

The Goodix logo is positioned at the top left of the cover. It features the word "GOODIX" in a white, sans-serif font. The "i" is stylized with a red dot. The background of the entire cover is a blue-tinted aerial view of a city with a prominent curved skyscraper in the center. A large, light blue geometric shape, resembling a stylized chip or circuit, is overlaid on the left side of the image.

GOODIX

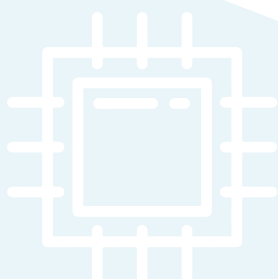
# 2021 Annual Report Summary

Shenzhen Goodix Technology Co., Ltd.

603160.SH

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## About Goodix

Goodix Technology (SH: 603160) is an integrated solution provider for applications based on IC design and software development offering industry-leading software and hardware semiconductor solutions for smart devices, IoT applications, and automotive electronics. Goodix serves hundreds of millions of global consumers with quality products and solutions via renowned brands including Samsung, Google, Amazon, Huawei, OPPO, vivo, Xiaomi, Dell, HP, LG, OnePlus, Nokia, and ASUS. The Company is recognized as a leading IC design and solution provider that empowers a connected, intelligent world.

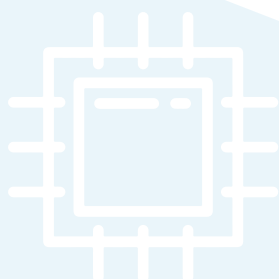
Standing among the global semiconductor industry, Goodix will continue its dedication in research and development, striving to establish the comprehensive

IC design blueprint for smart devices, IoT applications, and automotive electronics, aiming to become a world-leading comprehensive IC design company and innovative technology team that delivers continuous surprises to global customers and consumers, offers long-term and differentiating values to the industry and the society, and provides excellent career development opportunities for Goodix's global talents.

As an IC design house, Goodix adopts the fabless model and focuses on the design, research, and development of chips that are driven by market demands, while outsourcing tasks such as wafer fabrication, packaging, and testing to professional fabrication packaging and testing vendors. The products Goodix offer are sold both directly as well as via agents and distributors to customers.

## 1. Key Figures

December Fiscal Year End (All figures in Million CNY)	Dec-21 2021	Dec-20 2020	YoY
Revenue	5,712.87	6,687.28	-14.57%
Gross margin (%)	48.19%	52.30%	-4.11%
Operating profit	803.66	1,640.81	-51.02%
Operating margin (%)	14.07%	24.54%	-10.47%
Net profit	859.92	1,659.17	-48.17%
R&D expenses	1,691.99	1,754.02	-3.54%
R&D / Revenue (%)	29.62%	26.20%	3.42%
Cash and short-term investments	4,481.34	4,960.07	-9.65%
Total assets	10,727.21	9,887.85	8.49%
Stockholders' equity	8,693.92	8,037.11	8.17%
Debt ratio (%)	18.95%	18.70%	0.25%
Cash flows from operating activities	321.78	1,211.64	-73.44%





## 2. Management Discussions

### (1) Revenue

The Company ("Goodix") reported a revenue of CNY 5.713 billion in 2021, a decrease of CNY 974 million, or 14.57%, year-over-year ("YoY"), mainly due to the fact that most of the Company's current revenue was still generated from a few products and mobile phones market. The COVID-19 pandemic and the macro situation led to changes in the smart device market landscape and intensified market competition, which have, in turn, significantly affected revenue and caused a decline in revenue. However, the Company's product portfolio is becoming more balanced. In 2021, revenue from fingerprint chips accounted for 63.52% of the total revenue, a decrease of 12.08 percentage points YoY. However, revenue from touch chips contributed 20.24% of the total revenue, up 4.13 percentage points YoY, and the percentage of revenue from other chips rose to 16.24%, an increase of 7.95 percentage points YoY.

Meanwhile, the Company continued to expand its client and application markets to broader scope, so as to reduce the risk of dependence on a single market and client. The applications were gradually expanded from mobile phone to new fields such as PC, wearables, IoT and automotive electronics. In addition, the Company also actively explored the international markets. In 2021, its overseas revenue continued to grow, accounting for 37.21% of revenue, up 17.19 percentage points YoY.

The gross margin of 2021 was 48.19%, down 4.08 percentage points YoY, which was mainly due to factors such as rising supply chain cost, intensified market competition and product portfolio. Although the supply chain of the whole industry was unstable and chips were in very tight supply, the Company's supply remained stable without having significant impact on client delivery. Also, the Company reasonably adjusted its product prices for the sake of long-term strategic cooperation with clients, and worked together with the clients to address the negative impact of increased supply chain cost.

### (2) Operating expenses

Despite the short-term challenges of the external market fluctuations, the Company insisted on independent

innovation and continued to invest heavily in R&D. The R&D expenses of 2021 reached CNY 1.691 billion in total, down 3.54% YoY. The main reason for the Company's investment in R&D is the Company's strategic plan for sustainable development in the future. It continues to increase investment in new technology research and product development, and to actively expand technology and market coverage in order to pave the way for the Company's long-term growth.

The selling expenses of 2021 were CNY 341 million, down 40.84% compared to CNY 577 in 2020. The main reason was that the Company's products and solutions have become more mature leads to reduced technical service fees.

The G&A expenses of 2021 were CNY 169 million, up 30.80% from CNY 130 million in 2020. The main reason was that the Company continued to introduce senior management and business talents during the process of rapid development and internationalization, resulting in increases in general, administrative and operating expenses.

### (3) Net profit

The net profit was CNY 860 million in 2021, down 48% YoY, mainly due to the factors such as the decline in revenue, rising supply chain cost, intensified market competition and continuous huge investment in R&D.

This was a short-term challenge encountered by the Company during the process of transformation and upgrade towards future sustainable development, apart from the impact of the external environment. However, the Company's fundamentals and core competence have remained unchanged and are constantly being consolidated and strengthened.

### (4) Cash flows

The net cash flow from operating activities was CNY 322 million in 2021, down 73.44% from CNY 1.212 billion in 2020. This was mainly due to the lower operating income and the decrease in payment received for sold goods.

The net cash flow from investing activities was CNY -917 million in 2021, compared to CNY -2.842 billion in 2020. The main reason for the difference was that in 2020, there were more payments for merge of and strategic investment in NXP (VAS), DCT, etc.

