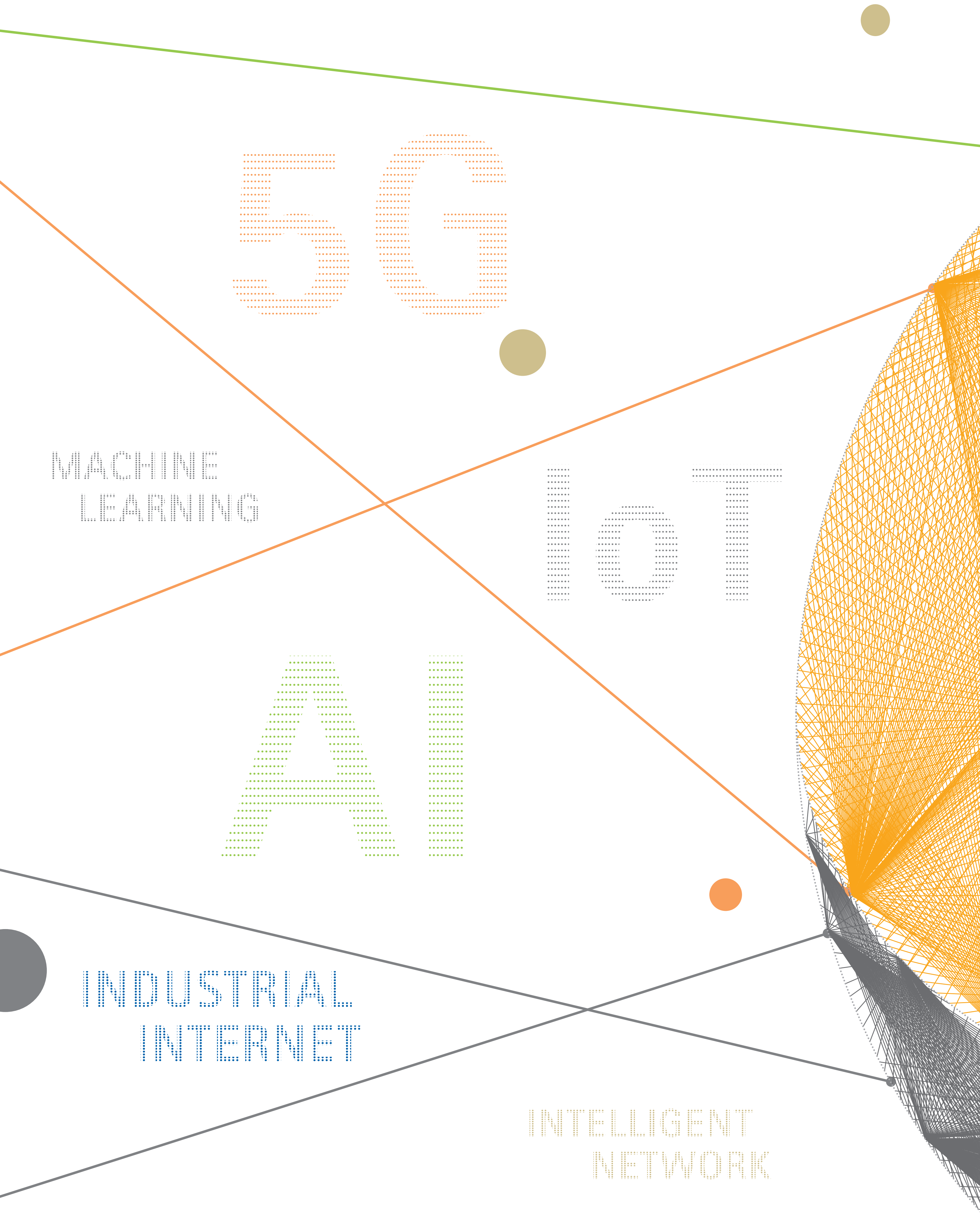
AsiaInfo Technologies Limited

(Incorporated in the British Virgin Islands with limited liability)
Stock Code: 01675

INTEGRATES EVERYTHING

ANNUAL REPORT 2019


5G
MACHINE
LEARNING
IoT
AI
INDUSTRIAL
INTERNET
INTELLIGENT
NETWORK

CONTENTS

Definitions and Glossary of Technical Terms

DEFINITIONS

In this annual report, unless the context otherwise requires, the following expressions shall have the following meanings:

"Articles of Association"	the articles of association of the Company, as amended from time to time
"AsiaInfo Chengdu"	AsiaInfo Technologies (Chengdu), Inc. (亞信科技(成都)有限公司), a limited liability company incorporated in the PRC on 31 December 2001
"AsiaInfo China"	AsiaInfo Technologies (China), Inc. (亞信科技(中國)有限公司), a wholly foreign-owned enterprise incorporated in the PRC on 2 May 1995, which is an indirect wholly-owned subsidiary of the Company
"Audit Committee"	the audit committee of the Company
"Board"	the board of Directors
"Board Committees"	the Audit Committee, the Nomination Committee, the Remuneration Committee and the Strategy and Investment Committee
"Business Opportunities"	as defined on page 92 of this annual report
"CAICT"	the China Academy of Information and Communications Technology
"Chengdu Management Support Framework Agreement"	the management support framework agreement entered into between the Company and AsiaInfo Chengdu on 26 November 2018
"Chengdu Technological Service Framework Agreement"	the Chengdu Technological Service Cooperation Framework Agreement entered into between AsiaInfo Chengdu and the Company on 26 November 2018
"Chief Executive Officer"	the chief executive officer of the Company
"China Mobile Group"	China Mobile Limited and its subsidiaries
"Company", "AsiaInfo" or "AsiaInfo Technologies"	AsiaInfo Technologies Limited (亞信科技控股有限公司), an international business company incorporated in the British Virgin Islands on 15 July 2003 whose Shares are listed on the Stock Exchange (stock code: 1675)

"connected person"	has the meaning ascribed thereto under the Listing Rules
"CG Code"	the Corporate Governance Code as set out in Appendix 14 of the Listing Rules
"Director(s)"	the director(s) of the Company
"ESG Guide"	the Environmental, Social and Governance Reporting Guide as set out in Appendix 27 to the Listing Rules
"ESG Report"	the Environmental, Social and Governance (ESG) Report
"Exercise Notice"	written or electronic notice of the grantee to the Company to exercise share options on or after the vesting date of the share options
"Group"	the Company and its subsidiaries
"Hong Kong"	the Hong Kong Special Administrative Region of the PRC
"HK$"	Hong Kong dollars, the lawful currency of Hong Kong
"IEEE"	the Institute of Electrical and Electronics Engineers
"International Business"	the software business serving the telecom operators headquartered in Southeast Asia, Europe and other regions outside the PRC
"Lease Agreement"	the lease agreement entered into between AsiaInfo China and AsiaInfo Chengdu on 30 December 2019
"Listing Rules"	the Rules Governing the Listing of Securities on the Stock Exchange
"Model Code"	the Model Code for Securities Transactions by Directors of Listed Issuers as set out in Appendix 10 to the Listing Rules
"MPF"	mandatory provident fund

"MPF Scheme"	the MPF scheme operated by the Group for all eligible Hong Kong employees
"Network Security Business"	the business of providing network security-related software products and services in the PRC
"Network Security Framework Agreement"	the software development and strategic cooperation framework agreement entered into between AsiaInfo Chengdu and the Company on 26 November 2018
"Nomination Committee"	the nomination committee of the Company
"PRC" or "China"	the People's Republic of China
"Pre-IPO Share Option Scheme"	the pre-IPO share option scheme of the Company
"Remuneration Committee"	the remuneration committee of the Company
"Reporting Period"	the year ended 31 December 2019
"R&D"	research and development
"Restricted Share Award Scheme"	the pre-IPO restricted share award scheme of the Company
"RMB"	Renminbi, the lawful currency of the PRC
"RSU"	the restricted share units in relation to the Restricted Share Award Scheme
"SFO"	the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong), as amended or supplemented or otherwise modified from time to time
"Share(s)"	ordinary share(s) of the Company
"Shareholder(s)"	holder(s) of the Share(s)

"Stock Exchange"	The Stock Exchange of Hong Kong Limited
"Strategy and Investment Committee"	the strategy and investment committee of the Company
"Trust Management Committee"	the trust management committee of the Company
"US"	the United States of America
"2019 Share Option Scheme"	the share option scheme adopted by the Company on 25 November 2019
"2020 Share Award Scheme"	the share award scheme adopted by the Company on 7 January 2020
"%"	per cent

GLOSSARY OF TECHNICAL TERMS

This glossary of technical terms contains terms used in this annual report that are related to business of the Group. As such, these terms and their meanings may not always correspond to standard industry meaning or usage of these terms.

"AI"	artificial intelligence
"BSS"	business support systems, used for the management of customer information, customer business and service processes and customer related services and resources, often used together with OSS to form end-to-end comprehensive business and operation management systems for the telecom industry
"B domain"	BSS domain
"CMMI Level 5"	International standard for measurement of Software Capability Maturity Model (SW-CMM), CMMI Level 5 represents the highest level

Definitions and Glossary of Technical Terms

"CRM"	customer relationship management
"CSSP"	certified service solution partner
"DSaaS"	data-driven operation, namely the date-driven SaaS operation services
"ERP"	enterprise resource planning
"Internet of Things"	the network of physical objects — devices, vehicles, buildings and other items — embedded with electronics, software, sensors and network connectivity that enables these objects to collect and exchange data
"IT"	information technology, the application of computers and telecommunications equipment to store, retrieve, transmit and manipulate data
"MSP"	managed service provider
"NSA/SA"	non-standalone/standalone
"OSS"	operations support systems, a collective term for the software solutions telecom operators use to support their network operations, often used together with BSS to support various end-to-end telecommunications services
"O domain"	OSS domain
"SaaS"	software as a service, a software licensing and delivery model in which software is licensed on a subscription basis and is centrally hosted

"3D"	3-dimension, referring to a spacing system in which a direction vector is added in the flat second dimension system
"4G"	the fourth-generation of mobile telecommunications technology, applied in amended mobile web access, IP telephony, gaming services, high-definition mobile TV, video conferencing, 3D television and cloud computing
"5G"	the fifth-generation of mobile telecommunications technology which has higher speeds and capacity and lower latency than 4G

Corporate Profile

AsiaInfo Technologies has listed its shares on the Stock Exchange on 19 December 2018. The history of the Group dates back to 1993 when we served as the provider of China's first-generation telecom software, whereby we have collaborated extensively with each of China Mobile, China Unicom and China Telecom since the 1990s, supporting over one billion subscribers nationwide.

The Company is committed to becoming a digital transformation enabler of the large enterprises which aims to provide telecom operators and other large enterprise customers with software products and related service of business transformation and digitalization by leveraging our products, services, operations and integration abilities. According to a Frost & Sullivan report, the Company is the largest telecom software product and related service provider in China, and the largest business support software product and related service provider in the telecom industry in China, with an extensive portfolio of over 500 mission-critical, carrier-grade software products, ranging from CRM, charging & billing and big data to Internet of Things and 5G intelligent network products. As of 31 December 2019, the Group had 247 telecom operator customers, including the headquarters, provincial, municipal and specialized companies and joint ventures of China Mobile, China Unicom and China Telecom. The Company is also actively expanding its market share in China's non-telecom enterprise software product and related service market. As of 31 December 2019, the Company had 59 large enterprise customers in the cable TV, postal, financial services, power grid and automobile industries.

As of 31 December 2019, the Group had interests in the following subsidiaries/branches: AsiaInfo Technologies (H.K.) Limited (香港亞信科技有限公司), AsiaInfo Technologies (China), Inc. (亞信科技(中國)有限公司), AsiaInfo Technologies (China), Inc. Fuzhou Branch, AsiaInfo Technologies (China), Inc. Shenyang Branch, AsiaInfo Technologies (China), Inc. Guangzhou Branch, AsiaInfo Technologies (China), Inc. Shanghai Branch, AsiaInfo Technologies (China), Inc. Chengdu Branch, AsiaInfo Technologies (China) Inc., Hangzhou Branch, Shanghai AsiaInfo Online Technology Limited (上海亞信在線科技有限公司), Shanghai AsiaInfo Online Technology Limited

Chongqing Branch, AsiaInfo (H.K.) Limited (香港亞信有限公司), Hong Kong AsiaInfo Technologies Limited (香港亞信技術有限公司), AsiaInfo Technologies (Nanjing) Inc. (亞信科技(南京)有限公司), AsiaInfo (H.K.) Development Limited (香港亞信發展有限公司), Guangzhou AsiaInfo Technology Co., Ltd (廣州亞信技術有限公司), Guangzhou AsiaInfo Technology Co., Ltd Fuzhou Branch, Guangzhou AsiaInfo Technology Co., Ltd Chengdu Branch, Guangzhou AsiaInfo Technology Co., Ltd Shanghai Branch, Guangzhou AsiaInfo Technology Co., Ltd Hangzhou Branch, Guangzhou Zhihui Online Technology Co., Ltd (廣州智匯在線科技有限公司), Beijing Shangxin Yitong Information Technology Limited (北京尚信易通信息技術有限公司), Hangzhou AsiaInfo Software Co., Ltd. (杭州亞信軟件有限公司), Hangzhou AsiaInfo Cloud Information Technologies Limited (杭州亞信雲信息科技有限公司), Hangzhou AsiaInfo Cloud Information Technologies Limited Beijing Branch, Nanjing AsiaInfo Software Co., Ltd. (南京亞信軟件有限公司), Hunan AsiaInfo Software Co., Ltd. (湖南亞信軟件有限公司), Hunan AsiaInfo Software Co., Ltd. Fuzhou Branch, Hunan AsiaInfo Software Co., Ltd. Shanghai Xucao Technology Branch (上海徐漕科技分公司), AsiaInfo Big Data Limited, AsiaInfo Big Data (H.K.) Limited (亞信大數據(香港)有限公司), AsiaInfo Technologies Holding (H.K.) Limited (亞信科技控股香港有限公司), Beijing AsiaInfo Smart Big Data Co., Ltd. (北京亞信智慧數據科技有限公司), Beijing AsiaInfo Smart Big Data Co., Ltd Nanjing Branch, Beijing AsiaInfo Smart Big Data Co., Ltd Chengdu Branch, Beijing AsiaInfo Smart Big Data Co., Ltd Hangzhou Branch, Hunan AsiaInfo Anhui Technology Limited (湖南亞信安慧科技有限公司), Beijing AsiaInfo Xinan Technology Limited (北京信安數科科技有限公司), Beijing AsiaInfo Xingyuan Technology Limited (北京亞信興源科技有限公司), Dalian Xikang Yunshe Development Co., Ltd. (大連熙康雲舍發展有限公司) and Beijing Yangguang Tiannv Information Technology Co., Ltd. (北京陽光天女信息科技有限公司).

Corporate Information

BOARD OF DIRECTORS

Executive Directors

Dr. TIAN Suning *(Chairman)*
Mr. DING Jian
Mr. GAO Nianshu *(Chief Executive Officer)*

Non-executive Directors

Mr. ZHANG Yichen
Mr. XIN Yuesheng
Mr. ZHANG Liyang

Independent Non-executive Directors

Dr. GAO Jack Qunyao
Dr. ZHANG Ya-Qin
Mr. GE Ming

AUDIT COMMITTEE

Mr. GE Ming *(Chairman)*
Dr. ZHANG Ya-Qin
Mr. ZHANG Liyang

REMUNERATION COMMITTEE

Dr. GAO Jack Qunyao *(Chairman)*
Dr. ZHANG Ya-Qin
Mr. XIN Yuesheng

NOMINATION COMMITTEE

Dr. TIAN Suning *(Chairman)*
Mr. GAO Nianshu
Dr. GAO Jack Qunyao
Dr. ZHANG Ya-Qin
Mr. GE Ming

STRATEGY AND INVESTMENT COMMITTEE

Mr. XIN Yuesheng *(Chairman)*
Dr. TIAN Suning
Mr. DING Jian
Mr. GAO Nianshu

COMPANY SECRETARY

Ms. YU Wing Sze

AUTHORIZED REPRESENTATIVES

Mr. GAO Nianshu
Ms. YU Wing Sze

REGISTERED OFFICE

Craigmuir Chambers
Road Town
Tortola, VG1110
British Virgin Islands

PRINCIPAL PLACE OF BUSINESS AND HEAD OFFICE IN CHINA

AsiaInfo Plaza, Dong Qu
10 Xibeiwang Dong Lu
Haidian District
Beijing 100193
PRC

PRINCIPAL PLACE OF BUSINESS IN HONG KONG

31/F, Tower Two
Times Square
1 Matheson Street
Causeway Bay
Hong Kong

BRITISH VIRGIN ISLANDS PRINCIPAL SHARE REGISTRAR AND TRANSFER OFFICE

Harneys Fiduciary (Cayman) Limited
4th Floor, Harbour Place
103 South Church Street
PO Box 10240
Grand Cayman, KY1-1002
Cayman Islands

HONG KONG SHARE REGISTRAR

Computershare Hong Kong Investor Services Limited
Shops 1712–1716, 17th Floor
Hopewell Centre
183 Queen's Road East
Wan Chai
Hong Kong

LEGAL ADVISORS

As to Hong Kong law:
CFN Lawyers
27/F, Neich Tower
128 Gloucester Road, Wan Chai
Hong Kong

As to PRC law:
Han Kun Law Offices
9/F, Office Tower C1
Oriental Plaza, 1 East Chang An Avenue
Beijing
PRC

As to British Virgin Islands law:
Harney Westwood & Riegels
3501, The Center
99 Queen's Road Central
Hong Kong

COMPLIANCE ADVISOR

Anglo Chinese Corporate Finance, Limited
40th Floor, Two Exchange Square
8 Connaught Place, Central
Hong Kong

AUDITOR

Deloitte Touche Tohmatsu
Certified Public Accountants
35/F, One Pacific Place
88 Queensway
Hong Kong

PRINCIPAL BANKERS

East West Bank
3237 E. Guasti Rd.
Ontario, CA 91761
the United States of America

China Merchants Bank
Beijing Jianguo Road Sub-branch
116 Jianguo Road
Chaoyang District
Beijing
PRC

China Merchants Bank
Nanjing Gulou Sub-branch
4 Beijing East Road
Nanjing, Jiangsu Province
PRC

STOCK CODE

1675

COMPANY'S WEBSITE

www.asiainfo.com

Financial Highlights

	2019	2018	Changes
Number of customers			
Telecom operator customers	247	214	15.4%
Large non-telecom enterprise customers	59	38	55.3%
Financial data — continuing operation	RMB million	RMB million	
Revenue	5,721.4	5,211.0	9.8%
Revenue from software business	5,718.7	5,192.0	10.1%
Gross profit	2,127.0	1,882.6	13.0%
Gross profit margin (%)	37.2%	36.1%	1.1 percentage points
Profit for the year	408.8	204.2	100.2%
Adjusted net profit[1]	672.5	602.2	11.7%
Adjusted net profit margin[1] (%)	11.8%	11.6%	0.2 percentage point

Note 1: To facilitate comparisons of the overall operating performance of the Group in different periods, certain non-recurring, non-cash or non-operating items, which were not of indicative nature of our operating performance, were excluded. Adjusted net profit and adjusted net profit margin of continuing operation are unaudited figures, which are measures not required by or presented in accordance with HKFRS. The use of these measures has their limitations as analytical tools, and you should not consider them in isolation from, or as a substitute for analysis of, the Group's results of operations or financial condition as reported under HKFRS. Please refer to "MANAGEMENT DISCUSSION AND ANALYSIS — Non-HKFRS Measurement Indicators" for more details.

PROFIT
FOR THE YEAR

RMB
408.8 Million

100.2%

REVENUE FROM THE
SOFTWARE BUSINESS

RMB
5,718.7 Million

10.1%

ADJUSTED
NET PROFIT

RMB
672.5 Million

11.7%

> 5G is bringing us a new and boundless world and the era of connecting everything is approaching at an accelerated pace

TIAN Suning
Chairman

Chairman's Statement

Dear Shareholders,

In 2019, China ignited the 5G new era and accelerated the pace in 5G network construction and ecological layout. Cloud computing, artificial intelligence, big data and other information communication technologies has become more and more matured and with wider applications. As the facilitator of digital transformation for large enterprises, AsiaInfo Technologies firmly grasped the opportunities in the 5G industries and took the lead in its layout and explored innovatively to initiate a new chapter in the 5G development.

During the Reporting Period, the Company adhered to the development strategy of "Three New, Four Abilities" (leveraging its abilities in products, services, operation and integration to source new customers, creating new businesses and exploring new models) and further distinguish its strategic development paths and plans. With the stable progress in traditional industries and rapid expansion in emerging business sectors, the Company achieved remarkable results in business development, continuous profitability enhancement, and achieved remarkable results for the whole year.

Following the epidemic outbreak of novel coronavirus pneumonia (COVID-19) in early 2020, the management and all employees of AsiaInfo Technologies made concerted efforts and implemented a series of measures to ensure health and safety and support the epidemic prevention and control. The Company provided full support to the safe, stable and highly efficient operation of the IT systems of operators, developed a "big data platform for epidemic prevention and control", and assisted the government and all sectors of the society in epidemic prevention and control through various big data measures.

On behalf of the Board, I hereby present the annual report for the year ended 31 December 2019 of the Company.

OVERALL RESULTS

In 2019, the operating results of the Company remained a healthy growth with its revenue and profit from the software business reaching a double-digit growth. Revenue from software business for the year increased by 10.1% year-on-year to approximately RMB5,718.7 million, of which, revenue from data-driven operation services increased dramatically to approximately RMB151.7 million, representing a year-on-year increase of 83.9%. The profit for the year amounted to approximately RMB408.8 million, representing a doubled growth as compared to last year. The adjusted net profit amounted to approximately RMB672.5 million, representing an increase of 11.7% year-on-year, and adjusted net profit margin was 11.8%, representing a year-on-year increase of 0.2 percentage point, the new high in profitability in recent three years. The use of adjusted net profit from continuing operations is to easily compare the operating performance of the Group in different periods. In view of this, we have excluded the impacts of certain non-recurring, non-cash or non-operating items. Such impacts include the relevant share-based compensation expenses before listing, amortization of intangible assets arising from acquisition, interest expenses from the privatization syndicated loan, exchange gain and loss, and listing expenses. The adjusted net profit and adjusted net profit margin referred to in this annual report were adjusted pursuant to the principles as set out above.

After taking into full consideration of various factors including Shareholders' returns, profitability, cash flow level and future development capital needs of the Company, the Board decided to propose the declaration and payment of a final dividend of HK$0.252 per share for 2019 according to the dividend payout ratio of 40% of net profit in the financial report.

BUSINESS REVIEW

Continuously reinforcing our leading position in the BSS business operators market and vigorously supporting the 5G commercial application

In 2019, the Company actively followed the 5G development and IT support strategies of telecom operators and achieved solid progress its business development in the telecom BSS sector, thereby continuously reinforcing our leading position in the operators market. We achieved orderly advance in the implementation of 5G NSA/SA dual mode and multi-dimensional converged charging and billing, smart grid, middle office of business and other 5G strategic projects; extensively participated in the IT transformation and upgrading of operators, and assisted top-level planning. We vigorously expanded into the data domain market and received orders in data collection, big data platforms and machine learning. For the synchronous construction of various large projects with unusual difficulties, we successfully completed project delivery and launching and received high customer recognition. As of 31 December 2019, the Company provided services to 247 telecom operator customers, representing an increase of 15.4% year-on-year, and achieved a customer retention rate of over 99%.

Successfully developing 5G OSS intelligent network products and conducting close cooperation with operators

Cloud network integration will be an irresistible trend in the 5G era. To assist operators to accelerate the development of the ability to support the operation in the integration of cloud and network, we firmly seized new opportunities in the OSS sectors brought by the integration of B domain and O domain. While continuously reinforcing our leading position in the BSS domain sector, the Company actively expanded the 5G OSS domain market. Based on the 5G products and technical concept of "full domain virtualization, full domain intellectualization, full domain perceptual", we developed the 5G series of products and solutions. In particular, we launched the intelligent network and virtualization products and solutions for O domain, such as network planning, network optimization, network customer experience management, network management and planning, helping operators to achieve automation and virtualization of network functions and businesses. We continued to collaborate with the R&D organizations or provincial companies under the three major operators to carry out 5G pilot cooperation. Based on the commercialized collaboration with operators in 9 pilot locations in the first half year, we have conducted over 17 commercialized collaboration pilot works with operators. In the first year, the pilot commercialization of 5G OSS products has flourished in various aspects in the collaboration with the three major operators, taking a solid step in our expansion into the O domain business.

Strong demands of Data-driven operation (DSaaS) and revenue increasing swiftly

The current robust digital economy development is profoundly changing the production modes of all industries. Breakthroughs and application innovation in 5G technology are driving the development of digital economy faster and promoting the digital transformation and upgrading of enterprises. In recent years, we have energetically expanded the DSaaS business, namely the date-driven SaaS operation services. Leveraging on the abundant compliant data resources, innovative and leading technologies and SaaS-oriented products based on business scenarios, including diversified products such as financial observation cloud, financial marketing cloud, financial risk control cloud, passenger flow monitoring cloud, population management cloud, stock management cloud and site selection services cloud. We adopted results-based charging, cooperation-based sharing charging and charging on SaaS services subscription and utility software, and carried out precise marketing and enhanced management to customers in key industries with operators to maximize the digital value. In 2019, the DSaaS business expanded rapidly in the finance, transportation, cable TV and new media, government affairs, police affairs and other industries. In particular, we explored the development in large-scale state-owned commercial banks and local banks and achieved obvious accelerated business expansion. In 2019, the DSaaS business recorded a rapid increase in revenue of approximately RMB151.7 million, representing a year-on-year increase of 83.9%.

Expanding in vertical industries and cloud business market enjoying promising prospects

In 2019, the Company accelerated its expansion into vertical industries outside the telecom industry. Under the wave of adopting cloud computing technology and transferring to cloud end by enterprises, the Company cooperated with major cloud service providers with focus on relevant key industries to demonstrate integration abilities, and provide consultancy, planning and transfer services as well as cloud products to help enterprise customers transferring from traditional structures to cloud structures, and will gradually establish sub-business sectors such as cloud resale, cloud management, cloud software, cloud value-added services and cloud customer operation and create AsiaInfo cloud ecosystem. In 2019, the Company actively explored businesses in finance, transportation, postal, energy, retail, government and other key industries and further expanded its customer base. The Company made successful breakthrough in the transportation sector, expanded highway toll collection projects in Hunan and Guangdong as well as highway big data projects in Yunnan, penetrated into the energy and electricity sectors and expanded power generation enterprises customers such as China Nuclear Power and CGN New Energy on the basis of the original business development with State Grid Corporation of China and China Southern Power Grid to provide them with the 5G scenario-based intelligent production and operation services, and became a core partner of the MSP cooperation programme of Alibaba Cloud and a Huawei Cloud CSSP, and carried out strategic cooperation with China Mobile Cloud Centre and other relevant cloud service providers to facilitate enterprises to adopt and apply cloud technology in digital transformation. As of the end of 2019, the Company provided services to 59 large enterprise customers in the non-telecom industries, representing an increase of 55.3% as compared with the end of last year, and achieved a customer retention rate of over 99% for years.

Fully launching 5G series of products and taking leading position in technological R&D strengths

In the 5G era, the Company attached great importance to enhance technological R&D strengths and accelerate business and product innovations. In 2019, we continued to increase investments in the R&D of 5G products, create 5G series key products, and conducted successful applications in customer-oriented core business in vertical industries including operators, banks, insurance and power grid, helping customers to cope with the new challenges of 5G value operation era. We further enhanced the R&D of middle office strategy, strengthened product R&D centralization management, and through the product R&D middle office, basic technology units could be reused throughout the Company, thereby improving the efficiency in projects delivery and continued to boost the overall per capita efficiency of the Company. The strategy of R&D middle office achieved remarkable results.

Working together with industrial partners in deep strategic cooperation and receiving wide recognition in comprehensive strengths

The Company continued to deepen the strategic cooperation in relevant sectors with its partners and explored development opportunities together to achieve mutual advantage complementation, resources sharing and a win-win collaboration. In 2019, we entered into strategic cooperation agreements with China Mobile Group and China Unicom IoT Co., Ltd. and signed contracts with China Telecom Group to jointly promote the development of 5G technology, provided more diversified and multi-layered communication and information infrastructure and digitalized services. We have become a core partner of Alibaba Cloud and Huawei Cloud and entered into strategic cooperation agreement with China Mobile Cloud Centre to jointly provide enterprise customers with rapid, reliable and customized cloud services and facilitate the building of cloud ecosystem. We also entered into strategic cooperation agreements or conducted collaboration with Lenovo Group, Baidu, Hebei Radio and Television Information Network Group, iFLYTEK, Kingdee and Tencent to promote technology innovation and business expansion in different industries.

In 2019, the Company was awarded various honors with increasing industry influence. The honors included the "2019 Most Influential Software and IT Service Enterprises in China", the "2019 CISIS Best Digitalized Transformation Practice Prize" and the "2019 5G Innovation Pioneer Award". The "Wutong Centralized Big Data PaaS Platform" co-developed by the Company had supported China Mobile to win the "Outstanding Use of TM Forum Assets" award. The Company took an active part in the setting of the international technical standard, in which seven international standard proposals submitted to the European Telecommunications Standards Institute (i.e. ETSI) were deliberated and approved, and two standardisation projects were submitted to the International Telecommunication Union (i.e. ITU). The Company was elected as a member of the Global System for Mobile Communications Association (i.e. GSMA), vice chairman member of the Alliance of Industrial Internet (i.e. AII), vice chairman member of the Internet Society of China and deputy secretary-general member of China Highway Travelling Information Service Alliance (中國公路出行信息服務聯盟). The Company passed the CMMI Level 5 (軟件能力成熟度模型集成五級) one after another.

Fighting against COVID-19 with technology and establishing an emergency service assurance system with big data on epidemic prevention and control

Currently, the whole nation is combating the pandemic of novel coronavirus pneumonia. As one of the high-tech enterprises, we are ready to serve the country and fight against the epidemic with technology. The Company has made enormous efforts to support the secured, stable and efficient operation of the IT systems of major telecom operators, thereby assuring the smooth and stable communication services during the pandemic. Meanwhile, the "big data platform for epidemic prevention and control" developed by the Company has obtained authoritative recommendations from CAICT and the Open Source Cloud Alliance for Industry (i.e. OSCAR). We launched 16 products and solutions for epidemic prevention and control, including human flow and epidemic trend sensing, visualization of 3D immersive data on sensitive regions and abnormalities monitoring on epidemic susceptive groups to assist the government, operators and vertical industries in epidemic prevention and control and communication assurance. We offer product support and data secured services to precise the formulation and efficient implementation of relevant policies on epidemic prevention and control.

Looking forward

5G is bringing us a new and boundless world and the era of connecting everything is approaching at an accelerated pace. AsiaInfo will actively embrace 5G, cloud computing, big data, artificial intelligence, the Internet of Things and other advanced technologies and continue to follow the strategy of "One consolidation, Three developments". For traditional businesses, the Company will seize the opportunities of 5G, devise full layout and improve efficiency to reinforce its leading position in the BSS market. For emerging businesses, we will strive to achieve rapid and scalable development in 5G OSS intelligent network, DSaaS adapted data-driven operation, adopting cloud computing technology by enterprises and in vertical industries. We will actively search merge and acquisition opportunities that have strategic synergy with Company, to expand business scope and customer database. Meanwhile, we will join our business partners to build an ecosystem together to continuously advance the transformation of commercial models and contribute AsiaInfo Technologies' strengths in the data-driven transformation of enterprises and the sustainable development of industries.

Finally, on behalf of the Board, I would like to take this opportunity to express our heartfelt thanks to all Shareholders, our customers and all circles of the society for their support to the Company. I would also like to express our gratitude to all our staff for their relentless efforts and contributions. We will work together to build AsiaInfo Technologies to become a respectable enterprise with pride for staff.

TIAN Suning
Chairman

Hong Kong, 23 March 2020

Management Discussion and Analysis

BUSINESS OVERVIEW

Summary

AsiaInfo Technologies Limited was established in 1993 and is a leading software product, solution and service provider striving to become the facilitator of digitalization transformation for large enterprises. In 2019, by adhering to the strategy of "Three New, Four Abilities" and driven by a business strategy of "One consolidation, Three developments" as the growth driver, the Company recorded fruitful achievements in strategy implementation during the Reporting Period and maintained a stable growth in overall results with a double-digit growth in both software business revenue and profit. The revenue from DSaaS data-driven operation grew dramatically, and reached approximately RMB151.7 million. The 5G OSS outperformed the expectation with close cooperation with operators to conduct up to 17 commercialized pilot works. The number of large enterprise customers increased significantly and achieved breakthroughs in the cloud MSP business. The Company has become a partner of Alibaba Cloud and Huawei Cloud and entered into strategic cooperation agreements with China Mobile Cloud Capability Centre.

During the Reporting Period, the Company had 247 telecom operator customers, including the headquarters, provincial, municipal and specialized companies and joint ventures of China Mobile, China Unicom and China Telecom, representing an increase of 33 or 15.4% when comparing with 2018. The Company has 59 large enterprise customers in the postal, cable TV, financial, energy, government, transportation and automobile industries, representing an increase of 21 or 55.3% when comparing with 2018. For consecutive years, the retention rate was higher than 99% for our telecom operators and large enterprise customers.

I. Continuously reinforcing our leading position in telecom BSS market

In 2019, with the official issuance of 5G commercial licences, the telecom industry has fully ignited a new round of investment and construction. Key links such as 5G business innovation, value realization, users experience and large-scale commercialization are closely related to the business support systems (i.e. BSS). According to the data from the Frost & Sullivan Report, the BSS market of PRC telecom operators will exceed RMB15 billion by 2022. During the Reporting Period, the three major operators in China had steadily promoted 5G business support, IT system transformation and upgrading, 5G intelligent operation, mobile number portability and other upgrading and transformation as required under various policies.

The Company actively followed the 5G and IT support strategies of operators and participated in relevant top-level design of customers on 5G business and IT support, thereby further consolidating its leading position in the operator BSS domain market. For 5G business support, we made orderly advancement in the implementation of the 5G NSA/SA dual mode and multi-dimensional convergent charging and billing, smart grid, middle office of business and other 5G BSS strategic projects. For the IT system transformation and upgrading, we facilitated the completion of the optimization and upgrading of the IT structure for customers and fulfilled the delivery of large-scale projects and programmes of customer groups in different provinces and cities as well as pushed forward the construction projects related to the building of regional centres. For the direction of upgrading and transformation as required in policies, we vigorously participated in the upgrading and transformation of the ability to support mobile number portability by operators. For the direction of 5G intelligent operation, we actively expanded into the data market and received orders in data collection, big data platform and machine learning from various headquarters and provinces.

As of 31 December 2019, the Group provided services to 247 telecom operator customers, representing an increase of 15.4% when compared with last year, and achieved a customer retention rate of more than 99%.

II. Commercialization of 5G OSS domain products outperforming expectation in the first year

The order scale for 5G OSS of the first year exceeded

10 millions level

5G has thoroughly reshaped the wireless network and core network structures. It adopted new technologies such as cloud native and software-defined network. Operators have to upgrade and develop a new-generation of 5G network system to respond the more complicated network management and operation tasks in the 5G era. According to the data from the Frost & Sullivan Report, the OSS market size of PRC OSS operators will exceed RMB26 billion cumulatively from 2020 to 2022.

With the official commercialization of 5G in 2019, telecom operators accelerated the upgrading and construction of the new-generation network management system. During the Reporting Period, the Company successfully completed the building of product capabilities in the 5G OSS domain and launched a series of products, such as network planning, network optimization, network customer experience management, network management and planning and had facilitated operators to realize supporting functions in both their business and network. The Company carried out collaboration with three major operators, their provincial companies and R&D organizations, achieving 17 commercialized collaboration pilot works in the first year. The order scale for 5G OSS of the first year exceeded ten million and was also favored by various potential customers.

The revenue from the DSaaS increased by

83.9%

over the year

III. DSaaS data-driven operation business enjoying a robust development

Under the era of data-driven industrial transformation, there has been increasing demand for boosting customer value, optimizing customer experience and enhancing operation efficiency in adopting operation data, AI and other new technologies in different industries. In 2019, the PRC government proposed in public that data can participate and distribute as a production factor based on its contribution, in which it will promote the development of the data-driven operation business, and direct enterprises to treasure the data factor more and adopt technical tools to explore the data value.

Relying on innovative and leading technologies and adopting charging models such as results-based, collaboration sharing, SaaS service subscription and utility software, the Company provided data-driven operation DSaaS services to customers in various industries. Through compliant utilization of external desensitized data, self-owned data of customers and the data authorized by third parties as well as integrating the long-term accumulated operation experience and data analytical models, the Company developed the SaaS-based instrumental products, including the financial insight cloud, financial marketing cloud, financial risk control cloud, police anti-fraud cloud, customer flow monitoring cloud, population management cloud, stock operation cloud, site selection cloud and other diversified products. We also facilitated customers to achieve data-driven operation under specific scenarios.

During the Reporting Period, the Company's DSaaS business witnessed rapid development with strong demands. We rapidly expanded the businesses in operators, government affairs, police affairs, finance, transportation, cable TV and new media and other industries and provided intensive services to China Mobile, China Unicom, China Telecom, ICBC, Agricultural Bank of China, China Construction Bank, Bank of China, Postal Savings Bank of China, Ping An Bank, Harbin Bank, China Life, State Grid Corporation of China and other industrial customers, and expanded our customer base from large enterprises to small-to-medium size enterprises. As of 31 December 2019, revenue from data-driven operation services amounted to approximately RMB151.7 million, representing a year-on-year increase of 83.9%, and business expansion had also accelerated.

IV. Steadily expanding into customer market in vertical industries and achieving breakthroughs in the cloud MSP business sector

With the continuous deepening digital transformation of large PRC enterprises, large enterprise customers further accelerated their pace in adopting cloud computing technology. In recent years, capable IT enterprises in vertical industries have established strategic alliances with major cloud service providers as managed service providers (i.e. MSP), so as to provide cloud consultancy planning, cloud transfer, cloud operation and maintenance management and cloud value-added development services and promoted large enterprise customers to adopt cloud computing technology. According to the report data from CAICT, the PRC cloud computing market will reach RMB290 billion by 2022 with a compound annual growth rate of 30% from 2019 to 2024.

During the Reporting Period, the Company further expanded its customer base in vertical industries and became a MSP partner of Alibaba Cloud and Huawei Cloud CSSP to facilitate more customers in those industries to adopt and use cloud computing technology. In the retail sector, we exploited the collaboration with Alibaba Cloud and were awarded the enterprise resource planning (i.e. ERP) and e-commerce reshaping project from the large TV shopping enterprises with over 10 million transaction volume. The phase-I stage of the project was successfully completed and launched, laying a foundation for the long-term strategic cooperation with Alibaba Cloud. In the financial sector, we completed the big data projects of CITIC Bank and China Merchants Bank. In the transportation sector, we expanded to the highway toll charging and billing projects in Hunan and Guangdong and the expressway big data project in Yunnan. In the government affairs sector, we cooperated with Alibaba Cloud to expand an intelligent urban brain project. In the energy sector, we completed the big data project of State Grid Corporation of China and the big data project on equipment monitoring of China National Offshore Oil Corporation as well as wireless network and command platform projects for nuclear power-related customers. In the postal sector, we successfully delivered the customer relationship management (i.e. CRM) project of China Post.

As of 31 December 2019, the Group provided services to 59 large enterprise customers, representing a year-on-year increase of 55.3% and achieved a customer retention rate of more than 99%.

V. Fully launching 5G series of products and taking the leading position in technological R&D strengths

With the implementation of the national strategy on "Cyper Power" and imminent 5G commercialization, telecom operators have accelerated the construction of infrastructure for 5G communication technologies. Vertical industries have accelerated its transformation in digitalization, networking and intelligentization by leveraging new 5G technologies and technology innovation enjoys tremendous market potentials.

In 2019, the Company further strengthened the strategy of the R&D middle office and enhanced intensive management on product R&D. Leveraging on the R&D of our middle office products, basic technology units could be reused throughout the Company, thereby improving the efficiency in projects delivery and continuing to boost the overall per capita efficiency in the Company. The strategy of the R&D of middle office achieved remarkable results.

During the Reporting Period, the Company continued to increase the investments in 5G-oriented product R&D, and created the "X For 5G" series of key products, including 5G all domain artificial intelligence products, 5G scenario charging products, 5G network intelligent products, 5G big data products and 5G operations products, etc., helping customers to cope with the new challenges of 5G value operation era. These products have been successfully applied to core business systems for various customers in vertical industries such as the operators, banking, insurance and power grid.

China's Most Influential Software and Information Service Enterprise

In 2019, the Company passed the international certification of Capability Maturity Model Integration Level 5 (i.e. CMMI5) once again. The seven international standard proposals submitted by the Company to the European Telecommunications Standards Institute (i.e. ETSI) had been reviewed and passed. We also submitted two standardized proposals to the International Telecommunication Union (i.e. ITU), published four outstanding theses at the academic conference on edge computing in China, and devoted contributions to the formulation of international and domestic technical standards.

VI. Working together with industry partners in deepening strategic cooperation and receiving wide recognition for comprehensive strengths

In 2019, the Company continued to deepen strategic cooperation with relevant parties in related sectors, and jointly explored development opportunities to achieve complementary advantages, resources sharing and win-win cooperation. We signed strategic cooperation agreements with China Mobile Group and China Unicom, respectively, and also signed a contract with China Telecom Group to jointly create the new 5G future, and set up a "5G Network Intelligent Joint Innovation Laboratory" with Henan Mobile to work together to provide customers in the 5G era with richer, multi-level communication infrastructure services, information services and digital services. We also signed a strategic cooperation agreement with China Mobile Cloud Competence Centre, and signed a Kunpeng ecological strategic cooperation agreement with Huawei to become a CSSP of Huawei Cloud and became a core partner of the Alibaba Cloud MSP cooperation planning to jointly provide fast, reliable, and personalized Cloud services for enterprise customers to promote the construction of cloud ecosystems. At the same time, we continued to promote strategic cooperation with Baidu Smart Cloud and Kingdee Cangyun Cloud in the operator market, signed strategic cooperation agreements with Lenovo Group, Radio and Television Administration of Hebei Province and iFLYTEK, and signed a corporate WeChat service provider cooperation agreement with Tencent to jointly serve the digital transformation needs of enterprises.

In 2019, the Company's comprehensive strengths and influence continued to rise and was highly appreciated by all industry parties. We were granted many awards by Tele Management Forum, China Software Industry Association, China Information Technology Industry Federation, CAICT, Alliance of Industrial Internet and many other domestic and foreign authoritative organizations. The awards included "China's Most Influential Software and Information Service Enterprise", "China's Top 100 Comprehensive Competitiveness in Software and Information Technology Service" (No. 21st), "China's Most Influential Enterprise in Software Industry", "Annual Electronics Information Industry Outstanding Enterprise", "International Soft Fair Best Digital Transformation Practice Award", "5G Innovation Pioneer Award" and many other awards. The "Wutong Centralized Big Data PaaS Platform" co-developed by the Company had supported China Mobile to win the International Telecommunication Management Forum (TM Forum)'s "Best TMF Asset Use Award" honour. The Company has also been elected as a member of the Global System for Mobile Communications Association (i.e. GSMA), a vice chairman unit of the Alliance of Industrial Internet, a vice chairman unit of the Internet Society of China, and a deputy secretary — general unit of the China Highway Travel Information Service Alliance.

LOOKING FORWARD

In 2020, the Company will continue to deepen the business development strategy of "One consolidation, Three developments" and further improve its efficiency and accelerate its growth. We will seize the development opportunities in 5G era, closely support the 5G upgrading and construction of telecom operators, assist large enterprises in vertical industries to adopt and use the cloud computing technology and help enterprises in all industries to achieve value in digitalized operation, striving to become the facilitator of digitalized transformation for large enterprises.

In the telecom BSS business sector, we will seize the opportunities of comprehensive 5G commercialization and provide customers the new-generation BSS system that facilitates the 5G business operation scenarios, so as to continuously reinforce our leading position in the telecom operator market. Moreover, we will also continue to enhance the BSS product capability to boost business efficiency and capacity further.

In the 5G OSS business sector, we will actively participate in the construction of intelligent network and pipeline system of operators and fully leverage on the advantages of a software provider of being technology-neutral to provide customers products that will enable full domain virtualization, full domain intellectualization, full domain perceptual. We will facilitate operators to achieve linking up the supporting functions in both their business and network, develop advantages in differentiated products, achieve scalable duplication of OSS business and become the most powerful participant in the telecom OSS industry.

In the data-driven operation sector, we will focus on segments that are related to finance, government affairs, transportation and radio and television, develop more diversified scenario application products and provide customers data-driven operation DSaaS services to further expand the data-driven operation business.

In the vertical industries sector, we will develop leading multi-cloud management products and solutions, cooperate with more major cloud software providers (i.e. CSP) and focus on key industries that are related to finance, government affairs, transportation, energy, postal and retail to achieve scalable expansion in adopting cloud computing technology by enterprises in vertical industries and strive to edge into the leading group in the PRC cloud network MSP market.

FINANCIAL OVERVIEW

Summary

In 2019, the Company continued to enhance the implementation of "Three New, Four Abilities" strategic development thinking, and had achieved a good momentum of development and operating results. In 2019, the revenue from continuing operations amounted to approximately RMB5,721.4 million (2018: approximately RMB5,211.0 million), representing a year-on-year increase of 9.8%, among which, the revenue from the software business amounted to approximately RMB5,718.7 million (2018: approximately RMB5,192.0 million), representing a year-on-year increase of 10.1%, with the growth reaching new high.

The revenue from the software business increased by

10.1%

over the year to approximately

RMB

5,718.7

million

The adjusted net profit from continuing operations increased significantly by

11.7%

over the year to approximately

RMB

672.5

million

In 2019, our gross profit from continuing operations was approximately RMB2,127.0 million (2018: approximately RMB1,882.6 million), representing a year-on-year increase of 13.0%, and our gross margin was 37.2% (2018: 36.1%), representing a year-on-year increase of 1.1 percentage points. The adjusted net profit from continuing operations for the year amounted to approximately RMB672.5 million (2018: approximately RMB602.2 million), representing a significant increase of 11.7% as compared with last year, and the adjusted net profit margin was 11.8% (2018: 11.6%), representing a year-on-year increase of 0.2 percentage point. Profitability has gradually increased.

In 2019, the net cash generated from operating activities amounted to approximately RMB546.3 million (2018: approximately RMB583.3 million), representing a year-on-year decrease of 6.3%, which was due to the impact from the delay of payment by certain customers caused by their changing to their organizational structure. Despite such decrease, the net cash generated from operating activities still remained at a stable level.

Non-HKFRS Measurement Indicators

We believe that indicators such as adjusted net profit from continuing operations provide useful information for investors and others to compare operating performance across different periods and different companies by eliminating the impact of items which are, in the view of our management, not indicative of our business performance. Our management also adopts the same approach to understand and assess our operating results. The impact of adjustments in 2019 was significantly reduced year-on-year and would continue to decline.

The adjusted net profit from continuing operations for 2019 was approximately RMB672.5 million (2018: approximately RMB602.2 million). The following tables reconcile our adjusted net profit from continuing operations for the periods indicated to the profit for the year from continuing operations in accordance with HKFRS:

	2019 RMB'000 (unaudited)	2018 RMB'000 (unaudited)
Reconciliation of profit for the year from continuing operations to adjusted net profit		
Profit for the year from continuing operations	408,815	204,234
Add:		
Share-based compensation	233,648	155,502
Amortization of intangible assets due to acquisition	15,131	34,295
One-off listing expenses	—	54,096
Interest expenses for the Privatization of Syndicated Loan	11,373	49,514
Net foreign exchange loss	3,570	104,517
Adjusted net profit from continuing operations	672,537	602,158

Revenue

In 2019, our revenue amounted to approximately RMB5,721.4 million (2018: approximately RMB5,211.0 million), representing a year-on-year increase of 9.8%, which was primarily due to the increase in revenue from the software business. Such increase was partly offset by the decrease in revenue from the network security business.

Software Business

Our revenue from the software business amounted to approximately RMB5,718.7 million in 2019 (2018: approximately RMB5,192.0 million), representing a year-on-year increase of 10.1%, which was primarily due to the continuous increase in revenue from the business of software products and related services and the data-driven operations.

The following table sets forth the breakdown of our revenue from continuing operations by product and service category, both in absolute amounts and as percentages of our total revenue from continuing operations, for the periods indicated:

	2019		2018	
	RMB'000	%	RMB'000	%
Revenue from continuing operations				
Software business:				
Software products and related services	5,329,715	93.2	4,852,159	93.1
Data-driven operation services	151,737	2.7	82,489	1.6
Others	237,212	4.1	257,315	4.9
Total software business	5,718,664	100.0	5,191,963	99.6
Network security business	2,752	0.0	19,014	0.4
Total	5,721,416	100	5,210,977	100

In 2019, the revenue of software business from the provision of software products and related services amounted to approximately RMB5,329.7 million (2018: approximately RMB4,852.2 million), representing a year-on-year increase of 9.8%. Such increase was primarily due to our continuous expansion of the specialized company customers of telecom operators, and the provided of more professional services to customers by core products upgrade, the use of big data, AI and other capabilities. The revenue of the software business from the provision of software products and related services accounted for 93.2% of the total revenue in 2019 (2018: 93.1%).

In 2019, the revenue of software business arising from the provision of data-driven operation services amounted to approximately RMB151.7 million (2018: approximately RMB82.5 million), representing a significant year-on-year increase of 83.9%, which was primarily due to the fact that we kept abreast of market changes, quickly upgraded and optimized digital operation series products, and had strong AI and industry scenario design capabilities to provide services for telecom operators, financial and public and political customers,. The revenue of the software business from the provision of data-driven operation services accounted for approximately 2.7% of the total revenue in 2019 (2018: 1.6%), representing a year-on-year increase of 1.1 percentage points.

The gross margin

37.2%

In 2019, other revenue of software business amounted to approximately RMB237.2 million (2018: approximately RMB257.3 million), representing a slight year-on-year decrease of 7.8%, which was primarily due to the change in customer demand for our procurement of third-party hardware and software. In 2019, other revenue of software business accounted for 4.1% of our total revenue (2018: 4.9%).

Cost of Sales

In 2019, we incurred cost of sales of approximately RMB3,594.4 million (2018: approximately RMB3,328.4 million), representing a year-on-year increase of 8.0%. After excluding share-based compensation expenses, the cost of sales in 2019 was approximately RMB3,509.2 million (2018: approximately RMB3,277.3 million). The increase of cost of sales was mainly due to the increase in direct implementation costs of projects such as labor costs and travelling expenses resulting from the expansion of the current business scale.

Gross Profit and Gross Margin

In 2019, our gross profit was approximately RMB2,127.0 million (2018: approximately RMB1,882.6 million), and our gross margin was 37.2% (2018: 36.1%). The increase in gross margin in 2019 reflected both our continuous strategic results in the product R&D of middle office as well as our enhanced project management and continuous efficiency improvement in project execution and delivery.

Selling and Marketing Expenses

In 2019, our selling and marketing expenses amounted to approximately RMB462.0 million (2018: approximately RMB508.4 million), representing a year-on-year decrease of 9.1%. After excluding share-based compensation expenses and amortization of intangible assets due to acquisition, selling and marketing expenses for 2019 amounted to approximately RMB397.2 million (2018: approximately RMB439.0 million), which was primarily due to our continued improvement in the intensive management of marketing activities, improved marketing efficiency and labor cost savings.

Administrative Expenses

In 2019, the administrative expenses amounted to approximately RMB292.6 million (2018: approximately RMB332.8 million), representing a year-on-year decrease of 12.1%. After excluding share-based compensation expenses, administrative expenses in 2019 amounted to approximately RMB237.1 million (2018: approximately RMB284.7 million), which was primarily due to our continued improvement in intensive management, improved efficiency in functional management and labor cost savings.

