase in both the demand for and the average selling price of our Bitcoin mining machines in the first half of 2018. As the Bitcoin price dropped in 2018, manufacturers of Bitcoin mining machines began to experience a lower demand and average selling price of Bitcoin mining machines, thereby leading to lower revenue and a larger amount of inventory, as well as the elimination of certain weaker players in the market. Furthermore, due to the decrease of the Bitcoin price in 2018, we made a total provision of RMB786.0 million during the year and recorded a gross margin of 18.8%, compared with gross margin of 46.2% in 2017. As the Bitcoin price remained relatively low throughout the first quarter of 2019 and only started to recover in the second quarter of 2019, we continued to experience low demand of our Bitcoin mining machines despite a low selling price in the first half of 2019. The price of Bitcoin gradually decreased in the second half of 2019. As a result, our revenue for 2019 decreased by 47.4% from 2018. In the first quarter of 2020, the decreasing trend of Bitcoin price continued. On March 13, 2020, the Bitcoin price saw a significant drop and has been turbulent since then. As the Bitcoin price had fluctuated in the first three quarters of 2020 and only rose significantly in the fourth quarter, our revenue for 2020 decreased by 68.5% from 2019. Furthermore, the reward for Bitcoin mining is designed to decline approximately every four years, with the most recent halving event occurring in May 2020, which has further contributed to Bitcoin price volatility in 2020 and beyond.

The Bitcoin price drop in 2018 also led to our offering of credit sales, and such Bitcoin price trend also caused our customers who purchased our Bitcoin mining products on credit to be less willing to make payment. We consider the portion of the contract price on credit and not yet collected as implicit price concession and we recognize revenue based on subsequent information regarding our collection of such portion of the contract price. We only recognize the portion of contract price we received up to the issuance date of our financial statements to be our revenue for the period covered by such financial statements. Payment received subsequent to the issuance of our financial statements will be recognized as revenue in a subsequent period. For 2018, 2019, and 2020, we recognized the uncollected portion of the contract price of RMB152.8 million, RMB22.4 million, and RMB11.5 million (US\$1.8 million), respectively, as price concession. To the extent we collect any of these outstanding uncollected portion of the contract price, we will recognize as revenue such collected amount in subsequent period(s).

Going forward, if the Bitcoin price fluctuates significantly, we expect to experience a significant corresponding fluctuation in both sales volume and average selling prices of our Bitcoin mining machines, as well as a significant inventory and prepayment write down that erodes our profitability in the case of a significant Bitcoin price drop.

Acceptance and Development of Blockchain Technology Applications, Especially Bitcoin

Our current blockchain product is designed for Bitcoin mining. Our net revenues derived from sales of Bitcoin mining machines and Bitcoin mining machine parts were RMB2,698.3 million in 2018, RMB1,390.3 million in 2019 and RMB422.6million (US\$64.8 million) in 2020. Any adverse development in blockchain technology and the cryptocurrency markets, and in the Bitcoin market in particular, can significantly impact our results of operations. The Bitcoin market can also be affected by the following factors, among others: (i) different views regarding the decentralized nature of cryptocurrencies, (ii) acceptance of cryptocurrencies as an investment instrument as well as a currency for payment, (iii) competing cryptocurrencies to Bitcoin, and (iv) changes in the Bitcoin algorithm and the mechanism of mining.

Development of AI Technology, Especially Edge Computing

In addition to our Bitcoin mining machines, we have also developed ASICs for AI applications and have continued to make investments in the edge computing area. Net revenues derived from the sale of our AI products was RMB275.2 thousand in 2018, RMB2.6 million in 2019, and RMB4.9 million (US\$0.7 million) in 2020. The development of AI technology, especially as it relates to edge computing, and the acceptance of ASICs for AI applications is crucial to our future success in diversifying our product offering.

Performance and Cost of Our Products

The pricing of and demand for our Bitcoin mining machines and our AI chips are closely related to their performance. In general, more advanced process technologies can accommodate designs that produce ASICs with higher power efficiency. The introduction of new process and design technologies also enables us to gradually lower the production costs of ASICs with comparable computing power. However, the application of such process technologies also commands high initial setup costs, particularly when the new production techniques first become available, which translates to higher per unit costs. As a result, our new generation ASICs using the most advanced process technologies will need to achieve strong sales in order to justify the initial setup costs of the new production techniques and maintain our profitability. At the same time, as the most advanced production capabilities of IC foundries ramp up, the initial high unit cost for IC fabrication may also decrease, which will likely translate to lower fabrication costs and a positive effect on our business, results of operations and financial condition.

Production Capacity

As a fabless IC design company, we outsource the fabrication process of our ICs to third-party foundry partners, and we outsource the testing and packaging process to third-party testing and packaging partners. We work closely with a limited number of such production partners. For example, we currently mainly rely on one third-party foundry for our Bitcoin mining machine business, and we cannot guarantee that it will be able to meet our manufacturing requirements or capacity or that it will not raise its prices. As a result, our ability to quickly respond to market demand and meet production timelines, as well as to price our products competitively, is highly dependent on our third-party production partners. If our production partners are unable to meet our production capacity requirements or deliver products that meet our quality standards on a timely basis, our results of operations will be adversely affected.

We may also incur significant cash outflow at the early stages of our production process because we are required to make prepayments to some of our third-party production partners to secure their production capacity beforehand, which may affect our liquidity position. In addition, any failure by our third-party production partners to perform their obligations in a timely manner may subject us to counterparty risk and make it difficult or impossible for us to fulfill our customers' orders, which would harm our reputation and negatively affect our business, results of operations and financial condition.

Investment in Research and Development

We are a fabless IC design company. Our ability to design high quality ASICs largely depends on our continued investment in research and development, and our results of operations are affected by related expenses. Historically, we have invested substantially in research and development to build and enhance our competitive edge, and we need to continue to devote resources to research and development activities in order to (i) design and develop new or enhanced ASICs for Bitcoin mining applications, (ii) design and develop new or enhanced ASICs for AI applications, and (iii) expand our product offering and penetrate into new application markets, particularly into markets for ASIC applications that require high performance and strong computing power. We cannot assure you that we can continue to have a high successful tape-out rate. Unsuccessful tape-outs will significantly increase our research and development expenses. Our ability to design and develop new or enhanced ASICs for Bitcoin mining and AI applications and ASICs for other applications with market potential as well as maintain a high tape-out rate will have a material effect on our business, results of operations, financial condition and profitability.

COVID-19 Pandemic

Since early 2020, the outbreak of novel coronavirus (“COVID-19”) has resulted in a widespread health crisis that adversely affected general commercial activities, the economies, financial markets, as well as the cryptocurrency market activities. This public health pandemic has posed certain risks that our employees, suppliers, customers, logistics vendors and other business partners were prevented or disrupted from conducting business activities throughout the date of the issue of the financial statements.

During the first several months of 2020, we experienced a decrease in product demand and pricing, which we believe is, as least to a certain extent, the result of the on-going spread of COVID-19 and resulting market disruption. The dynamic circumstances and significant uncertainty associated with the pandemic and resulting market disruption has had a material adverse impact to our operations, financial position and cash flows for the year-ended December 31, 2020.

Regulatory Environment

Our customers are primarily based in the PRC, and we expect a growing portion of our revenues to be derived from sales outside of the PRC. As such, we need to make efforts and incur costs to ensure that we are compliant with the existing laws and regulations relating to our business in the various jurisdictions that are material to our business and operations, and to comply with new laws and regulations or changes under existing laws and regulations that may arise in the future. Our ability to anticipate and respond to potential changes in government policies and regulations will have a significant impact on our business operations in such countries and our overall results of operations.

Critical Accounting Policies, Judgments and Estimates

We prepare our financial statements in conformity with U.S. GAAP, which requires our management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosures of contingent assets and liabilities at the balance sheet dates and the reported amounts of revenues and expenses during the reporting periods. We continually evaluate these judgments and estimates based on our own historical experience, knowledge and assessment of current business and other conditions, our expectations regarding the future based on available information and assumptions that we believe to be reasonable, which together form our basis for making judgments about matters that are not readily apparent from other sources. Since the use of estimates is an integral component of the financial reporting process, our actual results could differ materially from those estimates. Some of our accounting policies require a higher degree of judgment than others in their application. We believe that accounting estimation of variable consideration for revenue, recognition, write-down for inventories and prepayments, valuation and recognition of share-based compensation reflect significant judgments and estimates used in the preparation of its consolidated financial statements.

The selection of critical accounting policies, the judgments and other uncertainties affecting application of those policies and the sensitivity of reported results to changes in conditions and assumptions are factors that should be considered when reviewing our financial statements. We believe the following accounting policies involve the most significant judgments and estimates used in the preparation of our financial statements. You should read the following description of critical accounting policies, judgments and estimates in conjunction with our consolidated financial statements and other disclosures included in this annual report.

Revenue from contracts with customers (ASC 606)

We have adopted the new revenue standard, ASC 606, *Revenue from Contracts with Customers* (Topic 606) for all periods presented. Consistent with the criteria of Topic 606, we recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to receive in exchange for those goods or services.

Products revenue

We generate revenue primarily from the sale of Bitcoin mining machines directly to a customer, such as a business or individual engaged in Bitcoin mining activities. As the Bitcoin price fluctuates, we may adjust the selling price of Bitcoin mining machines on a weekly basis, as customers are only willing to pay for machines based on their ability to recover their investment through mining Bitcoin over a relatively short period of time. Our sales arrangements usually require a full prepayment before the delivery of products. We started to offer credit sales to certain significant, long-standing customers in China in 2018. The payment terms under credit sales generally consist of 50% down payment and 50% subsequent payments over a period of 90 to 180 days. With the adoption of a more dynamic pricing strategy, we expect to accept a lower amount of consideration (as compared to fixed and promised consideration that is set out in the sales contracts) from its credit sales customers if the price of Bitcoin decreases in the post-sale period; hence providing implicit price concession to these customers and the ultimate amount of price concessions to be provided to these credit sales customers is highly dependent on the changes of Bitcoin prices.

Revenues from product sales are recorded at the net sales price (transaction price), which includes an estimation of variable consideration which primarily results from implicit price concessions on credit sales. The amount of variable consideration is included in the transaction price to the extent it is not constrained and that it is probable that a significant reversal in the amount of the cumulative revenue recognized will not occur in a future period. Actual amounts of consideration ultimately received may differ from the estimates. If actual results in the future vary from estimates, we will adjust these estimates, which would affect revenue and earnings in the period when such changes are known. With respect to the determination of variable consideration resulting from the amount of implicit price concession, since the Bitcoin market price is volatile and unpredictable and changes of Bitcoin price will greatly affect the implicit price concessions to be provided by us to our credit sales customers, we historically have not been able to overcome the constraint on variable consideration at the time of product sale or at subsequent period-end dates until we have knowledge about the resolution of the uncertainty through payment by the customer. We use all the subsequent information to the date of issuance of the financial statements to adjust the estimated variable consideration for the periods presented, representing updated information on the best estimate of the amount of transaction price that is probable of being received and therefore not constrained as of period-end. We will continue to monitor and evaluate historical data and other factors in determining the total transaction price (including implicit price concessions) that can be recognized for product sales on credit. During the years ended December 31, 2018, 2019 and 2020, we recognized price concessions provided to our customers in the amounts of RMB152.8 million, RMB22.4 million, and RMB11.5 million (US\$1.8 million), respectively. During the year ended December 31, 2020, the adjustment to the previously estimated variable considerations was amounting to RMB14.7 million (US\$2.3 million) (years ended December 31, 2018 and 2019: nil and RMB27.7 million), which was recorded as revenue of this year.

We recognize products revenue at a point in time based on management's evaluation of when the control of the products have been passed to customers. The transfer of control is considered complete when products have been picked up by or shipped to our customers.

We offer a standard product warranty of no longer than 6 months that the product will operate under normal use. At the time revenue is recognized, an estimate of future warranty costs is recorded as a component of cost of revenues. The reserves established are regularly monitored based upon historical experience and any actual claims charged against the reserve. The amount of total warranty costs incurred was immaterial for the years ended December 31, 2018, 2019 and 2020, respectively.

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Services revenue

We also generate a small portion of revenue from its maintenance services under separate contracts. Revenue from the maintenance service to the customer is recognized when the related services have been rendered to the customers.

Revenue from lease arrangements as lessor (ASC 842)

From July 2019, we also started to generate revenue from the leases of system products for Bitcoin mining to our customers. The leases cannot generally be extended or terminated at the customer's discretion. However, upon the mutual agreement of the parties, the leases can be early terminated after three months. Rental charges are computed based on a time rate of machine's type and rental period. The leases of system products meet the classification of operating leases, and revenues from operating leases are recognized on a straight-line basis over the contract terms.

Inventories

Inventories, consisting of finished goods, work in process, raw materials and goods in transit, which are purchased from contract manufacturers and component suppliers. Inventories are stated at the lower of cost and net realizable value. Cost of inventory is determined using the weighted average cost method. Adjustments are recorded to write down the cost of inventory to the estimated net realizable value due to slow-moving and obsolete inventory, which is dependent upon factors such as historical and forecasted consumer demand, and promotional environment. We take ownership, risks and rewards of the products purchased.

In accordance with ASC 855-10-55-1(b), we consider all data available, including future demand and subsequent changes in product prices that may provide additional information about the valuation of inventories at the balance sheet date.

Operating lease assets

Operating lease assets consist of lease contracts for system products for Bitcoin mining with customers, which are reclassified from inventories at the beginning of lease period. Operating lease assets are recorded at cost less accumulated depreciation and impairment losses. Depreciation is provided using a straight-line method over the estimated economic lives which is generally 18 months. Depreciation expenses are included in costs of revenues. We monitor accounting estimates relating to the depreciation period. Changes made to estimates are reflected in depreciation expense on a prospective basis.

Share-based Compensation

We grant restricted shares and share options to eligible employees and account for share-based compensation in accordance with ASC 718, Compensation—Stock Compensation.

Employees' share-based compensation awards are measured at the grant date fair value of the awards and recognized as expenses a) immediately at the grant date if no vesting conditions are required; or b) for share-based awards granted with only service conditions, using the graded vesting method, net of estimated forfeitures, over the vesting period; or c) for share-based awards granted with service conditions and the occurrence of an IPO as performance condition, cumulative share-based compensation expenses for the options that have satisfied the service condition should be recorded upon the completion of the IPO, using the graded vesting method; or d) for share-based awards with service conditions and other performance condition, using the graded vesting method, net of estimated pre-vesting forfeitures, over the vesting period.

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A change in any of the terms or conditions of share-based awards is accounted for as a modification of the awards. We calculate incremental compensation expense of a modification as the excess of the fair value of the modified awards over the fair value of the original awards immediately before its terms are modified at the modification date. For vested awards, we recognize incremental compensation cost in the period when the modification occurs. For awards not being fully vested, we recognize the sum of the incremental compensation expense and the remaining unrecognized compensation expense for the original awards over the remaining requisite service period after modification.

Share-based compensation in relation to the restricted shares is measured based on the fair market value of our ordinary shares at the grant date of the award. Prior to the listing, estimation of the fair value of our ordinary shares involves significant assumptions that might not be observable in the market, and a number of complex and subjective variables, including discount rate, and subjective judgments regarding our projected financial and operating results, its unique business risks, the liquidity of its ordinary shares and its operating history and prospects at the time the grants are made. Share-based compensation in relation to the share options is estimated using the Binomial Option Pricing Model. The determination of the fair value of share options is affected by the share price of our ordinary shares as well as the assumptions regarding a number of complex and subjective variables, including the expected share price volatility, risk-free interest rate, exercise multiple and expected dividend yield. The fair value of these awards was determined with the assistance from an independent valuation firm.

Components of Results of Operations

Revenue

We derive our revenue primarily from sales of Bitcoin mining machines.

The following table sets forth a breakdown of our revenue by services, each expressed in the absolute amount and as a percentage of our total revenue, for the periods indicated:

	Year ended December 31,						
	2018		2019		2020		
	RMB	%	RMB	%	RMB	US\$	%
Products revenue	2,698.6	99.8	1,392.9	97.9	427.5	65.6	95.5
Blockchain products(1)	2,698.3	99.7	1,390.3	97.7	422.6	64.8	94.4
AI products	0.3	0.0	2.6	0.2	4.9	0.7	1.1
Leases revenue(2)	—	—	24.5	1.7	19.0	2.9	4.2
Service revenue	6.0	0.2	2.7	0.2	0.3	0.0	0.1
Other revenues	0.7	0.0	2.5	0.2	0.9	0.1	0.2
Total	2,705.3	100.0	1,422.6	100.0	447.7	68.6	100.0

Notes:

- (1) Substantially all of our blockchain products revenue is attributable to sales of Bitcoin mining machines, with the remainder consisting of other Bitcoin mining machine parts and accessories.
- (2) We started to lease our Bitcoin mining machine in July 2019 to achieve better liquidity management when the Bitcoin price is low. We typically lease our Bitcoin mining machines for a period of six months, but with the option, at the mutual agreement of the parties, of ending the lease in three months. Our customer is responsible for the maintenance of the Bitcoin mining machines during the lease period. Going forward, we may continue to employ this model when the Bitcoin price is low.

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Our net revenue is primary affected by the number of Bitcoin mining machines sold and their average selling price. The average unit selling price of our Bitcoin mining machines is primarily affected by the Bitcoin price and the computing power per machine. The following table sets forth the sales volume and average selling prices generated by our different Bitcoin mining machines:

	Year ended December 31,								
	2018			2019			2020		
	Revenue RMB in millions	Volume Set	ASP RMB	Revenue RMB in millions	Volume Set	ASP RMB	Revenue RMB in millions	Volume Set	ASP RMB
A7 series ⁽¹⁾	76.3	20,576	3,710	—	—	—	—	—	—
A8 series ⁽²⁾	2,436.8	503,237	4,842	328.7	276,571	1,189	6.2	47,993	130
A9 series ⁽³⁾	129.5	35,324	3,665	182.7	88,347	2,068	1.7	2,551	650
A10 series ⁽⁴⁾	—	—	—	865.0	122,134	7,082	350.8	116,550	3,010
A11 series ⁽⁵⁾	—	—	—	—	—	—	40.7	3,898	10,437
A12 series ⁽⁶⁾	—	—	—	—	—	—	14.2	967	14,633
Total	2,642.7	559,137	4,726	1,376.4	487,052	2,826	413.5	171,959	2,405

Notes:

- (1) Mainly includes our A721, A741 and A761 Bitcoin mining machines.
- (2) Mainly includes our A821, A841, A851 and A852 Bitcoin mining machines.
- (3) Mainly includes our A921 and A911 Bitcoin mining machines.
- (4) Mainly includes our A1047 A1066 and A1066 Pro Bitcoin mining machines.
- (5) Mainly includes our A1146 Pro, A1166 and A1166 Pro Bitcoin mining machines.
- (6) Mainly includes our A1246 Bitcoin mining machines.

The Bitcoin price hike in late 2017 resulted in strong demand and higher average selling prices for our A7 and A8 series products. In 2018, a significant drop in the Bitcoin price reversed the trends, especially with respect to the average selling prices. As a result, our A9 series products released after the Bitcoin price drop, despite having much stronger computing power, had a lower average selling price as compared with our A7 and A8 series products. As the Bitcoin price slump continued in 2019 and only started to recover in the second quarter of 2019, the average selling price of our A8 and A9 series products further decreased in 2019. Due to the general recovery of the Bitcoin price in the second quarter of 2019 as well as a higher computing power per machine, we were able to sell our A10 series products that we rolled out in April 2019 at a higher average selling price. However, the volume we were able to sell was hampered by the decrease in Bitcoin price starting in the second half of 2019. We typically price our Bitcoin mining machine based on their computing power. In addition, we typically reduce the price of the previous generation of Bitcoin mining machines when we introduce a new generation of Bitcoin mining machines. Also, the selling price of our Bitcoin mining machines is closely related to their performance in terms of power-efficiency.

The following table sets forth the total computing power sold and average selling prices of our Bitcoin mining machines expressed in terms of computing power:

	Year ended December 31,								
	2018			2019			2020		
	Revenue RMB in millions	Total Computing Power Sold Thash/s	ASP per Thash RMB	Revenue RMB in millions	Total Computing Power Sold Thash/s	ASP per Thash RMB	Revenue RMB in millions	Total Computing Power Sold Thash/s	ASP per Thash RMB
A7 series(1)	76.3	151,131	505	—	—	—	—	—	—
A8 series(2)	2,436.8	6,305,119	386	328.7	4,025,762	82	6.2	699,292	9
A9 series(3)	129.5	702,416	184	182.7	1,645,421	111	1.7	47,536	35
A10 series(4)	—	—	—	865.0	4,856,618	178	350.8	5,477,423	64
A11 series(5)	—	—	—	—	—	—	40.7	297,170	137
A12 series(6)	—	—	—	—	—	—	14.2	79,307	178
Total	2,642.7	7,158,666	369	1,376.4	10,527,801	131	413.5	6,600,729	63

Notes:

- (1) Mainly includes our A721, A741 and A761 Bitcoin mining machines.
- (2) Mainly includes our A821, A841, A851 and A852 Bitcoin mining machines.
- (3) Mainly includes our A921 and A911 Bitcoin mining machines.
- (4) Mainly includes our A1047, A1066 and A1066 Pro Bitcoin mining machines.
- (5) Mainly includes our A1146 Pro, A1166 and A1166 Pro Bitcoin mining machines.
- (6) Mainly includes our A1246 Bitcoin mining machines.

In general, the average selling price of our Bitcoin mining machines in terms of computing power decreased as a result of the overall technology advancement that led to a lower unit cost and the fact that we typically decrease the price of our previous generation of Bitcoin mining machines as we introduce the new generation of Bitcoin mining machines.

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Cost of revenues

Our cost of revenues consists of product costs, including costs of raw materials, costs of contract manufacturers for production, shipping and handling costs, manufacturing and tooling equipment depreciation, warehousing costs as well as slow-moving and obsolete inventory and prepayment write-downs and tax surcharges. The following table sets forth a breakdown of our cost of revenue, expressed as an absolute amount and as a percentage of our total cost of revenue, for the years indicated.

	Year ended December 31,						
	2018		2019		2020		
	RMB	%	RMB	%	RMB	US\$	
	(in millions, except for percentages)						
Cost of revenue excluding the impact of write-downs	1,482.3	67.5	1,799.1	92.8	1,159.6	177.7	282.9
Inventory and prepayment write-down	786.0	35.8	729.0	37.6	44.9	6.9	11.0
Realized inventory and prepayment write-down	(71.1)	(3.2)	(589.5)	(30.4)	(794.6)	(121.8)	(193.9)
Total cost of revenue	2,197.2	100.0	1,938.6	100.0	409.9	62.8	100.0

Historically, the relative weight of the components of our cost of revenue remained relatively stable without taking into consideration the inventory and prepayment write down provision. As we employ a fables model, costs of contract manufacturing and raw materials is the largest component of our cost of revenue. Going forward, as we continue our fables model, we do not expect any major changes to the relative weight of the components of our cost of revenue without taking into consideration the inventory and prepayment write down provision.

We make inventory and prepayment write downs when we determine that we are unlikely to sell our inventory at or above their cost. The amount to be written down is the difference between the cost of our inventory and the estimated realizable value of our inventory, which is significantly affected by the Bitcoin price. In 2018, in view of the Bitcoin price drop, the prevailing market demand of our Bitcoin mining machines and the prevailing retail price of our Bitcoin mining machine, we determined that under such conditions it was unlikely that we would be able to sell those Bitcoin mining machines at or above their cost. As a result, based on our estimation of market conditions with reference to the Bitcoin price, we recorded an inventory and prepayment write down of RMB786.0 million. Similarly, due to the Bitcoin price drop from the fourth quarter of 2019, we recorded an inventory and prepayment write down of RMB729.0 million. As the Bitcoin price fluctuated in the first three quarters of 2020, we recorded an inventory and prepayment write down of RMB44.9 million (US\$6.9 million). Going forward, if we are able to sell such inventories above their cost, the cost of sales for those machines will be net of such write down, which in turn will have the effect of increasing our gross profit for the period.

Our cost of revenue increased as an absolute amount during the periods indicated primarily due to the increase in the sales volume of our Bitcoin mining machines, as well as the increase in costs associated with the introduction of new products. The table below sets forth the per unit costs of our Bitcoin mining machines:

	Year ended December 31,								
	2018			2019			2020		
	Cost ⁽¹⁾ RMB in millions	Volume	Per unit cost RMB	Cost ⁽¹⁾ RMB in millions	Volume	Per unit cost RMB	Cost ⁽¹⁾ RMB in millions	Volume	Per unit cost RMB
A7 series(2)	51.1	20,576	2,482	—	—	—	—	—	—
A8 series(3)	1,243.9	503,237	2,472	689.1	276,571	2,492	119.6	47,993	2,492
A9 series(4)	154.9	35,324	4,385	370.4	88,347	4,193	10.7	2,551	4,193
A10 series(5)	—	—	—	672.4	122,134	5,506	838.2	116,550	7,191
A11 series(6)	—	—	—	—	—	—	47.1	3,898	12,077
A12 series(7)	—	—	—	—	—	—	8.4	967	8,680
Total	1,449.9	559,137	2,593	1,731.9	487,052	3,556	1,023.9	171,959	5,954

Notes:

- (1) Without taking into consideration the inventory and prepayment write down provision of RMB786.0 million, RMB729.0 million and RMB 44.9million (US\$6.9 million) in 2018, 2019 and 2020, respectively, as well as a realized inventory and prepayment write down of RMB71.1 million, RMB589.5 million and RMB794.6 million (US\$121.8 million), respectively, for the same periods.

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- (2) Mainly includes our A721, A741 and A761 Bitcoin mining machines.
- (3) Mainly includes our A821, A841, A851 and A852 Bitcoin mining machines.
- (4) Mainly includes our A921 and A911 Bitcoin mining machines.
- (5) Mainly includes our A1047 , A1066 and A1066 Pro Bitcoin mining machines.
- (6) Mainly includes our A1146 Pro , A1166 and A1166 Pro Bitcoin mining machines.
- (7) Mainly includes our A1246 Bitcoin mining machines.

The following table sets out the sales cost and average selling cost of our Bitcoin mining machines expressed in terms of computing power:

	Year ended December 31,								
	2018			2019			2020		
	Cost ⁽¹⁾	Total	Cost per	Cost ⁽¹⁾	Total	Cost per	Cost ⁽¹⁾	Total	Cost per
	RMB in	Computing	Thash	RMB in	Computing	Thash	RMB in	Computing	Thash
millions	Power Sold	RMB	millions	Power Sold	RMB	millions	Power Sold	RMB	
	Thash/s			Thash/s			Thash/s		
A7 series(2)	51.1	151,131	338	—	—	—	—	—	—
A8 series(3)	1,243.9	6,305,119	197	689.1	4,025,762	171	119.6	699,292	171
A9 series(4)	154.9	702,416	221	370.4	1,645,421	225	10.7	47,536	225
A10 series(5)	—	—	—	672.4	4,856,618	138	838.2	5,477,423	153
A11 series(6)	—	—	—	—	—	—	47.1	297,170	158
A12 series(7)	—	—	—	—	—	—	8.4	79,307	106
Total	1,449.9	7,158,666	203	1,731.9	10,527,801	165	1,023.9	6,600,729	155

Notes:

- (1) Without taking into consideration the inventory and prepayment write down provision of RMB786.0 million, RMB729.0 million and RMB 44.9 million (US\$6.9 million) in 2018, 2019 and 2020, respectively, as well as a realized inventory and prepayment write down of RMB71.1 million, RMB589.5 million and RMB794.6 million (US\$121.8 million), respectively, for the same periods.
- (2) Mainly includes our A721, A741 and A761 Bitcoin mining machines.
- (3) Mainly includes our A821, A841, A851 and A852 Bitcoin mining machines.
- (4) Mainly includes our A921 and A911 Bitcoin mining machines.
- (5) Mainly includes our A1047 , A1066 and A1066 Pro Bitcoin mining machines.
- (6) Mainly includes our A1146 Pro , A1166 and A1166 Pro Bitcoin mining machines.
- (7) Mainly includes our A1246 Bitcoin mining machines.