The net cash flow from financing activities was CNY -325 million in 2021, compared to CNY 244 million in 2020. The main reason for the change was the increase in cash outflows from the Company's share repurchase and debt repayment.

### **(5) Assets and liabilities**

As of December 31, 2021, the cash and cash equivalents, financial assets held for trading totaled CNY 4.48 billion. The abundant cash reserves can support the Company's stable operation and development and support the continuous, high R&D spending. The Company's current ratio was 4.27 times, with a debt ratio of 18.95%, showing its good solvency and sound financial position.

## **3. Industry Overview and Outlook**

### **(1) Global semiconductor sales hit a new record high, and the integrated circuit industry continues to thrive**

The global semiconductor industry sales in 2021 reached USD 555.9 billion, hitting a new record high, the Semiconductor Industry Association (SIA) reports. Global industry shipped 1.15 trillion semiconductor units. Among them, the sales of automotive-grade chips grew at the fastest pace, up 34.3% YoY, which hit a new record high of USD 26.4 billion; the sales of micro-IC chips increased 15.1% to USD 80.2 billion. Against a backdrop of thriving industry, equipment manufacturers get plenty of orders, while fabs continue to raise prices and foundries expand production. Judging from factors such as orders, prices, inventories and demands, global semiconductors industry will continue to thrive beyond expectations in the future.

### **(2) Acceleration of emerging technology innovation spurs huge market demand**

With the continuous innovation of technologies such as smart devices, Internet of Things (IoT), 5G, AI, automotive electrification, VR/AR and data security, the upgrade and iteration of the main downstream industries of integrated circuits (IC) have accelerated, indicating that the market demand for IC will boom again in the future, which will create more commercial opportunities for the Company's existing and future products.

In the field of smart devices, IDC expects the global smart phone market to deliver a compound annual growth rate (CAGR) of 3.6% over the 2020-2025 forecast period. In addition, the construction of 5G infrastructure will attract many consumers to replace their smart phones with 5G model after the COVID-19 pandemic, which will, in turn, strongly promote the recovery of the smart phone market. In 2021, the 5G phone shipments reached 560 million units, up 115% YoY. The penetration rate of 5G mobile phones in 2021 was 42%, and is expected to reach up to 69% by 2025. Due to the uncontrollable nature of the pandemic, the demand for telecommuting and online education will continue to rise. Therefore, the global shipments of PCs, laptops and tablets are expected to continue to grow. The recovery of the smart phone market and the increased demand for working from home will provide more commercial opportunities for the Company's fingerprint, touch and audio products.

In IoT field, IoT Analytics expects the number of IoT connections to exceed 27 billion by 2025, with a CAGR of 19% over 2020 – 2025 forecast period. With the continuous penetration of IoT, the industrial IoT, smart home, smart driving, smart city and other related items have grown significantly, which indicates a huge market. According to IDC, China's industrial IoT expenses will reach USD 93.1 billion by 2025, and the steady and continuous increase in the number of industrial IoT projects will provide a broad market for the Company's NB-IoT products.

In automotive field, the gradual increase in the sales volume of the new-energy automotive market, coupled with the strong support from the Chinese Government, has promoted rapid growth of the automotive semiconductor market. According to IHS Market, the global automotive semiconductor market size is expected to reach USD 67.6 billion by 2026, with a CAGR of 10% during 2020 -2026 forecast period. China, as the world's largest automotive manufacturing country, has a strong demand for automotive chips. China's domestic automotive semiconductor market size is expected to reach USD 15.9 billion by 2030. According to Omdia, automotive intelligence (large-screen + multi-screen) will significantly increase the demand for displays. The shipment of in-vehicle displays reached 140 million units in 2021, and is expected to be 200 million units in 2022. As a result, the Company's in-vehicle touch

screen chips, CarVoice and other products will benefit from this and continue to grow.

As one of the important branches of the metaverse, VR/AR are gradually being integrated into people's daily lives. Its industrial chain mainly covers hardware and software, in which hardware mainly consists of chips, sensors, display devices, while software mainly includes basic software and application software. With the rapid development of the VR/AR ecosystem, it is expected to bring new growth momentum to chip design companies. 49.65 million VR head-mounted display products in the world are predicted to be shipped by 2025, with a CAGR of 54.6% from 2021 to 2025, according to IDC. In the future, with the continuous improvement of the VR industrial chain and the accumulation of rich data, VR will be fully integrated into the industry, stimulating more market demands. The mass adoption of VR/AR devices will bring more opportunities for the Company's multi-functional interactive sensors, ToF and other products.

Digital currency is recognized as a major innovation in the history of currency evolution, featuring transaction convenience and stable monetary value. This year, China strongly promotes digital yuan (pilot) wallets. Users are expected to manage their mobile devices and card-type physical wallets in the app. This may require users to have mobile devices such as smart phones/watches with the NFC payment function. According to the information from the press conference of the State Council Information Office, as of December 31, 2021, more than 8.09 million digital yuan pilot scenarios have been implemented, with a total of 261 million individual wallets opened and a transaction amount of CNY 87.6 billion. Compared with those at the end of June 2021, the number of pilot scenarios has increased by 5 times, the cumulative number of individual wallets opened has risen by 11.5 times, and the cumulative transaction amount has surged by 154%. Although China's digital yuan has developed rapidly in the past half a year, its size is still much less than the magnitude of traditional mobile payments. With the gradual change of consumer payment habits, there is a lot of room for digital currency to grow in the future. As the COVID-19 pandemic has greatly affected people's

work and lifestyle, people have become more dependent on digital infrastructure brought by mobile devices and high-speed networks in daily activities. In this regard, increasing attention is being paid to information security. This will contribute to the Company's launch and application of NFC/eSE products and help protect consumers' payment and information security.

## 4. Development Strategy

The Company, by implementing the corporate mission of "Enrich Your Life Through Technology", continues to lead technological innovation in the fields of sensing, processing, connectivity and security, and extensively works with global clients to drive innovative applications for smartly connected world, so as to enrich the smart lives of hundreds of millions of consumers around the world.

Going forward, the Company will gather the world's top talents with a global vision and plan, invest heavily in R&D and continue to break through the boundary of technological innovation, so as to create greater unique values for more clients, partners and consumers around the world. It will strive to grow into the world's leading comprehensive IC design company.