R&D Expenses

In 2019, the R&D expenses amounted to approximately RMB862.4 million (2018: approximately RMB584.7 million), representing a year-on-year increase of 47.5%. After excluding share-based compensation expenses, the R&D expenses in 2019 amounted to approximately RMB819.1 million (2018: approximately RMB563.5 million), and accounted for 14.3% of the total revenue, which is in line with historical average level. R&D expenses were full-expensed according to the Group's accounting policies. Our R&D focuses on Company's strategy, facing customer's continuous business support needs and market changes brought about by 5G during digital transformation, we actively responded to further improve the standardization capabilities of products in the general technology platform sector, and continued to increase 5G-related products, digital operation service products and big data as well as investment in R&D of AI products.

The profit for the year increased by

100.2%

over the year to approximately

RMB

408.8

million

Income Tax Expenses

In 2019, the income tax expenses amounted to approximately RMB132.0 million (2018: approximately RMB108.9 million), of which, withholding income tax accrued for declaring final dividends was approximately RMB17.0 million (2018: Nil), which was mainly due to a year-on-year increase in income tax expenses in 2019. After excluding withholding tax, effective income tax rate calculated based on the adjusted profit before tax was 14.3%, representing a decrease from 15.3% in 2018.

Profit for the year

In 2019, profit for the year from continuing operations amounted to approximately RMB408.8 million (2018: approximately RMB204.2 million), representing a year-on-year increase of 100.2%. Such increase was primarily due to the increase in revenue from our business expansion in 2019 and reduced impacts from non-operational items.

Financial Position

Net Current Assets

Our net current assets as of 31 December 2019 was approximately RMB1,246.8 million (31 December 2018: approximately RMB133.4 million), representing a year-on-year increase of 834.8%.The change was mainly due to the combined effects of repayment of some bank borrowings under the repayment plan in 2019 and the release of bank deposits that were recorded as non-current pledged bank deposits on 31 December 2018. As of 31 December 2019, the Company had sufficient working capital and its net current assets had improved significantly.

Trade and notes receivables

Our trade and notes receivables represented outstanding trade and notes receivables from our customers for the purchase of our products or services. On 31 December 2019, trade and notes receivables amounted to approximately RMB841.2 million (31 December 2018: approximately RMB764.9 million), representing a year-on-year increase of 10.0% and growing accordingly as the business scale expands. Meanwhile, the turnover days of trade and notes receivables decreased to approximately 51.2 days (2018: approximately 57.9 days).

The turnover days of trade and notes receivables decreased to approximately

51.2 days

The gearing ratio[1] decreased to

15.2%

Contractual assets and contractual liabilities

Contractual assets represented our rights to receive consideration for contract work completed and not yet billed, which was because such rights are conditioned on our future performance in achieving specific contract milestones. Contractual assets are transferred to trade receivables when the rights to receive consideration become unconditional, usually on the date of issuance of acceptance reports by our customers. The remaining rights to receive consideration or performance obligations under a particular contract are accounted for and presented on a net basis, either as contractual assets or as contractual liabilities.

On 31 December 2019, contractual assets amounted to approximately RMB1,554.5 million (31 December 2018: approximately RMB1,335.2 million), representing a year-on-year increase of 16.4%. On 31 December 2019, contractual liabilities amounted to approximately RMB296.9 million (31 December 2018: approximately RMB300.9 million), representing a year-on-year decrease of 1.3%. Changes in contractual assets and contractual liabilities were primarily due to the expansion in our business scale and continuous improvement of project development progress management.

Goodwill

As at 31 December 2019, our goodwill amounted to approximately RMB1,932.2 million (31 December 2018: approximately RMB1,932.2 million), which was derived from the business combination completed in 2010. During the Reporting Period, no indication for impairment of goodwill was identified and we did not record any goodwill impairment loss.

Trade and notes payables

The trade and notes payables represented outstanding trade and notes payables to third-party hardware and software suppliers and outsourcing service providers. As at 31 December 2019, the trade and notes payable amounted to approximately RMB358.0 million (31 December 2018: approximately RMB356.3 million), on par with last year, while turnover days of trade and notes payables decreased to approximately 36.3 days (2018: approximately 53.1 days), which were affected by business scale expansion.

Significant investments held, significant acquisitions and disposals of subsidiaries and future plans for significant investments on capital asset acquisition

As of 31 December 2019, the Group had no significant investments held or significant acquisitions and disposals of subsidiaries. As at 31 December 2019, the Group had no future plans for significant investments or capital asset acquisitions or disposals of subsidiaries.

Indebtedness, Contingencies, and Pledge of Assets

For the year ended 31 December 2019, we had total borrowings of approximately RMB594.4 million (2018: approximately RMB1,915.5 million), which was mainly due to repayment of bank loans during the year, representing a year-on-year decrease of 69.0%. Accordingly, as of 31 December 2019, the gearing ratio[1] decreased to 15.2% (2018: 59.2%).

Note 1: Gearing ratio was calculated by dividing total bank borrowings by total equity and multiplied by 100%.

As of 31 December 2019, deposits amounting to approximately RMB349.9 million (2018: approximately RMB1,117.5 million) had been pledged to secure bank borrowings, letters of guarantee and notes payable.

As of 31 December 2019, save as disclosed in this annual report, we did not have any plan for material external debt financing, and nor there was any outstanding debt securities, charges, mortgages, or other similar indebtedness, leasing commitments, guarantees or other material contingent liabilities. For details of our capital commitments and operating leasing commitments, please refer to note 36 set out in the consolidated financial statements.

Cash Flow

Our business is capable of maintaining a healthy cash flow level. The net cash generated from operating activities of the Group in 2019 amounted to approximately RMB546.3 million (2018: approximately RMB583.3 million), representing a year-on-year decrease of 6.3%. This was primarily attributable to the delay in payment due to the internal adjustment of individual customers, which caused a slight decline in project receipts.

Our net cash generated from investing activities in 2019 was approximately RMB822.5 million, which was mainly due to the release of mortgaged bank deposits. In 2018, we recorded a net cash used in investment activities of approximately RMB792.0 million, which was mainly due to increased mortgage bank deposits for the replacement of bank borrowings.

Our net cash used in financing activities in 2019 was approximately RMB1,365.7 million. Such cash outflow was mainly due to repayment of bank loan. In 2018, we recorded a net cash generated from financing activities of approximately RMB584.9 million. Such cash inflow was mainly due to the proceeds from the issuance of new shares in the Global Offering of the Company.

Foreign exchange risk

Foreign exchange risk is the risk of loss resulting from changes in foreign currency exchange rates. Fluctuations in exchange rates between RMB and other currencies in which the Group conducts business may affect its financial position and results of operations. The foreign exchange risk facing the Group mainly comes from movements in the US dollars (“USD”)/RMB and Hong Kong dollars (“HKD”)/RMB exchange rates.

The Group does not have a foreign currency hedging policy. However, the management of the Group monitors foreign exchange exposure and will consider hedging significant foreign currency exposure should the need arise.

Environmental, Social and Governance (ESG) Report

Environmental, Social and Governance (ESG) Report

1 ABOUT THIS REPORT

Guidelines for this Report

This report aims to report the performance of the Group in the environmental and social aspects in 2019. The Company has prepared this Environmental, Social and Governance Report (the "**ESG Report**" or "**this Report**") in accordance with ESG Guide set out in the Appendix 27 to the Listing Rules.

Scope of this Report

This Report covers the Reporting Period from 1 January 2019 to 31 December 2019. In order to ensure the timeliness of information, the time period of certain sections should be traceable and extended backwards from its past. The time frame of combating against novel coronary pneumonia involved in sections "Independent Innovation and Intellectual Property Rights", "Occupational Health and Safety" and "7 Participation in Social Welfare Activities with Care to the Community" was from January to February 2020. Section "6 Environmental Protection and Green Development" includes the 2018 environmental data which show the Group's performance on energy conservation and emission reduction more directly. Unless otherwise stated, the content of this Report covers the Group and its principal businesses.

Statement on this Report

According to the statement based on the Guide, this Report is prepared with the four reporting principles of the ESG Guide and is disclosed in compliance with materiality, quantification, balance and consistency. The Group determines the key disclosures of this Report through materiality analysis, discloses the quantifiable environmental and social performance, and complies with all the "comply or explain" provisions for the information disclosure in this Report. Based on the contents disclosed in last year's ESG report, we further incorporate qualitative and quantitative information into this report to improve its transparency continuously. The information and data used in this report are derived from the statistical reports or internal communications of the Group. The Group attaches great importance to the contents of this report and strives to ensure that they are true, accurate, complete and effective. This Report is issued after being reviewed by the Board.

Advice and Feedback

If you have any advice on this ESG Report or its relevant work concerning sustainable development, please feel free to contact with us via email: aisw-emtoffice@asiainfo.com.

2 STAKEHOLDERS' PARTICIPATION

Daily Communication with Stakeholders

The Group attaches great importance to the suggestions of stakeholders and has established a normalized and multi-channel communication mechanism for stakeholders to actively understand and respond to the demands of various stakeholders. We look forward to obtaining valuable opinions on the sustainable development of the Group through the effective communication with all parties, so as to truly integrate the ESG governance into our daily operation. The table below sets out the major external stakeholders identified by the Group, expectations and requirements and the communication channels in 2019.

Stakeholders	Expectations and Requirements	Communication Channels
Investors or Shareholders	• Financial performance • Information disclosure • Investors interactive communication	• General meeting • Annual report, financial statements and announcements • Results release meetings and road shows • Company's website
Staff	• Safety and health • Development potential and platform	• CEO direct contact line • Staff satisfactory survey • Training activities
Customers	• Products and services • Privacy security	• Customer satisfactory survey • Product release meetings and exhibitions • Customer communication platform
Suppliers	• Procurement policy • Fair transaction • Sound cooperation	• Annual assessment • Tendering and bidding activities • Purchasing activities
Business partners	• Product R&D • Product support-based services capacity • Supply chain management	• Communication through meetings • Public events
Government or regulatory bodies	• Compliance with laws and regulations • Anti-corruption • Community investment	• Government-enterprise cooperation projects • Special reporting • Regular supervision
Media	• Information security management • Prevention from child and forced labors • Employment management	• Press conference • Media interview • Media such as MicroBlog and WeChat

During the Reporting Period, the Group organized a wide variety of activities to communicate with stakeholders and achieved good communication results.

From 20 to 22 October 2019, with the opening of the Sixth World Internet Conference, the world entered the "Wuzhen Moment". At the Entrepreneurs Summit Forum under the theme of "Promoting Innovation in Digital Economy and Sharing Opportunities in Global Development", TIAN Suning, Chairman of the Company, delivered a keynote speech with the title of "Evolution of Smart Enterprises in the 5G Era" and shared his learning and understanding of 5G with business partners on behalf of the Group. He also met and shared with global Internet leaders and key guests regarding the challenges in industrial Internet upgrading driven by 5G and the evolutionary trend of enterprises.

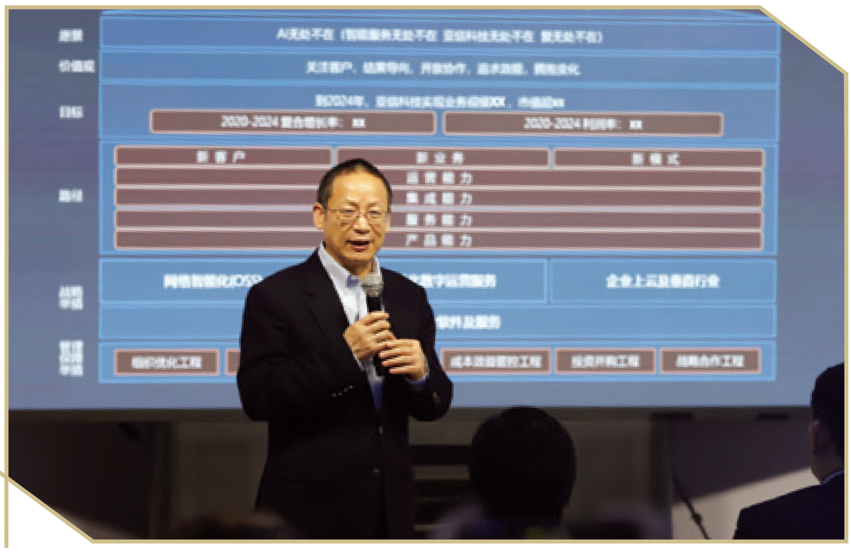
In the morning of 14 November 2019, under the theme of "5G + Unlimited Future", the China Mobile Global Partners Conference 2019 was convened in Guangzhou. At this exhibition, the Company divided its booths into 5G exhibition zone, data-driven operation exhibition zone, enterprise digital products exhibition zone and AI interaction exhibition zone. At the 5G and AI exhibition zones, by leveraging the technologies such as AR augmented reality of, machine learning, and generative adversarial networks, we highlighted to our customers the 5G products and solutions of the Company for the future, as well as the application of AI (artificial intelligence) in visual processing.

Participating in the China Mobile Global Partners Conference 2019

Participating in the Sixth World Internet Conference

Holding the 2019 Interim Results Release Conference

On 23 December 2019, the Media Communication and Appreciation Meeting of AsiaInfo Technologies was held in Beijing. Mr. GAO Nianshu, the executive Director and Chief Executive Officer, Mr. CHEN Wu, senior vice president and general manager of the public and government affairs center, Dr. OUYANG Ye, government-appointed special expert, chief technology officer and vice president of the Company and Ms. WANG Liping, vice president and general manager of the strategy and marketing center, gathered together with over 40 domestic mainstream media partners to enhance friendship and sharing views about the future.



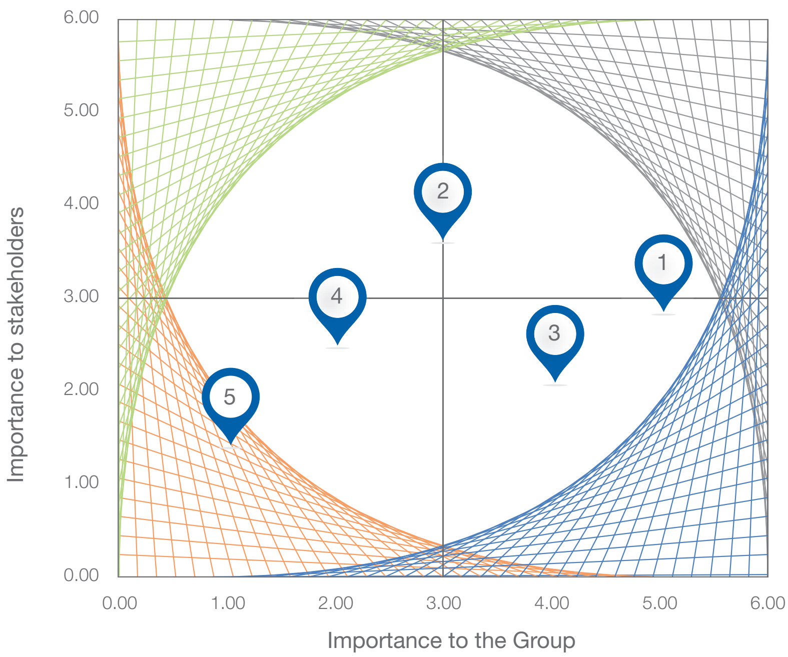
Holding the Media Communication and Appreciation Meeting of AsiaInfo Technologies 2019

Materiality Analysis on ESG Issues

This year, the Group continued to conduct questionnaire survey to find out the degree of recognition on sustainability issues from each stakeholder, in order to effectively make respond to expectation and concerns from those stakeholders. And we also used a materiality analysis method that separately assessed environmental and social issues, in order to more accurately and specifically screen the most important issues at a single level.

There were 488 stakeholders in total to participate in such questionnaire. Compared with previous year, more stakeholders, which mainly comprised Directors or the management of the Company, investors or shareholders, staff, customers, suppliers, government or regulatory bodies, business partners and media were included. Upon ranked the analysis and confirmation by the Group, the materiality of environmental and social issues is ranked in the following materiality analysis matrix diagram and table. The issues in and near the upper right corner are identified as the most important ones and will be highly disclosed in the following chapters. In addition, the Group will make reference to the analysis results in our future sustainable development works to effectively promote the Company's sustainable development process of various works.

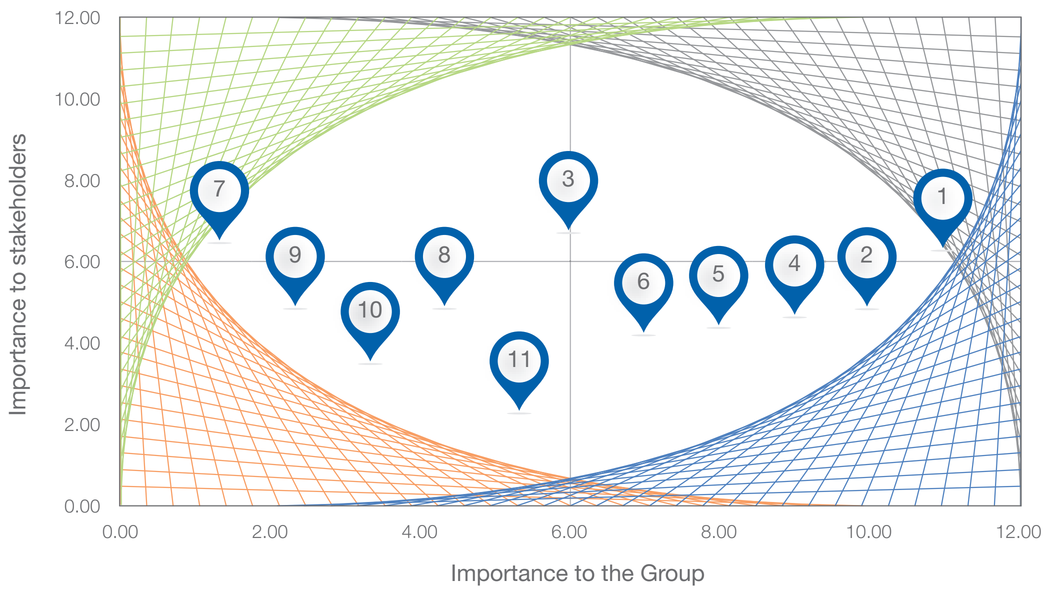
Materiality Analysis on ESG Environmental Issues of AsiaInfo Technologies in 2019



Environmental Issues (materiality rankings from the highest to the lowest)

1. Resources utilization and management
2. Pollutants emission and management
3. Environmental protection and natural resources
4. Electronic waste
5. Mitigation and adaptation to climate change

Materiality Analysis on ESG Social Issues of AsiaInfo Technologies in 2019



Social Issues (materiality rankings from the highest to the lowest)

1. Product liability
2. Employment management
3. Information security management
4. Supply chain management
5. Employees development and training
6. Occupational health and safety
7. Social-economic compliance
8. Anti-corruption
9. Community investment
10. Prevention of child and forced labors
11. Interaction and communication with investors

3 PRODUCT INNOVATION AND RESPONSIBILITY IMPLEMENTATION

Product Liability

The Group strictly complies with the laws and regulations such as the Product Quality Law of the People's Republic of China (《中華人民共和國產品質量法》), Trademark Law of the People's Republic of China (《中華人民共和國商標法》), Advertising Law of the People's Republic of China (《中華人民共和國廣告法》) and Consumer Protection Law of the People's Republic of China (《中華人民共和國消費者權益保護法》) to protect the rights and interests of consumers. There was no violation of the relevant laws and regulations in which they have any significant impact on the Group during the Reporting Period.

The Group always adheres to the "customer first" philosophy and is committed to providing customers with the highest quality service. The Group integrates the latest development direction of the Internet industry, closely follows customer needs, invests a lot of resources in product development, and strives to provide high-quality software products and related services for customers. During the Reporting Period, there was no recall product issue by the Group due to product safety problems and product recall rate was zero. Moreover, the Group attaches great importance to product after-sales services and has established a comprehensive complaint handling process and mechanism. In 2019, the number of customer complaints received by the Group was zero.

In terms of customer privacy protection, the Group has established and constantly improved information security management policies, such as the "Customer Site Security Management System" which is formulated by the Group, and the "Information Security Letter of Undertaking" signed by new employees upon employment inception. Employees who have access to customer information are required to sign separately the "Customer Information Security and Confidentiality Agreement" etc. to effectively safeguard customer privacy information from being leaked out at the system level.

The Group issues a product responsibility letter for every product that has been developed, which accurately introduces product technology, product features, product strengths, and value brought to customers, so as to ensure that when conducting advertising propaganda, misleading information that does not conform to actual products or services will not be released.

The Group regularly conducts customer satisfaction survey by email or telephone, and records customer's rating and feedback in details through the customer satisfaction management module on the AsiaInfo Delivery Management Platform. The customer service department is responsible for analysing the problems including satisfaction level, provincial issue and analysis of customer opinions in the aspects of score analysis, survey item analysis, front-back office analysis, and satisfaction trend analysis, and produces survey reports such as "Summary Form of Satisfaction Survey and Satisfaction Questionnaire Form" and "Industry Customer Satisfaction Report", so as to finally achieve the purpose of improving service quality.

Independent Innovation and Intellectual Property Rights

The Group is subject to the laws and regulations relating to intellectual property rights, including but not limited to the Patent Law of the PRC (《中華人民共和國專利法》), Tort Liability Law of the PRC (《中華人民共和國侵權責任法》) and Copyrights Law of the PRC (《中華人民共和國著作權法》). There was no violation of the relevant laws and regulations in which they have any significant impact on the Group during the Reporting Period.

The Group has established a product and technology committee to clarify the responsibilities of product R&D responsibilities at organizational structure level and ensure service quality and operating efficiency. The product and technology committee is chaired by our chief technology officer and is comprised of senior executives from our product R&D center, quality assurance team, pre-sales consulting team and business divisions. The Group has formulated a scientific and comprehensive management system for regulating the management of R&D projects on products from the decision to establish a project, procedures for establishing a project, process tracking, product release to performance evaluation:

- In order to clarify the management and control procedures for R&D Projects on the Group's software products, including project establishment, process management, and completion, the Group has established the Management Measures for the R&D Projects on AsiaInfo Software Products (《亞信軟件產品研發項目管理辦法》);

- In order to optimize the digital life cycle management system for software of AsiaInfo Technologies, the Company formulated the Management Measures for Unifying and Converging Quality Management Tools of R&D Projects on AsiaInfo Software Products (《亞信軟件產品研發項目質量管理工具統一及收斂管理辦法》);

- In order to better sharing the open source software within the Company and make it more effective in serving products and project development, the Group has formulated the Management Measures for Unifying and Converging Open Source Software of R&D Projects on AsiaInfo Software Products (《亞信軟件產品研發項目開源軟件統一及收斂管理辦法》);

- In order to evaluate the process and results of product R&D more scientifically, the Company formulated the Performance Evaluation Program for R&D Projects in 2019 (《2019年研發項目績效考核方案》).

The management system has achieved good results since its formulation, ensuring the efficient and orderly R&D of products.

In the 5G era, the Group attached great importance to enhance technological R&D strengths and accelerate business and product innovations. In 2019, we continued to increase investments in the R&D of 5G products, create 5G series key products, and conducted successful applications in customer-oriented core business in vertical industries including operators, banks, insurance and power grid, helping customers to cope with the new challenges of 5G value operation era. The Company further enhanced the R&D of middle office strategy, strengthened product R&D centralization management, and through the product R&D middle office, basic technology units could be reused throughout the Company, thereby improving the efficiency in projects delivery and continued to boost the overall per capita efficiency of the Company. The strategy of R&D middle office achieved remarkable results.

Following the outbreak of novel coronavirus pneumonia (COVID-19) in early 2020, AsiaInfo Technologies has channeled all its efforts into the R&D work through multiple preventative and control directions from situation awareness, smart access control, epidemic command, 3D data visualization to telecommuting and material distribution, and swiftly launched 16 products and solutions for epidemic prevention and control to provide assistance in the epidemic prevention and control work. The "population big data platform for epidemic prevention and control" developed by the Company has obtained authoritative recommendations from the China Academy of Information and Communications Technology (CAICT) and the Open Source Cloud Alliance for Industry (i.e. OSCAR), so as to give strong support to the government and all sectors of society in proceeding their epidemic prevention and control work.

In 2019, the Company obtained 150 software copyrights. As of 31 December 2019, the Group had 737 software copyrights.

Product launching conference of "Force Evolution — AsiaInfo Technologies X for 5G" held in June 2019

AsiaInfo Technologies attended the Mobile World Congress (MWC) Shanghai in 2019

AsiaInfo AI-driven Enterprise Data Asset Management (3.0) was awarded the 2019 Outstanding Solution Certificate in the PRC Software Industry in January 2020

AsiaInfo Technologies passed the certification of CMMI5 (Capability Maturity Model Integration Level 5) once again in July 2019

4 CARING FOR EMPLOYEES AND PEOPLE-ORIENTED

Employment Management

Human resources is the most important capital, and excellent employees assure the Group's core competitiveness. The Group strictly complies with the Labor Law of the PRC (《中華人民共和國勞動法》), Labor Contract Law of the PRC (《中華人民共和國勞動合同法》), Social Insurance Law of the PRC (《中華人民共和國社會保險法》), and other laws and regulations, and formulated internal management policies such as the AsiaInfo Technologies Staff Manual to support their implementation. The Group always adheres to the employment philosophy of fairness, responsibility, equality, and diversity, and resolutely protects employees' legal rights and interests in all aspects such as labor employment, compensation and benefits, recruitment and promotion, working hours, vacation, equal opportunities and others. During the Reporting Period, the Group did not violate any laws and regulations related to employment management. Please refer to the following table for specific management measures.

Labor and Employment

Recruitment:

The Company and its employees strictly abide by the relevant laws and regulations of the Labor Law of the PRC and the Labor Contract Law of the PRC. The two parties signed labor contracts on a voluntary and equitable basis from the date of employment of employees and establish equitable labor relationship. At the same time, the Group strictly complies with the Regulations on Prohibition of Child Labor (《禁止使用童工規定》) and stringently checks the information filled in by applicants including date of birth, personal identification documents and verifies their ages again during the employment commencement procedure process to resolutely prevent the employment of child labors.

Equal Opportunities:

Advocates equal opportunities, diversity and anti-discrimination in the labor process to ensure that none of the employees are treated unfairly due to factors such as race, age and gender.

Contract Termination and Dismissal:

If an employee seriously violates the laws and regulations, and the Group's rules and regulations during the period of employment, the Group will terminate its labor contract. When employees leave their posts, they should complete work handover formalities according to the regulations of the Group, including but not limited to the work handover of the position, completion of the prescribed termination process and the transfer of files and social insurance.

Retirement:

When employees reach the retirement age or fulfill the retirement conditions as stipulated by the government, the Group needs to complete the retirement formalities in accordance with the relevant requirements of national and local governments and the retired employees are entitled to retirement benefits as prescribed by the government.

Compensation and benefits

Compensation:

The compensation of employees is determined according to job position and rank. The annual salary consists of 12 months' monthly salary, annual double salary and annual bonus. The monthly salary consists of basic salary, comprehensive allowance and monthly position award.

The Group determines whether to adjust the employees' salary and the extent of their adjustment is based on the Company's results, employee performance, and the salary level in the labor market.

Benefits:

The Group pays housing provident funds and endowment, unemployment, basic medical care, workers compensation insurance, maternity insurance and other social insurance for the employees in accordance with the relevant national and local regulations.

In addition, the Company provides employees with various benefits such as personal and medical insurance, transportation insurance, overseas business travel insurance, transportation subsidies, sports allowances, physical examination, off periods and vacations.

Working hours

Under normal circumstances, the working times of the Company are Mondays to Fridays with eight working hours per day. If required, the Group can adjust the working hours for on-duty and off-duty time on the basis of strict compliance with the laws and regulations of Labor Law of the PRC.

The Group will make reference to attendance and punctuality as factors when considering employee's promotion, performance appraisal, merit rating, salary adjustment and job mobilization.

Vacation Management

In accordance with the relevant regulations of the government and considering the Company's specific situation, the Group has formulated the AsiaInfo Staff Vacation Management Regulations and stated the enforcement regulations clearly, which regulate employees' vacation time and the procedures for vacation applications. Under this system, the Group guarantees employees' entitlement to vacation in national statutory holidays, marriage leave, maternity leave (or paternity leave), bereavement leave, annual leave and sick leave.

Employees development

Through the ranks promotion management, on one hand, the Company effectively identifies high-potential talents and promotes the optimization of the Company's talent structure; on the other hand, it empowers employees and opens up development channels to fully encourage employees with excellent performance and capability to devote outstanding contributions to the Company and achieve outstanding individual growth together with the Company.

In addition to vertical ranking promotion, employees can also transfer horizontally and internally based on the needs of the Company and their personal development intentions.

The Group attaches great importance to its employees opinions. In order to listen earnestly to the suggestions and thinkings of all employees, and encourage them to put forward existing problems and rational suggestions, the Company established a "CEO Direct Contract Line" channel between employees and the CEO to solve problems and improve management standard. Since its launching, the "CEO Direct Contract Line" has received extensive attention and support from employees, and provided a number of opinions and suggestions for improvement in various aspects such as corporate process management, office environment and product operation. Various departments have also worked together to promote the gradual improvement and solutions of these issues, such as formulating and issuing the "Measures for the Management of Staff Education Funds" for employees' participation in continuing education; strengthening and enhancing office environment and office infrastructure in various locations, such as the release of "Notice on Smoking Prohibited in Office of AsiaInfo Technologies" and so on.

Furthermore, the Company organized an employee satisfaction survey at the end of the reporting period and a total of over 5,600 employees had participated. While enabling us to understand employee satisfaction for the supporting services provided by relevant departments, it further improved employees' sense of identity and satisfaction with the Company and was conducive to the improvement of internal management of the Company.

The Group cares about the physical and mental health and quality of life of employees, and advocates the concept of work-life balance. To this end, the Group holds a Happyday themed event once a month to enrich the lives of employees. The activities that were successfully carried out during the Reporting Period included, but not limited to, Spring Outing, Goddess Festival, Hiking, Family Day, Cool Summer, Live CS, Mid-autumn Lantern Riddle, Programmer Day, Christmas Day, etc. During the traditional festivals and summer and winter seasons, the Group distributed mooncake gift packs, scarves, stereos and other gifts to all employees, showing the Group's care to our employees.

Moreover, in order to motivate employees who are on long-term business travel, and appreciate their families for their understanding and support, in July and August 2019, two "Trust and In Company" parent-child summer camp activities were held. During the three days of warmth enjoyment, parents accompanied their children to experience the essence of the Beijing's culture and appreciated the charm of traditional culture, art and natural knowledge. This activity created the opportunities for interaction and communication between parents and children, and promoted family harmony.

Parent-child Summer Camp

Family Day in June

Lovely New Year gifts

Live CS in August

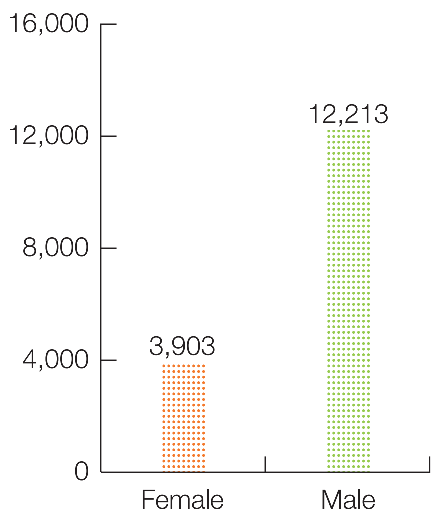
Employee Development and Training

Talent reserve is the core strategic resource for enterprise development. In order to enhance the Group's market competitiveness, we build up first-class corporate employees and management teams, and continuously strengthening employee professionalism. The Group established the AsiaInfo Institute and formulated internal policies such as the "2019 Corporate Training Plan", which is responsible for the development and training of all employees. The trainings are rich in formats. Internal training programs include the Group's internal training programs and training camps, training courses, online learning platforms, special training and seminar workshops, and technical and academic exchanges. External training includes external qualifications training, certification training, external open courses and external training courses. At the same time, the Group designed different training courses according to the differences of trainees, and arranged customized training content for groups such as new employees, ordinary employees, management staff, technicians, and internal lecturers. In order to improve the management standard and efficient utilization of staff education funds, the Group formulated the "AsiaInfo Staff Education Fund Management Measure" which promotes the principle of "withdraw first then pay, withdraw and pay balance, and special transfer for dedicated case", and further regulates the withdrawal and application of the Company's employee education funds at the system level, and ensures priority is given to employee training activities.

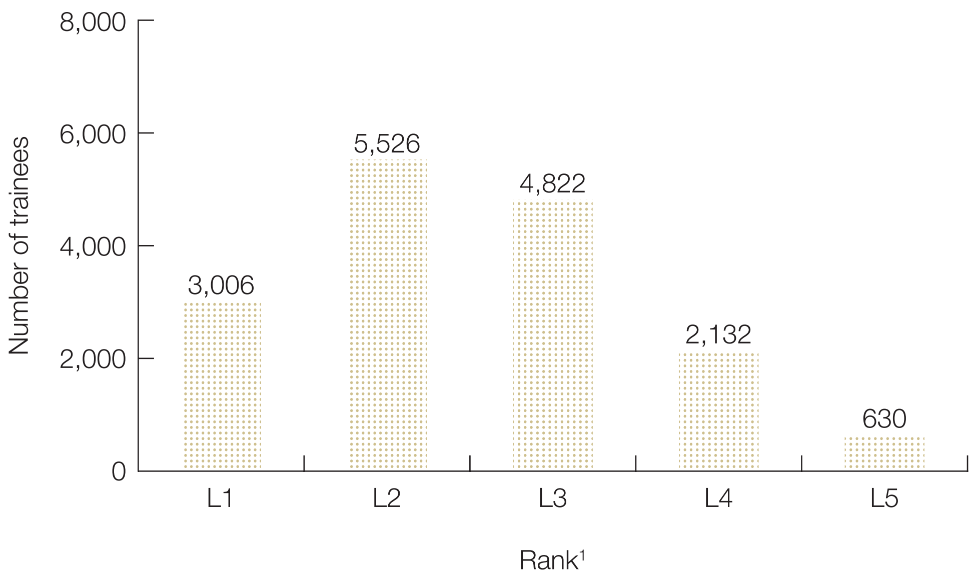
Climber Plan — Manager Training Programme

During the Reporting Period, the statistics of the employees trained by the Group according to different standards are as follows. The statisticians include regular employees, interns, and outsourcer staff.

Number of Trainees by Gender in 2019



Number of Trainees by Rank in 2019



Note:

1 The rankings were listed from low to high order by L1 to L15 according to the Company's position level system.

Occupational Health and Safety

The Group has strictly complied with the national laws and local regulations such as the Work Safety Law of the PRC (《中華人民共和國安全生產法》), Fire Protection Law of the PRC (《中華人民共和國消防法》), Law of the People's Republic of China on the Prevention, Control of Occupational Diseases (《中華人民共和國職業病防治法》), and Measures for the Supervision and Management of Occupational Health Surveillance by Employers (《用人單位職業健康監護監督管理辦法》), and formulated the internal policies of AsiaInfo Technology Safe Production Management System (《亞信科技安全生產管理制度》) to actively protect employees' life safety and occupational health. There was no breach of laws and rules that in which they have any significant impact on the Group during the Reporting Period. The occupational health and safety management performance of AsiaInfo Technologies (China), Inc., a subsidiary of the Group, has gained a recognition from professional institutions. It passed the OHSAS 18001 Occupational Health and Safety System Certification during the Reporting Period.

The Group constantly improves the safety production management system, actively builds a stringent, efficient and responsible safety production management mechanism, and effectively safeguards employees' legitimate rights and interests regarding health and safety. The specific management system is shown below.

Occupational Health and Safety Management System Certification

Production safety responsibility system	Established two levels of working groups, including the production safety leading groups and the production safety working group to implement the safety assurance and labour protection responsibility layer by layer to various departments. Every department of the Group has no less than one part-time security officer to supervise, inspect and report on safety matters.
Production safety routine meeting system	Safety meeting will be held at least once a month to convey the relevant documents and work instructions for the study of safety management work to all levels of the Group, besides the meeting will be held at any time when any special event occurs. The Group will check and analyze the situation of work safety, summarize previous experience and lessons and put forward precautionary measures and employment objective and requirement about recent work safety, and also check and analyze the implementation of work safety.
Production safety education and training system	The training includes pre-service education, daily security education, thematic safety education with the aim of organizing personnel of the Group to participate in work safety training, strengthening their safety consciousness and improving their working knowledge and skills.
Production safety inspection system	The Group conducts regular and irregular inspection to eliminate hidden safety hazards, monitor the implementation of various safety regulations and systems to assure production safety. And it strengthens production safety management, timely discovers and resolves hidden dangers in production safety, and conducts rectification in time.
Fire protection system	The Group conducts fire safety education and training for employees, increase employees' fire-protection awareness and survival skills, carries out regular maintenance on fire equipment, checks fire potential safety hazard, and formulates and implements the fire and electricity management system to minimize fire risk at the lowest level.
Office and equipment safety measures	The Group strictly implements the national regulations and standards on labor safety and labor hygiene, and provides employees with labor conditions and office space that meet the requirements. Electrical equipment and wiring must be regularly maintained and checked to find out accident hidden dangers in public.
Employee safety and health protection measures	The Group provides employees with necessary protective equipment according to their work needs, and arranges regular physical examinations to prevent occupational diseases.
Casualty management	If there is an employee casualty accident during the work process, the Group shall immediately organize the rescue of the wounded and take effective measures to prevent the accident from expanding and protecting the scene of the accident and cope with the aftermath.

In 2019, the Group organised and conducted a series of training activities with the theme of production safety in 33 cities across China, including fire safety publicity and fire drills in various office premises. During the Reporting Period, a total of 12,342 employees of the Group actively participated in the training and promotion activities on fire prevention knowledge of AsiaInfo Technologies nationwide, with a wide coverage and high employee participation rate.

During the Reporting Period, there was no job-related fatal accident involving employees of the Group. During the Reporting Period, the number of lost days due to work-related injuries of the Group were 22 days. After the occurrence of work-related injury incidents, the Company made compensation to injured employees in a timely manner in accordance with the laws. During the Reporting Period, there was no dispute over work-related injuries.

In January 2020, the pneumonia pandemic caused by novel coronavirus began to spread in Wuhan. Faced with the epidemic outbreak, the Group always paid attention to the health and safety of our 512 employees in Wuhan. The Company urgently coordinated resources to ship 20,000 masks to Wuhan by all means, and distributed to AsiaInfo's employees in Wuhan for free, fully protecting their health and safety and their families. During the special period of epidemic spread, the Company prepared urgent medical supplies such as masks for employees in a timely manner to effectively protect their safety and health.

The Group takes the health and safety of all employees as its primary responsibility, attaches great importance to the implementation of various epidemic prevention and control works, and urgently published epidemic prevention and control measures, mainly including:

1) Establish an epidemic prevention and control agency, set up and improve the accountability system for prevention and control, and clarify the responsibility of specific persons;

2) To collect and report employee conditions on a daily basis through the "Xin Tribe" platform, operator's text message and QR code, and stringently check whether employees have met the quarantine requirements as required by the government when entering office area;

3) The entrance of the working area shall be equipped with temperature-measuring posts, equipped with standard anti-epidemic equipment and materials. All entering personnel must pass through the procedures such as temperature-taking and code scanning registration before wearing masks and enter the office area;

4) Arrange employees to direct elevator loading in batches, place a warning tape to isolate; the office distance among employees is more than 1 meter, and per capita area is more than 2.5 square meters;

5) Sterilize all public areas and key areas every 2 hours, and make disinfection records;

6) Cease providing catering services during the epidemic period, and medical supplies such as disposable gloves will be provided at tea break room on each floor.

Epidemic prevention publicity in office area

Screen personnel who return to work

5 EFFICIENT MANAGEMENT AND FIRST CLASS OPERATION

Information Security Management

Not only is information security concerned the normal operation and information assets of an enterprise, it is also related to its reputation and customer relationship sustainability. The Company provides services, such as business operation and electronic commerce services by using computers and network equipment. Information security is critical. The Group has formulated and continues to amend a series of internal management policies, such as the Information Security Approach (《信息安全方針》), Information Security Management System Strategy (《信息安全管理體系策略》), Information Security Management Manual (《信息安全管理手冊》) and Staff Information Security Manual (《員工信息安全手冊》). It constantly enhances information security management and control and determines security responsibilities, so as to establish and sustain a long-term information security management mechanism.

The Group's information security management mechanism comprises management measures at every aspect and all levels in respect of information security management organization, personnel safety, identification of safety requirements in laws, regulations and contracts, risk assessment, security incident reporting, supervision and inspection, business continuity in information security, and rewards and punishments in information security. Such mechanism has ensured the confidentiality, integrity and availability of various information assets which laid a solid foundation for the Group to provide customer services of higher quality.

At the organization structure level, the Group has formulated an efficient and orderly information security management organization with clear responsibilities. The Group has set up positions including chief information officer, information security manager representatives and information security organizations. Details of the responsibilities of the relevant persons are as follows:

Chief Information Officer	Generally responsible for information security, approving information security approaches, determining security requirements, and providing resources.
Information Security Manager Representatives	Being responsible for the establishment, implementation, inspection and improvement of the information security management system and ensuring the continuous suitability and effectiveness of the information security management system.
Information security organizations	Including information security committee, information security department and information security working group, and is responsible for the operation of the information security management system.

By adhering to the concept of "Information Security Is Everyone's Responsibility", the Group organized a variety of training activities on information security for employees in 2019, and strengthened employees' awareness of information security protection through interactive scenarios sharing, security knowledge contests, information security examinations and other methods, so as to eliminate risks in information security management. During the Reporting Period, the Group organized information security examinations for all employees, with a completion rate of 98%.

In September 2019, the Company held promotion activities on information security, which included fortune wheel questions, challenge for answering questions while riding a bicycle and others. These activities fully mobilized the enthusiasm of employees to participate, promote knowledge about information security, and had achieved good results.

Fortune wheel questions

Challenge for answering questions while riding a bicycle

Management System Accreditation Certificate

During the Reporting Period, the Group released the Risk Assessment Report of AsiaInfo for 2019, which summarized the risks faced by the Company's business processes, information assets and other supporting assets, and measures shall be taken by the Company to mitigate risks. In 2019, all departments of the Company conducted risk assessments in accordance with the requirements. A total of 152 risks were identified, of which 18 were high risks. We have begun to address the risks, with residual risks eliminated by competent departments in accordance with the recommendations on risk control measures under the supervision of the Information Security Management Department.

The Group has received recognition from professional institutions for its strict information security management. In 2019, the Group continued to receive the ISO27001 Information Security Management System Certification.

Supply Chain Management

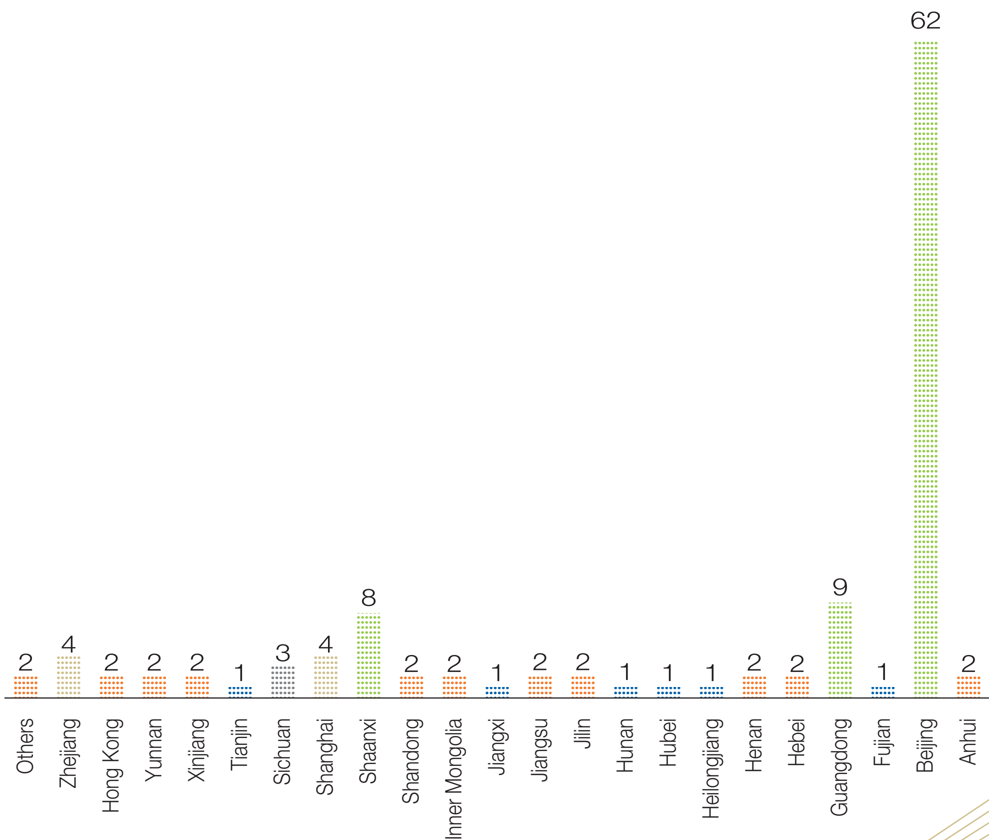
In the procurement management process, the Company implements unified and standardized scientific management to the Group's suppliers in a cooperative spirit of fairness, openness and transparency. Under the premise of ensuring controllable costs and quality standards, the Group strengthened the supervision of the supplier's environmental and social management, reduced risks, and safeguarded the Company's interests. The Group strictly abides by the Bidding Law of the People's Republic of China (《中華人民共和國招標投標法》), Regulation on the Implementation of the Bidding Law of the People's Republic of China (《中華人民共和國招標投標法實施條例》), Measures for the Administration of Government Procurement by Non-Bid Procurement Methods (《政府採購非招標採購方式管理辦法》) and other laws and regulations, and has formulated internal policies such as the Procurement Control Management Process, Management Measures on Technical Cooperation Business and Supplier Selection Process to ensure responsible and green procurement, and minimize supply chain risks. There was no violation of the relevant laws and regulations in which they have any significant impact on the Group during the Reporting Period.

The Group has made a clear specification for technical cooperation business by formulating a series of supply chain management policies to ensure efficient operation that is in compliance with relevant regulations. We stringently control project quality through the effective control and management for product provided by suppliers, as well as checking whether the products are in compliance with the relevant regulations.

In order to reduce environment and social risks in supply chain, the Group has established an online supplier management system platform to strictly elect the service rendered by qualified suppliers. The Group focuses on reviewing whether the suppliers possess certification for certain management systems such as ISO 14001 environmental management and OHSAS 18001 during the supplier review stage. We will also clarify the environmental and professional safety requirements for suppliers in the Notice of Stakeholders annexed to the contract that is entered into with the suppliers. For example, in the environmental control aspect, the Notice of Stakeholders requires suppliers and relevant service parties to meet the national and local emission standards for pollutants emitted during production process, business activities and rendering service. The production technology and construction equipment that are pollution-free should take priority during the production and construction process. We should adopt necessary measures to reduce noise pollution, dust, waste and harmful wastes and properly keep flammable, explosive or toxic and hazardous substances in safe locations to avoid accidents such as environmental pollution and incidents of endangering personal safety. With respect to the social management, the Notice of Stakeholders requires the Company to appoint site safety responsible person at the construction site of the Company to identify risk and implement safety operation plan only after obtaining the approval from relevant department. The use of fire and works involving safety risks such as performing work over 2 meters high, hoisting and other operations are prohibited without the written permission of the Company.

The Group prepared statistics regarding the number of suppliers for project procurement, technical outsourcing and manpower outsourcing by region in 2019. All suppliers were under stringent selection in accordance with the AsiaInfo Technologies Procurement Management — Supplier Selection Process (《亞信科技採購管理 — 供貨商選擇流程》).

Number of suppliers by geographical region



Anti-corruption

Integrity, honesty, and justice are the core ethical thinkings that all employees of AsiaInfo must adhere to at all times. The Group strictly abides by the laws and regulations such as the Criminal Law of the PRC (《中華人民共和國刑法》), Anti-Money Laundering Law of the PRC (《中華人民共和國反洗錢法》) and other international conventions, and has formulated internal policies such as AsiaInfo Technology Professional Ethics Code, AsiaInfo Reporting and Complaint Management System and AsiaInfo Reporter Protection System to enhance the compliance management, operational risks prevention, and prevent and penalise all kinds of violations of laws and disciplines. There was no violation of the relevant laws and regulations in which they have any significant impact on the Group during the Reporting Period.

At the organizational level, the Group has established a professional ethics committee, which is responsible for implementing all the compliance policies including the AsiaInfo Technology Professional Ethics Code. In order to unblock the channels for complaints and reports of violations of laws and regulations, the Group has set up internal and external reporting mailboxes, and established a real-name, anonymous, and other complaint and reporting management mechanism. In the event of any complaint concerning employee fraud and violations, the internal audit department will organize and conduct independent investigation and prepare an investigation report, and together with the suggestions from the human resources department, legal department, trade union and other departments, and decided by the professional ethics committee. The Company will penalise or terminate their employment according to the seriousness of the violation. In the event of an illegal crime, the Company will transfer the employee to the judicial authority for handling. Moreover, the Group strictly keeps confidential for the personal information of the whistle-blower and all the information provided by such whistle-blower. Any form of retaliation is strictly prohibited. Any person who attempts to retaliate will be severely warned or even dismissed.

In order to prevent corruption and other professional crimes, the Company actively organizes various training activities. During the Reporting Period, the Group carried out activities such as professional ethics training through online and offline channels to publicize the requirements of professional ethics standards such as anti-corruption. The Group took advantage of new employee training and on-site search opportunities with human resources projects to conduct professional ethics training. During the Reporting Period, approximately 2,351 employees received offline training, and approximately 4,459 employees were trained online.

In 2019, the number of concluded corruption lawsuits filed by the Group and employees was nil.

6 ENVIRONMENTAL PROTECTION AND GREEN DEVELOPMENT

Use and Management of Resources

The Group is in compliance with the Energy Conservation Law of the PRC (《中華人民共和國節約能源法》) and has formulated and amended policies such as the Environmental Protection and Management System of AsiaInfo and adopted various measures for energy conservation and consumption reduction to maximize energy efficiency while reducing energy consumption. There was no violation of the relevant laws and regulations in which they have any significant impact on the Group during the Reporting Period. The resources and energy used by the Group mainly include paper, water and electricity. Due to our business nature, the Group is not involved in the consumption of any packaging materials.

The Group consumed running water from the municipal pipe network and there was no problem in seeking proper water supply. To reduce municipal water consumption, the Group put up water conservation signs in toilets to promote water conservation, increased staff's awareness to save water, installed faucets with infrared sensors, and reported for responsive repairing when discovering problems with facilities such as water valve, water pipe and faucet.

In order to reduce energy consumption, commencing from 9 May 2019, the Group echoed the national call for environmental protection and energy conservation, and implemented the measure of turning off illumination in public office for one hour during lunch break. Furthermore, the Group reasonably arranges the use of corporate vehicles, saving electricity for lighting, appropriately raising summer air-conditioning temperature, and assuring electrical appliances are turned off when nobody is using. Through a series of management measures, it has achieved the goal of reducing energy resources utilization and energy efficiency year by year. In 2019, the Group achieved electricity saving of 34,725 kWh in terms of total power consumption, as compared with the previous reporting period.

For the consumption of major energy resources by the Group in 2019, please refer to the table below.