In general, we tend to incur higher production costs per Thash for our Bitcoin mining machines using newly implemented process technologies early in their life cycle due to the initial set up costs. We were also able to optimize our design as a same generation of processing technology matures, which can lead to a lower per Thash cost for newer products. The number of ASICs installed in each unit of our Bitcoin mining machines also affects the per unit production costs for our Bitcoin mining machines. The cost of other parts and accessories can also affect our production costs. As a result, (i) our A8 series products that employ improved design for 16nm processing technology and a larger number of ASICs have lower per unit production costs and significantly lower per Thash production costs as compared with our A7 series products which also employ 16nm ASICs and have a lower number of ASICs installed, (ii) our A921 Bitcoin mining machine that employs 7nm ASICs with much stronger computing power have significantly higher per unit production costs and higher per Thash production costs as compared with our A8 series products due to significantly higher set-up cost and related expenses from employing new technology, and (iii) our A10 series products that employ improved design for 16nm processing technology and a larger number of ASICs have higher per unit production costs due to the larger number of ASICs, and lower per Thash production costs due to the advancement of production technology, as compared with our A9 series products.

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Gross profit (loss) and gross profit margin

Our gross profit and gross profit margin are primarily affected by Bitcoin prices, which have a significant effect on the average selling price of our products, and, to a lesser extent, the average per unit production costs of our Bitcoin mining machines. In 2018 and 2020, our gross profit was RMB508.1 million and RMB37.8 million (US\$ 5.8 million), respectively, and our gross loss was RMB516.0 million in 2019. Our overall gross profit margin in 2018 and 2020 was 18.8% and 8.4%, respectively. A strong increase in the Bitcoin price in late 2017 drove the significant increase in both the demand and average selling price of our Bitcoin mining machines in the first half of 2018. As the Bitcoin price dropped in 2018, we began to experience a much lower demand and average selling price of our Bitcoin mining machines, thereby leading to lower revenue and a large amount of inventory. Furthermore, we made an inventory and prepayment write down of RMB786.0 million in 2018 in response to the stagnant demand for our products and the decreased Bitcoin price, which resulted in a significant increase in our cost of sales and therefore lower gross margin in 2018. As our results of operations generally lag behind the change of the Bitcoin price, the decrease of the Bitcoin price in the second half of 2018 continued to impact our operation in 2019 even with the recovery of the Bitcoin price in the second quarter of 2019. Additionally, as the Bitcoin price decreased again in the second half of 2019, we experienced a decrease in demand which led to an inventory and prepayment write down of RMB729.0 million in 2019. This led to our gross loss in 2019. In 2020, our gross loss is primarily due to the decline in total computing power sold and the average selling price per Thash/s during the first three quarters of 2020. In the fourth quarter of 2020, although the price of Bitcoin went up rapidly, the market demand started to recover and we received a large number of orders, the delivery and payments will mainly be scheduled in 2021 .

Operating expenses

Our operating expenses include research and development expenses, sales and marketing expenses and general and administrative expenses. The following table sets forth components of our operating expenses, both in absolute amount and as a percentage of our total revenue, for the periods presented:

	Year ended December 31,						
	2018		2019		2020		
	RMB	%	RMB	%	RMB	US\$	%
Research and development expenses	189.7	7.0	169.0	11.9	140.0	21.5	31.3
Share-based compensation expense included in research and development expenses	9.6	0.4	22.5	1.6	0.7	0.1	0.2
Sales and marketing expenses	38.7	1.4	21.9	1.5	20.0	3.1	4.5
Share-based compensation expense included in sales and marketing expenses	1.1	0.0	0.4	0.0	0.0	0.0	0.0
General and administrative expenses	146.7	5.6	347.6	24.4	131.6	20.2	29.4
Share-based compensation expense included in general and administrative expenses	7.9	0.3	247.4	17.4	2.3	0.3	0.5
Total	375.1	13.9	538.5	37.9	291.6	44.7	65.1

Research and development expenses. Research and development expenses primarily consist of salary and welfare for research and development personnel (including share-based compensation), consulting and contractor expenses, testing and tooling materials and other expenses associated with research and development. Substantially all of our research and development expenses are related to developing new products and services and improving existing products and services.

Sales and marketing expenses. Sales and marketing expenses consist primarily of salary and welfare for sales and marketing personnel (including share-based compensation), promotion and marketing expenses and other expenses associated with sales and marketing.

General and administrative expenses. General and administrative expenses consist primarily of salary and welfare for general and administrative personnel (including share-based compensation), rental expenses and depreciation, allowance for doubtful receivables, general office expense and professional service fees.

Taxation

Cayman Islands

The Cayman Islands currently levies no taxes on individuals or corporations based upon profits, income, gains or appreciation and there is no taxation in the nature of inheritance tax or estate duty. There are no other taxes likely to be material to us levied by the government of the Cayman Islands except for stamp duties which may be applicable to instruments executed in, or after execution, brought within the jurisdiction of the Cayman Islands. In addition, the Cayman Islands does not impose withholding tax on dividend payments.

Hong Kong

Our subsidiary incorporated in Hong Kong is subject to Hong Kong profit tax at a rate of 8.25% for profit of up to HK\$2.0 million and 16.5% for the remainder. No Hong Kong profit tax has been levied as we did not have an assessable profit that was earned in or derived from the Hong Kong subsidiary during the periods presented. Hong Kong does not impose a withholding tax on dividends.

PRC

In March 2007, the National People's Congress of China enacted the Enterprise Income Tax Law, which became effective on January 1, 2008 and amended on December 29, 2018. The Enterprise Income Tax Law provides that enterprises organized under the laws of jurisdictions outside China with their "de facto management bodies" located within China may be considered PRC resident enterprises and therefore subject to the PRC EIT at the rate of 25% on their worldwide income. The Implementing Rules of the Enterprise Income Tax Law further define the term "de facto management body" as the management body that exercises substantial and overall management and control over the business, personnel, accounts and properties of an enterprise.

While we do not currently consider our company or any of our overseas subsidiaries to be a PRC resident enterprise, there is a risk that the PRC tax authorities may deem our company or any of our overseas subsidiaries to be a PRC resident enterprise since a substantial majority of the members of our management team as well as the management team of our overseas subsidiaries are located in China, in which case we or the applicable overseas subsidiaries, as the case may be, would be subject to the PRC EIT at the rate of 25% on worldwide income. If the PRC tax authorities determine that our Cayman Islands holding company is a "resident enterprise" for PRC EIT purposes, a number of unfavorable PRC tax consequences could follow.

Under the Enterprise Income Tax Law and its implementation regulations issued by the State Council, a 10% PRC withholding tax is applicable to dividends paid to investors that are nonresident enterprises, which do not have an establishment or place of business in the PRC or which have such establishment or place of business but the dividends are not effectively connected with such establishment or place of business, to the extent such dividends are derived from sources within the PRC.

In addition, any gain realized on the transfer of shares by such investors is also subject to PRC tax at a rate of 10%, if such gain is regarded as income derived from sources within the PRC. If we are deemed to be a PRC resident enterprise, dividends paid on our ordinary shares or ADSs, and any gain realized from the transfer of our ordinary shares or ADSs, may be treated as income derived from sources within the PRC and may as a result be subject to PRC taxation.

Furthermore, if we are deemed to be a PRC resident enterprise, dividends paid to individual investors who are non-PRC residents and any gain realized on the transfer of ADSs or ordinary shares by such investors may be subject to PRC tax at a current rate of 20% (which in the case of dividends may be withheld at source). Any PRC tax liability may be reduced under applicable tax treaties or tax arrangements between China and other jurisdictions. If we or any of our subsidiaries established outside China are considered to be a PRC resident enterprise, it is unclear whether holders of the ADSs or ordinary shares would be able to claim the benefit of income tax treaties or agreements entered into between China and other countries or areas.

In April 2018, the Ministry of Finance, or MOF, and State Administration of Taxation, or SAT, jointly promulgated the Circular of the MOF and the SAT on Adjustment of Value-Added Tax Rates, or Circular 32, according to which (i) for VAT taxable sales or imports of goods originally subject to VAT rates of 17% and 11% respectively, such tax rates were adjusted to 16% and 10%, respectively; and (ii) for exported goods originally subject to a tax rate of 17% and an export tax refund rate of 17%, the export tax refund rate was adjusted to 16%. Circular 32 became effective on May 1, 2018 and superseded existing provisions which were inconsistent with Circular 32.

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Pursuant to the Announcement on Relevant Policies for Deepening Value-Added Tax Reform, which was promulgated by MOF, SAT and the General Administration of Customs on March 20, 2019, where (i) for VAT taxable sales or imports of goods originally subject to VAT rates of 16%, such tax rates shall be adjusted to 13%; (ii) for exported goods originally subject to a tax rate of 16% and an export tax refund rate of 16%, the export tax refund rate shall be adjusted to 13%.

We are also subject to VAT at a rate of approximately 6% on the services and solutions we provide to our customers, less any deductible VAT we have already paid or borne. We are also subject to surcharges on VAT payments in accordance with PRC law.

Results of Operations

The following table sets forth a summary of our consolidated results of operations for the periods indicated. This information should be read together with our consolidated financial statements and related notes included elsewhere in this annual report. The operating results in any period are not necessarily indicative of the results that may be expected for any future period.

	Year ended December 31			
	2018	2019	2020	
	RMB	RMB	RMB	US\$
	(in millions)			
Net revenues:				
Products revenue	2,698.6	1,392.9	427.5	65.5
Leases revenue	—	24.5	19.0	2.9
Service revenue	6.0	2.7	0.3	0.0
Other revenues	0.7	2.5	0.9	0.1
Total net revenues	2,705.3	1,422.6	447.7	68.6
Cost of revenues	(2,197.2)	(1,938.6)	(409.9)	(62.8)
Gross profit (loss)	508.1	(516.0)	37.8	5.8
Operating expenses:				
Research and development expenses(1)	(189.7)	(169.0)	(140.0)	(21.5)
Sales and marketing expenses(1)	(38.7)	(21.9)	(20.0)	(3.0)
General and administrative expenses(1)	(146.7)	(347.6)	(131.6)	(20.2)
Total operating expenses	(375.1)	(538.5)	(291.6)	(44.7)
Income (loss) from operations:				
Interest income	4.2	3.9	3.2	0.5
Investment income	3.2	3.1	5.8	0.9
Interest expense and guarantee fee	(53.1)	(20.0)	(3.6)	(0.6)
Foreign exchange (loss) gain, net	(1.2)	6.8	2.4	0.4
Value added tax refunds	110.2	1.3	—	—
Other (loss) income, net	3.8	25.1	31.0	4.7
Income (loss) before income tax expenses	200.2	(1,034.5)	(215.1)	(33.0)
Income tax expense	(77.8)	—	—	—
Net income (loss)	122.4	(1,034.5)	(215.1)	(33.0)
Foreign currency translation adjustment, net of nil tax	(65.2)	9.7	(24.2)	(3.7)
Total comprehensive income (loss)	57.2	(1,024.8)	(239.3)	(36.7)

Year Ended December 31, 2020 Compared to Year Ended December 31, 2019

Revenue. Our revenue decreased by 68.5% to RMB447.7 million (US\$68.6 million) in 2020 from RMB1,422.6 million in 2019, primarily due to (i) a decrease in the sales volume of our Bitcoin mining machines in terms of computing power from 10.5 million Thash in 2019 to 6.6 million Thash in 2020 as well as (ii) a decrease in the average selling price of our Bitcoin mining machines on a per Thash basis from RMB131 per Thash in 2019 to RMB63 per Thash in 2020, which in turn was the result of the Bitcoin price drop that in the first half of 2020.

Cost of revenue. Our cost of revenue decreased by 78.9% to RMB409.9 million (US\$62.8 million) in 2020 from RMB1,938.6 million in 2019. Such decrease was in line with the changes in our sales volume of Thash and cost per Thash. In addition, our realized inventory and prepayment write-down increased from RMB589.5 million in 2019 to RMB794.6 million (US\$121.8 million) in 2020. As a percentage of our revenue, our cost of revenue decreased from 136.3% in 2019 to 91.6% in 2020 were in line with the changes in our Thash sales volume and cost per Thash.

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Gross profit. As a result of the foregoing, our gross profit improved to RMB37.8 million (US\$5.8 million) in 2020 from the gross loss of RMB516.0 million in 2019. Our gross margin was 8.4% in 2020.

Operating expenses. Our total operating expenses decreased by 45.8% to RMB291.6 million (US\$44.7 million) in 2020 from RMB538.5 million in 2019, primarily due to a 62.1% decrease in the general and administrative expenses.

Research and development expenses. Our research and development expenses decreased by 17.1% to RMB140.0 million (US\$21.5 million) in 2020 from RMB169.0 million in 2019, primarily due to the decrease in spending on materials that we used for research and development purposes in response to lower demand of our Bitcoin mining machines. However, due to a decrease in our revenue, our research and development expenses as a percentage of our revenues increased to 31.3% in 2020 from 11.9% in 2019.

Selling and marketing expenses. Our selling and marketing expenses decreased by 8.8% to RMB20.0 million (US\$3.1 million) in 2020 from RMB21.9 million in 2019. The reduction was mainly driven by lower travel expenses. However, due to a decrease in our revenue, our selling and marketing expenses as a percentage of our revenues increased to 4.5% in 2020 from 1.5% in 2019.

General and administrative expenses. Our general and administrative expenses decreased by 62.1% to RMB131.6 million (US\$20.2 million) in 2020 from RMB347.6 million in 2019, primarily due to the higher share-based compensation expense allocated to general and administrative expenses in the amount of RMB247.4 million in 2019, compared to RMB2.3 million (US\$0.3 million) in 2020. However, due to a decrease in our revenue, our general and administrative expenses as a percentage of our revenues increased to 29.4% in 2020 from 24.4% in 2019.

Interest income. Our interest income decreased by 18.2% to RMB3.2 million (US\$0.5 million) in 2020 from RMB3.9 million in 2019, due to the decrease of the demand deposits and term deposits we held in banks.

Investment income. Our investment income increased by 91.3% to RMB5.8 million (US\$0.9 million) in 2020 from RMB3.1 million in 2019, due to the increase in the purchase of short-term investment.

Interest expense and guarantee fee. Our interest expense decreased by 82.1% to RMB3.6 million (US\$0.6 million) in 2020 from RMB20.0 million in 2019, primarily because in 2020, we no longer incurred guarantee fee for the purpose of securing an offshore loan in connection with our restructuring.

Foreign exchange gain. Our foreign exchange gain decreased by 64.5% to RMB2.4 million (US\$0.4 million) in 2020 from RMB6.8 million in 2019, as a result of the impact of currency fluctuation on our non-RMB denominated assets and liabilities.

Value added tax refund. We did not record any value added tax refund in 2020 while we recorded value added tax refund of RMB1.3 million in 2019, primarily due to the decrease of sales by Hangzhou Canaan. Under the tax refund scheme, the VAT payable by a software enterprise is capped, and any amount of VAT beyond the cap will be refunded. We expect Hangzhou Canaan to continue to enjoy the tax refund as long as it remains an accredited software enterprise.

Others, net. Our net other income was RMB31.0 million (US\$4.7 million) in 2020 and RMB25.1 million in 2019, both of which were primarily from government grants.

Loss before income tax expenses. Our loss before income tax expenses decreased by 79.2% to RMB215.1 million (US\$33.0 million) in 2020 from RMB1,034.5 million in 2019.

Income tax expense. Our income tax expense was nil in 2020 due to net loss..

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Net loss. As a result of the foregoing, we recorded a net loss of RMB215.1 million (US\$33.0 million) in 2020, while we recorded a net loss of RMB1,034.5 million in 2019.

Foreign currency translation adjustment, net of nil tax. We recorded RMB24.2 million (US\$3.7 million) of negative foreign currency transaction adjustment, net of nil tax in 2020, while we recorded RMB9.7 million of positive foreign currency translation adjustment, net of nil tax in 2019, primarily due to the fluctuation of exchange rates.

Year Ended December 31, 2019 Compared to Year Ended December 31, 2018

Revenue. Our revenue decreased by 47.4% to RMB1,422.6 million (US\$204.3 million) in 2019 from RMB2,705.3 million in 2018, primarily due to the decrease in the average selling price of our Bitcoin mining machines on a per Thash basis from RMB369 per Thash in 2018 to RMB131 per Thash in 2019, which in turn was the result of the Bitcoin price drop that began in 2018, and was partially offset by an increase in the sales volume of our Bitcoin mining machines in terms of computing power from 7.2 million Thash in 2018 to 10.5 million Thash in 2019 despite a lower sales volume in terms of shipment, as we continued to roll out Bitcoin mining machines with stronger computing power.

Cost of revenue. Our cost of revenue decreased by 11.8% to RMB1,938.6 million (US\$278.5 million) in 2019 from RMB2,197.2 million in 2018, primarily due to the fact that we recorded RMB589.5 million (US\$84.7 million) of realized inventory and prepayment write down which reduced the cost of revenue in 2019, whereas we recorded provision for inventories and prepayments write down of RMB729.0 million which increased the cost of revenue in 2019. Such decrease was partially offset by an increase in our cost of revenue excluding the impact of write-downs from RMB1,482.3 million in 2018 to RMB1,799.1 million (US\$258.4 million) in 2019, which was the result of an increase in the sales volume of our Bitcoin mining machines in terms of computing power from 7.2 million Thash in 2018 to 10.5 million Thash in 2019 primarily attributable to the stronger computing power of Bitcoin mining machines we sold in the period, partially offset by a decrease of average cost of our Bitcoin mining machines on a per Thash basis from RMB203 per Thash in 2018 to RMB165 per Thash in 2019, which in turn was the result of the advancement of production technology and the decrease of wafer cost.

Gross profit (loss). As a result of the foregoing, our gross loss was RMB516.0 million (US\$74.1 million) in 2019 compared to gross profit of RMB508.1 million in 2018.

Operating expenses. Our total operating expenses increased by 43.6% to RMB538.5 million (US\$77.4 million) in 2019 from RMB375.1 million in 2018.

Research and development expenses. Our research and development expenses decreased by 10.9% to RMB169.0 million (US\$24.3 million) in 2019 from RMB189.7 million in 2018. However, our research and development expenses as a percentage of our revenues increased to 11.9% in 2019 from 7.0% in 2018.

Sales and marketing expenses. Our sales and marketing expenses decreased by 43.4% to RMB21.9 million (US\$3.1 million) in 2019 from RMB38.7 million in 2018, primarily due to the decrease in sales of our Bitcoin mining machines, as the compensation of our sales and marketing personnel is linked to the actual sales of our products. Our sales and marketing expenses as a percentage of our revenues was 1.5% in 2019 as compared with 1.4% in 2018.

General and administrative expenses. Our general and administrative expenses increased by 137.0% to RMB347.6 million (US\$49.9 million) in 2019 from RMB146.7 million in 2018, primarily due to the higher share-based compensation expense allocated to general and administrative expenses in the amount of RMB247.4 million (US\$35.5 million) in 2019, compared to the share-based compensation expense allocated to general and administrative expenses of RMB7.9 million in 2018. The share-based compensation allocated to general and administrative expenses in 2019 was due to the excess of appraised fair value of ordinary shares transferred from our existing shareholders to other existing shareholders who were also our employees.

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Interest income. Our interest income slightly decreased to RMB3.9 million (US\$0.6 million) in 2019 from RMB4.2 million in 2018, primarily in connection with the interest from a security deposit associated with a bank loan we obtained in 2018.

Investment income. Our investment income decreased by 3.4% to RMB3.1 million (US\$0.4 million) in 2019 from RMB3.2 million in 2018, primarily due to the decrease in the purchase of investment products.

Interest expense and guarantee fee. Our interest expense and guarantee fee decreased by 62.2% to RMB20.0 million (US\$2.9 million) in 2019 from RMB53.1 million in 2018, primarily in connection with an offshore bank loan and a guarantee fee to the relevant bank for the purpose of securing such offshore loan in connection with our restructuring in 2018.

Foreign exchange (loss) gain, net. Our foreign exchange gain, net was RMB6.8 million (US\$1.0 million) in 2019 and our foreign exchange loss, net was RMB1.2 million in 2018, as a result of the impact of currency fluctuation on our non-RMB denominated assets and liabilities.

Value added tax refunds. Our VAT refunds decreased significantly to RMB1.3 million (US\$0.2 million) in 2019 from RMB110.2 million in 2018, primarily due to the decrease of sales by Hangzhou Canaan. Under the tax refund scheme, the VAT payable by a software enterprise is capped, and any amount of VAT beyond the cap will be refunded. We expect Hangzhou Canaan to continue to enjoy the tax refund as long as it remains an accredited software enterprise.

Other income, net. Our net other income was RMB25.1 million (US\$3.6 million) in 2019 and RMB3.8 million in 2018, both of which were primarily from government grants.

Income (loss) before income tax expenses. As a result of the foregoing, we recorded loss before income tax expenses of RMB1,034.5 million (US\$148.6 million) in 2019, while we recorded income before income tax expenses of RMB200.2 million in 2018.

Income tax expenses. Our income tax expenses was nil in 2019 compared to RMB77.8 million in 2018, due to our net loss in 2019.

Net income (loss). As a result of the foregoing, we recorded net loss of RMB1,034.5 million (US\$148.6 million) in 2019, while we recorded net income of RMB122.4 million in 2018.

Foreign currency translation adjustment, net of nil tax. We recorded RMB9.7 million (US\$1.4 million) of positive foreign currency translation adjustment, net of nil tax in 2019 and we recorded RMB65.2 million of negative foreign currency translation adjustment, net of nil tax in 2018 as a result of the translation of the financial statements of our Hong Kong subsidiary whose functional currency is U.S. dollars.

B. Liquidity and Capital Resources

Our primary source of liquidity historically has been cash generated from our business operations, bank loans and equity contributions from our shareholders, which have historically been sufficient to meet our working capital and capital expenditure requirements.

As of December 31, 2020, we had aggregate cash and cash equivalents of RMB391.3 million (US\$60.0 million).

In 2018, we entered into certain short-term loan agreements with various banks with an aggregate principal amount of RMB500.0 million and interest rates ranging from 4.35% to 6.09% per annum. We repaid these outstanding short-term loans in 2020.

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On April 25, 2018, Canaan HK entered into a facility agreement with China Merchants Bank Co., Ltd., Hong Kong Branch, or CMB HK, as facility agent and CMB International Financial Limited, or CMBI Finance, as security agent, amounting to HK\$930 million. Canaan HK drew down HK\$921 million under this facility. The maturity of the facility agreement was the earlier of 12 months following closing and the completion of our initial public offering. The interest rate is the Hong Kong InterBank Offered Rate plus 1.3% per annum. In addition, Hangzhou Canaan and Canaan HK paid a guarantee fee of 1% per annum and 0.75% per quarter to secure the borrowing, respectively. Canaan HK repaid the outstanding loans in March 2019 using capital contributions from our shareholders.

The weighted average interest rate for all of our borrowings was approximately 7.14%, 6.25%, and 3.16% per annum for the years ended December 31, 2018, 2019 and 2020, respectively.

We believe that our existing cash and cash equivalents and anticipated cash flows from operating activities will be sufficient to meet our anticipated working capital requirements and capital expenditures in the ordinary course of business for the next 12 months. We may, however, need additional cash resources in the future if we experience changes in business conditions or other developments, or if we find and wish to pursue opportunities for investments, acquisitions, capital expenditures or similar actions. If we determine that our cash requirements exceed the amount of cash and cash equivalents we have on hand at the time, we may seek to issue equity or debt securities or obtain credit facilities. The issuance and sale of additional equity would result in further dilution to our shareholders. The incurrence of indebtedness would result in increased fixed obligations and could result in operating covenants that would restrict our operations. We cannot assure you that financing will be available in amounts or on terms acceptable to us, if at all.

Our ability to manage our working capital, including receivables and other assets and liabilities and accrued liabilities, may materially affect our financial condition and results of operations.

The following table sets forth a summary of our cash flows for the periods indicated:

	Year ended December 31			
	2018	2019	2020	
	RMB	RMB	RMB	US\$
	(in millions)			
Net cash (used in)/provided by operating activities	(12.7)	(280.1)	42.3	6.5
Net cash provided by /(used in) investing activities	84.0	(16.3)	(49.6)	(7.6)
Net cash provided by /(used in) financing activities	295.2	278.0	(111.9)	(17.2)
Net increase/(decrease) in cash and cash equivalents, restricted cash	366.4	(18.4)	(119.2)	(18.3)
Effect of exchange rate changes on cash and cash equivalents, restricted cash	2.3	(1.9)	(9.8)	(1.5)
Cash and cash equivalents, restricted cash at the beginning of year	176.5	545.2	524.8	80.4
Cash and cash equivalents, restricted cash at the end of year	<u>545.2</u>	<u>524.8</u>	<u>395.8</u>	<u>60.7</u>

Operating Activities

Net cash provided by operating activities in 2020 was RMB42.3 million (US\$6.5 million). The principal items accounting for the difference between our net cash provided by operating activities and our net loss of RMB215.1 million (US\$33.0 million) were a RMB422.1 million (US\$64.7 million) increase in contract liabilities.

Net cash used in operating activities in 2019 was RMB280.1 million (US\$40.2 million). The principal items accounting for the difference between our net cash used in operating activities and our net loss of RMB1,034.5 million (US\$148.6 million) were a RMB270.2 million (US\$38.8 million) increase in share-based compensation expense and a RMB369.1 million (US\$53.0 million) decrease in inventories.

Net cash used in operating activities in 2018 was RMB12.7 million. The principal items accounting for the difference between our net cash used in operating activities and our net income of RMB122.4 million were a RMB325.8 million increase in inventories and a RMB449.7 million decrease in prepayments and other current assets.

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Investing Activities

Net cash used in investing activities was RMB49.6 million (US\$7.6 million) in 2020, which was primarily attributable to payment for short-term investments of RMB1,334.1 million (US\$204.5 million), which was partially offset by proceeds from disposal of short-term investments of RMB1,288.5 million (US\$197.5 million).

Net cash used in investing activities was RMB16.3 million (US\$2.3 million) in 2019, which was primarily attributable to payment for short-term investments of RMB554.7 million (US\$79.7 million), which was partially offset by proceeds from disposal of short-term investments of RMB546.8 million (US\$78.5 million).

Net cash provided by investing activities was RMB84.0 million in 2018, which was primarily attributable to proceeds from the disposal of short-term investments of RMB1,498.7 million, which was partially offset by purchase of short-term investments of RMB1,405.5 million.

Financing Activities

Net cash used in financing activities was RMB111.9 million (US\$17.2 million) in 2020, which was attributable to repayment of borrowings of RMB217.0 million (US\$33.3 million), repurchase of ordinary shares of RMB 40.0 million (US\$6.1M million), which was partially offset by proceeds from borrowings of RMB152.0 million (US\$23.3 million).

Net cash provided by financing activities was RMB278.0 million (US\$39.9 million) in 2019, which was attributable to repayment of borrowings of RMB1,135.7 million (US\$163.1 million), which was partially offset by proceeds from issuance of ordinary shares of RMB669.6 million (US\$96.2 million) and proceeds from issuance of ordinary shares upon IPO, net of cost of issuance of RMB544.1 million (US\$78.2 million).

Net cash provided by financing activities was RMB295.2 million in 2018, which was attributable to proceeds from borrowings of RMB1,952.2 million, which was partially offset by the repayment of borrowings of RMB964.9 million and payment for a deemed distribution of RMB692.1 million as part of our corporate reorganization.

Capital Expenditures

We made capital expenditures of RMB2.2 million (US\$0.3 million), RMB8.4 million and RMB24.9 million in 2020 and 2019 and 2018, respectively. Our capital expenditures primarily comprise expenditures for the purchase of equipment and software, intangible assets and other long-term assets. We will continue to make capital expenditures to meet the expected growth of our business.

Holding Company Structure

Canaan Inc. is a holding company with no material operations of its own. We conduct our operations through our subsidiaries in Hong Kong and China. Canaan Inc.'s ability to pay dividends depends upon its receipt of dividends from our PRC subsidiaries. If our existing PRC subsidiaries or any newly formed subsidiaries incur debt in the future, the instruments governing their debt may restrict their ability to pay dividends to us. In addition, our subsidiaries in China are permitted to pay dividends to us only out of their retained earnings, if any, as determined in accordance with PRC accounting standards and regulations. Under PRC law, each of our subsidiaries in China is required to set aside at least 10% of its after-tax profits each year, if any, to fund certain statutory reserve funds until such reserve funds reach 50% of its registered capital. In addition, our subsidiaries in China may allocate a portion of their after-tax profits based on PRC accounting standards to enterprise expansion funds and staff bonus and welfare funds at their discretion. The statutory reserve funds and the discretionary funds are not distributable as cash dividends. Remittance of dividends by a subsidiary out of China is subject to examination by the banks designated by SAFE. Our PRC subsidiaries have not paid dividends and will not be able to pay dividends until they generate accumulated profits and meet the requirements for statutory reserve funds.

