



# 中國同輻股份有限公司

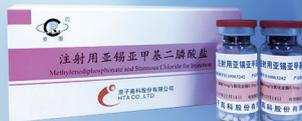
China Isotope & Radiation Corporation

(於中華人民共和國註冊成立的股份有限公司)

(A joint stock company incorporated in the  
People's Republic of China with limited liability)

股份代號 Stock Code : 1763

## 2021 INTERIM REPORT 中期報告



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# CORPORATE INFORMATION

## LEGAL NAME OF THE COMPANY

中國同輻股份有限公司(Abbreviation : 中國同輻)

## ENGLISH NAME OF THE COMPANY

China Isotope & Radiation Corporation\*

## REGISTERED OFFICE

Room 418, South 4th Floor  
Building 1, No. 66 Changwa Middle Street  
Haidian District  
Beijing  
PRC

## HEAD OFFICE IN THE PRC

No. 66  
Changwa Middle Street  
Haidian District  
Beijing  
PRC

## PRINCIPAL PLACE OF BUSINESS IN HONG KONG

Level 54, Hopewell Centre  
183 Queen's Road East, Hong Kong

## BOARD OF DIRECTORS

### Executive Directors

Mr. Meng Yanbin (*chairman of the Board*)  
Mr. Wang Suohui  
Mr. Du Jin

### Non-executive Directors

Mr. Liu Zhonglin  
Mr. Chen Shoulei  
Ms. Chang Jinyu  
Ms. Liu Xiuhong

### Independent Non-executive Directors

Mr. Hui Wan Fai  
Mr. Tian Jiahe  
Ms. Chen Jingshan  
Mr. Lu Chuang

Interim Report 2021

## THE COMMITTEES UNDER THE BOARD

### Audit and Risk Management Committee

Mr. Hui Wan Fai (*chairman*)  
Mr. Liu Zhonglin  
Mr. Lu Chuang

### Nomination Committee

Ms. Chen Jingshan (*chairman*)  
Mr. Hui Wan Fai  
Mr. Lu Chuang

### Remuneration and Appraisal Committee

Mr. Lu Chuang (*chairman*)  
Ms. Liu Xiuhong  
Ms. Chen Jingshan

### Strategy Committee

Mr. Meng Yanbin (*chairman*)  
Mr. Wang Suohui  
Mr. Liu Zhonglin  
Mr. Chen Shoulei  
Mr. Tian Jiahe

### Legal Affairs Committee

Mr. Meng Yanbin (*chairman*)  
Mr. Liu Zhonglin  
Ms. Liu Xiuhong  
Ms. Chen Jingshan  
Mr. Hui Wan Fai

## LEGAL REPRESENTATIVE

Mr. Meng Yanbin

## AUTHORIZED REPRESENTATIVES

Mr. Meng Yanbin (*chairman of the Board*)  
Mr. Gui Youquan (*joint company secretary*)  
Ms. Kam Mei Ha Wendy (*as the alternate representative of Mr. Meng Yanbin*)

## CORPORATE INFORMATION (CONTINUED)

### SUPERVISORS

Mr. Zhang Qingjun  
Mr. Zhao Nanfei  
Mr. Zhang Guoping  
Mr. Li Zhenhua  
Mr. Zhang Jian

### JOINT COMPANY SECRETARIES

Mr. Gui Youquan  
Ms. Kam Mei Ha Wendy

### AUDITOR

KPMG  
Public Interest Entity Auditor registered  
in accordance with the  
Financial Reporting Council Ordinance

### LEGAL ADVISORS

*As to Hong Kong Law*  
Herbert Smith Freehills  
23/F, Gloucester Tower  
15 Queen's Road Central  
Central  
Hong Kong

*As to PRC Law*  
Longan Law Firm Shanghai Branch  
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Grand Gateway 66  
No. 1 Hongqiao Road  
Xuhui District, Shanghai  
PRC

### PRINCIPAL BANKERS

Industrial and Commercial Bank of China,  
Chang'an Branch  
No. 6, Yi Xuannei Street  
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Beijing  
PRC

### H SHARE REGISTRAR

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

### STOCK CODE

1763

### INVESTORS' ENQUIRIES

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Website: [www.circ.com.cn](http://www.circ.com.cn)  
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### LISTING DATE

6 July 2018

# FINANCIAL HIGHLIGHTS

<b>(RMB in million)</b>	<b>Six months ended 30 June 2021</b>	Six months ended 30 June 2020
Revenue	<b>2,057.9</b>	1,517.4
Gross profit	<b>1,327.2</b>	847.2
Profit from operating activities	<b>272.2</b>	168.7
Profit before taxation	<b>278.3</b>	164.4
Profit attributable to equity shareholders of the Company	<b>106.8</b>	71.9
Basic/diluted earnings per share (RMB)	<b>0.33</b>	0.22
Profitability		
Gross profit margin	<b>64.5%</b>	55.8%
Operating profit margin	<b>13.2%</b>	11.1%
Net profit margin	<b>11.1%</b>	8.8%
	<b>At 30 June 2021</b>	At 31 December 2020
Total assets	<b>9,586.3</b>	9,185.3
Total liabilities	<b>3,908.5</b>	3,679.7
Net assets	<b>5,677.8</b>	5,505.6

## GROUP PROFILE

As a leader of the isotopes and irradiation technology application industry in the PRC, CIRC has tapped into the field of isotopes and irradiation technologies since it was established in 1983 and tilled the nuclear technology application industry for over 30 years. The businesses of the Company have basically covered the entire nuclear technology application industry. Given the high entry qualification and complex technological barriers, CIRC has huge space for business expansion in addition to its existing business.

CIRC focuses on research and development, manufacturing, and sales of pharmaceuticals, and is also engaged in radioactive sources, irradiation, nuclear medical equipment and independent clinical laboratory services. The Company derives 77.5% of its revenue and 85.3% of its gross profit from the pharmaceuticals segment in the nuclear medicine industry. As a leading enterprise in the PRC nuclear medicine industry featured with huge potential, high entry barriers and strong profitability, CIRC is the largest manufacturer of imaging diagnostic and therapeutic radiopharmaceuticals, UBT kits and analyzers, and RIA kits in the PRC. CIRC's products have high market presence. CIRC is the largest radioactive source products manufacturer with most comprehensive product portfolio in the PRC, and is the only radioactive source product manufacturer in the PRC with manufacturing capability to produce various products, such as cobalt-60 for irradiation service and cobalt-60 for medical applications. In terms of the irradiation service, CIRC is the third largest provider for irradiation service, and is the only provider which provides the services of the upstream production as well as the downstream design and installation of irradiation facilities. Two subsidiaries of CIRC are among the three qualified EPC service providers approved by the Ministry of Ecology and Environment to engage in the design, manufacturing and installation of irradiation facilities in China.

As an important member of isotopes and irradiation technology industry of CNNC, CIRC has achieved the domestication of production of radioisotope raw materials and research and development of irradiation products by leveraging on the availability of CNNC's nuclear reactors, cyclotrons and the resources of professional and technical staff.

# MANAGEMENT DISCUSSION AND ANALYSIS

The Group is primarily engaged in the research, development, manufacturing and sale of diagnostic and therapeutic radiopharmaceuticals and radioactive source products for medical and industrial applications, the provision of irradiation service for sterilization purpose and EPC services for the design, manufacturing and installation of gamma ray irradiation facilities and the provision of independent clinical laboratory services and nuclear medical equipment to hospitals and other medical institutions.

## BUSINESS REVIEW

For the six months ended 30 June 2021, we have operated five business segments, namely pharmaceuticals, radioactive source products, irradiation, independent clinical laboratory services and other business, and radiation therapy equipment and related services. With the development of China's economy and society and the improvement of domestic medical level, the wide application of nuclear medicine imaging technology and the strong clinical potential of targeted radiotherapy drugs have strongly promoted the clinical application demand of radiopharmaceuticals in China. During the Reporting Period, the Group has taken advantage of the trend, meticulously organized scientific research and production activities, and made every effort to promote industrial strategic layout and market development. The Group achieved revenue of RMB2,057.9 million, representing a year-on-year increase of 35.6%. Net profit for the year was RMB228.9 million, representing a year-on-year increase of 71.1%, and net profit attributable to equity shareholders of the Company was RMB106.8 million, representing a year-on-year increase of 48.5%.

## BUSINESS SEGMENTS

### 1. Pharmaceuticals

CIRC is the leading manufacturer of diagnostic and therapeutic radiopharmaceuticals in China, primarily engaged in the research, development, manufacturing and sale of a wide range of diagnostic and therapeutic radiopharmaceuticals, UBT kits and analyzers and in vitro diagnostic reagents in China. During the Reporting Period, with the easing of the COVID-19 pandemic in China, the Group's pharmaceuticals segment saw its business gradually returning to normal. During the Reporting Period, the Group's pharmaceuticals segment recorded a sales income of RMB1,594.8 million, representing an increase of 64.9% from the corresponding period in 2020.

During the Reporting Period, the "therapeutic sodium iodide-131 capsule" obtained the drug registration certificate issued by the National Medical Products Administration. It was China's first new radiopharmaceutical preparations (the first generic drug of its kind), which was a generic drug of listed drug abroad, to obtain a registration certificate since 2005. It was the Company's first product whose application has been successfully filed upon the promulgation of the new drug registration regulation and also the first product offering as an oral solid preparation being regarded as having passed the consistency evaluation. This time, the approval of this product offering will provide a new option for the clinical treatment of thyroid cancer and hyperthyroidism in China. With its continuous promotion in clinical applications, it will help improve the life quality of patients with thyroid cancer and hyperthyroidism. The approval of "therapeutic sodium iodide-131 capsule" is expected to play a role in promoting the Company's radiopharmaceuticals in terms of research and development, registration, production and sales, and is likely to boost the Company's sales income and profits. It is of special significance to the development of the domestic radiopharmaceuticals industry and nuclear medicine.

# MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

## 2. Radioactive source products

CIRC is one of the largest manufacturers of medical and industrial radioactive sources products in China and also a producer with the most complete range of radioactive source product offerings in China, primarily engaged in the research, development, manufacturing and sale of various medical and industrial radioactive sources products as well as provision of related technical services. During the Reporting Period, the Group derived income of RMB155.2 million from radioactive source business, representing an increase of 5.1% from the same period in 2020.

During the Reporting Period, Sichuan Zhonghe Tongyuan Technology Co., Ltd. (hereinafter referred to as "Zhonghe Tongyuan"), a subsidiary of CIRC, formally signed an investment agreement with Jiayang County Government, marking CIRC's significant progress achieved in its radioactive source research and development and production base construction project. The project mainly includes the construction of a radioactive source research and development center, an irradiation technology application center, a logistics center and their supporting facilities. Upon completion, it will become China's most advanced and the world's leading radioactive source industry base.

During the Reporting Period, the radioactive source segment has seized the opportunities of concentration of engineering projects construction in the post-pandemic era. The sales income of Californium-252 startup neutron source increased by RMB12.2 million, representing a year-on-year increase of 226.6%, and the income of Caesium-137 radioactive source increased by RMB7.3 million, representing a year-on-year increase of 219.9%.

## 3. Irradiation

The irradiation segment of CIRC is primarily engaged in providing irradiation service for sterilization purpose to manufacturers of medical devices, food, traditional Chinese medicine and cosmetics in China, and provide EPC services for the design, manufacturing and installation of irradiation facilities to irradiation service providers. For the first half of 2021, the irradiation segment realized an income of RMB62.7 million, representing a period-on-period increase of 65.6%, which was mainly due to an increase in income from irradiation processing services and an increase in volume of irradiation processing work on coronavirus-prevention materials.

During the Reporting Period, the irradiation segment increased promotion efforts for the Zhong He Fu (中核福) PE-Xc floor heating pipes with high thermal conductivity, and business was extended to irradiation products.

## 4. Independent clinical laboratory services and other businesses

As a downstream extension of CIRC's in vitro immunoassay diagnostic reagents and kits business, we also provide independent clinical laboratory services to hospitals and other medical institutions in China. We primarily offer independent clinical services in respect to hepatitis, endocrine, bone metabolism, cardiovascular disease, diabetes and other diseases. The Group is promoting the chain operation of independent clinical laboratories. During the Reporting Period, the Group has derived income of RMB138.3 million from independent clinical laboratory services and other businesses. Income derived from the Group's independent clinical laboratory services amounted to RMB90.7 million, representing a year-on-year increase of 83.0%, primarily attributable to increased nucleic acid testing services rendered during pandemic period. Beijing CIC Clinical Laboratory, a subsidiary of CIRC, being aware of the spread of the regional epidemic, took the initiative to take action, went deep into the epidemic area, and undertook the task of nucleic acid testing. Income from other businesses achieved RMB47.6 million, representing a year-on-year decrease of 81.3%. It was mainly due to the growth in the export business of epidemic prevention materials in the same period of last year. During the Reporting Period, as the situation of global epidemic prevention and control became more stable, the related business volume decreased.

## MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

### 5. Radiation therapy equipment and related services

During the Reporting Period, domestic hospitals which were affected by the pandemic have slowed down the procurement and installation of medicine equipment. While doing well in following up on existing hospital projects, our nuclear medical equipment business adjusted work arrangements and expanded new channels. CNHE, a subsidiary of the Company, and its subsidiary joint-venture company CNNC Accuray, held the 2021 Tomotherapy Advanced Technology Seminar (2021螺旋斷層放療前沿技術研討會), and participated in meetings such as the Third National Gamma Knife Beam Stereotactic Radiotherapy Academic Annual Conference of 2021 (2021年第三屆全國伽馬刀射束立體定向放射治療學術年會) and National “13th Five-Year Plan” Key Research and Development Program Project summary meeting. The medicine equipment business recorded RMB106.8 million of income, representing a year-on-year increase of 77.6%.