### **(1) Build diversified product categories and become a leading comprehensive IC design company**

The Company's long-term strategic goal is to become the world's leading IC design company. With the continuous and huge investment in R&D and the full use of its long-term accumulated technical reserves, the Company will keep introducing more innovative products and developing more diversified product categories. The Company will strive to speed up the development of new products, push forward the commercialization and mass production of more products. Through market research, the Company will constantly seek suitable product development paths and cultivate new growth points; meanwhile, accelerate the products iteration, to maintain the leading position in the market, continuously improve the competitiveness of the products, and ultimately promote itself as a leading comprehensive IC design company.



## **(2) Develop diversified target markets and continue to expand overseas markets and clients**

The Company's increasingly varied product portfolio has made positive contribution to the revenue. In the future, it will continue to enhance the promotion efficiency of existing products in the market, make new product strategies, enrich application scenarios of products by starting with existing products and customer's technical requirements. In addition, the Company will continue to expand diversified target markets in smart devices, IoT, automotive electronics and other new markets.

The Company will continue to raise the awareness to better serve target clients, improve the ability of collaboration under the increasingly diversified product lines, actively explore innovation of business models, strengthen the partnership with existing clients, keep improving client service and deepen cooperation on more products. At the same time, the Company will strive to acquire more new clients, bring products with differentiated value to clients through continuous technological innovation and keep enhancing the ability to deliver products and services, so as to achieve steady growth in the Company's revenue.

In the past few years, the Company has actively explored the international market, and has made great breakthroughs. More and more products are being recognized by international renowned brand clients. In the future, the Company will continue to increase its efforts in international market promotion and actively acquire new overseas clients, so as to truly implement the Company's key strategy of globalization.

## **(3) Continuously improve the management level to strengthen the Company's overall ability**

As its internationalization process continues to accelerate, the Company will keep improving the internal management system and the overall management efficiency. By building a multi-level and multi-dimensional communication mechanism, the Company will promote cross-cultural communication and cooperation and enhance the collaboration skills among different teams around the world, so as to improve the organization's overall efficiency and effectiveness.

## **(4) Promote diversification and internationalization through endogenous and epitaxial growth**

For a long time, the organic growth of high R&D spending and the integration of global M&A have been considered the "two wheels" driving the Company's innovation ability. In the future, the Company will continue to invest heavily in innovation, explore and improve its own innovation ability and actively seek high-quality targets around the world. Through M&A, the Company will integrate the world's top R&D forces and cutting-edge patents and resources to significantly shorten the cycle from product R&D to mass production and market launch, so as to bring more diverse and amazing product experiences to consumers around the world.

# **5. Business Plan**

## **(1) Continue to increase spending on R&D and focus on improvement of R&D efficiency**

The Company will continue to build comprehensive technical abilities for the four pillars of "sensing, processing, connectivity and security", and invest more in and deepen product R&D by integrating its own technical reserves such as analog devices, radio frequency devices, digital devices, systems, back-ends and applications. At the same time, the Company will contribute R&D resources according to the actual needs of projects and allocate such resources reasonably to improve R&D efficiency. The Company will always put clients first, propose a system-level overall solution integrating hardware, software and algorithms and build a more diversified product portfolio, so as to strengthen the Company's overall competitive position.

## **(2) Make more efforts in market expansion to achieve a diversified layout**

The Company's clients mainly come from the fields of smart devices, IoT applications and automotive electronics, which form a huge market and broad application scenarios, presenting a promising prospect for the Company. In addition to deepening cooperation with major clients and exploring early in-depth cooperation on more products, the Company will make every effort to seek more small and medium clients to expand the client group, so as

to truly realize the diversification and multi-scenario application of the Company's products. Likewise, the Company will continue to vigorously explore overseas markets, serve more international clients, further globalize the company's innovation value and brand influence, and finally become a global leader in IC design.

### **(3) Improve the internal management system and the operation and management level**

The Company will continue to strictly follow the *Company Law*, the *Securities Law*, the *Rules Governing the Listing of Stocks on Shanghai Stock Exchange* and other laws and regulations. It will standardize the governance structure and conduct faithful operation and transparent management with true and complete information disclosure, good and interactive investor relations and strict and effective internal management and risk management systems. It will continue to improve the corporate governance structure and standardize the company operation to maximize the effective protection of the interests of all shareholders and the Company. Meanwhile, the Company will actively optimize internal management, continuously push the development of basic management platforms such as R&D, finance, legal affairs, human resources and administration platforms, and build an efficient production, operation and quality management system. The Company also plans to build a global integrated financial sharing center for improving the company's financial analysis and management abilities; improve IT global service ability for wider coverage of IPD, ERP, CRM, OA and other management systems for teams and business activities around the world so as to boost efficient cooperation among such teams; and try to complete global administrative service platforms and the construction of administrative office facilities and resources while taking into account the cost-effectiveness.

### **(4) Speed up the building of talent echelon to stimulate the initiative and encourage creativity**

The Company will continue to strengthen its global operation ability. For this purpose, it will actively introduce senior managers with rich experience of working in top multinational companies. The Company

will continue to follow various talent incentive policies, improve the comprehensive remuneration management system for its teams around the world, further stimulate the Company's vitality and enhance employees' sense of ownership to help achieve the Company's strategic development goals. On the other hand, it will improve the global human resources management system, strengthen the training of talents both at home and abroad, speed up the building of talent echelon and provide a platform for employees to show their abilities.

## **6. Core Competence**

### **(1) A comprehensive IC design company with diversified business and technology layout**

Focusing on four technical pillars of "sensing, processing, connectivity and security", the Company establishes an organizational mission of "Enrich Your Life Through Technology", and seeks to become the world's leading IC design company. Benefit from the joint efforts by teams around the world, the Company's diversified business lines have begun to take shape and achieved successes in a wide range of applications as follows.

In the sensing field, there are mature and strong technical reserves for optical in-display fingerprint and capacitive fingerprint, which are taking a leading position in the industry. The ultra-thin optical in-display fingerprint solution differentiates itself in the high-end mobile phone market, gaining a lion's share of market in the world. At the same time, the Company has made every effort to expand the breadth of sensor products and has achieved fruitful results. The Company's first-generation high-precision, low-power in-display light sensor was successfully mass-produced and was highly recognized by clients. Health sensor shipments continued to grow, ranking among the top three health sensors for wrist wearable devices in the world. The penetration rate of multi-functional interactive sensors kept rising, which became the first choice of flagship headphones by mainstream brand clients. Meanwhile, a new generation of sensor products with pressure sensing and temperature detection were used for commercial purpose,





bringing more intelligent and convenient experience to users. ToF sensors with in-depth layout have been successfully designed in domestic renowned brand clients. In the future, the Company will continue to explore clients in smart home, mobile phone, AR and other markets for such sensors, and accelerate the commercial use of such sensors.