G. Safe Harbor

This annual report contains forward-looking statements that involve risks and uncertainties, including statements based on our current expectations, assumptions, estimates and projections about us and our industry. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from those expressed or implied by the forward-looking statements. In some cases, these forward-looking statements can be identified by words or phrases such as “may,” “will,” “expect,” “anticipate,” “aim,” “estimate,” “intend,” “plan,” “believe,” “potential,” “continue,” “is/are likely to” or other similar expressions. The forward-looking statements included in this annual report relate to, among others:

- our goals and growth strategies;
- our future business development, financial condition and results of operations;
- competition in our industry;
- fluctuations in general economic and business conditions in China and other regions where we operate;
- the regulatory environment in which we operate; and
- assumptions underlying or related to any of the foregoing.

The forward-looking statements made in this annual report relate only to events or information as of the date on which the statements are made in this annual report. Except as required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances after the date on which the statements are made or to reflect the occurrence of unanticipated events. You should read this annual report and the documents that we have referred to in this annual report and have filed as exhibits to this annual report, completely and with the understanding that our actual future results may be materially different from what we expect.

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

A. Directors and Senior Management

The following table sets forth certain information relating to our current directors, executive officers and senior management.

<u>Name</u>	<u>Age</u>	<u>Position/Title</u>
Nangeng Zhang	38	Chairman and Chief Executive Officer
Jiaxuan Li	36	Director
Wenjun Zhang	55	Independent Director
Hongchao Du	53	Independent Director
Zhitang Shu	54	Independent Director
Yaping Zhang	46	Independent Director
Tong He	39	Director of Finance
Shaoke Li	37	Secretary to the Board

Nangeng Zhang has served as our Chairman of the Board and chief executive officer since our inception. Mr. Zhang has approximately 12 years of experience in electronic device design, engineering, manufacturing, quality control and research and development and is responsible for formulating and overseeing our overall development strategies and operations. Before founding our company, Mr. Zhang was an assistant researcher at the Beijing Remote Sensing and Communication Technology Institution, a research institution which specializes in research and development and production and marketing of antenna, detector, photoelectric measuring equipment, mid-wave infrared camera, from August 2005 to July 2008. Mr. Zhang received a bachelor’s degree in electronic information engineering and a master’s degree in software engineering from Beihang University in the PRC in July 2005 and July 2010, respectively. From September 2010 to October 2013, Mr. Zhang was pursuing a Ph.D. degree at Beihang University.

Jiaxuan Li has served as our director since December 2015. Mr. Li has more than 10 years of experience in IC design. Prior to joining us, Mr. Li served as an IC engineer responsible for researching, planning and overseeing IC design and production at Vimicro Corporation, a Chinese fabless chip company which specializes in research and development and production and marketing of multimedia processors for personal computers and mobile phones, from July 2010 to July 2013. Mr. Li received a bachelor's degree in computer science and technology from Harbin Institute of Technology in the PRC in July 2008 and a master's degree in software engineering from Beihang University in the PRC in July 2010, respectively.

Wenjun Zhang has served as our independent director since August 2020. Mr. Zhang has over 20 years of experience in corporate management, capable of managing various function units and coordinate cross department cooperation. Mr. Zhang has also served as a managing director at Beijing Zhijian Engineering Co. Ltd. since December 2012. Mr. Zhang served as a vice president at Mesnac Co. Ltd., a public company listed on the Shenzhen Stock Exchange (SZSE:002073) from March 1999 to November 2012. He served as a vice general manager at Dalian Rubber & Plastics Machinery Works from May 1995 to February 1999. Mr. Zhang served as a project manager at Dalian Int'l Economic & Technical Corporation from October 1993 to April 1995. Mr. Zhang served as an engineer at Dalian Rubber & Plastics Machinery Works from September 1986 to September 1993. Mr. Zhang received a bachelor's degree in plastic and polymer engineering technology from Beijing University of Chemical Technology in the PRC in 1986 and a master's degree in political economy from Beijing Normal University in the PRC in 1999.

Hongchao Du has served as our independent director since August 2020. Mr. Du has more than 27 years of experience in informational technology. From March 1993 to August 1997, Mr. Du developed a series of English-Chinese translation software such as "English-Chinese Communication", "Instant Communication", and other real-time screen English-Chinese translation systems. From July 1996 to October 1999, he developed the first internet-based Chinese-version Windows platform "Cross-Strait Communication". In April 2000, he established the largest IT community in China, DoNews.com. All these software and platforms has been widely used by both domestic and overseas users. Mr. Du served as a consultant in charge of Internet and new media at the State-owned Assets Supervision and Administration Commission of the State Council from December 2014 to December 2016, and was the launch expert of the Internet+ of Internet Society of China from January 2016 to December 2020. In addition, Mr. Du developed an all-purpose game card and duplicating system, which won the gold medal of the National University Science and Technology Achievement Expo in October 1991.

Zhitang Shu has served as our independent director since August 2020. Mr. Shu has more than 10 years of experience in business management and legal services. Mr. Shu has also served as the founding partner and management committee member of Merits & Tree Law Offices since March 2017. Mr. Shu served as an associate at Commerce & Finance Law Offices since February 2007 and became a partner till March 2017. Mr. Shu served as a training manager at Ping An Insurance Company, sales manager at Taikang Life Insurance Company, manager assistant at Du Li Real Estate Development Co., Ltd., head of marketing at Beijing Aerospace Purin Technology Co., Ltd., from October 1992 to December 2006. Mr. Shu served as cadre at Hubei Xiangfan Science and Technology Committee from July 1988 to October 1992. Mr. Shu received a bachelor's degree in law from Renmin University of China in the PRC in 2013 and a master's degree in EMBA from Cheung Kong Graduate School of Business in the PRC in 2019.

Yaping Zhang has served as our independent director since August 2020. Ms. Zhang has more than 20 years of experience in corporate financial management, including nine years of experience serving as a financial manager in a public company. She served as a director of finance at Beijing Jingxi Cultural Tourism Co., Ltd., a public company listed on the Shenzhen Stock Exchange (SZSE:002073) from April 2011 to June 2020. Ms. Zhang served as a deputy manager of finance department at China Huali Holdings Group Co., Ltd. from May 2004 to April 2011. Ms. Zhang served as an account at Beijing Zhuzong Zhuzhaiyi Company from July 1997 to May 2004. Ms. Zhang received a bachelor's degree in enterprise finance from Capital University of Economics in 1997. Ms. Zhang is qualified as a certified public accountant (CPA) and a senior international financial manager, and she also obtained mid-level and senior-level accountant certification.

Tong He has served as our director of finance since July 2020 and he has served as an acting chief financial officer since February 2021. Prior to joining us, he worked in a number of public and private companies, and has extensive experience in financial and accounting. From January 2020 to July 2020, Mr. He served as the chief financial officer and assistant to the general manager at Diankeyun (Beijing) Technology Co., Ltd. From February 2017 to January 2020, Mr. He served as the deputy chief financial officer at IReader Technology Co Ltd., a company listed on the Shanghai Stock Exchange (SHSE: 603533). From March 2015 to February 2017, Mr. He served as the head of business unit finance at Lenovo Group Limited, a public company listed on the Hong Kong Stock Exchange (HKSE: 0992). Mr. He received a Bachelor of Commerce degree, majored in accounting, in Curtin University of Technology in 2009 and a Master of Commerce degree, majored in finance, in the University of Wollongong in 2010.

Shaoke Li has served as the secretary to our board of directors since October 2017. Mr. Li has 11 years of experience in international trade and investment and is responsible for overseeing board of directors related matters. Prior to joining us in October 2017, Mr. Li served as the general manager of international trade department of Shangyu Group Co., Ltd., a manufacturer of valves and pumps, from June 2009 to May 2011, a staff member of international trade department at Bank of Wenzhou from August 2011 to January 2014, the director of capital markets department at Yifang (Shanghai) Commercial Factoring Co., Ltd. from March 2014 to October 2016, the legal representative and vice general manager of investment at Yifang Investment Co., Ltd., an investment company from February 2015 to October 2016, and was a partner at Zhejiang Yinxinggu Capital, an investment fund, from November 2016 to July 2017. Mr. Li obtained a bachelor's degree in accountancy from the Concordia University in Canada in October 2008.

B. Compensation

The directors may determine remuneration to be paid to the directors. The compensation committee will assist the directors in reviewing and approving the compensation structure for the directors. The directors may exercise all the powers of our company to borrow money, mortgage or charge its undertaking, property and uncalled capital and issue debentures or other securities whether outright or as security for any debt obligations of our company or of any third party.

In 2020, we and our subsidiaries paid aggregate compensation and benefits of RMB3.2 million (US\$0.5 million) to our directors and executive officers as a group. We did not pay any other cash compensation or benefits in kind to our directors and executive officers.

Employment Agreements and Indemnification Agreements

We have entered into employment agreements with each of our executive officers. We may terminate their employment for cause at any time for certain acts, such as a material breach of our company's employment principles, policies or rules, a material failure to perform his or her duties, misappropriation or embezzlement or a criminal conviction. We may also terminate any executive officer's employment without cause by giving written notice. In such cases, an executive officer is entitled to severance payments and benefits. An executive officer may terminate his or her employment at any time by giving written notice, in which case the executive officer will not be entitled to any severance payments or benefits.

Our executive officers have also agreed not to engage in any activities that compete with us or to directly or indirectly solicit the services of any of our employees, for a certain period after the termination of employment. Each executive officer has agreed to hold in strict confidence any trade secrets of our company, including technical secrets, marketing information, management information, legal information, third-party business secrets and other kinds of confidential information. Each executive officer also agrees to perform his or her confidentiality obligation and protect our company's trade secrets in a way consistent with the policies, rules and practices of our company. Breach of the above confidentiality obligations would be deemed a material breach of our company's employment policies and we are entitled to seek legal remedies.

We have entered into indemnification agreements with each of our directors and executive officers. Under these agreements, we agree to indemnify our directors and executive officers against certain liabilities and expenses incurred by such persons in connection with claims made by reason of their being a director or officer of our company.

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We have entered into director agreements with each of our independent directors. These agreements set forth the services to be provided and compensation to be received by our independent directors, as well as the independent directors' obligations in terms of confidentiality, non-competition and non-solicitation.

2018 Share Award Scheme

We adopted a share award scheme in April 2018, or the 2018 Share Award Scheme, which provided for the grant of restricted ordinary shares. We have granted all 25,812 restricted ordinary shares, before the one-for-2,000 share division, authorized under the 2018 Share Award Scheme. As of the date of this annual report, after the share division, 51,624,000 restricted ordinary shares exist under the 2018 Share Award Scheme, out of which 5,962,461 restricted ordinary shares have been canceled due to departing employees, 16,000,000 restricted ordinary shares have vested, 13,928,205 restricted share units have vested, 4,002,052 restricted share units have vested on November 21, 2020 and 9,040,000 restricted share units will be vested on November 21, 2021. Our board of directors may at any time amend and alter the 2018 Share Award Scheme, subject to certain exceptions.

C. Board Practices

Board of Directors

Our board of directors consist of six directors. A director is not required to hold any shares in our company to qualify to serve as a director. A director who is in any way, whether directly or indirectly, interested in a contract, transaction or proposed contract or transaction with us is required to declare the nature of his or her interest at a meeting of the directors. A director may vote with respect to any contract or any proposed contract or arrangement in which he or she is interested, and if he or she does so his or her vote shall be counted and he or she may be counted in the quorum at any meeting of our directors at which any such contract or proposed contract or arrangement is considered. The directors may exercise all the powers of the company to borrow money, to mortgage or charge its undertaking, property and uncalled capital, and to issue debentures or other securities whenever money is borrowed or as security for any debt, liability or obligation of the company or of any third party.

Duties of Directors

Under Cayman Islands law, our directors owe fiduciary duties to our company, including a duty of loyalty, a duty to act honestly, and a duty to act in what they consider in good faith to be in our best interests. Our directors must also exercise their powers only for a proper purpose. Our directors also have a duty to exercise skills they actually possess and such care and diligence that a reasonably prudent person would exercise in comparable circumstances. It was previously considered that a director need not exhibit in the performance of his duties a greater degree of skill than what may reasonably be expected from a person of his knowledge and experience. However, English and Commonwealth courts have moved towards an objective standard with regard to the required skill and care, and these authorities are likely to be followed in the Cayman Islands. In fulfilling their duty of care to us, our directors must ensure compliance with our memorandum and articles of association, as amended and restated from time to time, and the class rights vested thereunder in the holders of the shares. Our company has the right to seek damages if a duty owed by our directors is breached. A shareholder may in certain circumstances have rights to damages if a duty owed by the directors is breached.

Terms of Directors and Executive Officers

Our directors may be elected by a resolution of our board of directors, or by an ordinary resolution of our shareholders, pursuant to our amended and restated memorandum and articles of association. Each of our directors will hold office until his or her earlier resignation or removal or the expiration of his or her term as provided in the written agreement with our company, if any. A director will cease to be a director if, among other things, the director (i) becomes bankrupt or makes any arrangement or composition with his or her creditors; (ii) dies or is found to be or becomes of unsound mind, (iii) resigns his or her office by notice in writing to the company, (iv) without special leave of absence from the board of directors is absent from three consecutive meetings of the board of directors and the board resolves that his office be vacated, or (v) is removed from office pursuant to any other provisions of our amended and restated articles of association. Our officers are elected by and serve at the discretion of the board of directors.

Board Committees

Our board of directors has established an audit committee, a compensation committee, and a nominating and corporate governance committee. As a foreign private issuer, we are permitted to follow home country corporate governance practices under the Nasdaq Stock Market Rules. Each committee's members and functions are described below.

Audit Committee

Our audit committee consists of Yaping Zhang, Zhitang Shu and Wenjun Zhang. Yaping Zhang is the chairman of our audit committee. Yaping Zhang satisfies the criteria of an audit committee financial expert as set forth under the applicable rules of the SEC. Each of Yaping Zhang, Zhitang Shu and Wenjun Zhang satisfies the requirements for an "independent director" within the meaning of the Nasdaq Stock Market Rules and meets the criteria for independence set forth in Rule 10A-3 of the United States Securities Exchange Act of 1934, as amended, or the Exchange Act. Our audit committee consists solely of independent directors.

The audit committee oversees our accounting and financial reporting processes and the audits of our financial statements. Our audit committee is responsible for, among other things:

- selecting, and evaluating the qualifications, performance and independence of, the independent auditor;
- pre-approving or, as permitted, approving auditing and non-auditing services permitted to be performed by the independent auditor;
- considering the adequacy of our internal accounting controls and audit procedures;
- reviewing with the independent auditor any audit problems or difficulties and management's response;
- reviewing and approving related party transactions between us and our directors, senior management and other persons specified in Item 6B of Form 20-F;
- reviewing and discussing the quarterly financial statements and annual audited financial statements with management and the independent auditor;
- establishing procedures for the receipt, retention and treatment of complaints received from our employees regarding accounting, internal accounting controls or auditing matters and the confidential, anonymous submission by our employees of concerns regarding questionable accounting or auditing matters;
- meeting separately, periodically, with management, internal auditors and the independent auditor; and
- reporting regularly to the full board of directors.

Compensation Committee

Our compensation committee consists of Hongchao Du, Nangeng Zhang and Jiaxuan Li. Hongchao Du is the chairman of our compensation committee. Hongchao Du satisfies the requirements for an "independent director" within the meaning of the Nasdaq Stock Market Rules.

Our compensation committee is responsible for, among other things:

- reviewing, evaluating and, if necessary, revising our overall compensation policies;
- reviewing and evaluating the performance of our directors and executive officers and determining the compensation of our directors and executive officers;
- reviewing and approving our executive officers' employment agreements with us;
- determining performance targets for our executive officers with respect to our incentive compensation plan and equity-based compensation plans;
- administering our equity-based compensation plans in accordance with the terms thereof; and
- carrying out such other matters that are specifically delegated to the compensation committee by our board of directors from time to time.

Nominating and Corporate Governance Committee

Our nominating and corporate governance committee consists of Nangeng Zhang, Jiaxuan Li and Hongchao Du. Nangeng Zhang is the chairman of our nominating and corporate governance committee. Hongchao Du satisfies the requirements for an "independent director" within the meaning of the Nasdaq Stock Market Rules.

Our nominating and corporate governance committee is responsible for, among other things:

- selecting the board nominees for election by the shareholders or appointment by the board;
- periodically reviewing with the board the current composition of the board with regards to characteristics such as independence, knowledge, skills, experience and diversity;
- making recommendations on the frequency and structure of board meetings and monitoring the functioning of the committees of the board; and
- advising the board periodically with regards to significant developments in corporate governance law and practices as well as our compliance with applicable laws and regulations, and making recommendations to the board on corporate governance matters.

Code of Ethics and Corporate Governance

We have adopted a code of ethics, which is applicable to all of our directors, executive officers and employees. We will make our code of ethics publicly available on our website.

In addition, our board of directors has adopted a set of corporate governance guidelines covering a variety of matters, including approval of related party transactions. Our corporate governance guidelines also provide that any adoption of a new share award scheme and any material amendments to such plans will be subject to the approval of our non-executive directors. The guidelines reflect certain guiding principles with respect to our board's structure, procedures and committees. The guidelines are not intended to change or interpret any applicable law, rule or regulation or our amended articles of association.

Qualification

There is no requirement for our directors to own any shares in our company in order for them to qualify as a director.

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Compensation of Directors and Executive Officers

The directors may determine remuneration to be paid to the directors. The compensation committee will assist the directors in reviewing and approving the compensation structure for the directors. The directors may exercise all the powers of our company to borrow money, mortgage or charge its undertaking, property and uncalled capital and issue debentures or other securities whether outright or as security for any debt obligations of our company or of any third party.

In 2020, we and our subsidiaries paid aggregate compensation and benefits of RMB3.2 million (US\$0.5 million) to our directors and executive officers as a group. We did not pay any other cash compensation or benefits in kind to our directors and executive officers.

D. Employees

See “Item 4. Information on the Company—B. Business Overview—Employees.”

E. Share Ownership

The following table sets forth information as of March 31, 2021 with respect to the beneficial ownership of our ordinary shares by:

- each of our directors and executive officers;
- our directors and executive officers as a group; and
- each person known to us to own beneficially 5% or more of our ordinary shares.

Beneficial ownership is determined in accordance with the rules of the SEC and includes voting or investment power with respect to, or the power to receive the economic benefit of ownership of, the securities. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, we have included shares that the person has the right to acquire within 60 days, including through the exercise of any option or other right or the conversion of any other security.

The total number of ordinary shares outstanding as of March 31, 2021 comprise 2,060,597,778 Class A ordinary shares and 311,624,444 Class B ordinary shares.

	Ordinary Shares Beneficially Owned			
	Number of Class A ordinary shares	Number of Class B ordinary shares	% of total ordinary shares on an as-converted basis	% of voting power†
Directors and Executive Officers:*				
Nangeng Zhang ⁽¹⁾	**	311,624,444	13.5	69.5
Jiaxuan Li ⁽²⁾	277,528,847	—	11.7	4.1
Tong He	—	—	—	—
Wenjun Zhang	—	—	—	—
Hongchao Du	—	—	—	—
Zhitang Shu	—	—	—	—
Yaping Zhang	—	—	—	—
Shaoke Li	**	—	**	**
Directors and Executive Officers as a Group	285,165,812	311,624,444	25.2	73.6
Principal Shareholders:				
Fluegel Ltd. ⁽³⁾	—	311,624,444	13.1	69.4
Ouroboros Ltd. ⁽⁴⁾	264,028,847	—	11.1	3.9
Urknall Ltd. ⁽³⁾	138,112,887	—	5.8	2.1
HK Jiaji Science and Technology Limited ⁽⁴⁾	112,500,006	—	4.7	1.7

Notes:

* The business address for our directors and executive officers is 1-2/F, QianFang Science Building C, Building No. 27, Zhongguancun Software Park (Phase I), No. 8 Dongbeiwang West Road, Haidian District, Beijing, People’s Republic of China.

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** Beneficially owns less than 1% of our outstanding shares.

† For each person and group included in this column, percentage of voting power is calculated by dividing the voting power beneficially owned by such person or group by the voting power of all of our Class A and Class B ordinary shares as a single class. In respect of matters requiring a shareholder vote, each Class A ordinary share will be entitled to one vote and each Class B ordinary share will be entitled to 15 votes. Each Class B ordinary share is convertible into one class A ordinary share at any time by the holder thereof. Class A ordinary shares are not convertible into Class B ordinary shares under any circumstances.

- (1) Represents (i) a number of Class A ordinary shares that Nangeng Zhang has the right to acquire upon exercise of the options within 60 days, and (ii) 311,624,444 Class B ordinary shares held by Flueqel Ltd., a company incorporated under the laws of the British Virgin Islands, which is indirectly wholly owned by a trust of which Nangeng Zhang is the beneficiary. Flueqel Ltd. is further described in footnote 3 below.
- (2) Represents (i) a number of Class A ordinary shares that Jiaxuan Li has the right to acquire upon exercise of the options within 60 days, and (ii) 264,028,847 Class A ordinary shares beneficially owned by Ouroboros Ltd. Information regarding beneficial ownership is reported as of December 31, 2020, based on the information contained in the Schedule 13G filed by Ouroboros Ltd. with SEC on February 10, 2021. Ouroboros Ltd., a company incorporated under the laws of the British Virgin Islands, is indirectly wholly owned by a trust of which Jiaxuan Li is the beneficiary. Ouroboros Ltd. is further described in footnote 4 below.
- (3) Represents 311,624,444 Class B ordinary shares held by Flueqel Ltd., a company incorporated under the laws of the British Virgin Islands, which is indirectly wholly owned by a trust of which Nangeng Zhang is the beneficiary. The registered address of Flueqel Ltd. is Sertus Chambers, P.O. Box 905, Quastisky Building, Road Town, Tortola, British Virgin Islands.
- (4) Represents 264,028,847 Class A ordinary shares beneficially owned by Ouroboros Ltd. Information regarding beneficial ownership is reported as of December 31, 2020, based on the information contained in the Schedule 13G filed by Ouroboros Ltd. with SEC on February 10, 2021. Ouroboros Ltd., a company incorporated under the laws of the British Virgin Islands, is indirectly wholly owned by a trust of which Jiaxuan Li is the beneficiary. The registered address of Ouroboros Ltd. is Sertus Chambers, P.O. Box 905, Quastisky Building, Road Town, Tortola, British Virgin Islands.
- (5) Represented 138,112,887 Class A ordinary shares beneficially owned by Urknall Ltd. Information regarding beneficial ownership is reported as of December 31, 2020, based on the information contained in the Schedule 13G filed by Urknall Ltd. with SEC on February 10, 2021. Urknall Ltd., a company incorporated under the laws of the British Virgin Islands with registered address at Sertus Chambers, P.O. Box 905, Quastisky Building, Road Town, Tortola, British Virgin Islands, is wholly owned by Xiangfu Liu. In June 2019, Urknall Ltd. sold a total of 165,335,556 ordinary shares, including 54,446,667 ordinary shares to Wyl Ltd. and 16,666,667 ordinary shares to Root Grace Ltd.
- (6) Represented 112,500,006 Class A ordinary shares beneficially owned by HK Jiaji Science and Technology Limited. Information regarding beneficial ownership is reported as of December 31, 2020, based on the information contained in the Schedule 13G filed by HK Jiaji Science and Technology Limited with SEC on February 10, 2021. HK Jiaji Science and Technology Limited, a company incorporated under the laws of Hong Kong with registered address at Suite 1113A, 11/F, Ocean Centre, Harbour City 5 Canton Road, Tsim Sha Tsui, Kowloon, Hong Kong, is indirectly controlled by Yao Yongjie.

As of the date of this annual report, none of our outstanding ordinary shares are held by record holders in the United States. We are not aware of any arrangements that may, at a subsequent date, result in a change of control of our company.

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

A. Major Shareholders

See “Item 6. Directors, Senior Management and Employees—E. Share Ownership”

B. Related Party Transactions

In October 2017, Hangzhou Canaan entered into a share transfer agreement to dispose its 100% equity interest in its wholly owned subsidiaries Canaan Creative Hong Kong Co., Ltd. and Canaan Creative AB to BUMHUS OU□, a company controlled by Mr. Xiangfu Liu, one of our principal shareholders, at a cash consideration of US\$760,000 (equivalent to approximately RMB5.0 million). On the disposal date, the amounts due from these subsidiaries of RMB10.5 million to us were accounted for as our receivables. We received the receivables of RMB15.5 million in the year ended December 31, 2018.

C. Interests of Experts and Counsel

Not applicable.

ITEM 8. FINANCIAL INFORMATION

A. Consolidated Statements and Other Financial Information

Please refer to Item 18 for a list of our annual consolidated financial statements filed as part of this annual report on Form 20-F.

Legal Proceedings

See “Item 4. Information on the Company—B. Business Overview—Legal Proceedings.”

Dividend Policy and Distributions

Since our inception, we have not declared or paid any dividends on our ordinary shares. We do not have any present plan to pay any dividends on our ordinary shares or ADSs in the foreseeable future. We intend to retain most, if not all, of our available funds and any future earnings to operate and expand our business.

Our board of directors has complete discretion on whether to distribute dividends, subject to certain requirements of Cayman Islands law, namely that our company may only pay dividends out of profits or share premium, and provided always that in no circumstances may a dividend be paid if this would result in our company being unable to pay its debts as they fall due in the ordinary course of business. In addition, our shareholders may by ordinary resolution declare a dividend, but no dividend may exceed the amount recommended by our board of directors. Even if our board of directors decides to pay dividends on our ordinary shares, the form, frequency and amount will depend upon our future operations and earnings, capital requirements and surplus, general financial condition, contractual restrictions and other factors our board of directors may deem relevant.

Any future determination to pay dividends will be made at the discretion of our board of directors and may be based on a number of factors, including our future operations and earnings, capital requirements and surplus, general financial condition, contractual restrictions and other factors that the board of directors may deem relevant. If we pay any dividends, we will pay our ADS holders to the same extent as holders of our ordinary shares, subject to the terms of the deposit agreement, including the fees and expenses payable thereunder. Cash dividends on our ordinary shares, if any, will be paid in U.S. dollars.

We are a holding company incorporated in the Cayman Islands. In order for us to distribute any dividends to our shareholders and ADS holders, we rely on dividends distributed by our subsidiaries in the PRC and other jurisdictions. Distributions from our subsidiaries to us may be subject to various local taxes, such as withholding tax. In addition, regulations in the PRC currently permit the payment of dividends of a PRC company only out of accumulated distributable after-tax profits as determined in accordance with its articles of association and the accounting standards and regulations in China.

B. Significant Changes

We have not experienced any significant changes since the date of our audited consolidated financial statements included in this annual report.

ITEM 9. THE OFFER AND LISTING

A. Offer and Listing Details

Our ADSs, each representing 15 of our Class A ordinary shares, have been listed on the Nasdaq Global Market since November 21, 2019 under the symbol “CAN.” See Exhibit 2.4 to this Form 20-F for a description of our ADSs.

B. Plan of Distribution

Not applicable.

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C. Markets

Our ADSs, each representing 15 of our Class A ordinary shares, have been listed on the Nasdaq Global Market since November 21, 2019 under the symbol “CAN.”

D. Selling Shareholders

Not applicable.

E. Dilution

Not applicable.

F. Expenses of the Issue

Not applicable.

ITEM 10. ADDITIONAL INFORMATION

A. Share Capital

Not applicable.

B. Memorandum and Articles of Association

We incorporate by reference into this annual report the description of our amended and restated memorandum and articles of association contained in our Form F-1 registration statement (File No. 333-234356), as amended, initially filed with the Securities and Exchange Commission on October 28, 2019. Our shareholders adopted our amended and restated memorandum and articles of association by unanimous resolutions passed on October 4, 2019, and effective immediately prior to the completion of our initial public offering.

C. Material Contracts

In the past three fiscal years, we have not entered into any material contracts other than in the ordinary course of business or other than those described elsewhere in this annual report.

D. Exchange Controls

See “Item 4. Information on the Company—B. Business Overview—Regulatory Matters—Regulations Relating to Foreign Exchange.”

E. Taxation

The following is a summary of the material Cayman Islands, People’s Republic of China and United States federal income tax consequences relevant to an investment in the ADSs and ordinary shares. The discussion is not intended to be, nor should it be construed as, legal or tax advice to any particular prospective purchaser. The discussion is based on laws and relevant interpretations thereof in effect as of the date of this annual report, all of which are subject to change or different interpretations, possibly with retroactive effect. The discussion does not address U.S. state or local tax laws, or tax laws of jurisdictions other than the Cayman Islands, the People’s Republic of China and the United States. You should consult your own tax advisors with respect to the consequences of acquisition, ownership and disposition of the ADSs and ordinary shares.