The table below sets forth our revenue by business segment for the six months ended 30 June 2021 and 30 June 2020:

(RMB in million, except in percentage)	Six months ended 30 June 2021		Six months ended 30 June 2020	
	Amount	%	Amount	%
Pharmaceuticals	1,594.8	77.5	967.2	63.7
Radioactive source products	155.2	7.5	147.6	9.7
Irradiation	62.7	3.0	37.9	2.5
Independent clinical laboratory services and other businesses	138.4	6.8	304.6	20.1
Radiation therapy equipment and related services	106.8	5.2	60.1	4.0
Total	2,057.9		1,517.4	

# MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

## MARKETING

During the Reporting Period, in order to cope with the requirements of the normal state of the pandemic, the Group's headquarters, together with its subsidiary CNNC Headway and its subsidiary joint-venture company CNNC Accuray continued working on platforms such as "Isotope Technology Lecture Hall", "Headway Health Lecture Hall" and "Accuray Lecture Hall", and invited experts of their respective fields to conduct online teaching and academic promotions activities. During the Reporting Period, the Group continued to support the work of the nuclear medicine unit of Chinese Medical Association in order to promote nuclear medicine diagnostic work and build the foundation of a demonstration base project, and put it into practice in Pu'er City People's Hospital and Xinjiang Production and Construction Corps Hospital. Since its commencement, the project has been put into practice in 60 hospitals. The Group co-organized "hand-in-hand" clinical application training courses with Beijing Friendship Hospital affiliated to Capital University of Medical Sciences to promote the development of nuclear medicine at the primary level.

The radiopharmaceutical segment expanded strategic cooperation with third-party imaging groups on the basis of its original business, and supplied radiopharmaceuticals to some third-party imaging groups in the form of centralized procurement.

The National Healthcare Security Administration publicly solicited opinions from the public on the "2021 National Medical Insurance Drug List Adjustment Work Plan" (《2021年國家醫保藥品目錄調整工作方案》) and the "Guidelines for the Adjustment and Application of the National Medical Insurance Drug List in 2021" (《2021年國家醫保藥品目錄調整申報指南》). In response to the single and few types of radiopharmaceutical products in the current National Medical Insurance Drug List, HTA Co., Ltd, a subsidiary of our Company, suggested to the National Healthcare Security Administration that, in the 2021 National Medical Insurance Drug List Adjustment Plan, the radiopharmaceuticals that developed rapidly, had a wide range of clinical applications and had important significance and value in the diagnosis and treatment of malignant tumors and cardiovascular diseases in recent years shall be included in the Medical Insurance Drug List.

## MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

### SCIENTIFIC RESEARCH AND INNOVATION

The Group has strong research and development strengths. Our scientific research team comprising 410 research and development personnel and assistants focuses on extensive researching and optimizing production technologies, the development of new products and the safety and efficacy upgrading of existing products. To prevent and control the COVID-19 pandemic and resolve the issue of lacking standards for irradiation and sterilization of medical protective clothing, the Group has commenced research on the irradiation and sterilization process standards for medical protective clothing materials, and has established the “Irradiation and Sterilization Process Specification for Medical Protective Clothing Materials” (《醫用防護服材料輻照滅菌工藝規範》). To prevent and control the COVID-19 in cold chain foods, the Group has carried out research on the COVID-19 irradiation and disinfection dosage and design on the COVID-19 inactivation process, preventing and controlling the COVID-19 in imported cold chain foods making use of irradiation technology. We have always actively conducted research and development work on various types of imaging diagnosis and therapeutic pharmaceuticals to fill the void of various fields of medical treatment and meet the medical needs of China. The therapeutic sodium iodide-131 capsule has been approved on 7 April 2021 for market launch. As of 30 June 2021, we had seven types of imaging diagnosis and therapeutic radiopharmaceuticals under research and development. Among them, two types of radiopharmaceuticals (i.e. iodine-131-MIBG injection and sodium fluorine-18 injection) were in clinical trial phase, one type of therapeutic radiopharmaceutical (i.e. palladium-103 sealed source) was awaiting approval for the clinical trial phase, and four types of imaging diagnosis and therapeutic radiopharmaceuticals were in various phases of research and development.

During the Reporting Period, the Group achieved remarkable results in the work on intellectual properties, with a total of 40 patents applied including 24 patents for inventions, and three software copyrights registered. As of 30 June 2021, the Group established six research and development centres under the CIRC Institute System, namely in vitro diagnosis technology, radioactive medicine, stable isotope and breath test technology, radioactive source and industrial application, irradiation application technology, and precision clinical examination. We will work with foreign and domestic outstanding enterprises to carry out innovations of the operational system and mechanism, adopt various methods including independent product development, alliance, entrustment, introduction or acquisition and merger, and gradually establish a high-level enterprise research and development centre covering various nuclear technology application fields.

\* Research and development assistants: personnel spending more than 50% of their work time on scientific research

# MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

## INTERNATIONAL BUSINESS

During the Reporting Period, the Group has recorded income of RMB45.6 million from our export of UBT analyzers, coronavirus test kits, RIA kits, gamma irradiation station, cobalt sources and other products to dozens of countries and regions. Among them, the exports of coronavirus-related products amounted to RMB15.1 million. During the Reporting Period, the Group has continued to implement the gamma irradiation station project in Malaysia, which was on track. At the same time, as the world's third largest supplier of cobalt sources, the Group continued to carry out the cobalt source export business. With the global shortage of cobalt sources, our steady progress in overseas demonstration projects and our strong capabilities of supplying cobalt sources have laid a solid foundation for the development of potential projects. The Group continued to expand business channels, supplying anti-epidemic materials to relevant organizations around the world in addition to exporting the coronavirus test kits listed in the white list of the Ministry of Commerce. The Group signed an exclusive agency agreement with Pakistan on the export of industrial flaw detection sources, and sales are expected to increase significantly going forward. In addition, in strengthening the management of operations, the Group further improved its export risk management mechanism, conducted international business training, strengthened the construction of internal management systems, and carried out preliminary work for preparing overseas localized operation, which helped the Group to further improve its internationalized operation.

## CAPITAL OPERATION

Upholding the strategic objectives of "Becoming Larger, Stronger and Better", the Group firmly follows the development concept of "Assetization and Globalization" to transform itself into a topnotch international organization and provider of nuclear technology application products and services. To implement the Group's strategy and improve the Company's financial gains, we have teamed up with CIRC Innovation Industrial Investment Fund to invest in various fields of nuclear technology applications, including nuclear medicine, medical device, in vitro diagnosis, industrial irradiation application and equipment manufacturing. These various projects have been underway as planned. During the Reporting Period, the Group has not acquired any enterprises.

As of 30 June 2021, the Company's actual amount paid to CIRC Fund was RMB480.0 million, and the total actual amount paid to the Fund was RMB1,600.0 million, so the Company's proportion accounted for 30.0%. After evaluation, the net assets of CIRC Fund measured at fair value as of 30 June 2021 were RMB1,610.3 million. The Company's net assets calculated based on the 30.0% shareholding percentage were RMB483.1 million, accounted for 5.0% of the Company's total assets. In the first half of 2021, the Company's investment income in CIRC Fund was RMB7.8 million, and the Company received dividends of RMB7.3 million.

## MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

### PRODUCTION CAPACITY

The manufacturing and production facilities of the Group have a wide geographical coverage in China. Up to now, the pharmaceutical centres that had been put into production by the Company were located in 18 regions including Beijing, Shanghai, Guangzhou, Chongqing, Chengdu, Shenyang, Zhengzhou, Changsha, Wuhan and Shantou. From January to August 2021, CIRC accelerated the construction of a high-quality lean project management system, and took advantage of system concepts to implement project nodes. Xuzhou and Jinan positron drug production lines were completed and put into production. Projects such as those in Kunming, Nanjing and Yichang obtained the Radiation Safety Permit successfully. All these laid a solid foundation for the subsequent production and operation of the project, initially forming a network layout across 32 major cities nationwide.

The diagnostic and therapeutic radiopharmaceuticals manufacturing bases were mainly located in four regions (i.e. Beijing, Ningbo, etc.), and the production lines that are newly planned and laid out were also in full swing. The UBT diagnostic kits and test analyzers manufacturing bases were located in two regions (i.e. Shenzhen and Tongcheng). The radioactive source manufacturing bases were located in two regions (i.e. Beijing and Leshan). The in vitro immunoassay diagnostic reagents and kits manufacturing bases were located in Beijing.

The production capacity, actual production volume and utilization rates for the six months ended 30 June 2021 are set out in the table below:

#### Imaging diagnostic and therapeutic radiopharmaceuticals:

	Six months ended 30 June 2021		
	Annual design capacity	Actual production volume	Utilization rate
Fluorine-18-FDG injections (Ci)	18,552	4,422	23.8%
Molybdenum-99/technetium-99m generators (Ci)	32,445	6,548.6	20.2%
Technetium-99m instantly labelled pharmaceutical series (vial)	1,093,950	259,109	23.7%
Sodium iodine-131 oral solution (Ci)	22,036	7,049	32.0%
Iodine-125 sealed sources (unit)	1,000,000	316,932	31.7%
Strontium-89 chloride injections (vial)	67,400	3,901	5.8%

#### UBT kits and analyzers:

	Six months ended 30 June 2021		
	Annual design capacity	Actual production volume	Utilization rate
Carbon – 13&14 UBT kits (unit)	57,250,000	22,977,167	40.1%
Carbon – 13&14 UBT analyzers (unit)	6,200	3,374	54.4%

## MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

### In vitro immunoassay reagents and kits:

	Six months ended 30 June 2021		
	Annual design capacity	Actual production volume	Utilization rate
RIA kits(unit)	200,000	40,380	20.2%
EIA reagents, CLIA reagents and TRFIA (unit)	100,000	12,416	12.4%

### Radioactive source products:

	Six months ended 30 June 2021		
	Annual design capacity	Actual production volume	Utilization rate
Cobalt-60 source for gamma knife (Ci)	3,600,000	44,160	1.2%
Iridium-192 brachytherapy sources (Ci)	10,000	780	7.8%
Cobalt-60 radioactive source for irradiation service(Ci)	14,400,000	2,282,143	15.8%
Iridium-192 non-destructive testing radioactive sources (Ci)	1,200,000	106,260	8.9%
Caesium-137 radioactive sources (Ci)	55,700	400	0.7%
Americium-241/Beryllium neutron sources (Ci)	1,000	100	10.0%
Selenium-75 non-destructive testing radioactive source (Ci)	50,000	28,449	56.9%

## FUTURE DEVELOPMENT

In the first half of this year, the China Atomic Energy Authority, together with eight departments including the Ministry of Science and Technology, the Ministry of Public Security, the Ministry of Ecology and Environment, the Ministry of Transport, and the National Health Commission, officially issued China's first programmatic document on the application of nuclear technology in the field of health care – "The Medium – and Long-term Development Plan for Medical Isotopes (2021-2035)" 《醫用同位素中長期發展規劃(2021-2035年)》 in which key priorities have been set for the "14th Five-Year Plan" period and for a period of time going forward in terms of development, supply, demand, policy and other aspects of the medical isotope industry, playing an important role in realizing China's independent controllability along the nuclear medicine industry chain, accelerating the research and development and innovation of radiopharmaceuticals and nuclear medical equipment, and expanding the popularity of nuclear medicine nationwide. The nuclear technology application industry is expected to move into the fast lane of development under the guidance of the Plan. In order to seize the opportunities for development and accelerate the implementation of the goals and tasks of the Plan, in the future development, CIRC will actively improve the industrial layout around the nuclear medicine industry chain.

## MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

In terms of radiopharmaceuticals, CIRC will make persistent efforts during the “14th Five-Year Plan” period to promote the launch of more radiopharmaceuticals in the market at the soonest through various means including independent research and development, cooperative development and introduction from abroad so that the role of radiopharmaceuticals can be better demonstrated in the diagnosis and treatment of malignant tumors, cardiovascular diseases and other major diseases. At the same time, the Company will accelerate the building of radiopharmaceuticals production capacity. During the “14th Five-Year Plan” period, we will build China’s largest radiopharmaceuticals research and development and production base in Zhuozhou, Hebei, and complete a network layout covering major cities nationwide on the basis of the existing 18 nuclear pharmaceutical centres so as to meet the growing market demand for radiopharmaceuticals in China.

In terms of nuclear medical equipment, the Company entered the field of radiotherapy equipment from a high starting point through cooperation with the world’s radiotherapy giant Accuray in the “13th Five-Year Plan” period. Tomo Therapy and Cyber Knife, which are the mainstay products of CNNC Accuray, are extremely competitive in the Category A radiotherapy equipment market, and CNNC Accuray putting its Tianjin plant into operation has also provided a strong guarantee for subsequent production capacity. Meanwhile, the Company has jointly developed an automated single-photon drug dispensing and preparation system with Shanxi Medical University, and has completed the development of a prototype for the radiopharmaceutical packaging and injection system in cooperation with foreign enterprises. During the “14th Five-Year Plan” period, the Company will further deepen cooperation with enterprises and scientific research institutions at home and abroad, step up efforts on the introduction of technologies and talents, and vigorously promote the tackling of critical core technology issues to form capabilities in the research and development and manufacturing of domestically-made high-end radiotherapy equipment, nuclear medicine imaging equipment, nuclide production accelerators, etc.

## MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

In terms of nuclear medicine services, it has been proposed in the “Medium- and Long-term Development Plan for Medical Isotopes” that there is the need to implement a nuclear medicine promotion plan and that an inspiring goal has been set: to achieve a full coverage of the nuclear medicine department of tertiary general hospitals by 2025, and to realize “One County, One Department” for nuclear medicine nationwide by 2035. To help achieve this goal, CIRC will further strengthen the integration of internal resources to provide hospitals with comprehensive and whole-process nuclear medicine services including the design and construction of nuclear medicine departments, the supply of radiopharmaceuticals, full-life services on medical radioactive sources, the supply and maintenance of nuclear medical equipment, the training of nuclear medicine personnel, and the treatment of radioactive medical waste, better leveraging the synergistic advantages of the industrial chain upstream and downstream, and further enhancing the core competitiveness and industry presence of CIRC.