In the touch field, touch screen chips in the OLED mobile phone market kept growing at a fast speed, while touchpad chips have achieved breakthroughs in the laptop market and successfully reached renowned international clients. The successful launch of folding OLED display touch chips broke the once-single product landscape of the market, and the forward-looking approach to product positioning has prepared solutions in advance for subsequent larger and thinner folding/curling mobile phones and active stylus applications. Active stylus shipments increased significantly. The AEC-Q touch solution has been favored by more renowned automotive brand clients, with a rising penetration rate. Facing the broader consumer, automotive and industrial markets, the Company will continue to invest in innovation and expand diversified application scenarios to capture more market shares.

In the wireless connection field, the shipment of BLE has significantly increased by virtue of their advantages in terms of low energy, high-performance and excellent radio frequency. They have not only been commercially used by renowned brands on devices, but also have increased shares in the mass market, thus successfully driving applications in the electronic shelf label market, gamepad market, remote control market and other segment markets. The system-level NB-IoT single-chip solution released for the first time, by virtue of its ultra-low system energy, stable communication performance and rich MCU resources, has been successfully designed in many clients' projects, which are well underway. This has laid a solid foundation for the Company's presence in the connection field. With the continuous expansion of the market, it will enter a track of rapid growth in 2022.

In the audio field, smart audio amplifiers have achieved substantial growth in shipments, continuing to extend market leadership. The portfolio of voice

and audio software solutions such as smart devices and wearable devices with excellent performance have been used by clients in more fields around the world for commercial purpose. The CarVoice software solution has been commercially used by many clients including Nissan, GAC, Hyundai, FAW, SAIC, among other renowned manufacturers. ANC Codec continues to be accepted by clients, including clients from the smart watch market. Apart from the above-mentioned solutions, the Company will accelerate the mass production of TWS SoC on the client side based on its existing technologies, and strive to provide clients with convenient and differentiated innovative solutions.

In the security field, the Company has been working on security products for many years, with strong technical foundation and rich experience in commercialization. In 2021, the development of security products progressed smoothly. NFC chips, eSE chips and the overall solution have all passed various security certifications at home and abroad, which are about to be commercialized. We will make new breakthroughs in 2022, and are committed to the exploration of more application scenarios with ecological partners around the world to create more value and better experience for clients.

## **(2) Attach importance to talent acquisition so as to build an international first-class talent team**

A highly-educated, globalized R&D team with industry-leading professional and technical abilities is the driving force behind the Company's continuous innovation. During the reporting period, the Company's employees exceeded 2,100 worldwide, of whom more than 90% are R&D employees, while 50% have master's degrees or above. In particular, the overseas R&D team has about 500 people. The Company has established 24 R&D centers, technical support centers and representative offices around the world, covering four Continents.

The Company has brought together people trained by the Company itself and those with international background. To further optimize the company's manager system, it has not only cultivated and promoted senior R&D professionals and managers



who have worked in the Company for a long time, but also introduced senior managers with rich experience of working in international companies. In terms of talent training, the Company provides employees with relevant training opportunities and different platforms for them to show their abilities. In terms of talent incentives, the Company provides employees with a dual-channel promotion mechanism of management and technology, which is conducive to the cultivation of talents. Various long-term incentives are leveraged to help employees and the Company unite as a community that shares weal and woe, grows together, and strives to build an international first-class and innovative team that is stable, professional and high-caliber.

Continuous talent building and investment in innovation have brought many core technologies and patents to the company at a fast pace. During the reporting period, the Company has applied for and authorized more than 6,500 international and domestic patents in total.

### **(3) Extensive client base and strong global brand influence**

Goodix has become one of the few chip design companies in China that have entered the supply chains of world-wide renowned brand clients because of its innovative total solution of software and hardware and excellent customer service. Products and solutions are widely adopted by Samsung, Google, Amazon, Dell, Huawei, OPPO, vivo, Xiaomi, Buick, Hyundai, Nissan, and other renowned brands at home and abroad. With the strategic layout and breakthrough of diversified products, the Company's products are applied to smart devices, IoT and automotive electronics, which have greatly extended the breadth of the market and built a large client base.

In 2021, the Company has made a great breakthrough in exploring international market. Different categories of the Company's products are being used in large quantities by international renowned clients, demonstrating our brand's strong global influence. The leading market position, strong global brand influence and high-quality customer service have paved the way for the Company's current and future

application of technologies and expansion of target markets, providing a strong support for the Company to develop new international markets and clients.

### **(4) Expanding the strategic landscape with a global perspective**

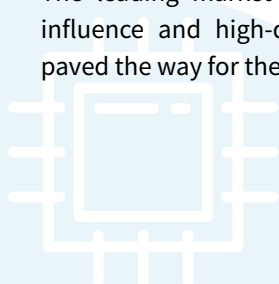
Goodix is rooted in China, with a global vision. In recent years, the Company has continuously promoted the process of globalization. Through the R&D layout in China, the Asia-Pacific region, Europe, the United States and other places, it has built an innovative, globally integrated R&D network to attract top talents to join the company, thereby accelerating the company's product development and innovation capabilities, improving and better providing differentiated innovative products and first-class services to customers around the world.

In the future, the Company will continue to focus on the domestic and overseas market of smart devices, Internet of Things and automotive electronics, relying on the endogenous development of research and development, while accelerating the process of internationalization, actively looking for global high-quality targets, and integrating the world's top R&D forces and advantages through mergers and acquisitions. Patent resources, at the same time, on the basis of existing overseas customers, continue to vigorously explore overseas markets, serve more international customers, and gradually realize the strategic goal of becoming the world's leading comprehensive IC design company.

## **7. Products**

### **(1) Sensor products**

As the Company has been engaged in the sensors for many years, our sensor products have been widely recognized by renowned clients around the world for their high quality and excellent performance. At present, sensor products mainly include fingerprint sensors, versatile sensors, health sensors, light sensors and ToF sensors. The fingerprint sensor has held a dominant market position in the world for many consecutive years, leading the trend of innovation. Versatile sensors have gradually entered into various applications, with a steadily rising



penetration rate. Health sensor's shipments continued to grow, ranking among the top three health sensors for wrist wearable devices in the world. In addition, the newly launched light sensor and ToF sensor are gradually emerging in the market. In the future, the Company will continue to develop diversified markets and obtain more commercial opportunities.