Cayman Islands Taxation

The Cayman Islands currently levies no taxes on individuals or corporations based upon profits, income, gains or appreciations and there is no taxation in the nature of inheritance tax or estate duty or withholding tax applicable to us or to any holder of the ADSs and ordinary shares. There are no other taxes likely to be material to us levied by the government of the Cayman Islands except for stamp duties which may be applicable on instruments executed in, or after execution brought within the jurisdiction of, the Cayman Islands. Payments of dividends and capital in respect of the ADSs and ordinary shares will not be subject to taxation in the Cayman Islands and no withholding will be required on the payment of a dividend or capital to any holder of the ADSs and ordinary shares, nor will gains derived from the disposal of the ADSs and ordinary shares be subject to Cayman Islands income or corporation tax. There are no exchange control regulations or currency restrictions in the Cayman Islands.

People's Republic of China Taxation

In March 2007, the National People's Congress of China enacted the Enterprise Income Tax Law, which became effective on January 1, 2008 and was revised on December 29, 2018. The Enterprise Income Tax Law provides that enterprises organized under the laws of jurisdictions outside China with their "de facto management bodies" located within China may be considered PRC resident enterprises and therefore subject to PRC enterprise income tax at the rate of 25% on their worldwide income. The Implementing Rules of the Enterprise Income Tax Law further define the term "de facto management body" as the management body that exercises substantial and overall management and control over the business, personnel, accounts and properties of an enterprise. While we do not consider our company or any of our overseas subsidiaries to be a PRC resident enterprise, there is a risk that the PRC tax authorities may deem our company or any of our overseas subsidiaries as a PRC resident enterprise since a substantial majority of the members of our management team as well as the management team of some of our overseas subsidiaries are located in China, in which case we or the overseas subsidiaries, as the case may be, would be subject to the PRC enterprise income tax at the rate of 25% on worldwide income. If the PRC tax authorities determine that our Cayman Islands holding company is a "resident enterprise" for PRC enterprise income tax purposes, a 10% withholding tax would be imposed on dividends we pay to our non-PRC enterprise shareholders and a 10% tax would be imposed with respect to gains derived by our non-PRC enterprise shareholders from transferring our shares or ADSs. Furthermore, dividends paid to individual investors who are non-PRC residents and any gain realized on the transfer of ADSs or ordinary shares by such investors may be subject to PRC tax at a rate of 20% (which in the case of dividends may be withheld at source). Any PRC tax liability may be reduced by an applicable tax treaty. However, it is unclear whether, if we are considered a PRC resident enterprise, holders of our shares or ADSs would be able to claim the benefit of income tax treaties or agreements entered into between China and other countries or areas.

United States Federal Income Tax Considerations

The following discussion describes the material United States federal income tax consequences of the purchase, ownership and disposition of the ADSs and ordinary shares as of the date hereof. This discussion deals only with ADSs and ordinary shares that are held as capital assets by a United States Holder (as defined below).

As used herein, the term "United States Holder" means a beneficial owner of the ADSs or ordinary shares that is, for United States federal income tax purposes, any of the following:

- an individual citizen or resident of the United States;
- a corporation (or other entity treated as a corporation for United States federal income tax purposes) created or organized in or under the laws of the United States, any state thereof or the District of Columbia;
- an estate the income of which is subject to United States federal income taxation regardless of its source; or
- a trust if it (1) is subject to the primary supervision of a court within the United States and one or more United States persons have the authority to control all substantial decisions of the trust or (2) has a valid election in effect under applicable United States Treasury regulations to be treated as a United States person.

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This discussion is based upon provisions of the Internal Revenue Code of 1986, as amended, or the Code, and regulations, rulings and judicial decisions thereunder as of the date hereof. Such authorities may be changed, perhaps retroactively, so as to result in United States federal income tax consequences different from those summarized below. In addition, this discussion is based, in part, upon representations made by the depository to us and assumes that the deposit agreement, and all other related agreements, will be performed in accordance with their terms.

This discussion does not represent a detailed description of the United States federal income tax consequences applicable to you if you are subject to special treatment under the United States federal income tax laws, including if you are:

- a dealer in securities or currencies;
- a financial institution;
- a regulated investment company;
- a real estate investment trust;
- an insurance company;
- a tax-exempt organization;
- a person holding the ADSs or ordinary shares as part of a hedging, integrated or conversion transaction, a constructive sale or a straddle;
- a trader in securities that has elected the mark-to-market method of accounting for your securities;
- a person liable for alternative minimum tax;
- a person who owns or is deemed to own 10% or more of our stock by vote or value;
- a partnership or other pass-through entity for United States federal income tax purposes;
- a person required to accelerate the recognition of any item of gross income with respect to the ADSs or ordinary shares as a result of such income being recognized on an applicable financial statement;
- a person holding the ADSs or ordinary shares in connection with a permanent establishment or fixed base outside the United States; or
- a person whose “functional currency” is not the United States dollar.

If a partnership (or other entity treated as a partnership for United States federal income tax purposes) holds the ADSs or ordinary shares, the tax treatment of a partner will generally depend upon the status of the partner and the activities of the partnership. If you are a partner of a partnership holding the ADSs or ordinary shares, you should consult your tax advisors.

This discussion does not contain a detailed description of all the United States federal income tax consequences to you in light of your particular circumstances and does not address the Medicare tax on net investment income, United States federal estate and gift taxes or the effects of any state, local or non-United States tax laws. **You should consult your own tax advisor concerning the particular United States federal tax consequences to you of the purchase, ownership and disposition of ADSs or ordinary shares, as well as any consequences arising under the laws of any other taxing jurisdiction.**

ADSs

If you hold ADSs, for United States federal income tax purposes, you generally will be treated as the owner of the underlying ordinary shares that are represented by such ADSs. Accordingly, deposits or withdrawals of ordinary shares for ADSs will not be subject to United States federal income tax.

Taxation of Dividends

Subject to the discussion under “—Passive Foreign Investment Company” below, the gross amount of distributions on the ADSs or ordinary shares (including any amounts withheld to reflect PRC withholding taxes, as discussed above under “—People’s Republic of China Taxation”) will be taxable as dividends to the extent paid out of our current or accumulated earnings and profits, as determined under United States federal income tax principles. To the extent that the amount of any distribution exceeds our current and accumulated earnings and profits for a taxable year, the distribution will first be treated as a tax-free return of capital, causing a reduction in the tax basis of the ADSs or ordinary shares, and to the extent the amount of the distribution exceeds your tax basis, the excess will be taxed as capital gain recognized on a sale or exchange. We do not, however, expect to determine earnings and profits in accordance with United States federal income tax principles. Therefore, you should expect that a distribution will generally be treated as a dividend.

Any dividends that you receive (including any withheld taxes) will be includable in your gross income as ordinary income from foreign sources on the day actually or constructively received by you, in the case of ordinary shares, or by the depository, in the case of ADSs. Such dividends will not be eligible for the dividends received deduction allowed to corporations under the Code.

With respect to non-corporate United States investors, certain dividends received from a qualified foreign corporation may be subject to reduced rates of taxation. A foreign corporation is treated as a qualified foreign corporation with respect to dividends received from that corporation on shares (or ADSs backed by such shares) that are readily tradable on an established securities market in the United States. United States Treasury Department guidance indicates that our ADSs (which are listed on the Nasdaq Global Market) are readily tradable on an established securities market in the United States for these purposes. Thus, we believe that dividends we pay on the ADSs will meet the conditions required for these reduced tax rates. Since our ordinary shares are not listed on an established securities market in the United States, we do not believe that dividends that we pay on our ordinary shares that are not represented by ADSs currently meet the conditions required for these reduced tax rates. There also can be no assurance that the ADSs will be considered readily tradable on an established securities market in the United States in later years. A qualified foreign corporation also includes a foreign corporation that is eligible for the benefits of certain income tax treaties with the United States. In the event that we are deemed to be a PRC resident enterprise under the Enterprise Income Tax Law, we may be eligible for the benefits of the income tax treaty between the United States and PRC, or the Treaty, and if we are eligible for such benefits, dividends we pay on our ordinary shares, regardless of whether such shares are represented by ADSs, would be eligible for reduced rates of taxation. See “—People’s Republic of China Taxation” for further information on the Enterprise Income Tax Law. Non-corporate holders that do not meet a minimum holding period requirement during which they are not protected from the risk of loss or that elect to treat the dividend income as “investment income” pursuant to Section 163(d)(4) of the Code will not be eligible for the reduced rates of taxation regardless of our status as a qualified foreign corporation. In addition, the rate reduction will not apply to dividends if the recipient of a dividend is obligated to make related payments with respect to positions in substantially similar or related property. This disallowance applies even if the minimum holding period has been met. You should consult your own tax advisors regarding the application of these rules given your particular circumstances.

Non-corporate United States Holders will not be eligible for reduced rates of taxation on any dividends received from us if we are a passive foreign investment company in the taxable year in which such dividends are paid or in the preceding taxable year. See “—Passive Foreign Investment Company” below.

Subject to certain conditions and limitations (including a minimum holding period requirement), any PRC withholding taxes on dividends may be treated as foreign taxes eligible for credit against your United States federal income tax liability. For purposes of calculating the foreign tax credit, dividends paid on the ADSs or ordinary shares will be treated as income from sources outside the United States and will generally constitute passive category income. The rules governing the foreign tax credit are complex. You are urged to consult your tax advisors regarding the availability of the foreign tax credit under your particular circumstances.

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Distributions of ADSs, ordinary shares or rights to subscribe for ADSs or ordinary shares that are received as part of a pro rata distribution to all of our shareholders generally will not be subject to United States federal income tax.

Passive Foreign Investment Company

Based upon the past and projected composition of our income and assets and the valuation of our assets, including goodwill, we do not believe that we were a PFIC for 2020, and we do not expect to be a PFIC in 2021 or to become one in the foreseeable future, although there can be no assurance in this regard.

In general, we will be a PFIC for any taxable year in which:

- at least 75% of our gross income is passive income; or
- at least 50% of the value (determined based on a quarterly average) of our assets is attributable to assets that produce or are held for the production of passive income.

For this purpose, passive income generally includes dividends, interest, income equivalent to interest, royalties and rents (other than royalties and rents derived in the active conduct of a trade or business and not derived from a related person). Cash is generally treated as an asset that produces or is held for the production of passive income. If we own at least 25% (by value) of the stock of another corporation, for purposes of determining whether we are a PFIC, we will be treated as owning our proportionate share of the other corporation's assets and receiving our proportionate share of the other corporation's income.

The determination of whether we are a PFIC is made annually. Accordingly, it is possible that we may become a PFIC in the current or any future taxable year due to changes in our asset or income composition. Because we have valued our goodwill based on the market value of the ADSs, a decrease in the price of the ADSs may also result in our becoming a PFIC. If we are a PFIC for any taxable year during which you hold the ADSs or ordinary shares, you will be subject to special tax rules discussed below.

If we are a PFIC for any taxable year during which you hold the ADSs or ordinary shares and you do not make a timely mark-to-market election, as described below, you will be subject to special tax rules with respect to any "excess distribution" received and any gain realized from a sale or other disposition, including a pledge, of ADSs or ordinary shares. Distributions received in a taxable year will be treated as excess distributions to the extent that they are greater than 125% of the average annual distributions received during the shorter of the three preceding taxable years or your holding period for the ADSs or ordinary shares. Under these special tax rules:

- the excess distribution or gain will be allocated ratably over your holding period for the ADSs or ordinary shares,
- the amount allocated to the current taxable year, and any taxable year prior to the first taxable year in which we were a PFIC, will be treated as ordinary income, and
- the amount allocated to each other year will be subject to tax at the highest tax rate in effect for that year for individuals or corporations, as applicable, and the interest charge generally applicable to underpayments of tax will be imposed on the resulting tax attributable to each such year.

Although the determination of whether we are a PFIC is made annually, if we are a PFIC for any taxable year in which you hold the ADSs or ordinary shares, you will generally be subject to the special tax rules described above for that year and for each subsequent year in which you hold the ADSs or ordinary shares (even if we do not qualify as a PFIC in such subsequent years). However, if we cease to be a PFIC, you can avoid the continuing impact of the PFIC rules by making a special election to recognize gain as if your ADSs or ordinary shares had been sold on the last day of the last taxable year during which we were a PFIC. You are urged to consult your own tax advisor about this election.

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In lieu of being subject to the special tax rules discussed above, you may make a mark-to-market election with respect to your ADSs or ordinary shares provided such ADSs or ordinary shares are treated as “marketable stock.” The ADSs or ordinary shares generally will be treated as marketable stock if the ADSs or ordinary shares are regularly traded on a “qualified exchange or other market” (within the meaning of the applicable Treasury regulations). Our ADSs are currently listed on the Nasdaq Global Market which constitutes a qualified exchange, although there can be no assurance that the ADSs will be “regularly traded” for purposes of the mark-to-market election. Only the ADSs and not the ordinary shares are listed on the Nasdaq Global Market. Consequently, if you are a holder of ordinary shares that are not represented by ADSs, you generally will not be eligible to make a mark-to-market election.

If you make an effective mark-to-market election, for each taxable year that we are a PFIC you will include as ordinary income the excess of the fair market value of your ADSs at the end of the year over your adjusted tax basis in the ADSs. You will be entitled to deduct as an ordinary loss in each such year the excess of your adjusted tax basis in the ADSs over their fair market value at the end of the year, but only to the extent of the net amount previously included in income as a result of the mark-to-market election. Your adjusted tax basis in the ADSs will be increased by the amount of any income inclusion and decreased by the amount of any deductions under the mark-to-market rules. In addition, upon the sale or other disposition of your ADSs in a year that we are a PFIC, any gain will be treated as ordinary income and any loss will be treated as ordinary loss, but only to the extent of the net amount of previously included income as a result of the mark-to-market election.

If you make a mark-to-market election, it will be effective for the taxable year for which the election is made and all subsequent taxable years unless the ADSs are no longer regularly traded on a qualified exchange or other market, or the Internal Revenue Service consents to the revocation of the election. You are urged to consult your tax advisor about the availability of the mark-to-market election, and whether making the election would be advisable in your particular circumstances.

Alternatively, U.S. taxpayers can sometimes avoid the special tax rules described above by electing to treat a PFIC as a “qualified electing fund” under Section 1295 of the Code. However, this option is not available to you because we do not intend to comply with the requirements necessary to permit you to make this election.

If we are a PFIC for any taxable year during which you hold the ADSs or our ordinary shares and any of our non-United States subsidiaries is also a PFIC, you will be treated as owning a proportionate amount (by value) of the shares of the lower-tier PFIC for purposes of the application of the PFIC rules. You will not be able to make the mark-to-market election described above in respect of any lower-tier PFIC. You are urged to consult your tax advisors about the application of the PFIC rules to any of our subsidiaries.

You will generally be required to file Internal Revenue Service Form 8621 if you hold the ADSs or our ordinary shares in any year in which we are a PFIC. You are urged to consult your tax advisors concerning the United States federal income tax consequences of holding ADSs or ordinary shares if we are a PFIC in any taxable year.

Taxation of Capital Gains

For United States federal income tax purposes, you will recognize taxable gain or loss on any sale, exchange or other taxable disposition of the ADSs or ordinary shares in an amount equal to the difference between the amount realized for the ADSs or ordinary shares and your tax basis in the ADSs or ordinary shares. Subject to the discussion under “—Passive Foreign Investment Company” above, such gain or loss will generally be capital gain or loss and will generally be long-term capital gain or loss if you have held the ADSs or ordinary shares for more than one year. Long-term capital gains of non-corporate United States Holders (including individuals) are eligible for reduced rates of taxation. The deductibility of capital losses is subject to limitations. Any gain or loss recognized by you will generally be treated as United States source gain or loss. However, if we are treated as a PRC resident enterprise for PRC tax purposes and PRC tax were imposed on any gain, and if you are eligible for the benefits of the Treaty, you may elect to treat such gain as PRC source gain under the Treaty. If you are not eligible for the benefits of the Treaty or if you fail to make the election to treat any gain as PRC source, then you generally would not be able to use the foreign tax credit arising from any PRC tax imposed on the disposition of ADSs or ordinary shares unless such credit can be applied (subject to applicable limitations) against tax due on other income derived from foreign sources.

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Information Reporting and Backup Withholding

In general, information reporting will apply to dividends in respect of the ADSs or our ordinary shares and the proceeds from the sale, exchange or other disposition of the ADSs or our ordinary shares that are paid to you within the United States (and in certain cases, outside the United States), unless you are an exempt recipient. A backup withholding tax may apply to such payments if you fail to provide a taxpayer identification number or certification of exempt status or fail to report in full dividend and interest income.

Backup withholding is not an additional tax and any amounts withheld under the backup withholding rules will be allowed as a refund or a credit against your United States federal income tax liability provided the required information is timely furnished to the Internal Revenue Service.

F. Dividends and Paying Agents

Not applicable.

G. Statement by Experts

Not applicable.

H. Documents on Display

We have filed this annual report on Form 20-F, including exhibits, with the SEC. As allowed by the SEC, in Item 19 of this annual report, we incorporate by reference certain information we filed with the SEC. This means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be part of this annual report.

You may read and copy this annual report, including the exhibits incorporated by reference in this annual report, at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549 and at the SEC's regional offices in New York, New York and Chicago, Illinois. You also can request copies of this annual report, including the exhibits incorporated by reference in this annual report, upon payment of a duplicating fee, by writing information on the operation of the SEC's Public Reference Room.

The SEC also maintains a website at www.sec.gov that contains reports, proxy statements and other information regarding registrants that file electronically with the SEC. Our annual report and some of the other information submitted by us to the SEC may be accessed through this web site.

As a foreign private issuer, we are exempt from the rules under the Exchange Act prescribing the furnishing and content of quarterly reports and proxy statements, and officers, directors and principal shareholders are exempt from the reporting and short-swing profit recovery provisions contained in Section 16 of the Exchange Act.

Our financial statements have been prepared in accordance with U.S. GAAP.

We will furnish our shareholders with annual reports, which will include a review of operations and annual audited consolidated financial statements prepared in conformity with U.S. GAAP.

I. Subsidiary Information

Not applicable.

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Foreign Exchange Risk

Substantially all of our revenues and substantially all of our expenses are denominated in Renminbi. The functional currency of our company and our Hong Kong subsidiary is the U.S. dollar. The functional currency of our subsidiaries in the PRC is the Renminbi. We use Renminbi as our reporting currency. Monetary assets and liabilities denominated in currencies other than the functional currency are translated into the functional currency at the applicable rates of exchange at the balance sheet date. Transactions in currencies other than the functional currency during the year are converted into functional currency at the applicable rates of exchange prevailing when the transactions occurred. Transaction gains and losses are recognized in the statements of operations.

We do not believe that we currently have any significant direct foreign exchange risk and have not used any derivative financial instruments to hedge exposure to such risk. Although in general our exposure to foreign exchange risks should be limited, the value of your investment in the ADSs will be affected by the exchange rate between the U.S. dollars and the Renminbi because the value of our business is effectively denominated in Renminbi, while the ADSs will be traded in U.S. dollars.

The conversion of Renminbi into foreign currencies, including U.S. dollars, is based on rates set by the PBOC. The PRC government allowed the Renminbi to appreciate by more than 20% against the U.S. dollar between July 2005 and July 2008. Between July 2008 and June 2010, the exchange rate between the Renminbi and the U.S. dollar was stable and traded within a narrow band. Since June 2010, the Renminbi has fluctuated against the U.S. dollar, at times significantly and unpredictably. On November 30, 2015, the Executive Board of the International Monetary Fund completed its regular five-year review of the basket of currencies that make up the Special Drawing Right, or the SDR, and decided that with effect from October 1, 2016, Renminbi is determined to be a freely usable currency and will be included in the SDR basket as a fifth currency, along with the U.S. dollar, the Euro, the Japanese yen and the British pound. In the fourth quarter of 2016, the Renminbi depreciated significantly in the backdrop of a surging U.S. dollar and persistent capital outflows from China. This depreciation halted in 2017, and the Renminbi appreciated approximately 7% against the U.S. dollar during this one-year period. Starting from the beginning of 2019, the Renminbi has depreciated significantly against the U.S. dollar again. In early August 2019, the PBOC set the Renminbi's daily reference rate at RMB7.0039 to US\$1.00, the first time that the exchange rate of Renminbi to U.S. dollar exceeded 7.0 since 2008. With the development of the foreign exchange market and progress towards interest rate liberalization and Renminbi internationalization, the PRC government may in the future announce further changes to the exchange rate system, and we cannot assure you that the Renminbi will not appreciate or depreciate significantly in value against the U.S. dollar in the future. It is difficult to predict how market forces or PRC or U.S. government policy may impact the exchange rate between the Renminbi and the U.S. dollar in the future.

To the extent that we need to convert U.S. dollars into Renminbi for our operations, appreciation of the Renminbi against the U.S. dollar would have an adverse effect on the Renminbi amount we receive from the conversion. Conversely, if we decide to convert Renminbi into U.S. dollars for the purpose of making payments for dividends on our ordinary shares or ADSs or for other business purposes, appreciation of the U.S. dollar against the Renminbi would have a negative effect on the U.S. dollars amounts available to us.

Interest Rate Risk

We have not been exposed to material risks due to changes in market interest rates, and we have not used any derivative financial instruments to manage our interest risk exposure. However, we cannot provide assurance that we will not be exposed to material risks due to changes in market interest rates in the future.

After the completion of this offering, we may invest the net proceeds we receive from the offering in interest-earning instruments. Investments in both fixed rate and floating rate interest earning instruments carry a degree of interest rate risk. The fair market value of fixed rate securities may be adversely impacted due to a rise in interest rates, while floating rate securities may produce less income than expected if interest rates fall.

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Credit Risk

Financial instruments that potentially expose us to concentrations of credit risk consist primarily of cash and cash equivalents, short-term investments and accounts receivable. We place our cash and cash equivalents with financial institutions with high credit ratings and quality.

We conduct credit evaluations of customers, and generally do not require collateral or other security from our customers. We establish an allowance for doubtful accounts primarily based upon the age of the receivables and factors surrounding the credit risk of specific customers.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

A. Debt Securities

Not applicable.

B. Warrants and Rights

Not applicable.

C. Other Securities

Not applicable.

D. American Depositary Shares

The Bank of New York Mellon, as depositary, registered and delivered American Depositary Shares, also referred to as ADSs. Each ADS will represent 15 Class A ordinary shares (or a right to receive 15 Class A ordinary shares) deposited with The Hongkong and Shanghai Banking Corporation Limited, as custodian for the depositary in Hong Kong. Each ADS will also represent any other securities, cash or other property that may be held by the depositary. The deposited shares together with any other securities, cash or other property held by the depositary are referred to as the deposited securities. The depositary's office at which the ADSs will be administered and its principal executive office is located at 240 Greenwich Street, New York, New York 10286.

Fees and Expenses

Persons depositing or withdrawing shares or ADS holders must pay:

\$5.00 (or less) per 100 ADSs (or portion of 100 ADSs)

\$.05 (or less) per ADS

A fee equivalent to the fee that would be payable if securities distributed to you had been shares and the shares had been deposited for issuance of ADSs

\$.05 (or less) per ADS per calendar year

For:

Issuance of ADSs, including issuances resulting from a distribution of shares or rights or other property

Cancellation of ADSs for the purpose of withdrawal, including if the deposit agreement terminates

Any cash distribution to ADS holders

Distribution of securities distributed to holders of deposited securities (including rights) that are distributed by the depositary to ADS holders

Depositary services

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Registration or transfer fees	Transfer and registration of shares on our share register to or from the name of the depositary or its agent when you deposit or withdraw shares
Expenses of the depositary	Cable (including SWIFT) and facsimile transmissions (when expressly provided in the deposit agreement) Converting foreign currency to U.S. dollars
Taxes and other governmental charges the depositary or the custodian has to pay on any ADSs or shares underlying ADSs, such as stock transfer taxes, stamp duty or withholding taxes	As necessary
Any charges incurred by the depositary or its agents for servicing the deposited securities	As necessary

The depositary collects its fees for delivery and surrender of ADSs directly from investors depositing shares or surrendering ADSs for the purpose of withdrawal or from intermediaries acting for them. The depositary collects fees for making distributions to investors by deducting those fees from the amounts distributed or by selling a portion of distributable property to pay the fees. The depositary may collect its annual fee for depositary services by deduction from cash distributions or by directly billing investors or by charging the book-entry system accounts of participants acting for them. The depositary may collect any of its fees by deduction from any cash distribution payable (or by selling a portion of securities or other property distributable) to ADS holders that are obligated to pay those fees. The depositary may generally refuse to provide fee-attracting services until its fees for those services are paid.

From time to time, the depositary may make payments to us to reimburse us for costs and expenses generally arising out of establishment and maintenance of the ADS program, waive fees and expenses for services provided to us by the depositary or share revenue from the fees collected from ADS holders. In performing its duties under the deposit agreement, the depositary may use brokers, dealers, foreign currency dealers or other service providers that are owned by or affiliated with the depositary and that may earn or share fees, spreads or commissions.

The depositary may convert currency itself or through any of its affiliates and, in those cases, acts as principal for its own account and not as agent, advisor, broker or fiduciary on behalf of any other person and earns revenue, including, without limitation, transaction spreads, that it will retain for its own account. The revenue is based on, among other things, the difference between the exchange rate assigned to the currency conversion made under the deposit agreement and the rate that the depositary or its affiliate receives when buying or selling foreign currency for its own account. The depositary makes no representation that the exchange rate used or obtained in any currency conversion under the deposit agreement will be the most favorable rate that could be obtained at the time or that the method by which that rate will be determined will be the most favorable to ADS holders, subject to the depositary's obligations under the deposit agreement. The methodology used to determine exchange rates used in currency conversions is available upon request.

Payments by Depositary

In 2020, we did not receive payments from The Bank of New York Mellon, the depositary bank for our ADR program.

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

None

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

See “Item 10. Additional Information—B. Memorandum and Articles of Association” for a description of the rights of securities holders, which remain unchanged.

The following “Use of Proceeds” information relates to the registration statement on Form F-1, as amended (File No. 333-234356) in relation to our initial public offering, which was declared effective by the SEC on November 20, 2019. In November 2019, we completed our initial public offering in which we issued and sold an aggregate of 10,000,000 ADSs, representing 150,000,000 Class A ordinary shares, resulting in net proceeds to us of approximately US\$78.5 million.

As of December 31, 2020, we had used approximately 87% of the net proceeds received from our initial public offering.

ITEM 15. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

We maintain disclosure controls and procedures designed to provide reasonable assurance that information required to be disclosed in reports filed under the Exchange Act is recorded, processed, summarized and reported within the specified time periods and accumulated and communicated to our management, including our principal executive officer and principal accounting officer, as appropriate, to allow timely decisions regarding required disclosure.

Our management, under the supervision and with the participation of our principal executive officer and our principal accounting officer, evaluated the effectiveness of our disclosure controls and procedures, as defined in Rules 13a-15(e) or 15d-15 (e) promulgated under the Exchange Act, as of December 31, 2020.

Based on that evaluation, our management has concluded that, due to the outstanding material weaknesses described below under “Internal Control over Financial Reporting,” as of December 31, 2020, our disclosure controls and procedures were not effective. We will undertake the remedial steps to address the material weakness in our disclosure controls and procedures as set forth below under “Internal Control over Financial Reporting.”

Management’s Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. As required by Rule 13a-15(c) of the Exchange Act, our management conducted an evaluation of our company’s internal control over financial reporting as of December 31, 2020 based on the framework in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, our management concluded that as of December 31, 2020, our internal control over financial reporting was ineffective due to the material weakness identified below.

In accordance with reporting requirements set forth by the SEC, a “material weakness” is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our company’s annual or interim consolidated financial statements will not be prevented or detected on a timely basis. The material weaknesses identified are related to (i) our lack of competent financial reporting and accounting personnel with appropriate knowledge of U.S. GAAP and SEC reporting and compliance requirements, and (ii) our lack of documented financial closing policies and procedures, specifically those related to the period end expenses cut-off and accruals.

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To remediate our identified material weakness subsequent to December 31, 2020, we have started adopting measures to improve our internal control over financial reporting, including, among others: (i) implementing regular and continuous U.S. GAAP accounting and financial reporting training programs for our accounting and financial reporting personnel, (ii) formalizing and standardizing our financial reporting control procedures and policies to improve the quality and accuracy of the period end financial closing process, (iii) hiring additional qualified accounting and reporting personnel who are equipped with the relevant U.S. GAAP and SEC reporting experience and qualifications to strengthen our financial reporting function and to set up a financial and system control framework and (iv) enhancing our internal audit function as well as engaging an external consulting firm to assist us with assessing our Sarbanes-Oxley compliance readiness and improving overall internal controls.

However, we cannot assure you that we will remediate our material weakness in a timely manner. See “Item 3. Key Information—D. Risk Factors—Risks Relating to Our Industry and Business—We have identified two material weaknesses in our internal controls as of December 31, 2020, and if we fail to maintain an effective system of internal controls, our ability to accurately and timely report our financial results or prevent fraud may be adversely affected, and investor confidence and the market price of the ADSs may be adversely affected.”