The “14th Five-Year Plan” is a period of strategic opportunities for developing the nuclear technology application industry. The high attention received at the national level and the urgent need for a better life among the people have provided a strong impetus for the development of the nuclear technology application industry. As a leading enterprise in the industry, CIRC has always taken leading the development of the nuclear technology application industry as its mission. In our development going forward, CIRC will firmly follow a market orientation, at the core of which is the commitment to raising economic efficiency and improving quality driven by reforms and innovations. We will also strive to accelerate the developments of nuclear technology applications to continuously create a greater value for customers, shareholders, and society.

### FINANCIAL REVIEW

#### Revenue

We derived our revenue mainly from five major business segments: (1) pharmaceuticals; (2) radioactive source products; (3) irradiation; (4) independent clinical laboratory services and other businesses; and (5) radiation therapy equipment and related services.

Our revenue increased by 35.6% from RMB1,517.4 million for the six months ended 30 June 2020 to RMB2,057.9 million during the Reporting Period, which was mainly due to the Company worked hard to develop the market, took effective measures to prevent and control the epidemic, and promoted the Company’s business development in an orderly manner during the Reporting Period. The revenue of our pharmaceuticals segment, irradiation segment, and radiation therapy equipment and related services segment all increased significantly.

#### Cost of Sales, Gross Profit and Gross Margin

Our cost of sales increased by 9.0% from RMB670.3 million for the six months ended 30 June 2020 to RMB730.6 million during the Reporting Period, which was mainly due to the increase in the business volume of the pharmaceuticals segment, radiation therapy equipment and related services segment, radioactive source segment and irradiation segment during the Reporting Period compared with the same period of the previous year, leading to a corresponding increase in the cost of sales.

Our gross profit increased by 56.7% from RMB847.2 million for the six months ended 30 June 2020 to RMB1,327.3 million during the Reporting Period and our gross margin increased by 8.7% from 55.8% to 64.5%. The increase in gross margin was primarily due to the large year-on-year growth of pharmaceuticals segment business with higher gross profit margin in the first half of 2021.

## MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

### Other Income

Our other income decreased by 35.9% from RMB34.3 million for the six months ended 30 June 2020 to RMB22.0 million during the Reporting Period, which was mainly due to decreased government grants received during the Reporting Period, compared with more government subsidies from the 2019 economic growth incentives and the 2020 production expansion and efficiency support plan for COVID-19 in the same period of last year.

### Selling and Distribution Expenses

Our selling and distribution expenses increased by 61.9% from RMB482.0 million for the six months ended 30 June 2020 to RMB780.4 million during the Reporting Period, which was mainly due to our rebounding business volume during the Reporting Period, causing the increase of our sales service fees.

As a percentage of revenue, selling and distribution expenses increased from 31.8% for the six months ended 30 June 2020 to 37.9% during the Reporting Period, which was mainly due to the rebound of business volume in the pharmaceuticals segment with relatively high selling expenses.

### Administrative Expenses, Research and Development Costs and Credit Loss on Trade Receivables

Our administrative expenses, research and development costs and total credit loss on trade receivables increased by 28.6% from RMB230.7 million for the six months ended 30 June 2020 to RMB296.6 million during the Reporting Period. Our administrative expenses increased by 17.3% from RMB184.1 million for the six months ended 30 June 2020 to RMB215.9 million during the Reporting Period, which was mainly due to (i) the increased staff costs resulting from our expanded operational scale, and (ii) the growth of business volume resulting in the increase in rent, travel expenses and entertainment expenses incurred by business expansion during the Reporting Period.

The research and development costs increased by 79.0% from RMB44.8 million for the six months ended 30 June 2020 to RMB80.1 million during the Reporting Period, which was mainly due the increase of research and development investment and technological innovation by the Company.

The total credit loss on trade receivables decreased by 70.3% from RMB1.8 million for the six months ended 30 June 2020 to RMB0.5 million during the Reporting Period, which was mainly due to the less bad debt losses accrued based on credit risk this year.

As a percentage of revenue, administrative expenses, research and development costs and total impairment loss on trade receivables decreased from 15.2% for the six months ended 30 June 2020 to 14.4% during the Reporting Period, which was mainly due to the year-on-year growth in business volume during the Reporting Period resulting in revenue growth.

### Finance costs

Our finance costs decreased by 8.9% from RMB18.4 million for the six months ended 30 June 2020 to RMB16.8 million during the Reporting Period, which was mainly due to the decrease in our interest expenses.

### Share of Profits Less Losses of Associates and Share of Profits Less Losses of Joint Ventures

Our share of profits less losses of associates slightly decreased by 7.5% from RMB2.9 million for the six months ended 30 June 2020 to RMB2.7 million during the Reporting Period, mainly due to the increase in losses incurred by our associates CNNC Nuclide Medical Investment Co., Ltd. Our share of profits less losses of joint ventures increased by 80.6% from RMB11.2 million for the six months ended 30 June 2020 to RMB20.2 million during the Reporting Period, mainly due to an increase in profits from our joint venture Shanghai GMS Pharmaceutical Co., Ltd. and Tongfu Fund.

## MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

### Profit before Tax

As a result of the foregoing, our profit before tax increased by 69.3% from RMB164.4 million for the six months ended 30 June 2020 to RMB278.3 million during the Reporting Period.

### Income Tax

Our income tax increased by 61.5% from RMB30.6 million for the six months ended 30 June 2020 to RMB49.4 million during the Reporting Period, mainly due to the increase in our taxable income.

For the six months ended 30 June 2020 and during our Reporting Period, our effective tax rate was 18.6% and 17.7% respectively.

### Profit for the Period

As a result of the foregoing, our profit for the period increased by 71.1% from RMB133.8 million for the six months ended 30 June 2020 to RMB228.9 million during the Reporting Period.

## FINANCIAL POSITION

### Overview

For the six months ended 30 June 2021, the total assets, the total liabilities and the total equity of the Group were RMB9,586.3 million, RMB3,908.5 million and RMB5,677.8 million respectively.

### Net Current Assets

The table below sets forth our current assets, current liabilities and net current assets as at the dates indicated:

	At 30 June 2021	<i>RMB in million</i> At 31 December 2020
Inventories	696.6	590.0
Trade and bill receivables	2,554.5	2,368.5
Prepayments	196.1	113.9
Deposits and other receivables	143.5	142.2
Cash at bank and in hand	2,384.5	2,556.5
<b>Total Current Assets</b>	<b>5,975.2</b>	5,771.1
Borrowings	97.0	90.2
Trade payables	237.1	199.5
Accruals and other payables	2,488.5	2,327.4
Lease liabilities	43.5	29.9
Provisions	69.7	73.9
Income tax payable	41.6	51.3
<b>Total Current Liabilities</b>	<b>2,977.4</b>	2,772.2
<b>Net Current Assets</b>	<b>2,997.8</b>	2,998.9

## MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

Our net current assets decreased by 0.04% from RMB2,998.9 million as of 31 December 2020 to RMB2,997.8 million as of 30 June 2021, which was mainly due to the increase in trade payables, accruals and other payables, resulting in an increase in current liabilities.

### Adjusted Net Gearing Ratio and Quick Ratio

As of 31 December 2020 and 30 June 2021, our adjusted net gearing ratio (adjusted net debt (interest-bearing debt plus unaccrued proposed dividends) divided by adjusted equity (all components of equity less unaccrued proposed dividends)) was 14.8% and 14.0% respectively.

As of 31 December 2020 and 30 June 2021, our quick ratio (total current assets excluding inventories divided by total current liabilities as of the same date) was 1.9 times and 1.8 times, respectively.

### Analysis of Cash Flows

The following table sets forth the cash flows of the Group:

	<i>RMB in million</i>	
	<b>Six months ended 30 June</b>	
	<b>2021</b>	2020
Net cash generated from/(used in) operating activities	<b>30.1</b>	(164.0)
Net cash used in investing activities	<b>(394.5)</b>	(256.6)
Net cash generated from financing activities	<b>11.8</b>	13.8
Net decrease in cash and cash equivalents	<b>(352.6)</b>	(406.8)
Cash and cash equivalents at the beginning of the period	<b>2,351.5</b>	2,640.3
Effect of changes in foreign exchange rate	<b>0.1</b>	(1.3)
Cash and cash equivalents at the end of the period	<b>1,999.0</b>	2,232.2

### Trade Receivables, Prepayments, Deposits and Other Receivables

Trade and other receivables are stated at amortised cost using the effective interest method less allowance for credit losses. As of 30 June 2021, our trade and other receivables (net of bad debt allowance of RMB155.1 million) were RMB2,894.1 million.

### Trade and Other Payables

Our trade and other payables mainly consist of trade payables and accruals and other payables, which include receipts in advance, other taxes payables, deposits from distributors, payables to distributors, payables for staff-related costs, dividends payables and other accruals and payables. As of 30 June 2021, our trade and other payables were RMB2,725.6 million.

# MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

## Bank Loans and Pledge of Assets

As of 30 June 2021, the Group's total bank loans were RMB205.5 million.

As of 30 June 2021, the unsecured long-term bank loan was a long-term bank loan of RMB92.0 million for project construction borrowed by a subsidiary of the Group, of which RMB50.0 million was borrowed in 2020 and RMB42.0 million was newly added during the Reporting Period, with an interest rate of five-year LPR minus 50 base points.

As of 30 June 2021, the Group's secured long-term bank loans mainly include:

- (i) A three-year loan of RMB5.9 million borrowed by a subsidiary of the Group in 2020 at base rate plus 15 base points per annum, for which was jointly guaranteed by the shareholders of the subsidiary.
- (ii) A fifteen-year loan of RMB8.0 million borrowed by a subsidiary of the Group in 2019 at base rate plus 78.5 base points per annum, with an amount of RMB7.2 million remaining as at 30 June 2021, for which certain of the Group's properties with total carrying amount of RMB8.7 million and right of use assets with total carrying amount of RMB0.9 million were pledged.
- (iii) A five-year loan of RMB30.0 million borrowed by a subsidiary of the Group in 2019 at base rate plus 20.25 base points per annum, with an amount of RMB7.5 million remaining as at 30 June 2021, for which certain of the Group's properties with total carrying amount of RMB57.1 million and right of use assets with total carrying amount of RMB6.9 million were pledged.

As of 30 June 2021, the Group's short-term bank loans mainly included:

- (i) A loan of RMB83.5 million borrowed by a subsidiary of the Group in 2020 at an interest rate of 3.10%, with an amount of RMB83.5 million remaining as at 30 June 2021.
- (ii) A loan of RMB5.0 million borrowed by a subsidiary of the Group during the Reporting Period at an interest rate of 4%, with an amount of RMB5.0 million remaining as at 30 June 2021, which was guaranteed by Beijing Capital Investment & Guarantee Co., Ltd. (北京首創融資擔保有限公司).
- (iii) A mortgage loan of RMB4.0 million borrowed at an interest rate of 3.35% in 2020 by a newly acquired subsidiary of the Group in the current period, with an amount of RMB4.0 million remaining as at 30 June 2021, for which certain of the Group's properties with carrying amount of RMB7.0 million and right of use assets with carrying amount of RMB6.8 million were pledged, and a borrowing of RMB0.5 million borrowed at an interest rate of 4.05% in 2020, with an amount of RMB0.5 million remaining as at 30 June 2021, for which was guaranteed by legal person of the subsidiary.

## Capital Expenditures

Our capital expenditures mainly comprise additions to ownership interests in leasehold land held for own use, investment properties, plant and equipment and intangible assets. During the Reporting Period, our capital expenditures were RMB253.0 million.

## Contingent Liabilities

As of 30 June 2021, we did not have any material contingent liabilities.

## Foreign Exchange and Foreign Exchange Risk

During the six months ended 30 June 2021, the Group was exposed to currency risks primarily through bank deposits denominated in foreign currency, which were primarily Hong Kong dollars. The Group monitors foreign exchange movements and determines exchange when necessary. The Group currently has no foreign exchange hedging policy.

## MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

### Credit Risks

In order to minimise the credit risk, we have policies in place to monitor the exposures to these credit risks on an ongoing basis. Before accepting any new customer requiring credit over a certain credit amount, we carry out research into their credibility and assess their credit quality and define credit limits for that customer. Our individual credit evaluations focus on the customer's historical payment records, and take into account information specific to the customer as well as pertaining to the economic environment in which the customer operates.

We normally do not require collateral from customers. Therefore, our exposure to credit risk is influenced mainly by the individual characteristics of each customer rather than the industry in which the customer operates. The significant concentration of credit risk primarily arises when we rely heavily on individual customers. We will, however, perform periodic credit evaluation on our customers and monitor the compliance of credit terms by them. We believe we do not have any significant concentration of credit risk as the trade and bill receivables involve a large number of customers across diverse industries and geographical areas.

### Liquidity Risks

Our policy is to regularly monitor current and expected liquidity requirements to ensure that we maintain sufficient reserves of cash and adequate commitment funds from major financial institutions to meet both short and long term liquidity requirements. Our Directors believe that there is no significant liquidity risk, as we have sufficient monetary capital to fund our operations.

## DIVIDEND POLICY

When the Board recommends the declaration of cash dividends to shareholders at a general meeting, the decision to declare any dividends and the amount of dividends will depend on, among other things:

- our results of operations and cash flows;
- our financial position;
- overall performance;
- our future prospects;
- statutory, regulatory and contractual restrictions on the payment of dividends by us; and
- other factors that the Board deems relevant.