Consumption of major energy resources in 2019

Resource consumption[1]	Unit	2018	2019	Percentage of change on year-on-year basis
Total electricity consumption	kWh	6,560,047	**6,525,322**	−0.53%
Electricity consumption intensity	kWh/revenue of RMB10,000	12	**11.41**	−4.92%
Total fuel consumption (vehicle)	L	28,029	**26,922**	−3.95%
Fuel consumption intensity[2] (vehicle)	L/vehicle	3,114	**2,991**	−3.95%
Total natural gas consumption	m^3	232,889	**169,451**	−27.24%
Natural gas consumption intensity	m^3/revenue of RMB10,000	0.43	**0.30**	−30.23%
Total water consumption	tonne	44,850	**42,049**	−6.25%
Total water consumption intensity	tonne/revenue of RMB10,000	0.08	**0.073**	−8.75%

Pollutant Emission and Management

The Group is in strict compliance with the laws and regulations, including the Law of the PRC on the Prevention and Control of Atmospheric Pollution (《中華人民共和國大氣污染防治法》), Law of the PRC on the Prevention and Control of Water Pollution (《中華人民共和國水污染防治法》), Law of the PRC on the Prevention and Control of Environmental Pollution by Solid Waste (《中華人民共和國固體廢物污染環境防治法》) and Regulation on the Administration of the Recovery and Disposal of Waste Electrical and Electronic Products (《廢棄電器電子產品回收處理管理條例》). In accordance with its internal environment policies regarding office environment monitoring and checking and receiving complaints on environment management, the Group carries out stringent management on solid waste, domestic sewage, air pollutants and greenhouse gas. There was no violation of the relevant laws and regulations in which they have any significant impact on the Group during the Reporting Period.

Notes:

1 Data on resource use above only cover AsiaInfo Technologies (China), Inc. and AsiaInfo Technologies (Nanjing), Inc., both of which are major operating subsidiaries of the Group.

2 The Group has a total of 9 official vehicles during the Reporting Period.

The Group's main sources of emissions of greenhouse gas and air pollutants are scope 2[1] greenhouse gas emissions generated by electricity consumption and greenhouse gas and air pollutant emissions generated by business vehicles. The Group advocates electricity saving to minimize the environmental impact brought by electricity consumption.

The Group's major solid waste includes office waste and food waste. The Group continues to promote waste management works and implements policies for reducing emissions at source and non-hazardous disposal in daily operation. The Group has formulated the Procedure on Prevention, Treatment and Control of Solid Waste (《固體廢棄物防治控制程序》) to manage all wastes that are produced from offices. The Group stores non-hazardous and hazardous wastes by sorting and delivering the same to qualified treatment companies for centralized disposal, with treatment rate of nonhazardous wastes reaching 100 percent. Moreover, for hazardous waste such as waste fluorescent tubes, toner cartridge and waste gas lead-acid batteries, the Group engages qualified companies for sorting, cleaning and hazardous disposal. Waste disposal of each department should be recorded in the Waste Disposal Records (《廢棄物處置記錄表》) and would be inspected and monitored by administrative department. Through the above management measures, in 2019, the production volumes of Group's office domestic waste, kitchen waste and waste fluorescent tube were decreased by 18.26%, 5.49% and 39.88% respectively as compared with 2018. The amount of waste batteries generated was reduced by 65.35% than that in 2018.

The Company commissioned a professional environmental monitoring agency from August to September 2019 to test the environmental indicators of areas where AsiaInfo Technologies (China), Inc. is operating. The sewage testing items include pH value, suspended particles, BOD_5, CODCr, ammonia nitrogen, total thorium, anionic surfactants, and animal and vegetable oils. The sampling site is the main wastewater outlet of the building of the Company. All the test indicators met the Integrated Discharge Standards of Water Pollutants (DB 11/307–2013). The air pollutant detection items include nitrogen oxides, carbon monoxide and non-methane hydrocarbons with the sampling site just adjacent to the entrance of the Company's garage. All the test indicators met the requirements of the Integrated Emission Standard of Air Pollutants (DB 11/501–2017).

Note:

1 According to the definition in the GHG Protocol tool for Energy Consumption in China (version 2.1): emissions in Scope 1 are emissions from emission sources directly controlled or owned by enterprises under audit; and emissions in Scope 2 are indirect emissions from the use of electricity, steam, heating and cooling sourced by enterprise under audit.

The statistics[1] below shows the information of emissions of the Group in 2019:

Emission	Unit	2018	2019	Percentage of change on year-on-year basis
GHG emissions[2] (Scope 1 and Scope 2)				
Vehicle emission (Scope 1)	tonnes of CO2e	65	62	−4.62%
Electricity consumption emission (Scope 2)	tonnes of CO2	5,550	5,518	−0.58%
Total GHG emissions	tonnes of CO2e	5,615	5,580	−0.62%
Total GHG emission intensity	tonnes of CO2e/revenue of RMB10,000	0.01	0.0098	−2%
Air pollutant emissions[3]				
CO emission	kg	151.43	150.38	−0.69%
NO_x emission	kg	8.02	7.98	−0.50%
SO_x emission	kg	0.42	0.40	−4.76%
$PM_{2.5}$ emission	kg	0.76	0.75	−1.32%
PM_{10} emission	kg	0.78	0.77	−1.28%
Non-hazardous waste produced[4]				
Office domestic wastes	kg	17,017	13,909	−18.26%
Intensity of office domestic wastes produced	kg/revenue of RMB10,000	0.03	0.024	−20%
Food wastes	kg	37,350	35,300	−5.49%
Food wastes intensity	kg/revenue of RMB10,000	0.07	0.062	−11.43%
Non-hazardous electronic wastes	unit	370	0	−100%
Intensity of non-hazardous electronic wastes	unit/revenue of RMB10,000	0.0007	0	−100%
Non-hazardous electronic waste auctioned	unit	370	0	−100%
Hazardous wastes produced				
Waste fluorescent tube	unit	2,786	1,675	−39.88%
Waste fluorescent tube intensity	unit/revenue of RMB10,000	0.01	0.0029	−71%
Waste fluorescent tube recycled	unit	2,560	1,474	−42.42%
Waste battery	unit	1,668	578	−65.35%
Waste battery intensity	unit/revenue of RMB10,000	0.03	0.0010	−96.67%
Waste battery recycled	unit	1,658	578	−65.14%
Waste toner cartridge	unit	60	93	55%
Waste toner cartridge intensity	unit/revenue of RMB10,000	0.0001	0.00016	60%
Waste toner cartridge recycled	unit	60	93	55%

Notes:

1 The emission data listed above only cover AsiaInfo Technologies (China), Inc. and AsiaInfo Technologies (Nanjing), Inc., both are major operating subsidiaries of the Group.

2 The calculation of GHG emissions has been arrived at with reference to the GHG Protocol Corporate Accounting and Reporting Standard 2012 (Amendment) (《溫室氣體核算體系企業核算與報告標準(修訂版)》). The grid emission factor used in the calculation of Scope 2 refers to the latest China's regional grid emission factors released by the National Development and Reform Commission of the PRC.

3 Air pollutant emissions are emissions from vehicles owned by the Group, including emissions from vehicles owned and operated by the Group, and are calculated with reference to the Technical Guide for Air Pollutant Emission Inventory for Road Motor Vehicles (Trial) (《道路機動車大氣污染物排放清單編製技術指南(試行)》).

4 With reference to the definition in Basel Convention, non-hazardous wastes of the Group include computers, digital communication circuits and devices, servers, printers and so on. All electronic wastes are auctioned off by the Group.

Environmental and Natural Resources Protection

The operating activities of the Group will not have any material impact on the ecological environment due to its industrial nature as Internet companies, but the Group will proactively undertake the environmental responsibility, carry out green operating practice and push forward the construction of ecological civilisation in accordance with national laws and regulations such as the Environmental Protection Law of the PRC (《中華人民共和國環境保護法》) and Law of the PRC on the Prevention and Control of Pollution from Environmental Noise (《中華人民共和國環境噪聲污染防治法》). There was no violation of the relevant laws and regulations in which they have any significant impact on the Group during the Reporting Period.

The Company commissioned a professional environmental monitoring agency from August to September 2019 to test the environmental indicators of areas where AsiaInfo Technologies (China), Inc. is operating. The test results met the requirements of the Emission Standard for Industrial Enterprises Noise at Boundary (GB12348–2008).

In order to beautify the office environment and improve indoor air quality further, the Group encourages growing potted plants to decorate office environment, in a bid to reduce carbon footprints generated by staff in business travel activities. The concept of green commuting is promoted by the Group to reduce the impact on the environment by encouraging staff to take public transport.

7 PARTICIPATION IN SOCIAL WELFARE ACTIVITIES WITH CARE TO THE COMMUNITY

AsiaInfo adheres to the thinking of unifying social and economic benefits, striving to actively giving back to the society and public while working hard to create value for customers and investors. In 2019, the Group enthusiastically participated in public welfare activities, further promoted poverty alleviation works and actively assumed corporate social responsibility to making contributions in building a harmonious society and creating a better life.

In November 2019, the Public Welfare Group of AsiaInfo visited Gaofeng Primary School and Zhechong Primary School again in Ceheng County, south-western Guizhou, and brought clothes, books, stationery, sports equipment and other items to the children of the two primary schools. Moreover, in order to broaden the children's vision, the Public Welfare Group specially organized remote video teaching interactions with teachers in Shanghai, and provided children with scenario teaching through the application of artificial intelligence. Several colleagues in the Public Welfare Group have continued to support education in poverty-stricken regions through donations and acting as volunteer teachers for seven years, witnessing the thriving of batches of children in person.

In 2019, in order to thoroughly implement the important exposition of President Xi Jinping on poverty alleviation, and help the country in achieving the grand goal of building a moderately prosperous society in all respects, AsiaInfo actively responded to the initiative of "Participating in Fund-raising for Poverty Alleviation and Helping Poverty Regions Out of Poverty" initiated by Shanghai Branch of China Mobile (上海移動公司) and raised funds to support the poverty alleviation of Aketao county in Xinjiang, making a positive contribution to the country's development and construction.

In early 2020, the whole nation is combating the pandemic of novel coronavirus pneumonia. As one of the high-tech enterprises, we are ready to serve the country and fight against the epidemic with technology. We have made enormous efforts to support the secured, stable and efficient operation of the IT systems of major telecom operators, thereby assuring the smooth and stable communication services during the pandemic. We launched 16 products and solutions for epidemic prevention and control, including human flow and epidemic trend sensing, visualization of 3D immersive data on sensitive regions and abnormalities monitoring on epidemic susceptive groups, so as to offer product support and data secured services for each epidemic prevention and control work in the community as well as the precise formulation and efficient implementation of relevant policies on epidemic prevention and control.

Public Welfare Group of AsiaInfo visiting Gaofeng Primary School and Zhechong Primary School in south-western Guizhou as volunteer teachers

Profiles of Directors and Senior Management

DIRECTORS

Executive Directors

Dr. TIAN Suning (田溯寧)
Executive Director

Aged 57, co-founded the Group in 1994, is the chairman and an executive Director of the Company. Dr. TIAN has over 20 years of experience in the business of software products, provision of IT services and software solutions, and is primarily responsible for the overall strategic planning and business direction of the Group. Dr. TIAN served in various positions in China Netcom Group Corporation (Hong Kong) Limited. He served as the chief executive officer from 1999 to May 2006, as a director from August 2000 to July 2007 and as the vice chairman from April 2005 to July 2007. Dr. TIAN served as the deputy general manager at China Netcom Communications Group Corporation from April 2002 to May 2006. Dr. TIAN has been the founder and chairman of a private equity fund, China Broadband Capital Partners, L.P. since July 2006. Dr. TIAN has been an independent non-executive director of Lenovo Group Limited (listed on the Stock Exchange) from August 2007 to July 2019. Dr. TIAN has been an independent non-executive director of China Minsheng Banking Corp., Ltd. (中國民生銀行股份有限公司) (listed on the Shanghai Stock Exchange, also listed on the Stock Exchange) since June 2018. He was an independent director of Shanghai Pudong Development Bank Co., Ltd. (listed on the Shanghai Stock Exchange) from June 2016 to March 2018. He was also an independent non-executive director of Taikang Life Insurance Company Ltd. from July 2008 to July 2015. He was a non-executive director of Huayi Tencent Entertainment Company Limited (listed on the Stock Exchange) from January 2008 to February 2016, and served as an independent non-executive director of MasterCard Incorporated (listed on the New York Stock Exchange) from March 2006 to June 2016 and a deputy chairman and a non-executive director of PCCW Limited (listed on the Stock Exchange) from April 2005 to July 2007. Dr. TIAN was awarded the New Century Talents — National Candidates (新世紀百千萬人才國家級人選) in 2004, which was issued by Ministry of Human Resources and Social Security of the PRC. Dr. TIAN obtained his Ph.D. degree in natural resource management from Texas Tech University in December 1993 and a Master of Ecology from Chinese Academy of Sciences in July 1988.

Mr. DING Jian
(丁健)
Executive Director

Aged 55, is an executive Director and was appointed as a Director in June 2018. Mr. DING joined the Group in January 2014. Mr. DING has over 15 years of experience in investment in telecommunications, media and technology industries and is primarily responsible for participating in formulation of business plans, strategies and major decisions of the Group. Mr. DING served as the chairman of the board of AsiaInfo-Linkage, Inc. between April 2003 and July 2010, and has also served as a co-chairman since July 2010. Mr. DING is currently a managing director and general partner of GSR Ventures, a venture capital fund, a role in which he has served since June 2005. Mr. DING has served as an independent director of Baidu, Inc. (listed on NASDAQ) since August 2005. Mr. DING served as an independent director of Huayi Brothers Media Corporation (listed on the Shenzhen Stock Exchange) from March 2011 to August 2017. Mr. DING obtained a Master of Library Science from the University of California, Los Angeles in September 1990.

Mr. GAO Nianshu
(高念書)
Executive Director

Aged 57, is an executive Director and was appointed as a Director in August 2017. He joined the Group in July 2016 as the Chief Executive Officer. Mr. GAO is primarily responsible for the overall business operations and management of the Group. Mr. GAO has over 20 years of working experience as senior management in large telecommunications companies. He served as a non-executive director of Phoenix Media Investment (Holdings) Limited (listed on the Stock Exchange) between September 2006 and August 2016. Mr. GAO served as the general manager of both the data department and the market operations department of China Mobile Communications Corporation (中國移動通信集團公司) between September 2005 and July 2016. He served as the vice general manager of the billing business center and the market operations department, the general manager of the billing business center and the general manager assistant of Beijing Mobile Communication Company Limited (北京移動通信有限責任公司) between June 2002 and September 2005. Mr. GAO also served as a non-executive director of True Corporation Public Company Limited (listed on the Stock Exchange of Thailand) between 2014 and 2016. Mr. GAO was presented with the award "Outstanding Entrepreneur in China's Electronic Information Industry (中國電子資訊行業卓越企業家)" issued by China Information Technology Industry Federation (中國電子信息行業聯合會) in January 2018. In January 2018, Mr. GAO also received the "2017 Outstanding Entrepreneur in China's Software Industry (2017年中國軟件行業優秀企業家)" award from China Software Industry Association (中國軟件行業協會). In the 2017 Information and Communication Technology ("**ICT**") Leaderboard & Excellence Program Award Ceremony (2017 ICT龍虎榜&優秀方案頒獎典禮) held by Communication World Omnimedia (通信世界全媒體) in December 2017, Mr. GAO was presented with the award of "2017 Top Ten ICT Influencers" (2017年ICT十大影響人物). Mr. GAO was awarded the qualification as a senior engineer from the Chinese Academy of Sciences in 1996. Mr. GAO obtained a bachelor's degree in science of computing major from the department of mathematics in the Jilin University in July 1986, a master's degree in engineering from the Institute of Computing Technology, Chinese Academy of Sciences in August 1994 and an executive master of business administration degree from the Peking University in the PRC in June 2005.

Mr. ZHANG Yichen (張懿宸)
Non-executive Director

Aged 57, is a non-executive Director and was appointed as a Director in June 2018. Mr. ZHANG joined the Group in January 2014. He has over 30 years of experience in the financial industry and is primarily responsible for providing professional opinion and judgment to the Board. Mr. ZHANG began his career in 1987 and has previously worked for Greenwich Capital Markets, Bank of Tokyo New York Branch as head of proprietary trading, and Merrill Lynch, where he was the managing director of debt capital market for Greater China. Mr. ZHANG returned to China in the mid-1990s and advised the Ministry of Finance of the PRC and other Chinese agencies on the development of the domestic government bond market. Mr. ZHANG is the chairman and the chief executive officer of CITIC Capital Holdings Limited, a global alternative investment management and advisory company. Prior to his participation in founding CITIC Capital Holdings Limited, Mr. ZHANG was an executive director of CITIC Limited (listed on the Main Board of the Stock Exchange from March 2000 to May 2002, and also the president of CITIC Pacific Communications Limited from March 2000 to May 2002. Mr. ZHANG served as an independent director of Weibo Corporation from January 2014 to December 2015, whose securities are listed on NASDAQ. Since May 2002, Mr. ZHANG has been serving as an independent director of Sina Corporation, whose securities are listed on NASDAQ (NASDAQ: SINA). Since December 2016, Mr. ZHANG has been serving as a director of S.F Holding Co., Ltd (listed on the Shenzhen Stock Exchange). Since June 2012, Mr. ZHANG has been serving as the chairman of the board and a non-executive director of Genertec Universal Medical Group Company Limited (listed on the Stock Exchange). Since March 2020, Mr. ZHANG has been serving as the non-executive Director of Frontier Services Group Limited (listed on the Stock Exchange). Mr. ZHANG is a member of the 11th, 12th and 13th National Committee of the Chinese People's Political Consultative Conference. Mr. ZHANG obtained a Bachelor of Science degree in computer science and engineering from the Massachusetts Institute of Technology, the US in June 1986.

Mr. XIN Yuesheng (信躍升)
Non-executive Director

Aged 50, is a non-executive Director and was appointed as a Director in June 2018. Mr. XIN joined the Group in August 2016. He has over 26 years of experience in finance and investment and is primarily responsible for providing professional opinion and judgment to the Board. Mr. XIN currently serves as a senior managing director of CITIC Capital Holdings Limited and the managing partner of its private equity arm CITIC Capital Partners. He joined the firm in August 2002 and is responsible for the private equity investment business in China since 2004. Between December 1999 and August 2002, he served as a management consultant at McKinsey & Company in Shanghai and the Washington, D.C. to develop business strategies for global clients. From August 1992 to April 1996, Mr. XIN also served as a deputy manager for China Leasing Co., Ltd. (中國租賃有限公司), the largest leasing company in China and a subsidiary of CITIC Group Corporation Ltd. Mr. XIN served as a director of Focus Media Information Technology Co., Ltd. (分眾傳媒信息技術股份有限公司) (listed on the Shenzhen Stock Exchange) from March 2016 to November 2016. He obtained a Bachelor of Economics degree from the Peking University in the PRC in July 1992 and a master of business administration degree from Harvard Business School in the US with honors in June 1999.

Mr. ZHANG Liyang
(張立陽)
Non-executive Director

Aged 34, is a non-executive Director and was appointed as a Director in June 2018. Mr. ZHANG joined the Group in January 2018. He is responsible for providing professional opinion and judgment to the Board. Mr. ZHANG has over 10 years of experience in business strategy and finance. He joined CITIC Capital Holdings Limited in June 2010 and is currently an executive director of CITIC Capital Partners Advisory (Shanghai) Limited, who is responsible for private equity investments in the telecommunications, media, technology and industrial sectors. From August 2008 to June 2010, he worked for McKinsey & Company as a management consultant, providing strategic and operational advice for leading Chinese telecom and energy companies. Mr. ZHANG obtained his master of business administration degree from Institut Européen d'Administration des Affaires (INSEAD) in December 2013 and a Bachelor of Engineering degree from Zhejiang University in the PRC in June 2008.

Dr. GAO Jack Qunyao
(高群耀)
Independent non-executive Director

Aged 62, was appointed as an independent non-executive Director in December 2018. Dr. GAO has extensive experience in IT, media, entertainment and venture capital. Dr. GAO has currently been the adjunct professor of the business school of The Chinese University of Hong Kong since 2011. Dr. GAO has been the founding partner and the chief executive officer at Beijing Times Digiwork Films Technology Co., Ltd. (Smart Cinema) (北京雲途時代影業科技有限公司(移動電影院)) since April 2018. Dr. GAO has been an independent non-executive director of AGTech Holdings Limited (listed on GEM of the Stock Exchange) since May 2015. Dr. GAO was the interim chief executive officer of Legendary Entertainment LLC from January 2017 to October 2017, and was also a director of Legendary Entertainment LLC from January 2016 to October 2017. Dr. GAO served as a director at AMC Entertainment Holdings, Inc. (listed on the New York Stock Exchange) from September 2015 to October 2017. Dr. GAO also served as the senior group vice president and the chief executive officer of the international investments and operations, Wanda Cultural Industry Group from June 2015 to October 2017. Dr. GAO was previously a director of Beijing Vantone Real Estate Co., Ltd. (listed on the Shanghai Stock Exchange) from June 2010 to April 2017. Dr. GAO also served as the corporate senior vice president of News Corporation (listed on NASDAQ) from November 2006 to July 2014. Dr. GAO was an alternate director at Phoenix Media Investment (Holdings) Limited (listed on the Stock Exchange) from December 2008 to June 2013. Dr. GAO served as the corporate vice president at Autodesk, Inc. (listed on NASDAQ) from June 2003 to November 2006. He was also the general partner of Walden International, Inc. from May 2002 to April 2003. Dr. GAO served as the president and the general manager of Microsoft (China) Co. Ltd., a subsidiary of Microsoft Corporation (listed on NASDAQ) from December 1999 to May 2002. Dr. GAO obtained his bachelor's degree, master's degree and his Ph.D. degree in engineering from Harbin Institute of Technology in January 1982, December 1984 and December 1994, respectively.

Dr. ZHANG Ya-Qin
(張亞勤)
Independent Non-executive Director

Aged 54, was appointed as an independent non-executive Director in December 2018. Dr. ZHANG has extensive experience in the technology and business operation of wireless and satellite communications, security, networking and digital video segments. Dr. ZHANG has been an independent non-executive director of a number of companies, including Chinasoft International Limited (listed on the Stock Exchange) since December 2008 and FMG (listed on Asx) since October 2019. Dr. ZHANG served as an independent non-executive director of each of ChinaCache (listed on NASDAQ) from September 2010 to July 2017 and China Digital Video Holdings Limited (listed on GEM of Stock Exchange) from January 2011 to June 2018. Dr. ZHANG served as the president of Baidu, Inc. (listed on NASDAQ) for 5 years from September 2014 to October 2019, responsible for autonomous driving, cloud computing, AI, and international business. Prior to joining Baidu in 2014, Dr. Zhang was a senior Microsoft executive in Redmond and Beijing for 16 years, including the managing director of Microsoft Research Asia, Chairman of Microsoft China, Corporate Vice President of Mobile and Embedded, and Chairman of Asia-Pacific R&D. Dr. ZHANG was inducted to American Academy of Arts and Sciences in 2019, and was awarded a fellow of the Australian Academy of Technology and Engineering in December 2017. He has also been a fellow of the Institute of Electrical and Electronics Engineers since 1997. Dr. ZHANG obtained his bachelor's degree in radio electronics and master's degree in telecommunication and electrical systems from the University of Science and Technology of China (中國科學技術大學) in July 1983 and January 1986, respectively. In February 1990, Dr. ZHANG obtained his Ph.D. degree in electrical engineering from the George Washington University, Washington D.C, the US.

Mr. GE Ming
(葛明)
Independent Non-executive Director

Aged 69, was appointed as an independent non-executive Director on 19 December 2018. Mr. GE has extensive experience in the field of auditing and advisory services and has assisted in the listing of various PRC companies on the Stock Exchange. Mr. GE served as an independent non-executive director of China Cloud Copper Company Limited (listed on the Stock Exchange) from May 2017 to December 2018. Mr. GE is an independent director of Focus Media Information Technology Co., Ltd. (分眾傳媒信息技術股份有限公司) (listed on the Shenzhen Stock Exchange) since January 2016. Mr. GE served as a non-executive director of China Innovation Investment Limited (listed on the Stock Exchange) from June 2015 to February 2016 and also served as a non-executive director of China Trends Holdings Limited (listed on the Stock Exchange) from June 2015 to February 2016. Mr. GE served as an independent director of Shanghai Zhenhua Heavy Industries Co., Ltd. (listed on the Shanghai Stock Exchange) from April 2015 to November 2016. Mr. GE is an independent non-executive director of Ping An Insurance (Group) Company of China, Ltd. (listed on the Stock Exchange) since June 2015 and an independent non-executive director of Chong Sing Holdings FinTech Group Limited (listed on the GEM of Stock Exchange) since September 2014. Mr. GE also served as an independent non-executive director of Shunfeng International Clean Energy Limited (listed on the Stock Exchange) from January 2011 to February 2013. From July 1992 to July 1995, Mr. GE served as a deputy general manager at Ernst & Young Hua Ming; from July 1995 to August 2012, Mr. GE served as the chairman at Ernst & Young Hua Ming; from August 2012 to September 2014, Mr. GE served as a partner of management committee at Ernst & Young Hua Ming LLP and subsequently from September 2014 to January 2016, Mr. GE served as a senior consultant at Ernst & Young Hua Ming LLP. Mr. GE has been a certified public accountant of the Chinese Institute of Certified Public Accountants since October 1983, and is also a senior accountant as certified by the Ministry of Finance of the PRC. Mr. GE is a vice president of the Mergers & Acquisitions Association of All-China Federation of Industry and Commerce (全國工商聯併購公會), an overseas member of the Society of Chinese Accountants and Auditors (香港華人會計師公會), and a member of the Hong Kong Chinese Enterprises Association (香港中國企業協會). Mr. GE obtained his master's degree in western accounting from the Research Institute for Fiscal Science, Ministry of Finance of the PRC in July 1982.

Ms. HUANG Ying
(黃纓)
Senior Management

Aged 51, has been a senior vice president and the chief financial officer of the Group since April 2017. Ms. HUANG joined the Group in April 2017 and is primarily responsible for the management of finance, tax, auditing and legal matters of the Group. Ms. HUANG has over 20 years of working experience in financial management in the telecommunications industry, and has over ten years of experience in senior management roles. Prior to joining the Group, Ms. HUANG successively served as the general finance department manager, the deputy general manager and other positions of the finance department of China Mobile Communications Corporation (中國移動通信集團公司) from July 2002 to March 2017. She successively served as a principal staff of the finance department at the general post office of the Ministry of Posts and Telecommunications and a deputy director at the corporate finance office of the planning and finance department of the State Post Bureau of the PRC and other positions from May 1995 to June 2002. In June 1990, Ms. HUANG obtained a bachelor's degree in economics from the Beijing University of Posts and Telecommunications, where she subsequently also obtained a master's degree in economics in April 1995. She obtained a master of business administration degree from the University of Wisconsin, the US in May 2006.

Mr. CHEN Wu
(陳武)
Senior Management

Aged 52, has been a senior vice president and the general manager of the business development and government affairs center of the Group since February 2015. Mr. CHEN joined the Group in April 2011 and is primarily responsible for the overall management of business development and government affairs. Mr. CHEN has over 15 years of working experience in business development and dealing with government affairs, and has over ten years of experience in senior management roles. He served as the director of telecommunications division of Cisco Systems (China) Networking Technology Co., Ltd. from August 2007 to April 2011. Prior to that, he served as the deputy general manager of Mobile Navi (Beijing) Co., Ltd. (北京移動納維信息科技服務有限公司) from January 2005 to August 2007. Mr. CHEN also served as the general manager of the international department of Beijing Honglian 95 Information Industries Company Limited (北京鴻聯九五信息產業有限公司) from August 2003 to December 2004. Mr. CHEN obtained a bachelor's degree in Japanese literature from Tianjin Foreign Studies University in July 1989, and further obtained a master of business administration degree from the Nanyang Technological University, Singapore in June 2007.

Mr. LIANG Bin
(梁斌)
Senior Management

Aged 49, joined the Group in August 2002 and has been a senior vice president and the general manager of the business division for China Mobile of the Group since January 2017. Mr. LIANG is primarily responsible for the overall operations management of the business division for China Mobile. Mr. LIANG has over 20 years of experience in the IT and telecommunications industry, and has over 15 years of experience in middle and senior management roles. He served as the president of the business division for China Telecom, the chairman and the president of the cloud information division, the vice president of the China Unicom division, the deputy general manager of the cable division and the general manager of the wireless division of the Group from August 2002 to December 2016. He also served as the R&D manager of Jiangsu Hongtu High Technology Co., Ltd. (江蘇宏圖高科技股份有限公司) and UTStarcom Holdings Corp. from September 1998 to September 2002. Mr. LIANG graduated from Nanjing University of Posts and Telecommunications (formerly known as Nanjing College of Posts and Telecommunications) with a major in communications engineering in July 1991.

Dr. OUYANG Ye
(歐陽曄)
Senior Management

Aged 38, has been a vice president and the chief technology officer of the Group and also the chairman of the technology committee and the head of PRD (product R&D center) of the Group since July 2018. Dr. OUYANG joined the Group in July 2018 and is primarily responsible for the research, development, and innovation of the Group's products and technologies. Dr. OUYANG has over ten years of distinguished experience of technology research, development, and management in telecommunication space. Dr. OUYANG has been a Verizon Associate Fellow in Verizon since March 2016 (a Fellow title is Verizon's highest commendation for technical excellence and indicates Verizon's top tier scientist). He is one of the only 48 Fellows in Verizon's 170,000 employees globally. Between July 2013 and February 2016, he was a principal member of technical staff in Verizon. Dr. OUYANG led Verizon's AI and big data analytics team for innovative R&D work in the space of the forefront of cutting edge wireless technologies, AI and data science. Dr. OUYANG received many awards, including the "AAEOY (Asian American Engineer of the Year 2017)" award, the "USA Telecom Innovation Award" by Fierce in 2016 and 2017, the "Most Innovative Telco Big Data Analytics Platform Award" by USA Telco Data Analytics Summit 2017, and the "Best Paper Award" in the 2017 IEEE International Conference on Big Data, etc. Dr. OUYANG has distinguished experience as a scientist, a researcher, an innovator, and a R&D manager. He serves various roles in many international telecommunication standard bodies and technology organizations, including the chair of industry relations of the IEEE 5G, the corporate representative in the ETSI (European Telecommunications Standards Institute), the industry chair of IEEE Sarnoff, the workshop chair of IEEE ICNC (International Conference on Computing, Networking and Communication), the industry panel chair of IEEE ICII (International Conference on Industrial Internet), the chair of Executive Forum of IEEE Globecom, and the chair of the big data committee of IEEE WTS (Wireless Telecommunications Symposium) and IEEE WOCC (Wireless and Optical Communication Conference). Dr. OUYANG authored more than 20 academic papers, 30 patents, and five books or book chapters. Dr. OUYANG obtained a Ph.D. in Telecommunications from the Stevens Institute of Technology in Hoboken, New Jersey, the US in February 2012, a Master of Science in Engineering Management from the Tufts University in Medford, Massachusetts, the US in August 2007, another Master of Science in Data Science from the Columbia University in New York, the US in May 2018, and a Bachelor of Engineering in Information Engineering from the Southeast University in Nanjing, Jiangsu, the PRC in June 2003.

The Board is pleased to present its report together with the audited consolidated financial statements of the Group for the year ended 31 December 2019.

PRINCIPAL ACTIVITIES

The principal activity of the Group is the provision of telecom software products and related services.

MAJOR SUBSIDIARIES

A list of our major subsidiaries together with the particulars of the place of incorporation/establishment, as well as their issued share capital/registered capital and their principal activities are set out in note 37 to the consolidated financial statements.

RESULTS

The results of the Group for the year ended 31 December 2019 are set out in the consolidated statement of profit or loss and other comprehensive income on page 115 and page 116 of this annual report.

DIVIDEND POLICY

We may declare and pay dividends by way of cash or by other means that we consider appropriate in the future. The distribution of dividends will be determined by the Board at its discretion. Whether we would declare or pay any dividends in the future and the amount of such dividends is subject to a number of factors, including our results of operations, cash flows, financial condition, amount of cash dividends paid to the Company by our subsidiaries, requirements under the relevant accounting standards, future development needs and other factors that the Directors may consider relevant. By taking into considerations of the aforesaid factors properly, we will adopt a non-binding and general dividend policy with a dividend payout ratio of not less than 40% of our annual distributable net profits in each financial year, commencing from the financial year ended 31 December 2019. In addition, our dividend policy will also be subject to the Article of Association, Business Companies Act of British Virgin Islands, and any other applicable laws and regulations.

FINAL DIVIDENDS

The Board resolved to declare the proposed final dividends of HK$0.252 per share for the year ended 31 December 2019 (2018: Nil).

BUSINESS REVIEW

An analysis on the business performance review of the Group during the Reporting Period and the future business development of the Group is set out in the section headed “Management Discussion and Analysis” and “Chairman’s Statement” on pages 20 to 25 and pages 16 to 19 of this annual report, respectively. The major risks faced by the Group is set out in the section headed “Corporate Governance Report” on page 106 of this annual report. The analysis of the Group using the key financial performance indicators for the year ended 31 December 2019 is set out in the section headed “Management Discussion and Analysis” on pages 25 to 31 of this annual report.

FINANCIAL SUMMARY

A summary of the results and assets and liabilities of the Group for the past five financial years is set out on pages 231 to 232 of this annual report. The summary does not form part of the audited consolidated financial statements.

USE OF NET PROCEEDS FROM LISTING

Our shares were listed on the Main Board of the Stock Exchange on 19 December 2018. The net proceeds raised during the period of initial public offering with issue price of HK$10.5 (after deducting the underwriting commission and the issuance expenses from listing and prior to the exercise of the over-allotment option in January 2019) was approximately HK$871.1 million. Due to the issuance and allotment of over-allotment shares pursuant to the partial exercise of over-allotment options on 15 January 2019, additional net proceeds of approximately HK$30.5 million were raised. The proposed use of the net proceeds was in line with those disclosed in the prospectus of the Company dated 6 December 2018 (the "**Prospectus**").

The following table sets out the detailed information of the Group's proceeds that were utilized as of 31 December 2019:

	Approximate percentage of total amount	**Proceeds from initial public offering**	**Proceeds utilized as of 31 December 2019**	**Proceeds not yet utilized as at 31 December 2019**
	%	HK$'000	HK$'000	HK$'000
Enhance our R&D capabilities and expand data-driven operation services, Internet of Things and 5G network intelligence businesses	35%	315,547	315,547	—
Repayment of bank loans	30%	270,469	270,469	—
Strategic investments and acquisition	25%	225,391	—	225,391
Working capital and other general corporate purpose	10%	90,156	90,156	—
Total	100%	901,563	676,172	225,391

MAJOR CUSTOMERS AND SUPPLIERS

Major customers

For the year ended 31 December 2019, the Group's top five independent and contracted customers accounted for approximately 23.0% (2018: approximately 21.2%) of the Group's total revenue, while the transaction amount with the Group's single largest customer accounted for approximately 5.3% (2018: approximately 4.9%) of the Group's total revenue.

Major suppliers

For the year ended 31 December 2019, the Group's top five suppliers accounted for approximately 8.9% (2018: approximately 9.0%) of the Group's total purchases for the year ended 31 December 2019, while the transaction amount with the Group's single largest supplier accounted for approximately 2.7% (2018: approximately 3.0%) of the Group's total purchases.

During the Reporting Period, none of the Directors, any of their close associates (as defined in the Listing Rules) or any substantial shareholders (who, as far as the Directors are aware, own more than 5% of the number of issued shares of the Company) of the Group had any interests in the Group's top five customers or suppliers.

During the Reporting Period, the Company maintained good relationships with our customers and suppliers.

Environmental Protection

The environmental policies and performance of the Company are set out in the "Environmental, Social and Governance Report" to this annual report.

The Group has complied with the applicable environmental laws and regulations where its business operations are located. The Company will review its environmental protection practices from time to time, and will consider implementing other environmental protection measures and practices in the business operations of the Group to enhance sustainability.

PROPERTY, PLANT AND EQUIPMENT

Details of the changes in the property, plant and equipment of the Group during the year ended 31 December 2019 are set out in note 15 to the consolidated financial statements.

SHARE CAPITAL

Details of movement in the share capital of the Company during the year ended 31 December 2019 are set out in note 30 to the consolidated financial statements.

RESERVES AND DISTRIBUTABLE RESERVES

Details of the changes in the reserves of the Group for the year ended 31 December 2019 are set out in note 38 to the audited consolidated financial statements, respectively, of which, the reserves available for distribution to shareholders amounted to approximately RMB1,261.3 million (2018: RMB981.3 million).

BANK BORROWINGS

Details of the bank borrowings of the Group as at 31 December 2019 are set out in note 27 to the consolidated financial statements.

MATERIAL ACQUISITIONS OR DISPOSALS

As at 31 December 2019, the Group did not have any significant investment plans, material acquisitions or disposals (2018: Nil).

DIRECTORS

During the Reporting Period and up to the date of this annual report, the Directors are as follows:

Executive Directors:

Dr. TIAN Suning *(Chairman)*
Mr. DING Jian
Mr. GAO Nianshu *(Chief Executive Officer)*

Non-executive Directors:

Mr. ZHANG Yichen
Mr. XIN Yuesheng
Mr. ZHANG Liyang

Independent non-executive Directors:

Dr. GAO Jack Qunyao
Dr. ZHANG Ya-Qin
Mr. GE Ming

According to the Articles of Association, Mr. GAO Nianshu, Mr. ZHANG Liyang and Dr. ZHANG Ya-Qin will retire but are eligible and will offer themselves for re-election at the annual general meeting. Details of the Directors being re-elected at the annual general meeting are set out in the shareholders' circular issued before the annual general meeting. The biographical details of the Directors and senior management are set out in the section headed "Profiles of Directors and Senior Management" on pages 64 to 72 of this annual report.

INDEPENDENCE OF INDEPENDENT NON-EXECUTIVE DIRECTORS

Each of the independent non-executive Directors has confirmed his independence for the year ended 31 December 2019 in accordance with Rule 3.13 of the Listing Rules. The Company is of the view that all of the independent non-executive Directors are independent in accordance with Rule 3.13 of the Listing Rules.

DIRECTOR'S INTEREST IN A SIGNIFICANT TRANSACTION, ARRANGEMENT OR CONTRACT

For the year ended 31 December 2019 and up to the date of this annual report, save as disclosed herein, none of the Directors had directly or indirectly a material interest in a transaction, arrangement or contract, to which the Company, any of its subsidiaries or its fellow subsidiaries is a party and is significant to the business of the Group.

MANAGEMENT CONTRACT

For the year ended 31 December 2019 and up to the date of this annual report, the Company had not signed or entered into any contract in relation to the management and administration of all or any of its significant business.

REMUNERATION OF DIRECTORS AND SENIOR MANAGEMENT

Employees and remuneration policy

As of 31 December 2019, the Group had a total of 13,239 full-time employees. The Company strives to align the remuneration level of its employees with market level, so as to maintain competitiveness. The remuneration of the our employees is subject to the remuneration and bonus policy of the Group, and determined in accordance with the performance of each staff. The Group also provides comprehensive benefit packages and career development opportunities to its employees, including insurance benefits etc. Internal and external training programs are provided according to the change in the industry, technological updates and needs of employees.

Details of the Group's relationship with the employees are set out in the section headed "Environmental, Social and Governance (ESG) Report" on pages 43 to 52 of this annual report.

According to the Group's remuneration policy, in evaluating the amount of remuneration payable to Directors and senior management, the factors to be considered by the Nomination Committee and the Remuneration Committee include the salaries paid by similar companies, tenure of Directors and senior management, commitment, responsibilities and individual performance (as the case may be), etc.

The remuneration received by Directors and senior management include salaries, bonuses, contributions to pension schemes, long-term reward (including share-based incentives), housing and other allowances, and benefits in kind complied with the requirements under applicable laws, rules and regulations. The remuneration received by executive Directors include salaries, bonuses, contributions to pension schemes, long-term reward, housing and other allowances, and benefits in kind complied with applicable laws, rules and regulations.

Details of the remuneration of the Directors and the five highest paid individuals are set out in the note 14 to the consolidated financial statements.

RETIREMENT AND EMPLOYEE BENEFIT SCHEME

As required under the rules and regulations in the PRC, the Group contributes to state-managed retirement plans for its employees in the PRC. The Company is required to contribute a certain percentage of the basic salaries of its employees to the retirement plans, and has no further obligation for the actual payment of the previous or post-retirement benefits. The relevant state-managed retirement plans are responsible for the entire present obligation to retired employees.

In accordance with the laws and regulations of the relevant mandatory provident fund in Hong Kong, the Company operates MPF Scheme for all qualifying employees in Hong Kong. The assets of the scheme are held separately from those of the Group and are under the control of an independent mandatory provident fund service provider. Under the rules of the MPF Scheme, each of the employer and its employees is required to make contributions to the scheme at the rates specified in the rules. The only obligation of the Group in respect of the MPF Scheme is to make the required contributions under the scheme.

Details of the retirement and employee benefit plans of the Company are set out in the note 34 to the consolidated financial statements.

DIRECTOR'S TERM OF OFFICE AND SERVICE CONTRACT

Each of the executive Directors has entered into a service contract with the Company, under which they have agreed to act as executive Directors for an initial term of three years commencing from 30 December 2019. Such contract shall be terminated by not less than three months' notice in writing served by the executive Director or the Company.

Each of the non-executive Directors and the independent non-executive Directors has signed an appointment letter with the Company for a term of one year commencing from 30 December 2019. Under their respective appointment letters, each of the independent non-executive Directors is entitled to a fixed Director's fee of USD60,000 (or equivalent in Hong Kong dollars).

Remuneration of each of the executive Director and non-executive Director will be determined by the Board as authorized by the Shareholders, in accordance with the Articles of Association. Remuneration of the executive Directors will be determined by the Board, and that of the non-executive Directors will be first recommended by the Remuneration Committee and then determined by the Board as authorized by the Shareholders, in accordance with the Articles of Association.

There is no service contract or appointment letter between the Directors and the Company, in which compensation (other than statutory compensation) is required to be made if it is terminated by the Company within one year.

DIRECTOR'S INTEREST IN COMPETING BUSINESS

Apart from the businesses of the Group, Dr. TIAN, the chairman and an executive Director of the Company, currently holds interests in the following businesses, which compete or are likely to compete, directly or indirectly, with the Group's businesses:

Name of Entity Engaging in Such Business	Equity Interest	Summary of Business
AsiaInfo Security Limited	Indirectly held approximately 81.14%	Operation of software products and services related to the Network Security
Nanjing AsiaInfo Rongxin Enterprise Management Center (Limited Partnership) (南京亞信雲互聯網信息科技有限公司)	Indirectly held approximately 70%	Operation of software R&D, sales, product system (platform and cooperation) and other related businesses
Beijing AsiaInfo Data Co., Ltd. (北京亞信數據有限公司)	Indirectly held approximately 3.66% in its controlling shareholder	Engaged in the operation of intellectual property platforms
Beijing Youyou Tianyu System Technology Co., Ltd. (北京友友天宇系統技術有限公司)	Indirectly held approximately 26.52%	Operation of software technology development, data processing and other related businesses
Beijing Tianyun Rongchuang Software Technology Co., Ltd. (北京天雲融創軟件技術有限公司)	Indirectly held approximately 28.14%	Operation of software technology development business
Tianyun Rongchuang Data Technology (Beijing) Co., Ltd. (天雲融創數據科技(北京)有限公司)	Indirectly held approximately 9.89%	Operation of technology development, application software services and other related businesses

Save as disclosed above, the Directors confirm that they did not have any interest in a business, apart from the business of the Group, which competes or is likely to compete, directly or indirectly, with our business, which would require disclosure under Rule 8.10 of the Listing Rules.

INTERESTS AND SHORT POSITIONS OF THE DIRECTORS AND THE CHIEF EXECUTIVE IN THE SHARES, UNDERLYING SHARES AND DEBENTURES

As at 31 December 2019, the interests and short positions of Directors and chief executives of the Company in the shares, underlying shares and debentures of the Company or its associated corporations (within the meaning of Part XV of the SFO which will be required to be notified to the Company and the Stock Exchange pursuant to Divisions 7 and 8 of Part XV of the SFO (including interests or short positions which they were taken or deemed to have under such provisions of the SFO) or which will be required under Section 352 of the SFO to be entered in the register referred to in that section, or which will be required under the Model Code to be notified to us and the Stock Exchange, once the Shares are listed, will be as follows:

Name of Director/ chief executive	Nature of interest (Note 1)	Number of shares	Approximate percentage of shareholding interest of the Company (Note 2)
Dr. TIAN Suning[1]	Beneficial owner (L)	42,961,400	5.92%
	Interest in controlled corporation (L)	20,302,368	2.80%
	Interest in controlled corporation (L)	31,209,360	4.30%
	Interest in controlled corporation (L)	39,442,000	5.43%
Mr. DING Jian[2]	Beneficial owner (L)	11,516,704	1.59%
	Interest in controlled corporation (L)	1,198,440	0.17%
Mr. GAO Nianshu[3]	Beneficiary of a trust (L)	8,943,216	1.23%
Mr. ZHANG Yichen[4]	Interest in controlled corporation (L)	213,924,952	29.46%

Notes:

1. (L) — Long position; (S) — Short position.
2. As at 31 December 2019, a total of 726,044,916 shares of the Company had been in issue.

[1] Dr. TIAN is the sole shareholder of Info Addition Limited which in turns is a general partner of Info Addition Capital Limited Partnership. As such, Dr. TIAN is deemed to be interested in the 20,302,368 shares in which Info Addition Capital Limited Partnership is interested. Dr. TIAN indirectly has full control over CBC Partners II L.P. which is the general partner of China Broadband Capital Partners II, L.P. which in turn is the sole shareholder of CBC TMT III Limited. Therefore, Dr. TIAN is deemed to be interested in the 31,209,360 shares in which CBC TMT III Limited is interested. PacificInfo Limited is wholly owned by Dr. TIAN and therefore Dr. TIAN is deemed to be interested in 39,442,000 shares in which PacificInfo Limited is interested.

[2] New Media China Investment I Limited is wholly owned by Mr. DING and therefore Mr. DING is deemed to be interested in the 1,198,440 shares in which New Media China Investment I Limited is interested.

[3] These interests comprise (i) 4,236,576 shares; (ii) 907,984 underlying shares in respect of the outstanding RSAs granted to Mr. GAO under the Pre-IPO RSA Scheme (as defined below); and (iii) 3,798,656 underlying shares in respect of the outstanding share options granted to Mr. GAO under the Pre-IPO Share Option Scheme (as defined below). All of the above interests were held by AsiaInfo Resolute Limited II on trust for Mr. GAO, who is one of the beneficiaries of AsiaInfo Resolute Limited II.

[4] Each of Power Joy (Cayman) Limited (as the controlling shareholder of Skipper Investment Limited), CITIC Capital China Partners II L.P. (as the sole shareholder of Power Joy (Cayman) Limited), CCP II GP, Ltd. (as the general partner of CITIC Capital China Partners II L.P.), CCP LTD (as the general partner of CCP II GP, Ltd. and the shareholder of CCPII Advisory Ltd.), CITIC Capital Partners Limited (as the sole shareholder of CCP LTD), CITIC Capital Holdings Limited and CP Management Holdings Limited (which hold 51% and 49% shareholding of CITIC Capital Partners Limited, respectively) and Mr. ZHANG Yichen (as the sole shareholder of CP Management Holdings Limited) is deemed or taken to be interested in all the 213,924,952 shares which are beneficially owned by Skipper Investment Limited for the purpose of Part XV of the SFO.

DIRECTORS' RIGHTS TO ACQUIRE SHARES OR DEBENTURES

Save as disclosed in this annual report, for the year ended 31 December 2019, at no time did the Company or any of its subsidiaries enter into any arrangement that would enable the Directors to acquire benefits by means of acquisition of shares in, or debentures of, the Company or any other body corporate, and none of the Directors or any of their respective spouses or children under the age of 18 were granted any right to subscribe for the share capital or debt securities of the Company or any other body corporate or had exercised any such right.

SUBSTANTIAL SHAREHOLDERS' INTERESTS AND SHORT POSITION IN SHARES AND UNDERLYING SHARES

As at 31 December 2019, to the best of the Directors' knowledge, the following persons have interests or short positions in the shares or underlying shares which would fall under the provisions of Divisions 2 and 3 of Part XV of the SFO to be disclosed to the Company, or which were recorded in the register required to be kept by the Company under Section 336 of the SFO:

Name of Shareholders	**Nature of interest** (Note 1)	**Number of shares**	**Approximate percentage of shareholding interest of the Company** (Note 2)
Skipper Investment Limited[5]	Beneficial owner(L)	213,924,952	29.46%
Power Joy (Cayman) Limited[5]	Interest in controlled corporation(L)	213,924,952	29.46%
CITIC Capital China Partners II L.P.[5]	Interest in controlled corporation(L)	213,924,952	29.46%
CCP II GP, Ltd.[5]	Interest in controlled corporation(L)	213,924,952	29.46%
CCPII Advisory Ltd.[5]	Interest in controlled corporation(L)	213,924,952	29.46%
CCP LTD[5]	Interest in controlled corporation(L)	213,924,952	29.46%
CITIC Capital Partners Limited[5]	Interest in controlled corporation(L)	213,924,952	29.46%
CITIC Capital Holdings Limited [5]	Interest in controlled corporation(L)	213,924,952	29.46%
CP Management Holdings Limited[5]	Interest in controlled corporation(L)	213,924,952	29.46%

Notes:

1. (L) — Long position; (S) — Short position.
2. As at 31 December 2019, a total of 726,044,996 shares of the Company had been in issue.

[5] Each of Power Joy (Cayman) Limited (as the controlling shareholder of Skipper Investment Limited), CITIC Capital China Partners II L.P. (as the sole shareholder of Power Joy (Cayman) Limited), CCP II GP, Ltd. (as the general partner of CITIC Capital China Partners II L.P.), CCP LTD (as the general partner of CCP II GP, Ltd. and shareholder of CCPII Advisory Ltd.), CITIC Capital Partners Limited (as the sole shareholder of CCP LTD), CITIC Capital Holdings Limited and CP Management Holdings Limited (which hold 51% and 49% shareholding of CITIC Capital Partners Limited, respectively) and Mr. ZHANG Yichen (as the sole shareholder of CP Management Holdings Limited) is deemed or taken to be interested in all the shares which are beneficially owned by Skipper Investment Limited for the purpose of Part XV of the SFO.

Name of Shareholders	Nature of interest (Note 1)	Number of shares	Approximate percentage of shareholding interest of the Company (Note 2)
CA Software Investment Limited[6]	Beneficial owner(L)	62,418,728	8.60%
CPE China Fund, L.P.[6]	Interest in controlled corporation(L)	62,418,728	8.60%
CITIC PE Associates, L.P.[6]	Interest in controlled corporation(L)	62,418,728	8.60%
CITIC PE Funds Limited[6]	Interest in controlled corporation(L)	62,418,728	8.60%
CITICPE Holdings Limited[6]	Interest in controlled corporation(L)	62,418,728	8.60%
Noble (Nominees) Limited[7]	Custodian(L)	55,479,044	7.64%
The Core Trust Company Limited[7]	Custodian(L)	55,479,044	7.64%
Ellington Investments Pte. Ltd.[8]	Beneficial owner(L)	52,015,608	7.16%
Bartley Investments Pte. Ltd. [8]	Interest in controlled corporation(L)	52,015,608	7.16%
Tembusu Capital Pte. Ltd. [8]	Interest in controlled corporation(L)	52,015,608	7.16%
Temasek Holdings (Private) Limited[8]	Interest in controlled corporation(L)	52,015,608	7.16%
Al Gharrafa Investment Company[9]	Beneficial owner(L)	52,015,608	7.16%
Qatar Holding LLC[9]	Interest in controlled corporation(L)	52,015,608	7.16%
Qatar Investment Authority[9]	Interest in controlled corporation(L)	52,015,608	7.16%
InnoValue Capital Ltd. [10]	Beneficial owner(L)	52,015,608	7.16%
Ms. LIU Tzu-Lien[10]	Interest in controlled corporation(L)	52,015,608	7.16%

6 Each of CPEChina Fund, L.P. (as the sole shareholder of CA Software Investment Limited), CITIC PE Associates, L.P. (as the general partner of CPEChina Fund, L.P.), CITIC PE Funds Limited (as general partner of CITIC PE Associates, L.P.) and CITICPE Holdings Limited (as the controlling shareholder of CITIC PE Funds Limited is deemed or taken to be interested in all the shares which are beneficially owned by CA Software Investment Limited for the purpose of Part XV of the SFO.