Since we qualified as an “emerging growth company” as defined under the JOBS Act as of December 31, 2020, this annual report on Form 20-F does not include an attestation report of our independent registered public accounting firm.

Changes in Internal Control over Financial Reporting

Other than as described above, there were no changes in our internal controls over financial reporting that occurred during the period covered by this annual report that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT

Our Board of Directors has determined that Yaping Zhang, who is an independent director, qualifies as an audit committee financial expert as defined in Item 16A of the instruction to Form 20-F.

ITEM 16B. CODE OF ETHICS

We have adopted a code of business conduct and ethics which applies to our directors, employees, advisors and officers, including our Chief Executive Officer and Chief Accounting Officer. No changes have been made to the code of business conduct and ethics since its adoption and no waivers have been granted therefrom to our directors or employees. We have filed our code of business conduct as an exhibit to our F-1 registration statement (File No. 333-234356), as amended, initially filed with the Securities and Exchange Commission on October 28, 2019, and a copy is available to any shareholder upon request. This code of business conduct and ethics is also available on our website at <http://investor.canaan-creative.com>.

ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table sets forth the aggregate fees by categories specified below in connection with certain professional services rendered by PricewaterhouseCoopers Zhong Tian LLP, for the years indicated.

	For the Years Ended December 31,	
	2019	2020
	(In thousands of RMB)	
Audit Fees ⁽¹⁾	6,050	4,800
Audit-Related Fees ⁽²⁾	—	—
Tax Fees ⁽³⁾	—	—
All Other Fees ⁽⁴⁾	—	—
Total	6,050	4,800

(1) “Audit Fees” represents the aggregate fees billed for each of the fiscal years listed for professional services rendered by our principal accountant for the audit of our annual financial statements and assistance with and review of documents filed with the SEC and other statutory and regulatory filings.

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- (2) “Audit-Related Fees” represents the aggregate fees billed for each of the fiscal years listed for professional services rendered by our principal accountant reasonably related to the performance of the audit or review of our financial statements and are not included under Audit Fees.
- (3) “Tax Fees” represents the aggregate fees billed for each of the fiscal years listed for professional services rendered by our principal accountant for tax compliance, tax advice and tax planning.
- (4) “All Other Fees” represents the aggregate fees billed for each of the fiscal years listed for products or professional services rendered by our principal accountant not included in Audit Fees, Audit-Related Fees or Tax Fees.

Pre-Approval Policies and Procedures

Our audit committee is responsible for the oversight of our independent accountants’ work. The policy of our audit committee is to pre-approve all audit and non-audit services provided by PricewaterhouseCoopers Zhong Tian LLP, including audit services as described above, other than those for de minimis services which are approved by the audit committee prior to the completion of the audit.

ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES

None.

ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

The following table sets forth information about our purchases of outstanding ADSs from September 22, 2020 to March 31, 2021:

<u>Period</u>	<u>Total Number of ADSs Purchased</u>	<u>Average Price Paid per ADS⁽¹⁾</u>	<u>Total Number of ADSs Purchased as Part of Publicly Announced Plans or Programs⁽²⁾</u>	<u>Approximate Dollar Value of ADSs that May Yet Be Purchased Under the Program⁽²⁾</u>
September 8, 2020 through September 21, 2020	—	—	—	US\$10.0 million
September 22, 2020 through September 30, 2020	99,983	US\$ 1.9382	99,983	US\$ 9.8 million
October 2020	1,059,960	US\$ 1.9506	1,159,943	US\$ 7.7 million
November 2020 through March 31, 2021	560,003	US\$ 2.3369	1,719,946	US\$ 6.4 million
Total	1,719,946	US\$ 2.0756	1,719,946	US\$ 6.4 million

- (1) Each of our ADSs represents 15 Class A ordinary shares.
- (2) We announced a share repurchase program approved by our board of directors on September 8, 2020, under which we may repurchase up to US\$10 million worth of our outstanding ADSs and/or Class A ordinary shares over a period of twelve months. The repurchases have been, and will be, through various means, including open market transactions at prevailing market prices, privately negotiated transactions, block trades or any combination thereof. The repurchases have been, and will be, effected in compliance with Rule 10b5-1 and/or Rule 10b-18 under the Securities Exchange Act of 1934, as amended, and our insider trading policy. The number of ADSs repurchased and the timing of repurchases will depend on a number of factors, including, but not limited to, price, trading volume and general market conditions, along with our working capital requirements and general business conditions.

ITEM 16F. CHANGE IN REGISTRANT’S CERTIFYING ACCOUNTANT

None.

ITEM 16G. CORPORATE GOVERNANCE

We are a “foreign private issuer” (as such term is defined in Rule 3b-4 under the Exchange Act), and our ADSs, each representing eight ordinary shares, are listed on the Nasdaq Global Market. Nasdaq Stock Market Rules permit a foreign private issuer like us to follow the corporate governance practices of its home country. Certain corporate governance practices in the Cayman Islands, which is our home country, may differ significantly from the Nasdaq corporate governance listing standards. For instance, we are not required to:

- have a majority of the board be independent (although all of the members of the audit committee must be independent under the Exchange Act);

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- have a compensation committee or a nominations or corporate governance committee consisting entirely of independent directors; or
- have regularly scheduled executive sessions with only independent directors each year.

We have relied on and intend to continue to rely on some of these exemptions.

ITEM 16H. MINE SAFETY DISCLOSURE

Not applicable.

PART II

ITEM 17. FINANCIAL STATEMENTS

The Registrant has elected to provide the financial statements and related information specified in Item 18.

ITEM 18. FINANCIAL STATEMENTS

The consolidated financial statements of Canaan Inc. are included at the end of this annual report.

ITEM 19. EXHIBITS

<u>Exhibit Number</u>	<u>Description of Exhibits</u>
1.1	Amended and Restated Memorandum and Articles of Association of the Registrant (incorporated by reference to Exhibit 3.2 to our Registration Statement on Form F-1 (File No. 333-234356), initially filed with the Securities and Exchange Commission on October 28, 2019)
2.1	Deposit Agreement between the Registrant and The Bank of New York Mellon, as depositary (incorporated by reference to Exhibit 2.1 to our annual report on Form 20-F for the year ended December 31, 2019 (File No. 001-39127), filed with the Securities and Exchange Commission on April 15, 2020)
2.2	Description of Securities Registered under Section 12 of the Securities Exchange Act of 1934 (the "Exchange Act") (incorporated by reference to Exhibit 2.2 to the annual report on Form 20-F (File No. 001-39127), filed with the Securities and Exchange Commission on April 15, 2020)
*4.1	Amended and Restated 2018 Share Incentive Plan (as amended in April 2021)
4.2	Form of Indemnification Agreement between the Registrant and its directors and executive officers (incorporated herein by reference to Exhibit 10.2 to the registration statement on Form F-1 (File No. 333-234356), as amended, initially filed with the Securities and Exchange Commission on October 28, 2019)
4.3	Form of Executive Employment Agreement between the Registrant and its executive officers (incorporated herein by reference to Exhibit 10.3 to the registration statement on Form F-1 (File No. 333-234356), as amended, initially filed with the Securities and Exchange Commission on October 28, 2019)
*8.1	List of Subsidiaries

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<u>Exhibit Number</u>	<u>Description of Exhibits</u>
11.1	Code of Business Conduct of the Registrant (incorporated by reference to Exhibit 99.1 to our Registration Statement on Form F-1 (File No. 333-234356), initially filed with the Securities and Exchange Commission on October 28, 2019).
*12.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
*12.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
**13.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
**13.2	Certification of Chief Financial Officer pursuant to 18 U.S.C Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
*15.1	Consent of Commerce & Finance Law Offices
*15.2	Consent of PricewaterhouseCoopers Zhong Tian LLP
*101.INS	Inline XBRL Instance Document—this instance document does not appear on the Interactive Data File because its XBRL tags are not embedded within the Inline XBRL document
*101.SCH	Inline XBRL Taxonomy Extension Schema Document
*101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
*101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
*101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document
*101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

* Filed herewith
** Furnished herewith

SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

Canaan Inc.

By: /s/ Nangeng Zhang

Name: Nangeng Zhang

Title: Chairman and Chief Executive Officer

Date: April 21, 2021

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Canaan Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Canaan Inc. and its subsidiaries (the “Company”) as of December 31, 2020 and 2019, and the related consolidated statements of comprehensive income/(loss), of changes in shareholders’ equity and of cash flows for each of the three years in the period ended December 31, 2020, including the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020 in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these consolidated financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

PricewaterhouseCoopers Zhong Tian LLP
Shanghai, the People’s Republic of China
April 21, 2021

We have served as the Company’s auditor since 2018.

CANAAN INC.
CONSOLIDATED BALANCE SHEETS

As of December 31, 2019 and 2020

(all amounts in thousands of RMB, except share and per share data, or as otherwise noted)

	Note	As of December 31,		
		2019	2020	
		RMB	RMB	US\$ (Note 2(e))
ASSETS				
Current assets:				
Cash and cash equivalents	4	516,607	391,310	59,971
Restricted cash	11	8,239	4,494	689
Short-term investments	2(i)	11,005	62,386	9,561
Accounts receivable	5	2,872	7,128	1,092
Inventories	6	196,067	225,522	34,563
Prepayments and other current assets	7	206,020	316,366	48,484
Total current assets		940,810	1,007,206	154,360
Non-current assets:				
Property, equipment and software	8	22,602	12,193	1,869
Right-of-use assets, net	9	22,764	14,422	2,210
Other non-current assets	7	5,250	2,530	388
Non-current financial investment	2(n)	—	25	4
Total non-current assets		50,616	29,170	4,471
Total assets		991,426	1,036,376	158,831
LIABILITIES AND SHAREHOLDERS' EQUITY				
Current liabilities:				
Short-term debts	10	99,903	34,754	5,326
Accounts payable		99,050	37,407	5,733
Notes payable	11	27,462	13,963	2,140
Contract liabilities	2(p)	8,288	430,388	65,960
Accrued liabilities and other current liabilities	12	40,691	63,343	9,708
Lease liabilities, current	9	9,838	12,621	1,934
Total current liabilities		285,232	592,476	90,801
Non-current liabilities:				
Lease liabilities, non-current	9	13,399	3,322	509
Other non-current liabilities	12	—	8,020	1,229
Total liabilities		298,631	603,818	92,539
Contingencies (Note 19)				

CANAAN INC.
CONSOLIDATED BALANCE SHEETS (CONTINUED)
As of December 31, 2019 and 2020
(all amounts in thousands of RMB, except share and per share data, or as otherwise noted)

	Note	As of December 31,		
		2019	2020	US\$ (Note 2(e))
		RMB	RMB	
Shareholders' equity:				
Ordinary shares (US\$0.00000005 par value; 1,000,000,000,000 shares authorized, 2,372,222,222 shares issued, 2,350,123,270 and 2,328,326,132 shares outstanding as of December 31, 2019 and 2020, respectively)	13	1	1	—
Subscriptions receivable from shareholders	13	(1)	(1)	—
Treasury stocks (US\$0.00000005 par value; 22,098,952 and 43,896,090 shares as of December 31, 2019 and 2020, respectively)	14	—	(23,915)	(3,665)
Additional paid-in capital	1(b)	1,631,609	1,634,619	250,516
Statutory reserves	2(ad)	97,307	97,307	14,913
Accumulated other comprehensive loss		(55,542)	(79,780)	(12,227)
Accumulated deficit		(980,579)	(1,195,673)	(183,245)
Total shareholders' equity		<u>692,795</u>	<u>432,558</u>	<u>66,292</u>
Total liabilities and shareholders' equity		<u>991,426</u>	<u>1,036,376</u>	<u>158,831</u>

The accompanying notes are an integral part of these consolidated financial statements.

CANAAN INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME/(LOSS)
For the Years Ended December 31, 2018, 2019 and 2020
(all amounts in thousands of RMB, except share and per share data, or as otherwise noted)

	Note	For the years ended December 31,			US\$ (Note 2(e))
		2018	2019	2020	
		RMB	RMB	RMB	
Net revenues	2(q)				
Products revenue		2,698,594	1,392,859	427,522	65,521
Leases revenue	2(r)	—	24,548	18,963	2,906
Service revenue		5,956	2,668	300	46
Other revenues		741	2,548	901	139
Total net revenues		<u>2,705,291</u>	<u>1,422,623</u>	<u>447,686</u>	<u>68,612</u>
Cost of revenues		<u>(2,197,172)</u>	<u>(1,938,626)</u>	<u>(409,922)</u>	<u>(62,823)</u>
Gross profit/(loss)		<u>508,119</u>	<u>(516,003)</u>	<u>37,764</u>	<u>5,789</u>
Operating expenses:					
Research and development expenses		(189,680)	(168,982)	(140,041)	(21,462)
Sales and marketing expenses		(38,731)	(21,917)	(19,980)	(3,062)
General and administrative expenses		(146,684)	(347,633)	(131,624)	(20,172)
Total operating expenses		<u>(375,095)</u>	<u>(538,532)</u>	<u>(291,645)</u>	<u>(44,696)</u>
Income/(loss) from operations		<u>133,024</u>	<u>(1,054,535)</u>	<u>(253,881)</u>	<u>(38,907)</u>
Interest income		4,234	3,853	3,153	483
Investment income		3,162	3,055	5,844	896
Interest expense and guarantee fee		(53,069)	(20,038)	(3,587)	(550)
Foreign exchange (loss)/gains, net		(1,178)	6,809	2,419	371
Value added tax refunds	2(y)	110,231	1,253	—	—
Other income, net	2(x)	3,838	25,093	30,958	4,745
Income/(loss) before income tax expense		<u>200,242</u>	<u>(1,034,510)</u>	<u>(215,094)</u>	<u>(32,962)</u>
Income tax expense	16	(77,810)	—	—	—
Net income/(loss)		<u><u>122,432</u></u>	<u><u>(1,034,510)</u></u>	<u><u>(215,094)</u></u>	<u><u>(32,962)</u></u>
Foreign currency translation adjustment, net of nil tax		(65,230)	9,688	(24,238)	(3,715)
Total comprehensive income/(loss)		<u><u>57,202</u></u>	<u><u>(1,024,822)</u></u>	<u><u>(239,332)</u></u>	<u><u>(36,677)</u></u>
Weighted average number of shares used in per share calculation:					
— Basic	18	1,964,499,660	2,153,172,769	2,345,703,779	2,345,703,779
— Diluted	18	1,978,161,073	2,153,172,769	2,345,703,779	2,345,703,779
Net earnings/(loss) per share (cent per share)					
— Basic	18	6.23	(48.05)	(9.17)	(1.41)
— Diluted	18	6.19	(48.05)	(9.17)	(1.41)
Share-based compensation expenses were included in:					
Research and development expenses		9,611	22,465	652	100
Sales and marketing expenses		1,088	358	41	6
General and administrative expenses		7,887	247,419	2,257	346

The accompanying notes are an integral part of these consolidated financial statements.

CANAAN INC.
CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
For the Years Ended December 31, 2018, 2019 and 2020
(all amounts in thousands of RMB, except share and per share data, or as otherwise noted)

	Note	Ordinary shares		Subscription receivables from shareholders	Treasury stocks		Additional paid-in capital	Statutory reserves	Accumulated other comprehensive loss	Retained earnings (accumulated deficit)	Total shareholders' equity
		Number of Shares	Amount		Number of Shares	Amount					
Balance as of January 1, 2018		2,000,000,000	1	(1)	—	—	423,642	28,806	—	404,793	857,241
Ordinary share contributed by shareholders for the equity incentive plan	14	(51,624,000)	—	—	51,624,000	—	—	—	—	—	—
Share-based compensation expense	15	—	—	—	—	—	18,586	—	—	—	18,586
Foreign currency translation		—	—	—	—	—	—	(65,230)	—	—	(65,230)
Deemed distribution	1(b)	—	—	—	—	—	(287,258)	—	—	(404,793)	(692,051)
Net income		—	—	—	—	—	—	—	—	122,432	122,432
Profit appropriations to statutory reserves	2(ad)	—	—	—	—	—	—	68,501	—	(68,501)	—
Balance as of December 31, 2018		<u>1,948,376,000</u>	<u>1</u>	<u>(1)</u>	<u>51,624,000</u>	<u>—</u>	<u>154,970</u>	<u>97,307</u>	<u>(65,230)</u>	<u>53,931</u>	<u>240,978</u>
Issuance of ordinary shares	13	222,222,222	—	—	—	—	669,559	—	—	—	669,559
Issuance of ordinary shares upon Initial Public Offering ("IPO"), net of cost of issuance	13	150,000,000	—	—	—	—	536,629	—	—	—	536,629
Ordinary share contributed by shareholders for the equity incentive plan	14	(403,157)	—	—	403,157	—	—	—	—	—	—
Share-based compensation expense	15	—	—	—	—	—	270,242	—	—	—	270,242
Vesting of restricted share units and restricted shares	15	29,928,205	—	—	(29,928,205)	—	209	—	—	—	209
Foreign currency translation		—	—	—	—	—	—	9,688	—	—	9,688
Net loss		—	—	—	—	—	—	—	—	(1,034,510)	(1,034,510)
Balance as of December 31, 2019		<u>2,350,123,270</u>	<u>1</u>	<u>(1)</u>	<u>22,098,952</u>	<u>—</u>	<u>1,631,609</u>	<u>97,307</u>	<u>(55,542)</u>	<u>(980,579)</u>	<u>692,795</u>
Share Repurchase	14	(25,799,190)	—	—	25,799,190	(23,915)	—	—	—	—	(23,915)
Share-based compensation expense	15	—	—	—	—	—	2,950	—	—	—	2,950
Foreign currency translation		—	—	—	—	—	—	(24,238)	—	—	(24,238)
Vesting of restricted share units	15	4,002,052	—	—	(4,002,052)	—	60	—	—	—	60
Net loss		—	—	—	—	—	—	—	—	(215,094)	(215,094)
Balance as of December 31, 2020		<u>2,328,326,132</u>	<u>1</u>	<u>(1)</u>	<u>43,896,090</u>	<u>(23,915)</u>	<u>1,634,619</u>	<u>97,307</u>	<u>(79,780)</u>	<u>(1,195,673)</u>	<u>432,558</u>

The accompanying notes are an integral part of these consolidated financial statements.

CANAAN INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
For the Years Ended December 31, 2018, 2019 and 2020
(all amounts in thousands of RMB, except share and per share data, or as otherwise noted)

	For the Years Ended December 31,			US\$ (Note 2(e))
	2018	2019	2020	
	RMB	RMB	RMB	
Cash flows from operating activities				
Net income/(loss)	122,432	(1,034,510)	(215,094)	(32,962)
Adjustments for:				
Depreciation and amortization of property, equipment and software	13,145	13,704	11,852	1,816
Depreciation of operating lease assets	—	20,458	19,389	2,971
Foreign exchange loss/(gain)	2,224	(9,636)	(14,094)	(2,160)
(Reversal)/provision of allowance for doubtful receivables	(2,152)	—	4,849	743
Loss on disposal of property, equipment and software	2,033	—	96	15
Share-based compensation expense	18,586	270,242	2,950	452
Deferred income tax expenses	1,062	—	—	—
Investment income	(3,162)	(3,055)	(5,844)	(896)
Amortization of right-of-use asset	—	10,928	13,432	2,059
Interest of lease liabilities	—	1,746	1,938	297
Impairment charge to non-current financial investment	—	—	2,475	379
Changes in assets and liabilities:	—			
Accounts receivable	(20,228)	20,815	(4,499)	(690)
Inventories	(325,825)	369,147	(48,844)	(7,486)
Prepayments and other current assets	449,657	(20,256)	(99,127)	(15,194)
Income tax receivable	(27,054)	27,054	—	—
Amount due from a related party	(68)	68	—	—
Other non-current assets	(2,144)	1,090	2,720	417
Prepaid interest expense and guarantee fee	(7,970)	7,873	(149)	(23)
Accounts payable	(3,198)	51,810	(61,643)	(9,447)
Notes payable	—	27,462	(13,499)	(2,069)
Contract liabilities	(195,573)	1,384	422,100	64,690
Income tax payable	(23,255)	(609)	—	—
Accrued liabilities and other current liabilities	(11,253)	(24,545)	29,591	4,535
Other non-current liabilities	—	—	8,020	1,229
Lease liabilities	—	(11,228)	(14,322)	(2,195)
Net cash (used in)/provided by operating activities	<u>(12,743)</u>	<u>(280,058)</u>	<u>42,297</u>	<u>6,481</u>
Cash flows from investing activities:				
Payment for short-term investments	(1,405,520)	(554,700)	(1,334,077)	(204,456)
Proceeds from disposal of short-term investments	1,498,682	546,750	1,288,540	197,477
Purchase of property, equipment and software	(24,910)	(8,380)	(2,176)	(333)
Proceeds from disposal of property, equipment and software	211	—	637	98
Payment for non-current financial investments	—	—	(2,500)	(383)
Net cash inflow arising from disposal of subsidiaries	15,515	—	—	—
Net cash provided by/(used in) investing activities	<u>83,978</u>	<u>(16,330)</u>	<u>(49,576)</u>	<u>(7,597)</u>

CANAAN INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS (CONTINUED)
For the Years Ended December 31, 2018, 2019 and 2020
(all amounts in thousands of RMB, except share and per share data, or as otherwise noted)

	For the Years Ended December 31,			
	2018	2019	2020	US\$ (Note 2(e))
	RMB	RMB	RMB	
Cash flows from financing activities:				
Proceeds from issuance of ordinary shares	—	669,559	—	—
Payment for repurchase of ordinary shares	—	—	(23,915)	(3,665)
Prepayment under share repurchase agreement	—	—	(16,146)	(2,474)
Proceeds from issuance of ordinary shares upon IPO, net of cost of issuance	—	544,122	—	—
Payment for cost of issuance	—	—	(6,879)	(1,054)
Proceeds from borrowings	1,952,198	200,000	152,000	23,295
Repayment of borrowings	(964,947)	(1,135,730)	(217,000)	(33,257)
Payment for deemed distribution (Note 1(b))	(692,051)	—	—	—
Net cash provided by/(used in) financing activities	<u>295,200</u>	<u>277,951</u>	<u>(111,940)</u>	<u>(17,155)</u>
Net increase/(decrease) in cash and cash equivalents, and restricted cash	366,435	(18,437)	(119,219)	(18,271)
Effect of exchange rate changes on cash and cash equivalents, and restricted cash	2,275	(1,927)	(9,823)	(1,505)
Cash and cash equivalents, and restricted cash at the beginning of year	<u>176,500</u>	<u>545,210</u>	<u>524,846</u>	<u>80,436</u>
Cash and cash equivalents, and restricted cash at the end of year	<u>545,210</u>	<u>524,846</u>	<u>395,804</u>	<u>60,660</u>
Supplemental disclosure of cash flow information:				
Cash paid for interest	35,773	11,583	3,736	573
Cash paid for guarantee fee	19,146	7,145	—	—
Cash paid for income tax	127,155	3,510	—	—
Supplemental disclosure of non-cash investing and financing activities:				
Acquisition of operating lease assets	—	99,523	135,276	20,732
Disposal of operating lease assets	—	79,065	115,887	17,760
Accrued initial public offering related cost	—	7,493	—	—

The accompanying notes are an integral part of these consolidated financial statements.

CANAAN INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(all amounts in thousands of RMB, except share and per share data, or as otherwise noted)

1. Organization and principal activities

(a) Principal activities

Canaan Inc. (the “Company”), an exempted company with limited liability incorporated in the Cayman Islands and its subsidiaries are collectively referred to as the “Group”. The Group are principally engaged in integrated circuit (the “IC”) design and sale and lease of final system products by integrating its IC products for Bitcoin mining and related components in the People’s Republic of China (the “PRC”) and other countries and regions. The Group utilizes third-party suppliers to fabricate, package and test the IC products.

As of December 31, 2020, the Company’s subsidiaries are as follows:

Name of subsidiaries	Date of incorporation	Place of incorporation	Equity interest held	Principal activities
Canaan Creative (HK) Holdings Limited	February 22, 2018	Hong Kong	100%	Research and development of ICs
Hangzhou Canaan Creative Information Technology Co., Ltd.	April 9, 2013	Hangzhou, China	100%	Research and development of ICs
Canaan Creative Co., Ltd.	April 1, 2013	Beijing, China	100%	Research and development of ICs
Langfang Creative Technology Co., Ltd.	May 15, 2014	Langfang, China	100%	Assembly of system products
Hangzhou Ruihong Technology Co., Ltd.	June 30, 2015	Hangzhou, China	100%	Supply chain and distribution of system products
Hangzhou Canaan Blockchain Technology Co., Ltd.	November 11, 2016	Hangzhou, China	100%	Research and development of ICs
Canaan Convey Co., Ltd.	November 2, 2017	Beijing, China	100%	International distribution of system products
Zhejiang Avalon Technology Co., Ltd.	December 5, 2017	Hangzhou, China	100%	Distribution of system products
Canaan Mingxin (Beijing) Technology Co., Ltd.	December 24, 2018	Beijing, China	100%	International distribution of system products
Hangzhou Canaan Chuangxin Technology Co., Ltd.	December 26, 2018	Hangzhou, China	100%	Research and development of ICs

(b) Reorganization

Prior to the incorporation of the Company, the Group’s business was carried out by Hangzhou Canaan Creative Information Technology Co., Ltd. (“Hangzhou Canaan”) and its subsidiaries. Hangzhou Canaan was established by co-founders Mr. Zhang Nangeng (“Mr. Zhang”), Mr. Li Jiaxuan (“Mr. Li”) and Mr. Liu Xiangfu (“Mr. Liu”) (collectively, “Co-Founders”). To facilitate offshore financing, an offshore corporate structure was formed in March 2018 (the “Reorganization”), which was carried out as follows:

- 1) On February 6, 2018, the Company was incorporated in the Cayman Islands by the Co-Founders.
- 2) On February 22, 2018, Canaan Creative (HK) Holdings Limited (“Canaan HK”) was incorporated in Hong Kong with 100% ownership by the Company.

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- 3) On March 12, 2018, Mr. Kong Jianpin (“Mr. Kong”) entered into a share transfer agreement with WWXD Limited, a Hong Kong company wholly-owned by an independent third party, whereby WWXD Limited acquired 1% of equity interest in Hangzhou Canaan from Mr. Kong at a consideration of RMB7 million.
- 4) On March 21, 2018, Canaan HK acquired the 1% equity interest in Hangzhou Canaan from WWXD Limited and the remaining 99% equity interest in Hangzhou Canaan from its other shareholders at an aggregate cash consideration of RMB692,051, which was recorded as deemed distribution to these shareholders. This deemed distribution reduced retained earnings with amount of RMB404,793, and in the absence of retained earnings, reduced additional paid-in capital with amount of RMB287,258. Hangzhou Canaan then became a wholly-owned subsidiary of Canaan HK. The acquisition of equity interest was financed by a borrowing with principal of HK\$885,000 withdrawn from a facility provided by CMB International Financial Limited (“CMBI Finance”).

As the shareholdings in the Company and Hangzhou Canaan were with a high degree of common ownership immediately before and after the Reorganization, even though no single investor controlled Hangzhou Canaan or Canaan Inc., the transaction of the Reorganization was determined as recapitalization with lack of economic substance, and was accounted for in a manner similar to a common control transaction. Consequently, the financial information of the Group is presented on a carryover basis for all periods presented. The number of outstanding shares in the consolidated balance sheets, the consolidated statements of changes in shareholders’ equity, and per share information including the net earnings/(loss) per share have been presented retrospectively as of the beginning of the earliest period presented on the consolidated financial statements to reflect the final shares issued in the Reorganization.

On November 21, 2019, the Company consummated its initial public offering (the “IPO”) on the Nasdaq Global Market, where 10,000,000 American Depositary Shares (“ADSs”) were issued at the price of US\$9.00 per ADS for a total gross proceeds of US\$90 million. Each ADS represents 15 Class A ordinary shares.

2. Principal Accounting Policies

(a) Basis of preparation

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“US GAAP”).

Significant accounting policies followed by the Group in the preparation of the accompanying consolidated financial statements are summarized below.

(b) Use of estimates

The preparation of the Group’s consolidated financial statements in conformity with US GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ materially from such estimates.

The Company believes that accounting estimation of variable consideration for revenue recognition, write-down for inventories and prepayments, valuation and recognition of share-based compensation reflect significant judgments and estimates used in the preparation of its consolidated financial statements.

Management bases the estimates on historical experience and on various other assumptions as discussed elsewhere to the consolidated financial statements that are believed to be reasonable, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results could materially differ from these estimates.