Our Board will propose declaration of dividend, if any, in Renminbi with respect to the shares on a per share basis for shareholders' approval. We will pay such dividend in Renminbi. According to the Articles of Association of the Company, all of our shareholders are equally entitled to dividend and distribution. Holders of the shares will be proportionally entitled to all dividends and other distributions declared on a per share basis.

## INTERIM DIVIDEND

The Board does not recommend the payment of any interim dividend for the six months ended 30 June 2021.

# MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

## NO MATERIAL ADVERSE CHANGE

The Directors have confirmed that there was no material adverse change in our financial and trading position or prospects since 30 June 2021.

## USE OF PROCEEDS FROM THE INITIAL PUBLIC OFFERING

On 6 July 2018, H shares of the Company became listed on the Main Board of The Stock Exchange of Hong Kong Limited (the “Stock Exchange”) (stock code: 1763). Based on the offer price of HKD21.60 per H share and upon the partial exercise of the over-allotment option (100 shares), the net proceeds that the Group received from the global offering were approximately HKD1,690.0 million after deduction of the underwriting commissions and other estimated expenses in relation to the global offering.

In accordance with the requirements of paragraph 11(8) of Appendix 16 of the Listing Rules, the update of use of proceeds, and the use of proceeds from the initial public offering for the first half of 2021 (including the expected time of full utilisation of this balance) is set out below:

*RMB in million*

<b>Use</b>	<b>Initial Allocation of the net proceeds</b>	<b>Revised Allocation of the net proceeds</b>	<b>Amount Utilised as of 31 December 2018</b>	<b>Amount Utilised as of 31 December 2019</b>	<b>Amount Utilised as of 31 December 2020</b>	<b>Amount Utilised as of 30 June 2021</b>	<b>Balance as of 30 June 2021</b>	<b>Expected time of full utilisation of balance</b>
Investment in imaging diagnostic and therapeutic radiopharmaceuticals manufacturing and research and development bases	597.3	460	0	29.5	200	205	255	2022
Establishment of production and distribution subsidiaries	67.3	-	-	-	-	-	-	-
Establishment of new production facilities	84.5	50	0	50	50	50	0	-
Investment in the research and development of various imaging diagnostic and therapeutic radiopharmaceuticals, raw materials of radioactive source products, medical radioisotopes, and UBT products and related raw materials	253.6	118.3	0	76.6	101.2	101.2	17.1	2022
Investments/selective (mergers) acquisitions	286.5	536.1	51.4	529.9	536.1	536.1	0	-
Working capital and general corporate purposes	143.3	268.1	71.7	232.5	268.1	268.1	0	-
<b>Total</b>	<b>1,432.50</b>	<b>1,432.50</b>	<b>123.1</b>	<b>918.5</b>	<b>1,155.4</b>	<b>1,160.4</b>	<b>272.1</b>	<b>-</b>

## MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

### EMPLOYEES AND REMUNERATION POLICY

The Group had a total of 2,986 employees as of 30 June 2021. During the six months ended 30 June 2021, our staff costs were approximately RMB377.1 million. The remuneration policy of the Group is to motivate and retain excellent staff so as to realize the long-term enterprise goals and objectives of the Group. The employee remuneration policy of the Group is determined after taking into account the overall salary level in the industry, employees' performance and other factors. The management regularly reviews the employee remuneration policy and arrangement of the Group.

We provide our employees with salaries and bonuses, as well as employee benefits, including employee retirement benefit schemes, medical and vocational injury insurance schemes and housing provident fund schemes. Our employees located in China are covered by the mandatory social security schemes defined by PRC local practice and regulations, which are essentially defined contribution schemes.

We provide training to all of our employees to have them equipped with the necessary skills to perform their jobs competently and to give them the opportunities to realize their personal career goals and aspirations. We are also committed to providing individuals with management and leadership training that will improve our capability to achieve our vision, mission and growth objectives. We realize the importance of developing individual career paths that will help employees develop their full potential. Development opportunities are provided as a result of on-the-job training and formal training programs.

### CASH SETTLED SHARE BASED TRANSACTION

At the Annual General Meeting of the Company held on 30 June 2020, the plan for the first tranche of the share appreciation rights (the "**Plan**") and the scheme for initial grant under the plan were approved by the Group. On 30 June 2020, the Board announced the first tranche of the share rights appreciation plan and approved the initial grant under the plan. The target group of the incentive comprised of 162 individuals (including 107 senior management executives and 55 senior technical staff members of the Group). A total of 8,607,700 share appreciation rights, which made up 2.69% of the total shares issued, were granted.

Pursuant to the Plan, each share appreciation right is related to a share, and share appreciation rights will be settled in cash, and thus there will be no influence on the total number of issued shares or dilution effect on shares. Under the scheme for the initial grant, the exercise price for each share appreciation right is the highest of: (1) HK\$22.20, being the closing price of the Group's H Shares on the Stock Exchange on the date of grant, (2) the average closing price of HK\$21.82 of the Group's H Shares on the Stock Exchange for the five consecutive trading days prior to the date of grant, or (3) the nominal value of the shares of the Company, that is HK\$1.0948.

The share appreciation rights will be vested upon the achievement of performance conditions of the Group, service conditions and personal performance conditions specified by the Board.

One third of the total number of share appreciation rights granted to each grantee ("**Batch One**") will vest after two years from the date of grant, another one third of the total number of share appreciation rights granted to each grantee will vest after three years from the date of grant, and the remaining one third of the total number of share appreciation rights granted to each grantee will vest after four years from the date of grant.

# MANAGEMENT DISCUSSION AND ANALYSIS (CONTINUED)

## HEDGING ACTIVITIES

During the six months ended 30 June 2021, the Group had not entered into any hedging transaction in relation to foreign exchange risks or interest risks.

## FUTURE PLANS FOR MATERIAL INVESTMENTS OR CAPITAL ASSETS

The Group will actively explore investment opportunities in and outside the PRC to diversify its source of income, which may or may not include any acquisition or disposal of assets and/or business by the Group. Any such plans will comply with the applicable requirements under the Listing Rules (where appropriate).

By order of the Board of Directors  
**China Isotope & Radiation Corporation**  
**Meng Yanbin**  
*Chairman of the Board*

Beijing, the PRC, 31 August 2021

# CORPORATE GOVERNANCE AND OTHER INFORMATION

## COMPLIANCE WITH THE CORPORATE GOVERNANCE CODE

The Company has adopted and applied the principles and code provisions of the Corporate Governance Code set out in Appendix 14 to the Listing Rules. During the Reporting Period, the Company has complied with the principles and code provisions set out in the Corporate Governance Code. The Group has always been committed to enhancing its corporate governance level and deems the corporate governance as an integral part of the value created for shareholders. The Group has, with reference to the code provisions of the Corporate Governance Code set out in Appendix 14 to the Listing Rules, established a modern corporate governance structure effectively balanced and independently operated by the general meetings, the Board, the Board of Supervisors and senior management of the Company. The Company has also adopted the Corporate Governance Code as the corporate governance practices of the Company.

## COMPLIANCE WITH THE MODEL CODE FOR SECURITIES TRANSACTIONS

The Group has adopted a set of codes (“**Customized Code**”) whose standards are not lower than the Model Code for Securities Transactions by Directors of Listed Issuers (the “**Model Code**”) as set out in Appendix 10 of the Listing Rules as its own code of conduct regarding securities transaction by all Directors, Supervisors and the relevant employees of the Company.

Having made specific enquiries to the Directors and Supervisors, all Directors and Supervisors confirmed that they had complied with the required standards as set out in the Customized Code during the Reporting Period. The Company was also not aware of any incidents of non-compliance with the Customized Code by the relevant employees.

## INDEPENDENT NON-EXECUTIVE DIRECTORS

The Company has appointed a sufficient number of independent non-executive Directors, one of whom with appropriate professional qualifications, or appropriate accounting or related financial management expertise in accordance with the requirements of the Listing Rules. The Company appointed a total of four independent non-executive Directors, including Mr. Hui Wan Fai, Mr. Tian Jiahe, Ms. Chen Jingshan and Mr. Lu Chuang.

## AUDIT AND RISK MANAGEMENT COMMITTEE

The audit and risk management committee of the Company (the “**Audit and Risk Management Committee**”) consists of two independent non-executive Directors and one non-executive Director, namely Mr. Hui Wan Fai (chairman), Mr. Lu Chuang and Mr. Liu Zhonglin, and its terms of reference comply with the Listing Rules.

The Audit and Risk Management Committee has considered and reviewed the accounting principles and practices adopted by the Group and has discussed the relevant internal control and financial reporting matters with the management, including reviewing the unaudited condensed consolidated interim financial results of the Group for the six months ended 30 June 2021.

## CORPORATE GOVERNANCE AND OTHER INFORMATION (CONTINUED)

On 27 August 2021, the Audit and Risk Management Committee reviewed and confirmed the interim results announcement of the Group for the six months ended 30 June 2021, the 2021 interim report and the unaudited condensed consolidated interim financial information for the six months ended 30 June 2021 prepared in accordance with the IAS 34 Interim Financial Reporting.

### SHARE CAPITAL

As of 30 June 2021, the share capital of the Company totalled RMB319,874,900, divided into 79,968,800 H Shares and 239,906,100 Domestic Shares of RMB1.00 each. The Company's share capital has not changed during the Reporting Period.

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

As of 30 June 2021, none of the Directors, Supervisors and chief executive of the Company had interests and short positions (a) which will have to be notified to our Company and the Stock Exchange pursuant to Divisions 7 and 8 of Part XV of the SFO (including interests and short positions which he is taken or deemed to have under such provisions of SFO); or (b) which will be required, pursuant to section 352 of the SFO, to be entered in the register referred to therein; or (c) which will be required to be notified to our Company and the Stock Exchange pursuant to the Model Code.

### SUBSTANTIAL SHAREHOLDERS' INTERESTS AND SHORT POSITIONS IN THE SHARES AND UNDERLYING SHARES

To the best knowledge of the Company, as of 30 June 2021, the following persons (other than the Directors, Supervisors and chief executive of the Company) had interests or short positions in the Shares or underlying Shares of our Company which are required to be disclosed to our Company and the Stock Exchange pursuant to the provisions of Divisions 2 and 3 of Part XV of the SFO, or interests or short positions which are required to be entered in the register pursuant to Section 336 of the SFO, or, directly or indirectly, be interested in 5% or more of the nominal value of any class of our share capital:

## CORPORATE GOVERNANCE AND OTHER INFORMATION (CONTINUED)

Shareholder	Class of Shares	Nature of interest	Number of Shares held <sup>(6)</sup>	Approximate percentage of shareholding in the relevant class of Shares (%)	Approximate percentage of shareholding in the total share capital of our Company (%)
CNNC <sup>(1)</sup>	Domestic Shares	Beneficial owner/Interest of controlled corporation	236,150,233(L)	98.43(L)	73.83(L)
CIAE <sup>(1)</sup>	Domestic Shares	Beneficial owner	58,534,835(L)	24.40(L)	18.30(L)
NPIC <sup>(1)</sup>	Domestic Shares	Beneficial owner	46,994,835(L)	19.59(L)	14.69(L)
CNNC Fund <sup>(1)</sup>	Domestic Shares	Beneficial owner	18,779,342(L)	7.83(L)	5.87(L)
Shanghai Industrial Investment (Holdings) Company Limited ("SIC") <sup>(2)</sup>	H Shares	Interest of controlled corporation	17,522,600 (L)	21.91(L)	5.48(L)
S.I. Infrastructure (Holdings) Limited <sup>(2)</sup>	H Shares	Interest of controlled corporation	9,516,600(L)	14.89(L)	3.72(L)
Shanghai Industrial Investment Treasury Company Limited <sup>(2)</sup>	H Shares	Interest of controlled corporation	9,516,600(L)	14.89(L)	3.72(L)
Shanghai Investment Holdings Limited <sup>(2)</sup>	H Shares	Interest of controlled corporation	9,516,600(L)	14.89(L)	3.72(L)
Sure Advance Holdings Limited ("Sure Advance") <sup>(2)</sup>	H Shares	Beneficial owner	9,516,600(L)	14.89(L)	3.72(L)
The Bank of New York Mellon Corporation	H Shares	Interest of controlled corporation	11,159,000(L) 11,158,800(P)	13.95(L) 13.95(P)	3.49(L) 3.49(P)
Beijing Industrial Developing Investment Management Co., Ltd. <sup>(3)</sup>	H Shares	Beneficial owner	10,899,000(L)	13.63(L)	3.41(L)
Beijing State-owned Assets Management Co., Ltd. <sup>(3)</sup>	H Shares	Interest of controlled corporation	10,899,000(L)	13.63(L)	3.41(L)
Shanghai Industrial Holdings Limited ("SIHL") <sup>(2)</sup>	H Shares	Interest of controlled corporation	9,516,600 (L)	11.90(L)	2.98(L)
Invesco Advisers, Inc.	H Shares	Investment manager	8,812,000	11.01(L)	2.75(L)
China Structural Reform Fund Corporation Limited	H Shares	Beneficial owner	8,155,000(L)	10.20(L)	2.55(L)
Shanghai Pharmaceuticals (HK) Investment Limited ("SPH HK") <sup>(2)</sup>	H Shares	Beneficial owner	8,006,000(L)	10.01(L)	2.50(L)
Shanghai Pharmaceuticals Holding Co. Ltd ("SPH") <sup>(2)</sup>	H Shares	Interest of controlled corporation	8,006,000(L)	10.01(L)	2.50(L)
Shanghai Shangshi (Group) Co., Ltd. ("Shanghai Shangshi") <sup>(2)</sup>	H Shares	Interest of controlled corporation	8,006,000(L)	10.01(L)	2.50(L)
Invesco Corporate Class Inc.	H Shares	Person having a security interest in shares	7,197,600(L)	9.00(L)	2.25(L)
Serenity Capital Management, Ltd. <sup>(4)</sup>	H Shares	Investment manager	4,801,600(L)	6.00(L)	1.50(L)
Serenity Investment Master Fund Limited <sup>(4)</sup>	H Shares	Beneficial owner	4,801,600(L)	6.00(L)	1.50(L)
UBS Group AG	H Shares	Interest of controlled corporation	4,122,300(L)	5.15(L)	1.29(L)