### 1) Fingerprint sensors

The rising penetration rate of OLED displays in the mobile phone market spurs the demand for IN-DISPLAY FINGERPRINT SENSOR™. The Company continued its leading position in this field and kept dominating the share in the domestic market, while successfully acquiring renowned international clients. On top of that, the new generation of ultra-thin optical in-display fingerprint solution has been widely recognized by clients for its excellent features, such as better ID adaptation, greater space saving and integration of health detection. The Company's side-key capacitive fingerprint sensors and ultra-narrow side-key capacitive fingerprint sensors have become a must for LCD screen mobile phones for their excellent performance and excellent design, leading to the rapid growth of their market shares.

### 2) Versatile Sensor

With the development of wearable technologies including low-energy connection wireless technology, the market shares of smart earphones and smart accessories dominated by TWS will continue to grow. The Company's Versatile Sensors, boasting ultra-low power consumption in a compact size — supporting in-ear detection (IED) and force / touch / temperature / proximity sensing. Goodix solutions greatly improve space utilization. Such sensors have been fully used for commercial purpose in the products from first-tier smart phone manufacturers and renowned brand earphone clients such as JBL. They have also been mass-produced and used for commercial purpose in the field of AR glasses, smart watches and other accessories. In 2021, the annual shipment of this product family continued to grow, up 150% YoY.

### 3) Health sensor

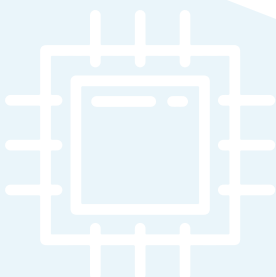
In the post-COVID-19 era, as the consumers have raised their health awareness, wearable devices such as smart watches/bands that focus on health care features will also continue to grow. The Company continued to launch new products for the world-leading health sensor series. In addition to features of heart rate detection, oxygen saturation detection and ECG, it also provides professional optical structure design specifications, dynamic heart rate algorithm library and accompanying mass production testing service to help customers simplify the product development process and quickly launch the products into market. By virtue of the unique advantages of high detection accuracy, long standby duration and ease of production, the Company's health sensors continue to be used for commercial purpose by first-tier brand clients, with a year-on-year increase of more than 300% in the annual shipment for 2021.

### 4) Light sensor

The pursuit of smart phones for full screens has driven the application of in-display sensors. The light sensor launched by the Company in 2021 has the features of ambient illuminance measurement, correlated color temperature measurement and proximity sensing, which can be widely applied in mobile devices (e.g., smart phones, tablets and computers), wearable devices (e.g., smart watches/bands, glasses and earphones) and smart home devices (e.g., TVs, projectors and smart lights). This sensor provides end users with multiple features including more comfortable screen display brightness and color, more accurate photography white balance, more efficient brightness control and more accurate presence detection. At present, Goodix's in-display light sensors have been successfully used for commercial purpose in domestic top brand flagship mobile phones because of the excellent features of high performance, low energy and high integration.

### 5) ToF sensor

The continuous growth of new consumer electronics such as smart home and VR/AR devices will generate



more market demands. Among them, ToF sensors have broad application prospects and development opportunities in the fields of photo assistance, face recognition, VR/AR and more. Based on its optical technology for many years, the Company launched ToF sensors, which have been successfully designed in domestic renowned brand clients for their performances in terms of low energy, high precision and good resistance to multi-machine interference. In the future, the Company will continue to explore more clients and accelerate the commercialization process for this kind of sensor.

## **(2) Touch Controllers**

As the display technology and smart devices continue to evolve, the Company keeps upgrading touch technology and developing innovative applications in more fields. At present, the products mainly consist of Touchscreen Controller and Touchpad Controller.

### **1) Touchscreen Controller**

As the penetration rate of soft OLED displays in smart phones increases year by year, the requirements for touch product performance and operating experience are getting higher. Against this backdrop, the Company's new generation of high-performance and low energy soft OLED display touch chips are favored by clients for amazing performance such as high refresh rate and low latency. In 2021, the shipments and market shares of this kind of chip grew fast. The new generation of hard OLED display touch products have been sold to international clients because of their excellent performance and good delivery, paving the way for its further growth in terms of international market share. The successful launch of folding screen OLED touch chips broke the single product pattern in this market. The forward-looking approach to product positioning has prepared solutions in advance for subsequent larger and thinner folding/curling mobile phones and active stylus applications. Meanwhile, the Company's medium and large-size touch screen chips have been successfully mass-produced because of excellent performance. Such chips have been accepted by domestic first-tier brand clients. In 2021, they were successfully used for commercial purpose in flagship

tablet models of international brand clients, holding an absolutely dominant position in the Android tablet market.

Automotive-grade Touch Controller have been recognized by mainstream Tier 1 clients because of high reliability and excellent EMC ability, resulting in a rapid increase in shipments. In particular, as the Company's new generation of Automotive-grade Touch Controller support large screens, featuring excellent anti-interference and fast response, they have been applied to screens from 7 inches to 30+ inches. Besides, such chips support screens with various aspect ratios. In 2021, they were successfully sold to domestic brand clients, joint venture brand clients and new energy brand clients.

### **2) Touchpad Controller**

In 2021, the global notebook shipments hit a new record high. Based on the good and stable client relationship and the multi-product strategy, the Company's touchpad controller achieved tremendous growth. Goodix's touchpad controller series products meet all Windows PTP and Chrome OS protocols, allowing more precise micro-movements or long-distance sliding touch control and better palm rejection. Thus, it provides the customers with complete solutions for touchpad applications on devices like laptops and mouse. Through close cooperation with mature industrial chains and stable and reliable production capacity supply, the Company has won orders of such chips from the world's top clients. The module products have been steadily mass-produced in large quantities. Meanwhile, the Company works closely with clients around the world on new technologies including pressure-sensitive touchpads.

### **(3) Connectivity products**

The Company provides stable and reliable wireless connectivity solutions to clients, including Bluetooth Low Energy (BLE) and Narrowband Internet of Things (NB-IoT) cellular connectivity technologies, as well as a series of products with high integration and balanced energy and performance. In addition, rich and easy-to-use development tools are provided by the Company to effectively shorten the cycle of new product launch.