(c) Consolidation

The Group's consolidated financial statements include the financial statements of the Company and its subsidiaries, for which the Company or its subsidiary is the primary beneficiary. All transactions and balances among the Company and its subsidiaries have been eliminated upon consolidation.

Subsidiaries are those entities in which the Company, directly or indirectly, controls more than one half of the voting powers; or has the power to appoint or remove the majority of the members of the board of directors; or to cast a majority of votes at the meeting of directors; or has the power to govern the financial and operating policies of the investee under a statute or agreement among the shareholders or equity holders.

(d) Functional currency and foreign currency translation

The Group uses Renminbi ("RMB") as its reporting currency. The functional currency of the Company and its subsidiaries incorporated outside of PRC is the United States dollar ("US\$"), while the functional currency of the PRC entities in the Group is RMB as determined based on the criteria of ASC 830, *Foreign Currency Matters*.

Transactions denominated in other than the functional currencies are re-measured into the functional currency of the entity at the exchange rates prevailing on the transaction dates. Financial assets and liabilities denominated in other than the functional currency are re-measured at the balance sheet date exchange rate. The resulting exchange differences are included in the consolidated statements of comprehensive income/(loss) as foreign exchange related gains or loss.

The financial statements of the Group are translated from the functional currency to the reporting currency, RMB. Assets and liabilities of the Company and its subsidiaries incorporated outside of PRC are translated into RMB at fiscal year-end exchange rates, income and expense items are translated at average exchange rates prevailing during the fiscal year, representing the index rates stipulated by the People's Bank of China. Translation adjustments arising from these are reported as foreign currency translation adjustments and are shown as a separate component of shareholders' equity on the consolidated financial statement. The exchange rates used for translation on December 31, 2019 and 2020 were US\$1.00= RMB6.9762 and RMB6.5249, respectively, representing the index rates stipulated by the People's Bank of China.

(e) Convenience translation

The United States dollar ("US\$") amounts disclosed in the accompanying financial statements are presented solely for the convenience of the readers. Translations of amounts from RMB into US\$ for the convenience of the reader were calculated at the rate of US\$1.00=RMB6.5250 on December 31, 2020, representing the noon buying rate in The City of New York for cable transfers of RMB as certified for customs purposes by the Federal Reserve Board. No representation is made that the RMB amounts could have been, or could be, converted into US\$ at that rate on December 31, 2020, or at any other rate.

(f) Fair value of financial instruments

Fair value is the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities required or permitted to be recorded at fair value, the Group considers the principal or most advantageous market in which it would transact and it considers assumptions that market participants would use when pricing the asset or liability.

The established fair value hierarchy requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. A financial instrument's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

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The three levels of inputs that may be used to measure fair value include:

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2: Observable, market-based inputs, other than quoted prices, for the assets or liabilities either directly or indirectly.

Level 3: Unobservable inputs to the valuation methodology that are significant to the measurement of the fair value of the assets or liabilities.

Accounting guidance also describes three main approaches to measuring the fair value of assets and liabilities: (1) market approach; (2) income approach and (3) cost approach. The market approach uses prices and other relevant information generated from market transactions involving identical or comparable assets or liabilities. The income approach uses valuation techniques to convert future amounts to a single present value amount. The measurement is based on the value indicated by current market expectations about those future amounts. The cost approach is based on the amount that would currently be required to replace an asset.

The Group does not have any non-financial assets or liabilities that are recognized or disclosed at fair value in the financial statements on a recurring basis.

The Group's financial instruments consist principally of cash and cash equivalents, restricted cash, short-term investments, non-current financial investments, accounts receivable, accounts payable, short-term debts, notes payable and other liabilities.

As of December 31, 2019 and 2020, the carrying values of cash and cash equivalents, restricted cash, accounts receivable, accounts payable and other liabilities approximated to their fair values reported in the consolidated balance sheets due to the short term nature of these instruments.

On a recurring basis, the Group measures its short-term investments at fair value.

The following table sets forth the Group's assets that are measured at fair value on a recurring basis and are categorized using the fair value hierarchy:

As of December 31, 2019	Level 1	Level 2	Level 3	Balance at fair value
Assets				
Short-term investments	<u>—</u>	<u>11,005</u>	<u>—</u>	<u>11,005</u>
As of December 31, 2020	Level 1	Level 2	Level 3	Balance at fair value
Assets				
Short-term investments	<u>—</u>	<u>62,386</u>	<u>—</u>	<u>62,386</u>

The Group values its investments in wealth management products based on quoted prices of similar products provided by banks at the end of each period, and accordingly, the Group classifies the valuation techniques that use these inputs as Level 2.

(g) Cash and cash equivalents

Cash and cash equivalents include cash on hand and demand deposits placed with banks or other financial institutions, which are unrestricted as to withdrawal or use.

(h) Restricted cash

Restricted cash includes cash and cash equivalents that are not readily available for the Company's normal disbursements. Restricted cash are primarily related to cash deposits with banks and financial institutions required as part of collateral for the Company's notes payable (Note 11) arrangements.

(i) Short-term investments

Short-term investments include investments in wealth management products issued by certain banks which are redeemable by the Company at any time. The wealth management products are unsecured with variable interest rates. The Company measures the short-term investments at fair value and fair value is estimated based on quoted prices of similar products provided by banks at the end of each period. The change in fair value is recorded as investment income amounted to RMB3,162, RMB3,055 and RMB5,844 in the consolidated statements of comprehensive income/(loss) for the years ended December 31, 2018, 2019 and 2020, respectively.

(j) Accounts receivable

Accounts receivable are presented net of allowance for doubtful accounts. The Group uses specific identification in providing for bad debts when facts and circumstances indicate that collection is doubtful and based on factors listed in the following paragraph. If the financial conditions of its customers were to deteriorate, resulting in an impairment of their ability to make payments, additional allowance may be required.

The Company maintains an allowance for doubtful accounts which reflects its best estimate of amounts that potentially will not be collected. The Company determines the allowance for doubtful accounts on general basis taking into consideration various factors including but not limited to historical collection experience and credit-worthiness of the customers as well as the age of the individual receivables balance. Additionally, the Company makes specific bad debt provisions based on any specific knowledge the Company has acquired that might indicate that an account is uncollectible. The facts and circumstances of each account may require the Company to use substantial judgment in assessing its collectability.

(k) Inventories

Inventories, consisting of finished goods, work in process, raw materials and goods in transit, which are purchased from contract manufacturers and component suppliers. Inventories are stated at the lower of cost and net realizable value. Cost of inventory is determined using the weighted average cost method. Adjustments are recorded to write down the cost of inventory to the estimated net realizable value due to slow-moving and obsolete inventory, which is dependent upon factors such as historical and forecasted consumer demand, and promotional environment. The Group takes ownership, risks and rewards of the products purchased.

In accordance with ASC 855-10-55-1(b), the Group considers all data available, including future demand and subsequent changes in product prices that may provide additional information about the valuation of inventories at the balance sheet date.

(l) Operating lease assets

Operating lease assets consist of lease contracts for system products for Bitcoin mining with customers, which are reclassified from inventories at the beginning of lease period. Operating lease assets are recorded at cost less accumulated depreciation and impairment losses. Depreciation is provided using a straight-line method over the estimated economic lives which is generally 18 months. Depreciation expenses are included in costs of revenues. The Group monitors accounting estimates relating to the depreciation period. Changes made to estimates are reflected in depreciation expense on a prospective basis. As of December 31, 2019 and 2020, the Company did not have any operating lease assets.

(m) Property, equipment and software

Property, equipment and software are stated at historical cost less accumulated depreciation, amortization and impairment loss, if any. Depreciation and amortization is calculated using the straight-line method over the shorter of their estimated useful lives of these assets or the term of the related leases. The estimated useful lives are as follows:

Leasehold improvements	the shorter of their useful lives and the lease terms
Computers and electronic equipment	3 to 5 years
Mechanical equipment	5 years
Motor vehicles	5 years
Software	3 years

Expenditures for maintenance and repairs are expensed as incurred. The gain or loss on the disposal of property, equipment and software is the difference between the net sales proceeds and the carrying amount of the relevant assets and is recognized in the consolidated statements of comprehensive income/(loss).

Construction in progress represents assets under construction. Construction in progress is transferred to property, equipment and software and depreciation or amortization commences when an asset is ready for its intended use.

(n) Non-current financial investment

The Group's non-current financial investment include an equity investment without readily determinable fair value, and over which the Group has neither significant influence nor control through investments in common stock or in-substance common stock, and is measured and recorded using a measurement alternative that measures the non-current financial investment at cost minus impairment, if any, plus or minus changes resulting from qualifying observable price changes. The Group acquired the equity investment during the year ended December 31, 2020. The carrying value of the Group's non-current financial investment measured under cost minus impairment was RMB25 as of December 31, 2020.

During the year ended December 31, 2020, the Group recognized impairment charge of RMB2,475 and recorded in other income, net.

(o) Impairment of long-lived assets

For other long-lived assets including property, equipment and software, the Group evaluates for impairment whenever events or changes (triggering events) indicate that the carrying amount of an asset may no longer be recoverable. The Group assesses the recoverability of the long-lived assets by comparing the carrying value of the long-lived assets to the estimated undiscounted future cash flows expected to receive from use of the assets and their eventual disposition. Such assets are considered to be impaired if the sum of the expected undiscounted cash flows is less than the carrying amount of the assets. The impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value of the assets.

(p) Contract liabilities

Cash proceeds received from customers before product delivery is recognized as contract liabilities and is recognized as revenues when revenue recognition criteria are met.

The prepayments received from customers as of December 31, 2019 and 2020 was RMB8,288 and RMB430,388, respectively. The revenue recognized during the years ended December 31, 2018, 2019 and 2020 for the beginning balance of contract liability was RMB202,477, RMB6,904 and RMB8,008, respectively.

(g) Revenue from contracts with customers (ASC 606)

The Group recognizes revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to receive in exchange for those goods or services.

Products revenue

The Group generates revenue primarily from the sale of Bitcoin mining machines directly to a customer, such as a business or individual engaged in Bitcoin mining activities. As the Bitcoin price fluctuates, the Group may adjust the selling price of Bitcoin mining machines on a weekly basis, as customers are only willing to pay for machines based on their ability to recover their investment through mining Bitcoin over a relatively short period of time. The Group's sales arrangements usually require a full prepayment before the delivery of products. The Group started to offer credit sales to certain significant, long-standing customers in China in 2018. The payment terms under credit sales generally consist of 50% down payment and 50% subsequent payments over a period of 90 to 180 days. With the adoption of a more dynamic pricing strategy, the Group expects to accept a lower amount of consideration (as compared to fixed and promised consideration that is set out in the sales contracts) from its credit sales customers if the price of Bitcoin decreases in the post-sale period; hence providing implicit price concession to these customers and the ultimate amount of price concessions to be provided to these credit sales customers is highly dependent on the changes of Bitcoin prices.

Revenues from product sales are recorded at the net sales price (transaction price), which includes an estimation of variable consideration which primarily results from implicit price concessions on credit sales. The amount of variable consideration is included in the transaction price to the extent it is not constrained and that it is probable that a significant reversal in the amount of the cumulative revenue recognized will not occur in a future period. Actual amounts of consideration ultimately received may differ from the estimates. If actual results in the future vary from estimates, the Group will adjust these estimates, which would affect revenue and earnings in the period when such changes are known. With respect to the determination of variable consideration resulting from the amount of implicit price concession, since the Bitcoin market price is volatile and unpredictable and changes of Bitcoin price, will greatly affect the implicit price concessions to be provided by the Group to its credit sales customers, the Group historically has not been able to overcome the constraint on variable consideration at the time of product sale or at subsequent period-end dates until the Group has knowledge about the resolution of the uncertainty through payment by the customer. The Group uses all the subsequent information to the date of issuance of the financial statements to adjust the estimated variable consideration for the periods presented, representing updated information on the best estimate of the amount of transaction price that is probable of being received and therefore not constrained as of period-end. The Group will continue to monitor and evaluate historical data and other factors in determining the total transaction price (including implicit price concessions) that can be recognized for product sales on credit. During the years ended December 31, 2018, 2019 and 2020, the Group recognized price concessions provided to its customers in the amounts of RMB152,755, RMB22,392 and RMB11,455, respectively. During the year ended December 31, 2020, the adjustment to the previously estimated variable considerations was amounting to RMB14,685 (years ended December 31, 2018 and 2019: nil and RMB27,719), which was recorded as revenue of this year.

The Group recognizes products revenue at a point in time based on management's evaluation of when the control of the products have been passed to customers. The transfer of control is considered complete when products have been picked up by or shipped to the Group's customers.

The Group offers a standard product warranty of no longer than 6 months that the product will operate under normal use. At the time revenue is recognized, an estimate of future warranty costs is recorded as a component of cost of revenues. The reserves established are regularly monitored based upon historical experience and any actual claims charged against the reserve. The amount of total warranty costs incurred was immaterial for the years ended December 31, 2018, 2019 and 2020.

Services revenue

The Company also generates a small portion of revenue from its maintenance services under separate contracts. Revenue from the maintenance service to the customer is recognized when the related services have been rendered to the customers.

(r) Revenue from lease arrangements as lessor (ASC 842)

From July 2019, the Group started to generate revenue from the leases of system products for Bitcoin mining to its customers. The leases cannot generally be extended or terminated at the customer's discretion. However, upon the mutual agreement of the parties, the leases can be early terminated after three months. Rental charges are computed based on a time rate of machine's type and rental period. The leases of system products meet the classification of operating leases, and revenues from operating leases are recognized on a straight-line basis over the contract terms.

(s) Value-added-tax ("VAT") recoverable and surcharges

Value added tax recoverable represent amounts paid by the Group for purchases. The surcharges (i.e., Urban construction and maintenance tax, educational surtax, local educational surtax), vary from 10% to 12% of the value-added-tax paid depending on the tax payer's location.

(t) Cost of revenues

Amounts recorded as cost of revenue relate to direct expenses incurred in order to generate revenue. Such costs are recorded as incurred. Cost of revenues consists of product costs, including costs of raw material, contract manufacturers for production, shipping and handling costs, manufacturing and tooling equipments depreciation, warehousing costs and slow-moving, obsolete inventories write-downs, prepayments write-downs and tax surcharges.

(u) Research and development expenses

Research and development expenses consist primarily of salary and welfare for research and development personnel, consulting and contractor expenses, testing and tooling materials and other expenses in associated with research and development personnel. The Group recognizes research and development expenses as expense when incurred.

(v) Sales and marketing expenses

Sales and marketing expenses consist primarily of salary and welfare for sales and marketing personnel, promotion and marketing expenses and other expenses in associated with sales and marketing personnel.

Advertising expense are expensed as incurred and included in selling and marketing expenses. The advertising expenses were RMB2,124, RMB2,377 and RMB3,701 for the years ended December 31, 2018, 2019 and 2020, respectively.

(w) General and administrative expenses

General and administrative expenses consist primarily of salary and welfare for general and administrative personnel, rental expenses and depreciation in associated with general and administrative personnel, allowance for doubtful receivables, entertainment expense, general office expense and professional service fees.

(x) Government grants

Government grants represent cash subsidies received from PRC government. Cash subsidies which have no defined rules and regulations to govern the criteria necessary for companies to enjoy the benefits are recognized as "Other income, net" when received. Total government grants received were RMB8,058, RMB24,926 and RMB32,499 for the years ended December 31, 2018, 2019 and 2020, respectively.

(y) VAT refunds

In accordance with Caishui (2011) No. 100 issued by State Tax Bureau, Hangzhou Canaan is qualified as enterprise of selling self-developed software products and enjoying a tax refund for the excess of 3% of its actual tax burden after the VAT is levied at the 16% or 13% tax rate since April 2019. Tax refund is recognized when received. Total VAT refunds received were RMB110,231, RMB1,253 and nil for the years ended December 31, 2018, 2019 and 2020, respectively.

(z) Lease arrangement as lessee

The Company determines if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use (“ROU”) assets, operating lease liability, and operating lease liability, non-current in the Company’s consolidated balance sheets.

ROU assets represent the Company’s right to use an underlying asset for the lease term and lease liabilities represent the Company’s obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. When determining the lease term, the Company includes options to extend or terminate the lease when it is reasonably certain that it will exercise that option, if any. As the Company’s leases do not provide an implicit rate, the Company uses its incremental borrowing rate, which it calculates based on the credit quality of the Company and by comparing interest rates available in the market for similar borrowings, and adjusting this amount based on the impact of collateral over the term of each lease.

(aa) Employee social security and welfare benefits

Employees of the Group in the PRC are entitled to staff welfare benefits including pension, work-related injury benefits, maternity insurance, medical insurance, unemployment benefit and housing fund plans through a PRC government-mandated defined contribution plan. The Group is required to contribute to the plan based on certain percentages of the employees’ salaries, up to a maximum amount specified by the local government.

The PRC government is responsible for the medical benefits and the pension liability to be paid to these employees and the Group’s obligations are limited to the amounts contributed and no legal obligation beyond the contributions made. Employee social security and welfare benefits included as expenses in the consolidated statements of comprehensive income/(loss) amounted to RMB20,618, RMB23,026 and RMB14,919 for the years ended December 31, 2018, 2019 and 2020, respectively.

(ab) Income taxes

The Group accounts for income taxes under the liability method. Under the liability method, deferred income tax assets and liabilities are determined based on the differences between the financial reporting and income tax bases of assets and liabilities and are measured using the tax income rates that will be in effect when the differences are expected to reverse. A valuation allowance is recorded if it is more likely than not that some portion or all of a deferred income tax assets will not be realized in the foreseeable future.

The Group evaluates its uncertain tax positions using the provisions of ASC 740-10, *Income Taxes*, which prescribes a recognition threshold that a tax position is required to meet before being recognized in the financial statements. The Group recognizes in the financial statements the benefit of a tax position which is “more likely than not” to be sustained under examination based solely on the technical merits of the position assuming a review by tax authorities having all relevant information. Tax positions that meet the recognition threshold are measured using a cumulative probability approach, at the largest amount of tax benefit that has a greater than fifty percent likelihood of being realized upon settlement. It is the Group’s policy to recognize interest and penalties related to unrecognized tax benefits, if any, as a component of income tax expense.

(ac) Share-based compensation

The Company grants restricted shares and share options to eligible employees and accounts for share-based compensation in accordance with ASC 718, *Compensation—Stock Compensation*.

Employees’ share-based compensation awards are measured at the grant date fair value of the awards and recognized as expenses a) immediately at the grant date if no vesting conditions are required; or b) for share-based awards granted with only service conditions, using the graded vesting method, net of estimated forfeitures, over the vesting period; or c) for share-based awards granted with service conditions and the occurrence of an IPO as performance condition, cumulative share-based compensation expenses for the options that have satisfied the service condition should be recorded upon the completion of the IPO, using the graded vesting method; or d) for share-based awards with service conditions and other performance condition, using the graded vesting method, net of estimated pre-vesting forfeitures, over the vesting period.

A change in any of the terms or conditions of share-based awards is accounted for as a modification of the awards. The Group calculates incremental compensation expense of a modification as the excess of the fair value of the modified awards over the fair value of the original awards immediately before its terms are modified at the modification date. For vested awards, the Group recognizes incremental compensation cost in the period when the modification occurs. For awards not being fully vested, the Group recognizes the sum of the incremental compensation expense and the remaining unrecognized compensation expense for the original awards over the remaining requisite service period after modification.

Share-based compensation in relation to the restricted shares is measured based on the fair market value of the Group’s ordinary shares at the grant date of the award. Prior to the listing, estimation of the fair value of the Group’s ordinary shares involves significant assumptions that might not be observable in the market, and a number of complex and subjective variables, including discount rate, and subjective judgments regarding the Group’s projected financial and operating results, its unique business risks, the liquidity of its ordinary shares and its operating history and prospects at the time the grants are made. Share-based compensation in relation to the share options is estimated using the Binomial Option Pricing Model. The determination of the fair value of share options is affected by the share price of the Group’s ordinary shares as well as the assumptions regarding a number of complex and subjective variables, including the expected share price volatility, risk-free interest rate, exercise multiple and expected dividend yield. The fair value of these awards was determined with the assistance from an independent valuation firm.

(ad) Statutory reserves

The Group’s subsidiaries incorporated in the PRC are required on an annual basis to make appropriations of retained earnings set at certain percentage of after-tax profit determined in accordance with PRC accounting standards and regulations (“PRC GAAP”).

Appropriation to the statutory general reserve should be at least 10% of the after tax net income determined in accordance with the legal requirements in the PRC until the reserve is equal to 50% of the entities’ registered capital. The Group is not required to make appropriation to other reserve funds and the Group does not have any intentions to make appropriations to any other reserve funds.

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The general reserve fund can only be used for specific purposes, such as offsetting the accumulated losses, enterprise expansion or increasing the registered capital. Appropriations to the general reserve funds are classified in the consolidated balance sheets as statutory reserves.

There are no legal requirements in the PRC to fund these reserves by transfer of cash to restricted accounts, and the Group has not done so.

Relevant laws and regulations permit payments of dividends by the PRC subsidiaries and affiliated companies only out of their retained earnings, if any, as determined in accordance with respective accounting standards and regulations. Accordingly, the above balances are not allowed to be transferred to the Company in terms of cash dividends, loans or advances.

The Group has made RMB68,501, nil and nil appropriations to statutory reserve mainly for Hangzhou Canaan for the years ended December 31, 2018, 2019 and 2020, respectively.

(ae) Repurchase of share

The Group accounts for treasury stock using the cost method. Under the cost method, when the Company's shares are acquired for purposes other than retirement, the costs of the acquired stock will be shown separately as a deduction from the total of capital stock.

(af) Earnings/ (loss) per share

Basic earnings/(loss) per share is computed by dividing net income/(loss) attributable to holders of ordinary shares by the weighted average number of ordinary shares outstanding during the period.

Diluted earnings/(loss) per share is calculated by dividing net income/(loss) attributable to ordinary shareholders as adjusted for the effect of dilutive ordinary equivalent shares, if any, by the weighted average number of ordinary and dilutive ordinary equivalent shares outstanding during the period. Dilutive equivalent shares are excluded from the computation of diluted earnings/(loss) per share if their effects would be anti-dilutive. Ordinary share equivalents consist of the ordinary shares issuable in connection with the Group's ordinary shares issuable upon the conversion of the share-based awards, using the treasury stock method.

(ag) Comprehensive income/(loss)

Comprehensive income/(loss) is defined as the change in shareholders' equity of the Company during a period arising from transactions and other events and circumstances excluding transactions resulting from investments by shareholders and distributions to shareholders.

Comprehensive income/(loss) is reported in the consolidated statements of comprehensive income/(loss). Accumulated other comprehensive loss of the Group include the foreign currency translation adjustments.

(ah) Segment reporting

Operating segments are defined as components of an enterprise engaging in businesses activities for which separate financial information is available that is regularly evaluated by the Group's chief operating decision makers in deciding how to allocate resources and assess performance. The Group's chief operating decision maker has been identified as the Chief Executive Officer, who reviews consolidated results including revenue, gross profit and operating profit at a consolidated level only. The Group does not distinguish between markets for the purpose of making decisions about resources allocation and performance assessment. Hence, the Group has only one operating segment and one reportable segment.

The Group’s long-lived assets are substantially located in the PRC. The Group’s revenue segregated by geographic region is as follows:

Geographic region	For the Years Ended December 31,		
	2018	2019	2020
PRC	2,057,632	1,063,630	379,418
Kazakhstan	—	—	47,792
Hong Kong	91,028	11,216	12,301
United States of America	284,965	46,045	3,528
Canada	25,548	22,738	162
Japan	—	236,206	—
Other foreign countries	246,118	42,788	4,485
Total	<u>2,705,291</u>	<u>1,422,623</u>	<u>447,686</u>

(ai) Recently issued accounting pronouncements

i. New and amended standards adopted by the Group:

In August 2018, the FASB released ASU 2018-13, Fair Value Measurement (Topic 820): Disclosure Framework-Changes to the Disclosure Requirements for Fair Value Measurement. ASU 2018-13 modifies the disclosure requirements on fair value measurements. The provisions of ASU 2018-13 are to be applied using a prospective or retrospective approach, depending on the amendment, and are effective for all entities for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019, with early adoption permitted. The Group adopted this guidance on January 1, 2020 and it did not have a material effect on the Company’s consolidated financial statements.

ii. New and amended standards not yet adopted by the Group:

In June 2016, the FASB issued ASU No. 2016-13, Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments (“ASU 2016-13”). This guidance requires that financial assets measured at amortized cost be presented at the net amount expected to be collected. The measurement of expected credit losses is based on historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability. In November 2018, the FASB issued ASU 2018-19, Codification Improvements to Topic 326, Financial Instruments-Credit Losses (“ASU 2018-19”), which clarifies certain topics included within ASU 2016-13. In November 2019, the FASB issued ASU 2019-10, which extends the adoption date for certain registrants. The amendments in ASU 2016-13 and 2018-19 are effective for the Company for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. The Group does not plan to early adopt the new guidance and will assess the impact before adoption.

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes. The amendments in this update simplify the accounting for income taxes by removing certain exceptions and amending and clarify existing guidance. The standard is effective for the Company for fiscal years beginning after 15 December 2021, and interim periods within fiscal years beginning after 15 December 2022. Early adoption is permitted. The Group is currently evaluating the impact of this accounting standard update on its consolidated financial statements.

In January 2020, the FASB issued Accounting Standards Update No. 2020-01, Investments—Equity Securities (Topic 321), Investments—Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815): Clarifying the Interactions between Topic 321, Topic 323, and Topic 815. The amendments clarified that an entity should consider observable transactions that require it to either apply or discontinue the equity method of accounting for the purposes of applying the measurement alternative in accordance with Topic 321 immediately before applying or upon discontinuing the equity method. The amendments also clarified that for the purpose of applying paragraph 815-10-15-141(a) an entity should not consider whether, upon the settlement of the forward contract or exercise of the purchased option, individually or with existing investments, the underlying securities would be accounted for under the equity method in Topic 323 or the fair value option in accordance with the financial instruments guidance in Topic 825. An entity also would evaluate the remaining characteristics in paragraph 815-10-15-141 to determine the accounting for those forward contracts and purchased options. For public business entities, the amendments in this Update are effective for fiscal years beginning after December 15, 2020, and interim periods within those fiscal years. The standard is effective for the Company for fiscal years beginning after December 15, 2020, with early adoption permitted. The Group reviewed the impact of this ASU on its consolidated financial statements and concluded that the impact was immaterial.

3. Risks and concentration

(a) Concentration of credit risk

Financial instruments that potentially expose the Group to concentrations of credit risk consist primarily of cash and cash equivalents, restricted cash, short-term investments and accounts receivable. The Group places its cash and cash equivalents and restricted cash with financial institutions with high credit ratings and quality.

The Group conducts credit evaluations of customers, and generally does not require collateral or other security from its customers. The Group establishes an allowance for doubtful accounts primarily based upon the age of the receivables and factors surrounding the credit risk of specific customers.

Accounts receivable are unsecured and are derived from revenue earned through customers. The risk with respect to accounts receivable is mitigated by credit evaluations performed on them.

As of December 31, 2019 and 2020, accounts receivable were RMB2,872 and RMB7,128, respectively.

Accounts receivable concentration of credit risk is as below:

	As of December 31,	
	2019	2020
Customer A	*	96%
Customer B	31%	*
Customer C	28%	*
Customer D	14%	*
Customer E	10%	*

* Less than 10%

Customers which contributed more than 10% of total revenue are as below:

	For the Years Ended December 31,		
	2018	2019	2020
Customer F	*	*	29%
Customer G	*	17%	*
Customer H	*	*	16%
Customer I	14%	*	*

* Less than 10%

(b) Supplier concentration

The Group purchased integrated circuits, an important component of its products, mainly from Taiwan Semiconductor Manufacturing Company Limited and its subsidiaries ("TSMC") for the years ended December 31, 2018 and 2019. For the year ended December 31, 2020 the Group's purchases of its integrated circuits mainly from Samsung Electronics Co., Ltd. and its authorized distributors (collectively, "Samsung") and Semiconductor Manufacturing International Corporation and its subsidiaries (collectively, "SMIC"). Although only a limited number of manufacturers for such integrated circuits are available, management believes that they could change their suppliers within these manufacturers which provided integrated circuits on comparable terms. A change in suppliers, however, could cause a delay in manufacturing and a possible loss of sales, which would affect operating results adversely.