## CORPORATE GOVERNANCE AND OTHER INFORMATION (CONTINUED)

### Notes:

- (1) CNNC directly holds 106,676,903 Domestic Shares of the Company, representing approximately 44.47% of the domestic share capital of our Company. Each of CIAE and NPIC is a public institute controlled and managed by CNNC and holds 58,534,835 and 46,994,835 Domestic Shares, representing approximately 24.40% and 19.59% of the domestic share capital of our Company, respectively. CNNC Fund is a non-wholly-owned subsidiary of CNNC and holds 18,779,342 Domestic Shares, representing approximately 7.83% of the domestic share capital of our Company. Each of CNNC 404 Company Limited ("**404 Company**") and China Baoyuan Investment Co., Ltd. ("**Baoyuan Investment**") is a wholly-owned subsidiary of CNNC and holds 3,755,868 Domestic Shares and 1,408,450 Domestic Shares, respectively, representing approximately 1.57% and 0.59% of the domestic share capital of our Company, respectively. By virtue of the SFO, CNNC is deemed to be interested in the Domestic Shares held by CIAE, NPIC, CNNC Fund, 404 Company and Baoyuan Investment, which in aggregate representing approximately 98.43% of the domestic share capital of our Company.
- (2) By virtue of the SFO, SIIC is deemed to be interested in the 17,522,600 H Shares in total, of which 9,516,600 H Shares and 8,006,000 H Shares are held by Sure Advance and SPH HK, each being a controlled corporation of SIIC. SIIC holds 100% equity interest in Shanghai Industrial Investment Treasury Company Limited, while Shanghai Industrial Investment Treasury Company Limited directly holds 100% equity interest in Shanghai Investment Holdings Limited, which in turn holds approximately 55.13% equity interest in SIHL. SIHL directly holds 100% equity interest in S.I. Infrastructure (Holdings) Limited, which directly holds 100% equity interest in Sure Advance. In addition, SIIC directly holds 100% equity interest in Shanghai Shangshi, which directly holds 35.56% equity interest in SPH, while SPH directly holds 100% equity interest in SPH HK.
- (3) Beijing Industrial Developing Investment Management Co., Ltd. is a direct wholly-owned subsidiary of Beijing State-owned Assets Management Co., Ltd. By virtue of the SFO, Beijing State-owned Assets Management Co., Ltd. is deemed to be interested in the 10,899,000 H Shares held by Beijing Industrial Developing Investment Management Co., Ltd.
- (4) Serenity Investment Master Fund Limited is 100% controlled by Serenity Capital Management, Ltd. By virtue of the SFO, Serenity Capital Management, Ltd. is deemed to be interested in the 4,801,600 H Shares held by Serenity Investment Master Fund Limited.
- (5) (L) represented long position and (P) represented lending pool.

Save as disclosed herein, as of 30 June 2021, the Company is not aware of any other person (other than the Directors, Supervisors and chief executive of the Company) who has an interest or short position, which would be required to be disclosed to our Company and the Stock Exchange under the provisions of Divisions 2 and 3 of Part XV of the SFO, or interests or short positions registered on the register pursuant to Section 336 of the SFO, or, directly or indirectly, be interested in 5% or more of the nominal value of any class of our Company's share capital.

## CORPORATE GOVERNANCE AND OTHER INFORMATION (CONTINUED)

### PURCHASE, SALE OR REDEMPTION OF THE COMPANY'S LISTED SECURITIES

During the six months ended 30 June 2021 and as of the date of this interim report, neither the Company nor any of its subsidiaries purchased, sold or redeemed any listed securities of the Company.

### SUBSEQUENT EVENTS

The Board of Directors has approved the proposed A Share offering and related matters on 18 August 2021, and will propose at the EGM, the Domestic shareholders' Class Meeting and the H shareholders' Class Meeting for shareholders' consideration and approval.

### MATERIAL LITIGATION

As of 30 June 2021, the Company was not involved in any material litigation or arbitration. Nor were the Directors of the Company aware of any material litigation or claims that were pending or threatened against the Company.

### COMPLIANCE WITH THE OFAC UNDERTAKINGS

During the Reporting Period, the Company has requested its subsidiaries to conduct overseas business in accordance with the Detailed Rules on the Work of the Overseas Risk Management Committee of China Isotope & Radiation Corporation. The Company has kept the relevant OFAC undertakings during the Reporting Period and will continue doing so in the future daily operation.

### CHANGE IN INFORMATION OF DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT

The changes in the information of Directors, Supervisors and senior management of the Company which are required to be disclosed pursuant to Rule 13.51B(1) of the Listing Rules, after the publication of the last annual report, are as follows:

Mr. Du Jin, executive Director, has been serving as the director and chairman of the board of directors of HTA Co., Ltd. since April 2021.

Mr. Wang Suohui, executive Director, has been concurrently serving as the director and vice chairman of Nanjing Clinical Nuclear Medicine Center since March 2021, and has been serving as the executive vice president of the Seventh Council of the China Isotope & Radiation Association since June 2021.

Mr. Liu Zhonglin, non-executive Director and vice chairman of the Board, worked as the chief accountant of the China Institute of Atomic Energy from July 2015 to May 2021, and has been serving as a member of the Party Committee of the China Institute of Atomic Energy since May 2021.

Mr. Chen Shoulei, non-executive Director, worked as the chief accountant of the Nuclear Power Institute of China from March 2016 to May 2021, and has been serving as the chief accountant of the China Institute of Atomic Energy since May 2021.

## CORPORATE GOVERNANCE AND OTHER INFORMATION (CONTINUED)

Ms. Liu Xiuhong, non-executive Director, has been serving as the director of China Nuclear Mining Science and Technology Corporation since 30 June 2020.

Mr. Zhang Qingjun, chairman of the Board of Supervisors, resigned as the vice director of the finance division of China National Nuclear Corporation in June 2021, and has been serving as the chief accountant of China Baoyuan Investment Co., Ltd. starting from June 2021.

Mr. Zhao Nanfei, Supervisor, served as the director of the industrial development division of the China Institute of Atomic Energy in April 2021.

Mr. Zhang Jian, employee representative Supervisor, has been serving as the chief financial officer of China Nuclear High Energy (Tianjin) Equipment Co., Ltd. on secondment since 26 March 2021.

Save as disclosed above, as at the end of Reporting Period, the Company is not aware of any change in the information of Directors, Supervisors and chief executive which is required to be disclosed pursuant to Rule 13.51B(1) of the Listing Rules.

By order of the Board of Directors  
**China Isotope & Radiation Corporation**  
**Meng Yanbin**  
*Chairman of the Board*

Beijing, the PRC, 31 August 2021

# REVIEW REPORT

## REVIEW REPORT TO THE BOARD OF DIRECTORS OF CHINA ISOTOPE & RADIATION CORPORATION

*(A joint stock company incorporated in the People's Republic of China with limited liability)*

### INTRODUCTION

We have reviewed the interim financial report set out on pages 31 to 58 which comprises the consolidated statement of financial position of China Isotope & Radiation Corporation as of 30 June 2021 and the related consolidated statement of profit or loss, statement of profit or loss and other comprehensive income and statement of changes in equity and condensed consolidated cash flow statement for the six month period then ended and explanatory notes. The Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited require the preparation of an interim financial report to be in compliance with the relevant provisions thereof and International Accounting Standard 34, *Interim financial reporting*, issued by the International Accounting Standards Board. The directors are responsible for the preparation and presentation of the interim financial report in accordance with International Accounting Standard 34.

Our responsibility is to form a conclusion, based on our review, on the interim financial report and to report our conclusion 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.

### SCOPE OF REVIEW

We conducted our review in accordance with Hong Kong Standard on Review Engagements 2410, *Review of interim financial information performed by the independent auditor of the entity*, issued by the Hong Kong Institute of Certified Public Accountants. A review of the interim financial report consists of making enquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Hong Kong Standards on Auditing and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly we do not express an audit opinion.

### CONCLUSION

Based on our review, nothing has come to our attention that causes us to believe that the interim financial report as at 30 June 2021 is not prepared, in all material respects, in accordance with International Accounting Standard 34, *Interim financial reporting*.

#### **KPMG**

*Certified Public Accountants*

8th Floor, Prince's Building  
10 Chater Road  
Central, Hong Kong

27 August 2021

Interim Report 2021

# CONSOLIDATED STATEMENT OF PROFIT OR LOSS

for the six months ended 30 June 2021 – unaudited

(Expressed in Renminbi (“RMB”))

	Note	Six months ended 30 June	
		2021 RMB'000	2020 RMB'000
Revenue	4	<b>2,057,856</b>	1,517,435
Cost of sales		<b>(730,638)</b>	(670,277)
<b>Gross profit</b>		<b>1,327,218</b>	847,158
Other income	5	<b>21,953</b>	34,253
Selling and distribution expenses		<b>(780,365)</b>	(482,020)
Administrative expenses		<b>(215,878)</b>	(184,060)
Research and development costs		<b>(80,140)</b>	(44,771)
Impairment losses on trade receivables		<b>(545)</b>	(1,837)
<b>Profit from operations</b>		<b>272,243</b>	168,723
Finance costs	6(a)	<b>(16,753)</b>	(18,385)
Share of profits less losses of associates		<b>2,651</b>	2,866
Share of profits less losses of joint ventures		<b>20,167</b>	11,165
<b>Profit before taxation</b>	6	<b>278,308</b>	164,369
Income tax	7	<b>(49,379)</b>	(30,577)
<b>Profit for the period</b>		<b>228,929</b>	133,792
<b>Attributable to:</b>			
Equity shareholders of the Company		<b>106,814</b>	71,924
Non-controlling interests		<b>122,115</b>	61,868
<b>Profit for the period</b>		<b>228,929</b>	133,792
<b>Earnings per share</b>	8		
Basic and diluted (RMB)		<b>0.33</b>	0.22

The notes on page 39 to 58 form part of this interim financial report. Details of dividends payable to equity shareholders of the Company are set out in Note 14.

# CONSOLIDATED STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

for the six months ended 30 June 2021 – unaudited

(Expressed in RMB)

	Six months ended 30 June	
	2021 RMB'000	2020 RMB'000
<b>Profit for the period</b>	<b>228,929</b>	133,792
<b>Other comprehensive income for the period (after tax and reclassification adjustments):</b>		
Item that may be reclassified subsequently to profit or loss:		
– exchange differences on translation of share of profits less losses of an associate	<b>(152)</b>	454
Items that will not be reclassified to profit or loss:		
– remeasurement of defined benefit liability	<b>492</b>	(6)
– equity securities designated at fair value through other comprehensive income – net movement in fair value reserve (non-recycling)	<b>2,497</b>	5,095
<b>Other comprehensive income for the period</b>	<b>2,837</b>	5,543
<b>Total comprehensive income</b>	<b>231,766</b>	139,335
<b>Attributable to:</b>		
Equity shareholders of the Company	<b>109,455</b>	77,467
Non-controlling interests	<b>122,311</b>	61,868
<b>Total comprehensive income for the period</b>	<b>231,766</b>	139,335

The notes on page 39 to 58 form part of this interim financial report.

# CONSOLIDATED STATEMENT OF FINANCIAL POSITION

at 30 June 2021 – unaudited

(Expressed in RMB)

	Note	At 30 June 2021 RMB'000	At 31 December 2020 RMB'000
<b>Non-current assets</b>			
Property, plant and equipment	9	<b>2,354,958</b>	2,210,150
Investment property		<b>19,810</b>	20,768
Intangible assets		<b>151,919</b>	148,363
Goodwill	10	<b>48,549</b>	43,875
Interests in associates		<b>63,302</b>	65,263
Interests in joint ventures		<b>568,395</b>	552,748
Long-term receivables		<b>36,308</b>	35,440
Equity securities designated at fair value through other comprehensive income (FVOCI)		<b>140,344</b>	137,014
Deferred tax assets		<b>204,031</b>	200,556
Other non-current assets		<b>23,484</b>	–
		<b>3,611,100</b>	3,414,177
<b>Current assets</b>			
Inventories		<b>696,558</b>	590,025
Trade and bill receivables	11	<b>2,554,530</b>	2,368,502
Prepayments		<b>196,139</b>	113,911
Deposits and other receivables		<b>143,463</b>	142,184
Cash at bank and on hand	12	<b>2,384,555</b>	2,556,493
		<b>5,975,245</b>	5,771,115
<b>Current liabilities</b>			
Bank loans		<b>97,048</b>	90,220
Trade payables	13	<b>237,104</b>	199,503
Accruals and other payables		<b>2,488,507</b>	2,327,407
Lease liabilities		<b>43,483</b>	29,907
Provisions		<b>69,688</b>	73,906
Income tax payable		<b>41,537</b>	51,226
		<b>2,977,367</b>	2,772,169
<b>Net current assets</b>		<b>2,997,878</b>	2,998,946
<b>Total assets less current liabilities</b>		<b>6,608,978</b>	6,413,123

The notes on page 39 to 58 form part of this interim financial report.