7 Noble (Nominees) Limited is the wholly-owned subsidiary of The Core Trust Company Limited, the shares of which are held by virtue of interest of the participants under certain equity incentive scheme of the Company.

8 Each of Bartley Investments Pte. Ltd. (as the sole shareholder of Ellington Investments Pte. Ltd.), Tembusu Capital Pte. Ltd. (as the sole shareholder of Bartley Investments Pte. Ltd.) and Temasek Holdings (Private) Limited (as the sole shareholder of Tembusu Capital Pte. Ltd.) is deemed or taken to be interested in all the shares which are beneficially owned by Ellington Investments Pte. Ltd. for the purpose of Part XV of the SFO.

9 Each of Qatar Holding LLC (as the sole shareholder of Al Gharrafa Investment Company) and Qatar Investment Authority (as the sole shareholder of Qatar Holding LLC) is deemed or taken to be interested in all the shares which are beneficially owned by Al Gharrafa Investment Company for the purpose of Part XV of the SFO.

10 Ms. LIU Tzu-Lien (as the sole shareholder of InnoValue Capital Ltd.) is deemed or taken to be interested in all the shares which are beneficially owned by InnoValue Capital Ltd. for the purpose of Part XV of the SFO.

SHARE OPTION INCENTIVE SCHEME

Share Option Scheme

The (i) Pre-IPO Share Option Scheme and (ii) 2019 Share Option Scheme were approved and adopted by our shareholders on 26 June 2018 and 25 November 2019, respectively, in order to grant eligible members of Directors, the management and employees such related share-based compensation. The Remuneration Committee will, from time to time, determine the eligibility of participants to be granted any option as an incentive pursuant to, including but not limited to, the current and expected contribution of such participant, general financial position of the Group, general business targets and future plans of the Group. The Pre-IPO Share Option Scheme and the 2019 Share Option Scheme are aimed to approve and reward eligible participants who have contributed to the Group's growth and development.

PRE-IPO SHARE OPTION SCHEME

Eligible participants under the Pre-IPO Share Option Scheme include (i) any member of the Group or executive, non-executive or independent non-executive directors of any entity of the Group who are holding an interest; (ii) any full-time or part-time employee or affiliate of any member of the Group; (iii) any member of the Group or consultants, advisors and independent contractors of any entity of the Group who are holding an interest; or (iv) a qualified former grantee. The maximum number of shares involved in share options that may be granted under the Pre-IPO Share Option Scheme (including the shares involved in share options granted (whether exercised or not) and shares issued under cancelled share options) is 15,055,107 Shares (being 120,440,856 shares after taking into account the share subdivision), accounting for approximately 16.5% of the shares issued by the Company as at the date of this annual report.

The exercise price per share for share options granted under the Pre-IPO Share Option Scheme is determined by the Remuneration Committee and set out in the share grant letter. The exercise price must not be lower than the nominal value of the shares involved in the relevant share options. There is no consideration to be paid by eligible participants to accept the options. The grantee may exercise all share options on or after the vesting date of the share options (rather than before) by giving the Exercise Notice to the Company. The Exercise Notice must state the number of Shares under which the share option to be exercised and exercised. If requested by the grantee in writing, the Remuneration Committee may in its absolute discretion accept "non-cash exercise" options. The Remuneration Committee may also direct the grantee to exercise "non-cash exercise" if considers it appropriate. Otherwise, any Exercise Notice announced must be accompanied by a full remittance of the exercise price of the Shares. Any Exercise Notice issued without the relevant remittance or confirmation is an invalid notice. Within 30 days after receiving the Exercise Notice with the full remittance of the relevant exercise price and (if applicable) the certificate of the independent financial adviser (excluding any period of suspension of the Company's share registration procedures), the Company must allot and issue the relevant number of Shares to the grantee, and issues the shares allotted and issued to the grantee. Unless otherwise stated, vested share options may be exercised by the grantee at any time during the applicable exercise period.

The Pre-IPO Share Option Scheme was expired after 11:59 p.m. on the business day before the listing date. The Company will no longer grant share options under the Pre-IPO Share Option Scheme. The provisions of the Pre-IPO Share Option Scheme shall remain in full force and effect to the extent necessary for the grant of any share options before the expiration of validity or other circumstances that may be required under the provisions of the scheme.

Please refer to the Prospectus for further information of the Pre-IPO Share Option Scheme.

Details of movements in share options granted under the Pre-IPO Share Option Scheme during the year are as follows:

Name of grantee of the option units	Number of Shares in relation to outstanding option units at 1 January 2019	Option units exercised during the year	Option units forfeited during the year	Number of Shares in relation to outstanding option units during the year
Director of the Company				
GAO Nianshu	3,798,656	—	—	3,798,656
Other employees and advisors (in aggregate)	115,089,616	553,496	4,222,864	110,313,256
Total of all grantees	118,888,272	553,496	4,222,864	114,111,912

2019 Share Option Scheme

The eligible participants of 2019 Share Option Scheme include any director(s), employee(s) or consultant(s) of the Group (whether on an employment or contractual or honorary basis or otherwise and whether paid or unpaid) who the Remuneration Committee considers, in its sole discretion, has/have contributed or will contribute to the Group. The consultants of the Group may include: (a) any person or entity that provides research, development or other technical support to any member of the Group, i.e. senior professionals who provide consulting services for the Group with cutting-edge technical support such as 5G, big data, artificial intelligence and the Internet of Things; and (b) any adviser or consultant to any area of business or business development of any member of the Group, i.e. senior professionals who provide strategic advisory or consulting services for the Group's new business, new customers and new model of business development.

Pursuant to and subject to the terms of the 2019 Share Option Scheme, the Remuneration Committee shall be entitled (but shall not be bound) at any time, to make an offer to any eligible participant as the Remuneration Committee may in its absolute discretion select. An offer shall be made to an eligible participant in such written form of a grant letter as the Remuneration Committee may from time to time determine and shall remain open for acceptance by the eligible participant concerned for a period of not less than seven (7) Business Days from the date of offer. An offer shall be deemed to have been accepted when the Company receives the duly signed grant letter from the grantee with the number of Shares in respect of which the offer is accepted and clearly stated therein together with a remittance of HK$1.00 (or such other nominal sum in any currency as the Remuneration Committee may determine) in favour of the Company as the consideration for the grant thereof. Such remittance shall in no circumstances be refundable and shall not be deemed to be a part payment of the exercise price. Once accepted, the Share Option is deemed to be granted as from the date on which it was offered to the relevant eligible participant.

The maximum number of Shares which may be issued in respect of which share options may be granted under the 2019 Share Option Scheme together with the number of Shares which may be issued in respect of any options to be granted under any other share option scheme(s) shall not in aggregate exceed 10% (being 72,590,211, accounting for 9.96% of issued shares of the Company as at annual report date) of the total number of Shares (being 725,902,116) in issue on the date of approval of the 2019 Share Option Scheme at the extraordinary general meeting of the Company dated 4 November 2019 by the Shareholders, provided, however, that: (a) the maximum number may be "refreshed", with the separate approval of the Shareholders in a general meeting, up to a maximum limit of 10% of the total number of Shares then in issue at the date of such approval of the Shareholders, and the circular containing the requisite information in accordance with Rule 17.03(3) of the Listing Rules will be sent to the Shareholders prior to such general meeting; and (b) the total maximum number of Shares which may be issued upon exercise of all outstanding Share Options granted but yet to be exercised under the 2019 Share Option Scheme and any other options granted but yet to be exercised under the other share option scheme(s) shall not exceed 30% of the total number of Shares in issue from time to time. No share option may be granted under the 2019 Share Option Scheme and no option may be granted under any other share option schemes if it will result in such limit being exceeded.

Unless separately approved by the Shareholders in general meeting (with the relevant eligible participant and such eligible participant's close associates (with the meaning ascribed thereto under the Listing Rules) (or such eligible participants' associates if the eligible participant is a connected person of the Company) abstaining from voting), no eligible participant shall be granted a share option if the total number of Shares issued and to be issued upon exercise of the share options (including exercised, cancelled and outstanding share options but excluding lapsed share options) granted and to be granted to such eligible participant in any twelve (12)-month period up to and including such further grant would in aggregate exceed 1% of the total number of Shares in issue from time to time.

Each share option shall be exercisable at such times and subject to terms and conditions set out in the 2019 Share Option Scheme (in particular, the provisions relating to early termination) and such other terms and conditions as the Remuneration Committee determines, provided that the term of any share option shall not exceed ten (10) years from the date of grant of the Share Option. The terms of the 2019 Share Option Scheme do not specify a minimum period for which a share option must be held before the share option can be exercised, but provide that the Remuneration Committee has the power to specify the requirement as to the said minimum period.

The exercise price of each share option shall be a price determined by the Remuneration Committee in its absolute discretion at the time of grant but not be less than the higher of: (i) the nominal value of a Share; (ii) the closing price of a Share as stated on the Stock Exchange's daily quotations sheet on the date of grant of such share option; and (iii) the average closing price of a Share as stated on the Stock Exchange's daily quotations sheets for the five (5) business days immediately preceding the date of grant of such share option. In determining the exercise price, the Remuneration Committee will take into account, among other things, the performance of the relevant eligible participants and/or their contributions (past or future) to the Group, the then prevailing market price of the Share at the date of grant, any minimum holding period, any vesting conditions, etc.

Unless otherwise terminated by the Board or the Shareholders in a general meeting in accordance with the terms of the 2019 Share Option Scheme, the 2019 Share Option Scheme shall be valid and effective for a period of ten (10) years from the Adoption Date (being 25 November 2019), after which no further share options will be granted or offered, but the provisions of the 2019 Share Option Scheme shall remain in full force and effect to the extent necessary to give effect to the exercise of any subsisting Share Option granted prior to the expiry of this ten (10)-year period or otherwise as may be required in accordance with the provisions of the 2019 Share Option Scheme. The remaining validity of 2019 Share Option Scheme is about nine years and 8 months.

As at the date of this annual report, the Company had not granted any share options according to 2019 Share Option Scheme.

For further details of 2019 Share Option Scheme, please refer to the circular of the Company dated 4 November 2019.

Share Incentive Schemes

The Restricted Share Award Scheme and the 2020 Share Award Scheme were approved and adopted by our shareholders on 26 June 2018 and 7 January 2020, in order to grant eligible members of the management and employees such related share-based compensation. The Remuneration Committee will, from time to time, determine eligibility of participants to be granted any award as incentive pursuant to, including but not limited to, the current and expected contribution of such participant, the general financial position of the Group, the general business targets and future plans of the Group.

Restricted Share Award Scheme

The Restricted Share Awards Scheme will provide such participants the opportunity to obtain ownership rights and interests of the Company to achieve the following main objectives: (i) motivate such participants with their best performance and highest efficiency to create benefits for the Group; (ii) encourage and retain relevant parties to cooperate with the Group and provide them with additional incentives to achieve performance goals; and (iii) allow former holders to directly hold relevant restricted share awards to be granted by the Company.

The maximum number of Shares subject to restricted share awards that may be granted under the Restricted Share Awards Scheme (including the Shares involved in the vested or not yet vested restricted share awards and those granted under the issued restricted share awards) must not exceed 2,561,241 Shares on the date of the adoption of the restricted share award scheme (after taking into account the share subdivision being 20,489,928 Shares), accounting for approximately 2.8% of the Company's issued Shares at the date of this annual report, or other limits may be determined by the Remuneration Committee at its sole discretion.

Pursuant to the terms of the Restricted Share Awards Scheme and specific terms and conditions applicable to each granted restricted share award, the granted restricted share award is subject to a vesting period to achieve performance and/or other conditions determined by the Board and/or Remuneration Committee.

The Restricted Share Award Scheme has expired after 11:59 p.m. on the business day before the listing date. The Company will no longer grant restricted share awards under the Restricted Share Award Scheme. The provisions of the Restricted Share Award Scheme shall remain in full force and effect to the extent necessary for the grant of any restricted share awards before expiration of validity or other circumstances that may be required under the provisions of the scheme.

Please refer to the Prospectus for further information of the Restricted Share Award Scheme.

Details of movements in restricted share award granted under the Restricted Share Award Scheme during the year are as follows:

Name of grantee of RSU	Number of Shares in relation to outstanding RSU at 1 January 2019	RSU vested during the year	RSU forfeited during the year	Number of Shares in relation to outstanding RSU during the year
Director of the Company				
GAO Nianshu	1,815,968	907,984	—	907,984
Other employees (in aggregate)	14,843,656	7,832,452	302,992	6,708,212
Total of all grantees	16,659,624	8,740,436	302,992	7,616,196

2020 Share Award Scheme

The adoption of the 2020 Share Award Scheme is for the purposes of (i) recognizing the contributions and to fully motivate the potential and vitality of talents of the eligible persons; and (ii) encouraging the eligible persons to continue contributing to the long-term growth and development of the Group. Subject to the criteria and conditions as set out in the 2020 Share Award Scheme, any employee whom the Board or the Remuneration Committee or their respective delegate(s) considers, in its sole discretion, to have contributed or will contribute to the Group is eligible to receive an award.

The Board or the Remuneration Committee or their respective delegate(s) may, from time to time, at their absolute discretion, grant an award to a selected participant by way of an award letter. The award letter will specify the grant date, the number of award shares underlying the award, the vesting criteria and conditions, the vesting date and such other details as the Board or its delegate(s) may consider necessary.

The aggregate number of Shares underlying all grants made pursuant to the 2020 Share Award Scheme (excluding award shares which have been forfeited in accordance with the 2020 Share Award Scheme) shall not exceed 5.0% (i.e. 36,302,245 Shares, accounting for 4.98% of Shares issued by the Company at the date of this annual report) of the total number of issued Shares as at the adoption date which can be adjusted and/or refreshed by the Board as it may deem appropriate.

Neither the selected participant nor the trustee may exercise any voting rights in respect of any Shares held under the trust, unless the trustee will exercise in accordance with the voting mechanism as set out below:

(i) in respect of each general meeting of the Company, the Company will send a voting instruction form to each of the selected participants to solicit votes from such selected participants. The voting instruction form will be very similar to the proxy form for the relevant general meeting and will set out a general description of the resolutions proposed at the general meeting and will allow the selected participants to select whether to vote for or against each of the resolutions. A copy of the relevant corporate communication concerning matters to be proposed at such general meeting (such as Shareholders' circular and annual report) will also be made available to each of the selected participants so that the selected participants will have all relevant information for considering the relevant resolutions as if they were Shareholders. Each selected participant shall be entitled to one vote for each of the award share, whether vested or unvested. The selected participants will be required to return the signed and completed voting instruction forms to the Trust Management Committee by the deadline stated in the voting instruction form, which deadline shall be no less than seven days before the time for holding the relevant general meeting and the selected participants will be given at least seven days to consider how they would like to cast their votes. In so far as the duly signed and completed voting instruction forms from the selected participants have been received by the Trust Management Committee prior to the proposed deadline, the Trust Management Committee will calculate the total of votes for and against each proposed resolution and will instruct the Trustee accordingly, and the trustee shall vote only in accordance with the instructions of the Trust Management Committee which reflect the instructions of the selected participants;

(ii) for those selected participants who fail to return a duly signed and completed voting instruction form to the Trust Management Committee prior to the proposed deadline as set out in the voting instruction form, the Trust Management Committee will not give any instruction to the trustee so that no votes will be cast for such award shares and the trustee shall abstain from voting with respect to such award shares; and

(iii) for the avoidance of doubt, for other Shares held by the trustee which have not been granted to any selected participants, the Trust Management Committee will not give any instruction to the trustee so that no votes will be cast for those ungranted Shares and the trustee shall also abstain from voting with respect to such Shares.

The 2020 Share Award Scheme must be valid and effective for a period of 10 years from the date of adoption (ie, 7 January 2020) unless the Board may decide to terminate in advance. The remaining effective period for the 2020 Share Award Scheme was approximately 9 years and 10 months.

As of the date of this annual report, the Company had not granted any Shares under the 2020 Share Award Scheme.

Please refer to the announcements of the Company dated 8 January 2020 and 27 February 2020, respectively, for further details of the 2020 Share Award Scheme.

EQUITY-LINKED AGREEMENT

Save as disclosed in this annual report, for the year ended 31 December 2019, no equity-linked agreement was entered into or renewed by the Company or substituting as at 31 December 2019.

PURCHASE, SALE OR REDEMPTION OF LISTED SECURITIES

For the year ended 31 December 2019, neither the Company nor any of its subsidiaries had purchased, sold or redeemed any of the Company's listed securities.

ARRANGEMENTS ON PRE-EMPTIVE RIGHTS AND SHARE OPTIONS

For the year ended 31 December 2019, there were no provisions relating to pre-emptive rights, which required the Company to offer new shares on a pro-rata basis to existing Shareholders, or any share option arrangement under the relevant laws of the British Virgin Islands and the Articles of Association.

MODEL CODE FOR SECURITIES TRANSACTIONS

The Company has adopted the Model Code as its own code of conduct regarding Directors' securities transactions. Having made specific enquiries of all Directors, each of the Directors has confirmed that he has complied with the required standards as set out in the Model Code for the year ended 31 December 2019.

For the year ended 31 December 2019, the Company has also adopted its own code of conduct regarding employees' securities transactions on terms no less exacting than the standard as set out in the Model Code for the compliance by its relevant employees who are likely to be in possession of unpublished inside information of the Company in respect of their dealings in the Company's securities.

CONTINUING CONNECTED TRANSACTIONS

Below are the continuing connected transactions conducted or entered into by the Group during 2019, of which full exemptions were not granted by the Stock Exchange on reporting, annual review, announcement and independent Shareholders approval requirements pursuant to Chapter 14A of the Listing Rules.

Partially exempted continuing connected transactions

1 Technological services provided to the Group by AsiaInfo Chengdu

Technological services provided to the Group by AsiaInfo Chengdu, being a company controlled by Dr. TIAN (the chairman and an executive Director) and hence a connected person of the Group pursuant to the Listing Rules.

To comply with the Listing Rules, on 26 November 2018, AsiaInfo Chengdu entered into the Chengdu Technological Service Framework Agreement with the Company that AsiaInfo Chengdu agreed to (i) provide professionals to support the projects undertaken by the Group; and (ii) provide certain network security services and products to the Group. The term of the Chengdu Technological Service Framework Agreement is from the listing date until 31 December 2020.

Pricing Policy: The service fees payable by the Group to AsiaInfo Chengdu under any technological service agreement pursuant to the Chengdu Technological Service Framework Agreement will be determined based on arm's length negotiation between the parties with reference to (i) the staff costs (including salaries and staff expenses) and/or (ii) market rate of the similar products and services. In any event, such service fees shall not be higher than the price charged by AsiaInfo Chengdu to its independent third party customers for similar services and products.

The annual caps for the 2018, 2019 and 2020 shall be RMB17,350,000, RMB23,020,000 and RMB24,000,000, respectively. The actual transaction amount for the year ended 31 December 2019 was approximately RMB1,264,000.

In arriving at the above annual caps in respect of the technological services to be provided by AsiaInfo Chengdu, the Directors have considered the following factors: (i) the pricing policy under the Chengdu Technological Service Framework Agreement; (ii) the pipeline of projects and our estimation that the workload of the Group is expected to grow steadily in 2018, 2019 and 2020; (iii) the expected growth and expansion of the Group's business and customer demands in light of the development of the 5G network; (iv) our estimate of market trend for labor cost of technological staff, which is expected to grow steadily in the next three years; and (v) the increasing focus of our customers on the network security features in our products, which is expected to result in a more extensive collaboration between us and AsiaInfo Chengdu in terms of network security technological support.

2 Network Security Transitional Arrangement

To comply with the Listing Rules, on 26 November 2018, AsiaInfo Chengdu entered into the Network Security Framework Agreement with the Company that (i) the Company (on behalf of members of the Group) agreed to continue to outsource all tasks under the existing development agreements to AsiaInfo Chengdu at the same price at which we agreed to charge our customers under the relevant project development contracts we entered into with our customers; and (ii) AsiaInfo Chengdu agreed to continue to be bound by the existing cooperation agreement and pay a service fee to us at the rate of 2% based on the total outstanding contract amount of the existing development agreements. The term of the Network Security Framework Agreement is from the Listing Date until 31 December 2020. Pursuant to the Software Development and Cooperation Agreement, if there is any conflict between the existing agreements and the Software Development and Cooperation Framework Agreement, the latter shall prevail.

Pricing Policy: The service fees payable under the Network Security Framework Agreement and the existing agreements have been determined based on arm's length negotiations between the parties. The consideration payable under the existing development agreements shall equal to the price at which we agreed to charge our customers under the relevant project development contracts. With reference to and comparing the market rate for transactions of similar nature, the parties determined to set the service fees payable by AsiaInfo Chengdu to the Group at a rate of 2%.

The annual caps of the service fees payable by the Group to Asiainfo Chengdu for the project development service under the Network Security Transitional Arrangement for 2018, 2019 and 2020 will be RMB19,630,000, RMB2,800,000 and RMB640,000, respectively. The actual transaction amount for the year ended 31 December 2019 was approximately RMB2,752,000.

The annual caps of the service fees payable by Asiainfo Chengdu to the Group under the Network Security Transitional Arrangement for 2018, 2019 and 2020 will be RMB392,600, RMB56,000 and RMB12,800, respectively. The actual transaction amount for the year ended 31 December 2019 was approximately RMB55,000.

3 Management Support Services provided by the Group to AsiaInfo Chengdu

To comply with the Listing Rules, on 26 November 2018, the Company entered into the Chengdu Management Support Framework Agreement with AsiaInfo Chengdu that the Group agreed to provide AsiaInfo Chengdu and its subsidiaries with management support services, such as legal support, human resources, management system and network, and daily administrations. The term of the Chengdu Management Support Framework Agreement is from the Listing Date until 31 December 2020.

Pricing Policy: The service fees payable by AsiaInfo Chengdu to the Group under any management support service agreement pursuant to the Chengdu Management Support Framework Agreement will be determined based on arm's length negotiation between the parties on a "cost-plus" basis with reference to: (i) all of the costs for the provision of the relevant services; and (ii) a premium of 6% on such costs.

The annual caps for 2018, 2019 and 2020 will be RMB15,850,000, RMB11,200,000 and RMB10,000,000, respectively. The actual transaction amount for the year ended 31 December 2019 was approximately RMB8,421,000.

4 Provision of work spaces and certain ancillary office maintenance services to AsiaInfo Chengdu by the Group

To comply with the Listing Rules, AsiaInfo China, a wholly-owned subsidiary of the Company), entered into the Lease Agreement with AsiaInfo Chengdu on 30 December 2019 to replace the old framework agreement, pursuant to which AsiaInfo China agreed to provide work spaces and certain ancillary office maintenance services to AsiaInfo Chengdu. The Lease Agreement is valid for a term of three years commencing from 1 January 2020.

Rentals and fees: The fees payable under the Lease Agreement shall not exceed approximately RMB9,500,000 for the first year ending 31 December 2020 (assuming no change in the leased areas), which include rentals for the work spaces and fees arising from the ancillary office maintenance services to be provided by AsiaInfo China to AsiaInfo Chengdu. The specific amount of the fees payable under the Lease Agreement shall be calculated per RMB7.10/sq.m./day, comprising (i) rental fee at RMB6.00/sq.m./day; and (ii) service fee at RMB1.10/sq.m./day, subject to the actual office area to be used by AsiaInfo Chengdu, which are inclusive of facilities usage charges and management fee and exclusive of other IT utilities charges and tax.

The annual caps for 2020, 2021 and 2022 are RMB14,500,000, RMB15,000,000 and RMB15,500,000 respectively.

For the year ended 31 December 2019, the independent non-executive Directors have reviewed the above continuing connected transactions and has confirmed that such transactions:

(i) are entered into during the ordinary and usual course of business of the Group;

(ii) are on normal commercial terms or better terms; and

(iii) are in accordance with the agreements related to such transactions, the terms of which are fair and reasonable and in the interests of the Shareholders as a whole.

The auditors of the Company have performed certain agreed-upon audit procedures for the above continuing connected transactions entered into by the Group for the year ended 31 December 2019, and concluded that such transactions:

(1) have been approved by the Board;

(2) have followed the pricing policies of the Group in all material aspects;

(3) were conducted in accordance with the relevant agreements for such transactions in all material aspects; and

(4) have an aggregate amount not exceeding the relevant cap as disclosed in the Prospectus.

The related party transactions referred in note 35 to the consolidated financial statements do not constitute the connected transactions or continuing connected transactions as defined in Chapter 14A of the Listing Rules.

Save as disclosed in this annual report, and except continuing connected transactions that were granted full exemptions on the requirements under Chapter 14A of the Listing Rules by the Stock Exchange, there were no connected transactions or continuing connected transactions which are required to be disclosed by the Company in the reporting period in accordance with the provisions concerning the disclosure of connected transactions under Chapter 14A of the Listing Rules.

COMPLIANCE WITH UNDERTAKING OF NON-COMPETITION

In order to ensure that we do not have direct competition between our activities and those of our controlling Shareholders, Skipper Investment Limited entered into an undertaking of non-competition in favor of the Company on 5 July 2018, pursuant to which Skipper Investment Limited has undertaken to the Company (for itself and for the interest of its subsidiaries) that it would not, and would use its best efforts to procure that its associates (except any members of the Group) shall not, whether directly or indirectly (including through any physical entities, partnership, joint venture or other contractual arrangement) or as a principal or agent, and whether on their own account or with each other or in conjunction with or on behalf of any person, firm or company or through any entities (except in or through any member of the Group) to carry on, engage, participate or hold any right or interest in or render any services to or otherwise be involved in any business which is in competition, directly or indirectly, with the business of any member of the Group. If any investment or other business opportunities relating to our business are identified by Skipper Investment Limited (the "**Business Opportunities**"), it shall refer such Business Opportunities to the Company and shall not seek such Business Opportunities unless the Directors or Board decline the Business Opportunities. For details of the non-competition undertakings, please refer to the Prospectus.

The independent non-executive Directors have reviewed the compliance of the undertaking of non-competition (in particular, the right of first refusal relating to any Business Opportunities) by Skipper Investment Limited, and considered that the non-competition undertakings has been complied with for the year ended 31 December 2019. Skipper Investment Limited has provided the Company with the confirmation in writing of compliance of the non-competition undertakings.

CONTRACT OF SIGNIFICANCE

During the year ended 31 December 2019, save as disclosed in this annual report, no contract of significance has been entered into between the Company or any of its subsidiaries and the controlling Shareholders or any of its subsidiaries.

PERMITTED INDEMNITY PROVISIONS

In accordance with the Articles of Association, each Director shall be entitled to be indemnified out of the assets of the Company against all losses or liabilities incurred or sustained by him as a Director in defending any proceedings, whether civil or criminal, in which judgment is given in his favour, or in which he is acquitted. The Company has arranged appropriate insurance cover in respect of legal action against the Directors.

DONATIONS

During the year ended 31 December 2019, charitable and other donations made by the Group was approximately RMB3.0 million (2018: RMB1.5 million).

COMPLIANCE WITH CORPORATE GOVERNANCE PRACTICES

For details, please refer to pages 95 to 108 of the Corporate Governance Report in this annual report.

PUBLIC FLOAT

Based on the information that is publicly available to the Company and within the knowledge of the Directors, the Directors confirmed that for anytime for the year ended 31 December 2019 and up to the latest practicable date (being 17 April 2020) prior to the issue of this annual report, at least 25% of the total issued share capital (the minimum public float percentage required by the Stock Exchange and the Listing Rules) of the Company was held by the public.

TAX RELIEF AND EXEMPTION

The Directors are not aware of any tax relief and exemption available to the shareholders by reason of their holding of the Company's securities.

MATERIAL LEGAL PROCEEDINGS AND COMPLIANCE

As disclosed in the section headed "Business—Legal Proceedings and Compliance" in the Prospectus of the Company, the alleged infringement claim made by Cong Xing Technology Co., Ltd (從興技術有限公司) ("**Cong Xing**") against, inter alia, AsiaInfo China was dismissed by Beijing Intellectual Property Court in 2018 and the appeal made by Cong Xing was further dismissed by the Higher People's Court of Beijing in February 2020. The Board is of the view this case will not have any material adverse impact on the Group given that the judgement was granted in favour of the Group.

Save as disclosed above, for the year ended 31 December 2019, the Company was not involved in any material legal proceedings or arbitrations. So far as the Directors are aware, there are no material legal proceedings or claims which are pending or threatened against the Company.

For the year ended 31 December 2019 and up to the date of this report, according to the knowledge of Directors, the Group has complied with applicable laws and regulations in all material respects.

AUDIT COMMITTEE

The Audit Committee had, together with the Board and external auditor of the Company, reviewed the accounting standards and practices adopted by the Group and the audited financial report of the Group for the year ended 31 December 2019.

AUDITORS

Deloitte Touche Tohmatsu has been appointed as the auditors to audit the consolidated financial statements prepared in accordance with the Hong Kong Financial Reporting Standards for the year ended 31 December 2019 and will retire at the end of the forthcoming annual general meeting of the Company. Deloitte Touche Tohmatsu has audited the accompanying consolidated financial statements prepared based on Hong Kong Financial Reporting Standards.

A resolution will be proposed at the forthcoming annual general meeting of the Company for the approval to appoint an auditor of the Company for the year ending 31 December 2020.

POST BALANCE SHEET EVENTS

Reference is made to the announcements published by the Company on 8 January 2020 and 27 February 2020 in relation to the 2020 Share Award Scheme. Details of the 2020 Share Award Scheme were set out in the section headed "Directors' Report — 2020 Share Award Scheme" on pages 86 to 87 in this annual report.

Reference is also made to the announcements published by the Company on 14 April 2020 and 20 April 2020 in relation to (i) the subscription of new Shares under specific mandate by China Mobile International Holdings Limited (the "**Subscriber**") (a wholly-owned subsidiary of China Mobile Limited, the shares of which are listed on the Main Board of the Stock Exchange (stock code: 00941) and the American Depositary Shares of which are listed on the New York Stock Exchange (stock code: CHL)); and (ii) the possible continuing connected transactions between the Group and the China Mobile Group, respectively. The Subscriber has conditionally agreed to subscribe for approximately 182.3 million new Shares at HK$7.6 per share (the "**Subscription**"). The gross and net proceeds from the Subscription are approximately HK$1,385.2 million and approximately HK$1,384.1 million, respectively. For further details, please refer to the said announcements.

Save as disclosed in note 39 to the consolidated financial statements in this annual report, there has been no material event occurred subsequent to the Reporting Period which would affect the Company.

By order of the Board of Directors
TIAN Suning
Chairman and Executive Director

CORPORATE GOVERNANCE REPORT

The Board is pleased to present the corporate governance report set out in this annual report for the year ended 31 December 2019.

CORPORATE GOVERNANCE PRACTICES

The Company strives to maintain high standards of corporate governance in order to safeguard the interests of its Shareholders and enhance the corporate value and accountability. The Company has adopted the principles of the CG Code as set out in Appendix 14 to the Listing Rules as its own code of corporate governance. The Company has applied the principles of the CG Code on the Company's corporate governance structure and operation in the manner as stated in the report, and has complied with all applicable code provisions of the CG Code for the year ended 31 December 2019. We will continue reviewing and overseeing the corporate governance practices to ensure its compliance with the CG Code.

RESPONSIBILITY OF THE BOARD

The Board is responsible for the overall leadership of the Group and oversees the strategic decisions and monitors business and performance of the Group. The Board has delegated the authority and responsibility for day-to-day management and operation of the Group to the senior management of the Group. To oversee particular aspects of the Company's affairs, the Board has established four Board Committees including the Audit Committee, the Nomination Committee, the Remuneration Committee and the Strategy and Investment Committee. The Board has delegated to the Board Committees responsibilities as set out in their respective terms of reference.

All Directors shall ensure that they carry out duties in good faith, in compliance with applicable laws and regulations, and in the interests of the Company and the Shareholders at all times.

The Company has maintained appropriate liability insurance for legal proceedings against Directors and will review the coverage of the insurance annually.

COMPOSITION OF THE BOARD

As at the date of this annual report, the Board comprises nine Directors, which includes three executive Directors, three non-executive Directors and three independent non-executive Directors. The current members of the Board are set out as follows:

Name	Position
TIAN Suning	Executive Director *(Chairman)*
DING Jian	Executive Director
GAO Nianshu	Executive Director *(Chief Executive Officer)*
ZHANG Yichen	Non-executive Director
XIN Yuesheng	Non-executive Director
ZHANG Liyang	Non-executive Director
GAO Jack Qunyao	Independent non-executive Director
ZHANG Ya-Qin	Independent non-executive Director
GE Ming	Independent non-executive Director

The biographies of the Directors are set out in the "Profiles of Directors and Senior Management" section in this annual report.

During the period from 31 December 2019 up to the date of this report, the Board has complied with requirements of Rule 3.10(1) and 3.10(2) of the Listing Rules in relation to the appointment of at least three independent non-executive Directors with at least one of them possessing appropriate professional qualifications or accounting or related financial management expertise at any time.

The Company has also complied with the requirement of Rule 3.10A of the Listing Rules in relation to appointing independent non-executive Directors as equivalent to one-third members of the Board. Each of independent non-executive Directors has confirmed its independence under Rule 3.13 of the Listing Rules for the year ended 31 December 2019. Therefore, the Company regarded them as independent parties.

Save as disclosed in biographies of the Directors set out in the section headed "Profiles of Directors and Senior Management" in this annual report, none of the Directors has any personal relationship (including financial, business, family or other material/relevant relationship) with any other Directors or chief executives.

We are committed to promoting the culture of diversity in the Company. We have strived to promote diversity to the extent practicable by taking into consideration a number of factors in our corporate governance structure. We have adopted the Board diversity policy which sets out the objective and approach to achieve and maintain diversity of our Board in order to enhance the effectiveness of our Board. Pursuant to the Board diversity policy, we seek to achieve Board diversity through the consideration of a number of factors, including but not limited to professional experience, skills, knowledge, gender, age, cultural and education background, ethnicity and length of service. Our Directors have a balanced mix of knowledge and skills, including knowledge and experience in the areas of business management, telecommunications, information technology, software solutions, finance, investment, auditing and accounting. They obtained degrees in various majors including business administration, natural resource management, library science, engineering, computer science, telecommunications, economics and accounting. Furthermore, our Board has a wide range of age, ranging from 33 years old to 69 years old. We have also taken, and will continue to take steps to promote gender diversity at all levels of our Company, including but without limitation at the Board and the management levels. In particular, two out of five of the existing senior management of our Company are female and, our joint company secretaries are female. While we recognize that the gender diversity at the Board level can be improved given its current composition of all-male Directors, we will continue to apply the principle of appointments based on merits with reference to our diversity policy as a whole.

We are also committed to adopting similar approach to promote diversity of the management (including but not limited to the senior management) of the Company to enhance the effectiveness of our corporate governance as a whole. All Directors, including independent non-executive Directors, have brought a variety of valuable business experience, knowledge and professional skills to the Board for its efficient and effective running. Independent non-executive Directors are invited to serve on the Board Committees like the Audit Committee, the Remuneration Committee and the Nomination Committee.

As regards the CG Code provision requiring Directors to disclose the number and nature of positions held in listed companies or organizations and other significant commitments as well as their identity and the time involved to the issuer, the Directors have agreed to disclose their commitments to the Company in a timely manner.

INDUCTION AND CONTINUOUS PROFESSIONAL DEVELOPMENT

Each newly appointed Director is provided with necessary induction training and information to ensure that he has a proper understanding of the Company's operations and businesses as well as his responsibilities under relevant statutes, laws, rules and regulations. The Company will also arrange regular seminars to provide Directors with updates on latest development and changes in the Listing Rules and other relevant legal and regulatory requirements from time to time. The Directors are also provided with regular updates on the Group's performance, position and prospects to enable the Board as a whole and each Director to discharge their duties.

All Directors are encouraged to participate in continuous professional development to develop and refresh their knowledge and skills, ensuring that their contribution to the Board consistently remains well informed and thoroughly relevant. The joint company secretaries of the Company have from time to time updated and provided written training materials relating to the roles, functions and duties of a Director.

All Directors have complied with code provision A.6.5 of the CG Code in relation to the training of Directors. During the year ended 31 December 2019, the Company has provided all Directors with training, including Directors' responsibilities, Listing Rules and corporate governance matters, and has provided executive Directors and management with internal training in relation to the Company.

A summary of training received by the Directors for the year ended 31 December 2019 is as follows:

Name of Director	**Nature of Continuous Professional Development Training** [Note]
Executive Directors	
TIAN Suning	A, B
DING Jian	A, B
GAO Nianshu	A, B
Non-executive Directors	
ZHANG Yichen	A, B
XIN Yuesheng	A, B
ZHANG Liyang	A, B
Independent non-executive Directors	
GAO Jack Qunyao	A, B
ZHANG Ya-Qin	A, B
GE Ming	A, B

Notes:

A: Attending seminars and/or conferences and/or forums and/or briefings, or making speeches on seminars and/or conferences and/or forums, or participating in trainings provided by law firms that are relating to the business of the Company

B: Reading materials on various topics, including corporate governance matters, Directors' responsibilities, Listing Rules and other relevant laws

CHAIRMAN AND CHIEF EXECUTIVE OFFICER

Under code provision A.2.1 of the CG Code, the roles of chairman of the Board and Chief Executive Officer should be separated and performed by different individuals. The chairman of the Board and the Chief Executive Officer are separately held by Dr. TIAN Suning and Mr. GAO Nianshu, respectively, with clear distinction in responsibilities. The chairman of the Board is responsible for providing strategic advice and guidance on the development of the Group, while the Chief Executive Officer is responsible for the day-to-day operations of the Group.

APPOINTMENT AND RE-ELECTION OF DIRECTORS

Each of the non-executive Directors and the independent non-executive Directors, has entered into a letter of appointment with the Company for a term of one year commencing since 30 December 2019. Pursuant to the requirement of the Articles of Association, the Board shall have the power from time to time and at any time to appoint any person as a Director either to fill a casual vacancy or as an addition to the existing Board. Any Director appointed by the Board to fill a casual vacancy or as an addition to the existing Board shall hold office only until the next following general meeting of the Company and shall then be eligible for re-election at the relevant meetings.

No Director has entered into any service contract with the Company which is not determinable by the Company within one year without payment of compensation (other than statutory compensation). The Company may from time to time by resolution of members increase or reduce the number of Directors, provided that the number of Directors shall not be less than two (2). Subject to the provisions of the Articles of Association and requirements under the statutes, the Company may by resolution of members elect any person to be a Director either to fill a casual vacancy or as an addition to the existing Directors. Any Director appointed to fill a casual vacancy or as an addition to the existing Board shall hold office only until the next following general meeting of the Company, and in each case such Director shall then be eligible for re-election at the relevant meeting.

No person shall, unless recommended by the Board, be eligible for election to the office of Director at any general meeting unless during the period, which shall be at least seven (7) days, commencing no earlier than the day after the despatch of the notice of the meeting appointed for such election and ending no later than seven (7) days prior to the date of such meeting, there has been given to the secretary of the Company notice in writing by a member (not being the person to be proposed), entitled to attend and vote at the meeting for which such notice is given, of his intention to propose such person for election and also notice in writing signed by the person to be proposed of his willingness to be elected.

The procedures and process of appointment, re-election and removal of Directors are set out in the Articles of Association. The Nomination Committee is responsible for reviewing the Board composition and making recommendations to the Board on the appointment and re-election of Directors and succession planning for Directors.

BOARD MEETINGS

The Company will adopt the practice of holding Board meetings regularly, at least four times a year, and at approximately quarterly intervals. Notices of not less than fourteen days are given for regular Board meetings to provide all Directors with an opportunity to attend the regular meeting and discuss matters in the agenda therein.

For other Board and Board Committee meetings, reasonable notice will be given by the Company. Notices of meetings, which include the agenda and accompanying Board papers are dispatched to the Directors at least three days before the Board and Board Committee meetings to ensure that they have sufficient time to review the accompanying documents and be adequately prepared for the meetings. When Directors or Board Committee members are unable to attend a meeting, they will be advised of the matters to be discussed and given an opportunity to make their views known to the chairman prior to the meeting. The company secretary of the Company will keep the minutes of meetings and provide copies of such minutes to all Directors for reference and record purposes.

Minutes of the Board meetings and Board Committee meetings will record in sufficient detail the matters considered by the Board and the Board Committees and the decisions reached, including any concerns raised by the Directors. Draft minutes of each Board meeting and Board Committee meeting are sent/will send to the Directors for their consideration within a reasonable time after convening the meetings. The minutes of the Board meetings are open for inspection by all Directors.

The Board held 5 meetings in 2019. The attendance of each director at the board meetings, Board Committees meetings, annual general meeting and extraordinary general meeting (whether in person or electronically) is detailed in the table below:

	Attendance/Number of Board Meetings, Board Committee Meetings, Annual General Meetings and Extraordinary General Meetings						
Name	**Board**	**Audit Committee**	**Nomination Committee**	**Remuneration Committee**	**Strategy and Investment Committee**	**Annual General Meeting**	**Extraordinary General Meeting**
Executive Directors							
Dr. TIAN Suning	5/5	–	1/1	–	1/1	1/1	1/1
Mr. DING Jian	5/5	–	–	–	1/1	1/1	0/1
Mr. GAO Nianshu	5/5	–	1/1	–	1/1	1/1	1/1
Non-executive Directors							
Mr. ZHANG Yichen	3/5	–	–	–	–	0/1	0/1
Mr. XIN Yuesheng	5/5	–	–	2/2	1/1	1/1	0/1
Mr. ZHANG Liyang	5/5	3/3	–	–	–	1/1	1/1
Independent Non-executive Directors							
Dr. GAO Jack Qunyao	5/5	–	1/1	2/2	–	1/1	1/1
Dr. ZHANG Ya-Qin	3/5	3/3	1/1	2/2	–	0/1	1/1
Mr. GE Ming	5/5	3/3	1/1	–	–	1/1	1/1

MODEL CODE FOR SECURITIES TRANSACTIONS

The Company has adopted the Model Code as its own code of conduct regarding Directors' securities transactions. Specific enquiry has been made to all the Directors by the Company and each of the Directors has confirmed that he has complied with the requirements under Model Code for the year ended 31 December 2019.

For the year ended 31 December 2019, the Company also adopted its own code of conduct regarding employees' securities transactions on terms no less exacting than the standard set out in the Model Code for the compliance by its relevant employees who are likely to be in possession of unpublished inside information of the Company in respect of their dealings in the Company's securities.

DELEGATION BY THE BOARD

The Board reserves for its decision on all major matters of the Company, including: approval and monitoring of all policy matters, overall strategies and budgets, internal control and risk management systems, material transactions (in particular those that may involve conflict of interests), financial data, appointment of Directors and other significant financial and operational matters. Directors could have recourse to seek independent professional advice in performing their duties at the Company's expense. Directors are encouraged to access and to consult with the Company's senior management independently.

The daily management, administration and operation of the Group are delegated to the senior management. The delegated functions and responsibilities are periodically reviewed by the Board. Approval has to be obtained from the Board prior to any significant transactions entered into by the management.

CORPORATE GOVERNANCE FUNCTION

The Board recognizes that corporate governance should be the collective responsibility of Directors and their corporate governance duties, which include:

(a) to review and monitor the Company's policies and practices in compliance with legal and regulatory requirements;

(b) to review and monitor the training and continuous professional development of Directors and senior management;

(c) to develop, review and monitor the code of conduct and compliance manual applicable to employees and Directors;

(d) to develop and review the Company's policies and practices on corporate governance and to make recommendations and report to the Board;

(e) to review the Company's compliance with the CG Code and disclosure in the corporate governance report; and

(f) to review and monitor the Company's compliance with the Company's whistleblowing policy.

The Board has reviewed and performed the above corporate governance functions in this year.

BOARD COMMITTEES

Audit Committee

The Audit Committee consists of three members: two independent non-executive Directors, being Mr. GE Ming (Chairman) and Dr. ZHANG Ya-Qin, and one non-executive Director, being Mr. ZHANG Liyang, majority of them are independent non-executive Directors.

The primary duties of the Audit Committee include, among other things, the followings:

1. to monitor the completeness of the financial statements of the Company and the annual reports and accounts, the half-year reports and (if to be published) the quarterly reports of the Company, and review the material accounting judgments stated in the statements and reports;

2. to review the financial statements and reports and consider any significant or unusual matters raised by the Company's staff responsible for the accounting and financial reporting function, compliance officer or the auditor before submission to the Board; and

3. to review the adequacy and effectiveness of the Company's financial control and reporting systems; internal control system and risk management system and associated procedures, including the adequacy of the resources, staff qualifications and experience, training programs and budget of the Company's accounting and financial reporting function.

The written terms of reference of the Audit Committee are available on the websites of the Stock Exchange and the Company.

Nomination Committee

The Nomination Committee consists of five members: two executive Directors, being Dr. TIAN Suning (Chairman) and Mr. GAO Nianshu, and three independent non-executive Directors, being Dr. GAO Jack Qunyao, Dr. ZHANG Ya-Qin and Mr. GE Ming.

The primary duties of the Nomination Committee of the Company include the followings:

1. to review the structure, number and composition (including the skills, knowledge and experience) of the Board at least annually and make recommendations on any proposed changes to the Board to complement the Company's strategy;

2. to identify individuals suitably qualified to become Board members and select or make recommendations to the Board on the selection of individuals nominated for directorships;

3. to assess the independence of independent non-executive Directors;

4. to make recommendations to the Board on the appointment or re-appointment of Directors and the succession planning for Directors, in particular the chairman and the chief executive; and

5. to perform missions allocated by the Board from time to time.

The Nomination Committee assesses the candidate or incumbent on criteria such as integrity, experience, skill and ability to commit time and effort to carry out the duties and responsibilities. The recommendations of the Nomination Committee will then be put to the Board for decision.

Policy for Nomination of Directors

The Company had adopted its policy for nomination of Directors through resolution on 19 December 2018 and the summary is as follows: the Company values the selection process of the Board members with high transparency. The nomination policy aims to ensure that the Board keeps balance on the skills, experience and diversity of views to meet the business needs of the Company. The Nomination Committee has been appointed to identify individuals suitably qualified to become Board members and select or make recommendations to the Board on the selection of individuals nominated for directorships. The Board is ultimately responsible for the selection and appointment of new Directors, and is subject to retirement by rotation and re-election at annual general meetings pursuant to the Articles of Association.

Board Diversity Policy

The Company had adopted the Board Diversity Policy along with setting the measurable targets for implementing this policy on 19 December 2018. The Company is convinced that the diversity of the Board is beneficial to improve the quality of its performance. The policy aims to set out the approach adopted to achieve the diversity of the Board. When setting up composition of the Board, the Company considers the diversity of the Board from various measurable aspects, including skills, experience, knowledge, expertise, culture, independence, age and gender. All appointments to the Board are based on the principle of meritocracy, while considering diversity, including gender diversity. The measurable targets for the implementation of this diversity policy include independence, educational background, professional qualifications and years of employment.

The written terms of reference of the Nomination Committee are available on the websites of the Stock Exchange and the Company.

Remuneration Committee

The Remuneration Committee consists of three members: two independent non-executive Directors, being Dr. GAO Jack Qunyao (Chairman) and Dr. ZHANG Ya-Qin, and one non-executive Director, being Mr. XIN Yuesheng.

The primary duties of the Remuneration Committee include the followings:

1. to make recommendations to the Board on the Company's overall policy and structure for the remuneration of the Directors and senior management and on the establishment of a formal and transparent procedure for developing remuneration policy;

2. to review and approve the management's remuneration proposals with reference to the corporate goals and objectives determined by the Board from time to time;

3. to decide on the remuneration packages of all Directors and senior management, and make recommendations to the Board on the remuneration packages of all non-executive Directors. These, among other things, include benefits in kind, pension rights and compensation payments (including any compensation payable for loss or termination of their office or appointment);

4. to consider salaries paid by comparable companies, time commitment and responsibilities and employment conditions elsewhere in the Group;

5. to review and approve compensation payable to executive Directors and senior management for any loss or termination of office or appointment to ensure that it is consistent with contractual terms and is otherwise fair and not excessive;

6. to review and approve compensation arrangements relating to dismissal or removal of Directors for misconduct to ensure that they are consistent with contractual terms and are otherwise reasonable and appropriate; and

7. to ensure that no Director or any of his/her associates (as defined in the Listing Rules) is involved in deciding his/her own remuneration.

The written terms of reference of the Remuneration Committee are available on the websites of the Stock Exchange and the Company.

Strategy and Investment Committee

The Strategy and Investment Committee consists of four members: three executive Directors, being Dr. TIAN Suning, Mr. GAO Nianshu and Mr. DING Jian, and one non-executive Director, being Mr. XIN Yuesheng (Chairman).

The primary duties of the Strategy and Investment Committee include the followings:

1. to conduct research on the long-term strategic planning, annual operational plans, investment policies and major investment and financing projects of the Company and make recommendations, and to monitor and follow up on major investment and financing projects approved by the Shareholders' meeting and the Board and to notify all Directors in a timely manner;

2. with the authorization of the Board, to approve major investment and financing projects with a total transaction amount (in a single transaction or transactions under the same project) of more than RMB20 million but not exceeding RMB50 million, other than ordinary operating loans, credits, privatization loans and income-based transactions in the ordinary course of business. Matters related to the approvals above shall also comply with the relevant requirements of the Listing Rules regarding notifiable transactions;

3. to conduct research on other major matters that may have impacts on the development of the Company and make recommendations to the Board; and

4. other matters stipulated by the terms of reference of the Strategy and Investment Committee and authorized by the Board. The written terms of reference of the Strategy and Investment Committee are available on the websites of the Stock Exchange and the Company.

DIRECTORS' RESPONSIBILITIES FOR FINANCIAL REPORTING IN RESPECT OF THE CONSOLIDATED FINANCIAL STATEMENTS

The Directors understand and acknowledge their responsibility for preparing the consolidated financial statements for the year ended 31 December 2019 which give a true and fair view of the Group's conditions, results and cash flows.

The management has provided to the Board such explanation and information as are necessary to enable the Board to carry out an informed assessment of the Company's financial statements, which are put to the Board for approval. The Company provides all members of the Board with monthly updates on Company's performance, positions and prospects.

The Directors were not aware of any material uncertainties relating to events or conditions which may cast significant doubt upon the Group's ability to continue as a going concern. The statement by the auditor regarding their reporting responsibilities on the consolidated financial statements of the Company is set out in the Independent Auditor's Report on pages 109 to 114 of this annual report.

REMUNERATION OF DIRECTORS AND SENIOR MANAGEMENT

Our Directors and senior management receive remuneration in the form of salaries, bonuses, contributions to pension schemes, long-term incentives (including share-based remuneration), housing and other allowances and benefits in kind subject to applicable laws, rules and regulations.