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4. Cash and cash equivalents

Cash and cash equivalents represent cash on hand and demand deposits placed with banks or other financial institutions, which are unrestricted as to withdrawal or use. The following table sets forth a breakdown of cash and cash equivalents by currency denomination and jurisdiction as of December 31, 2019 and 2020:

	<u>RMB</u>	<u>RMB equivalent (US\$)</u>		<u>RMB</u>	<u>Total in</u>
	<u>China</u>	<u>Overseas</u>	<u>China</u>	<u>equivalent</u> <u>(HK\$)</u> <u>Overseas</u>	
December 31, 2019	59,705	435,152	20,381	1,369	516,607
December 31, 2020	110,241	32,352	248,716	1	391,310

5. Accounts receivable

	<u>As of December 31,</u>	
	<u>2019</u>	<u>2020</u>
Accounts receivable, gross	2,872	7,371
Less: allowance for doubtful accounts	—	(243)
Accounts receivable	<u>2,872</u>	<u>7,128</u>

The following table presents movement of the allowance for doubtful accounts:

	<u>For the Years Ended</u> <u>December 31,</u>		
	<u>2018</u>	<u>2019</u>	<u>2020</u>
Balance at the beginning of the year	(5,932)	(3,780)	—
Provisions for doubtful receivables	—	—	(243)
Collection of amounts previously in dispute	2,152	—	—
Write-off provision for doubtful receivables	—	3,780	—
	<u>(3,780)</u>	<u>—</u>	<u>(243)</u>

6. Inventories

Inventories consist of the following:

	<u>As of December 31,</u>	
	<u>2019</u>	<u>2020</u>
Raw materials	58,627	195,939
Finished goods	127,452	26,963
Work in process	8,728	2,620
Goods in transit	1,260	—
Total	<u>196,067</u>	<u>225,522</u>

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During the years ended December 31, 2018, 2019 and 2020, the Group recorded write-down of RMB427,163, RMB526,473 and RMB44,916 for the obsolete inventories in cost of revenues, respectively.

For the years ended December 31, 2018, 2019 and 2020, at the beginning of lease period, the inventories reclassified to operating lease assets were nil, RMB99,523 and RMB135,276, respectively. At the end of lease period, the operating lease assets with net book value of nil, RMB79,065 and RMB115,887 were reclassified to the inventories. Depreciation expense of operating lease assets of nil, RMB20,458 and RMB19,389 was recorded in the cost of revenue for the year ended December 31, 2018, 2019 and 2020.

7. Prepayments and other assets

The current and non-current portions of prepayments and other assets consist of the following:

	As of December 31,	
	2019	2020
Prepayments and other current assets		
Prepayments to vendors (Note a)	35,801	203,063
VAT recoverable	122,757	87,879
Prepayment for repurchase of ordinary shares	—	15,825
VAT refund for export sales (Note b)	35,507	5,510
Others (Note c)	11,955	4,089
	<u>206,020</u>	<u>316,366</u>
Non-current assets		
Rental and other deposits	<u>5,250</u>	<u>2,530</u>

Note a: Prepayments to vendors mainly represent prepayments made to third-party suppliers for foundry service. The Group also records a provision for the prepayment to third-party suppliers when the Group believes that the net realizable value (being the estimated selling price of final products, less the costs of completion and selling expenses) is less than carrying amount. For the years ended December 31, 2018, 2019 and 2020, the Group recorded a write-down of RMB358,842, RMB202,522 and nil for the prepayment to third-party suppliers in cost of revenues. As of December 31, 2019 and 2020, the Group's purchase obligation to third-party suppliers for foundry service was nil and RMB121,015, respectively.

Note b: Canaan Convey Co., Ltd. is entitled to VAT refund for its export sales.

Note c: During the years ended December 31, 2018, 2019 and 2020, the Group recorded provision of allowance for other receivables of nil, nil and RMB4,606, respectively.

8. Property, equipment and software

Property, equipment and software consist of the following:

	As of December 31,	
	2019	2020
Cost:		
Leasehold improvements	28,542	17,130
Computers and electronic equipment	18,721	14,540
Software	470	1,955
Construction in progress	1,325	1,325
Mechanical equipment	1,181	1,181
Motor vehicles	1,739	461
Total cost	<u>51,978</u>	<u>36,592</u>
Less: Accumulated depreciation and amortization	<u>(29,376)</u>	<u>(24,399)</u>
Property, equipment and software, net	<u>22,602</u>	<u>12,193</u>

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Depreciation and amortization expenses recognized for the years ended December 31, 2018, 2019 and 2020 are summarized as follows:

	<u>For the Years Ended December 31,</u>		
	<u>2018</u>	<u>2019</u>	<u>2020</u>
General and administrative expenses	6,667	8,062	7,680
Research and development expenses	5,197	3,662	3,874
Cost of revenues	1,260	1,899	217
Sales and marketing expenses	21	81	81
Total	<u>13,145</u>	<u>13,704</u>	<u>11,852</u>

9. Leases

The Company leases facilities under non-cancellable operating leases expiring on different dates. The terms of substantially all of these leases are two years or less. When determining the lease term, the Company includes options to extend or terminate the lease when it is reasonably certain that it will exercise that option, if any. All of the Company's leases qualify as operating leases. Variable lease cost and short-term leases (lease terms less than 12 months) are recognized as incurred.

(a) The components of lease expenses were as follows:

	<u>For the Years Ended December 31,</u>	
	<u>2019</u>	<u>2020</u>
Lease cost:		
Amortization of right-of-use assets	10,928	13,432
Interest of lease liabilities	1,746	1,938
Expenses for short-term lease within 12 months	605	505
Total lease cost	<u>13,279</u>	<u>15,875</u>

(b) Supplemental cash flow information related to leases was as follows:

	<u>For the Years Ended December 31,</u>	
	<u>2019</u>	<u>2020</u>
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	11,228	14,322
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	—	5,516
Reductions to ROU assets resulting from reductions to lease obligations:		
Operating leases	—	427

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(c) Supplemental balance sheet information related to leases was as follows:

	As of December 31,	
	2019	2020
Weighted-average remaining lease term		
Operating leases	1.2 year	1.3 year
Weighted-average discount rate		
Operating lease	7.14% per annum	6.73% per annum

(d) Maturities of lease liabilities were as follows:

Years Ending December 31,	As of December 31,
	2020
2021	13,200
2022	3,603
Total undiscounted lease payments	16,803
Less: imputed interest	(860)
Total lease liabilities	15,943

10. Short-term debts

	As of December 31,	
	2019	2020
Short-term bank loans	99,903	34,754

During the years ended December 31, 2019 and 2020, the Group entered into certain short-term loan agreements with various banks with aggregated principal amount of RMB200,000 with interest rates ranging from 4.35% to 4.79% per annum and RMB152,000 with interest rates ranging from 2.70% to 2.85% per annum, respectively. As of December 31, 2019 and 2020, the aggregated outstanding principal amounts under these agreements were RMB100,000 bearing interest rate 4.35% per annum and RMB35,000 bearing interest rate 2.84% per annum, respectively.

11. Notes payable

Notes payable represent payables in the form of notes issued by the Group. The notes are endorsed by banks to ensure that noteholders will be paid upon maturity. The Group is required to maintain a certain balance of cash deposit in designated bank accounts for the notes payable outstanding as of December 31, 2019 and 2020. Such required cash deposit of RMB8,239 and RMB4,494 was classified as restricted cash on the consolidated balance sheet as of December 31, 2019 and 2020.

12. Accrued liabilities and other liabilities

	As of December 31,	
	2019	2020
Accrued liabilities and other current liabilities		
VAT received from customers related to contract liabilities	937	28,958
Salary and welfare payable	24,034	25,148
Rental deposits	—	4,011
Refund from depository bank – current	—	2,060
Other tax payables	2,225	874
Professional service fee accrual	7,493	—
Other service fee payables	2,196	—
Others	3,806	2,292
Total	<u>40,691</u>	<u>63,343</u>
Non-current		
Refund from depository bank – non-current	<u>—</u>	<u>8,020</u>

13. Ordinary shares

On March 23, 2018, Canaan Inc. was incorporated as an exempted company with limited liability company with authorized share capital of US\$50,000 divided into 500,000,000 shares with par value US\$0.0001 each. In June 2018, the authorized share capital of US\$50,000, which represented 500,000,000 issued shares, was subdivided into 1,000,000,000,000 shares of a par value of US\$0.00000005 each.

In February 2019, the Company issued 222,222,222 ordinary shares to existing shareholders at a price of US\$0.45 per share for a total cash consideration of US\$100 million. Out of the 222,222,222 ordinary shares issued, 403,157 issued ordinary shares were contributed by the then existing shareholders to the Trust for future share awards (Note 14).

On November 21, 2019, the Company completed its IPO and became listed on the Nasdaq Global Market by issuing 10,000,000 ADSs at the price of US\$9.00 per ADS for a total gross proceeds of US\$90 million. Each ADS represents 15 Class A ordinary shares.

Upon the completion of the Company’s IPO, the Company’s authorized share capital was re-designated into Class A ordinary shares and Class B ordinary shares. Holders of Class A ordinary shares and Class B ordinary shares have the same rights except for voting and conversion rights. Each Class A ordinary share is entitled to one vote and each Class B ordinary share is entitled to fifteen votes. In addition, certain matters including those related to the change of control of the Company require an additional approval by the holders of a majority of Class A ordinary shares voting as a separate class. Each Class B ordinary share is convertible into one Class A ordinary share at any time by the holder thereof. Class A ordinary shares are not convertible into Class B ordinary shares under any circumstances. Class B ordinary shares will be automatically converted into the same number of Class A ordinary shares under certain circumstances, including any transfer of Class B ordinary shares by the holder thereof to any person or entity which is not an affiliate of such holder.

Effective November 25, 2020, the Board of Directors approved conversion of 45,000,000 Class B ordinary shares into 45,000,000 Class A ordinary shares. As of December 31, 2020, the authorized ordinary shares are 1,000,000,000,000, of which 2,372,222,222 shares were issued and 2,328,326,132 shares were outstanding. These outstanding shares consist of (1) 2,016,701,688 Class A ordinary shares and (2) 311,624,444 Class B ordinary shares, which were held by the Chairman and CEO of the Company.

14. Treasury stocks

In April 2018, the Company established a trust to hold 51,624,000 of the Company’s issued ordinary shares. These ordinary shares were contributed by the Co-Founders and employees and held in a trust (the “Trust”) for the benefit of the employees who are under the 2018 Equity Incentive Plan (Note 15).

In February 2019, 403,157 issued ordinary shares were contributed by the then existing shareholders to the Trust for future share awards.

The ordinary shares issued to the Trust are accounted for as treasury stocks of the Company and presented as such for all periods presented. The Trust does not hold any other assets or liabilities as at December 31, 2019 and 2020, nor earn any income nor incur any expenses for the years ended December 31, 2018, 2019 and 2020.

Upon the completion of the Company's IPO in November 2019, 13,928,205 restricted share units and 16,000,000 restricted ordinary shares that have been vested under the 2018 Equity Incentive Plan (Note 15) were transferred from treasury stocks to ordinary shares. For the year ended December 31, 2020, 4,002,052 restricted share units were transferred from treasury stock to ordinary shares under the 2018 Incentive Plan (Note 15). As of December 31, 2020, 18,096,900 issued ordinary shares held by the Trust are accounted as treasury stocks.

Effective September 9, 2020, the Board of Directors approved a share repurchase program to repurchase in the open market up to US\$10 million worth of its outstanding (i) American Depositary Share ("ADS") each representing 15 Class A ordinary shares, and/or (ii) Class A ordinary shares over the next 12 months starting from September 22, 2020 depending on a number of factors, including, but not limited to, price, trading volume and general market conditions, along with Canaan's working capital requirements and general business conditions, the relevant rules under United States securities laws and regulations, and the relevant stock exchange rules.

As of December 31, 2020, total of 1,719,946 outstanding ADSs (25,799,190 shares) were repurchased but have not been retired with a total consideration of RMB23,915, which is shown as treasury stock (Note 2(ae)).

15. Share-based compensation

On October 8, 2016, Canaan Chaoxin, which was a holding company controlled by the controlling shareholders, established of 2016 Equity Incentive Plan (the "2016 Plan") with the purpose of which is to provide share options for employees contributing to the Company. On October 8, 2016, Canaan Chaoxin granted 39,600,000 share options to Company's employees at an exercise price of RMB0.023 per share under the 2016 Plan. The vesting period was from October 2016 to May 2017 and the exercise period was from June 2017 to July 2017.

On November 22, 2017, Canaan Chaoxin approved the establishment of 2017 Equity Incentive Plan (the "2017 Plan") with the purpose of which is to provide restricted share units ("RSUs") to its employees. In November 2017, Canaan Chaoxin granted 71,200,000 RSUs to Company's employees at an exercise price of RMB0.015 per share under the 2017 Plan, among which, 39,170,000 RSUs are vested immediately on the grant date, 30,030,000 RSUs contain two or four service years of the employees and the remaining 2,000,000 RSUs shall be vested upon occurrence of IPO.

As part of the Reorganization in 2018, the Board of Directors of the Company approved the 2018 Equity Incentive Plan (the "2018 Plan") on April 25, 2018, which assumed Canaan Chaoxin's obligations and duties under the share awards granted by Canaan Chaoxin. As a result, the unvested RSUs granted by Canaan Chaoxin under 2017 Plan were replaced with RSUs of the Company. Such new RSUs replaced the RSUs granted under Canaan Chaoxin's existing RSUs in its entirety by exchanging of the RSU granted by Canaan Chaoxin for the RSU of the Company while maintaining their respective terms and vesting schedules unchanged except for the addition of performance condition of IPO. This resulted in a probable to improbable (Type II) modification, and no incremental fair value would be recognized unless and until vesting of the award under the modified conditions becomes probable. Since this modification was not beneficial to its employees, no incremental value was resulting from the modification. The Group recognized compensation cost equal to the award's original grant-date fair value when the original vesting conditions are satisfied, regardless of whether the modified IPO condition is satisfied.

On the same date, some employees who are under the 2016 Plan entered into share award replacement agreement (the "Replacement Agreement") with the Company under which a total of 19,594,000 ordinary shares of the Company held by the employees became restricted and shall be vested upon IPO of the Company. In the event that the employees voluntarily and unilaterally terminates his employment/service contract with any group entities or his employment, the unvested restricted shares shall automatically lapse. Deferred share-based compensation was measured for the restricted shares using the estimated fair value of the Company's ordinary shares at the date of imposition of the restriction in April 2018, and the compensation cost for the restricted shares shall be recognized upon occurrence of IPO.

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Upon completion of the Company's IPO in November 2019, 2,000,000 RSUs with IPO condition and 16,000,000 restricted ordinary shares were immediately vested and related share-based compensation expenses amounted to RMB44,789 were recognized.

Share-based compensation expenses related to the share awards granted to the employees amounted to approximately RMB18,586, RMB270,242 and RMB2,950 for the years ended December 31, 2018, 2019 and 2020, respectively.

(a) *Restricted share units*

The following table summarizes the RSUs activity for the years ended December 31, 2018, 2019 and 2020:

	<u>Number of shares</u>	<u>Weighted average grant date fair value RMB</u>
Outstanding at December 31, 2017 and 2018	32,030,000	1.55
Forfeited	(2,368,461)	1.51
Vested	(13,928,205)	1.59
Outstanding at December 31, 2019	15,733,334	1.51
Forfeited	(2,691,282)	1.51
Vested	(4,002,052)	1.51
Outstanding at December 31, 2020	9,040,000	1.51

Based on fair value of the underlying ordinary share, the Group used income approach involving applying appropriate discount rate to estimated cash flows that are based on earnings forecast and discount for lack of marketability to determine the fair value of the RSUs as of the grant date with assistance from an independent valuation firm before consummation of the Group's IPO.

As of December 31, 2020, there was RMB2,151 unrecognized compensation expense related to RSUs, which is expected to be recognized over a weighted-average period of 5.38 months.

(b) *Restricted ordinary shares*

The following table summarizes the restricted ordinary shares activity under Replacement Agreement for the years ended December 31, 2018 and 2019:

	<u>Number of shares</u>	<u>Weighted average grant date fair value RMB</u>
Outstanding at January 1, 2018	—	—
Granted	19,594,000	2.56
Forfeited	(2,000,000)	2.56
Outstanding at December 31, 2018	17,594,000	2.56
Forfeited	(1,594,000)	2.56
Vested	(16,000,000)	2.56
Outstanding at December 31, 2019	—	—

The Group used income approach involving applying appropriate discount rates to estimated cash flows that are based on earnings forecast and discount for lack of marketability to determine the fair value of the restricted ordinary share at the date of imposition of the restriction in April 2018 with assistance from an independent valuation firm.

For the year ended December 31, 2020, there was no outstanding restricted ordinary shares.

(c) Other share-based compensation

In May 2019, certain shareholders of the Company sold 233,217,776 ordinary shares in aggregate to certain existing shareholders and certain third party investors. Out of the total 233,217,776 shares transferred, 111,217,778 shares were purchased by existing shareholders who were also the employees of the Company. The net excess of appraised fair value of the ordinary shares (acquired by employee shareholders) over the considerations amounted to RMB213,135, which was charged to general and administrative expenses as share-based compensation costs for the year ended December 31, 2019.

16. Income Taxes

(a) Cayman Islands

Under the current tax laws of Cayman Islands, the Company is not subject to income, corporation or capital gains tax, and no withholding tax is imposed upon the payment of dividends.

(b) Hong Kong Profits Tax

One of the Company's subsidiaries incorporated in Hong Kong is subject to Hong Kong profits tax rate of 16.5% on its estimated assessable profit for the years ended December 31, 2018, 2019 and 2020. Dividends income received from subsidiaries in China are not subject to Hong Kong profits tax.

(c) PRC Enterprise Income Tax ("EIT")

On March 16, 2007, the National People's Congress of the PRC enacted an Enterprise Income Tax Law ("EIT Law"), under which Foreign Investment Enterprises ("FIEs") and domestic companies would be subject to EIT at a uniform rate of 25%. The EIT law became effective on January 1, 2008.

Canaan Creative obtained its High and New Technology Enterprises ("HNTE") certificate with a valid period of three years in 2019. Therefore, Canaan Creative is eligible to enjoy a preferential tax rate of 15% from 2019 to 2021 to the extent it has taxable income under the EIT Law, as long as it maintains the HNTE qualification and duly conducts relevant EIT filing procedures with the relevant tax authority.

Hangzhou Canaan obtained its HNTE certificate with a valid period of three years in 2019, and therefore is eligible to enjoy a preferential tax rate of 15% from 2019 to 2021 to the extent it has taxable income under the EIT Law, as long as it maintains the HNTE qualification and duly conducts relevant EIT filing procedures with the relevant tax authority. In addition, In accordance with Caishui (2012) No. 27 issued by the State Tax Bureau on April 20, 2012, Hangzhou Canaan is qualified as an integrated circuit enterprise and enjoying a 5-year tax holiday (two year full exemption followed by three year half reduction) beginning from 2016 after utilizing all prior years' tax losses. Therefore, Hangzhou Canaan is eligible to enjoy a preferential tax rate of 0% from 2016 to 2017 and 12.5% from 2018 to 2020.

The Group's other PRC subsidiaries are subject to the statutory income tax rate of 25%.

(d) PRC Withholding Income Tax on Dividends

The EIT Law also provides that an enterprise established under the laws of a foreign country or region but whose "de facto management body" is located in the PRC be treated as a resident enterprise for PRC tax purposes and consequently be subject to the PRC income tax at the rate of 25% for its global income. The implementing Rules of the EIT Law merely define the location of the "de facto management body" as "the place where the exercising, in substance, of the overall management and control of the production and business operation, personnel, accounting, properties, etc., of a non-PRC company is located."

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The EIT Law also imposes a withholding income tax of 10% on dividends distributed by a FIE to its immediate holding company outside of China, if such immediate holding company is considered as a non-resident enterprise without any establishment or place within China or if the received dividends have no connection with the establishment or place of such immediate holding company within China, unless such immediate holding company's jurisdiction of incorporation has a tax treaty with China that provides for a different withholding arrangement. The Cayman Islands, where the Company incorporated, does not have such tax treaty with China. According to the arrangement between Mainland China and Hong Kong Special Administrative Region on the Avoidance of Double Taxation and Prevention of Fiscal Evasion in August 2006, dividends paid by a FIE in China to its immediate holding company in Hong Kong will be subject to withholding tax at a rate of no more than 5% if the immediate holding company in Hong Kong owns directly at least 25% of the shares of the FIE and could be recognized as a Beneficial Owner of the dividend from PRC tax perspective.

As of December 31, 2019 and 2020, the aggregated amount of undistributed earnings of the Group entities located in the PRC that are available for distribution to the Company were RMB809,134 and RMB701,633, respectively. The Group plans to indefinitely reinvest undistributed earnings earned from its PRC subsidiaries in its operations in PRC. Therefore, no withholding income tax for undistributed earnings of its subsidiaries were provided as of December 31, 2019 and 2020.

A reconciliation between the effective income tax rate and the PRC statutory income tax rate is as follows:

	For the Years Ended December 31,		
	2018	2019	2020
PRC statutory income tax rates	25.0%	25.0%	25.0%
Permanent book — tax difference	(5.8)%	(3.3)%	4.5%
Different tax rates in other jurisdictions	1.7%	(0.4)%	(2.0)%
Effect of tax holiday	(41.5)%	(8.4)%	(4.4)%
Change in valuation allowance	59.5%	(12.9)%	(23.1)%
Total	38.9%	0.0%	0.0%
Effects of tax holidays entitled by the PRC subsidiaries	83,178	(87,043)	(9,553)
Effects of tax holidays entitled by the PRC subsidiaries on basic earnings/(loss) per share (RMB cent per share)	4.23	(4.04)	(0.41)

Composition of income tax expense

The current and deferred portions of income tax expense included in the consolidated statements of comprehensive income/(loss) are as follows:

	For the Years Ended December 31,		
	2018	2019	2020
Current income tax expense	76,748	—	—
Deferred tax expense	1,062	—	—
Income tax expense	77,810	—	—

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Deferred tax assets and liabilities

Deferred taxes were measured using the enacted tax rates for the periods in which they are expected to be reversed. The tax effects of temporary differences that give rise to the deferred tax asset balances as of December 31, 2019 and 2020 are as follows:

	<u>As of December 31,</u>	
	<u>2019</u>	<u>2020</u>
Deferred tax assets		
Tax losses carried forward	121,948	286,044
Allowance for doubtful accounts	567	1,744
Provision for inventory	128,163	16,840
Unrealized gain from intragroup sale	3,361	162
Subtotal	254,039	304,790
Less: Valuation allowance	(254,039)	(304,790)
Total of deferred tax assets	<u>—</u>	<u>—</u>

As of December 31, 2019 and 2020, the Company had tax loss carry forwards of approximately RMB702,845 and RMB1,762,521, which mainly arose from its PRC subsidiaries and to a less extent from its HK subsidiary. As all PRC subsidiaries are qualified as HNTE or technology small and medium enterprise (“SMEs”), the carryforwards period for net operating losses under the EIT Law is changed from five years to ten years. The net operating loss carryforwards will expire in varying amounts between 2021 and 2030. Other than the expiration, there are no other limitations or restrictions upon the Group’s ability to use these operating loss carryforwards.

Valuation allowance is provided against deferred tax assets when the Group determines that it is more likely than not that the deferred tax assets will not be utilized in the future. In making such determination, the Group considered factors including future taxable income exclusive of reversing temporary differences and tax loss carry forwards. Valuation allowance was provided for tax loss carry forward because it was more likely than not that such deferred tax assets will not be realized due to lack of profitable history to support the Group’s estimate of its future taxable income. If events occur in the future that allow the Group to realize part or all of its deferred income tax, an adjustment to the valuation allowances will result in a decrease in tax expense when those events occur.

As of December 31, 2019 and 2020, valuation allowances of RMB254,039 and RMB304,790 were provided because it was more likely than not that the Group will not be able to utilize certain tax losses carry forwards and other deferred tax assets generated by its subsidiaries. If events occur in the future that allow the Group to realize more of its deferred tax assets than the presently recorded amount, an adjustment to the valuation allowances will increase income when those events occur.

Movement of valuation allowance is as follows:

	<u>For the Years Ended December 31,</u>		
	<u>2018</u>	<u>2019</u>	<u>2020</u>
Beginning balance	1	119,065	254,039
Additions	119,064	134,974	50,751
Ending balance	<u>119,065</u>	<u>254,039</u>	<u>304,790</u>

The Group evaluates each uncertain tax position (including the potential application of interest and penalties) based on the technical merits, and measure the unrecognized benefits associated with the tax positions. As of December 31, 2019 and 2020, the Group did not have any significant unrecognized uncertain tax positions.

[Table of Contents](#)**17. Related party transactions**

For the years ended December 31, 2018, 2019 and 2020, the related party transactions are as follows:

	For the Years Ended December 31,		
	2018	2019	2020
Transaction amount with related parties			
Key management's advance	68	—	—
Disposal of motor vehicles	—	—	637
	<u>68</u>	<u>—</u>	<u>637</u>

As of December 31, 2019 and 2020, there are no related party balances.

18. Basic and diluted net earnings/(loss) per share

Basic and diluted earnings/(loss) per share have been calculated in accordance with ASC 260 on computation of earnings/(loss) per share for the years ended December 31, 2018, 2019 and 2020 as follows:

	For the Years Ended December 31,		
	2018	2019	2020
Basic net earnings/(loss) per share calculation			
Numerator:			
Net income/(loss)	122,432	(1,034,510)	(215,094)
Denominator:			
Weighted-average ordinary shares outstanding	1,964,499,660	2,153,172,769	2,345,703,779
Basic and diluted net earnings/(loss) per share (RMB cent per share)	<u>6.23</u>	<u>(48.05)</u>	<u>(9.17)</u>
	For the Years Ended December 31,		
	2018	2019	2020
Diluted net earnings/(loss) per share calculation			
Numerator:			
Net income/(loss)	122,432	(1,034,510)	(215,094)
Denominator:			
Weighted-average ordinary shares outstanding	1,964,499,660	2,153,172,769	2,345,703,779
Add: weighted-average RSUs	13,661,413	—	—
Weighted-average number of shares used in calculating diluted net earnings/(loss) per share	<u>1,978,161,073</u>	<u>2,153,172,769</u>	<u>2,345,703,779</u>
Diluted net earnings/(loss) per share (RMB cent per share)	<u>6.19</u>	<u>(48.05)</u>	<u>(9.17)</u>

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For the years ended December 31, 2019 and 2020, the effects of all outstanding RSUs have been excluded from the computation of diluted loss per share due to its anti-dilutive effect.

	For the Year Ended December 31,	
	2019	2020
Weighted-average RSUs	13,923,725	10,710,636

19. Contingencies

On March 4, 2020, a putative class action was filed in the United States District Court of Oregon against the Company, certain officers and directors of the Company, and the underwriters in the Company's IPO. The complaint alleges that the Form F-1 registration statement and related prospectus for the Company's IPO (including amendments to and documents incorporated in the registration statement) contained material misstatements and omissions in violation of federal securities laws. Plaintiff claims, among other things, that the registration statement and related prospectus failed to disclose a related party transaction, misrepresented the Company's financial health, and omitted material information about the Company's distributors and clients and seeks to recover under Sections 11 and 12 of the Securities Act of 1933. On June 1, 2020, the Company filed a motion to transfer venue to the Southern District of New York ("S.D.N.Y."). On August 31, 2020, the motion to transfer was granted and the case was transferred to the S.D.N.Y.. On October 7, 2020, an amended complaint was filed in S.D.N.Y. and the plaintiff claims, among other things, that the registration statement and related prospectus failed to disclose three alleged related party transactions. On December 7, 2020, the Company filed a motion to dismiss the amend complaint which was fully briefed on March 8, 2021. On April 5, 2021, Plaintiffs filed a letter motion to dismiss briefing or, in the alternative, convert the motion to dismiss into a motion for summary judgment.

On March 6, 2020, a putative class action making substantially similar allegations concerning the Form F-1 registration statement and seeking to recover under Section 11 of the Securities Act of 1933 was filed in New York County Supreme Court against the Company and certain officers and directors of the Company. On July 21, 2020, the Court issued an order granting a stay of proceedings and ordering a preliminary conference for July 20, 2021 to report on the status of the federal action.

The management of the Company believes that there may be defenses to one or more of the claims asserted in the lawsuits. The management of the Company has engaged counsel with the intention to vigorously defend these lawsuits. At the date of issue of the consolidated financial statements, the Company is unable to predict the outcome of these lawsuits, or reasonably estimate a range of possible losses, if any, given the early stage of these lawsuits. Therefore, no contingent liabilities have been recorded by the Company as of December 31, 2020 in respect of these lawsuits.