### 1) Bluetooth Low Energy (BLE)

With the development of BLE technology, BLE experienced a considerable growth in wearable devices, smart phones and PC accessories, smart home devices and other fields. ABI Research estimated that in 2021, the shipment of BLE products worldwide reached 987 million units, a year-on-year increase of 26%. With the advantages in terms of high performance, low energy and excellent radio frequency, Goodix BLE product shipment increased by nearly 5 times in 2021 compared to 2020, topping the milestone of 10 million units. Such products were used for commercial purpose by renowned device brands in their smart bands/watches and active styluses. Besides, they have also penetrated into the mass market, successfully driving applications in the electronic shelf label market, printer market, gamepad market, remote control market, among other segment markets.

### 2) Narrowband Internet of Things (NB-IoT)

In recent years, large-scale projects such as smart city, smart industry and smart agriculture have been fully deployed, which have spurred the demands for intelligent information management and big data. This has driven the rapid growth of the NB-IoT market focusing on low-power, wide-area networks (LPWAN). Counterpoint data show that, by the end of 2021, the number of global NB-IoT connections has reached 300 million, mainly due to fast growth of hot-spot applications such as smart meters, smart smoke detectors and trackers. With ultra-low system energy, stable communication performance and rich MCU resources, the Company's NB-IoT products have been successfully designed in many clients' projects with great progress.

### (4) Audio products

After the Company acquired the NXP VAS team, the Company's audio technology has reached the leading level in the industry following two years of integration and development, and has been unanimously recognized by renowned brand clients. At present, the Company's main audio products consist of smart audio amplifiers, voice and audio software solutions and TWS wireless earphone solutions.

### 1) Smart audio amplifier

Benefiting from the strong demand for improved audio performance by smart phones, tablets and PCs and the continuous increase of models with stereo or more channels, stereo or even four-channel solutions were applied to flagship phones of most mainstream brands. These multiple factors increased the demand for audio amplifiers. In 2021, the Company's smart audio amplifier business grew rapidly. With high sound quality and loud volume, the amplifiers not only embedded differentiated performance in mid-end and high-end mobile phones and tablets, but were gradually applied in more mobile devices at different prices, making it possible for the amplifiers to capture more shares in the global market.

### 2) Voice and audio software solutions

The Company have been developing its voice and audio software solutions. The latest version of VoiceExperience added a directional noise reduction feature in video call mode. The new generation of AudioCapture further improved the recording quality and reduced more noise, and it has won the highest performance score for recording on the global renowned evaluation website DXOMARK. In 2021, the shipments of such solutions grew in a large margin, and the partnership with key clients on such solutions as VoiceExperience and AudioCapture was also deepened.

With the development of smart automotive operating systems and Internet of Vehicles (IoV), in-vehicle infotainment systems have raised higher requirements for high-quality voice interaction. Through software solutions such as in-vehicle voice calling and recording enhancement, users can obtain more accurate and clear high-quality voice and audio experience. In this regard, such solutions are favored by more and more automotive manufacturers, and the market demand is rising rapidly. The Company's CarVoice products have been successfully used for commercial purpose on many mainstream automotive models and by Tier 1 infotainment manufacturers. In the future, these products will continue to promote innovation and application in the voice field of the automotive electronics market.



### 3) TWS solutions

With the rapid adoption of social media and short video applications, the TWS market is expected to grow faster in the next few years. IDC predicts that the compound annual growth rate (CAGR) of TWS shipments will reach 14.1% in the next five years, and the shipments will approach 400 million pairs by 2024. Goodix's low-power high-performance audio codec IC, by integrating proprietary low energy technology to optimize small space and low power applications, have won the favor from renowned domestic brands who have used the chips on their TWS earphones, making the shipments of the chips to grow over 200% in 2021. In the near future, the Company will continue to research and develop TWS SoC solutions, which may become a new business growth engine of the Company.

### (5) Security products

The COVID-19 pandemic has changed people's daily life and accelerated the pace of digital, networked and intelligent development of lifestyles. Contactless payment and travel require both safety and convenience, those requirements accelerated the adoption of NFC and eSE security chips for mobile phones. ABI research data indicates that, in 2021, more than 800 million units of new mobile phones and wearable devices support NFC in the world, and such devices will maintain a high CAGR. With the promotion and adoption of China's digital yuan and digital automotive keys, NFC and eSE on mobile phones will further bring high-quality experience to users.

Goodix has engaged in security products for many years, it has laid a strong technical foundation and accumulated rich experience in commercializing technologies and services. In 2021, the R&D of security products progressed smoothly. At present, the NFC chip has been certified by NFC Forum, which can support contactless applications on various IoT and mobile devices. The eSE security chip has been certified as a financial technology product and certified by CC EAL5+ as a high security product. It is the first high-end embedded security chip in China that has passed international certifications, available for mobile devices. Up to now, the security solution

team has worked with many domestic institutions and groups and participated in the innovation and pilot work of many new applications. NFC chip, eSE chip and the overall solution have all passed various security certifications at home and abroad, and are about to be commercialized. In 2022, we will devote ourselves to the exploration of more applications with ecological partners around the world to create new values and provide better experiences for clients, and will strive to make new breakthroughs.

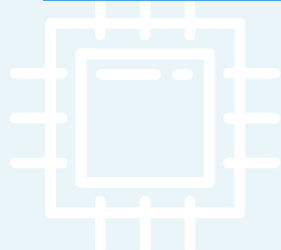


## 8. Financial Statements

### Shenzhen Goodix Technology Co., Ltd. Consolidated Income Statement

For the twelve months ended Dec 31,2021 and Dec 31,2020  
(The currency of the statements is Chinese Yuan,'CNY',unless otherwise indicated)