**CONSOLIDATED STATEMENT OF FINANCIAL POSITION (CONTINUED)**

at 30 June 2021 – unaudited

(Expressed in RMB)

	<b>At 30 June 2021 RMB'000</b>	At 31 December 2020 RMB'000
<b>Non-current liabilities</b>		
Bank loans	<b>108,487</b>	72,762
Corporate bond	<b>499,836</b>	499,784
Deferred income	<b>54,759</b>	59,146
Defined benefit retirement obligation	<b>51,345</b>	53,503
Deferred tax liabilities	<b>15,641</b>	14,186
Lease liabilities	<b>47,928</b>	56,971
Provisions	<b>125,860</b>	125,861
Other long-term payables	<b>27,248</b>	25,300
	<b>931,104</b>	907,513
Net assets	<b>5,677,874</b>	5,505,610
<b>Capital and reserves</b>		
Share capital	<b>319,875</b>	319,875
Reserves	<b>3,625,878</b>	3,571,323
<b>Total equity attributable to equity shareholders of the Company</b>	<b>3,945,753</b>	3,891,198
<b>Non-controlling interests</b>	<b>1,732,121</b>	1,614,412
<b>Total equity</b>	<b>5,677,874</b>	5,505,610

Approved and authorised for issue by the board of directors on 27 August 2021.

Name: Meng Yanbin  
Position: Chairman of the Board

Name: Gui Youquan  
Position: Chief Accountant

The notes on page 39 to 58 form part of this interim financial report.

# CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

for the six months ended 30 June 2021 – unaudited

(Expressed in RMB)

		Attributable to equity shareholders of the Company							Total equity		
		Share capital	Capital reserve	PRC statutory reserve	Fair value reserve (non-recycling)	Other reserve	Exchange reserve	Retained profits		Sub-total	Non-controlling interests
Note	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
	319,875	2,138,171	125,676	40,201	33,130	4,428	1,097,865	3,759,346	1,244,087	5,003,433	
<b>Balance at 1 January 2020</b>											
<b>Changes in equity for the six months ended 30 June 2020:</b>											
Profit for the period	-	-	-	-	-	-	71,924	71,924	61,868	133,792	
Other comprehensive income	-	-	-	5,095	-	454	(6)	5,543	-	5,543	
Total comprehensive income	-	-	-	5,095	-	454	71,918	77,467	61,868	139,335	
Capital contributions from non-controlling equity owners of subsidiaries	-	-	-	-	-	-	-	-	156,169	156,169	
Capital injection in a subsidiary	-	(24,386)	-	-	-	-	-	(24,386)	24,386	-	
Appropriation of maintenance and production funds	-	-	-	-	8,175	-	(8,175)	-	-	-	
Utilisation of maintenance and production funds	-	-	-	-	(4,052)	-	4,052	-	-	-	
Dividends	14	-	-	-	-	-	(44,431)	(44,431)	-	(44,431)	
Distributions by subsidiaries to non-controlling equity owners	-	-	-	-	-	-	-	-	(4,000)	(4,000)	
<b>Balance at 30 June 2020</b>	319,875	2,113,785	125,676	45,296	37,253	4,882	1,121,229	3,767,996	1,482,510	5,250,506	

The notes on page 39 to 58 form part of this interim financial report.

# CONSOLIDATED STATEMENT OF CHANGES IN EQUITY (CONTINUED)

for the six months ended 30 June 2021 – unaudited

(Expressed in RMB)

	Attributable to equity shareholders of the Company							Non-controlling interests	Total equity	
	Share capital	Capital reserve	PRC statutory reserve	Fair value reserve (non-recycling)	Other reserve	Exchange reserve	Retained profits			Sub-total
Note	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	
<b>Balance at 1 July 2020</b>	319,875	2,113,785	125,676	45,296	37,253	4,882	1,121,229	3,767,996	1,482,510	5,250,506
<b>Changes in equity for the six months ended 31 December 2020:</b>										
Profit for the period	-	-	-	-	-	-	141,658	141,658	200,073	341,731
Other comprehensive income	-	-	-	(15,953)	-	(2,259)	(396)	(18,608)	(111)	(18,719)
Total comprehensive income	-	-	-	(15,953)	-	(2,259)	141,262	123,050	199,962	323,012
Capital contributions from non-controlling equity owners of subsidiaries	-	-	-	-	-	-	-	-	25,860	25,860
Capital injection in a subsidiary	-	(208)	-	-	360	-	-	152	(152)	-
Appropriation of maintenance and production funds	-	-	-	-	14,117	-	(14,117)	-	-	-
Utilisation of maintenance and production funds	-	-	-	-	(7,817)	-	7,817	-	-	-
Appropriation to reserves	-	-	12,918	-	-	-	(12,918)	-	-	-
Dividends	-	-	-	-	-	-	-	-	-	-
Distributions by subsidiaries to non-controlling equity owners	-	-	-	-	-	-	-	-	(93,768)	(93,768)
<b>Balance at 31 December 2020</b>	319,875	2,113,577	138,594	29,343	43,913	2,623	1,243,273	3,891,198	1,614,412	5,505,610

The notes on page 39 to 58 form part of this interim financial report.

# CONSOLIDATED STATEMENT OF CHANGES IN EQUITY (CONTINUED)

for the six months ended 30 June 2021 – unaudited

(Expressed in RMB)

Attributable to equity shareholders of the Company											
		Fair value				Non-controlling interests		Total equity			
		Share capital	Capital reserve	PRC statutory reserve	Fair value reserve (non-recycling)	Other reserve	Exchange reserve	Retained profits	Sub-total	Non-controlling interests	Total equity
	Note	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
<b>Balance at 1 January 2021</b>		319,875	2,113,577	138,594	29,343	43,913	2,623	1,243,273	3,891,198	1,614,412	5,505,610
<b>Changes in equity for the six months ended 30 June 2021</b>											
Profit for the period		-	-	-	-	-	-	106,814	106,814	122,115	228,929
Other comprehensive income		-	-	-	2,497	-	(152)	296	2,641	196	2,837
Total comprehensive income		-	-	-	2,497	-	(152)	107,110	109,455	122,311	231,766
Capital contributions from non-controlling equity owners of subsidiaries		-	-	-	-	-	-	-	-	12,540	12,540
Capital injection in a joint venture		-	2,773	-	-	-	-	-	2,773	-	2,773
Acquisitions of subsidiaries		-	-	-	-	-	-	-	-	18,220	18,220
Appropriation of maintenance and production funds		-	-	-	-	7,662	-	(7,662)	-	-	-
Utilisation of maintenance and production funds		-	-	-	-	(4,440)	-	4,440	-	-	-
Dividends	14	-	-	-	-	-	-	(57,673)	(57,673)	-	(57,673)
Distributions by subsidiaries to non-controlling equity owners		-	-	-	-	-	-	-	-	(35,362)	(35,362)
<b>Balance at 30 June 2021</b>		319,875	2,116,350	138,594	31,840	47,135	2,471	1,289,488	3,945,753	1,732,121	5,677,874

The notes on page 39 to 58 form part of this interim financial report.

# CONDENSED CONSOLIDATED CASH FLOW STATEMENT

for the six months ended 30 June 2021 – unaudited

(Expressed in RMB)

	Note	Six months ended 30 June	
		2021 RMB'000	2020 RMB'000
<b>Cash flows from operating activities</b>			
Cash generated from/(used in) operations		94,450	(105,415)
Income tax paid		(64,370)	(58,523)
<b>Net cash generated from/(used in) operating activities</b>		<b>30,080</b>	<b>(163,938)</b>
<b>Investing activities</b>			
Net increase in deposits with banks	12	(192,000)	(69,144)
Payments for purchase of investment property, property, plant and equipment and intangible assets		(208,392)	(223,047)
Payments for acquisitions of interests in associates		–	(21,640)
Payments for acquisitions of subsidiaries		(21,846)	–
Proceeds from/(payments to) disposal of property, plant and equipment		6,487	(1,426)
Interests received	5	9,123	12,496
Distributions received from associates		4,460	20,907
Distributions received from joint ventures		7,293	–
Government grants received		365	19,853
Distribution received from other investment activities		–	5,371
<b>Net cash used in investing activities</b>		<b>(394,510)</b>	<b>(256,630)</b>
<b>Financing activities</b>			
Capital element of lease rentals paid		(10,565)	(8,083)
Interest element of lease rentals paid		(3,679)	(1,369)
Capital contributions from non-controlling equity owners of subsidiaries		12,540	156,169
Proceeds from bank loans		47,065	109,330
Repayments of bank loans		(12,040)	(228,680)
Other interests paid		(17,543)	(13,586)
Other cash flows used in financing activities		(4,007)	–
<b>Net cash generated from financing activities</b>		<b>11,771</b>	<b>13,781</b>
<b>Net decrease in cash and cash equivalents</b>		<b>(352,659)</b>	<b>(406,787)</b>
<b>Cash and cash equivalents at 1 January</b>	12	<b>2,351,602</b>	<b>2,640,314</b>
Effect of foreign exchanges rates changes		90	(1,325)
<b>Cash and cash equivalents at 30 June</b>	12	<b>1,999,033</b>	<b>2,232,202</b>

The notes on page 39 to 58 form part of this interim financial report.

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT

(Expressed in RMB unless otherwise indicated)

## 1 ORGANISATION

China Isotope & Radiation Corporation (the “Company”) was established on 4 December 2007 in the People’s Republic of China (the “PRC”) as a state-owned enterprise with limited liability. The Company was converted into a joint stock company with limited liability on 6 December 2011 (the “Conversion”). China National Nuclear Corporation (“CNNC”), China Institute of Atomic Energy (“CIAE”) and Nuclear Power Institute of China (“NPIC”) held 51.93%, 26.92% and 21.15% equity interests in the Company respectively immediately after the Conversion. On 14 March 2017, the Company issued 39,906,000 new ordinary shares to CNNC, five related parties under CNNC, Beijing Aerospace Industry Investment Fund LLP and China Aerospace Investment Co., Ltd. (collectively as “Shareholders before listing”) at an aggregated consideration of RMB850,000,000.

On 6 July 2018, the Company issued 79,968,700 H shares with par value of RMB1.00 per share at a price of HKD21.6 per share by way of initial public offering to Hong Kong and overseas investors. On 3 August 2018, the over-allotment option granted by the Company was partially exercised. The Company issued and allotted an aggregate of 100 H shares at HKD21.6 each. After the issuance and allotment of these shares, the registered and issued ordinary shares of the Company increased to 319,874,900 shares with 79,968,800 H shares being listed on The Stock Exchange of Hong Kong Limited.

## 2 BASIS OF PREPARATION

This interim financial report has been prepared in accordance with the applicable disclosure provisions of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited, including compliance with International Accounting Standard (“IAS”) 34, *Interim Financial Reporting*, issued by the International Accounting Standards Board (“IASB”). It was authorised for issue on 27 August 2021.

The interim financial report has been prepared in accordance with the same accounting policies adopted in the 2020 annual financial statements, except for the accounting policy changes that are expected to be reflected in the 2021 annual financial statements. Details of any changes in accounting policies are set out in Note 3.

The preparation of an interim financial report in conformity with IAS 34 requires management to make judgments, estimates and assumptions that affect the application of policies and reported amounts of assets and liabilities, income and expenses on a year to date basis. Actual results may differ from these estimates.

This interim financial report contains condensed consolidated financial statements and selected explanatory notes. The notes include an explanation of events and transactions that are significant to an understanding of the changes in financial position and performance of the Company and its subsidiaries (collectively referred to as the “Group”) since the 2020 annual financial statements. The condensed consolidated interim financial statements and notes thereon do not include all of the information required for a full set of financial statements prepared in accordance with International Financial Reporting Standards (“IFRSs”) issued by the IASB.

The interim financial report is unaudited, but has been reviewed by KPMG in accordance with Hong Kong Standard on Review Engagements 2410, *Review of interim financial information performed by the independent auditor of the entity*, issued by the Hong Kong Institute of Certified Public Accountants. KPMG’s independent review report to the board of directors is included on page 30.

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 3 CHANGES IN ACCOUNTING POLICIES

The Group has applied the following amendments to IFRSs issued by the IASB for this interim financial report for the current accounting period:

- Amendments to IFRS 16, *Covid-19-Related Rent Concessions beyond 30 June 2021*
- Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16, *Interest rate benchmark reform-phase 2*

None of these amendments have had a material effect on how the Group's results and financial position for the current or prior periods have been prepared or presented. The Group has not applied any new standard or interpretation that is not yet effective for the current accounting period.

## 4 REVENUE AND SEGMENT REPORTING

The Group is principally engaged in research, development, manufacturing and sale of a broad range of pharmaceuticals and radioactive source products, design, manufacturing, construction and installation of gamma ray irradiation facilities and medical protection facilities, provision of irradiation service for sterilisation purpose, sale of medical devices as well as independent clinical laboratory services.

### (a) Disaggregation of revenue

Disaggregation of revenue from contracts with customers by major products or service lines is as follows:

	Six months ended 30 June	
	2021 RMB'000	2020 RMB'000
<b>Revenue from contracts with customers within the scope of IFRS 15</b>		
Disaggregated by major products of service lines		
– sales of pharmaceuticals	<b>1,589,812</b>	965,326
– sales of radioactive source products	<b>140,828</b>	136,320
– sales of radiation therapy equipment	<b>16,473</b>	–
– sales of medical device	<b>–</b>	246,973
– irradiation services	<b>60,155</b>	36,659
– technical services	<b>86,542</b>	53,498
– revenue from construction contracts	<b>15,795</b>	1,215
– independent clinical laboratory services	<b>90,680</b>	49,564
– others	<b>57,571</b>	27,880
	<b>2,057,856</b>	1,517,435

Disaggregation of revenue from contracts with customers by the timing of revenue recognition is disclosed in Note 4(b).

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 4 REVENUE AND SEGMENT REPORTING (CONTINUED)

### (b) Segment reporting

The Group manages its businesses by divisions, which are mainly organised by business lines (products and services). In a manner consistent with the way in which information is reported internally to the Group's most senior executive management for the purposes of resource allocation and performance assessment, the Group has presented the following five reportable segments. No operating segments have been aggregated to form the following reportable segments.