The remuneration of the Directors and senior management of the Company (whose biographies are set out on pages 64 to 72 of this annual report) for the year ended 31 December 2019 falls under the following bands:

Band of remuneration	**Number of individuals**
HK$5,500,001 to HK$6,000,000	1
HK$7,000,001 to HK$7,500,000	2
HK$9,500,001 to HK$10,000,000	1
HK$10,000,001 to HK$10,500,000	1
HK$26,500,001 to HK$27,000,000	1

REMUNERATION OF AUDITOR

For the year ended 31 December 2019, in respect of audit and non-audit service offered to the Company by the auditor of the Company, Deloitte Touche Tohmatsu, paid or payable remuneration set out by the Group are as follows:

Classification of services	**Amount** RMB'000
Audit services	
Audit services	4,650
Non-audit services	
Tax advisory services	673
Services in relation to continuing connected transactions	100
Total	5,423

RISK MANAGEMENT AND INTERNAL CONTROL

The Board acknowledges that it is the responsibility of the Board for maintaining adequate risk management and internal control systems to safeguard Shareholders' investments and the Company's assets and reviewing the effectiveness of such systems. The Board reviews such systems on a semi-annual basis.

The Group's risk management and internal control team plays an important role in monitoring the Group's internal governance. The major duties of internal control team are to regulate and review the Company's financial condition and internal control and conduct comprehensive audits of all branches and subsidiaries of the Company on a semi-annual basis.

With the requirements of the CG Code, the Company consisting of functional back office, internal audit and external audit departments has established a "three-level" risk management framework, which internal audit department releases risk management system. Through risk surveys of the headquarters and business units, the major external and internal risks were identified and assessed to continuously monitor the completeness, rationality, and effectiveness of the risk management system, and effective procedures on effectively solving the failures of internal control were implemented to enhance the risk control and prevention ability.

The Company now has established a complete and effective internal control system in which corporate management and business operations are controlled and supervised systematically. Now the scope of evaluation of the Company comprises internal environment, risk assessment, control activities, information and communication and internal supervision; major business included in the scope of the evaluation are sales, costs, funding, finance, procurement, investment and related transactions. Meanwhile, the independent evaluation of the design of internal control and the efficiency and effectiveness of implementation is conducted by ways of risk inspection, internal audits, supervisors' inspection, etc in an effort to ensure legal and compliant operations, asset safety, and the authenticity and completeness of financial reports and relevant information.

The Company has formulated and complemented Asiainfo Inside Information and Insider Dealing Management System which stipulates the inside information scope, inside information insider scope, prescribes registration requirements for the insider before the disclosure of inside information and stipulates that insiders should not deal with the securities of the Company or should report his securities transactions.

The Board has reviewed risk management and internal control systems of the Group for the year ended 31 December 2019 and believes that such systems are effective and adequate.

RESPONSE TO MAJOR RISKS

In 2019, the Group conducted an annual risk review and assessment of the Company as a whole based on the corporate risk management framework, and formulated coping and monitoring measures for major risks so as to prevent or reduce possible occurrence of major risks in the Company.

The Company saw a rapid development in the results of operations in 2019. We derived a significant portion of our revenue from telecom operators in China, which depended on our ability to develop and maintain long-standing business relationships with telecom operators in China. Our close relationships with clients might be impaired if we failed to offer software products and services required by telecom operators or if telecom operators turned to our competitors instead for the purpose of sourcing software products and services. We owed our success of business to the continuing efforts made by our core management and technical personnel, and our business might be affected to a certain extent if we lost their services or they competed against us.

In order to cope with its potential operational risks and ensure its continuous and long-term development, the Company increased its input to business support, 5G intelligent network, data-driven operation, big data and AI products. Additionally, the Company also actively participated in the transformation and upgrading of telecom operators by supporting the R&D of various large-scale IT projects, further consolidating our leading position in the telecom software and service market. Moreover, we strengthened the management of core management and technical personnel, designed career development channels for talents, and simultaneously improved the incentive mechanism and continued to reinforce staff training; in the hope of offering and ensuring talents reserve for the Company's sustainable development.

COMPANY SECRETARY

The Company engages Ms. YU Wing Sze (余詠詩) ("**Ms. YU**") from an external service provider as the company secretary. Ms. YU is the primary corporate contact person of the external service provider whose primary corporate contact person at the Company is Mr. ZHAO Yan, the senior office director of the Board office.

For the year ended 31 December 2019, Ms. YU has undertaken not less than 15 hours of relevant professional training in compliance with Rule 3.29 of the Listing Rules.

SHAREHOLDERS' RIGHTS

To safeguard Shareholders' interests and rights, a separate resolution will be proposed for each issue at general meetings, including the election of individual Directors.

All resolutions put forward at general meetings will be voted by poll pursuant to the Listing Rules and poll results will be posted on the websites of the Company and the Stock Exchange in a timely manner after each general meeting.

PROCEDURES FOR CONVENING OF EXTRAORDINARY GENERAL MEETING AND PUTTING FORWARD PROPOSALS/RESOLUTIONS

Pursuant to Article 10.3 of the Articles of Association, on the requisition of the Shareholders at the date of deposit of the requisition holding not less than one-tenth of the paid-up share capital of the Company at the principal place of business of the Company in Hong Kong having the right to vote at general meetings, the Directors are obliged to proceed to convene an extraordinary general meeting of the Company. The requisitionists must state the purposes of the meeting and sign the requisition letter. If the Board does not within 21 days from the date of deposit of the requisition proceed duly to convene the meeting to be held within a further 21 days, the requisitionist(s) themselves or any of them representing more than one-half of the total voting rights of all of them, may convene the general meeting in the same manner, as nearly as possible, as that in which meetings may be convened by the Board, provided that any meeting so convened shall not be held after the expiration of three (3) months from the date of deposit of the requisition, and all reasonable expenses incurred by the requisitionist(s) as a result of the failure of the Board shall be reimbursed to them by the Company. The Shareholders who wish to put forward proposals and/or resolutions may requisition an extraordinary general meeting and include a proposal and/or resolution at such meeting pursuant to Article 10.3 of the Articles of Association.

COMMUNICATION WITH SHAREHOLDERS AND INVESTOR RELATIONS

The Company considers that effective communication with Shareholders is essential for enhancing investor relations and understanding of the Group's business, performance and strategies. The Company also recognizes the importance of timely and non-selective disclosure of its information, which will enable Shareholders and investors to make the informed investment decisions. The Company establishes an investor relations department and liaison mailbox (ir@asiainfo.com), which is responsible for providing Shareholders and investors with the necessary information. It maintains proactive communications with Shareholders, investors and other capital market participants, which enable Shareholders and investors to fully understand the Company's operation and development, by various means such as participating in domestic and foreign investor exchanges, performance conferences, press conferences, telephone conferences and investment analysts meetings.

The annual general meeting of the Company provides opportunity for Shareholders to communicate directly with the Directors. The chairman of the Company and the chairman of each of the Board Committees of the Company or their authorized representative will attend the annual general meetings to answer Shareholders' questions. The auditor will also attend the annual general meetings to answer questions about the conduct of the audit, the preparation and content of the auditor's report, the accounting policies and auditor independence. Any E-mail from our Shareholders to the aforesaid liaison mailbox to query the Board are also welcome.

To promote effective communication, the Company adopts a Shareholders' communication policy which aims at establishing a two-way relationship and communication between the Company and the Shareholders and maintains a website at www.asiainfo.com, where up-to-date information on the Company's business operations and developments, financial information, corporate governance practices and other information are available for public access.

CHANGE IN CONSTITUTIONAL DOCUMENTS

The Company made no amendment to the Articles of Association for the year ended 31 December 2019.

Deloitte. 德勤

TO THE SHAREHOLDERS OF ASIAINFO TECHNOLOGIES LIMITED
(incorporated in the British Virgin Islands with limited liability)

OPINION

We have audited the consolidated financial statements of AsiaInfo Technologies Limited (the "**Company**") and its subsidiaries (collectively referred to as the "**Group**") set out on pages 115 to 230, which comprise the consolidated statement of financial position as at 31 December 2019, and the consolidated statement of profit or loss and other comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the consolidated financial statements give a true and fair view of the consolidated financial position of the Group as at 31 December 2019, and of its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with Hong Kong Financial Reporting Standards ("**HKFRSs**") issued by the Hong Kong Institute of Certified Public Accountants ("**HKICPA**") and have been properly prepared in compliance with the disclosure requirements of the Hong Kong Companies Ordinance.

BASIS FOR OPINION

We conducted our audit in accordance with Hong Kong Standards on Auditing ("**HKSAs**") issued by the HKICPA. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the HKICPA's Code of Ethics for Professional Accountants ("**the Code**"), and we have fulfilled our other ethical responsibilities in accordance with the Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

KEY AUDIT MATTERS

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

KEY AUDIT MATTERS (Continued)

Key audit matter	How our audit addressed the key audit matter
Recognition of revenue from software products and related deployment services	
We identified the recognition of revenue from software products and related deployment services as a key audit matter due to the fact that the amount recognized is significant in these consolidated financial statements and accounting treatments of which require significant estimations made by the management. The Group recognized revenue from software products and related deployment services contracts based on the stage of completion of the contract which is determined as the proportion of the costs incurred relative to the estimated total costs to complete the contract. The Group's management needs to estimate total contract cost and profit margin to complete the contract at the beginning for each contract, which involves significant estimation. Key assumptions include total labour hours to complete the contract, labour rate, subcontracting costs and material costs. The management also revises the estimates of contract costs and profit margin through regular review when the management considers there are changes in the assumptions throughout the contract period. Details of the related key estimation uncertainty are set out in Note 4 to the consolidated financial statements.	Our procedures in relation to recognition of revenue from software products and related deployment services mainly included: • Testing the key controls relevant to the audit over revenue recognition of service contract, including those over cost incurred to date, estimates of total contract cost and profit margin and calculation of revenue; • Recalculating, on a sampling basis, the revenue recognized, agreeing the inputs of the costs incurred to date to supporting evidence and tracing the estimated total costs to the approved project budgets; • Inspecting, on a sampling basis, the completion reports or other evidence for projects completed in the current year; • Performing a retrospective review, on a sampling basis, on the actual cost incurred in a completed service contract to the estimated total cost at the initial stage of the service contract, identifying any significant variance and inquiring with the management for the reason; and • Inquiring with the management and project manager, on a sampling basis, to evaluate the consistency of the progress of the project to the percentage of completion used in recognition of revenue.

KEY AUDIT MATTERS (Continued)

Key audit matter	How our audit addressed the key audit matter
Impairment of goodwill	
We identified the impairment of goodwill as a key audit matter due to the judgment and estimation involved in determining the recoverable amount which was prepared and used by the management in considering impairment of goodwill. Impairment of goodwill is assessed by the management by comparing the recoverable amount and carrying amount of the relevant cash-generating units at the end of the reporting period. The recoverable amounts are determined based on the value in use of which the calculation involved significant assumptions such as discount rate and the forecasts of future revenue growth rates and gross margins used in the estimated future cash flow. As disclosed in Notes 4 and 18 to the consolidated financial statements, the Group reported goodwill in software business amounting to RMB1,932,246,000 as at 31 December 2019. No impairment loss was recognized for the year ended 31 December 2019. Details of the related key estimation uncertainty are set out in Note 4 to the consolidated financial statements.	Our procedures in relation to management's impairment assessment of goodwill included: • Understanding the Group's key control over the management's impairment assessment on goodwill; • Obtaining the future cash flow analysis prepared by the management and checking its mathematical accuracy; • Reviewing the valuation report prepared by the independent professional valuer not connected with the Group, checking its mathematical accuracy and assessing the capability and qualification of the valuer; • Evaluating the discount rate used in the discounted cash flow model, by comparing with the industry practice with the assistance of our internal valuation specialist; • Evaluating the key assumptions used in the estimated future cash flow, including the forecasts of future revenue growth rates and gross margins, by comparing with the historical performance and future strategic plan of the Group in respect of the cash-generating units; and • Performing a retrospective review on the consistency of the methodology adopted in the previous years and inquiring with the management for the reasons for changes, if any.

OTHER INFORMATION

The directors of the Company are responsible for the other information. The other information comprises the information included in the annual report, but does not include the consolidated financial statements and our auditor's report thereon.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

RESPONSIBILITIES OF DIRECTORS AND THOSE CHARGED WITH GOVERNANCE FOR THE CONSOLIDATED FINANCIAL STATEMENTS

The directors of the Company are responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with HKFRSs issued by the HKICPA and the disclosure requirements of the Hong Kong Companies Ordinance, and for such internal control as the directors determine is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the directors are responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Group or to cease operations, or have no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion solely to you, as a body, in accordance with our agreed terms of engagement, and for no other purpose. We do not assume responsibility towards or accept liability to any other person for the contents of this report. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with HKSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

As part of an audit in accordance with HKSAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the directors.

- Conclude on the appropriateness of the directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in the independent auditor's report is Chung Chin Cheung.

Deloitte Touche Tohmatsu
Certified Public Accountants
Hong Kong
23 March 2020

CONSOLIDATED STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

For the year ended 31 December 2019

	Notes	2019 RMB'000	2018 RMB'000
Continuing operations			
Revenue	5	**5,721,416**	5,210,977
Cost of sales		**(3,594,411)**	(3,328,353)
Gross profit		**2,127,005**	1,882,624
Other income	6	**103,759**	82,172
(Impairment losses, net of reversal) net reversal of impairment losses under expected credit loss model		**(28,366)**	2,880
Other gains and losses	7	**(736)**	(102,706)
Selling and marketing expenses		**(461,997)**	(508,402)
Administrative expenses		**(292,586)**	(332,825)
Research and development expenses		**(862,419)**	(584,681)
Share of results of associates		**(3,983)**	(1,242)
Finance costs	8	**(39,907)**	(70,594)
Listing expenses		**–**	(54,096)
Profit before tax		**540,770**	313,130
Income tax expenses	9	**(131,955)**	(108,896)
Profit for the year from continuing operations	10	**408,815**	204,234
Discontinued operations			
Loss for the year from discontinued operations		**–**	(1,279)
Profit for the year		**408,815**	202,955
Other comprehensive expense for the year:			
Item that may be reclassified subsequently to profit or loss:			
Exchange differences arising on translation of foreign operations		**–**	(9,367)
Total comprehensive income for the year		**408,815**	193,588
Profit (loss) for the year attributable to:			
Owners of the Company		**408,815**	204,134
Non-controlling interests		**–**	(1,179)
		408,815	202,955

CONSOLIDATED STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

For the year ended 31 December 2019

	Note	2019 RMB'000	2018 RMB'000
Total comprehensive income (expense) for the year attributable to:			
Owners of the Company		**408,815**	194,767
Non-controlling interests		**–**	(1,179)
		408,815	193,588
Profit (loss) for the year attributable to owners of the Company from:			
Continuing operations		**408,815**	205,413
Discontinued operations		**–**	(1,279)
		408,815	204,134
Loss for the year attributable to non-controlling interests from:			
Continuing operations		**–**	(1,179)
Earnings per share			
—Basic (RMB)	13	**0.56**	0.32
—Diluted (RMB)	13	**0.56**	0.32

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

At 31 December 2019

	Notes	2019 RMB'000	2018 RMB'000
Non-current assets			
Property, plant and equipment	15	**288,261**	300,869
Right-of-use assets	16	**169,465**	—
Prepaid lease payments	16	**—**	83,470
Intangible assets	17	**7,708**	24,021
Goodwill	18	**1,932,246**	1,932,246
Investments in associates	19	**51,033**	55,016
Deferred tax assets	28	**135,766**	163,292
Pledged bank deposits	24	**28,612**	635,736
Term deposits	24	**170,000**	—
Other non-current assets		**39,641**	35,025
Total non-current assets		**2,822,732**	3,229,675
Current assets			
Inventories		**304**	—
Trade and notes receivables	20	**841,182**	764,909
Prepayments, deposits and other receivables	21	**183,706**	133,685
Prepaid lease payments	16	**—**	2,019
Financial assets at fair value through profit or loss		**—**	210,000
Contract assets	22	**1,554,521**	1,335,219
Amounts due from related parties	35	**6,358**	18,934
Pledged bank deposits	24	**321,246**	481,755
Bank balances and cash	24	**1,810,591**	1,821,182
Total current assets		**4,717,908**	4,767,703
Current liabilities			
Trade and notes payables	25	**358,048**	356,316
Contract liabilities	22	**296,945**	300,918
Other payables, deposits received and accrued expenses	26	**1,922,837**	1,788,004
Amounts due to related parties	35	**18,092**	47,328
Income tax payable		**244,573**	226,268
Bank borrowings	27	**594,372**	1,915,484
Lease liabilities	16	**36,213**	—
Total current liabilities		**3,471,080**	4,634,318
Net current assets		**1,246,828**	133,385
Total assets less current liabilities		**4,069,560**	3,363,060

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

At 31 December 2019

	Notes	2019 RMB'000	2018 RMB'000
Non-current liabilities			
Deferred tax liabilities	28	**122,983**	127,541
Lease liabilities	16	**39,374**	—
Total non-current liabilities		**162,357**	127,541
Net assets		**3,907,203**	3,235,519
Capital and reserves			
Share capital	30	**—**	—
Reserves		**3,907,203**	3,235,519
Total equity		**3,907,203**	3,235,519

The consolidated financial statements on pages 115 to 230 were approved and authorized for issue by the Board of Directors on 23 March 2020 and are signed on its behalf by:

Mr. Suning Tian
DIRECTOR

Mr. Nianshu Gao
DIRECTOR

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

For the year ended 31 December 2019

	Attributable to owners of the Company									
	Share capital RMB'000	Share premium RMB'000	Merger reserve RMB'000	Translation reserve RMB'000	Statutory surplus reserve RMB'000 (note iii)	Other reserve RMB'000	Retained profits RMB'000	Sub-total RMB'000	Non-controlling interests RMB'000	Total equity RMB'000
At 1 January 2018	8	104,146	285,200	(5,762)	173,845	1,453,987	987,835	2,999,259	19,941	3,019,200
Profit (loss) for the year	–	–	–	–	–	–	204,134	204,134	(1,179)	202,955
Other comprehensive expense for the year, net of tax	–	–	–	(9,367)	–	–	–	(9,367)	–	(9,367)
Total comprehensive (expense) income for the year	–	–	–	(9,367)	–	–	204,134	194,767	(1,179)	193,588
Recognition of equity-settled share-based payments (Note 33)	–	–	–	–	–	155,502	–	155,502	–	155,502
Acquisition of additional equity interests in a subsidiary (note i)	–	–	–	–	–	(191,238)	–	(191,238)	(18,762)	(210,000)
Cancellation of shares of the Company upon group reorganization	(8)	–	–	–	–	8	–	–	–	–
Dividend distribution (Note 12)	–	–	–	–	–	–	(693,447)	(693,447)	–	(693,447)
Lapse of share options and restricted stock units	–	–	–	–	–	(16,858)	16,858	–	–	–
Capital injection to a subsidiary from retained profits	–	–	–	–	–	11,119	(11,119)	–	–	–
Issue of new shares upon listing (Note 30)	–	791,910	–	–	–	–	–	791,910	–	791,910
Share issuance costs	–	(21,234)	–	–	–	–	–	(21,234)	–	(21,234)
Vesting of restricted stock units (Note 33)	–	22,392	–	–	–	(22,392)	–	–	–	–
Transfer to statutory surplus reserve	–	–	–	–	580	–	(580)	–	–	–
Changes in equity for the year	(8)	793,068	–	–	580	(63,859)	(688,288)	41,493	(18,762)	22,731
At 31 December 2018	**–**	**897,214**	**285,200**	**(15,129)**	**174,425**	**1,390,128**	**503,681**	**3,235,519**	**–**	**3,235,519**
Effect arising from initial application of HKFRS 16 (note ii)	**–**	**–**	**–**	**–**	**–**	**–**	**111**	**111**	**–**	**111**
Adjusted balance at 1 January 2019	**–**	**897,214**	**285,200**	**(15,129)**	**174,425**	**1,390,128**	**503,792**	**3,235,630**	**–**	**3,235,630**
Profit for the year and total comprehensive income for the year	**–**	**–**	**–**	**–**	**–**	**–**	**408,815**	**408,815**	**–**	**408,815**
Recognition of equity-settled share-based payments (Note 33)	**–**	**–**	**–**	**–**	**–**	**233,648**	**–**	**233,648**	**–**	**233,648**
Lapse of share options and restricted stock units	**–**	**–**	**–**	**–**	**–**	**(6,298)**	**6,298**	**–**	**–**	**–**
Issue of new shares upon exercise of the over-allotment option (Note 30)	**–**	**27,162**	**–**	**–**	**–**	**–**	**–**	**27,162**	**–**	**27,162**
Share issuance costs	**–**	**(681)**	**–**	**–**	**–**	**–**	**–**	**(681)**	**–**	**(681)**
Vesting of restricted stock units (Note 33)	**–**	**69,362**	**–**	**–**	**–**	**(69,362)**	**–**	**–**	**–**	**–**
Exercise of share options (Note 33)	**–**	**4,897**	**–**	**–**	**–**	**(2,268)**	**–**	**2,629**	**–**	**2,629**
Transfer to statutory surplus reserve	**–**	**–**	**–**	**–**	**1,822**	**–**	**(1,822)**	**–**	**–**	**–**
Changes in equity for the year	**–**	**100,740**	**–**	**–**	**1,822**	**155,720**	**4,476**	**262,758**	**–**	**262,758**
At 31 December 2019	**–**	**997,954**	**285,200**	**(15,129)**	**176,247**	**1,545,848**	**917,083**	**3,907,203**	**–**	**3,907,203**

Notes:

(i) On 15 March 2018, Beijing AsiaInfo Smart Big Data Co. Ltd. entered into investment termination agreements with its non-controlling shareholders who owned an aggregated equity interests of 7.977%. Pursuant to the agreements, Beijing AsiaInfo Smart Big Data Co. Ltd. acquired the non-controlling interests from the non-controlling shareholders with a total consideration amounting to RMB210,000,000 among which RMB160,000,000 was paid and RMB50,000,000 was offset with the amounts due from the non-controlling shareholder, Beijing AsiaInfo Voyager Consulting Co., Ltd.. The carrying amount of non-controlling interest on the date of acquisition was RMB18,762,000 and the difference between the consideration paid and the carrying amount of the non-controlling interests was recorded as other reserve.

(ii) Upon the adoption of HKFRS 16 Leases on 1 January 2019, an accumulated positive impact of RMB111,000 was recorded as an adjustment to the retained profits as at 1 January 2019, which represented the depreciation of right-of-use assets and interests of lease liabilities, net of deferred tax impact.

(iii) In accordance with the Articles of Association of all subsidiaries established in the People's Republic of China (the "**PRC**"), the PRC subsidiaries are required to set aside 10% of their profit after tax as per statutory financial statements determined under the PRC laws and regulations for the statutory surplus reserve fund until the reserve reaches 50% of their registered capital. Transfer to this reserve must be made before distributing dividends to equity owners of the subsidiaries. The statutory surplus reserve can be used to make up previous years' losses, expand the existing operations or convert into additional capital of the respective subsidiaries.

CONSOLIDATED STATEMENT OF CASH FLOWS

For the year ended 31 December 2019

	2019 RMB'000	2018 RMB'000
OPERATING ACTIVITIES		
Profit before tax from continuing operations	**540,770**	313,130
Loss before tax from discontinued operations	**—**	(1,279)
Adjustments for:		
Depreciation of property, plant and equipment	**32,034**	26,577
Depreciation of right-of-use assets	**39,394**	—
Amortization of intangible assets	**18,199**	38,963
Amortization of prepaid lease payments	**—**	2,019
(Gain) loss on disposal of property, plant and equipment	**(337)**	1,771
Loss on disposal of intangible assets	**—**	113
Finance costs	**39,907**	70,594
Net foreign exchange loss	**3,570**	95,928
Interest income from related parties	**—**	(7,770)
Interest income from term deposits	**(4,625)**	—
Bank interest income	**(24,533)**	(26,873)
Interest income from financial assets at fair value through profit or loss	**(4,774)**	(416)
Allowance for trade receivables, net of reversal	**8,841**	6,138
(Net reversal of allowance for) allowance for other receivables, net of reversal	**(4)**	446
Allowance for (reversal of allowance for) contract assets, net of reversal	**19,529**	(9,464)
Share-based compensation expenses	**233,648**	155,502
Share of results of associates	**3,983**	1,242
Operating cash flows before movements in working capital	**905,602**	666,621
(Increase) decrease in inventories	**(304)**	7,100
(Increase) decrease in trade and notes receivables	**(85,290)**	114,919
(Increase) decrease in prepayments, deposits and other receivables	**(62,931)**	40,825
(Increase) decrease in contract assets	**(238,831)**	286,643
Decrease in amounts due from related parties	**12,576**	57,842
(Increase) decrease in other non-current assets	**(4,616)**	11,222
Decrease in amounts due to related parties	**(29,236)**	(60,897)
Increase (decrease) in trade and notes payables	**1,732**	(256,184)
Decrease in contract liabilities	**(3,973)**	(86,995)
Increase (decrease) in other payables, deposits received and accrued expenses	**142,270**	(106,079)
Cash generated from operating activities	**636,999**	675,017
Income taxes paid	**(90,694)**	(91,684)
NET CASH GENERATED FROM OPERATING ACTIVITIES	**546,305**	583,333

CONSOLIDATED STATEMENT OF CASH FLOWS

For the year ended 31 December 2019

	2019 RMB'000	2018 RMB'000
INVESTING ACTIVITIES		
Purchases of property, plant and equipment	**(23,064)**	(65,203)
Purchases of intangible assets	**(1,886)**	(2,645)
Payments for right-of-use assets	**(7,499)**	—
Purchases of financial assets at fair value through profit or loss	**(84,000)**	(210,000)
Net cash outflows on acquisition of a subsidiary (Note 37)	**(584)**	—
Proceeds on disposal of an unlisted equity investment	**—**	3,665
Proceeds on disposal of financial assets at fair value through profit or loss	**298,774**	—
Proceeds on disposal of property, plant and equipment	**738**	—
Repayment from related parties	**—**	10,311
Placement of pledged bank deposits	**(449,295)**	(1,091,109)
Withdrawal of pledged bank deposits	**1,216,801**	550,376
Placement of term deposits	**(170,000)**	—
Interest received	**42,482**	12,578
NET CASH GENERATED FROM (USED IN) INVESTING ACTIVITIES	**822,467**	(792,027)
FINANCING ACTIVITIES		
Repayment of bank borrowings	**(1,310,122)**	(1,168,551)
New bank borrowings raised	**—**	1,236,803
Repayment of lease liabilities	**(40,150)**	—
Proceeds from issue of shares	**27,162**	791,910
Share issuance costs	**(3,010)**	(18,144)
Proceeds from issue of ordinary shares under share option schemes	**1,420**	—
Interest paid	**(41,018)**	(69,041)
Repayment to related parties	**—**	(28,103)
Acquisition of additional interests in a subsidiary	**—**	(160,000)
NET CASH (USED IN) GENERATED FROM FINANCING ACTIVITIES	**(1,365,718)**	584,874
NET INCREASE IN CASH AND CASH EQUIVALENTS	**3,054**	376,180
CASH AND CASH EQUIVALENTS AT 1 JANUARY	**1,821,182**	1,450,588
Effect of exchange rate changes	**(13,645)**	(5,586)
CASH AND CASH EQUIVALENTS AT 31 DECEMBER, REPRESENTED BY BANK BALANCES AND CASH	**1,810,591**	1,821,182

1. GENERAL, GROUP RESTRUCTURING AND BASIS OF PRESENTATION OF CONSOLIDATED FINANCIAL STATEMENTS

AsiaInfo Technologies Limited (the "**Company**") was incorporated in the British Virgin Islands ("**BVI**") as a company with limited liability and its shares are listed on the Main Board of The Stock Exchange of Hong Kong Limited (the "**Stock Exchange**"). The address of the registered office of the Company and the principal place of business of the Company and its subsidiaries (collectively referred to as the "**Group**") are disclosed in the section headed "Corporate Information" to the annual report. The Company changed its name to Asiainfo Technologies Limited (亞信科技有限公司) on 28 June 2018, the Chinese name of which was further renamed to 亞信科技控股有限公司 on July 10, 2018.

The Company is an investment holding company. The principal activities of the Group are provision of software products and related services.

The consolidated financial statements are presented in Renminbi ("**RMB**"), which is also the functional currency of the Company.

Details of group reorganization in preparation for the listing of the Company's shares on the Stock Exchange are set out below:

(i) On 29 April 2018, the Company, AsiaInfo Holdings, LLC ("**AsiaInfo Holdings**") and AsiaInfo Technologies (H.K.) Limited ("**AsiaInfo Technologies HK**") entered into a deed of reorganization (the "**Reorganization Deed**") pursuant to which the Company agreed to transfer all of the issued shares of Hong Kong AsiaInfo Technologies Limited ("**HK AsiaInfo Technologies**") and AsiaInfo Big Data to AsiaInfo Technologies HK, in consideration for AsiaInfo Technologies HK transferring all issued 9,288 shares in the Company to AsiaInfo Holdings. Upon the completion of the transfer under the Reorganization Deed, the Company became a direct wholly-owned subsidiary of AsiaInfo Holdings. HK AsiaInfo Technologies and AsiaInfo Big Data continued to be indirect wholly-owned subsidiary of AsiaInfo Holdings.

(ii) On 30 April 2018, the Company and AsiaInfo Holdings entered into a share transfer agreement pursuant to which the Company issued and allotted one new share to AsiaInfo Holdings in consideration for AsiaInfo Holdings transferring all of the issued shares of AsiaInfo Technologies HK to the Company. Immediately after the completion of the transfer, AsiaInfo Holdings held an aggregated 9,289 ordinary shares, representing the entire issued shares of the Company, and AsiaInfo Technologies HK became a direct wholly-owned subsidiary of the Company. Thereafter, the Company has become the holding company of the companies now comprising the Group.

(iii) On 26 June 2018, the Company allotted and issued 78,043,522 shares to all of the then existing shareholders of Skipper Holdings for an aggregate nominal consideration of RMB6.5 (equivalent to Hong Kong dollar ("**HK$**") 7.8).

(iv) On 26 June 2018, a share surrender letter was signed by AsiaInfo Holdings pursuant to which AsiaInfo Holdings surrendered all of the held 9,289 ordinary shares of the Company. The ordinary shares were cancelled on 26 June 2018. Upon the surrender of shares, AsiaInfo Holdings is no longer a shareholder of the Company.

1. GENERAL, GROUP RESTRUCTURING AND BASIS OF PRESENTATION OF CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The Group resulting from the above mentioned reorganization is regarded as a continuing entity. The consolidated statement of profit or loss and other comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows of the Group for the year ended 31 December 2018 which include the results, changes in equity and cash flows of the companies now comprising the Group have been prepared as if the current group structure upon completion of the above mentioned reorganization had been in existence since 1 January 2018, or since their respective dates of incorporation, where there is a shorter period.

2. APPLICATION OF NEW AND AMENDMENTS TO HONG KONG FINANCIAL REPORTING STANDARDS ("HKFRSs")

New and amendments to HKFRSs that are mandatorily effective for the current year

The Group has applied the following new and amendments to HKFRSs issued by the Hong Kong Institute of Certified Public Accountants ("**HKICPA**") for the first time in the current year:

HKFRS 16	*Leases*
HK(IFRIC)-Int 23	*Uncertainty over Income Tax Treatments*
Amendments to HKFRS 9	*Prepayment Features with Negative Compensation*
Amendments to HKAS 19	*Plan Amendment, Curtailment or Settlement*
Amendments to HKAS 28	*Long-term Interests in Associates and Joint Ventures*
Amendments to HKFRSs	*Annual Improvements to HKFRSs 2015–2017 Cycle*

Except as described below, the application of the new and amendments to HKFRSs in the current year has had no material impact on the Group's financial positions and performance for the current and prior years and/or on the disclosures set out in these consolidated financial statements.

2.1 HKFRS 16 *Leases*

The Group has applied HKFRS 16 for the first time in the current year. HKFRS 16 superseded HKAS 17 Leases ("**HKAS 17**"), and the related interpretations.

Definition of a lease

The Group has elected the practical expedient to apply HKFRS 16 to contracts that were previously identified as leases applying HKAS 17 and HK(IFRIC)-Int 4 *Determining whether an Arrangement contains a Lease* and not apply this standard to contracts that were not previously identified as containing a lease. Therefore, the Group has not reassessed contracts which already existed prior to the date of initial application.

For contracts entered into or modified on or after the date of initial application, the Group assesses whether a contract is or contains a lease based on the definition under HKFRS 16 at inception or modification date. Such contract will not be reassessed unless the terms and conditions of the contract are subsequently changed.

2. APPLICATION OF NEW AND AMENDMENTS TO HONG KONG FINANCIAL REPORTING STANDARDS ("HKFRSs") (Continued)

New and amendments to HKFRSs that are mandatorily effective for the current year (Continued)

2.1 HKFRS 16 *Leases* (Continued)

As a lessee

The Group has applied HKFRS 16 retrospectively with the cumulative effect recognized at the date of initial application, 1 January 2019.

As at 1 January 2019, the Group recognized additional lease liabilities and measured right-of-use assets at the carrying amounts as if HKFRS 16 had been applied since commencement dates, but discounted using the incremental borrowing rates of the relevant group entities at the date of initial application by applying HKFRS 16.C8(b)(i) transition. The Group recognized lease liabilities of RMB64,393,000 and right-of-use assets of RMB150,005,000 at 1 January 2019. Any difference at the date of initial application is recognized in the opening retained profits and comparative information has not been restated.

When applying the modified retrospective approach under HKFRS 16 at transition, the Group applied the following practical expedients to leases previously classified as operating leases under HKAS 17, on a lease-by-lease basis, to the extent relevant to the respective lease contracts:

i. relied on the assessment of whether leases are onerous by applying HKAS 37 Provisions, Contingent Liabilities and Contingent Assets as an alternative of impairment review;

ii. elected not to recognize right-of-use assets and lease liabilities for leases with lease term ends within 12 months of the date of initial application;

iii. excluded initial direct costs from measuring the right-of-use assets at the date of initial application;

iv. applied a single discount rate to a portfolio of leases with a similar remaining terms for similar class of underlying assets in similar economic environment; and

v. used hindsight based on facts and circumstances as at date of initial application in determining the lease term for the Group's leases with extension and termination options.

2. APPLICATION OF NEW AND AMENDMENTS TO HONG KONG FINANCIAL REPORTING STANDARDS ("HKFRSs") (Continued)

New and amendments to HKFRSs that are mandatorily effective for the current year (Continued)

2.1 HKFRS 16 *Leases* (Continued)

As a lessee (Continued)

When recognizing the lease liabilities for leases previously classified as operating leases, the Group has applied incremental borrowing rates of the relevant group entities at the date of initial application. The weighted average incremental borrowing rate applied by the relevant group entities is 5.6%.

	At 1 January 2019 RMB'000
Operating lease commitments disclosed as at 31 December 2018	**386,086**
Less: Lease contracts of which the commencement dates will be effective after 1 January 2019	**(281,677)**
	104,409
Lease liabilities discounted at relevant incremental borrowing rates	**91,301**
Less: Recognition exemption — short-term leases	**(26,908)**
Lease liabilities as at 1 January 2019	**64,393**
Analysed as	
Current	**32,213**
Non-current	**32,180**
	64,393

2. APPLICATION OF NEW AND AMENDMENTS TO HONG KONG FINANCIAL REPORTING STANDARDS ("HKFRSs") (Continued)

New and amendments to HKFRSs that are mandatorily effective for the current year (Continued)

2.1 HKFRS 16 *Leases* (Continued)

As a lessee (Continued)

The carrying amount of right-of-use assets as at 1 January 2019 comprises the following:

	Notes	**Right-of-use assets** RMB'000
Right-of-use assets relating to operating leases recognized upon application of HKFRS 16	(a)	64,516
Reclassified from prepaid lease payments	(b)	85,489
		150,005
By class:		
Leasehold lands		85,489
Buildings		64,516
		150,005

a) The group entities recognized right-of-use assets at the date of initial application for leases previously classified as an operating lease applying HKAS 17. The group entities measured the right-of-use asset at its carrying amount as if the standard had been applied since the lease commencement date, but discounted using the group entities' incremental borrowing rate at the date of initial application.

b) Upfront payments for leasehold lands in the PRC were classified as prepaid lease payments as at 31 December 2018. Upon application of HKFRS 16, the current and non-current portion of prepaid lease payments amounting to RMB2,019,000 and RMB83,470,000 respectively were reclassified to right-of-use assets.

2. APPLICATION OF NEW AND AMENDMENTS TO HONG KONG FINANCIAL REPORTING STANDARDS ("HKFRSs") (Continued)

New and amendments to HKFRSs that are mandatorily effective for the current year (Continued)

2.1 HKFRS 16 *Leases* (Continued)

As a lessee (Continued)

The following adjustments were made to the amounts recognized in the consolidated statement of financial position at 1 January 2019. Line items that were not affected by the changes have not been included.

	Carrying amounts previously reported at 31 December 2018 RMB'000	Adjustments RMB'000	Carrying amounts under HKFRS 16 at 1 January 2019 RMB'000
Non-current assets			
Prepaid lease payments	83,470	(83,470)	—
Right-of-use assets	—	150,005	150,005
Deferred tax assets	163,292	(12)	163,280
Current assets			
Prepaid lease payments	2,019	(2,019)	—
Non-current liabilities			
Lease liabilities	—	(32,180)	(32,180)
Current liabilities			
Lease liabilities	—	(32,213)	(32,213)
Total effect on net assets		111	
Reserves	3,235,519	111	3,235,630
Total effect on equity		111	

Note:

For the purpose of reporting cash flows from operating activities under indirect method for the year ended 31 December 2019, movements in working capital have been computed based on opening consolidated statement of financial position as at 1 January 2019 as disclosed above.

2. APPLICATION OF NEW AND AMENDMENTS TO HONG KONG FINANCIAL REPORTING STANDARDS ("HKFRSs") (Continued)

New and amendments to HKFRSs and interpretations in issue but not yet effective

The Group has not early applied the following new and amendments to HKFRSs and interpretations that have been issued but are not yet effective:

HKFRS 17	*Insurance Contracts*[1]
Amendments to HKFRS 3	*Definition of a Business*[2]
Amendments to HKFRS 10 and HKAS 28	*Sale or Contribution of Assets between an Investor and its Associate or Joint Venture*[3]
Amendments to HKAS 1 and HKAS 8	*Definition of Material*[4]
Amendments to HKFRS 9, HKAS 39 and HKFRS 7	*Interest Rate Benchmark Reform*[4]

1 Effective for annual periods beginning on or after 1 January 2021

2 Effective for business combinations and asset acquisitions for which the acquisition date is on or after the beginning of the first annual period beginning on or after 1 January 2020

3 Effective for annual periods beginning on or after a date to be determined

4 Effective for annual periods beginning on or after 1 January 2020

In addition to the above new and amendments to HKFRSs, a revised Conceptual Framework for Financial Reporting was issued in 2018. Its consequential amendments, *the Amendments to References to the Conceptual Framework in HKFRS Standards*, will be effective for annual periods beginning on or after 1 January 2020.

Except for the new HKFRSs described below, the directors of the Company anticipate that the application of all other new and amendments to HKFRSs and interpretations will have no material impact on the Group's consolidated financial statements in the foreseeable future.

2. APPLICATION OF NEW AND AMENDMENTS TO HONG KONG FINANCIAL REPORTING STANDARDS ("HKFRSs") (Continued)

New and amendments to HKFRSs and interpretations in issue but not yet effective (Continued)

Amendments to HKAS 1 and HKAS 8 *Definition of Material*

The amendments provide refinements to the definition of material by including additional guidance and explanations in making materiality judgments. In particular, the amendments:

- include the concept of "obscuring" material information in which the effect is similar to omitting or misstating the information;
- replace threshold for materiality influencing users from "could influence" to "could reasonably be expected to influence"; and
- include the use of the phrase "primary users" rather than simply referring to "users" which was considered too broad when deciding what information to disclose in the financial statements.

The amendments also align the definition across all HKFRSs and will be mandatorily effective for the Group's annual period beginning on 1 January 2020. The application of the amendments is not expected to have significant impact on the financial position and performance of the Group but may affect the presentation and disclosures in the consolidated financial statements.

Conceptual Framework for Financial Reporting 2018 (the "New Framework") and the Amendments to References to the Conceptual Framework in HKFRS Standards

The New Framework:

- reintroduces the terms stewardship and prudence;
- introduces a new asset definition that focuses on rights and a new liability definition that is likely to be broader than the definition it replaces, but does not change the distinction between a liability and an equity instrument;
- discusses historical cost and current value measures, and provides additional guidance on how to select a measurement basis for a particular asset or liability;
- states that the primary measure of financial performance is profit or loss, and that only in exceptional circumstances other comprehensive income will be used and only for income or expenses that arise from a change in the current value of an asset or liability; and
- discusses uncertainty, derecognition, unit of account, the reporting entity and combined financial statements.

2. APPLICATION OF NEW AND AMENDMENTS TO HONG KONG FINANCIAL REPORTING STANDARDS ("HKFRSs") (Continued)

New and amendments to HKFRSs and interpretations in issue but not yet effective (Continued)

Conceptual Framework for Financial Reporting 2018 (the "New Framework") and the Amendments to References to the Conceptual Framework in HKFRS Standards (Continued)

Consequential amendments have been made so that references in certain HKFRSs have been updated to the New Framework, whilst some HKFRSs are still referred to the previous versions of the framework. These amendments are effective for annual periods beginning on or after 1 January 2020, with earlier application permitted. Other than specific standards which still refer to the previous versions of the framework, the Group will rely on the New Framework on its effective date in determining the accounting policies especially for transactions, events or conditions that are not otherwise dealt with under the accounting standards.

3. SIGNIFICANT ACCOUNTING POLICIES

The consolidated financial statements have been prepared in accordance with HKFRSs issued by the HKICPA. In addition, the consolidated financial statements include applicable disclosures required by the Rules Governing the Listing of Securities on the Stock Exchange and by the Hong Kong Companies Ordinance.

The consolidated financial statements have been prepared on historical cost basis, except for certain financial instruments which are measured at fair value, at the end of the reporting period, as explained in the accounting policies set out below.

Historical cost is generally based on the fair value of the consideration given in exchange for goods and services.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, regardless of whether that price is directly observable or estimated using another valuation technique. In estimating the fair value of an asset or a liability, the Group takes into account the characteristics of the asset or liability if market participants would take those characteristics into account when pricing the asset or liability at the measurement date. Fair value for measurement and/or disclosure purposes in the consolidated financial statements are determined on such a basis, except for share-based payment transactions that are within the scope of HKFRS 2 *Share-based Payment*, leasing transactions that are accounted for in accordance with HKFRS 16 (since 1 January 2019) or HKAS 17 (before application of HKFRS 16), and measurements that have some similarities to fair value but are not fair value, such as net realizable value in HKAS 2 *Inventories* or value in use in HKAS 36 *Impairment of Assets*.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

In addition, for financial reporting purposes, fair value measurements are categorized into Level 1, 2 or 3 based on the degree to which the inputs to the fair value measurements are observable and the significance of the inputs to the fair value measurement in its entirety, which are described as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date;
- Level 2 inputs are inputs, other than quoted prices included within Level 1, that are observable for the asset or liability, either directly or indirectly; and
- Level 3 inputs are unobservable inputs for the asset or liability.

The principal accounting policies adopted are set out below.

Basis of consolidation

The consolidated financial statements incorporate the financial statements of the Company and entities controlled by the Company and its subsidiaries. Control is achieved when the Company:

- has power over the investee;
- is exposed, or has rights, to variable returns from its involvement with the investee; and
- has the ability to use its power to affect its returns.

The Group reassesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control listed above.

Consolidation of a subsidiary begins when the Group obtains control over the subsidiary and ceases when the Group loses control of the subsidiary. Specifically, income and expenses of a subsidiary acquired or disposed of during the year are included in the consolidated statement of profit or loss and other comprehensive income from the date the Group gains control until the date when the Group ceases to control the subsidiary.

Profit or loss and each component of other comprehensive income are attributed to the owners of the Company and to the non-controlling interests. Total comprehensive income of subsidiaries is attributed to the owners of the Company and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

Where necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies in line with the Group's accounting policies.

All intragroup assets and liabilities, equity, income, expenses and cash flows relating to transactions between members of the Group are eliminated in full on consolidation.

Non-controlling interests in subsidiaries are presented separately from the Group's equity therein, which represent present ownership interests entitling their holders to a proportionate share of net assets of the relevant subsidiaries upon liquidation.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Business combinations

Acquisitions of business, other than business combination under common control are accounted for using the acquisition method. The consideration transferred in a business combination is measured at fair value, which is calculated as the sum of the acquisition-date fair values of the assets transferred by the Group, liabilities incurred by the Group to the former owners of the acquiree and the equity interests issued by the Group in exchange for control of the acquiree. Acquisition-related costs are generally recognized in profit or loss as incurred.

At the acquisition date, the identifiable assets acquired and the liabilities assumed are recognized at their fair value, except that:

- deferred tax assets or liabilities, and assets or liabilities related to employee benefit arrangements are recognized and measured in accordance with HKAS 12 *Income Taxes* and HKAS 19 *Employee Benefits* respectively;

- liabilities or equity instruments related to share-based payment arrangements of the acquiree or share-based payment arrangements of the Group entered into to replace share-based payment arrangements of the acquiree are measured in accordance with HKFRS 2 *Share-based Payment* at the acquisition date (see the accounting policy below);

- assets (or disposal groups) that are classified as held for sale in accordance with HKFRS 5 *Non-current Assets Held for Sale and Discontinued Operations* are measured in accordance with that standard; and

- lease liabilities are recognized and measured at the present value of the remaining lease payments (as defined in HKFRS 16) as if the acquired leases were new leases at the acquisition date, except for leases for which (a) the lease term ends within 12 months of the acquisition date; or (b) the underlying asset is of low value. Right-of-use assets are recognized and measured at the same amount as the relevant lease liabilities, adjusted to reflect favourable or unfavourable terms of the lease when compared with market terms.

Goodwill is measured as the excess of the sum of the consideration transferred, the amount of any non-controlling interests in the acquiree, and the fair value of the acquirer's previously held equity interest in the acquiree (if any) over the net amount of the identifiable assets acquired and the liabilities assumed as at acquisition date. If, after re-assessment, the net amount of the identifiable assets acquired and liabilities assumed exceeds the sum of the consideration transferred, the amount of any non-controlling interests in the acquiree and the fair value of the acquirer's previously held interest in the acquiree (if any), the excess is recognized immediately in profit or loss as a bargain purchase gain.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Merger accounting for business combination involving businesses under common control

The consolidated financial statements incorporate the financial statement items of the combining entities or businesses in which the common control combination occurs as if they had been combined from the date when the combining entities or businesses first came under the control of the controlling party.

The net assets of the combining entities or businesses are combined using the existing book values from the controlling party's perspective. No amount is recognized in respect of goodwill or excess of acquirer's interest in the net fair value of acquiree's identifiable assets and liabilities over cost at the time of common control combination, to the extent of the continuation of the controlling party's interest.

The consolidated statement of profit or loss and other comprehensive income includes the results of each of the combining entities or businesses from the earliest date presented or since the date when the combining entities or businesses first came under the common control, where this is a shorter period, regardless of the date of the common control combination.

The comparative amounts in the consolidated financial statements are presented as if the businesses had been combined at the beginning of the previous reporting period for when they first came under common control, whichever is shorter.

Investments in associates

An associate is an entity over which the Group has significant influence. Significant influence is the power to participate in the financial and operating policy decisions of the investee but is not control or joint control over those policies.

The results and assets and liabilities of associates are incorporated in the consolidated financial statements using the equity method of accounting. The financial statements of associates used for equity accounting purposes are prepared using uniform accounting policies as those of the Group for like transactions and events in similar circumstances. Under the equity method, an investment in an associate is initially recognized in the consolidated statement of financial position at cost and adjusted thereafter to recognize the Group's share of the profit or loss and other comprehensive income of the associate. Changes in net assets of the associates other than profit or loss and other comprehensive income are not accounted for unless such changes resulted in changes in ownership interest held by the Group. When the Group's share of losses of an associate exceeds the Group's interest in that associate (which includes any long-term interests that, in substance, form part of the Group's net investment in the associate), the Group discontinues recognizing its share of further losses.

Additional losses are recognized only to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the associate.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Investments in associates (Continued)

An investment in an associate is accounted for using the equity method from the date on which the investee becomes an associate. On acquisition of the investment in an associate, any excess of the cost of the investment over the Group's share of the net fair value of the identifiable assets and liabilities of the investee is recognized as goodwill, which is included within the carrying amount of the investment. Any excess of the Group's share of the net fair value of the identifiable assets and liabilities over the cost of the investment, after reassessment, is recognized immediately in profit or loss in the period in which the investment is acquired.

The Group assesses whether there are objective evidence that the Group's investment in an associate may be impaired. When any objective evidence exists, the entire carrying amount of the investment (including goodwill) is tested for impairment in accordance with HKAS 36 *Impairment of assets* as a single asset by comparing its recoverable amount (higher of value in use and fair value less costs of disposal) with its carrying amount. Any impairment loss recognized forms part of the carrying amount of the investment. Any reversal of that impairment loss is recognized in accordance with HKAS 36 *Impairment of assets* to the extent that the recoverable amount of the investment subsequently increases.

When the Group ceases to have significant influence over an associate, it is accounted for as a disposal of the entire interest in the investee with a resulting gain or loss being recognized in profit or loss. When the Group retains an interest in the former associate and the retained interest is a financial asset within the scope of HKFRS 9, the Group measures the retained interest at fair value at that date and the fair value is regarded as its fair value on initial recognition. The difference between the carrying amount of the associate and the fair value of any retained interest and any proceeds from disposing the relevant interest in the associate is included in the determination of the gain or loss on disposal of the associate. In addition, the Group accounts for all amounts previously recognized in other comprehensive income in relation to that associate on the same basis as would be required if that associate had directly disposed of the related assets or liabilities. Therefore, if a gain or loss previously recognized in other comprehensive income by that associate would be reclassified to profit or loss on the disposal of the related assets or liabilities, the Group reclassifies the gain or loss from equity to profit or loss (as a reclassification adjustment) upon disposal/ partial disposal of the relevant associate.

When a group entity transacts with an associate of the Group, profits and losses resulting from the transactions with the associate are recognized in the Group's consolidated financial statements only to the extent of interests in the associate that are not related to the Group.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Revenue from contracts with customers

The Group recognized revenue when (or as) a performance obligation is satisfied, i.e. when "control" of the goods or services underlying the particular performance obligation is transferred to the customer.

A performance obligation represents a good or service (or a bundle of goods or services) that is distinct or a series of distinct goods or services that are substantially the same.

Control is transferred over time and revenue is recognized over time by reference to the progress towards complete satisfaction of the relevant performance obligation if one of the following criteria is met:

- the customer simultaneously received and consumes the benefits provided by the Group's performance as the Group performs;
- the Group's performance creates or enhances an asset that the customer controls as the Group performs; or
- the Group's performance does not create an asset with an alternative use to the Group and the Group has an enforceable right to payment for performance completed to date.

Otherwise, revenue is recognized at a point in time when the customer obtains control of the distinct good or service.

A contract asset represents the Group's right to consideration in exchange for goods or services that the Group has transferred to a customer that is not yet unconditional. It is assessed for impairment on a regular and individual basis. In contrast, a receivable represents the Group's unconditional right to consideration, i.e. only the passage of time is required before payment of that consideration is due.

A contract liability represents the Group's obligation to transfer goods or services to a customer for which the Group has received consideration (or an amount of consideration is due) from the customer.

A contract asset and a contract liability relating to the same contract are accounted for and presented on a net basis.

Variable consideration

For contracts with performance bonus that contain variable consideration, the Group estimates the amount of consideration to which it will be entitled using either (a) the expected value method or (b) the most likely amount, depending on which method better predicts the amount of consideration to which the Group will be entitled.

The estimated amount of variable consideration is included in the transaction price only to the extent that it is highly probable that such an inclusion will not result in a significant revenue reversal in the future when the uncertainty associated with the variable consideration is subsequently resolved.