Items	Jan-Dec,2021	Jan-Dec,2020
<b>1. Revenue</b>	<b>5,712,871,793.38</b>	<b>6,687,275,485.14</b>
Less: Operating cost	2,960,069,870.72	3,191,803,801.23
Taxes and surcharges	29,734,835.10	40,951,372.40
Selling expenses	341,409,983.25	577,049,775.18
General and administrative expenses	169,463,073.47	129,556,577.75
Research and development expenses	1,691,994,164.98	1,754,021,489.72
Finance expenses	-47,622,992.95	-46,137,564.27
Including: Interest expense	21,365,547.97	4,158,604.86
Interest income	79,008,461.03	67,571,919.46
Add: Other income	205,664,980.38	358,210,808.18
Investment income	29,714,681.95	59,051,586.68
Including: Investment income from joint ventures and affiliates	8,767,407.32	7,240.16
earning from fair market value changes	66,372,309.57	177,808,052.35
Impairment of credit	-508,771.28	1,134,577.32
Impairment of assets	-66,903,274.14	-27,664,353.91
Proceeds from asset disposal	1,498,551.38	32,235,492.80
<b>2. Operating profits</b>	<b>803,661,336.67</b>	<b>1,640,806,196.55</b>
Add:non-operating income	418,985.02	2,634,299.93
Less:non-operating expenses	1,199,146.24	92,060.02
<b>3. Profit before tax</b>	<b>802,881,175.45</b>	<b>1,643,348,436.46</b>
Less:income tax	-57,041,817.88	-15,824,479.84
<b>4. Net profit</b>	<b>859,922,993.33</b>	<b>1,659,172,916.30</b>
<b>5. Other comprehensive income after tax</b>	<b>-51,090,409.59</b>	<b>-133,299,603.77</b>
<b>6. Total comprehensive income</b>	<b>808,832,583.74</b>	<b>1,525,873,312.53</b>
<b>7. Earning per share:</b>		
I .Basic earnings per share	1.91	3.67
II .Diluted earning per share	1.89	3.57



## Consolidated Statement of Balance Sheet

As of Dec 31, 2021 and Dec 31, 2020

(The currency of the statements is Chinese Yuan, 'CNY', unless otherwise indicated)

Assets	31-Dec-21	31-Dec-20
<b>Current assets:</b>		
Cash and cash equivalents	2,711,626,624.63	4,081,744,680.49
Financial assets held for trading	1,769,713,159.34	878,322,054.79
Notes receivables and trade receivables, net	1,122,757,109.86	703,891,220.99
Inventories	974,571,146.67	617,125,569.79
Prepayments	80,255,995.99	61,798,444.22
Other receivables	69,780,002.80	38,338,298.04
Current portion of non-current assets	90,008,749.44	53,465,642.46
Other current assets	50,965,584.20	153,547,694.18
<b>Total current assets</b>	<b>6,869,678,372.93</b>	<b>6,588,233,604.96</b>
<b>Non-current assets:</b>		
Long-term equity investments	124,067,990.90	83,109,694.18
Other non-current financial assets	367,407,583.63	374,485,997.56
Investment property	44,409,269.90	
Property, plant and equipment	391,621,659.27	391,030,454.98
Construction in progress	113,919,129.43	67,871,394.87
Right-of-use assets	107,990,685.94	
Intangible assets	1,417,720,219.89	1,269,631,954.92
Development costs	290,221,665.17	
Goodwill	612,094,157.67	543,288,317.95
Long-term deferred expenses	18,271,833.29	16,735,944.99
Deferred tax assets	214,097,263.97	118,884,666.15
Other non-current assets	155,708,586.62	434,582,572.96
<b>Total non-current assets</b>	<b>3,857,530,045.68</b>	<b>3,299,620,998.56</b>
<b>Total assets</b>	<b>10,727,208,418.61</b>	<b>9,887,854,603.52</b>

Liabilities and Stockholders' Equity	31-Dec-21	31-Dec-20
<b>Current liabilities:</b>		
Short-term loans	339,992,006.63	425,327,979.45
Financial liabilities held for trading	1,186,742.06	
Notes payables and trade payables	459,598,653.62	386,926,303.79
Advances from customers	426,721.38	



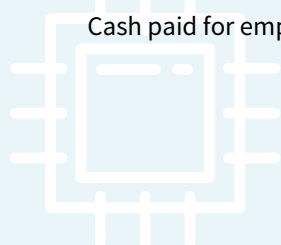


Contract liability	13,435,828.36	3,795,250.64
Accrued payroll	246,160,907.01	269,441,244.97
Taxes payable	58,600,695.10	32,578,411.89
Other payables	392,360,092.75	679,236,083.75
Current portion of non-current liabilities	93,738,163.92	
Other current liabilities	1,874,980.19	447,538.84
<b>Total current liabilities</b>	<b>1,607,374,791.02</b>	<b>1,797,752,813.33</b>
Non-current liabilities:		
Long-term loans	240,000,000.00	
Lease liabilities	77,340,253.01	
Deferred income	18,665,439.73	16,148,670.53
Deferred tax liabilities	89,911,831.58	36,841,294.66
<b>Total non-current liabilities</b>	<b>425,917,524.32</b>	<b>52,989,965.19</b>
<b>Total liabilities</b>	<b>2,033,292,315.34</b>	<b>1,850,742,778.52</b>
<b>Equity:</b>		
Paid-in capital	458,562,070.00	457,724,035.00
Additional Paid-in capital	1,954,745,378.12	1,864,936,707.47
Less: treasury shares	299,269,767.84	259,898,049.30
Other comprehensive income	-190,543,466.91	-139,452,980.89
Retained earnings	6,770,418,510.30	6,113,800,177.92
Equity attributable to owners of the parent company	8,693,912,723.67	8,037,109,890.20
Equity attributable to minority shareholders	3,379.60	1,934.80
<b>Total Stockholders' equity</b>	<b>8,693,916,103.27</b>	<b>8,037,111,825.00</b>
<b>Total liabilities and Stockholders' equity</b>	<b>10,727,208,418.61</b>	<b>9,887,854,603.52</b>

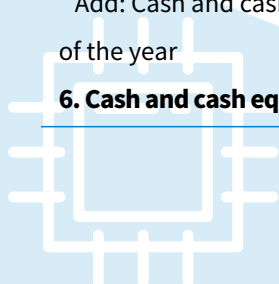
### Consolidated Statement of Cash Flows

For the twelve months ended Dec 31,2021 and Dec 31,2020  
(The currency of the statements is Chinese Yuan,'CNY',unless otherwise indicated!)