- Pharmaceuticals: manufacturing and sale of a range of imaging diagnostic and therapeutic radio pharmaceuticals imaging, UBT diagnostic kits and test analysers, in vitro immunoassay diagnostic reagents and kits and other products.
- Radioactive source products: sale of medical and industrial radioactive source products and technical services.
- Irradiation: provision of irradiation services to manufacturers of medical facilities, pharmaceuticals, cosmetics and food in the PRC for sterilisation purposes, and also design, manufacturing and installation of gamma ray irradiation facilities to irradiation service providers.
- Radiation therapy equipment and related services: sale of radiation therapy equipment, provision of related maintenance services, and also design, manufacturing and installation of medical protection facilities.
- Independent clinical laboratory services and other businesses: provision of independent clinical laboratory services for customers, sale of medical devices and other miscellaneous services.

### (i) Segment results, assets and liabilities

For the purposes of assessing segment performance and allocating resources among segments, the Group's senior executive management monitors the results attributable to each reportable segment on the following basis:

Revenue and expenses are allocated to the reportable segments with reference to revenue generated by those segments and the expenses incurred by those segments. The measure used for reporting segment profit is gross profit. The Group's other income and expense items, such as other income, selling and distribution expenses, administrative and other operating expenses, and assets and liabilities, are not measured under individual segments. Accordingly, neither information on segment assets and liabilities nor information concerning capital expenditure, interest income and interest expenses is presented.

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 4 REVENUE AND SEGMENT REPORTING (CONTINUED)

### (b) Segment reporting (continued)

#### (i) Segment results, assets and liabilities (continued)

Disaggregation of revenue from contracts with customers by timing of revenue recognition, as well as information regarding the Group's reportable segments as provided to the Group's most senior executive management for the purposes of resource allocation and assessment of segment performance for the period is set out below.

	Six months ended 30 June 2021					
	Pharmaceuticals	Radioactive source products	Irradiation	Radiation therapy equipment and related services	Independent clinical laboratory services and other businesses	Total
	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
<b>Disaggregated by timing of revenue recognition</b>						
Point in time	1,594,786	155,237	60,155	26,423	138,302	1,974,903
Over time	-	-	2,571	80,382	-	82,953
<b>Revenue from external customers</b>	<b>1,594,786</b>	<b>155,237</b>	<b>62,726</b>	<b>106,805</b>	<b>138,302</b>	<b>2,057,856</b>
Inter-segment revenue	550	-	1,654	2,830	8,934	13,968
<b>Reportable segment revenue</b>	<b>1,595,336</b>	<b>155,237</b>	<b>64,380</b>	<b>109,635</b>	<b>147,236</b>	<b>2,071,824</b>
<b>Reportable segment profit (gross profit)</b>	<b>1,132,723</b>	<b>71,630</b>	<b>34,045</b>	<b>34,304</b>	<b>55,429</b>	<b>1,328,131</b>
	Six months ended 30 June 2020					
	Pharmaceuticals	Radioactive source products	Irradiation	Radiation therapy equipment and related services	Independent clinical laboratory services and other businesses	Total
	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
<b>Disaggregated by timing of revenue recognition</b>						
Point in time	967,185	147,642	36,659	14,188	304,607	1,470,281
Over time	-	-	1,215	45,939	-	47,154
<b>Revenue from external customers</b>	<b>967,185</b>	<b>147,642</b>	<b>37,874</b>	<b>60,127</b>	<b>304,607</b>	<b>1,517,435</b>
Inter-segment revenue	152	11,032	524	1,002	6,846	19,556
<b>Reportable segment revenue</b>	<b>967,337</b>	<b>158,674</b>	<b>38,398</b>	<b>61,129</b>	<b>311,453</b>	<b>1,536,991</b>
<b>Reportable segment profit (gross profit)</b>	<b>662,529</b>	<b>80,126</b>	<b>12,144</b>	<b>15,694</b>	<b>77,745</b>	<b>848,238</b>

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 4 REVENUE AND SEGMENT REPORTING (CONTINUED)

### (b) Segment reporting (continued)

#### (ii) Reconciliation of reportable segment profit (gross profit)

	Six months ended 30 June	
	2021	2020
	RMB'000	RMB'000
Reportable segment profit (gross profit)	<b>1,328,131</b>	848,238
Elimination of inter-segment profit (gross profit)	<b>(913)</b>	(1,080)
Consolidated gross profit	<b>1,327,218</b>	847,158

#### (iii) Geographic information

All of the Group's operations are carried out and most of the Group's customers are located in the PRC. The Group's non-current assets, including property, plant and equipment, investment property, lease prepayments and intangible assets are all located or allocated to operations located in the PRC.

## 5 OTHER INCOME

	Six months ended 30 June	
	2021	2020
	RMB'000	RMB'000
Government grants	<b>4,475</b>	17,647
Interest income	<b>9,123</b>	12,496
Rental income from operating leases	<b>3,543</b>	2,932
Others	<b>4,812</b>	1,178
	<b>21,953</b>	34,253

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 6 PROFIT BEFORE TAXATION

Profit before taxation is arrived at after charging:

### (a) Finance costs

	Six months ended 30 June	
	2021 RMB'000	2020 RMB'000
Interests on bank loans and other borrowings	13,555	13,586
Interests on lease liabilities	1,662	1,814
Less: interest expense capitalised into construction in progress	2,324	841
	12,893	14,559
Net foreign exchange (gain)/loss	(127)	119
Interest accretion on reclamation obligations, net	2,070	1,938
Interest cost on defined benefit retirement plans	891	887
Interest cost on long-term payables	1,026	882
	16,753	18,385

The borrowing costs have been capitalised at a rate of 4.64% per annum (2020: 4.64%).

### (b) Other items

	Six months ended 30 June	
	2021 RMB'000	2020 RMB'000
Cash settled share-based payment expenses (Note 17)	4,748	–
Depreciation		
– property, plant and equipment	87,895	71,027
– investment property	894	278
Amortisation		
– intangible assets	7,985	6,593
Impairment losses		
– trade and bill receivables	521	5,780
– deposits and other receivables	24	85
Research and development costs (other than amortisation costs)	77,969	43,046
(Decrease)/increase in provisions for reclamation obligations	(5,452)	729
Cost of inventories	653,821	599,196

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 7 INCOME TAX

	Six months ended 30 June	
	2021 RMB'000	2020 RMB'000
<b>Current tax</b>		
Provision for the period	50,798	14,367
Under/(over)-provision in respect of prior years	2,051	(18,655)
	<b>52,849</b>	(4,288)
<b>Deferred tax</b>		
Origination and reversal of temporary differences	(3,470)	34,865
	<b>49,379</b>	30,577

Notes:

- (i) The Company and its subsidiaries established in the PRC are subject to PRC Corporate Income Tax rate of 25% (2020: 25%) for the six months ended 30 June 2021.
- (ii) Certain subsidiaries of the Group are approved High and New Technology Enterprises and are subject to a preferential PRC Corporate Income Tax rate of 15% during the approved period subject to fulfillment of recognition criteria.

## 8 EARNINGS PER SHARE

The calculation of basic earnings per share is based on the profit attributable to equity shareholders of the Company of RMB106,814,000 (six months ended 30 June 2020: RMB71,924,000) and the weighted average number of ordinary shares in issue of 319,874,900 (six months ended 30 June 2020: 319,874,900) in issue during the interim period.

The Company did not have any potential dilutive shares in existence during the interim period. Accordingly, diluted earnings per share is the same as basic earnings per share.

## 9 PROPERTY, PLANT AND EQUIPMENT

- (a) During the six months ended 30 June 2021, the Group acquired items of plant and machinery with a cost of RMB231,409,000 (six months ended 30 June 2020: RMB162,783,000). Items of plant and machinery with a net book value of RMB6,017,000 were disposed of during the six months ended 30 June 2021 (six months ended 30 June 2020: RMB1,840,000), resulting in a gain on disposal of RMB482,000 (six months ended 30 June 2020: RMB829,000).
- (b) During the six months ended 30 June 2021, the Group entered into a number of lease agreements for use of plants and offices, and therefore recognised the additions to right-of-use assets of RMB9,518,000.

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 10 GOODWILL

	RMB'000
<b>Cost:</b>	
At 1 January 2020, 31 December 2020 and 1 January 2021	43,875
Acquisition of subsidiaries	4,674
At 30 June 2021	48,549
<b>Accumulated impairment losses:</b>	
At 1 January 2020, 31 December 2020, 1 January 2021 and 30 June 2021	–
<b>Carrying amount:</b>	
At 30 June 2021	48,549
At 31 December 2020	43,875

### Impairment tests for cash-generating units containing goodwill

Goodwill is allocated to the Group's cash-generating units identified according to operation and operating segment as follows:

	At 30 June 2021 RMB'000	At 31 December 2020 RMB'000
Pharmaceuticals	42,791	42,791
Radiation therapy equipment and related services (Note 15)	4,674	–
Irradiation	1,084	1,084
	<b>48,549</b>	43,875

The recoverable amount of the goodwill is determined based on value-in-use calculations.

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 10 GOODWILL (CONTINUED)

### Impairment tests for cash-generating units containing goodwill (continued)

These calculations use cash flow projections based on financial budgets approved by management covering a five-year period. Cash flows beyond the five-year period are extrapolated using estimated weighted average growth rates and the cash flows are discounted using pre-tax discount rates as set out below.

	<b>At 30 June 2021</b>	At 31 December 2020
<b>Pharmaceuticals</b>		
Annual sales growth rate for the first five-year period	<b>1%~44%</b>	8%~15%
Annual sales growth rate beyond five-year period	<b>0%</b>	0%
Discount rate	<b>7.90%, 12.00%</b>	7.90%, 12.00%
<b>Radiation therapy equipment and related services</b>		
Annual sales growth rate for the first five-year period	<b>0~31%</b>	–
Annual sales growth rate beyond five-year period	<b>0%</b>	–
Discount rate	<b>10.91%</b>	–
<b>Irradiation</b>		
Annual sales growth rate for the first five-year period	<b>3%~14%</b>	13%
Annual sales growth rate beyond five-year period	<b>0%</b>	0%
Discount rate	<b>7.90%</b>	7.90%

Management performed impairment assessments of the relevant cash-generating units to which goodwill has been allocated. The recoverable amounts of the cash-generating units (“CGUs”) were determined based on value-in-use calculations. These calculations use cash flow projections based on financial budgets approved by management covering a five-year period. These cash flow projections that adopted annual sales growth rates are changed for certain CGUs. Those growth rates are based on the Group’s historical experience with these operations and adjusted for other factors specific to each cash-generating unit, including the impact of COVID-19 which affected the financial results of certain CGUs.

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 11 TRADE AND BILL RECEIVABLES

	At 30 June 2021 RMB'000	At 31 December 2020 RMB'000
Bill receivables	57,881	53,197
Trade receivables due from		
– related parties under CNNC	23,969	17,516
– associates and a joint venture	42,699	57,038
– third parties	2,572,028	2,378,376
	<b>2,696,577</b>	2,506,127
Less: loss allowance	142,047	137,625
	<b>2,554,530</b>	2,368,502

All of the trade and bill receivables (net of impairment losses) are expected to be recovered within one year.

### Aging analysis

As of the end of the reporting period, the ageing analysis of trade and bills receivables based on the invoice date (or date of revenue recognition, if earlier) and net of loss allowance, is as follows:

	At 30 June 2021 RMB'000	At 31 December 2020 RMB'000
Within 1 year	2,282,714	2,073,272
Between 1 to 2 years	224,230	256,320
Between 2 to 3 years	37,126	26,997
Over 3 years	10,460	11,913
	<b>2,554,530</b>	2,368,502

Trade and bills receivables are required to be settled in accordance with contract terms and are generally due immediately without credit period.

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 12 CASH AT BANK AND IN HAND

	<b>At 30 June 2021 RMB'000</b>	At 31 December 2020 RMB'000
Cash in hand	11	21
Cash at bank	759,050	528,287
Cash at CNNC Finance Company Ltd.	1,625,494	2,028,185
	<b>2,384,555</b>	2,556,493
Representing:		
Cash and cash equivalents in cash flow statement	1,999,033	2,351,602
Time deposits with original maturity over three months	364,920	190,920
Restricted deposits	20,602	13,971
	<b>2,384,555</b>	2,556,493

Restricted deposits mainly represent deposits for guarantee of letters of credit.

## 13 TRADE PAYABLES

All trade payables are expected to be settled within one year.

## 14 SHARE CAPITAL, RESERVES AND DIVIDENDS

### Dividends

Dividends payable to equity shareholders attributable to the previous financial year, approved during the interim period

	<b>Six months ended 30 June</b>	
	<b>2021 RMB'000</b>	2020 RMB'000
Final dividend in respect of the previous financial year, approved during the following interim period, of RMB18.03 cents per share (six months ended 30 June 2020: RMB13.89 cents per share)	<b>57,673</b>	44,431

The final dividend in respect of the previous financial year proposed during the reporting period has not been paid at the end of the reporting period.

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 15 ACQUISITIONS OF SUBSIDIARIES

Acquisitions of subsidiaries mainly included the acquisition of Hubei Zhongxun Medical Products Industry Co., Ltd. (“Hubei Zhongxun”) from a third party.

In February 2021, the Group acquired 51% interest in Hubei Zhongxun at a cash consideration of RMB23,460,000. Hubei Zhongxun is principally engaged in the production and sale of medical equipment related to medical purification and radiation protection in the PRC.