At the end of the reporting period, the Group updates the estimated transaction price (including updating its assessment of whether an estimate of variable consideration is constrained) to represent faithfully the circumstances present at the end of the reporting period and the changes in circumstances during the reporting period.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Revenue from contracts with customers (Continued)

Over time revenue recognition: measurement of progress towards complete satisfaction of a performance obligation

Input method

The progress towards complete satisfaction of a performance obligation is measured based on input method, which is to recognize revenue on the basis of the Group's efforts or inputs to the satisfaction of a performance obligation relative to the total expected inputs to the satisfaction of that performance obligation, that best depict the Group's performance in transferring control of goods or services.

Application to the Group's revenue streams

Revenue is measured based on the consideration specified in a contract with customer and excluded amounts collected on behalf of third parties. The Group principally earns revenue from provision of software products and related services as well as a variety of other services including:

- Software business
  - Software products and related services
  - Data-driven operation services
  - Others
- Network security business

Specifically, revenue is recognized in profit or loss as follows:

Software products and related services

The Group primarily is engaged in (i) the provision of software products and related deployment services, and (ii) the provision of ongoing operation and maintenance services ("**O&M services**").

(i) Software products and related deployment services

The software products and related deployment services include a comprehensive set of professional services, from demand analysis, project design and planning, software development and sourcing, system installation and launch to trial operation and acceptance, which are highly interrelated to and significantly affected by other goods and services in the contract. The directors of the Company have assessed that the Group's performance creates and enhances an asset that the customers control as the Group performs. Therefore, the directors of the Company have satisfied that there is only one single performance obligation and the services are satisfied over time.

Revenue from software products and related deployment services, which are generally under project based development contracts, is recognized based on the stage of completion of the contract which is determined as the proportion of the costs incurred for the works (i.e. subcontracting costs, material costs, rental expenses and direct staff costs incurred) performed to date relative to the estimated total costs to complete the satisfaction of these services and the margin of each project, to the extent that the amount can be measured reliably and its recovery is considered probable.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Revenue from contracts with customers (Continued)

Application to the Group's revenue streams (Continued)

Software products and related services (Continued)

(ii) O&M services

Upon the launch of a system from the software products and related deployment services the Group provided, customers typically engage the Group to provide ongoing O&M services to ensure the stable functioning of the system.

Pursuant to the contracts of rendering related O&M services, the transaction price is the amount of consideration to which the Group expects to be entitled in exchange for transferring O&M services to customers. Additionally, the O&M services typically meet the criterion where customers simultaneously receive and consume the benefits of the Group's performance as the Group performs. The fact that another entity would not need to re-perform maintenance services for the service that the Group has provided to date also demonstrates that customers simultaneously receive and consume the benefits of the Group's performance as the Group performs. Therefore, the directors of the Company have satisfied that the performance obligation of rendering O&M services are satisfied over time which is recognized over the service period.

Data-driven operation services

The Group provides data-driven operation services directly to telecom operators and/or in collaboration with telecom operators to the government and enterprise customers in relation to the rendering of comprehensive data operational analytics services to analyze customer behavior.

The directors of the Company have assessed that the data-driven operation service is one single performance obligation and the customers simultaneously receive and consume the benefits provided by the Group's performance as the Group performs. Therefore, the directors of the Company have satisfied that the services are satisfied over time.

Others

The Group generates other revenues from sales of third-party hardware and software, system integration service, business consulting services and corporate trainings.

i. Sales of third-party hardware and software

Revenue is recognized at a point in time when the customer obtains control of the third-party hardware and software.

ii. Provision of services — system integration services, business consulting services and corporate trainings

The Group enters into system integration service agreements, consulting service agreements with telecom operators and large enterprises, the term of which generally ranges from two months to one year with a fixed contract price.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Revenue from contracts with customers (Continued)

Others (Continued)

The performance obligation of provision of such services is satisfied over time. Revenue from rendering business consulting services and corporate trainings is recognized based on the services provided as the customers simultaneously receive and consume the service provided by the Group over the period. Revenue from rendering system integration services is recognized over time based on the stage of completion of the contract which is determined as the proportion of the cost incurred for the work performed to date relative to the estimated total costs to complete the satisfaction of these services and the margin of each project as the Group's performance creates and enhances an asset that the customers control as the Group performs.

Network security related software products and services

The Group was engaged in providing network security related software products and services, which is similar to software products and related services, and transformed the business model to provide similar network security related products and services to customers through outsourcing the entire work to AsiaInfo Technologies (Chengdu), Inc. ("**AsiaInfo Chengdu**"), a related party of the Group. (Note 35)

The directors of the Company have assessed that the Group's services creates and enhances an asset that the customers control as the Group performs. Therefore, the directors of the Company have satisfied that the services are satisfied over time. Accordingly, revenue is recognized based on the stage of completion of the contract.

Some of the service contracts contain variable consideration in the form of cash payment based on final service evaluation result (usually in the form of a service evaluation score provided by the customer based on which cash payment is calculated). The Group estimates the amount of consideration to which it will be entitled using the most likely amount. The estimation of variable consideration is included in the transaction price only to the extent that it is highly probable that such an inclusion will not result in a significant revenue reversal in the future when the uncertainty associated with the variable consideration is subsequently resolved.

Government grants

Government grants are not recognized until there is reasonable assurance that the Group will comply with the conditions attaching to them and that the grants will be received.

Government grants are recognized in profit or loss on a systematic basis over the periods in which the Group recognizes as expenses for which the grants are intended to compensate.

Government grants that are receivable as compensation for expenses or losses already incurred or for the purpose of giving immediate financial support to the Group with no future related costs are recognized in profit or loss in the period in which they become receivable.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Leases

Definition of a lease (upon application of HKFRS 16 in accordance with transitions in Note 2)

A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

For contracts entered into or modified or arising from business combinations on or after the date of initial application, the Group assesses whether a contract is or contains a lease based on the definition under HKFRS 16 at inception, modification date or acquisition date, as appropriate. Such contract will not be reassessed unless the terms and conditions of the contract are subsequently changed.

The Group as a lessee (upon application of HKFRS 16 in accordance with transitions in Note 2)

Short-term leases and leases of low-value assets

The Group applies the short-term lease recognition exemption to leases of land and buildings that have a lease term of 12 months or less from the commencement date and do not contain a purchase option. It also applies the recognition exemption for lease of low-value assets. Lease payments on short-term leases and leases of low-value assets are recognized as expense on a straight-line basis over the lease term.

Right-of-use assets

Except for short-term leases and leases of low value assets, the Group recognizes right-of-use assets at the commencement date of the lease (i.e. the date the underlying asset is available for use). Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of lease liabilities.

The cost of right-of-use asset includes:

- the amount of the initial measurement of the lease liability;
- any lease payments made at or before the commencement date, less any lease incentives received;
- any initial direct costs incurred by the Group; and
- an estimate of costs to be incurred by the Group in dismantling and removing the underlying assets, restoring the site on which it is located or restoring the underlying asset to the condition required by the terms and conditions of the lease.

Right-of-use assets in which the Group is reasonably certain to obtain ownership of the underlying leased assets at the end of the lease term is depreciated from commencement date to the end of the useful life. Otherwise, right-of-use assets are depreciated on a straight-line basis over the shorter of its estimated useful life and the lease term.

The Group presents right-of-use assets as a separate line item on the consolidated statement of financial position.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Leases (Continued)

The Group as a lessee (upon application of HKFRS 16 in accordance with transitions in Note 2) (Continued)

Refundable rental deposits

Refundable rental deposits paid are accounted under HKFRS 9 *Financial Instruments* ("**HKFRS 9**") and initially measured at fair value. Adjustments to fair value at initial recognition are considered as additional lease payments and included in the cost of right-of-use assets.

Lease liabilities

At the commencement date of a lease, the Group recognizes and measures the lease liability at the present value of lease payments that are unpaid at that date. In calculating the present value of lease payments, the Group uses the incremental borrowing rate at the lease commencement date if the interest rate implicit in the lease is not readily determinable.

The lease payments include:

- fixed payments (including in-substance fixed payments) less any lease incentives receivable;
- variable lease payments that depend on an index or a rate initially measured using the index or rate as at the commencement date;
- amounts expected to be paid under residual value guarantees;
- the exercise price of a purchase option reasonably certain to be exercised by the Group; and
- payments of penalties for terminating a lease, if the lease term reflects the Group exercising the option to terminate.

After the commencement date, lease liabilities are adjusted by interest accretion and lease payments.

The Group remeasures lease liabilities (and makes a corresponding adjustment to the related right-of-use assets) whenever:

- the lease term has changed or there is a change in the assessment of exercise of a purchase option, in which case the related lease liability is remeasured by discounting the revised lease payments using a revised discount rate at the date of reassessment.
- the lease payments change due to changes in market rental rates following a market rent review/ expected payment under a guaranteed residual value, in which cases the related lease liability is remeasured by discounting the revised lease payments using the initial discount rate.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Leases (Continued)

The Group as a lessee (upon application of HKFRS 16 in accordance with transitions in Note 2) (Continued)

Lease modifications

The Group accounts for a lease modification as a separate lease if:

- the modification increases the scope of the lease by adding the right to use one or more underlying assets; and

- the consideration for the leases increases by an amount commensurate with the stand-alone price for the increase in scope and any appropriate adjustments to that stand-alone price to reflect the circumstances of the particular contract.

For a lease modification that is not accounted for as a separate lease, the Group remeasures the lease liability based on the lease term of the modified lease by discounting the revised lease payments using a revised discount rate at the effective date of the modification.

The Group as a lessee (prior to 1 January 2019)

Leases are classified as finance leases whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee. All other leases are classified as operating leases.

Operating lease payments, including the cost of acquiring land held under operating leases, are recognized as an expense on a straight-line basis over the lease term.

Lease incentives relating to operating leases are considered as integral part of lease payments and recognized as a liability, the aggregate benefit of incentives is recognized as a reduction of rental expense on a straight-line basis.

Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use or sale, are added to the cost of those assets, until such time as the assets are substantially ready for their intended use or sale.

All other borrowing costs are recognized in profit or loss in the period in which they are incurred.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Foreign currencies

In preparing the financial statements of each individual group entity, transactions in currencies other than the entity's functional currency (foreign currencies) are recognized at the rates of exchanges prevailing on the dates of the transactions. At the end of the reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Non-monetary items that are measured in terms of historical cost in a foreign currency are not retranslated. Exchange differences arising on the settlement of monetary items, and on the retranslation of monetary items, are recognized in profit or loss in the period in which they arise.

For the purposes of presenting the consolidated financial statements, the assets and liabilities of the Group's foreign operations are translated into the presentation currency of the Group (i.e. RMB) using exchange rate prevailing at the end of the reporting period. Income and expenses items are translated at the average exchange rates for the year. Exchange differences arising, if any, recognized in other comprehensive income and accumulated in equity under the heading of translation reserve (attributed to non-controlling interests as appropriate).

Short-term employee benefits

Short-term employee benefits are recognized at the undiscounted amount of the benefits expected to be paid and when employees rendered the services. All short-term employee benefits are recognized as an expense unless another HKFRS requires or permits the inclusion of the benefit in the cost of an asset.

A liability is recognized for benefits accruing to employee (such as wages and salaries) after deducting any amount already paid.

Retirement benefits

In accordance with the rules and regulations in the PRC, the PRC based employees of the Group participate in various defined contribution retirement benefit plans organized by the relevant municipal and provincial governments in the PRC under which the Group and the PRC based employees are required to make monthly contributions to these plans calculated as a percentage of the employees' salaries.

The municipal and provincial governments undertake to assume the retirement benefit obligations of all existing and future retired PRC based employees' payable under the plans described above. Other than the monthly contributions, the Group has no further obligation for the payment of retirement and other post-retirement benefits of its employees. The assets of these plans are held separately from those of the Group in independently administrated funds managed by the PRC government.

The Group's contributions to the defined contribution retirement schemes are expensed as incurred.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Research and development costs

Expenditure on research activities is recognized as an expense in the period in which it is incurred.

An internally-generated intangible asset arising from development activities (or from the development phase of an internal project) is recognized if, and only if, all of the following have been demonstrated:

- the technical feasibility of completing the intangible asset so that it will be available for use or sale;
- the intention to complete the intangible asset and use or sell it;
- the ability to use or sell the intangible asset;
- how the intangible asset will generate probable future economic benefits;
- the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset; and
- the ability to measure reliably the expenditure attributable to the intangible asset during its development.

The amount initially recognized for internally-generated intangible asset is the sum of the expenditure incurred from the date when the intangible asset first meets the recognition criteria listed above. When no internally-generated intangible asset can be recognized, development expenditure is recognized in profit or loss in the period in which it is incurred.

The Group did not recognize any internally-generated intangible asset from development activities or from the development phase of an internal project.

Share-based payment arrangements

Equity-settled share-based payments to employees are measured at the fair value of the equity instruments at the grant date.

The fair value of the equity-settled share-based payments in respect of share options/restricted stock units ("**RSUs**") determined at the grant date without taking into consideration all non-market vesting conditions is expensed on a straight-line basis over the vesting period, based on the Group's estimate of equity instruments that will eventually vest, with a corresponding increase in equity (other reserves). At the end of the reporting period, the Group revises its estimate of the number of equity instruments expected to vest based on assessment of all relevant non-market vesting conditions. The impact of the revision of the original estimates, if any, is recognized in profit or loss such that the cumulative expense reflects the revised estimate, with a corresponding adjustment to other reserve.

When share options are exercised or when the RSUs are vested, the amount previously recognized in other reserve will be transferred to share premium. When the share options are forfeited after the vesting date or are still not exercised at the expiry date, the amount previously recognized in other reserve will be transferred to retained profits.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Taxation

Income tax expenses represent the sum of the tax currently payable and deferred tax.

The tax currently payable is based on taxable profit for the year. Taxable profit differs from profit before tax as reported in the consolidated statement of profit or loss and other comprehensive income because of income or expense that are taxable or deductible in other years and items that are never taxable or deductible. The Group's liability for current tax is calculated using tax rates that have been enacted or substantively enacted by the end of the reporting period.

Deferred tax is recognized on temporary differences between the carrying amounts of assets and liabilities in the consolidated statement of profit or loss and other comprehensive income and the corresponding tax bases used in the computation of taxable profit. Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilized. Such deferred tax assets and liabilities are not recognized if the temporary difference arises from the initial recognition (other than in a business combination) of assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit. In addition, deferred tax liabilities are not recognized if the temporary difference arises from the initial recognition of goodwill.

Deferred tax liabilities are recognized for taxable temporary differences associated with investments in subsidiaries and associates, except where the Group is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary differences associated with such investments are only recognized to the extent that it is probable that there will be sufficient taxable profits against which to utilize the benefits of the temporary differences and they are expected to reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at the end of the reporting period and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period in which the liability is settled or the asset is realized, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period.

The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

For the purposes of measuring deferred tax for leasing transactions in which the Group recognizes the right-of-use assets and the related lease liabilities, the Group first determines whether the tax deductions are attributable to the right-of-use assets or the lease liabilities.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Taxation (Continued)

For leasing transactions in which the tax deductions are attributable to the lease liabilities, the Group applies HKAS 12 Income Taxes requirements to the leasing transaction as a whole. Temporary differences relating to right-of-use assets and lease liabilities are assessed on a net basis. Excess of depreciation on right-of-use assets over the lease payments for the principal portion of lease liabilities resulting in net deductible temporary differences.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities and when they relate to income taxes levied to the same taxable entity by the same taxation authority.

Current and deferred tax are recognized in profit or loss, except when they relate to items that are recognized in other comprehensive income or directly in equity, in which case, the current and deferred tax are also recognized in other comprehensive income or directly in equity respectively. Where current tax or deferred tax arises from the initial accounting for a business combination, the tax effect is included in the accounting for the business combination.

In assessing any uncertainty over income tax treatments, the Group considers whether it is probable that the relevant tax authority will accept the uncertain tax treatment used, or proposed to be used by individual group entities in their income tax filings. If it is probable, the current and deferred taxes are determined consistently with the tax treatment in the income tax filings. If it is not probable that the relevant taxation authority will accept an uncertain tax treatment, the effect of each uncertainty is reflected by using either the most likely amount or the expected value.

Property, plant and equipment

Property, plant and equipment including buildings, leasehold improvements, motor vehicles, and furniture, fixtures and equipment are stated in the consolidated statement of financial position at cost less subsequent accumulated depreciation and subsequent accumulated impairment losses, if any.

Depreciation is recognized so as to write off the cost of items of property, plant and equipment over their estimated useful lives and after taking into account of their estimated residual values, using the straight-line method. The estimated useful lives, residual values and depreciation method are reviewed at the end of the reporting period, with the effect of any changes in estimate accounted for on a prospective basis.

An item of property, plant and equipment is derecognized upon disposal or when no future economic benefits are expected to arise from the continued use of the asset. Any gain or loss arising on the disposal or retirement of an item of property, plant and equipment is determined as the difference between the sales proceeds and the carrying amount of the asset and is recognized in profit or loss.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Goodwill

Goodwill arising on an acquisition of a business is carried at cost as established at the date of acquisition of the business less accumulated impairment losses, if any.

For the purposes of impairment testing, goodwill is allocated to each of the Group's cash-generating units (or group of cash-generating units) that is expected to benefit from the synergies of the combination, which represent the lowest level at which the goodwill is monitored for internal management purposes and not larger than an operating segment.

A cash-generating unit (or group of cash-generating units) to which goodwill has been allocated is tested for impairment annually or more frequently whenever there is indication that the unit may be impaired. For goodwill arising on an acquisition in a reporting period, the cash-generating unit (or group of cash-generating units) to which goodwill has been allocated is tested for impairment before the end of that reporting period. If the recoverable amount is less than its carrying amount, the impairment loss is allocated first to reduce the carrying amount of any goodwill and then to the other assets on a pro-rata basis based on the carrying amount of each asset in the unit (or group of cash-generating units).

On disposal of the relevant cash-generating unit (or any of the cash-generating unit within group of cash-generating units in which the Group monitors goodwill), the attributable amount of goodwill is included in the determination of the amount of profit or loss on disposal. When the Group disposes of an operation within the cash-generating unit (or a cash-generating unit within a group of cash-generating units), the amount of goodwill disposed of is measured on the basis of the relative values of the operation (or the cash-generating unit) disposed of and the portion of the cash-generating unit (or the group of cash-generating units) retained.

Intangible assets

Intangible assets acquired separately

Intangible assets with finite useful lives that are acquired separately are carried at costs less accumulated amortization and any accumulated impairment losses. Amortization for intangible assets with finite useful lives is recognized on a straight-line basis over their estimated useful lives, except for the customer relationships being amortized on an accelerated basis over their estimated useful life. The estimated useful life and amortization method are reviewed at the end of the reporting period, with the effect of any changes in estimate being accounted for on a prospective basis. Intangible assets, the memberships, with indefinite useful lives that are acquired separately are carried at cost less accumulated impairment losses.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Intangible assets (Continued)

Intangible assets acquired in a business combination

Intangible assets acquired in a business combination are recognized separately from goodwill and are initially recognized at their fair value at the acquisition date (which is regarded as their cost).

Subsequent to initial recognition, intangible assets acquired in a business combination with finite useful lives are reported at cost less accumulated amortization and accumulated impairment loss, on the same basis as intangible assets that are acquired separately.

An intangible asset is derecognized on disposal, or when no future economic benefits are expected from use or disposal. Gains or losses arising from derecognition of an intangible asset, measured as the difference between the net disposal proceeds and the carrying amount of the asset, are recognized in profit or loss when the asset is derecognized.

Prepaid lease payments

Land use rights represent prepayments for the land use rights in mainland China and are stated at cost initially and amortized on a straight-line basis over the lease terms.

Prepaid lease payments mainly represent payments for obtaining land use rights. Payment for obtaining land use rights is charged to profit or loss or included as part of costs of buildings under construction on a straight line basis over the lease terms. Upon application of HKFRS 16, it is presented as right-of-use assets in accordance with transitions in Note 2.

Inventories

Inventories are stated at the lower of cost and net realizable value. Cost of inventories are determined on a first-in, first-out basis. Net realizable value represents the estimated selling price for inventories less all estimated costs of completion and costs necessary to make the sale.

Impairment on property, plant and equipment, right-of-use assets, and intangible assets other than goodwill

At the end of the reporting period, the Group reviews the carrying amounts of its property, plant and equipment, right-of-use assets, intangible assets with finite useful lives to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the relevant asset is estimated in order to determine the extent of the impairment loss, if any.

The recoverable amount of property, plant and equipment, right-of-use assets, and intangible assets are estimated individually. When it is not possible to estimate the recoverable amount individually, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Impairment on property, plant and equipment, right-of-use assets, and intangible assets other than goodwill (Continued)

In addition, the Group assesses whether there is indication that corporate assets may be impaired. If such indication exists, corporate assets are also allocated to individual cash-generating units, when a reasonable and consistent basis of allocation can be identified, or otherwise they are allocated to the smallest group of cash-generating units for which a reasonable and consistent allocation basis can be identified.

The recoverable amount of tangible and intangible assets are estimated individually. When it is not possible to estimate the recoverable amount of an asset individually, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs. Where a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual cash- generating unit, or otherwise they are allocated to the smallest group of cash-generating units for which a reasonable and consistent allocation basis can be identified.

Intangible assets with indefinite useful lives are tested for impairment at least annually, and whenever there is an indication that the asset may be impaired.

Recoverable amount is the higher of fair value less costs of disposal and value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset (or a cash-generating unit) for which the estimates of future cash flows have not been adjusted.

If the recoverable amount of an asset (or a cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (or a cash-generating unit) is reduced to its recoverable amount. In allocating the impairment loss, the impairment loss is allocated first to reduce the carrying amount of any goodwill (if applicable) and then to the other assets on a pro-rata basis based on the carrying amount of each asset in the unit or the group of cash-generating units. The carrying amount of an assets is not reduced below the highest of its fair value less costs of disposal (if measurable), its value in use (if determinable) and zero. The amount of impairment loss that would otherwise have been allocated to the asset is allocated pro rata to the other assets of the unit or the group of cash-generating units. An impairment loss is recognized immediately in profit or loss.

Where an impairment loss subsequently reverses, the carrying amount of the asset (or a cash- generating unit or the group of cash-generating units) is increased to the revised estimate of its recoverable amount, but so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset (or a cash-generating unit or the group of cash-generating units) in prior years. A reversal of an impairment loss is recognized immediately in profit or loss.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments

Financial assets and financial liabilities are recognized in the consolidated statement of financial position when a group entity becomes a party to the contractual provisions of the instrument. All regular way purchases or sales of financial assets are recognized and derecognized on a trade date basis. Regular way purchases or sales are purchases or sales of financial assets that required delivery of assets within the time frame established by regulation or convention in the market place.

Financial assets and financial liabilities are initially measured at fair value except for trade receivables arising from contracts with customers which are measured in accordance with HKFRS 15. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities (other than financial assets and financial liabilities at FVTPL) are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at FVTPL are recognized immediately in profit or loss.

The effective interest method is a method of calculating the amortized cost of a financial asset or financial liability and of allocating interest income and interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts and payments (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial asset or financial liability, or, where appropriate, a shorter period, to the net carrying amount on initial recognition.

Interest income is recognized in profit or loss and is included in the "other income" line item.

Financial assets

Classification and subsequent measurement of financial assets

Financial assets that meet the following conditions are subsequently measured at amortized cost:

- the financial asset is held within a business model whose objective is to collect contractual cash flows; and
- the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Financial assets that meet the following conditions are subsequently measured at fair value through other comprehensive income ("**FVTOCI**"):

- the financial asset is held within a business model whose objective is achieved by both selling and collecting contractual cash flows; and
- the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Classification and subsequent measurement of financial assets (Continued)

All other financial assets are subsequently measured at FVTPL, except that at the date of initial application of HKFRS 9/initial recognition of a financial asset the Group may irrevocably elect to present subsequent changes in fair value of an equity investment in other comprehensive income if that equity investment is neither held for trading nor contingent consideration recognized by an acquirer in a business combination to which HKFRS 3 *Business Combinations* applies.

In addition, the Group may irrevocably designate a debt investment that meets the amortized cost or FVTOCI criteria as measured at FVTPL if doing so eliminates or significantly reduces an accounting mismatch.

(i) Amortized cost and interest income

Interest income is recognized using the effective interest method for financial assets measured subsequently at amortized cost and debt instruments/receivables subsequently measured at FVOCI. Interest income is calculated by applying the effective interest rate to the gross carrying amount of a financial asset, except for financial assets that have subsequently become credit-impaired. For financial assets that have subsequently become credit-impaired, interest income is recognized by applying the effective interest rate to the amortized cost of the financial asset from the next reporting period. If the credit risk on the credit-impaired financial instrument improves so that the financial asset is no longer credit-impaired, interest income is recognized by applying the effective interest rate to the gross carrying amount of the financial asset from the beginning of the reporting period following the determination that the asset is no longer credit impaired.

(ii) Financial assets at FVTPL

Financial assets that do not meet the criteria for being measured at amortized cost or FVTOCI or designated as FVTOCI are measured at FVTPL. Specifically:

- Investments in equity instruments are classified as at FVTPL, unless the Group designates an equity investment that is neither held for trading nor a contingent consideration arising from a business combination as at FVTOCI on initial recognition.

- Debt instruments that do not meet the amortized cost criteria or the FVTOCI criteria are classified as at FVTPL. In addition, debt instruments that meet either the amortized cost criteria or the FVTOCI criteria may be designated as at FVTPL upon initial recognition if such designation eliminates or significantly reduces a measurement or recognition inconsistency that would arise from measuring assets or liabilities or recognizing the gains and losses on them on different bases. The Group has not designated any debt instruments as at FVTPL.

Financial assets at FVTPL are measured at fair value at the end of the reporting period, with any fair value gains or losses recognized in profit or loss. The net gain or loss recognized in profit or loss includes any dividend or interest earned on the financial asset and is included in the "other income" line item.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Classification and subsequent measurement of financial assets (Continued)

(iii) Foreign exchange gains and losses

The carrying amount of financial assets that are denominated in a foreign currency is determined in that foreign currency and translated at the spot rate at the end of the reporting period. For financial assets measured at amortized cost, exchange differences are recognized in profit or loss and are included in the "other gains and losses" line item.

Impairment of financial assets (and other items subject to impairment assessment under HKFRS 9)

The Group performs impairment assessment under expected credit loss ("**ECL**") model on financial assets (including trade receivables, receivables and amounts due from related parties) and contract assets, which are subject to impairment under HKFRS 9. The amount of ECL is updated at each reporting date to reflect changes in credit risk since initial recognition.

Lifetime ECL represents the ECL that will result from all possible default events over the expected life of the relevant instrument. In contrast, 12-month ECL ("**12m ECL**") represents the portion of lifetime ECL that is expected to result from default events that are possible within 12 months after the reporting date. Assessment is done based on the Group's historical credit loss experience, adjusted for factors that are specific to the debtors, general economic conditions and an assessment of both the current conditions at the reporting date as well as the forecast of future conditions.

The Group always recognizes lifetime ECL for trade receivables and contract assets without significant financing component. The ECL on these assets is estimated using a provision matrix based on the Group's historical credit loss experience, adjusted for factors that are specific to the debtors, general economic conditions and an assessment of both the current as well as the forecast of future conditions at the reporting date, including time value of money where appropriate.

For all other financial instruments, the Group recognizes lifetime ECL when there has been a significant increase in credit risk since initial recognition. If, on the other hand, the credit risk on the financial instrument has not increased significantly since initial recognition, the Group measures the loss allowance for that financial instrument at an amount equal to 12m ECL. The assessment of whether lifetime ECL should be recognized is based on significant increases in the likelihood or risk of a default occurring since initial recognition instead of on evidence of a financial asset being credit-impaired at the reporting date or an actual default occurring.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Impairment of financial assets (and other items subject to impairment assessment under HKFRS 9) (Continued)

(i) Significant increase in credit risk

In assessing whether the credit risk on a financial instrument has increased significantly since initial recognition, the Group compares the risk of a default occurring on the financial instrument as at the reporting date with the risk of a default occurring on the financial instrument as at the date of initial recognition. In making this assessment, the Group considers both quantitative and qualitative information that is reasonable and supportable, including historical experience and forward-looking information that is available without undue cost or effort.

In particular, the following information is taken into account when assessing whether credit risk has increased significantly:

- an actual or expected significant deterioration in the financial instrument's external (if available) or internal credit rating;
- significant deterioration in external market indicators of credit risk, e.g. a significant increase in the credit spread, or the length of time or the extent to which the fair value of a financial asset has been less than its amortized cost;
- existing or forecast adverse changes in business, financial or economic conditions that are expected to cause a significant decrease in the debtor's ability to meet its debt obligations;
- an actual or expected significant deterioration in the operating results of the debtor; and
- an actual or expected significant adverse change in the regulatory, economic, or technological environment of the debtor that results in a significant decrease in the debtor's ability to meet its debt obligations.

Irrespective of the outcome of the above assessment, the Group presumes that the credit risk has increased significantly since initial recognition when contractual payments are more than 30 days past due, unless the Group has reasonable and supportable information that demonstrates otherwise.

The Group regularly monitors the effectiveness of the criteria used to identify whether there has been a significant increase in credit risk and revises them as appropriate to ensure that the criteria are capable of identifying significant increase in credit risk before the amount becomes past due.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Impairment of financial assets (and other items subject to impairment assessment under HKFRS 9) (Continued)

(ii) Definition of default

The Group considers the following as constituting an event of default for internal credit risk management purposes as historical experience indicates that receivables that meet either of the following criteria are generally not recoverable.

- when there is a breach of financial covenants by the counterparty; or
- information developed internally or obtained from external sources indicates that the debtor is unlikely to pay its creditors, including the Group, in full (without taking into account any collaterals held by the Group).

Irrespective of the above analysis, the Group considers that default has occurred when a financial asset is more than 90 days past due unless the Group has reasonable and supportable information to demonstrate that a more lagging default criterion is more appropriate.

(iii) Credit-impaired financial assets

A financial asset is credit-impaired when one or more events that have a detrimental impact on the estimated future cash flows of that financial asset have occurred. Evidence that a financial asset is credit-impaired includes observable data about the following events:

a) significant financial difficulty of the issuer or the borrower;

b) a breach of contract, such as a default or past due event;

c) the lender(s) of the borrower, for economic or contractual reasons relating to the borrower's financial difficulty, having granted to the borrower a concession(s) that the lender(s) would not otherwise consider;

d) it is becoming probable that the borrower will enter bankruptcy or other financial reorganization; or

e) the disappearance of an active market for that financial asset because of financial difficulties.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Impairment of financial assets (and other items subject to impairment assessment under HKFRS 9) (Continued)

(iv) Write-off policy

The Group writes off a financial asset when there is information indicating that the counterparty is in severe financial difficulty and there is no realistic prospect of recovery, for example, when the counterparty has been placed under liquidation or has entered into bankruptcy proceedings. Financial assets written off may still be subject to enforcement activities under the Group's recovery procedures, taking into account legal advice where appropriate. Any recoveries made are recognized in profit or loss.

(v) Measurement and recognition of ECL

The measurement of ECL is a function of the probability of default, loss given default and the exposure at default. The assessment of the probability of default and loss given default is based on historical data adjusted by forward-looking information. Estimation of ECL reflects an unbiased and probability-weighted amount that is determined with the respective risks of default occurring as the weights.

Generally, the ECL is estimated as the difference between all contractual cash flows that are due to the Group in accordance with the contract and the cash flows that the Group expects to receive, discounted at the original effective interest rate determined at initial recognition.

Where ECL is measure on a collective basis or cater for cases where evidence at the individual instruments level may not yet be available, the financial instruments are grouped on the nature and size of debtors basis:

The grouping is regularly reviewed by management to ensure the constituents of each group continue to share similar credit risk characteristics.

Interest income is calculated based on the gross carrying amount of the financial asset unless the financial asset is credit impaired, in which case interest income is calculated based on amortized cost of the financial asset.

The Group recognizes an impairment gain or loss in profit or loss for all financial instruments and other instruments by adjusting their carrying amount, with the exception of trade receivables, contract assets and other receivables where the corresponding adjustment is recognized through a loss allowance account.

3. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Financial instruments (Continued)

Financial assets (Continued)

Impairment of financial assets (and other items subject to impairment assessment under HKFRS 9) (Continued)

(v) Measurement and recognition of ECL (Continued)

In determining the ECL for other receivables, amounts due from related parties, bank balances and cash, pledged bank deposits, term deposits, notes receivables and other non-current assets, the directors of the Company have taken into account the historical default experience and the future prospects of the industries and/or considering various external sources of actual and forecast economic information, as appropriate, in estimating the probability of default of each of the other receivables, amounts due from related parties, bank balances and cash, pledged bank deposits, term deposits, notes receivables and other non-current assets occurring within their respective loss assessment time horizon, as well as the loss upon default in each case. For the purposes of impairment assessment, other receivables, amounts due from related parties, bank balances and cash, pledged bank deposits, term deposits, notes receivables and other non-current assets are considered to have low credit risk as the counterparties to these financial assets have a high credit rating and insignificant historical default experience. Accordingly, loss allowance is measured at an amount equal to 12m ECL.

Derecognition of financial assets

The Group derecognizes a financial asset only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognize the financial asset and also recognizes a collateralized borrowing for the proceeds received.

On derecognition of a financial asset measured at amortized cost, the difference between the asset's carrying amount and the sum of the consideration received and receivable is recognized in profit or loss.

Financial liabilities and equity instruments

Classification as debt or equity

Debt and equity instruments issued by a group entity are classified as either financial liabilities or as equity in accordance with substance of the contractual arrangements entered into and the definitions of a financial liability and an equity instrument.

Equity instruments

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities. Equity instruments issued by the Group are recognized at the proceeds received, net of direct issue costs.

Financial liabilities at amortized cost

Financial liabilities including trade and notes payables, other payables, amounts due to related parties, bank borrowings are subsequently measured at amortized cost, using the effective interest method.

4. CRITICAL ACCOUNTING JUDGMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY

In the application of the Group's accounting policies, which are described in Note 3, the directors of the Company are required to make judgments, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

Critical judgments in applying accounting policies

The following are the critical judgments, apart from those involving estimations, that the Group has made in the process of applying the Group's accounting policies and that have the most significant effect on the amounts recognized in the consolidated financial statements.

Judgments in determining the timing of satisfaction of performance obligations

Note 3 describes the revenue recognition basis to each of the Group's revenue stream. The recognition of each of the Group's revenue stream requires judgment by the directors of the Company in determining the timing of satisfaction of performance obligations.

In making their judgment, the directors of the Company considered the detailed criteria for recognition of revenue set out in HKFRS 15 and in particular, whether the Group has satisfied all the performance obligations over time or at a point in time with reference to the detailed terms of transactions as stipulated in the contracts entered into with its customers.

For the Group's software business and network security business, the directors of the Company have assessed that the Group's performance creates and enhances an asset that the customer controls as the Group performs. Therefore, the directors of the Company have satisfied that the performance obligation is satisfied over time and recognized the revenue over the service period.

For O&M services included in the software business, the directors of the Company have determined that the customer simultaneously receives and consumes the benefits provided by the Group's performance as the Group performs. Therefore, the directors of the Company have satisfied that the performance obligation is satisfied over time and recognized the revenue over the service period.

Key Sources of estimation uncertainty

The following are the key assumptions concerning the future, and other key sources of estimation uncertainty at the end of the reporting period, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year.

Impairment of goodwill

Determining whether goodwill is impaired requires an estimation of the recoverable amount of the cash-generating units to which goodwill has been allocated. The recoverable amount determination of the cash-generating units as at 31 December 2019 and 2018 is based on the present value calculation which requires the Group to estimate the future cash flows expected to arise from the cash-generating units and a suitable discount rate in order to calculate the present value. Where the actual future cash flows are less than expected, or change in facts and circumstances which results in downward revision of future cash flows, an impairment loss may arise. As at 31 December 2019, the carrying amount of goodwill was RMB1,932,246,000 (2018: RMB1,932,246,000). Details of the recoverable amount calculation are disclosed in Note 18.

4. CRITICAL ACCOUNTING JUDGMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY (Continued)

Key Sources of estimation uncertainty (Continued)

Revenue recognition regarding variable consideration of performance bonus

The Group recognizes upfront payments and milestone payments based on specified contract terms, allocated to one performance obligation over the estimated service period based on a pattern that reflects the transfer of the goods and services. As included in certain contracts, the Group earns performance bonus up to a specified certain percentage of the total contact amounts, however, to what extent the Group would recognize performance bonus will depend on the final performance satisfaction reports the Group receives from its customers upon their inspections months after the completion of the project-based development projects.

For contracts with performance bonus that contain variable consideration, the Group estimates the amount of consideration to which it will be entitled using the most likely amount and recognizes revenue relating to performance bonus when it is highly probable that such revenue will not reverse.

The directors of the Company consider it is not probable to estimate possible outcomes until receipt of the performance satisfaction reports since the possible outcomes fluctuates project over project and therefore, no revenue was recognized for the years ended 31 December 2019 and 2018 in relation to performance bonus without performance satisfaction reports.

Project-based development contracts

Revenue from project-based development contracts is recognized under the stage of completion method which requires estimation made by management. The directors of the Company estimate the contract costs, outcome and expected cost to complete the contracts based on the budgets prepared for the contracts. Due to the nature of the activities, the directors of the Company review and revise the estimates of both contract outcome and expected costs to complete in the budget prepared for each contract as the contract progresses. Any revisions to estimates of contract outcomes and expected costs to completion would affect contract revenue recognition. Should expected costs to complete exceed contract revenue, a provision for contract loss would be recognized. A net aggregated amount of provision for contract loss of RMB8,868,000 was reversed to profit or loss for the year ended 31 December 2019 (2018: provision for contract loss of RMB19,083,000).

Provision of ECL for trade receivables and contract assets

Trade receivables and contract assets which are credit-impaired are assessed for ECL individually. In addition, the Group uses provision matrix to calculate ECL for the trade receivables and contract assets. The provision rates are based on internal credit ratings and nature of customers as groupings of various debtors that have similar loss patterns. The provision matrix is based on the Group's historical default rates taking into consideration forward-looking information that is reasonable and supportable available without undue costs or effort. At every reporting date, the historical observed default rates are reassessed and changes in the forward-looking information are considered.

The provision of ECL is sensitive to changes in estimates. The information about the ECL and the Group's trade receivables and contract assets are disclosed in Note 23.

5. REVENUE AND SEGMENT INFORMATION

The Group's revenue is primarily generated from project-based software development contracts, under which the Group develops software products and provides services at fixed prices and/or variable prices. Revenue is recognized net of sales related taxes.

The Group's operating segments are determined based on information reported to the chief executive officer ("**CEO**") of the Company, being the chief operating decision maker ("**CODM**") of the Group for the purpose of resource allocation and assessment of segment performance focuses on types of goods and services provided. No operating segments have been aggregated in arriving at the reportable segments of the Group.

The following information disclosed does not include any amounts for the discontinued operations.

Specifically, the Group's reportable segments under HKFRS 8 are as follows:

Software business:	Representing (1) software products and related services; (2) data-driven operation services; and (3) others, including sale of third-party hardware and software, system integration services, business consulting services and corporate trainings.
Network security business:	Representing provision of network security related software products and services.

The performance obligation of rendering software products and related services is mainly derived from the project-based software development contracts and is satisfied over time which usually range from six months to eighteen months.

The rendering of data-driven operation services is mainly derived from telecom operators' government and enterprise customers with fixed-price contracts to perform data analysis services to analyze customer behavior and operational efficiency. The performance obligation of rendering of data-driven operation services is satisfied over time, ranging from fifteen days to six months.

The performance obligation of sale of third-party hardware and software is satisfied at a point in time when the control of hardware and software is transferred to the customer.

The performance obligation of rendering the network security related software products and services is satisfied over time generally ranging from six months to eighteen months.

5. REVENUE AND SEGMENT INFORMATION (Continued)

Disaggregation of revenue from continuing operations

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Timing of revenue recognition		
At a point in time	**127,306**	158,685
Over time	**5,594,110**	5,052,292
	5,721,416	5,210,977
Types of goods and services		
Provision of services[(i)]	**5,599,429**	5,066,255
Sales of goods	**121,987**	144,722
	5,721,416	5,210,977
Nature of goods and services		
Software business:		
Software products and related services	**5,329,715**	4,852,159
Data-driven operation services	**151,737**	82,489
Others[(ii)]	**237,212**	257,315
Network security business	**2,752**	19,014
	5,721,416	5,210,977

Notes:

(i) The Group records contract liabilities when receiving consideration from customers prior to its provision of services upon entering into the contracts for rendering of services over the entire contract periods with an average of one year. The transaction price allocated to performance obligations in relation to the non-refundable advance payments that were unsatisfied was amounted to RMB296,945,000 as at 31 December 2019 (2018: RMB300,918,000), representing the contract liabilities included in Note 22.

Respective transaction price allocated to the unsatisfied contracts, representing the contract liabilities, as at 31 December 2018 in the amount of RMB300,918,000 had been recognized as revenue over the contract periods for the year ended 31 December 2019. The management expects such amount allocated to the unsatisfied contracts as at 31 December 2019 of RMB296,945,000 will be all recognized as revenue during the year ending 31 December 2020.

All services provided and recognized overtime are with fixed-price contracts. The performance obligations of provision of service are satisfied within one year and the transaction price allocated to the unsatisfied contracts is not disclosed.

(ii) Others represent revenue primarily generated from the sales of third-party hardware and software, the provision of system integration services, business consulting services and the provision of corporate trainings.

5. REVENUE AND SEGMENT INFORMATION (Continued)

Segment information

The following is an analysis of the Group's revenue and results from continuing operations by reportable operating segments:

Year ended 31 December 2019

	Software business RMB'000	Network security business RMB'000	Total RMB'000
Revenue	5,718,664	2,752	5,721,416
Cost of sales	(3,591,714)	(2,697)	(3,594,411)
Gross profit	2,126,950	55	2,127,005
Other income	103,759	—	103,759
Impairment losses under expected credit loss model, net of reversal	(28,366)	—	(28,366)
Other gains and losses	(736)	—	(736)
Selling and marketing expenses	(461,997)	—	(461,997)
Administrative expenses	(292,573)	(13)	(292,586)
R&D expenses	(862,419)	—	(862,419)
Share of results of associates	(3,983)	—	(3,983)
Finance costs	(39,907)	—	(39,907)
Profit before tax	540,728	42	540,770

5. REVENUE AND SEGMENT INFORMATION (Continued)

Segment information (Continued)

Year ended 31 December 2018

	Software business RMB'000	Network security business RMB'000	Total RMB'000
Revenue	5,191,963	19,014	5,210,977
Cost of sales	(3,309,719)	(18,634)	(3,328,353)
Gross profit	1,882,244	380	1,882,624
Other income	82,172	—	82,172
Net reversal of impairment losses under expected loss model	2,880	—	2,880
Other gains and losses	(102,706)	—	(102,706)
Selling and marketing expenses	(508,402)	—	(508,402)
Administrative expenses	(332,709)	(116)	(332,825)
R&D expenses	(584,681)	—	(584,681)
Share of results of associates	(1,242)	—	(1,242)
Finance costs	(70,594)	—	(70,594)
Listing expenses	(54,096)	—	(54,096)
Profit before tax	312,866	264	313,130

The accounting policies of the reportable segments are the same as the Group's significant accounting policies described in Note 3.

Segment revenue reported above represents revenue generated from external customers. There were no inter-segment sales for the year.

No segment assets and liabilities are presented as the CODM does not regularly review segment assets and liabilities.

Geographical information

The Group's operations are in the PRC. Substantially all revenue from continuing operations of the Group and non-current assets of the Group are generated from and located in the PRC.

Information about the Group's revenue from continuing operations from external customers is presented based on the location of the signing parties of the sales or service contracts. During the years ended December 31, 2019 and 2018, there were no sales or service contracts with a signing party located outside of the PRC.

5. REVENUE AND SEGMENT INFORMATION (Continued)

Information about major customers

Revenue from customers of the corresponding years contributing over 10% of the total revenue of the Group during the reporting periods is as follows:

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Telecom operator A	**3,353,138**	2,939,607
Telecom operator B	**1,136,023**	1,188,096
Telecom operator C	**1,002,837**	921,111

Note: The customers as shown above are at their group level which aggregates the customer's headquarters, provincial, municipal and specialized companies which enter into contracts with the Group individually.

6. OTHER INCOME

Continuing operations

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Government grants(i)	**44,254**	24,527
Bank interest income	**24,533**	26,873
Income from management support services(ii)	**12,521**	18,176
Gain from value added tax ("VAT") deduction(iii)	**9,052**	—
Interest income from financial assets at FVTPL	**4,774**	416
Interest income from term deposits	**4,625**	—
Interest income from related parties	**—**	7,770
Others	**4,000**	4,410
	103,759	82,172

Notes:

(i) Government grants amounting to RMB41,373,000 (2018: RMB21,639,000) were recognized for high-tech industrial development and RMB2,881,000 (2018: RMB2,888,000) were recognized for environment protection and employee benefits for the year ended 31 December 2019. The amounts have been recognized as other income with no unfulfilled condition attached to these government grants in the year in which they were recognized.

(ii) Income from management support services represents income generated primarily from the provision of management services in the areas of legal support, human resources and administration, etc. to the Group's related parties, amounting to RMB11,225,000 (Note 35), and other companies who were no longer satisfied as related parties.

(iii) Gain from VAT deduction came mostly from a new article carried out in 2019. On 20 March 2019, the Ministry of Finance of the PRC, the State Administration of Taxation and the General Administration of Customs promulgated and implemented VAT Reformation Article 39 over deductible input VAT, pursuant to which the Group becomes eligible for VAT credits of 10% additional deduction from 1 April 2019 to 31 December 2021 upon meeting all applicable criteria.

7. OTHER GAINS AND LOSSES

Continuing operations

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Gain from extinguishment of liabilities[(i)]	**2,807**	2,432
Net foreign exchange loss	**(3,570)**	(104,517)
Gain (loss) on disposal of property, plant and equipment	**337**	(1,771)
Loss on disposal of intangible assets	**—**	(113)
Others	**(310)**	1,263
	(736)	(102,706)

Note:

(i) The amount mainly represents certain outstanding trade payables, other payables and accrued expenses, relating to project-based software development contracts, aged over years which has exceeded the maximum recourse period and is no longer payable by the Group.

8. FINANCE COSTS

Continuing operations

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Interest on bank borrowings	**37,217**	70,594
Interest on lease liabilities	**2,514**	—
Others	**176**	—
	39,907	70,594

9. INCOME TAX EXPENSES

Continuing operations

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Current tax:		
PRC enterprise income tax ("**EIT**") — Current year	**90,898**	78,685
Deferred tax (Note 28)	**42,956**	30,211
	133,854	108,896
Over provision in prior year:		
PRC EIT	**(1,899)**	—
	131,955	108,896

Under the Law of the PRC on enterprise income tax (the "**EIT Law**") and implementation regulation of the EIT Law, the tax rate of the PRC subsidiaries is 25% during the year ended 31 December 2019 (2018: 25%).

The Group's subsidiaries operating in the PRC are eligible for certain tax credits of 175% (2018: 175%) deduction rates on certain R&D expenses for the year ended 31 December 2019.

On 9 August 2012, the Ministry of Industry and Information Technology of the PRC, the Ministry of Finance of the PRC and the State Taxation Administration promulgated and implemented Trial Measures for the Administration over the Certification of Key Software Enterprises and Integrated Circuit Design Enterprises under State Planned Layout, pursuant to which key software enterprises under the state plan layout could go through tax reduction procedures with the competent tax authorities to enjoy preferential tax policies.

During the years ended 31 December 2019 and 2018, two of the Company's subsidiaries, including AsiaInfo Technologies (China), Inc. ("**AsiaInfo China**") and AsiaInfo Technologies (Nanjing), Inc. ("**AsiaInfo Nanjing**"), were identified as the key software enterprises with tax privileges and entitled to a preferential EIT rate of 10%, pursuant to the designation as a key software enterprise within National Programming Layout. Such tax preference was applied and entitled by performing the record filling to the tax authorities on a yearly basis. The directors of the Company considers that AsiaInfo China and AsiaInfo Nanjing will re-apply for such tax preference provided that its business operations will continue to be qualified as key software enterprises.

9. INCOME TAX EXPENSES (Continued)

Continuing operations (Continued)

Pursuant to the EIT Law effective on 1 January 2008, Nanjing AsiaInfo Software Co., Ltd., ("**Nanjing Software**") was designated as "High and New Technology Enterprise" in 2018 for a period up to 31 December 2020 and such qualifications could be re-applied every three years. As a result, Nanjing Software was entitled to a preferential income tax rate of 15% (2018: 15%). In addition, the Ministry of Finance of the PRC and the State Taxation Administration promulgated and implemented Income Tax Policies for Integrated Circuit Design and Software Enterprises (the "**Policies**") in 2011, pursuant to which, all eligible software enterprises that were profit-making up to the year ended 31 December 2017 were to be entitled to two-year EIT exemptions followed by three years' 50% EIT reduction of the statutory EIT rates, starting from their first profit making year. In May 2019, the relevant taxation authority renewed this Policies for the first time to make eligible software enterprises that were profit-making for the year ended 31 December 2018 to be entitled for such preferential EIT rates. Nanjing Software would be applying the EIT exemptions for two year starting from the year ended 31 December 2019 and be entitled to a preferential EIT rate of 12.5% from 2021 to 2023 if the relevant taxation authority takes a decision to renew the Policies in the future. The directors of the Company considered that Nanjing Software had met all the requirements to be eligible under the Policies and it is probable that tax authority would continue the Policies, and therefore, Nanjing Software has applied 0% EIT rate for the year ended 31 December 2019.

Hangzhou AsiaInfo Cloud Information Technologies Limited ("**Hangzhou Cloud**") was designated as "High and New Technology Enterprise" in 2019 for a period up to 31 December 2021. As a result, Hangzhou Cloud was entitled to a preferential income tax rate of 15% for the year ended 31 December 2019 (2018: 25%).

On 17 May 2019, the Ministry of Finance of the PRC and the State Taxation Administration promulgated and implemented the Policies pursuant to which, effect from its profit-making year, Hunan AsiaInfo Software Co., Ltd. ("**Hunan Software**") enjoys EIT exemptions for the next first two years of profit-making, starting 2018 (retrospectively applied in 2018 as it was the first year the relevant taxation authority renewed the Policies) and was entitled to a preferential EIT rate of 12.5% from 2020 to 2022.

According to the relevant tax law in the PRC, dividend distributed to foreign investors out of the profit generated from 1 January 2008 onwards shall be subject to withholding tax at 10% and withheld by the PRC entity, pursuant to Articles 3 and 37 of the EIT Law and Article 91 of its Detailed Rules for the Implementation of the Regulation.

On 21 March 2018, the Hong Kong Legislative Council passed The Inland Revenue (Amendment) (No.7) Bill 2017 (the "Bill") which introduces the two-tiered profits tax rates regime. The Bill was signed into law on 28 March 2018 and was gazetted on the following day. Under the two-tiered profits tax rates regime, the first Hong Kong dollar ("**HK$**") 2 million of profits of the qualifying group entity will be taxed at 8.25% and profits above HK$2million will be taxed at 16.5%. The profits of group entities not qualifying for the two-tiered profits tax rates regime will continue to be taxed at a flat rate of 16.5% (2018: 16.5%). The directors of the Company considered the amount involved upon implementation of the two-tiered profits tax rates regime as insignificant to the consolidated financial statements. Hong Kong Profits Tax is calculated at 16.5% of the estimated assessable profit for 2019 (2018: 16.5%).

Pursuant to the rules and regulations of the BVI, the Company is not subject to any income tax in the BVI.