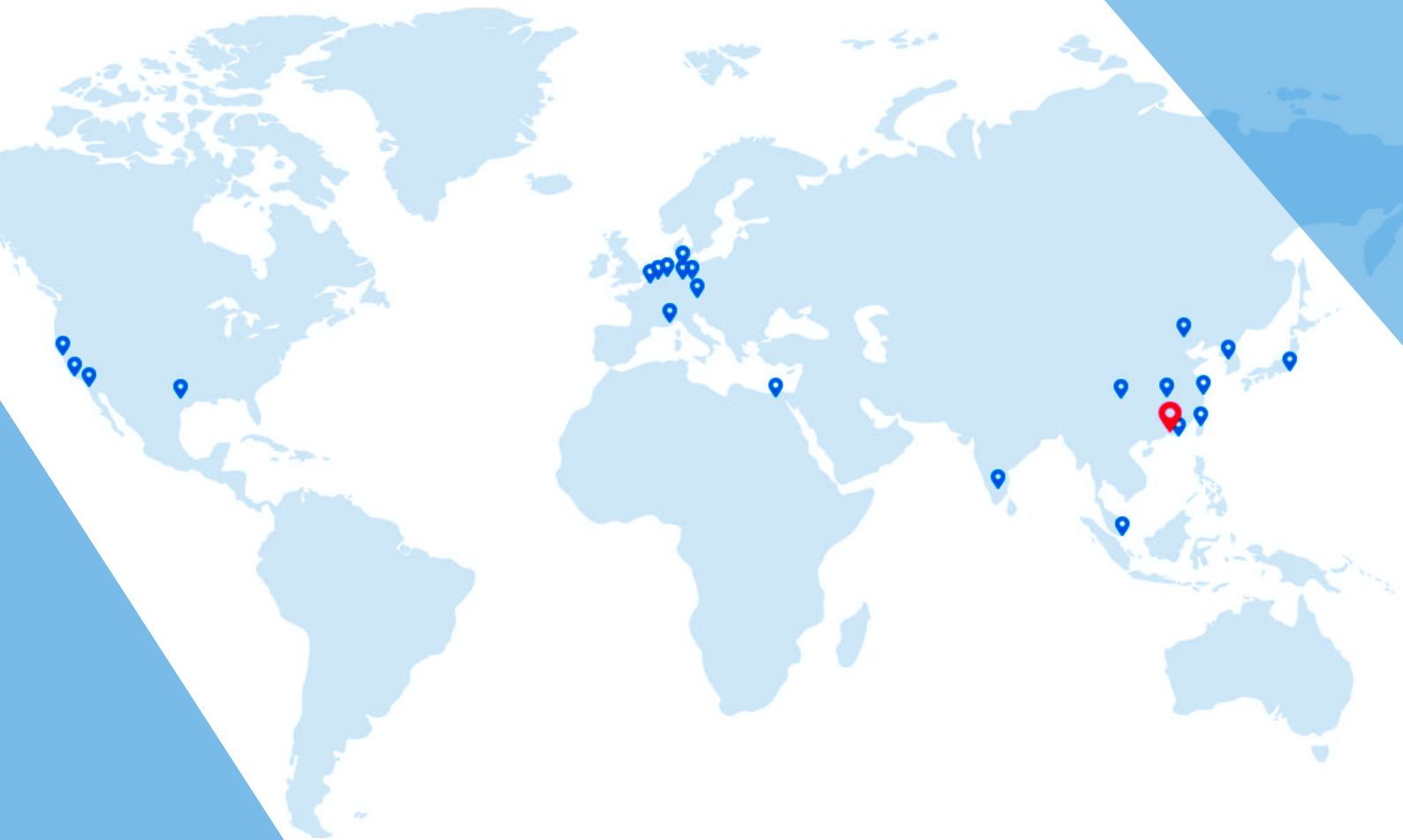
Items	Jan-Dec,2021	Jan-Dec,2020
<b>1. Cash flows from operating activities</b>		
Cash received from sales and services	5,946,694,487.37	7,295,666,457.69
Taxes and surcharges refunds	315,345,721.13	459,951,209.78
Other cash received from operating activities	306,083,438.39	227,616,965.67
Total cash inflows from operating activities	6,568,123,646.89	7,983,234,633.14
Cash paid for goods and services	3,863,016,930.06	4,061,988,818.95
Cash paid for employees related expenses	1,193,546,866.55	1,094,064,540.23



Taxes and surcharges cash payments	282,119,299.18	432,606,022.89
Other cash payments related to operating activities	907,664,329.13	1,182,933,947.89
Total cash outflows from operating activities	6,246,347,424.92	6,771,593,329.96
<b>Net cash generated from operating activities</b>	<b>321,776,221.97</b>	<b>1,211,641,303.18</b>
<b>2. Cash flows from investing activities</b>		
Cash received from withdraw of investments	1,852,841,960.08	7,450,000,000.00
Cash received from investment income	78,126,482.00	84,510,426.25
Net cash received from disposal of fixed assets, intangible assets and other long-term assets	20,756.50	37,826,680.00
Cash received from other investment related activities	46,139,741.12	61,669,190.00
Total cash inflows from investing activities	1,977,128,939.70	7,634,006,296.25
Cash paid for fixed assets, intangible assets and other long-term assets	598,186,512.50	1,239,222,977.19
Cash payments for investments	2,275,954,888.48	9,236,650,054.77
Cash paid for other investment related activities	19,998,720.00	
Net cash payments for acquisitions of subsidiaries and other business units		
Total cash outflows from investing activities	2,894,140,120.98	10,475,873,031.96
<b>Net cash used in investing activities</b>	<b>-917,011,181.28</b>	<b>-2,841,866,735.71</b>
<b>3. Cash flows from financing activities</b>		
Cash received from investments by others including: investment from minority shareholders	251,096,236.06	237,082,350.63 779.37
Cash received from borrowings	643,242,084.69	425,000,000.00
Other cash received from other financing activities	2,656,739.08	1,257,488.69
Total cash inflows from financing activities	896,995,059.83	663,339,839.32
Cash repayments for debts	425,987,405.12	
Cash payments for distribution of dividends, profit and interest expenses	219,072,365.97	368,265,078.19
Other cash payments related to financing activities	576,559,904.55	51,102,707.37
Total cash outflows from financing activities	1,221,619,675.64	419,367,785.56
<b>Net cash provided by financing activities</b>	<b>-324,624,615.81</b>	<b>243,972,053.76</b>
<b>4. Effect of changes in exchange rate on cash and cash equivalents</b>	<b>-17,368,460.43</b>	<b>-45,536,824.66</b>
<b>5. Net increase in cash and cash equivalents</b>	<b>-937,228,035.55</b>	<b>-1,431,790,203.43</b>
Add: Cash and cash equivalents at the beginning of the year	2,077,754,848.53	3,509,545,051.96
<b>6. Cash and cash equivalents at the end of the year</b>	<b>1,140,526,812.98</b>	<b>2,077,754,848.53</b>



*GOODIX*



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