The recognised fair values of the identifiable assets and liabilities of Hubei Zhongxun as at the date of acquisition were set out as follows:

	<b>Hubei Zhongxun RMB'000</b>
Property, plant and equipment	16,900
Intangible assets	9,100
Deferred tax assets	219
Other non-current assets	50
Inventories	6,007
Trade and bill receivables	18,256
Prepayments, deposits and other receivables	41
Cash at bank and on hand	512
Bank loans	(7,528)
Trade payables	(1,395)
Accruals and other payables	(3,180)
Income tax payable	(472)
Deferred tax liabilities	(980)
	<b>37,530</b>
Less: non-controlling interests	18,389
Total identifiable net assets at fair value	<b>19,141</b>
Satisfied by:	
Cash	23,460
Goodwill	4,319

Since the acquisition, Hubei Zhongxun contributed RMB16,253,992 to the Group’s revenue and RMB1,158,044 profit to the consolidated profit for the six months ended 30 June 2021.

Had the business combination taken place at the beginning of the period, the revenue of the Group and the profit of the Group for the six months ended 30 June 2021 would have been RMB2,065,983,206 and RMB229,508,280.

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 16 FAIR VALUES MEASUREMENT OF FINANCIAL INSTRUMENTS

(a) Financial assets and liabilities measured at fair value

(i) Fair value hierarchy

The following table presents the fair value of the Group's financial instruments measured at the end of the reporting period on a recurring basis, categorised into the three-level fair value hierarchy as defined in IFRS 13, Fair value measurement. The level into which a fair value measurement is classified is determined with reference to the observability and significance of the inputs used in the valuation technique as follows:

- Level 1 valuations: Fair value measured using only Level 1 inputs, i.e. unadjusted quoted prices in active markets for identical assets or liabilities at the measurement date
- Level 2 valuations: Fair value measured using Level 2 inputs, i.e. observable inputs which fail to meet Level 1, and not using significant unobservable inputs. Unobservable inputs are inputs for which market data are not available
- Level 3 valuations: Fair value measured using significant unobservable inputs.

The Group has appointed a finance manager performing valuations for the trading securities and equity securities designated at FVOCI. The manager reports directly to the chief financial officer and the audit committee. A valuation report with analysis of changes in fair value measurement is prepared by the manager at each interim and annual reporting date, and is reviewed and approved by the chief financial officer. Discussion of the valuation process and results with the chief financial officer and the audit committee is held twice a year, to coincide with the reporting dates.

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 16 FAIR VALUES MEASUREMENT OF FINANCIAL INSTRUMENTS (CONTINUED)

(a) Financial assets and liabilities measured at fair value (continued)

(i) Fair value hierarchy (continued)

	Fair value measurements as at 30 June 2021 categorised into			
	Fair value at 30 June 2021	Level 1	Level 2	Level 3
	RMB'000	RMB'000	RMB'000	RMB'000
<b>Recurring fair value measurement</b>				
Bill receivables	9,118	-	9,118	-
Equity securities designated at FVOCI	140,344	-	-	140,344
	149,462	-	9,118	140,344

	Fair value measurements as at 31 December 2020 categorised into			
	Fair value at 31 December 2020	Level 1	Level 2	Level 3
	RMB'000	RMB'000	RMB'000	RMB'000
<b>Recurring fair value measurement</b>				
Bill receivables	3,996	-	3,996	-
Equity securities designated at FVOCI	137,014	-	-	137,014
	141,010	-	3,996	137,014

During the six months ended 30 June 2021, there were no transfers between Level 1 and Level 2, or transfers into or out of Level 3 (2020: nil). The Group's policy is to recognise transfers between levels of fair value hierarchy as at the end of the reporting period in which they occur.

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 16 FAIR VALUES MEASUREMENT OF FINANCIAL INSTRUMENTS (CONTINUED)

(a) Financial assets and liabilities measured at fair value (continued)

(ii) Information about Level 3 fair value measurements

	Valuation techniques	Significant unobservable inputs	Range	Weighted average
Equity securities designated at FVOCI	Market comparable companies	Discount for lack of marketability	10%	10%

The fair value of equity securities designated at FVOCI is determined using the price to book ratio of comparable listed companies adjusted for lack of marketability discount. The fair value measurement is negatively correlated to the discount for lack of marketability. As at 30 June 2021, it is estimated that with all other variables held constant, a decrease/increase in discount for lack of marketability by 1% would have increased/decreased the Group's other comprehensive income by RMB135,000 (2020: RMB131,000).

The movement during the period in the balance of Level 3 fair value measurements is as follows:

	At 30 June 2021 RMB'000	At 30 June 2020 RMB'000
Equity securities designated at FVOCI:		
At 1 January	137,014	151,492
Changes in fair value recognised in other comprehensive income during the period	3,330	6,793
At 30 June	140,344	158,285

Any gains or losses arising from the remeasurement of the Group's equity securities designated at FVOCI held for strategic purposes are recognised in the fair value reserve (non-recycling) in other comprehensive income. Upon disposal of the equity securities, the amount accumulated in other comprehensive income is transferred directly to retained earnings.

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 17 CASH SETTLED SHARE BASED TRANSACTION

The Group has a share option scheme which was adopted on 30 June 2020, whereby the directors of the Group are authorised, at their discretion, to invite senior management talents and high-level technicians of the Group. Pursuant to the share option scheme, each share option is related to a share, and share option will be settled in cash, and thus there will be no influence on the total number of issued shares or dilution effect on shares.

The total number of share option is 8,607,700. The share options will be vested upon the achievement of performance conditions of the Group, service conditions and personal performance conditions agreed by the scheme.

One third of the total number of share option (“batch one”) will vest after two years from the date of grant, another one third of the total number of share option (“batch two”) will vest after three years from the date of grant, and the remaining one third of the total number of share option (“batch three”) will vest after four years from the date of grant.

During this period, the management considered the “batch one” will not meet the vesting condition.

(a) The terms and conditions of the options granted are as follows:

*Share options granted to directors*

	Number of instruments	Vesting conditions	Contractual life of share options
– on 30 June 2020 (forfeited)	119,900	Two years from the date of grant	6 years
– on 30 June 2020	119,900	Three years from the date of grant	6 years
– on 30 June 2020	119,900	Four years from the date of grant	6 years

*Share options granted to employees*

	Number of instruments	Vesting conditions	Contractual life of share options
– on 30 June 2020 (forfeited)	2,749,333	Two years from the date of grant	6 years
– on 30 June 2020	2,749,333	Three years from the date of grant	6 years
– on 30 June 2020	2,749,333	Four years from the date of grant	6 years

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 17 CASH SETTLED SHARE BASED TRANSACTION (CONTINUED)

### (b) Measurement of fair value

The fair value of the cash settled share has been measured using the Black-Scholes formula. Service and non-market performance conditions attached to the arrangements were not taken into account in measuring fair value.

The inputs used in the measurement of the fair values at grant date and measurement date of the cash-settled shares were as follow:

Expected volatility has been based on an evaluation of the historical volatility of the Company's share price, particularly over the historical period commensurate with the expected term. The expected term of the instruments has been based on historical experience and general option holder behavior.

### (c) Reconciliation of outstanding share options

	Grant date 30 June 2020	<b>Measurement date</b> <b>30 June 2021</b>	
Fair value (HKD)	7	<b>10</b>	<b>10</b>
Share price (HKD)	22	<b>32</b>	<b>32</b>
Exercise price (HKD)	22	<b>22</b>	<b>22</b>
Expected volatility (weighted-average)	38.76%	<b>41.93%</b>	<b>40.60%</b>
Expected life (weighted-average)	5	<b>3.5</b>	<b>4</b>
Expected dividends	0%	<b>0%</b>	<b>0%</b>
Risk-free interest rate (based on government bonds)	1.63%	<b>0.39%</b>	<b>0.48%</b>

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 17 CASH SETTLED SHARE BASED TRANSACTION (CONTINUED)

### (c) Reconciliation of outstanding share options (continued)

	Six months ended 30 June 2021		2020	
	Weighted average exercise price HKD	Number of share options	Weighted average exercise price HKD	Number of share options
Outstanding at the beginning of the period/year	22	8,607,700	-	-
Granted during the period/year	-	-	22	8,607,700
Exercised during the period/year	-	-	-	-
Forfeited during the period/year	22	(3,436,700)	-	-
Expired during the period/year	-	-	-	-
Outstanding at the end of the period/year	22	5,171,000	22	8,607,700
Exercisable at the end of the period/year	-	-	-	-

The share options outstanding at 30 June 2021 had a weighted average exercise price of HK\$22.2 (2020: HK\$22.2) and a weighted average remaining contractual life of 5 years (2020: 5.5).

### (d) Expense recognised in profit or loss

For details of the related employee benefit expenses, see Note 6(b).

## 18 COMMITMENTS

Capital commitments outstanding at 30 June 2021 not provided for in the interim financial report

	At 30 June 2021 RMB'000	At 31 December 2020 RMB'000
Contracted for	876,483	791,672

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 19 MATERIAL RELATED PARTY TRANSACTIONS

The Group is part of a large group of companies under CNNC, and has significant transactions and relationships with CNNC and related parties under CNNC.

In addition to the balances disclosed elsewhere in this interim financial report, the principle transactions which were carried out in the ordinary course of business are as follows:

	<b>Six months ended 30 June</b>	
	<b>2021</b>	2020
	<b>RMB'000</b>	RMB'000
<u>Sale of goods to</u>		
Related parties under CNNC	<b>27,391</b>	10,124
Associates and a joint venture	<b>19,619</b>	9,435
<u>Service provided to</u>		
Related parties under CNNC	<b>4,457</b>	1,155
Associates and a joint venture	<b>2,915</b>	10,712
<u>Purchase of goods from</u>		
Related parties under CNNC	<b>10,586</b>	11,778
Associates and a joint venture	<b>7,151</b>	6,996
<u>Purchase of a property, plant and equipment from</u>		
Related parties under CNNC	<b>5,021</b>	5,532
<u>Service provided by</u>		
CNNC	–	71
Related parties under CNNC	<b>45,397</b>	30,048
Associates and a joint venture	<b>100</b>	–
<u>Leases from</u>		
Related parties under CNNC		
– right of use assets recognised during the period under IFRS16	<b>4,467</b>	698
– lease payments	<b>3,101</b>	5,355

# NOTES TO THE UNAUDITED INTERIM FINANCIAL REPORT (CONTINUED)

(Expressed in RMB unless otherwise indicated)

## 19 MATERIAL RELATED PARTY TRANSACTIONS (CONTINUED)

	Six months ended 30 June	
	2021 RMB'000	2020 RMB'000
<u>Interest expenses</u>		
Related parties under CNNC	995	349
<u>Net deposits withdrawn from</u>		
Related parties under CNNC	(130,740)	(217,453)
<u>Interest income</u>		
Related parties under CNNC	5,667	6,849
<u>Dividend received from</u>		
Associates and a joint venture	11,753	3,822
<u>Net cash placed with</u>		
CNNC Finance Company Ltd	402,691	45,351

## DEFINITIONS

“13th Five-Year Plan”	the Outline of the 13th Five-Year Plan for the National Economics and Social Development of the People’s Republic of China
“14th Five-Year Plan”	the Outline of the 14th Five-Year Plan for the National Economic and Social Development of the People’s Republic of China
“Articles of Association”	the articles of association of the Company
“Board” or “Board of Directors”	the Board of Directors of our Company
“Board of Supervisors”	the Board of Supervisors of the Company
“China” or “PRC”	the People’s Republic of China, for the purpose of this interim report, excluding Hong Kong, Macau and Taiwan
“CIAE”	China Institute of Atomic Energy
“CIRC”, “Company”, “our Company”, “we” or “us”	China Isotope & Radiation Corporation, a joint stock company incorporated in the PRC with limited liability
“CNNC”	China National Nuclear Corporation
“CNNC Accuray”	CNNC Accuray (Tianjin Medical) Technology Co., Ltd.
“CNNC Fund”	Beijing CNNC Industry Investment Fund (LLP)
“CNNC Headway”	Shenzhen Zhonghe Headway Bio-Sci & Tech Co., Ltd.
“Director(s)”	director(s) of our Company
“Domestic Share(s)”	ordinary shares in the share capital of the Company with a nominal value of RMB1.00 each, which are subscribed for and paid up in RMB
“EPC”	engineering, procurement and construction
“Group” or “our Group”	the Company and its subsidiaries from time to time
“H Share(s)”	overseas listed foreign shares in the share capital of the Company with a nominal value of RMB1.00 each, which are to be subscribed for and traded in HK dollars and have been approved for the granting of listing, and permission to deal, on the Stock Exchange
“HK\$” or “HK dollars” or “HKD”	Hong Kong dollars and cents, respectively, the lawful currency of Hong Kong

## DEFINITIONS (CONTINUED)

“Hong Kong” or “HK”	Hong Kong Special Administrative Region of the PRC
“Listing Rules”	the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited
“Model Code”	the Model Code for Securities Transactions by Directors of Listed Issuers
“NPIC”	Nuclear Power Institute of China
“OFAC”	Office of Foreign Assets Control
“Reporting Period”	the six months ended 30 June 2021
“RMB”	Renminbi, the lawful currency of the PRC
“Rounding”	In this report, where information is presented in hundreds, thousands, ten thousands, millions or hundred millions, certain amounts of less than one hundred, one thousand, ten thousand, one million or hundred million, as the case may be, have been rounded to the nearest hundred, thousand, ten thousand, million or hundred million, respectively. Amounts presented as percentages have, in certain cases, been rounded to the nearest tenth or hundredth of a percent. Any discrepancies in any table or chart between totals and sums of amounts listed therein are due to rounding
“SFO”	the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong), as amended, supplemented or otherwise modified from time to time
“Share(s)”	the ordinary shares in the capital of the Company with a nominal value of RMB1.00 each, comprising the Domestic Shares and the H Shares
“Shareholder(s)”	holder(s) of the Share(s) of the Company
“Stock Exchange”	The Stock Exchange of Hong Kong Limited
“Supervisor(s)”	supervisor(s) of our Company
“%”	percent

**中國同輻股份有限公司**  
China Isotope & Radiation Corporation