9. INCOME TAX EXPENSES (Continued)

The income tax expenses for the years ended 31 December 2019 and 2018 can be reconciled to the profit before tax from continuing operations per the consolidated statement of profit or loss and other comprehensive income as follows:

Continuing operations

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Profit before tax	**540,770**	313,130
Tax at applicable income tax rate of 10%	**54,077**	31,313
Tax effect of share of results of associates	**398**	124
Tax effect of 175% (2018: 175%) deduction rate on certain R&D expenses	**(25,353)**	(28,747)
Tax effect of expenses not deductible for tax purpose	**47,475**	44,500
Tax effect of income not taxable for tax purpose	**(3,534)**	(12,757)
Tax effect of tax losses not recognized	**51,463**	63,327
Over provision in respect of prior years	**(1,899)**	—
Tax effect of withholding tax on dividend distribution[i]	**16,955**	—
Tax effect of opening deferred tax assets from changes in applicable tax rates	**3,507**	—
Tax effect of different tax rates of subsidiaries not applicable of 10% (2018: 10%) — PRC	**(11,134)**	11,136
Income tax expenses for the year	**131,955**	108,896

Note:

(i) The Group adopted a non-binding general dividend policy with a dividend payout ratio of no less than 40% of its annual distributable net profits in each fiscal year, commencing from the fiscal year ended 31 December 2019, and therefore, the Group considered the tax effect of withholding tax on dividend distribution with respect to profit for the year of the Group from continuing operations for the year ended 31 December 2019.

10. PROFIT FOR THE YEAR FROM CONTINUING OPERATIONS

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Profit for the year from continuing operations has been arrived at after charging:		
Staff costs, including directors' and chief executive's remuneration set out in Note 14		
Directors' remuneration	**25,439**	21,638
Employee benefit expenses		
Other staff costs (salaries, wages, allowance, bonus and others)	**3,089,651**	2,885,332
Contribution to retirement benefits scheme	**285,661**	241,889
Share-based compensation expenses	**214,612**	139,078
Total staff costs	**3,615,363**	3,287,937
Cost of inventories recognized as expenses (transferred into cost of sales)	**118,040**	138,606
Depreciation of property, plant and equipment	**32,034**	26,577
Depreciation of right-of-use assets	**39,394**	—
Amortization of prepaid lease payments	**—**	2,019
Amortization of intangible assets	**18,199**	38,963
Operating lease expenses	**—**	105,443
Expense of short-term and low value lease	**83,351**	—
Auditor's remuneration[i]	**5,508**	12,681

Note:

(i) The amount included statutory audit fee of RMB4,650,000 and RMB858,000 for the Company and the subsidiaries in the Group, respectively.

11. DISCONTINUED OPERATIONS

Disposal of a business operation

During the year ended 31 December 2017, the Group disposed of the e-public service business which was primarily engaged in the provision of big data services, tools and applications to governmental bodies and public institutions (the "**E-public Service Business**").

Upon the acquisition of AsiaInfo Big Data Co., Ltd. in December 2017, which is a business combination under common control, AsiaInfo Big Data Co., Ltd. is regarded as if it had been within the Group throughout the year ended 31 December 2017. Accordingly, the disposal of AsiaInfo Big Data's E-public Service Business incurred in November 2017 was considered as a discontinued operation of the Group. Such E-public Service Business was disposed of by AsiaInfo Big Data Co., Ltd. to Guangzhou AsiaInfo Cloud Bigdata Co., Ltd., a related party of the Group, for nil consideration. Through such disposal, substantial business of the E-public Service Business was disposed of with an insignificant amount of contracts completed during the year ended 31 December 2018.

Analysis of loss for the year from discontinued operations

The consolidated statement of profit or loss and other comprehensive income of the E-public Service Business has been presented below as discontinued operations.

	Year ended 31 December 2018 RMB'000
Loss of E-public Service Business	(1,279)
Gain on disposal	—
Loss for the year from discontinued operations	(1,279)

11. DISCONTINUED OPERATIONS (Continued)

Discontinued E-public Service Business

The results of the discontinued E-public Service Business, for the year ended 31 December 2018, which have been included in the consolidated statement of profit or loss and other comprehensive income, are set out as follows:

	Year ended 31 December 2018 RMB'000
Revenue	986
Cost of sales	(2,265)
Gross loss	(1,279)
Loss for the year	(1,279)

	Year ended 31 December 2018 RMB'000
Loss for the year from discontinued E-public Service Business has been arrived at after charging:	
Staff cost	
Staff salaries and other benefits	1,470
Contribution to retirement benefit scheme	140
Total staff cost	1,610

12. DIVIDENDS

On 21 May 2018, a dividend in an aggregate amount of US$108,000,000 (equivalent to RMB693,447,000) was declared by the Company and payable to the Company's then sole holding company, AsiaInfo Holdings, of which US$107,207,000 (equivalent to RMB688,199,000) were settled as at 30 June 2018 through a series of debt restructuring arrangements that the Group carried out in 2018. An aggregated balance of US$793,000 (equivalent to RMB5,248,000) was fully settled on 16 July 2018, offsetting the remaining balance of dividend payable to AsiaInfo Holdings.

Subsequent to the end of the reporting period, a final dividend in respect of the year ended 31 December 2019 of HK$0.252 (equivalent to RMB0.226) per ordinary share (2018:nil) has been proposed by the directors of the Company and is subject to approval by the shareholders in the forthcoming annual general meeting. As the ordinary final dividend was declared after the balance sheet date, such dividend is not recognized as liability as at 31 December 2019.

13. EARNINGS PER SHARE

The calculation of the basic and diluted earnings per share attributable to the owners of the Company is based on the following data:

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Earnings:		
Earnings for the purpose of calculating basic and diluted earnings per share	**408,815**	204,134
Number of shares:		
Weighted average number of ordinary shares for the purpose of calculating basic earnings per share	**724,250,326**	629,198,865
Effect of dilutive potential ordinary shares:		
Share options and RSUs	**3,292,366**	9,508,736
Weighted average number of ordinary shares for the purpose of calculating diluted earnings per share	**727,542,692**	638,707,601

The calculation of basic earnings per share for the years ended 31 December 2019 and 2018 was based on the profit for the year attributable to the owners of the Company.

The calculation of the number of shares for the purpose of basic earnings per share for the year ended 31 December 2018 has taken into account share subdivision into 8 shares of HK$0.0000000125 per share as if the new issuance and the share subdivision had been effective on 1 January 2018, the allotment and issuance with regards to the new share option scheme and restricted share award scheme on 11 July 2018 and 1 August 2018 and the issuance of shares upon listing on 19 December 2018.

13. EARNINGS PER SHARE (Continued)

The calculation of the number of shares for the purpose of basic earnings per share for the years ended 31 December 2019 has taken into account the over-allotment to the Company's underwriters in the Company's global offering on 15 January 2019 and the allotment and issuance of ordinary shares with regard to the exercise and vesting of share options and RSUs in 2019.

The computation of diluted earnings per share for the year ended 31 December 2019 and 2018 did not assume the exercise of the share options under the 2014 plan and the share options with exercise prices of U.S. dollar ("**US$**") 1.9225 and US$1.2725 under the Pre-IPO share option scheme since the exercise prices of those share options were higher than the average market price of the shares of the Company.

14. DIRECTORS' AND CHIEF EXECUTIVE'S EMOLUMENTS AND EMPLOYEES' EMOLUMENTS

Directors and chief executive

Mr. Nianshu Gao served as the CEO of the Company since 11 July 2016 and was appointed as an executive director of the Company on 18 August 2017. Mr. Suning Tian and Mr. Jian Ding were both appointed as directors of the Company since 15 January 2014 and then appointed as executive directors of the Company on 26 June 2018. Mr. James Hsu was appointed as a director of the Company with effect from 9 May 2014 to 31 January 2018. Mr. Jingyang Wu was appointed as a director of the Company since 15 January 2014 to 2 August 2018.

Mr. Yichen Zhang and Mr. Yuesheng Xin were executive directors of the Company since 15 January 2014 and 24 August 2012, respectively, and Mr. Liyang Zhang joined the Company on 31 January 2018 as an executive director of the Company; Mr. Liyang Zhang, Mr. Yichen Zhang and Mr. Yuesheng Xin were further re-designated as non-executive directors of the Company on 26 June 2018.

Mr. Ming Ge, Mr. Jack Qunyao Gao and Mr. Ya-Qin Zhang joined the Group and were appointed as the independent non-executive directors of the Company since 19 December 2018.

14. DIRECTORS' AND CHIEF EXECUTIVE'S EMOLUMENTS AND EMPLOYEES' EMOLUMENTS (Continued)

Directors and chief executive (Continued)

Details of the emoluments paid or payable to the directors and chief executive of the Company by entities comprising the Group during the years ended 31 December 2019 and 2018 are as follows:

Year ended 31 December 2019

	Directors' fees RMB'000	Salaries allowances and benefits in kind RMB'000	Discretionary bonus RMB'000	Contribution to retirement benefit scheme RMB'000	Subtotal RMB'000	Share-based compensation RMB'000	Total RMB'000
Directors and chief executive:							
Mr. Nianshu Gao	–	2,450	2,640	56	5,146	19,036	24,182
Mr. Jian Ding	–	–	–	–	–	–	–
Mr. Suning Tian	–	–	–	–	–	–	–
Sub-total	–	2,450	2,640	56	5,146	19,036	24,182
Non-executive directors:							
Mr. Yuesheng Xin	–	–	–	–	–	–	–
Mr. Yichen Zhang	–	–	–	–	–	–	–
Mr. Liyang Zhang	–	–	–	–	–	–	–
Sub-total	–	–	–	–	–	–	–
Independent non-executive directors:							
Mr. Ming Ge	419	–	–	–	419	–	419
Mr. Jack Qunyao Gao	419	–	–	–	419	–	419
Mr. Ya-Qin Zhang	419	–	–	–	419	–	419
Sub-total	1,257	–	–	–	1,257	–	1,257
Total	1,257	2,450	2,640	56	6,403	19,036	25,439

14. DIRECTORS' AND CHIEF EXECUTIVE'S EMOLUMENTS AND EMPLOYEES' EMOLUMENTS (Continued)

Directors and chief executive (Continued)

Year ended 31 December 2018

	Salaries allowances and benefits in kind RMB'000	Discretionary bonus RMB'000	Contribution to retirement benefit scheme RMB'000	Subtotal RMB'000	Share-based compensation RMB'000	Total RMB'000
Directors and chief executive:						
Mr. Nianshu Gao	2,519	2,640	55	5,214	16,424	21,638
Mr. James Hsu	—	—	—	—	—	—
Mr. Jian Ding	—	—	—	—	—	—
Mr. Suning Tian	—	—	—	—	—	—
Mr. Jingyang Wu	—	—	—	—	—	—
Sub-total	2,519	2,640	55	5,214	16,424	21,638
Non-executive directors:						
Mr. Yuesheng Xin	—	—	—	—	—	—
Mr. Yichen Zhang	—	—	—	—	—	—
Mr. Liyang Zhang	—	—	—	—	—	—
Sub-total	—	—	—	—	—	—
Independent non-executive directors:						
Mr. Ming Ge	—	—	—	—	—	—
Mr. Jack Qunyao Gao	—	—	—	—	—	—
Mr. Ya-Qin Zhang	—	—	—	—	—	—
Sub-total	—	—	—	—	—	—
Total	2,519	2,640	55	5,214	16,424	21,638

No emoluments were paid or payable to Mr. Jian Ding, Mr. Suning Tian, Mr. Yuesheng Xin, Mr. Yichen Zhang, Mr. Liyang Zhang, the directors of the Company during the year ended 31 December 2019 and 2018. Additionally, no emoluments were paid or payable to Mr. James Hsu, Mr. Jingyang Wu, Mr. Ming Ge, Mr. Jack Qunyao and Mr. Ya-Qin Zhang, the directors of the Company during the year ended 31 December 2018.

The emoluments of the directors and chief executive shown above were for their management services rendered to the Group. The emoluments of the non-executive directors and independent executive directors were for their services as directors of the Company.

As at 31 December 2019, there are no loans, quasi-loans and other dealing arrangements in favour of the directors, controlled bodies corporate and controlled entities with such directors.

14. DIRECTORS' AND CHIEF EXECUTIVE'S EMOLUMENTS AND EMPLOYEES' EMOLUMENTS (Continued)

Employees

The five highest paid individuals of the Group included one director for the year ended 31 December 2019 (2018: one director), details of whose emoluments were included in the disclosures above. Details of the remuneration for the year of the remaining four (2018: four) highest paid individuals who are neither a director nor chief executive of the Company for the year ended 31 December 2019 are as follows:

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Employees		
Salaries, allowances and benefits in kind	**4,135**	4,298
Discretionary bonus	**6,163**	5,205
Share-based compensation expenses	**21,951**	23,143
Contribution to retirement benefit scheme	**210**	210
	32,459	32,856

Their top five emoluments fell within the following bands:

	Number of employees Year ended 31 December	
	2019	2018
HK$7,000,001 to HK$7,500,000	**1**	—
HK$8,000,001 to HK$8,500,000	**1**	—
HK$8,500,001 to HK$9,000,000	**—**	1
HK$9,000,001 to HK$9,500,000	**—**	1
HK$9,500,001 to HK$10,000,000	**1**	1
HK$10,000,001 to HK$10,500,000	**1**	—
HK$11,000,001 to HK$11,500,000	**—**	1
HK$25,500,001 to HK$26,000,000	**—**	1
HK$26,500,001 to HK$27,000,000	**1**	—
	5	5

Saved as disclosed above, during the year ended 31 December 2019, no emoluments were paid by the Group to the directors or chief executive of the Company or the five highest paid individuals of the Group as an inducement to join or upon joining the Group or as compensation for loss of office (2018: nil).

None of the directors of the Company and the five highest paid individuals of the Group waived or agreed to waive any emoluments during the year ended 31 December 2019 (2018: nil).

15. PROPERTY, PLANT AND EQUIPMENT

	Buildings	Leasehold improvements	Motor vehicles	Furniture, fixtures and equipment	Total
	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
COST					
At 1 January 2018	197,583	83,604	5,001	135,821	422,009
Additions	33,042	17,936	373	15,237	66,588
Disposals	—	(1,717)	—	(4,084)	(5,801)
At 31 December 2018	230,625	99,823	5,374	146,974	482,796
Additions	—	11,826	—	8,001	19,827
Disposals	—	(877)	(89)	(55,617)	(56,583)
At 31 December 2019	230,625	110,772	5,285	99,358	446,040
ACCUMULATED DEPRECIATION					
At 1 January 2018	(16,391)	(34,900)	(3,072)	(105,017)	(159,380)
Charged for the year	(4,454)	(10,572)	(572)	(10,979)	(26,577)
Eliminated on disposals	—	1,353	—	2,677	4,030
At 31 December 2018	(20,845)	(44,119)	(3,644)	(113,319)	(181,927)
Charged for the year	(5,007)	(14,274)	(486)	(12,267)	(32,034)
Eliminated on disposals	—	481	84	55,617	56,182
At 31 December 2019	(25,852)	(57,912)	(4,046)	(69,969)	(157,779)
CARRYING VALUES					
At 31 December 2019	204,773	52,860	1,239	29,389	288,261
At 31 December 2018	209,780	55,704	1,730	33,655	300,869

The above items of property, plant and equipment, taking into account their residual values of the cost, are depreciated on a straight-line basis over their useful lives shown as follows:

Buildings	40 to 47 years
Leasehold improvements	Shorter of the lease term or 5 to 10 years
Motor vehicles	5 years
Furniture, fixtures and equipment	5 to 10 years

16. LEASES

The Group as a lessee

The Group has lease contracts for various properties and buildings used in its operations. Lump sum payments were made upfront to acquire the leased land from the owners with lease periods of 50 years, and no ongoing payments will be made under the terms of these land leases. Leases of properties generally have fixed lease terms between 6 months and 5 years.

There are several lease contracts that include extension and termination options, but do not impose any covenants in the leased assets or include any variable lease payments. Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions. In determining the lease term and assessing the length of the non-cancellable period, the Group applies the definition of a contract and determines the period for which the contract is enforceable.

As at 31 December 2019, there were no lease agreements that were entered into but not yet commenced.

(a) Prepaid land lease payments (before 1 January 2019)

	Year ended 31 December 2018 RMB'000
Carrying amount	
At 1 January 2018	87,508
Charged for the year	(2,019)
At 31 December 2018	85,489

(b) Right-of-use assets

The carrying amounts of the Group's right-of-use assets and the movements during the year are as follows:

	Buildings RMB'000	Land use right RMB'000	Total RMB'000
Carrying amount			
At 1 January 2019 — restated under HKFRS 16	64,516	85,489	150,005
Addition	61,769	—	61,769
Decrease due to termination	(2,915)	—	(2,915)
Depreciation charge	(37,375)	(2,019)	(39,394)
At 31 December 2019	85,995	83,470	169,465

16. LEASES (Continued)

The Group as a lessee (Continued)

(c) Lease liabilities

The carrying amounts of the Group's lease liabilities and the movements during the year are as follows:

	Total RMB'000
Carrying amount	
At 1 January 2019 — recognized under HKFRS 16	64,393
Addition	54,270
Decrease due to termination	(2,926)
Interest on lease liabilities	2,514
Payment	(42,664)
At 31 December 2019	75,587

Lease liabilities payable:

	Total RMB'000
Within one year	36,213
Within a period of more than one year but not more than two years	26,119
Within a period of more than two years but not more than five years	13,255
At 31 December 2019	75,587
Less: Amount due for settlement with 12 months shown under current liabilities	36,213
Amount due for settlement after 12 months shown under non-current liabilities	39,374

16. LEASES (Continued)

The Group as a lessee (Continued)

(d) The amounts recognized in profit or loss in relation to leases are as follows:

	Year ended 31 December 2019 RMB'000
Interest on lease liabilities	2,514
Depreciation charge of right-of-use assets	39,394
Expense relating to short-term leases and other leases with lease terms end within 12 months of the date of initial application of HKFRS 16	83,351

(e) The total cash outflow for leases are as follows:

	Year ended 31 December 2019 RMB'000
Within operating activities	83,351
Within investing activities	7,499
Within financing activities	40,150

(f) Extension options and termination options:

The Group did not have any qualified extension options or termination options. During the year ended 31 December 2019, the Group terminated contracts amounting to RMB2,926,000, resulting in decreases in lease liabilities due to early termination from contracts with no termination options.

17. INTANGIBLE ASSETS

	Customer relationships	Core technologies	Non-compete agreements	Software	Memberships	Total
	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
COST						
At 1 January 2018	779,585	295,512	6,729	9,662	3,400	1,094,888
Additions	—	—	—	2,645	—	2,645
Disposal	—	—	—	(1,101)	—	(1,101)
At 31 December 2018	779,585	295,512	6,729	11,206	3,400	1,096,432
Additions	—	—	—	1,886	—	1,886
At 31 December 2019	779,585	295,512	6,729	13,092	3,400	1,098,318
AMORTIZATION AND IMPAIRMENT						
At 1 January 2018	(724,974)	(295,512)	(6,729)	(5,021)	(2,200)	(1,034,436)
Charged for the year	(34,295)	—	—	(4,668)	—	(38,963)
Eliminated on disposals	—	—	—	988	—	988
At 31 December 2018	(759,269)	(295,512)	(6,729)	(8,701)	(2,200)	(1,072,411)
Charged for the year	(15,131)	—	—	(3,068)	—	(18,199)
At 31 December 2019	(774,400)	(295,512)	(6,729)	(11,769)	(2,200)	(1,090,610)
CARRYING VALUES						
At 31 December 2019	5,185	—	—	1,323	1,200	7,708
At 31 December 2018	20,316	—	—	2,505	1,200	24,021

All intangible assets have finite useful lives and are amortized on a straight-line basis based on their estimated useful lives, except for the customer relationships having finite useful lives and being amortized on an accelerated basis based on their estimated useful lives and the memberships having infinite lives, as follows:

Customer relationships	2 to 10 years
Core technologies	5 to 6 years
Non-compete agreements	2 to 10 years
Software	1 to 6 years

18. GOODWILL

The goodwill was primarily arisen from the acquisition of Linkage Technologies International Holdings Limited ("**Linkage**") on 1 July 2010. The carrying value was RMB1,932,246,000 as at 31 December 2019 (2018: RMB1,932,246,000), which is related to the Group's software business.

Impairment testing on goodwill

For the impairment testing, goodwill has been allocated to the Group's cash-generating units which are operating in the software business.

The basis of the recoverable amount of the above cash-generating units and the methodology used for the year are summarized below:

The recoverable amount of the group of cash-generating units has been determined based on a value in use calculation and is valued by the management with reference to valuations carried out by an independent qualified professional valuer not connected with the Group, which has appropriate qualifications and experience in valuation of similar testing.

The calculation uses cash flow projections based on financial budgets approved by management covering a four-year period, and at a pre-tax discount rate of 19.5% for the year ended 31 December 2019 (2018: 19.0%). The cash flows of the cash-generating units beyond the five-year period are extrapolated using a 3.0% growth rate considering the relevant industry growth rate forecast and the economic condition of the market and period which does not exceed the long-term average growth rate for the industry. The directors of the Company believe that the projected growth rates are reasonable. Other key assumptions for the value in use calculations relate to the estimation of cash inflows and/or outflows which include budgeted sales and gross profit margin. Such estimation is based on the past performance of the cash-generating units, industry information and management's expectations for the market development, including the fluctuation in the software products and related services business in the current economic environment.

The recoverable amount of cash-generating units of software business is RMB6,780,000,000 as at 31 December 2019 (2018: RMB7,435,533,000), which were higher than the carrying value at the respective date, amounting to RMB3,907,203,000 as at 31 December 2019 (2018: RMB3,235,519,000).

During the year ended 31 December 2019, no impairment loss was recognized (2018: nil).

The table below sets forth a sensitivity analysis of the impact of variations in key assumptions, namely the discount rate and the revenue growth rate, on the recoverable amount of the cash-generating units of software business, where the headroom represents the excess of the recoverable amount over the carrying amount of the cash-generating units of software business. The directors of the Company believe that any reasonably possible change in any of other assumptions would not cause the aggregate carrying amount of the cash-generating units to exceed recoverable amount.

18. GOODWILL (Continued)

Impairment testing on goodwill (Continued)

	Headroom At 31 December	
	2019	2018
	RMB'000	RMB'000
Change in discount rate		
0%	**2,873,000**	4,200,000
+0.5%	**2,653,000**	4,039,000
+1%	**2,453,000**	3,863,000
Change in revenue growth rate		
0%	**2,873,000**	4,200,000
−0.5%	**2,733,000**	4,020,000
−1%	**2,623,000**	3,841,000

19. INVESTMENTS IN ASSOCIATES

Details of the Group's investments in associates are aggregately presented as follows:

	At 31 December	
	2019	2018
	RMB'000	RMB'000
Cost of unlisted investments in associates	**56,000**	56,000
Share of results and other comprehensive income	**(4,967)**	(984)
	51,033	55,016

19. INVESTMENTS IN ASSOCIATES (Continued)

Details of the Group's associates at the end of the years ended 31 December 2019 and 2018 are as follows:

Name of entity[i]	Place of incorporation/ registration	Principal place of operation	Proportion of ownership interest and voting rights held by the Group At 31 December				Principal activity
			2019		2018		
			Directly	**Voting**	Directly	Voting	
Dalian Xikang Yunshe Development Co., Ltd.[ii] (大連熙康雲舍發展有限公司)	PRC	PRC	**10.0%**	**20%**	10.0%	20.0%	Provision of hospitality management, travel planning management and other management services
Beijing Yangguang Tiannv Information Technology Co., Ltd.[iii] (北京陽光天女信息科技有限公司)	PRC	PRC	**9.0%**	**14.3%**	9.0%	14.3%	Provision of information technology development services.

All of the above associates are accounted for using the equity method in the consolidated financial statements.

Notes:

(i) The English names of the companies are translated from their registered Chinese names for identification purpose only.

(ii) In 2017, the Group invested RMB50,000,000 into Dalian Xikang Yunshe Development Co., Ltd ("**Dalian Xikang Yunshe**") for 10% equity interests. Pursuant to the articles of associations, the Group has the ability to exercise significant influence over the investee through the power to appoint one out of five seats in the board of directors.

(iii) On 23 February 2017, the Group invested RMB6,000,000 into Beijing Yangguang Tiannv Information Technology Co., Ltd. ("**Yangguang Tiannv**") for 10% equity interests. The Group's interest was diluted by an independent third-party non-controlling shareholder with capital injections to 9% in 2018. The Group has the ability to exercise significant influence over the investee through the power to appoint one out of seven seats in the board of directors and has the rights to exercise its voting power throughout any decision-making process of the investee.

19. INVESTMENTS IN ASSOCIATES (Continued)

The summarized financial information in respect of each of the Group's associates is set out as follows:

A. Dalian Xikang Yunshe

	At 31 December	
	2019	2018
	RMB'000	RMB'000
Current assets	**80,388**	261,706
Non-current assets	**538,961**	394,477
Current liabilities	**13,544**	20,498
Non-current liabilities	**30,602**	31,594
Net assets	**575,203**	604,091

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Revenue	**8,834**	3,263
Loss and total comprehensive expense for the year	**(30,186)**	(13,860)

Reconciliation of the above summarized financial information to the carrying amount of the interest in the associate recognized in the consolidated financial statements for the years ended 31 December 2019 and 2018 is as follows:

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Net assets of Dalian Xikang Yunshe	**575,203**	604,091
Less: non-controlling interest in Dalian Xikang Yunshe	**128,971**	128,133
	446,232	475,958
Proportion of the Group's ownership interests in Dalian Xikang Yunshe	**10%**	10%
Carrying amount of the Group's interests in Dalian Xikang Yunshe	**44,623**	47,596

19. INVESTMENTS IN ASSOCIATES (Continued)

B. Yangguang Tiannv

	At 31 December	
	2019	2018
	RMB'000	RMB'000
Current assets	**8,788**	8,640
Non-current assets	**6,658**	7,526
Current liabilities	**11,744**	1,257
Net assets	**3,702**	14,909

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Revenue	**767**	4,482
Loss and total comprehensive expense for the year	**(10,712)**	(8,398)

An independent third-party non-controlling shareholding company made further injection in 2018, amounting to RMB10,000,000. The gain on deemed disposal of partial interest, representing the difference between the share of net asset value before and after the dilution, amounting to RMB900,000 for the year ended 31 December 2018, has been recognized in the consolidated statement of profit or loss and other comprehensive income.

Reconciliation of the above summarized financial information to the carrying amount of the interest in the associate recognized in the consolidated financial statements for the years ended 31 December 2019 and 2018 is as follows:

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Net assets of Yangguang Tiannv	**3,702**	14,909
Proportion of the Group's ownership interests in Yangguang Tiannv	**9%**	9%
The Group's share of net assets in Yangguang Tiannv	**332**	1,342
Goodwill[(i)]	**6,078**	6,078
Carrying amount of the Group's interests in Yangguang Tiannv	**6,410**	7,420

19. INVESTMENTS IN ASSOCIATES (Continued)

B. Yangguang Tiannv (Continued)

Note:

(i) On acquisition of the investment in Yangguang Tiannv, the excess of the cost of the investment over the Group's share of the realizable fair value of the identifiable assets and liabilities of the investee was recognized as goodwill, which has been included within the carrying amount of the investment. The entire carrying amount of the investment (including goodwill) was tested for impairment as a single asset by comparing its recoverable amount with its carrying amount. No impairment loss has been recognized during the year ended 31 December 2019 (2018: nil).

20. TRADE AND NOTES RECEIVABLES

	At 31 December	
	2019	2018
	RMB'000	RMB'000
Trade receivables	**762,456**	757,331
Notes receivables	**101,442**	21,453
Less: allowance for credit losses	**(22,716)**	(13,875)
	841,182	764,909

The Group generally grants credit period of 30 days from the dates of acceptance reports when the Group had the right to consideration becoming unconditional. The extension of credit period to the customers may be granted on a discretionary basis by considering customer type, the current creditworthiness and the customer's financial condition and payment history with the Group.

Trade receivables relate to a number of independent customers that have a good track record with the Group. The allowance for doubtful debts of the Group is based on the evaluation of collectability and aging analysis of individual trade debts performed by the management. A considerable amount of judgment is required in assessing the ultimate realization of these receivables, including the current creditworthiness and the past collection history of each customer.

Notes receivables are bank acceptance notes, which management believes that no allowance is necessary as there is no significant change in credit quality and the balances are considered fully recoverable.

20. TRADE AND NOTES RECEIVABLES (Continued)

Aging of trade and notes receivables, net of allowance for doubtful debts, based on the dates when the Group has the right to bill, at the end of the years ended 31 December 2019 and 2018 is as follows:

	At 31 December	
	2019	2018
	RMB'000	RMB'000
1–30 days	**517,754**	476,622
31–90 days	**164,928**	154,180
91–180 days	**109,482**	90,212
181–365 days	**37,482**	28,588
Over 365 days	**11,536**	15,307
	841,182	764,909

Movement in lifetime ECL that has been recognized for trade receivables in accordance with the simplified approach set out in HKFRS 9 for the year ended 31 December 2019 and 2018 is as follows:

	ECL (not credit-impaired) RMB'000	**ECL (credit-impaired)** RMB'000	**Total** RMB'000
At 1 January 2018 — restated under HKFRS 9	7,811	1,751	9,562
Allowance on trade receivables	392	5,746	6,138
Written-off as uncollectible	(1,650)	(175)	(1,825)
At 31 December 2018	6,553	7,322	13,875
Allowance on trade receivables	2,367	6,474	8,841
At 31 December 2019	8,920	13,796	22,716

The Group generally provides their customers with one to two years' assurance-type warranty period free of charge as an integrated package in the contracts with no separate performance obligation. As at 31 December 2019, no retention held by customers for trade receivables (2018: nil).

Details of impairment assessment on trade receivables are set out in Note 23.

21. PREPAYMENTS, DEPOSITS AND OTHER RECEIVABLES

	At 31 December 2019 RMB'000	2018 RMB'000
Advances to suppliers	**107,141**	6,718
Prepayment for outsourcing system supporting service	**18,257**	18,908
Prepaid rental expenses[(i)]	**15,447**	19,223
Project bidding and other deposits	**14,676**	15,752
Prepayment for technical service and telecommunication service	**13,132**	15,838
Prepayment of value added tax	**11,752**	40,166
Staff advances	**2,302**	170
Interest receivable	**1,490**	14,814
Others	**849**	3,440
	185,046	135,029
Less: allowance for other receivables	**(1,340)**	(1,344)
	183,706	133,685

Note:

(i) Prepaid rental expenses mainly represent prepayments for short-term leases and leases of low value assets that were exempted from HKFRS 16.

Movements in the allowance for other receivables are as follows:

	At 31 December 2019 RMB'000	2018 RMB'000
At beginning of the year	**1,344**	2,144
(Net reversal of allowance for) allowance for other receivables, net of reversal	**(4)**	446
Written-off as uncollectible	**—**	(1,246)
At end of the year	**1,340**	1,344

22. CONTRACT ASSETS AND CONTRACT LIABILITIES

The Group has rights to considerations from customers for the provision of software business and network security business. Contract assets arise when the Group has rights to considerations for completion of such services and not yet billed under the relevant contracts, and their rights are conditioned on factors other than passage of time. Any amount previously recognized as contract assets are transferred to trade receivables when the rights become unconditional. Remaining rights and performance obligations in a particular contract are accounted for and presented on a net basis, as either a contract asset or a contract liability.

	At 31 December	
	2019	2018
	RMB'000	RMB'000
Analyzed for reporting purposes as follows:		
Contract assets	**1,554,521**	1,335,219
Contract liabilities	**(296,945)**	(300,918)

The contract assets are primarily related to the Group's rights to consideration for work completed and not billed because the rights are conditioned on the Group's future performance in achieving specified milestones at the reporting date. The contract assets are transferred to trade receivables when the rights become unconditional. The Group typically reclassifies contract assets to trade receivables on the date of acceptance reports issued by the customers when such right of collections becomes unconditional other than the passage of time.

For the contract liabilities as at 31 December 2019 and 2018, the entire balances were expected to be recognized as revenue during the year ending 31 December 2020 and the year ended 31 December 2019, respectively.

Contract assets and contract liabilities are analyzed and classified as current assets and current liabilities due to the contract assets and contract liabilities are expected to be recognized in normal operation cycle.

Movement in lifetime ECL that has been recognized for contract assets in accordance with the simplified approach set out in HKFRS 9 for the year ended 31 December 2019 is as follows:

	RMB'000
At 1 January 2018-restated under HKFRS 9	19,641
Reversal of allowance on contract assets	(9,464)
At 31 December 2018	10,177
Allowance on contract assets, net of reversal	19,529
At 31 December 2019	29,706

Details of impairment assessment on contract assets are set out in Note 23.

23. OVERVIEW OF THE GROUP'S EXPOSURE TO CREDIT RISK

Credit risk refers to the risk that a counterparty will default on its contractual obligations resulting in financial loss to the Group. At the end of the reporting period, the Group's maximum exposure to credit risk which causes a financial loss to the Group due to failure to discharge an obligation by the counterparties is arising from the carrying amount of the respective recognized financial assets as stated in the consolidated statement of financial position.

In order to minimize credit risk, the Group has tasked its finance team to develop and maintain the Group's credit risk grading to categorize exposures according to their degree of risk of default. Management uses publicly available financial information and the Group's own historical repayment records to rate its major customers and other debtors. The Group's exposure and the credit ratings of its counterparties are continuously monitored and the aggregate value of transactions concluded is spread amongst approved counterparties.

For trade receivables and contract assets, the Group has applied the simplified approach in HKFRS 9 to measure the loss allowance at lifetime ECL. The Group determines the ECL on these items by using a provision matrix, estimated based on the historical credit loss experience based on the past default experience of the debtor, general economic conditions of the industry in which the debtors operate and an assessment of both the current as well as the forecast direction of conditions at the reporting date.

The Group writes off trade receivables and contract assets when there is information indicating that the debtor is in severe financial difficulty and there is no realistic prospect of recovery, e.g. when the debtor has been placed under liquidation or has entered into bankruptcy proceedings.

The following consideration details the risk profile of trade receivables and contract assets, based on the Group's provision matrix. As the Group's historical credit loss experience showed significantly different loss patterns for different customer portfolio (including strategic and normal risk type), the provision for loss allowance was further distinguished between the Group's customer portfolios of different risk type.

Strategic type customers	Represent the three largest telecom operators in the PRC (including their headquarters, provincial, municipal and specialized companies) and certain large state-owned enterprises in the PRC
Normal risk type customers	Represent the small to medium-sized enterprises in the PRC

23. OVERVIEW OF THE GROUP'S EXPOSURE TO CREDIT RISK (Continued)

As at 31 December 2019

Strategic type customers:

For the strategic type customers, the directors of the Company determines that the ECL rate is relatively low based on the size of the strategic type customers. Such customers have good credit rating, very rare past default payment history with minimal amount. The directors of the Company have adopted average loss rates of 0.40% and 0.44% on the gross carrying amounts of the trade receivables and the contract assets for strategic type customers, respectively, as at 31 December 2019. Included in the trade receivables of strategic type customers as at 31 December 2019, the gross amount of trade receivables and the contract assets identified as credit-impaired is RMB8,454,000 and RMB12,350,000, respectively, and fully provided.

Strategic type customers	**Average loss rate %**	**Gross carrying amount RMB'000**	**Impairment loss allowance RMB'000**
Trade receivables	**0.40%**	**727,400**	**2,916**
Contract assets	**0.44%**	**1,538,334**	**6,745**

Normal risk type customers:

For the normal risk type customers, the provision matrix is adopted by the directors of the Company as below to determine the ECL on the gross carrying amount of trade receivables and contract assets as at 31 December 2019, amounted to RMB35,056,000 and RMB45,893,000, respectively. Included in the trade receivables and the contract assets of normal risk type customers, the gross amount of trade receivables and the contract assets identified as credit-impaired is RMB5,342,000 and RMB2,624,000, respectively, and fully provided.

Normal risk type customers	**Average loss rate %**	**Gross carrying amount RMB'000**	**Impairment loss allowance RMB'000**
Trade receivables	**17.13%**	**35,056**	**6,004**
Contract assets	**17.40%**	**45,893**	**7,987**

23. OVERVIEW OF THE GROUP'S EXPOSURE TO CREDIT RISK (Continued)

As at 31 December 2018

Strategic type customers:

For the strategic type customers, the directors of the Company have adopted the average loss rates of 0.53% and 0.48% on the gross carrying amounts of the trade receivables and the contract assets for strategic type customers, respectively, as at 31 December 2018, respectively. Included in the trade receivables of strategic type customers as at 31 December 2018, the gross amount of trade receivables identified as credit-impaired is RMB2,055,000 and fully provided.

Strategic type customers	Average loss rate %	Gross carrying amount RMB'000	Impairment loss allowance RMB'000
Trade receivables	0.53%	744,484	3,960
Contract assets	0.48%	1,327,679	6,384

Normal risk type customers:

For the normal risk type customers, the provision matrix is adopted by the directors of the Company as below to determine the ECL on the gross carrying amount of trade receivables and contract assets for normal risk type customers as at 31 December 2018, amounted to RMB12,847,000 and RMB17,717,000, respectively. Included in the trade receivables of normal risk type customers, the gross amount of trade receivables identified as credit-impaired is RMB5,267,000 and fully provided.

Normal risk type customers	Average loss rate %	Gross carrying amount RMB'000	Impairment loss allowance RMB'000
Trade receivables	20.18%	12,847	2,593
Contract assets	21.41%	17,717	3,793

In determining the ECL for other receivables, amounts due from related parties, and other non-current assets, the directors of the Company have taken into account the historical default experience and the future prospects of the industries and/or considering various external sources of actual and forecast economic information, as appropriate, in estimating the probability of default of each of the other receivables, amounts due from related parties, and other non-current assets occurring within their respective loss assessment time horizon, as well as the loss upon default in each case. For the purposes of impairment assessment, other receivables, amounts due from related parties, and other non-current assets are considered to have low credit risk as the counterparties to these financial assets have a high credit rating. Accordingly, the loss allowance is measured at an amount equal to 12m ECL.

23. OVERVIEW OF THE GROUP'S EXPOSURE TO CREDIT RISK (Continued)

The Group's current credit risk grading framework comprises the following categories under the general approach:

Category	**Description**	**Basis for recognizing expected credit losses**
Performing	The counterparty has a low risk of default and does not have any past due amounts	12-months ECL
Doubtful	There have been significant increase in credit risk but usually settled in full	Lifetime ECL — not credit — impaired
In default	There is evidence indicating that the asset is credit — impaired	Lifetime ECL — credit — impaired
Write-off	There is evidence indicating that the debtor is in severe financial difficulty and the Group has no realistic prospect of recovery	Amount is written off

No allowance has been provided for notes receivables, pledged bank deposits, term deposits and bank balances since the balances are all with the banks which have low credit risks during the year ended 31 December 2019.

There has been no change in the estimation technique or significant assumptions made throughout the year ended 31 December 2019.

24. PLEDGED BANK DEPOSITS, TERM DEPOSITS AND BANK BALANCES AND CASH

Pledged bank deposits

Pledged bank deposits represent deposits pledged to banks to secure banking facilities granted to the Group, obtain letters of credits or guarantees. Deposits amounting to RMB321,246,000 had been pledged to secure facilities and short-term bank borrowings, letters of credits or guarantees as at 31 December 2019 (2018: RMB481,755,000), and therefore, were classified as current assets. The deposits amounting to RMB635,736,000 as at 31 December 2018 had been pledged to secure long-term borrowings, and were classified as non-current assets. The deposits amounting to RMB28,612,000 as at 31 December 2019 had been pledged for a period longer than one year to secure renewable short-term bank borrowings with repayment on demand clause, other letters of credits, guarantees and facilities of the Group based on the banks' requirement, and therefore, were classified as non-current assets as at 31 December 2019.

Pledged bank deposits of the Group carried interests at market rates which range from 1.3% to 2.1% as at 31 December 2019 (2018: 1.3% to 2.1%).

Term deposits

Term deposits represent multiple certificates of deposits with a commercial bank in the PRC that bear fixed interest rates, per annum, ranging from 3.78% to 3.84%, with a term of three years, as at 31 December 2019.

Bank balances and cash

Bank balances and cash of the Group comprised cash and bank balances that bear interest at prevailing market rates, per annum, ranging from 0% to 3.8% as at 31 December 2019 (2018: 0% to 4.18%).

25. TRADE AND NOTES PAYABLES

	At 31 December	
	2019	2018
	RMB'000	RMB'000
Trade payables	**198,188**	238,316
Notes payables	**159,860**	118,000
	358,048	356,316

25. TRADE AND NOTES PAYABLES (Continued)

The table below sets forth, as at the end of the reporting period, the aging analysis of the trade and notes payables presented based on the invoice date:

	At 31 December	
	2019	2018
	RMB'000	RMB'000
1–90 days	**199,152**	175,362
91–180 days	**90,751**	24,848
181–365 days	**13,463**	25,603
1–2 years	**21,001**	77,922
Over 2 years	**33,681**	52,581
	358,048	356,316

The average credit period on purchases of goods and services is 90 days. The Group has financial risk management policies in place to ensure that sufficient working capital is maintained to meet its obligations when they fall due.

26. OTHER PAYABLES, DEPOSITS RECEIVED AND ACCRUED EXPENSES

	At 31 December	
	2019	2018
	RMB'000	RMB'000
Accrued payroll and welfare	**1,621,850**	1,624,231
Advance from customers	**183,282**	11,886
Accrued expenses	**54,808**	48,107
Other tax payables	**27,646**	28,998
Accrued liabilities	**13,881**	26,416
Employee reimbursement payable	**12,528**	11,732
Accrued listing expenses and issue costs	**—**	27,218
Other payables	**4,116**	4,753
Others	**4,726**	4,663
	1,922,837	1,788,004

27. BANK BORROWINGS

	At 31 December	
	2019	2018
	RMB'000	RMB'000
Analyzed as:		
Secured bank borrowings carrying interest at variable rates	**594,372**	1,915,484
Analysis of borrowings by currency:		
Denominated in US$	**594,372**	1,503,041
Denominated in HK$	**–**	412,443
	594,372	1,915,484

The Group had bank borrowings denominated in US$ as at 31 December 2019 (31 December 2018: denominated in both US$ and HK$). The Group's bank borrowings are secured by the respective pledged bank deposits as at 31 December 2019 and 2018.

	At 31 December	
	2019	2018
	RMB'000	RMB'000
The carrying amounts of the above borrowings contain a repayment on demand clause (shown under current liabilities) but payable:		
Within one year	**594,372**	1,915,484

Interests on bank borrowings denominated in US$ were at variable interest rates based on three-month London Interbank Offered Rate plus 1.2% to one-month London Interbank Offered Rate plus 1% as at 31 December 2019 (2018: three-month London Interbank Offered Rate plus 1.45% to one-month London Interbank Offered Rate plus 2%). Interests on bank borrowings denominated in HK$ are at variable interest rates based on three-month Hong Kong Interbank Offered Rate plus 1% as at 31 December 2018.

One of the Group's bank borrowings contain certain restrictive financial covenants. The Group was in compliance with its financial covenants as at 31 December 2019.

28. DEFERRED TAXATION

The following is the analysis of the deferred tax balances for financial reporting purposes:

	At 31 December 2019 RMB'000	2018 RMB'000
Deferred tax assets	**135,766**	163,292
Deferred tax liabilities	**(122,983)**	(127,541)
	12,783	35,751

The following are the major deferred tax assets (liabilities) recognized from continuing operation and movement thereon during the years reported:

	Impairment loss RMB'000	Accrued payroll and welfare RMB'000	Accrued expense RMB'000	Tax losses RMB'000	Right-of-use assets and lease liabilities RMB'000	Withholding tax on undistributable profits of the PRC subsidiaries (Note 9) RMB'000	Intangible assets RMB'000	Total RMB'000
At 1 January 2018	3,373	122,553	54,940	13,523	–	(125,509)	(5,462)	63,418
Effect arising from initial application of HKFRS 9	2,544	–	–	–	–	–	–	2,544
Credited (charged) to profit or loss	726	28,002	(48,846)	(13,523)	–	–	3,430	(30,211)
At 31 December 2018	6,643	150,555	6,094	–	–	(125,509)	(2,032)	35,751
Retroactive adjustment	–	–	–	–	(12)	–	–	(12)
At 1 January 2019	6,643	150,555	6,094	–	(12)	(125,509)	(2,032)	35,739
(Charged) credited to profit or loss	(1,317)	(31,615)	5,456	–	(38)	(16,955)	1,513	(42,956)
Transfer to income tax payable[(i)]	–	–	–	–	–	20,000	–	20,000
At 31 December 2019	5,326	118,940	11,550	–	(50)	(122,464)	(519)	12,783

Note:

(i) In 2019, AsiaInfo Nanjing distributed RMB200,000,000 dividend to its Hong Kong parent shareholder, Hong Kong AsiaInfo Technologies Limited, of which respective withholding tax amounted to RMB20,000,000 transferred to income tax payable.

28. DEFERRED TAXATION (Continued)

As at 31 December 2019, the Group had unused tax losses of RMB2,049,238,000 (2018: RMB1,535,889,000) available for offset against future profits. No deferred tax asset had been recognized as at 31 December 2019 and 2018 of such tax losses due to the unpredictability of future profit streams.

The unrecognized tax losses with expiring date are summarized below:

Unused tax loss expiring in:

	At 31 December	
	2019	2018
	RMB'000	RMB'000
2021	**25,820**	25,820
2022	**32,936**	32,936
2023	**107,299**	107,299
2024	**15,454**	—
	181,509	166,055

The Group has also unused tax losses without expiring date, amounting to RMB1,867,729,000 as at 31 December 2019 (2018: RMB1,369,834,000).

Deferred tax assets are recognized if it is probable that all of the deferred tax assets will be realized through the recovery of taxes previously paid and/or future taxable income. The directors of the Company have reviewed the deferred tax assets of the Group at the end of the reporting period and considered that it is probable that the deferred tax assets of the Group will be realized through future taxable income based on directors' assessment of the probability that taxable profits will be available over the years which the deferred tax assets can be realized or utilized.

29. RECONCILIATION OF LIABILITIES ARISING FROM FINANCING ACTIVITIES

The table below details changes in the Group's liabilities arising from financing activities, including both cash and non-cash changes. Liabilities arising from financing activities are those for which cash flows were, or further cash flows will be, classified in the Group's consolidated statement of cash flows from financing activities.

	Dividend payables RMB'000	Accrued issue cost RMB'000	Bank borrowings RMB'000	Amounts due to related parties (non-trade) RMB'000	Lease liabilities RMB'000	Total RMB'000
At 1 January 2018	—	4,265	1,747,337	22,855	—	1,774,457
Financing cash flows[i]	—	(18,144)	(789)	(28,103)	—	(47,036)
Dividend declared	693,447	—	—	—	—	693,447
Settled with amounts due from related parties	(709,629)	—	—	—	—	(709,629)
Share issuance costs	—	16,208	—	—	—	16,208
Effect of exchange differences	21,430	—	98,342	—	—	119,772
Interest expense	—	—	70,594	—	—	70,594
Reclassification to amounts due to related parties	(5,248)	—	—	5,248	—	—
At 31 December 2018	—	2,329	1,915,484	—	—	1,917,813
Recognized under HKFRS 16	—	—	—	—	64,393	64,393
At 1 January 2019 (restated)	—	2,329	1,915,484	—	64,393	1,982,206
Financing cash flows[i]	—	(3,010)	(1,348,626)	—	(42,664)	(1,394,300)
Share issuance costs	—	681	—	—	—	681
Effect of exchange differences	—	—	(10,990)	—	—	(10,990)
Interest expense	—	—	37,217	—	2,514	39,731
Interest payable include in other payables, deposits received and accrued expenses	—	—	1,287	—	—	1,287
New additions to leases	—	—	—	—	54,270	54,270
Decrease due to termination of lease contacts	—	—	—	—	(2,926)	(2,926)
At 31 December 2019	—	—	594,372	—	75,587	669,959

Note:

(i) The financing cash flows represent the net amount of new bank borrowings raised, repayment of bank borrowings, interest paid, advance from related parties, repayment to related parties, payment of issue costs and repayment of lease liabilities.

30. SHARE CAPITAL

Details of the movement of share capital of the Company are as follows:

	Number of shares	Nominal value per share	Share capital
Authorized			
At 1 January 2018	500,000	US$0.1	US$50,000
Authorized during the year(i)	100,000,000,000	HK$0.0000001	HK$10,000
Cancelled during the year	(500,000)	US$0.1	US$(50,000)
Share subdivision(vi)	(100,000,000,000)	HK$0.0000001	HK$(10,000)
	800,000,000,000	HK$0.0000000125	HK$10,000
At 31 December 2018 and 2019	800,000,000,000	HK$0.0000000125	HK$10,000
Issued			
At 1 January 2018	9,288	US$0.1	US$928.8
Cancelled during the year upon the Group reorganization(ii)	(9,288)	US$0.1	(US$928.8)
Issued and re-denominated par value during the year upon the Group reorganization(iii)	9,288	HK$0.0000001	HK$0.0009288
Issued during the year upon the Group reorganization(iii)	1	HK$0.0000001	HK$0.0000001
Cancelled during the year upon the Group reorganization(iv)	(9,289)	HK$0.0000001	HK$(0.0009289)
Issued during the year(iv)	78,043,522	HK$0.0000001	HK$7.8
Issue of share options and restricted share award(v)	472,001	HK$0.0000001	HK$0.05
Share subdivision(vi)	(78,515,523)	HK$0.0000001	HK$(7.85)
	628,124,184	HK$0.0000000125	HK$7.85
Issue of shares upon listing(vii)	85,652,000	HK$0.0000000125	HK$1.07
At 31 December 2018	713,776,184	HK$0.0000000125	HK$8.92
Issue of shares upon exercise of the over-allotment option (viii)	2,974,800	HK$0.0000000125	HK$0.04
Exercise of share options(ix)	553,496	HK$0.0000000125	HK$0.01
Vesting of restricted stock units(x)	8,740,436	HK$0.0000000125	HK$0.11
At 31 December 2019	726,044,916	HK$0.0000000125	HK$9.08

	At 31 December	
	2019 RMB'000	2018 RMB'000
Presented as	**–**	–

30. SHARE CAPITAL (Continued)

Notes:

(i) The Company was authorized to issue 500,000 ordinary shares at par value of US$0.1 since its incorporation. On 16 April 2018, the Company was further authorized to issue a maximum of 100,000,000,000 shares with a par value of HK$0.0000001.

(ii) On 16 April 2018, the 9,288 ordinary shares at a par value of US$0.1 held by AsiaInfo Technologies HK were cancelled as part of the Group reorganization.

(iii) On 16 April 2018, the par value of the issued shares was re-denominated from US$0.10 per issued share to HK$0.0000001 per issued share. On the same date, 9,288 new ordinary shares were allotted and issued to AsiaInfo Technologies HK at a par value of HK$0.0000001 each. Subsequently on 29 April 2018, the 9,288 ordinary shares with a par value of HK$0.0000001 held by AsiaInfo Technologies HK were transferred to AsiaInfo Holdings. On 30 April 2018, the Company further allotted and issued one ordinary share at HK$0.0000001 par value to AsiaInfo Holdings as a part of the Group reorganization.

(iv) On 26 June 2018, the Company allotted and issued 78,043,522 ordinary shares at HK$0.0000001 par value each to all of the then existing shareholders of Skipper Holdings. On the same day, AsiaInfo Holdings surrendered all of the then held 9,289 ordinary shares at HK$0.0000001 par value each, which were all cancelled immediately.

(v) On 11 July 2018, pursuant to the new share option scheme and restricted share award scheme approved and adopted on 28 June 2018, the Company allotted and issued (i) 5,875 shares (being 47,000 shares after taking into account the share subdivision described in (vi) below) with a par value of HK$0.0000001 each to certain grantees upon the exercise of 5,875 share options granted under the share option scheme; and (ii) 466,126 shares (being 3,729,008 shares after taking into account the share subdivision) to certain restricted share award grantees which are vested immediately upon the grant.