The Company received a letter from a counsel of one of the Company's suppliers ("the Supplier") in December 2020, alleging that the Company violated the Supplier's intellectual property rights. The Supplier seeks monetary compensation and may pursue legal action, unless the parties are able to resolve the dispute. As of the date of issue of the financial statements, both parties are in the process of negotiation to resolve the dispute. The Company is unable to predict the likelihood of an unfavorable outcome of the event or the amount or the range of possible losses, if any. Therefore, no contingent liabilities have been recorded by the Company in respect of the dispute as of December 31, 2020.

Also, the Company is and, from time to time, may in the future become, involved in other legal proceedings in the ordinary course of business. The Company currently believes that the outcome of any of these existing legal proceedings, either individually or in the aggregate, will not have a material impact on the operating results, financial condition or cash flows of the Company. With respect to existing legal proceedings, the Company has either determined that the existence of a material loss is not reasonably possible or that it is unable to estimate a reasonably possible loss or range of loss. The Company may incur substantial legal fees, which are expensed as incurred, in defending against these legal proceedings.

20. Restricted net assets

Relevant PRC laws and regulations permit payments of dividends by the Group's subsidiary incorporated in the PRC only out of their retained earnings, if any, as determined in accordance with PRC accounting standards and regulations. In addition, the Group's subsidiary in the PRC are required to annually appropriate 10% of their net after-tax income to the statutory general reserve fund prior to payment of any dividends, unless such reserve funds have reached 50% of their respective registered capital. As a result of these and other restrictions under PRC laws and regulations, the Group's subsidiary incorporated in the PRC are restricted in their ability to transfer a portion of their net assets to the Company either in the form of dividends, loans or advances. There are no significant differences between US GAAP and PRC accounting standards in connection with the reported net assets of the legally owned subsidiary in the PRC. Even though the Company currently does not require any such dividends, loans or advances from the PRC entities for working capital and other funding purposes, the Company may in the future require additional cash resources from them due to changes in business conditions, to fund future acquisitions and development, or merely to declare and pay dividends or distributions to our shareholders. Except for the above, there is no other restriction on use of proceeds generated by the Group's subsidiary to satisfy any obligations of the Company.

As of December 31, 2020, the total restricted net assets of the Company's subsidiaries incorporated in PRC and subjected to restriction amounted to approximately RMB163,288. Even though the Company currently does not require any such dividends, loans or advances from the PRC entities for working capital and other funding purposes, the Company may in the future require additional cash resources from them due to changes in business conditions, to fund future acquisitions and development, or merely to declare and pay dividends or distributions to its shareholders. There is no other restriction on the use of proceeds generated by the Company's subsidiaries to satisfy any obligations of the Company.

21. Condensed financial information of the parent company

Rules 12-04(a) and 4-08(e)(3) of Regulation S-X require condensed financial information as to the financial position, cash flows and results of operations of a parent company as of and for the same periods for which the audited consolidated financial statements have been presented when the restricted net assets of the consolidated and unconsolidated subsidiaries together exceed 25% of consolidated net assets as of the end of the most recently completed fiscal year.

The following condensed financial statements of the Parent Company have been prepared using the same accounting policies as set out in the Company's consolidated financial statements except that the Parent Company used the equity method to account for its investment in its subsidiaries. Such investment is presented on the separate condensed balance sheets of the Parent Company as "Receivables from subsidiaries". The Parent Company, its subsidiaries were included in the consolidated financial statements whereby the inter-company balances and transactions were eliminated upon consolidation. The Parent Company's share of loss from its subsidiaries is reported as "share of loss from subsidiaries" in the condensed financial statements.

The Parent Company is a Cayman Islands company and, therefore, is not subjected to income taxes for all years presented. The footnote disclosures contain supplemental information relating to the operations of the Company and, as such, these statements should be read in conjunction with the notes to the consolidated financial statements of the Company. Certain information and footnote disclosures normally included in financial statements prepared in accordance with US GAAP have been condensed or omitted.

As of December 31, 2019 and 2020, there were no material commitments or contingencies, significant provisions for long-term obligations or guarantees of the Company, except for those which have been separately disclosed in the consolidated financial statements, if any.

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Condensed Financial Information of the Parent Company

CONDENSED BALANCE SHEETS

	As of December 31,		
	2019	2020	
	RMB	RMB	US\$ (Note 2(e))
ASSETS			
Current assets:			
Cash and cash equivalents	14	147	23
Receivables from subsidiaries	692,781	442,491	67,814
Total current assets	692,795	442,638	67,837
Total assets	692,795	442,638	67,837
LIABILITIES AND SHAREHOLDERS' EQUITY			
Current liabilities:			
Refund from depository bank – current	—	2,060	316
Non-current liabilities:			
Refund from depository bank – non-current	—	8,020	1,229
Total liabilities	—	10,080	1,545
Shareholders' equity:			
Ordinary shares (US\$0.00000005 par value; 1,000,000,000,000 shares authorized, 2,372,222,222 shares issued, 2,350,123,270 and 2,328,326,132 shares outstanding as of December 31, 2019 and 2020, respectively)	1	1	—
Subscriptions receivable from shareholders	(1)	(1)	—
Treasury stocks (US\$0.00000005 par value; 22,098,952 and 43,896,090 shares as of December 31, 2019 and 2020, respectively)	—	(23,915)	(3,665)
Additional paid-in capital	1,631,609	1,634,619	250,516
Statutory reserves	97,307	97,307	14,913
Accumulated other comprehensive loss	(55,542)	(79,780)	(12,227)
Accumulated deficit	(980,579)	(1,195,673)	(183,245)
Total shareholders' equity	692,795	432,558	66,292
Total liabilities and shareholders' equity	692,795	442,638	67,837

CONDENSED STATEMENTS OF COMPREHENSIVE LOSS

	For the year ended			
	December 31, 2018	December 31, 2019	December 31, 2020	US\$ (Note 2(e))
	RMB	RMB	RMB	
Operating expenses:				
Research and development expenses	(7,208)	(22,465)	(652)	(100)
Sales and marketing expenses	(797)	(358)	(41)	(6)
General and administrative expenses	(5,850)	(247,426)	(2,277)	(349)
Loss from operations	(13,855)	(270,249)	(2,970)	(455)
Interest income	—	5	—	—
Other gains	—	—	2,425	372
Share of loss from subsidiaries	(526,370)	(764,266)	(214,549)	(32,882)
Net loss	(540,225)	(1,034,510)	(215,094)	(32,965)
Foreign currency translation adjustment, net of nil tax	(65,230)	9,688	(24,238)	(3,694)
Total comprehensive loss	(605,455)	(1,024,822)	(239,332)	(36,659)

CONDENSED STATEMENTS OF CASH FLOWS

	For the year ended			
	December 31, 2018	December 31, 2019	December 31, 2020	US\$ (Note 2(e))
	RMB	RMB	RMB	
Cash flows from operating activities				
Receipt of refund from depository bank	—	—	13,285	2,036
Other cash used in operating activities	—	(39)	(1)	—
Net cash (used in)/provided by operating activities	—	(39)	13,284	2,036
Cash flows from investing activities				
Increase in receivables from subsidiaries	—	(1,252,029)	28,451	4,360
Net cash (used in)/provided by investing activities	—	(1,252,029)	28,451	4,360
Cash flows from financing activities				
Proceeds from issuance of ordinary shares	—	669,559	—	—
Proceeds from issuance of ordinary shares upon IPO	—	582,449	—	—
Payment for repurchase of ordinary shares	—	—	(23,915)	(3,665)
Prepayment under share repurchase agreement	—	—	(16,146)	(2,474)
Net cash provided by/(used in) financing activities	—	1,252,008	(40,061)	(6,139)
Net (decrease)/increase in cash and cash equivalents	—	(60)	1,674	257
Effect of exchange rate changes on cash	—	74	(1,541)	(236)
Cash and cash equivalents, beginning of year	—	—	14	2
Cash and cash equivalents, end of year	—	14	147	23

CANAAAN INC.
AMENDED AND RESTATED 2018 SHARE INCENTIVE PLAN

1. Purpose of the Plan

The purpose of the Plan is to aid the Company and its Subsidiaries in recruiting and retaining key employees, directors or consultants of outstanding ability and to motivate such employees, directors or consultants to exert their best efforts on behalf of the Company and its Subsidiaries by providing incentives through the granting of Awards. The Company expects that it will benefit from the added interest which such key employees, directors or consultants will have in the welfare of the Company as a result of their proprietary interest in the Company's success.

2. Definitions

The following capitalized terms used in the Plan have the respective meanings set forth in this Section:

- (a) **Administrator:** The Board or any director of the Company delegated with the power and authority by the Board.
- (b) **Applicable Laws:** All laws, statutes, regulations, ordinances, rules or governmental requirements that are applicable to this Plan or any Award granted pursuant to this Plan, including but not limited to applicable laws of the People's Republic of China, Hong Kong, the United States and the Cayman Islands, and the rules and requirements of any applicable national securities exchange.
- (c) **Act:** The U.S. Securities Exchange Act of 1934, as amended, or any successor thereto.
- (d) **Award:** Share-based award granted pursuant to the Plan.
- (e) **Beneficial Owner:** A "beneficial owner", as such term is defined in Rule 13d-3 under the Act (or any successor rule thereto).
- (f) **Board:** The Board of Directors of the Company.
- (g) **Change in Control:** The occurrence of any of the following events:
 - (i) the sale or disposition, in one or a series of related transactions, of all or substantially all, of the assets of the Company to any "person" or "group" (as such terms are defined in Sections 13(d)(3) or 14(d)(2) of the Act) other than the Permitted Holders;
 - (ii) any person or group, other than the Permitted Holders, is or becomes the Beneficial Owner (except that a person shall be deemed to have "beneficial ownership" of all shares that any such person has the right to acquire, whether such right is exercisable immediately or only after the passage of time), directly or indirectly, of more than 50% of the total voting power of the voting share of the Company (or any entity which controls the Company), including by way of merger, consolidation, tender or exchange offer or otherwise; or
 - (iii) during any period of two consecutive years, individuals who at the beginning of such period constituted the Board (together with any new directors whose election by such Board or whose nomination for election by the shareholders of the Company was approved by a vote of a majority of the directors of the Company, then still in office, who were either directors at the beginning of such period or whose election or nomination for election was previously so approved) cease for any reason to constitute a majority of the Board, then in office.
- (h) **Code:** The U.S. Internal Revenue Code of 1986, as amended, or any successor thereto.

- (i) **Company:** Canaan Inc., an exempt company incorporated under the laws of the Cayman Islands.
- (j) **Date of Listing:** The date on which the Company's shares are listed for trading on a national securities exchange as defined under the Act.
- (k) **Disability:** Inability of a Participant to perform in all material respects his or her duties and responsibilities to the Company, or any Subsidiary of the Company, by reason of a physical or mental disability or infirmity which inability is reasonably expected to be permanent and has continued (i) for a period of not less than 90 consecutive days or (ii) such shorter period as the Administrator may reasonably determine in good faith. The Disability determination shall be in the sole discretion of the Administrator and a Participant (or his or her representative) shall furnish the Administrator with medical evidence documenting the Participant's disability or infirmity which is satisfactory to the Administrator.
- (l) **Effective Date:** The date the Board approves the Plan, or such later date as is designated by the Board.
- (m) **Employment:** The term "Employment" as used herein shall be deemed to refer to (i) a Participant's employment if the Participant is an employee of the Company or any of its Subsidiaries, (ii) a Participant's services as a consultant, if the Participant is a consultant to the Company or its Subsidiaries and (iii) a Participant's services as a non-employee director, if the Participant is a non-employee member of the Board.
- (n) **Fair Market Value:** On a given date, (i) if there should be a public market for the Shares on such date, the arithmetic mean of the high and low prices of the Shares as reported on such date on the Composite Tape of the principal national securities exchange on which such Shares are listed or admitted to trading, or if the Shares are not listed or admitted on any national securities exchange, the arithmetic mean of the per Share closing bid price and per Share closing asked price on such date as quoted on such market in which such prices are regularly quoted, or, if no sale of Shares shall have been reported on the Composite Tape of any national securities exchange, then the immediately preceding date on which sales of the Shares have been so reported or quoted shall be used, or (ii) if there should not be a public market for the Shares on such date, the Fair Market Value shall be the value established by the Administrator in good faith.
- (o) **Participant:** An employee, director or consultant who is selected by the Administrator to participate in the Plan. To the extent required by Applicable Laws, Awards may be limited to employees and officers or employees and directors.
- (p) **Permitted Holder:** means, as of the date of determination, (i) the Company or (ii) any employee benefit plan (or trust forming a part thereof) maintained by (A) the Company or (B) any corporation or other Person of which a majority of its voting power of its voting equity securities or equity interest is owned, directly or indirectly, by the Company.
- (q) **Person:** A "person", as such term is used for purposes of Section 13(d) or 14(d) of the Act (or any successor section thereto).
- (r) **Plan:** This Canaan Inc. Amended and Restated 2018 Share Incentive Plan.
- (s) **Shares:** ordinary shares, par value US\$0.00000005 per share, of the Company.
- (t) **Subsidiary:** A corporation or other entity of which a majority of the outstanding voting shares or voting power is beneficially owned directly or indirectly by the Company.

3. Shares Subject to the Plan

- (a) Subject to the provisions of Section 7 and paragraph (b) of this Section 3, the maximum number of Shares which may be issuable pursuant to Awards under the Plan is 51,624,000 Shares, provided, however, that the maximum number of unallocated Shares which may be issuable pursuant to Awards under the Plan shall be automatically increased on the first day of each fiscal year (i.e., January 1 of each calendar year) during which the Plan remains in effect to fifteen percent (15%) of the then total issued and outstanding Shares of the Company, if and whenever the unallocated Shares which may be issuable pursuant to Awards under the Plan account for less than three percent (3%) of the then total issued and outstanding Shares of the Company, provided further that solely for the fiscal year 2021, the increase of the unallocated Shares which may be issuable pursuant to Awards under the Plan will be given effect as of the date of the approval by the Board (but calculated based on the total issued and outstanding shares of the Company as of January 1, 2021).
- (b) If an Award (or any portion thereof) terminates, expires or lapses or is cancelled for any reason, any Shares subject to the Award (or such portion thereof) shall again be available for the grant of an Award pursuant to the Plan (unless the Plan has terminated). If any Award (in whole or in part) is settled in cash or other property in lieu of Shares, then the number of Shares subject to such Award (or such portion of an Award) shall again be available for grant pursuant to the Plan. However, Shares that have actually been issued under the Plan, pursuant to Awards under the Plan shall not be returned to the Plan and shall not become available for future distribution under the Plan, except that if any restricted Shares are forfeited, then such restricted Shares shall form part of the authorized but unissued share capital of the Company and may become available for future grant under the Plan (to the extent permitted under Applicable Laws).
- (c) Shares withheld or not issued by the Company upon the grant, exercise or vesting of any Award under the Plan, in payment of the exercise or purchase price thereof or tax obligation or withholding thereon, may again be optioned, granted or awarded hereunder, subject to the limitations of Section 3(a).

4. Administration

The Plan shall be administered by the Administrator. A trustee shall be appointed to assist with the Administrator in the administration and vesting of the Awards. Awards may, in the discretion of the Administrator, be made under the Plan in assumption of, or in substitution for, outstanding awards previously granted by the Company or its Subsidiaries or a company acquired by the Company or with which the Company combines. The number of Shares underlying such substitute awards shall be counted against the aggregate number of Shares available for Awards under the Plan. The Administrator is authorized to interpret the Plan, to establish, amend and rescind any rules and regulations relating to the Plan, and to make any other determinations that it deems necessary or desirable for the administration of the Plan. The Administrator may correct any defect or supply any omission or reconcile any inconsistency in the Plan in the manner and to the extent the Administrator deems necessary or desirable. Any decision of the Administrator in the interpretation and administration of the Plan, as described herein, shall lie within its sole and absolute discretion and shall be final, conclusive and binding on all parties concerned (including, but not limited to, Participants and their beneficiaries or successors). The Administrator shall have the full power and authority to establish the terms and conditions of any Award consistent with the provisions of the Plan and to waive any such terms and conditions at any time (including, without limitation, accelerating or waiving any vesting conditions). The Administrator shall require payment of any amount it may determine to be necessary to withhold for any applicable taxes as a result of the exercise, grant or vesting of an Award. Unless the Administrator specifies otherwise, the Participant may elect to pay a portion or all of such withholding taxes by (a) delivery in Shares or (b) having Shares withheld by the Company from any Shares that would have otherwise been received by the Participant.

5. Limitations

No Award may be granted under the Plan after the tenth anniversary of the Effective Date, but Awards theretofore granted may extend beyond that date.

6. Share-Based Awards

The Administrator, in its sole discretion, may grant or sell Awards of Shares or Awards of restricted Shares. Such Awards shall be in such form, and dependent on such conditions, as the Administrator shall determine, including, without limitation, the right to receive, or vest with respect to, one or more Shares (or the equivalent cash value of such Shares) upon the completion of a specified period of service, the occurrence of an event and/or the attainment of performance objectives. The detailed terms and conditions of Such Awards shall be set forth in the grant letter issued to the recipient of such Awards. Subject to the provisions of the Plan, the Administrator shall determine to whom and when such Awards will be made, the number of Shares to be awarded under (or otherwise related to) such Awards; whether such Awards shall be settled in cash, Shares or a combination of cash and Shares; and all other terms and conditions of such Awards (including, without limitation, the vesting provisions thereof and provisions ensuring that all Shares so awarded and issued shall be fully paid and non-assessable), to be set forth in the grant letter to the recipient of such Awards.

7. Adjustments Upon Certain Events

Notwithstanding any other provisions in the Plan to the contrary, the following provisions shall apply to all Awards granted under the Plan:

- (a) Generally. In the event of any change in the outstanding Shares after the Effective Date by reason of any Share dividend or split, reorganization, recapitalization, merger, consolidation, spin-off, combination, combination or transaction or exchange of Shares or other corporate exchange, or any distribution to shareholders of Shares other than regular cash dividends or any transaction similar to the foregoing, the Administrator in its sole discretion and without liability to any person shall make such substitution or adjustment, if any, as it deems to be equitable, as to (i) the number or kind of Shares or other securities issued or reserved for issuance pursuant to the Plan or pursuant to outstanding Awards, (ii) the maximum number of Shares for which Awards may be granted during a calendar year to any Participant, (iii) the maximum amount of an Award that is valued in whole or in part by reference to, or is otherwise based on the Fair Market Value of, Shares that may be granted during a calendar year to any Participant and/or (iv) any other affected terms of such Awards.
- (b) Change in Control. In the event of a Change of Control after the Effective Date, (i) if determined by the Administrator in the applicable Award agreement or otherwise, any outstanding Awards then held by Participants which are unexercisable or otherwise unvested or subject to lapse restrictions shall automatically be deemed exercisable or otherwise vested or no longer subject to lapse restrictions, as the case may be, as of immediately prior to such Change of Control and (ii) the Administrator may, but shall not be obligated to, (A) cancel such Awards for fair value (as determined in the sole discretion of the Administrator) or (B) provide for the issuance of substitute Awards that will substantially preserve the otherwise applicable terms of any affected Awards previously granted hereunder as determined by the Administrator in its sole discretion.

8. No Right to Employment or Awards

The granting of an Award under the Plan shall impose no obligation on the Company or any Affiliate to continue the Employment of a Participant and shall not lessen or affect the Company's or Affiliate's right to terminate the Employment of such Participant. No Participant or other Person shall have any claim to be granted any Award, and there is no obligation for uniformity of treatment of Participants, or holders or beneficiaries of Awards. The terms and conditions of Awards and the Administrator's determinations and interpretations with respect thereto need not be the same with respect to each Participant (whether or not such Participants are similarly situated).

9. Successors and Assigns

The Plan shall be binding on all successors and assigns of the Company and a Participant, including without limitation, the estate of such Participant and the executor, administrator or trustee of such estate, or any receiver or trustee in bankruptcy or representative of the Participant's creditors.

10. Nontransferability of Awards

Unless otherwise determined by the Administrator, an Award shall not be transferable or assignable by the Participant otherwise than by will or by the laws of descent and distribution. An Award exercisable after the death of a Participant may be exercised by the legatees, personal representatives or distributees of the Participant.

11. Amendments or Termination

The Board may amend, alter or discontinue the Plan, but no amendment, alteration or discontinuation shall be made, (a) without the approval of the shareholders of the Company, if such action would, increase the total number of Shares reserved for the purposes of the Plan or change the maximum number of Shares for which Awards may be granted to any Participant or (b) without the consent of a Participant, if such action would materially diminish any of the rights of the Participant under any Award theretofore granted to such Participant under the Plan; provided, however, that the Administrator may amend the Plan in such manner as it deems necessary to permit the granting of Awards meeting the requirements of any Applicable Laws.

Without limiting the generality of the foregoing, to the extent applicable, notwithstanding anything herein to the contrary, this Plan and Awards issued hereunder shall be interpreted in accordance with Section 409A of the Code and Department of Treasury regulations and other interpretative guidance issued thereunder, including without limitation any such regulations or other guidance that may be issued after the Effective Date. Notwithstanding any provision of the Plan to the contrary, in the event that the Administrator determines that any amounts payable hereunder will be taxable to a Participant under Section 409A of the Code and related Department of Treasury guidance prior to payment to such Participant of such amount, the Company may (a) adopt such amendments to the Plan and Awards and appropriate policies and procedures, including amendments and policies with retroactive effect, that the Administrator determines necessary or appropriate to preserve the intended tax treatment of the benefits provided by the Plan and Awards hereunder and/or (b) take such other actions as the Administrator determines necessary or appropriate to comply with the requirements of Section 409A of the Code.

12. Jurisdictions

In order to assure the viability of Awards granted to Participants employed in various jurisdictions, the Administrator, in its sole discretion, may provide for such special terms as it may consider necessary or appropriate to accommodate differences in local law, tax policy or custom applicable in the jurisdiction in which the Participant resides or is employed. Moreover, the Administrator may approve such supplements to, amendments, restatements, or alternative versions of the Plan as it may consider necessary or appropriate for such purposes without thereby affecting the terms of the Plan as in effect for any other purpose; provided, however, that no such supplements, restatements or alternative versions shall increase the Share limitation contained in Section 3 hereof. Notwithstanding the foregoing, the Administrator may not take any actions hereunder, and no Awards shall be granted that would violate any Applicable Laws.

13. Distribution of Shares

The obligation of the Company to make payments in Shares pursuant to an Award shall be subject to all Applicable Laws and to any such approvals by government agencies as may be required. Without limiting the generality of the foregoing, Shares distributed pursuant to an Award may consist, in whole or in part, of authorized and unissued Shares or Shares purchased on the open market. Additionally, in the discretion of the Administrator, American Depository Shares may be distributed in lieu of Shares in settlement of any Award, provided that the American Depository Shares shall be of equal value to the Shares that would have otherwise been distributed. If the number of Shares represented by an American Depository Share is other than on a one-to-one basis, the limitations set forth in Section 3 shall be adjusted to reflect the distribution of American Depository Shares in lieu of Shares.

14. Taxes

No Shares shall be delivered under the Plan to any Participant until such Participant has made arrangements acceptable to the Administrator for the satisfaction of any income and employment tax withholding obligations under any Applicable Laws, in particular, the tax laws, rules, regulations and government orders of the People's Republic of China or the U.S. federal, state or other local tax laws, as applicable. The Company and each of its Subsidiaries shall have the authority and the right to deduct or withhold, or require a Participant to remit to the Company, an amount sufficient to satisfy federal, state, local and foreign taxes (including the Participant's payroll tax obligations, if any) required to be withheld under any Applicable Laws with respect to any Award issued to the Participant hereunder. The Administrator may in its discretion and in satisfaction of the foregoing requirement allow a Participant to elect to have the Company withhold Shares otherwise issuable under an Award (or allow the return of Shares) having a Fair Market Value equal to the sums required to be withheld. Notwithstanding any other provision of the Plan, the number of Shares which may be withheld with respect to the issuance, vesting, exercise or payment of any Award (or which may be repurchased from the Participant of such Award after such Shares were acquired by the Participant from the Company) in order to satisfy the Participant's federal, state, local and other income and payroll tax liabilities with respect to the issuance, vesting, exercise or payment of the Award shall, unless specifically approved by the Administrator, be limited to the number of Shares which have a Fair Market Value on the date of withholding or repurchase equal to the aggregate amount of such liabilities based on the minimum statutory withholding rates for federal, state, local and other income tax any payroll tax purposes that are applicable to such taxable income.

15. Choice of Law

The Plan shall be governed by and construed in accordance with the laws of the state of New York.

16. Effectiveness of the Plan

The Plan shall be effective as of the Effective Date and shall terminate ten years later, subject to earlier termination by the Board pursuant to Section 11 hereof.

Canaan Inc.**List of Principal Subsidiaries**

<u>Subsidiaries</u>	<u>Jurisdiction of Incorporation</u>
1. Canaan Creative (HK) Holdings Limited* 嘉楠科技(香港)有限公司	Hong Kong
2. Hangzhou Canaan Creative Information Technology Limited* 杭州嘉楠耘智信息科技有限公司	PRC
3. Canaan Creative Co., Ltd.* 北京嘉楠捷思信息技术有限公司	PRC
4. Langfang Creative Technology Co., Ltd.* 廊坊创享电子有限公司	PRC
5. Hangzhou Ruihong Technology Co., Ltd.* 杭州锐弘科技有限公司	PRC
6. Hangzhou Canaan Blockchain Technology Co., Ltd.* 杭州嘉楠区块链科技有限公司	PRC
7. Canaan Convey Co., Ltd.* 北京嘉楠致远信息科技有限公司	PRC
8. Zhejiang Avalon Technology Co., Ltd.* 浙江阿瓦隆科技有限公司	PRC
9. Canaan Mingxin(Beijing) Technology Co., Ltd.* 北京嘉楠明芯(北京)科技有限公司	PRC
10. Hangzhou Canaan Chuangxin Technology Co., Ltd.* 杭州嘉楠创芯科技有限公司	PRC

* The English name of this subsidiary has been translated from its Chinese name.

**Certification by the Chief Executive Officer
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, Nangeng Zhang, certify that:

1. I have reviewed this annual report on Form 20-F of Canaan Inc. (the "Company");
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this report;
4. The Company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the Company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the Company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the Company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting; and
5. The Company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company's auditors and the audit committee of the Company's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal control over financial reporting.

Date: April 21, 2021

By: /s/ Nangeng Zhang
Name: Nangeng Zhang
Title: Chairman and Chief Executive Officer

**Certification by the Chief Financial Officer
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, Tong He, certify that:

1. I have reviewed this annual report on Form 20-F of Canaan Inc. (the "Company");
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this report;
4. The Company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the Company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the Company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the Company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting; and
5. The Company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company's auditors and the audit committee of the Company's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal control over financial reporting.

Date: April 21, 2021

By: /s/ Tong He
Name: Tong He
Title: Director of Finance

**Certification by the Chief Executive Officer
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002**

In connection with the annual report of Canaan Inc. (the "Company") on Form 20-F for the year ended December 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Nangeng Zhang, Chairman and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 21 , 2021

By: /s/ Nangeng Zhang
Name: Nangeng Zhang
Title: Chairman and Chief Executive Officer

**Certification by the Chief Financial Officer
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002**

In connection with the annual report of Canaan Inc. (the "Company") on Form 20-F for the year ended December 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Tong He, Director of Finance of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 21, 2021

By: /s/ Tong He
Name: Tong He
Title: Director of Finance

通商律師事務所
COMMERCE & FINANCE LAW OFFICES

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To: Canaan Inc.

1-2/F, QianFang Science Building C
Building No. 27, Zhongguancun Software Park (Phase I)
No. 8 Dongbeiwang West Road
Haidian District, Beijing, 100193
People's Republic of China Attention: The Board of Directors

April 21, 2021

Dear Sirs or Madam,

Re: Canaan Inc. (the "Company")

We, Commerce & Finance Law Offices, consent to the reference to our firm under the captions of "Item 3.D — Risk Factors" and "Item 4.B — Business Overview — Regulatory Matters" in Canaan Inc.'s annual report on Form 20-F for the year ended December 31, 2020, which will be filed with the Securities and Exchange Commission in the month of April 2021.

In giving such consent, we do not thereby admit that we come within the category of persons whose consent is required under Section 7 of the Securities Act of 1933, or under the Securities Exchange Act of 1934, in each case, as amended, or the regulations promulgated thereunder.

[The remainder of this page is intentionally left blank]

Yours sincerely,

/s/ Commerce & Finance Law Offices

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 (No. 333-238717) of Canaan Inc. of our report dated April 21, 2021 relating to the financial statements, which appears in this Form 20-F.

/s/ PricewaterhouseCoopers Zhong Tian LLP

Shanghai, the People's Republic of China
April 21, 2021