(vi) On 26 November 2018, the shareholders of the Company resolved that each issued and unissued ordinary shares of HK$0.0000001 par value each of the Company be subdivided into 8 shares of HK$0.0000000125 par value each.

(vii) On 19 December 2018, 85,652,000 of new ordinary shares of HK$0.0000000125 each of the Company were issued at a price of HK$10.50 per share (equivalent to RMB9.30) by way of global offering. The proceeds of HK$1.07 (equivalent to approximately RMB0.94) representing the nominal value of the new ordinary shares of the Company, were credited to the Company's share capital. The remaining proceeds of approximately HK$899,346,000 (equivalent to approximately RMB791,910,000), before offsetting issuance cost of RMB21,234,000, were credited to the Company's share premium reserve.

(viii) On 15 January 2019, the Company issued and allotted 2,974,800 ordinary shares, representing approximately 3.47% of the total number of ordinary shares initially offered as at 19 December 2018 at HK$10.50 pursuant to the partial exercise of the over-allotment option granted to the Company's underwriters in the Company's global offering.

(ix) On 6 May 2019 and 13 December 2019, the Company issued and allotted 5,296 and 8,000 ordinary shares, respectively, resulting from the exercising of share option awards to certain employees and a director pursuant to the Pre-IPO share option scheme. During the year ended 31 December 2019, the Company issued an aggregate of 540,200 ordinary shares upon exercising of share option under the 2011 plan (Note 33).

(x) On 18 January 2019 and 1 July 2019, the Company issued and allotted 6,492,612 and 1,329,120 ordinary shares, respectively, resulting from the vesting of restricted share awards to certain employees and a director pursuant to the Pre-IPO restricted share units scheme ("**Pre-IPO RSU Scheme**") approved and adopted on 26 June 2018, respectively (Note 33). On 3 June 2019, the grantees vested remaining RSUs under 2014 plan with a total of 918,704 ordinary shares (Note 33).

31. CAPITAL RISK MANAGEMENT

The Group manages its capital to ensure entities in the Group will be able to continue as a going concern with maximizing the return to shareholders through the optimization of the debt and equity balance. The Group's overall strategy remains unchanged over the year ended 31 December 2019.

The capital structure of the Group consists of net debt, which includes bank borrowings disclosed in Note 27, net of cash and cash equivalents, and total equity of the Group, comprising share capital and reserves.

The directors of the Company review the capital structure on a regular basis. As part of this review, the management considers the cost of capital and the risks associated with the capital. Based on recommendations of the directors of the Company, the Group will balance its overall capital structure through raising of new capital, issue of new debt or the redemption of the existing debts.

32. FINANCIAL INSTRUMENTS

Categories of financial instruments

	At 31 December	
	2019	2018
	RMB'000	RMB'000
Financial assets		
Financial assets at fair value through profit or loss	**–**	210,000
Financial assets at amortized cost	**3,236,759**	3,792,958

	At 31 December	
	2019	2018
	RMB'000	RMB'000
Financial liabilities		
Financial liabilities measured at amortized cost	**974,628**	2,323,881

Financial risk management objectives and policies

The Group's major financial instruments include financial assets at FVTPL, trade and notes receivables, other receivables, other non-current assets, amounts due from related parties, pledged bank deposits, term deposits, bank balances and cash, trade and notes payables, other payables, amounts due to related parties and bank borrowings. Details of these financial instruments are disclosed in respective notes. The risks associated with these financial instruments include market risk (interest rate risk and currency risk), credit risk and liquidity risk. The policies on how to mitigate these risks are set out below. The management manages and monitors these exposures to ensure appropriate measures are implemented on a timely and effective manner.

32. FINANCIAL INSTRUMENTS (Continued)

Financial risk management objectives and policies (Continued)

Market risk

Interest rate risk

The Group is exposed to cash flow interest rate risk in relation to variable-rate pledged bank deposits, bank balances and bank borrowings. The Group keeps its pledged bank deposits, bank balances and bank borrowings at floating rate of interests so as to minimize the fair value interest rate risk. The Group's cash flow interest rate risk is mainly concentrated on the fluctuation of the Benchmark Lending Rates of the London Interbank Offered Rate arising from the Group's US$ denominated borrowings for the year ended 31 December 2019 (for the year ended 31 December 2018: of the London Interbank Offered Rate and the Hong Kong Interbank Offered Rate arising from the Group's US$ and HK$ denominated borrowings). The Group is also exposed to fair value interest rate risk in relation to fixed-rate term deposits (Note 24) and lease liabilities (Note 16).

The Group currently does not have an interest rate hedging policy to mitigate interest rate risk. However, the management monitors interest rate exposure and will consider hedging significant interest rate exposure should the need arise.

Sensitivity analysis

The sensitivity analysis below has been determined based on the exposure to variable interest rates for pledged bank deposits, bank balances and bank borrowings at the end of the reporting period and assumed that the amount of such balances outstanding at the end of the reporting period was outstanding for the whole year. A 50 basis point increase or decrease is used when reporting interest rate risk internally to key management personnel and represents management's assessment of the reasonably possible change in interest rates.

If interest rates had been 50 basis points higher/lower and all other variables were held constant, the Group's post-tax profit for the year ended 31 December 2019 would increase/decrease by RMB6,710,000 (2018: decrease/increase by RMB3,953,000). This is mainly attributable to the Group's exposure on interest rates on its pledged bank deposits, bank balances and bank borrowings.

Currency risk

The Group has bank balances which are denominated in foreign currencies, mainly US$, as at 31 December 2019 (2018: US$) and bank borrowing balances which are denominated in US$ as at 31 December 2019 (2018: US$ and HK$), that are exposed to currency risk.

32. FINANCIAL INSTRUMENTS (Continued)

Sensitivity analysis (Continued)

Currency risk (Continued)

The carrying amounts of the Group's foreign currency denominated monetary assets and liabilities, excluded related party borrowings, at the end of the reporting period are set forth as follows:

	At 31 December	
	2019 RMB'000	2018 RMB'000
Assets		
US$	**143,834**	743,570
HK$	**6,442**	80,056
	150,276	823,626
Liabilities		
US$	**594,372**	1,503,041
HK$	**–**	412,443
	594,372	1,915,484

Foreign currency sensitivity analysis

The sensitivity analysis below has been determined based on the exposure to foreign currency rates and includes only outstanding foreign currency denominated monetary items and adjusts their translation at the period end for a 5% change in foreign currency rates. The sensitivity analysis includes external bank borrowings from the PRC banks' overseas branches. A 5% increase or decrease is used when reporting foreign currency rate risk internally to key management personnel and represents management's assessment of the reasonably possible change in foreign currency rates.

If RMB has been appreciated/depreciated 5% against the foreign currency and all other variable were held constant, the Group's post-tax profit for the year ended 31 December 2019 would increase/decrease by RMB18,148,000 (2018: decrease/increase by RMB77,298,000). This is mainly attributable to the Group's exposure to foreign currency rates of US$ (2018: US$ and HK$) on its bank borrowings and the foreign currency bank balances.

32. FINANCIAL INSTRUMENTS (Continued)

Foreign currency sensitivity analysis (Continued)

Credit risk

The Group's maximum exposure to credit risk which causes a financial loss to the Group due to failure to discharge an obligation by the counterparties is arising from the carrying amount of the respective recognized financial assets as stated in the consolidated statement of financial position.

The Group's credit risk is primarily attributable to its trade and notes receivables, other receivables, other non-current assets, amounts due from related parties and contract assets.

With respect to the credit risk of the Group's treasury operations, management has established internal procedures to monitor the Group's bank balances and cash, term deposits, investments to be placed and entered into with financial institution of good reputation. These internal procedures help to minimize the Group's credit risk exposure.

The credit risk on pledged bank deposits, bank balances and term deposits is limited because the counterparties are banks with high credit rating.

Due to the nature of business of the Group, the Group has significant concentration of credit risk on a number of customers. During the year ended 31 December 2019, the aggregate amount of the Group's revenue amount to the top three customers was RMB5,491,998,000 (2018: RMB5,048,814,000), representing 96.0% (2018: 96.9%) of total revenue of the Group for the year. The aggregated balance of the Group's trade and notes receivables from the top three customers was RMB781,534,000 (2018: RMB722,357,000), representing 92.9% (2018: 94.4%) of the total trade and notes receivables as at 31 December 2019. In addition, the Group's concentration of credit risk by geographical locations is solely in the PRC. In the opinion of directors of the Company, those customers are mainly large telecommunication companies owned by the PRC government with good financial backgrounds.

Liquidity risk

Ultimate responsibility for liquidity risk management rests with the directors of the Company, who have established an appropriate liquidity risk management framework for the management of the Group's short-, medium- and long-term funding and liquidity management requirements. The Group manages liquidity risk by maintaining adequate reserves and banking facilities, by continuously monitoring forecast and actual cash flows, and by matching the maturity profiles of financial assets and liabilities.

The directors of the Company are of the opinion that taken into account the above plans and measures, the Group will have sufficient working capital to meet its financial liabilities and obligations as and when they fall due and to sustain its operations for the next twelve months from the end of the reporting period. The consolidated financial statements have been prepared on the going concern basis.

32. FINANCIAL INSTRUMENTS (Continued)

Foreign currency sensitivity analysis (Continued)

Liquidity risk (Continued)

The following table details the Group's remaining contractual maturity for its non-derivative financial liabilities and lease liabilities. The table has been drawn up based on the undiscounted cash flows of the liabilities based on the earliest date on which the Group can be required to pay.

	Weighted average effective interest rate/ borrowing rate	On demand or within 3 months	3 months to 1 year	1–5 years	Total undiscounted cash flow	Carrying value
	%	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
At 31 December 2019						
Financial liabilities						
Trade and notes payables		**358,048**	**–**	**–**	**358,048**	**358,048**
Other payables		**4,116**	**–**	**–**	**4,116**	**4,116**
Amounts due to related parties		**18,092**	**–**	**–**	**18,092**	**18,092**
Bank borrowings	**3.6556%**	**349,264**	**254,711**	**–**	**603,975**	**594,372**
Lease liabilities	**4.27%**	**3,889**	**40,558**	**61,014**	**105,461**	**75,587**
		733,409	**295,269**	**61,014**	**1,089,692**	**1,050,215**
At 31 December 2018						
Financial liabilities						
Trade and notes payables	–	356,316	–	–	356,316	356,316
Other payables	–	4,753	–	–	4,753	4,753
Amounts due to related parties	–	47,328	–	–	47,328	47,328
Bank borrowings	3.6578%	1,742,865	242,568	–	1,985,433	1,915,484
		2,151,262	242,568	–	2,393,830	2,323,881

32. FINANCIAL INSTRUMENTS (Continued)

Fair value measurement

Fair value of the Group's financial assets and financial liabilities that are measured at fair value on a recurring basis

This note provides information about how the Group determines fair values of the following financial assets.

	Fair value as at 31 December		Fair value hierarchy	Valuation technique and key input
	2019 **RMB'000**	2018 RMB'000		
A wealth management product	**–**	210,000	Level 2	Estimated return rate is key input.

There were no transfers between Level 1 and 2 during either year.

Fair value of the Group's financial assets and financial liabilities that are not measured at fair value on a recurring basis

The directors of the Company consider that the carrying amounts of financial assets and financial liabilities recorded at amortized cost in the consolidated financial statements approximate their fair values due to short maturity, initially recognized close to each reporting date, or with floating interest rates.

33. SHARE-BASED PAYMENTS

Before the year ended 31 December 2017, the Group did not issue its own stock option scheme. The employees of the Company and its subsidiaries are eligible for the 2011 stock inventive plan (the "**2011 Plan**") and the 2014 stock inventive plan (the "**2014 Plan**") adopted by the then immediate holding company, AsiaInfo Holdings, and the then intermediate holding company, Skipper Holdings, respectively. Accordingly, the Group accounted for such plans by measuring the services received from the grantee in accordance with the requirement applicable to equity-settled share-based payment transactions, and recognized a corresponding increase in equity as a contribution from the parent companies in accordance with HKFRS 2 *Share-based Payment*.

2011 Plan

On 21 April 2011, AsiaInfo Holdings approved a stock incentive plan with the purpose of enhancing the long-term stockholder value by offering employees and directors to participate in the Group's growth and success and to encourage them to remain the service in the Group. The 2011 Plan is valid and effective for 10 years from the approval date. Under the 2011 Plan, AsiaInfo Holdings is authorized to grant participants restricted stock awards, stock options, or other types of equity incentives with a total number of 7,501,752 ordinary shares of AsiaInfo Holdings.

Furthermore, in connection with the privatization and delisting from the National Association of Securities Dealers Automated Quotations Global Market of the United States of America ("**NASDAQ**") of AsiaInfo Holdings, the share incentives granted under the 2011 Plan were converted into the share incentive issued by Skipper Holdings with granting the equivalent numbers of ordinary shares of Skipper Holdings without any change of terms as stated under the 2011 Plan in 2014.

Stock Options under the 2011 Plan

In December 2011, pursuant to the 2011 Plan, the compensation committee of the board of directors of AsiaInfo Holdings approved to grant options to certain employees and executive officers. The stock options are valid and effective for 10 years from the approval date and have graded vesting terms of four years and vest in different schedules from the grant date, on condition that employees remain in service without any performance requirements. For the stock options granted to employees of the Group, they will be vested on annual basis equally over four years, 25% on each anniversary of the grant date. For the stock options granted to the then chief executive officer, 17.5%, 17.5%, 32.5% and 32.5% are vested at each anniversary of the grant date over four years. For the stock options granted to the vice president of AsiaInfo Holdings, 20%, 20%, 30% and 30% are vested at each anniversary of the grant date over four years. For the stock options granted in 2017, 0%, 50%, 25% and 25% are vested at each anniversary of the grant date over four years.

The fair value of each stock option was calculated using the binomial option-pricing model. Option valuation models require the input of highly subjective assumptions, including the option's expected life and the price volatility of the underlying share, and changes in the subjective input assumptions can materially affect the fair value estimate of employee stock options.

33. SHARE-BASED PAYMENTS (Continued)

2011 Plan (Continued)

Stock Options under the 2011 Plan (Continued)

The movements of stock options held by the Group's directors and employees under the 2011 Plan are summarized as follows:

	Number of stock options	Weighted average exercise price per option (US$)
Outstanding as at 1 January 2018	273,467	4.42
Share subdivision (Note 30(vi))	1,914,269	
Outstanding as at 31 December 2018	2,187,736	0.55
Exercised[(i)]	(540,200)	0.78
Outstanding as at 31 December 2019	1,647,536	0.47

Note:

(i) The Company issued an aggregated of 540,200 ordinary shares upon exercising of share options under the 2011 plan in 2019 with the market prices at exercise dates being in a range of HK$6.65 to HK$10.78.

RSUs under the 2011 Plan

Under the 2011 Plan, AsiaInfo Holdings granted certain RSUs to the directors of the Company and employees of the Group.

The RSUs vest in two equal installments on the 6-month and 12-month anniversaries of the grant date, or vest 25% on each anniversary or vest 0%, 50%, 25% and 25% on each anniversary of the grant date over four years. The fair value of each RSU is measured based on the market price of the stock on the grant date as AsiaInfo Holdings was still listed on NASDAQ. All RSUs are vested already.

The Group recognized share-based compensation expenses of nil in profit or loss and other comprehensive income during the year ended 31 December 2019 (2018: nil) in relation to the stock options and RSUs issued under the 2011 Plan.

33. SHARE-BASED PAYMENTS (Continued)

2014 Plan

On 1 June 2015, the board of directors of Skipper Holdings, the then intermediate holding company of the Company, approved the 2014 Plan with the purpose of enhancing the long-term stockholder value by offering employees and directors to participate in the Group's growth and success and to encourage them to remain the service in the Group. The 2014 Plan is valid and effective for 10 years from the approval date. Under the 2014 Plan, Skipper Holdings is authorized to grant participants restricted stock awards, stock options, or other types of equity incentives with a total number of 14,733,653 ordinary shares of Skipper Holdings.

Under the 2014 Plan, Skipper Holdings granted certain options to the directors of the Company and the employees of the Group on 1 July 2015. The stock options are valid and effective for 10 years from the approval date and have graded vesting terms of four years. The stock options are vested at 0%, 50%, 25% and 25% on each anniversary of the grant date over four years.

Stock Options under the 2014 Plan

The movements of stock options under the 2014 Plan are summarized as follows:

	Number of stock options	Weighted average exercise price per option (US$)
Outstanding as at 1 January 2018	4,498,146	
Forfeited	(1,583,370)	15.38
Exercised	(5,625)	15.38
Share subdivision (Note 30(vi))	20,364,057	
Outstanding as at 31 December 2018	23,273,208	1.92
Forfeited	(1,296,936)	1.92
Outstanding as at 31 December 2019	21,976,272	1.92

33. SHARE-BASED PAYMENTS (Continued)

2014 Plan (Continued)

RSUs under the 2014 Plan

Under the 2014 Plan, Skipper Holdings granted certain RSUs to the employees and executive officers. The RSUs are valid and effective for 10 years from the approval date and are vested at 0%, 50%, 25% and 25% on each anniversary of the grant date over four years.

The movements of RSUs issued under the 2014 Plan are summarized as follows:

	Number of RSUs	Weighted average grant date fair value per RSU of the original awards (US$)
Outstanding as at 1 January 2018	737,495	6.83
Forfeited	(61,868)	6.83
Vested	(557,794)	6.83
Share subdivision (Note 30(vi))	824,831	
Outstanding as at 31 December 2018	942,664	0.85
Forfeited	(23,960)	0.85
Vested (Note 30(x))	(918,704)	0.85
Outstanding as at 31 December 2019	—	

Fair Value of Stock Options and RSUs under the 2014 Plan

The Group has used the discounted cash flow method to determine the underlying ordinary share fair value of Skipper Holdings. Based on the fair value of the underlying ordinary shares, the Group has used binomial option-pricing model to determine the fair value of the stock option as of the grant date. Option valuation models require the input of highly subjective assumptions, including the option's expected life and the price volatility of the underlying share, and changes in the subjective input assumptions can materially affect the fair value estimate of employee stock options.

The Group recognized a total share-based compensation expenses of RMB1,984,000 in profit or loss during the year ended 31 December 2019 (2018: RMB10,556,000), in relation to the stock options and RSUs issued under the 2014 Plan.

33. SHARE-BASED PAYMENTS (Continued)

2014 Plan (Continued)

Treasury shares incentive plan under the 2014 Plan

In preparation of the global offering and listing of the shares of the Company on the Main Board of the Stock Exchange, in order to provide an incentive to the executive management team of the Company, on 8 March 2018, the board of directors of Skipper Holdings approved a treasury share incentive plan, pursuant to which Skipper Holdings proposed to transfer an aggregate of 335,282 shares at par value of US$0.0005 each, which is held by Skipper Holdings as treasury shares for nil consideration.

As at 31 December 2018, all of the 335,282 treasury shares were granted to the senior management of the Company. The fair value is US$9.1 (equivalent to RMB57.33) per share, which is valued by the management with reference to valuations carried out by an independent qualified professional valuer not connected with the Group.

The Group recognized a total share-based compensation expenses of RMB19,223,000 in profit or loss during the year ended 31 December 2018 in relation to the shares granted.

Subsequently on 11 July 2018, the Company entered into individual agreements with all the grantees for share options and RSUs granted under the 2011 Plan and 2014 Plan, pursuant to which all the then outstanding share options and RSUs granted by Skipper Holdings, the then intermediate holding company, and AsiaInfo Holdings, the then immediate holding company, were pushed down to the Company.

Pre-IPO Share Option Scheme

On 26 June 2018, the Company adopted the Pre-IPO Share Option Scheme. On 11 July 2018 and 1 August 2018, pursuant to the Pre-IPO Share Option Scheme, the Company granted an aggregate of 15,055,107 share options (being 120,440,856 share options after taking into account the share subdivision), representing rights to subscribe for 15,055,107 Shares (being 120,440,856 shares after taking into account the share subdivision) to certain grantees who are a director, employees and a consultant.

On 11 July 2018, a total of 5,875 shares (being 47,000 shares after taking into account of share subdivision) were issued to certain grantees of the share options as a result of the exercise of certain share options granted under the Pre-IPO Share Option Scheme.

The maximum number of shares in respect of which options may be granted (including shares in respect of which options, whether exercised or still outstanding, have already been granted and shares which shall have been issued under options which have been canceled) under the Pre-IPO Share Option Scheme shall be 15,055,107 shares (being 120,440,856 shares after taking into account the share subdivision), within which an aggregate of 11,781,558 shares (being 94,252,464 shares after taking into account the share subdivision) were granted on 11 July and 1 August 2018 under the Pre-IPO Share Option Scheme.

33. SHARE-BASED PAYMENTS (Continued)

Pre-IPO Share Option Scheme (Continued)

Details of the outstanding share options as at 31 December 2019 under the Pre-IPO Share Option Scheme held by grantees are set out below:

Exercise Price (US$)	Number of shares underlying the share options	Grant date	Vesting date	Option period
1.9225	8,503,696	11 July 2018	11 July 2018, 1 July 2019 and 1 July 2020	10 years from the grant date
0.84	56,000	1 August 2018	50% vested on the 30th day after the listing date ("**First Vesting Date**") 20% vested on the first anniversary of the First Vesting Date 30% vested on the second anniversary of the First Vesting Date	10 years from the grant date
0.5525	19,704	1 August 2018	50% vested on the First Vesting Date 20% vested on the first anniversary of the First Vesting Date 30% vested on the second anniversary of the First Vesting Date	10 years from the grant date
1.9225	53,637,248	1 August 2018	50% vested on the First Vesting Date 20% vested on the first anniversary of the First Vesting Date 30% vested on the second anniversary of the First Vesting Date	10 years from the grant date
1.2725	28,271,456	1 August 2018	50% vested on the First Vesting Date 20% vested on the first anniversary of the First Vesting Date 30% vested on the second anniversary of the First Vesting Date	10 years from the grant date

33. SHARE-BASED PAYMENTS (Continued)

Pre-IPO Share Option Scheme (Continued)

The movements of stock options under the Pre-IPO Share Option Scheme are summarized as follows:

	Number of stock options	Weighted average exercise price per option (US$)
Grant on 11 July and 1 August 2018	11,781,558	13.75
Forfeited	(103,142)	13.86
Share subdivision (Note 30(vi))	81,748,912	
Outstanding as at 31 December 2018	93,427,328	1.72
Forfeited	(2,925,928)	1.72
Exercised	(13,296)	0.83
Outstanding as at 31 December 2019	90,488,104	1.72

Pre-IPO RSU Scheme

Pursuant to the Pre-IPO RSU Scheme, on 11 July 2018 and 1 August 2018, the Company granted an aggregate of 2,322,074 RSUs, representing rights to receive 2,322,074 shares (being 18,576,592 shares after completion of the share subdivision described in Note 30(vi)), within which a total of 345,819 shares (being 2,766,552 shares after completion of the share subdivision) were issued on the grant date of 11 July 2018 to certain RSU grantees as a result of the vesting of certain RSUs granted under the Pre-IPO RSU Scheme.

Details of the outstanding RSUs as at 31 December 2019 under the Pre-IPO RSU Scheme held by the grantees are set out below:

Number of shares underlying the RSUs	Grant date	Vesting date
1,304,432	11 July 2018	1 July 2019 and 1 July 2020
6,311,764	1 August 2018	50% vested on the First Vesting Date 20% vested on the first anniversary of the First Vesting Date 30% vested on the second anniversary of the First Vesting Date

33. SHARE-BASED PAYMENTS (Continued)

Pre-IPO RSU Scheme (Continued)

The movements of RSUs issued under the Pre-IPO RSU Scheme are summarized as follows:

	Number of RSUs	Weighted average grant date fair value per RSU of the original awards (US$)
Grant on 11 July and 1 August 2018	2,322,074	9.64
Forfeited	(13,935)	9.64
Vested	(345,819)	9.64
Share subdivision (Note 30(vi))	13,736,240	
Outstanding as at 31 December 2018	15,698,560	1.21
Forfeited	(260,632)	1.21
Vested[(i)]	(7,821,732)	1.21
Outstanding as at 31 December 2019	7,616,196	1.21

Note:

(i) The grantees vested at the vesting dates with the market prices being in a range of HK$6.65 to HK$10.78.

Fair Value of Stock Options and RSUs under the Pre-IPO Share Option Scheme and the Pre-IPO RSU Scheme

The Group has used the discounted cash flow method to determine the underlying ordinary share fair value of the Company. Based on the fair value of the underlying ordinary shares, the Group has used binomial option-pricing model to determine the fair value of the stock option as of the grant dates. Option valuation models require the input of highly subjective assumptions, including the option's expected life and the price volatility of the underlying share, and changes in the subjective input assumptions can materially affect the fair value estimate of employee stock options.

33. SHARE-BASED PAYMENTS (Continued)

Pre-IPO RSU Scheme (Continued)

	11 July 2018 and 1 August 2018 Pre-IPO Scheme
Weighted average grant date fair value per option/RSU (US$)	9.64
Grant date share price (US$)	9.64
Weighted average exercise price (US$)	13.75
Expected volatility	51.0%
Contractual life	10 years
Risk-free rate	3.57%
Expected dividend yield	0%

The Company recognized a total share-based compensation expenses of RMB231,664,000 in profit or loss during the year ended 31 December 2019 (2018: RMB125,723,000), in relation to the stock options and RSUs issued under the Pre-IPO Share Option Scheme and the Pre-IPO RSU Scheme.

34. RETIREMENT BENEFIT SCHEME

As stipulated by the rules and regulations in the PRC, the Group contributes to state-managed retirement plans for its employees in the PRC. The Group is required to contribute a certain percentage of the basic salaries of its employees to the retirement plans, and has no further obligation for the actual payment of the previous or post-retirement benefits. The relevant state-managed retirement plans are responsible for the entire present obligation to retired employees.

In accordance with the relevant mandatory provident fund laws and regulations of HK, the Group operates a Mandatory Provident Fund ("**MPF**") scheme ("**MPF Scheme**") for all qualifying HK employees. The assets of the scheme are held separately from those of the Group and under the control of an independent MPF service provider. Under the rules of the MPF Scheme, the employer and its employees are each required to make contributions to the scheme at rates specified in the rules. The only obligation of the Group in respect of the MPF Scheme is to make the required contributions under the scheme.

The amounts of contributions made by the Group in respect of the retirement benefit scheme to employees and directors during the years ended 31 December 2019 and 2018 are disclosed in Note 10 and Note 14.

35. RELATED PARTY BALANCES AND TRANSACTIONS

(a) Related parties of the Group

The directors of the Company consider that the following entities are related parties of the Group:

Name(i)	**Relationship**
AsiaInfo Holdings(ii)	The then immediate holding company of the Company
AsiaInfo Cayman Limited ("**AsiaInfo Cayman**")	Entity controlled by Skipper Holdings
AsiaInfo Chengdu(iv)	Controlled by Mr. Suning Tian
Beijing AsiaInfo Data Co., Ltd.	Entity controlled by Skipper Holdings
Beijing AsiaInfo Innovation Technologies Limited	Entity controlled by Skipper Holdings
Nanjing AsiaInfo Network Technology Co., Ltd. (iv)	Controlled by Mr. Suning Tian
Bonson Information Technology Limited ("**Bonson BVI**")	Entity controlled by Skipper Holdings
AsiaInfo (Guangzhou) Software Service ("**AsiaInfo Guangzhou Software**")	Entity controlled by Skipper Holdings
AsiaInfo International (H.K.) Limited ("**International HK**")	Controlled by Mr. Suning Tian
Beijing AsiaInfo (Xintong) Technology Co., Ltd. ("**Beijing Xintong**")	Entity controlled by Skipper Holdings
AsiaInfo International Pte. Ltd.	Controlled by Mr. Suning Tian
AsiaInfo Security (Hong Kong) Co., Ltd.(iv)	Controlled by Mr. Suning Tian
AsiaInfo International US Corporation(iii)	Entity controlled by Skipper Holdings
AsiaInfo Innovation Limited ("**Innovation BVI**")	Entity controlled by Skipper Holdings
Beijing AsiaInfo Voyager Consulting Co., Ltd.	Controlled by Mr. Suning Tian
AsiaInfo Long Voyage Software (Beijing) Co., Ltd.	Controlled by Mr. Suning Tian
AsiaInfo Electronics (Fujian) Technology Co., Ltd.	Entity controlled by Skipper Holdings
Guangzhou AsiaInfo Zhihang Technologies Limited ("**Guangzhou AsiaInfo Zhihang**")	Controlled by Mr. Suning Tian
AsiaInfo Innovation Technologies (Nanjing) Co., Ltd	Controlled by Mr. Suning Tian

35. RELATED PARTY BALANCES AND TRANSACTIONS (Continued)

(a) Related parties of the Group (Continued)

Notes:

(i) The English name is for identification purpose only and the official names of the companies are in Chinese.

(ii) As part of the Group reorganization, AsiaInfo Holdings surrendered all of the then held 9,289 ordinary shares of the Company on 26 June 2018 and was no longer the immediate holding company of the Company. AsiaInfo Holdings became a fellow subsidiary of the Group immediately upon the cancellation of shares of the Company on 26 June 2018. Skipper Holdings and Skipper Parent (US), LLC were the then intermediate holding company of AsiaInfo Holdings and the then intermediate holding company of the Company prior to the Group reorganization and became a fellow subsidiary of the Group upon the completion of Group reorganization.

(iii) AsiaInfo International US Corporation was deregistered in November 2018.

(iv) AsiaInfo Chengdu was under the common control of Skipper Holdings through AsiaInfo Cayman until September 2018 when Mr. Suning Tian obtained indirect control over AsiaInfo Chengdu through a transfer agreement. The control of other related companies relating to the network security business were also obtained by Mr. Suning Tian through the transfer agreement.

(b) Amounts due from related parties

The following balances were the amounts due from related parties:

Amounts due from related parties — trade nature

	At 31 December	
	2019	2018
	RMB'000	RMB'000
AsiaInfo Chengdu	**4,526**	9,219
AsiaInfo Long Voyage Software (Beijing) Co., Ltd.	**649**	2,548
AsiaInfo Innovation Technologies (Nanjing) Co., Ltd.	**250**	—
Guangzhou AsiaInfo Zhihang	**12**	69
Nanjing AsiaInfo Network Technology Co., Ltd.	**12**	815
Beijing AsiaInfo Data Co., Ltd.	**—**	2,407
AsiaInfo Guangzhou Software	**—**	367
Innovation BVI	**—**	22
	5,449	15,447

35. RELATED PARTY BALANCES AND TRANSACTIONS (Continued)

(b) Amounts due from related parties (Continued)

Amounts due from related parties — trade nature (Continued)

The Group generally grants a credit period of 30 days to its related parties. Aging of amounts due from related parties — trade nature, based on the dates when the Group has the rights to bill is set forth as follows:

	At 31 December	
	2019	2018
	RMB'000	RMB'000
1–90 days	**2,973**	11,608
91–180 days	**434**	1,251
181–365 days	**1,441**	1,173
Over 365 days	**601**	1,415
	5,449	15,447

Prepayment to related parties

	At 31 December	
	2019	2018
	RMB'000	RMB'000
AsiaInfo Chengdu	**909**	1,764
Beijing AsiaInfo Data Co., Ltd.	**—**	549
Beijing AsiaInfo Innovation Technologies Limited	**—**	1,174
Total	**909**	3,487

35. RELATED PARTY BALANCES AND TRANSACTIONS (Continued)

(b) Amounts due from related parties (Continued)

Amounts due from related parties — trade nature (Continued)

Prepayment to related parties (Continued)

	At 31 December	
	2019 **RMB'000**	2018 RMB'000
1–90 days	**909**	3,487

The balances, except for certain related party borrowings, are unsecured, interest-free and repayable on demand.

Amounts due from related parties — non-trade nature

The balance of non-trade nature related parties was nil as at 31 December 2019 (2018: nil).

Maximum amount outstanding during the year are as follows:

	At 31 December	
	2019 **RMB'000**	2018 RMB'000
AsiaInfo Holdings	**—**	743,528
Beijing AsiaInfo Voyager Consulting Co., Ltd	**—**	50,000
AsiaInfo Cayman	**—**	37,559
Bonson BVI	**—**	23,339
International HK	**—**	6,484
AsiaInfo International US Corporation	**—**	3,267
AsiaInfo Security (Hong Kong) Co., Ltd.	**—**	331

35. RELATED PARTY BALANCES AND TRANSACTIONS (Continued)

(c) Amounts due to related parties

The following balances were the amounts due to related parties:

Amounts due to related parties — trade nature

	At 31 December	
	2019	2018
	RMB'000	RMB'000
AsiaInfo Chengdu	**18,092**	40,771
Beijing AsiaInfo Data Co., Ltd.	**—**	1,170
AsiaInfo Electronics (Fujian) Technology Co., Ltd.	**—**	2,842
Beijing AsiaInfo Innovation Technologies Limited	**—**	2,545
	18,092	47,328

The average credit period granted by the related parties is 90 days. Aging of amounts due to related parties — trade nature are as follows:

	At 31 December	
	2019	2018
	RMB'000	RMB'000
1–90 days	**4,099**	33,395
91–180 days	**39**	7,353
181–365 days	**1,153**	6,580
Over 365 days	**12,801**	—
	18,092	47,328

35. RELATED PARTY BALANCES AND TRANSACTIONS (Continued)

(d) The significant transactions with related parties during the years ended 31 December 2019 and 2018 are listed out below

During the years, the Group had the following major transactions with related companies, other than those disclosed elsewhere in the consolidated financial statement:

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Purchase of property, plant and equipment from:		
AsiaInfo International Pte. Ltd.	**–**	92
Interest income generated from:		
AsiaInfo Holdings	**–**	7,497
AsiaInfo Long Voyage Software (Beijing) Co., Ltd.	**–**	261
AsiaInfo Cayman	**–**	12
	–	7,770
Network security outsourcing services charged by:		
AsiaInfo Chengdu	**2,697**	18,634
	2,697	18,634

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Technological support services charged by:		
AsiaInfo Chengdu	**1,264**	15,065
Beijing AsiaInfo Data Co., Ltd.	**–**	178
AsiaInfo Long Voyage Software (Beijing) Co., Ltd.	**–**	193
Beijing AsiaInfo Innovation Technologies Limited	**–**	117
AsiaInfo Electronics (Fujian) Technology Co., Ltd.	**–**	573
	1,264	16,126

35. RELATED PARTY BALANCES AND TRANSACTIONS (Continued)

(d) The significant transactions with related parties during the years ended 31 December 2019 and 2018 are listed out below (Continued)

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Subcontract cost from discontinued operations charged by:		
Beijing AsiaInfo Innovation Technologies Limited	**–**	713
Beijing AsiaInfo Data Co., Ltd.	**–**	1,530
AsiaInfo Electronics (Fujian) Technology Co., Ltd.	**–**	22
	–	2,265
Technological support services provided to:		
AsiaInfo Long Voyage Software (Beijing) Co., Ltd.	**552**	1,241
Guangzhou AsiaInfo Zhihang	**–**	65
Beijing Xintong	**–**	99
	552	1,405
Office rental provided to:		
AsiaInfo Chengdu	**4,226**	4,031
AsiaInfo Long Voyage Software (Beijing) Co., Ltd.	**422**	541
Beijing AsiaInfo Data Co., Ltd.	**–**	638
	4,648	5,210
Management support services provided to:		
AsiaInfo Chengdu	**8,421**	12,282
Beijing AsiaInfo Data Co., Ltd.	**–**	3,061
AsiaInfo Long Voyage Software (Beijing) Co., Ltd.	**1,654**	2,833
Asiainfo Innovation Technologies (Nanjing) Co., Ltd.	**1,150**	–
	11,225	18,176

35. RELATED PARTY BALANCES AND TRANSACTIONS (Continued)

(e) Compensation of key management personnel

The remuneration of key management personnel which represents the directors of the Company and key executives of the Group during the years are as follows:

	Year ended 31 December	
	2019	2018
	RMB'000	RMB'000
Salaries, allowances and benefits in kind	**8,240**	7,682
Discretionary bonus	**9,146**	8,342
Contributions to retirement benefits scheme	**270**	294
Share-based compensation expenses	**42,860**	40,251
Total emoluments	**60,516**	56,569

The remuneration of the directors of the Company and key executives of the Group is determined having regard to the performance of individuals and market trends.

Saved as disclosed above, there were no other significant transactions with related parties during the year or other significant balances with them at the end of the reporting period.

36. COMMITMENTS

(a) Capital commitments

The group had the following capital commitments at the end of the reporting year:

	At 31 December	
	2019	2018
	RMB'000	RMB'000
Capital expenditure contracted for but not provided in the consolidated financial statements in respect of acquisition of property, plant and equipment and intangible assets	**3,440**	7,971

36. COMMITMENTS (Continued)

(b) Operating lease commitments as at 31 December 2018

At 31 December 2018, the Group had commitments for future minimum lease payments under non-cancellable operating leases which fall due as follows:

	At 31 December 2018 RMB'000
Within one year	102,849
In the second to the fifth year inclusive	257,419
Over five years	25,818
	386,086

(c) Lease commitments as at 31 December 2019

At 31 December 2019, the Group had commitments of RMB27,366,000 for short-term leases which are exempted from recognition of lease liabilities and fall due within one year.

37. PARTICULARS OF PRINCIPAL SUBSIDIARIES OF THE COMPANY

Since the completion of the Group reorganization, the Company has direct and indirect shareholders/equity interest in the following subsidiaries:

Name of subsidiary[i]	Place and date of establishment or acquisition/ nature of legal entity	Issued and fully paid ordinary share capital/ registered capital	Proportion of interest attributable to the Company				Principal activities
			2019		2018		
			Directly	Indirectly	Directly	Indirectly	
AsiaInfo China 亞信科技(中國)有限公司 (Previously known as AsiaInfo-Linkage Technologies (China), Inc. 亞信聯創科技(中國)有限公司)	The PRC 2 May 1995 limited liability company	US$26,040,570	–	100%	–	100%	Provision of software solutions
AsiaInfo Nanjing 亞信科技(南京)有限公司 (Previously known as Linkage AsiaInfo Technologies (Nanjing), Inc. 聯創亞信科技(南京)有限公司)	The PRC 16 February 2004 limited liability company	RMB100,000,000	–	100%	–	100%	Provision of software solutions
Shanghai AsiaInfo Online Technology Limited 上海亞信在線科技有限公司 (Previously known as Shanghai Xinjia Information Technology Co., Ltd. 上海信迦信息科技有限公司)	The PRC 25 September 2008 limited liability company	RMB20,000,000	–	100%	–	100%	Provision of software solutions

37. PARTICULARS OF PRINCIPAL SUBSIDIARIES OF THE COMPANY (Continued)

Name of subsidiary(i)	Place and date of establishment or acquisition/ nature of legal entity	Issued and fully paid ordinary share capital/ registered capital	Proportion of interest attributable to the Company				Principal activities
			2019		2018		
			Directly	Indirectly	Directly	Indirectly	
Hangzhou AsiaInfo Cloud Information Technologies Limited 杭州亞信雲信息科技有限公司 (Previously known as Hangzhou Zhongbo Software Technology Co., Ltd. 杭州中博軟件技術有限公司)	The PRC 25 February 2007 limited liability company	RMB10,000,000	–	100%	–	100%	Provision of software solutions
Nanjing AsiaInfo Software Co., Ltd. 南京亞信軟件有限公司	The PRC 6 February 2015 limited liability company	RMB30,000,000	–	100%	–	100%	Provision of software solutions
Hunan AsiaInfo Software Co., Ltd. 湖南亞信軟件有限公司	The PRC 16 April 2015 limited liability company	RMB30,000,000	–	100%	–	100%	Provision of software solutions
Hangzhou AsiaInfo Software Co., Ltd. 杭州亞信軟件有限公司	The PRC 15 May 2015 limited liability company	RMB50,000,000	–	100%	–	100%	Provision of software solutions
Guangzhou AsiaInfo Technology Co., Ltd. 廣州亞信技術有限公司	The PRC 11 August 2017 limited liability company	RMB200,000,000	–	100%	–	100%	Provision of software solutions
Beijing AsiaInfo Smart Big Data Co., Ltd. 北京亞信智慧數據科技有限公司	The PRC 21 August 2014 limited liability company	RMB285,200,000	–	100%	–	100%	Provision of software services
Guangzhou Zhihui Online Technology Co., Ltd. 廣州智匯在線科技有限公司 (Previously known as Guangzhou AsiaInfo Big Data Co., Ltd. 廣州亞信數據有限公司)	The PRC 19 October 2016 limited liability company	RMB10,000,000	–	100%	–	100%	Provision of software services
Beijing Shangxin Yitong Information Technology Limited (ii) ("**Shangxin Yitong**") 北京尚信易通信息技術有限公司	The PRC 1 June 2018 limited liability company	RMB10,000,000	–	100%	–	100%	Provision of software solutions
Beijing AsiaInfo XingYuan Technology Limited 北京亞信興源科技有限公司	The PRC 11 November 2019 limited liability company	RMB25,000,000	–	100%	N/A	N/A	Provision of software solutions
Beijing AsiaInfo Xinan Technology Limited (iii) 北京信安數科科技有限公司 ("**Xinan Technology**")	The PRC 4 September 2019 limited liability company	RMB16,000,000	–	100%	N/A	N/A	Provision of software solutions

37. PARTICULARS OF PRINCIPAL SUBSIDIARIES OF THE COMPANY (Continued)

Name of subsidiary[i]	Place and date of establishment or acquisition/ nature of legal entity	Issued and fully paid ordinary share capital/ registered capital	Proportion of interest attributable to the Company				Principal activities
			2019		2018		
			Directly	Indirectly	Directly	Indirectly	
Hunan AsiaInfo Anhui Technology Limited (iii) 湖南亞信安慧科技有限公司 ("**Hunan Anhui**")	The PRC 25 September 2019 limited liability company	RMB20,000,000	–	100%	N/A	N/A	Provision of software solutions
AsiaInfo (H.K.) Development Limited (Previously known as Linkage-AsiaInfo (H.K.) Limited)	HK 20 January 2011 limited liability company	US$90,000,000	–	100%	–	100%	Investment holding
AsiaInfo (H.K.) Limited (Previously known as AsiaInfo-Linkage (H.K.) Limited)	HK 8 November 2010 limited liability company	US$9,500,000	–	100%	–	100%	Investment holding
AsiaInfo Big Data (H.K.) Limited 亞信大數據(香港)有限公司	HK 20 June 2014 limited liability company	US$44,440,417	–	100%	–	100%	Investment holding
Hong Kong AsiaInfo Technologies Limited (Previously known as Hong Kong AsiaInfo-Linkage Technologies Limited)	HK 25 November 1998 limited liability company	HK$20,000	100%	–	–	100%	Investment holding
AsiaInfo Technologies HK 香港亞信科技有限公司	HK 20 January 1997 limited liability company	HK$12.75	100%	–	100%	–	Investment holding
AsiaInfo Technologies Holding (H.K.) Limited 亞信科技控股香港有限公司	HK 6 August 2019 limited liability company	HK$1	–	100%	N/A	N/A	Investment holding
AsiaInfo Big Data Limited	The BVI 6 June 2014 limited liability company	US$44,440,417	–	100%	–	100%	Investment holding

Notes:

(i) The English name for PRC legal entities is for identification purpose only and the official names of the companies are in Chinese except AsiaInfo Big Data Limited.

(ii) Pursuant to an acquisition agreement on 22 May 2018, the Group acquired 100% equity interests in Shangxin Yitong for a consideration of RMB584,000 from a third-party company, SmartCall Group Limited. The consideration was paid on 18 December 2019.

(iii) Two individual employees of the Group entered into a series of agreements and waivers in September 2019 to borrow RMB16,000,000 from AsiaInfo Nanjing and established Xinan Technology with an equity pledge of all interests and rights of Xinan Technology to AsiaInfo Nanjing and to establish the Hunan Anhui, with Xinan Technology having 80% shareholding and AsiaInfo Nanjing indirectly having 20% shareholding. AsiaInfo Nanjing has controls over both Xinan Technology and Hunan Anhui and has the sole right to buy the 80% interest of Hunan Anhui from Xinan Technology if it were to be sold.

None of the subsidiaries had issued any debt securities at the end of the year.

38. STATEMENT OF FINANCIAL POSITION AND RESERVES OF THE COMPANY

	2019 RMB'000	2018 RMB'000
Non-current assets		
Unlisted investments in subsidiaries	**446,217**	212,569
Right-of-use assets	**1,607**	—
Property, plant and equipment	**907**	—
Total non-current assets	**448,731**	212,569
Current assets		
Amounts due from subsidiaries	**813,667**	784,652
Prepayments, deposits and other receivables	**1,433**	—
Bank balances and cash	**537**	763,746
Total current assets	**815,637**	1,548,398
Current liabilities		
Amounts due to subsidiaries	**—**	751,840
Accrued listing expenses and issue costs	**—**	27,218
Lease liabilities	**711**	—
Other payables, deposits received and accrued expenses	**1,864**	602
Total current liabilities	**2,575**	779,660
Net current assets	**813,062**	768,738
Non-current liabilities		
Lease liabilities	**467**	—
Net assets	**1,261,326**	981,307
Capital and reserves		
Share capital	**—**	—
Reserves	**1,261,326**	981,307
Total equity	**1,261,326**	981,307

38. STATEMENT OF FINANCIAL POSITION AND RESERVES OF THE COMPANY (Continued)

The movement in the reserves of the Company is shown as follows:

	Share premium reserve RMB'000	**Other reserve** RMB'000	**Accumulated losses** RMB'000	**Total** RMB'000
At 1 January 2018	104,146	9,723	(87,416)	26,453
Profit and total comprehensive income for the year	—	—	746,646	746,646
Recognition of equity-settled share-based payments	—	130,971	—	130,971
Dividend distribution	—	—	(693,447)	(693,447)
Cancellation of shares of the Company upon Group reorganization	—	8	—	8
Issue of new shares upon listing	791,910	—	—	791,910
Share issuance cost	(21,234)	—	—	(21,234)
Vesting of restricted stock units	22,392	(22,392)	—	—
At 31 December 2018	897,214	118,310	(34,217)	981,307
Profit and total comprehensive income for the year	—	—	17,261	17,261
Recognition of equity-settled share-based payments	—	233,648	—	233,648
Issue of new shares upon listing	27,162	—	—	27,162
Share issuance cost	(681)	—	—	(681)
Vesting of restricted stock units	69,362	(69,362)	—	—
Exercise of share options	4,897	(2,268)	—	2,629
At 31 December 2019	997,954	280,328	(16,956)	1,261,326

39. SUBSEQUENT EVENTS

Subsequent to 31 December 2019, the Group had the following events:

(a) On 7 January 2020 (the "**Adoption Date**"), the board of directors of the Company adopted a share award scheme to eligible core management personnel with an effective term of 10 years commencing from the Adoption Date. The aggregate number of shares underlying all grants made pursuant to the share award scheme shall not exceed 5.0% of the total number of issued shares as at the Adoption Date.

(b) The outbreak of the 2019 Novel Coronavirus ("**COVID-19**") in China and the subsequent quarantine measures imposed by the Chinese government in early 2020 have had a certain temporary impact on the operations of the Group since January 2020. The degree of the impact depends on the progress and duration of epidemic prevention and control and the implementation of local prevention and control policies.

    At present, the Group's operation is generally stable. The directors of the Company will continue to pay close attention to the development of the COVID-19 epidemic situation, assess and react actively to its impacts on the financial position and operating results of the Group.

Save as disclosed above, there has been no other material events subsequent to the year, which require adjustment or disclosure in accordance with HKFRSs.

FINANCIAL SUMMARY

For the year ended 31 December 2019

RESULTS

	At 31 December				
	2015	2016	2017	2018	**2019**
	RMB'000	RMB'000	RMB'000	RMB'000	**RMB'000**
Continuing operations					
Revenue	4,764,871	4,855,953	4,948,324	5,210,977	**5,721,416**
Cost of sales	(2,991,246)	(3,183,328)	(3,277,896)	(3,328,353)	**(3,594,411)**
Gross profit	1,773,625	1,672,625	1,670,428	1,882,624	**2,127,005**
Other income	92,258	141,791	114,712	82,172	**103,759**
Reversal of impairment losses under the ECL model/(impairment losses, net of reversal under the ECL model)	—	—	—	2,880	**(28,366)**
Other gains and losses	(4,096)	(45,228)	68,828	(102,706)	**(736)**
Selling and marketing expenses	(572,945)	(614,572)	(481,831)	(508,402)	**(461,997)**
Administrative expenses	(255,754)	(273,079)	(403,800)	(332,825)	**(292,586)**
R&D expenses	(629,601)	(636,614)	(430,246)	(584,681)	**(862,419)**
Share of results of associates	—	—	258	(1,242)	**(3,983)**
Share of results of joint ventures	—	(10,000)	—	—	**—**
Finance costs	(6,075)	(93,905)	(83,986)	(70,594)	**(39,907)**
Listing expenses	—	—	(30,603)	(54,096)	**—**
Profit before tax	397,412	141,018	423,760	313,130	**540,770**
Income tax expenses	(87,622)	(66,998)	(88,584)	(108,896)	**(131,955)**
Profit for the year from continuing operations	309,790	74,020	335,176	204,234	**408,815**
Discontinued operations					
Loss for the year from discontinued operations	(420,462)	(294,873)	(17,233)	(1,279)	**—**
(Loss) profit for the year	(110,672)	(220,853)	317,943	202,955	**408,815**

FINANCIAL SUMMARY

For the year ended 31 December 2019

ASSETS AND LIABILITIES

	At 31 December				
	2015 RMB'000	2016 RMB'000	2017 RMB'000	2018 RMB'000	**2019** **RMB'000**
Property, plant and equipment	314,164	303,979	262,629	300,869	**288,261**
Right-of-use assets	—	—	—	—	**169,465**
Prepaid lease payments	145,677	87,508	85,489	83,470	**—**
Goodwill	1,932,246	1,932,246	1,932,246	1,932,246	**1,932,246**
Total non-current assets	2,938,456	3,418,575	3,314,868	3,229,675	**2,822,732**
Trade and notes receivables	787,491	775,888	888,445	764,909	**841,182**
Prepayments, deposits and other receivables	154,345	204,335	176,501	135,704	**183,706**
Contract assets	1,650,905	1,683,234	1,632,039	1,335,219	**1,554,521**
Pledged bank deposits	230,704	523,770	537,089	481,755	**321,246**
Bank balances and cash	1,409,205	1,583,120	1,450,588	1,821,182	**1,810,591**
Total current assets	4,408,177	4,999,632	4,947,316	4,767,703	**4,717,908**
Trade and notes payables	601,778	792,246	612,500	356,316	**358,048**
Contract liabilities	647,356	533,536	387,913	300,918	**296,945**
Other payables, deposits received and accrued expenses	1,540,866	1,611,040	1,890,500	1,788,004	**1,922,837**
Bank borrowings	422,352	1,237,502	1,154,593	1,915,484	**594,372**
Total current liabilities	3,615,939	4,674,422	4,484,998	4,634,318	**3,471,080**
Deferred tax liabilities	103,682	109,343	130,971	127,541	**122,983**
Bank borrowings	1,025,440	1,039,485	592,744	—	**—**
Total non-current liabilities	1,132,297	1,157,554	738,410	127,541	**162,357**
Total equity	2,598,397	2,586,231	3,038,776	3,235,519	**3,907,203**

ASIAINFO TECHNOLOGIES LIMITED

AsiaInfo Plaza, Dong Qu, 10 Xibeiwang Dong Lu
Haidian District, Beijing 100193, PRC

Tel: (010) 8216 6688 Fax: (010) 8216 6699

www.asiainfo.com

MIX
Paper from
responsible sources
FSC™ C007445
www.fsc.org

PRINTED WITH SOY INK™

Concept, design and printing: Cre8 (Greater China) Ltd.
Website: www.cre8corp.com