CEC
华大科技
HUADA TECHNOLOGY

China Electronics Huada Technology Company Limited

中國電子華大科技有限公司

(Incorporated in the Cayman Islands and continued in Bermuda with limited liability)
(於開曼群島註冊成立及於百慕達繼續經營之有限公司)

(Stock Code 股份代號: 00085)

2019 Corporate Social Responsibility Report
企業社會責任報告

Contents
目錄

1.	About This Report	關於本報告	2
2.	Corporate Social Responsibility Management	企業社會責任管理	3
3.	Products and Services	產品及服務	7
4.	Employees	員工	16
5.	Compliance Operation	合規營運	23
6.	Environment	環境	26
7.	Community Investment	社區投資	31

Corporate Social Responsibility Report
企業社會責任報告

1. ABOUT THIS REPORT

This report is the corporate social responsibility report issued by China Electronics Huada Technology Company Limited (the "Company"). It addresses the actions taken and the achievement made by the Company and its subsidiaries (the "Group") in respect of sustainable development regarding economic, environment, and social issues. This report has been prepared with reference to the Environmental, Social and Governance Reporting Guide issued by The Stock Exchange of Hong Kong Limited.

1. 關於本報告

本報告是中國電子華大科技有限公司(「本公司」)發佈的企業社會責任報告，披露本公司及其附屬公司(「本集團」)在經濟、環境及社會的可持續發展方面採取的行動及達到的成效。本報告以香港聯合交易所有限公司刊發的《環境、社會及管治報告指引》為參考依據編製。

1.1 Scope of the report

Organisational scope: the companies covered under this report included the Company, and its subsidiaries, CEC Huada Electronic Design Co., Ltd ("Huada Electronics"), Shanghai Huahong Integrated Circuit Co., Ltd and China Electronics Huada Technology (Shenzhen) Company Limited. Compared with last year, the newly established China Electronics Huada Technology (Shenzhen) Company Limited has been included in the scope of this report.

Reporting period: from 1 January 2019 to 31 December 2019.

1.1 報告範圍

組織範圍：本報告涵蓋的公司包括本公司，以及其附屬公司北京中電華大電子設計有限責任公司(「華大電子」)、上海華虹集成電路有限責任公司和中電華大科技(深圳)有限公司。與去年相比，本報告的報告範圍增加了新成立的中電華大科技(深圳)有限公司。

報告期間：2019年1月1日至2019年12月31日。

1.2 Data

Data disclosed in this report were extracted from the Group's original records in day-to-day operation or financial reports.

1.2 數據

報告中的數據來自本集團日常營運的原始記錄或財務報告。

1.3 Reliability assurance

The board of director of the Company guarantees the contents of this report do not contain any false information, misleading statement or material omission.

1.3 可靠性保證

本公司董事會對報告的內容進行保證，不存在虛假資料、誤導性陳述或重大遺漏。

2. CORPORATE SOCIAL RESPONSIBILITY MANAGEMENT

2.1 Corporate social responsibility philosophy

The Group is principally engaged in the business of design and sale of integrated circuits chips. The integrated circuit chips design operation comprises the design of security smart card chips and the development of application system.

The Group has all along been insisting on developing the information industry and safeguarding of information safety as its own responsibility. By adhering to the "be innovative in electronics of China, lead the information in the future" responsibility philosophy, and incorporating it into the Group's strategic and operational practice, the Group strives to maximise the comprehensive benefits of economy, environment and society, and has always been a good corporate citizen.

The Company has complied with the "comply or explain" provisions set out in the Environmental, Social and Governance Reporting Guide as set out in Appendix 27 to the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited for the year ended 31 December 2019. Details of the corporate governance practices of the Company are set out in the Company's 2019 Annual Report.

2.2 Participation of stakeholders and analysis of material issues

The communication with and the participation of stakeholders are essential components of the sustainable development of enterprises. The Group operates principally in the People's Republic of China (the "PRC"). The key stakeholders of the Group are its shareholders, customers, employees, government and regulatory authorities, business partners, communities and the public as well as the ecological environment. Through communication with its stakeholders, the Group understands their expectations and advices, so as to provide guidelines for the Group's operational decision-making and make more positive contributions to sustain the industrial and social development.

2. 企業社會責任管理

2.1 企業社會責任理念

本集團的主要業務為從事集成電路芯片的設計及銷售。集成電路芯片設計業務涵蓋智能卡及安全芯片的設計及應用系統開發。

本集團始終堅持以發展信息產業及維護信息安全為己任，秉承「創新中國電子，引領信息未來」的責任理念，並將其融入本集團戰略及營運實踐，努力追求經濟、環境、社會綜合效益最大化，並時刻擔當良好企業公民。

於截至2019年12月31日止年度本公司已遵守香港聯合交易所有限公司證券上市規則附錄27所載環境、社會及管治報告指引所載的「不遵守就解釋」條文。有關本公司的企業管治常規詳見本公司的2019年年報。

2.2 利益相關方參與及重要議題的分析

與利益相關方的溝通及其參與是企業可持續發展的重要組成部分。本集團主要經營地點在中華人民共和國(「中國」)。本集團的關鍵利益相關方包括其股東、顧客、員工、政府及監管機構、業務夥伴、社區及公眾及生態環境。通過與利益相關方的溝通，瞭解各方期望及建議，為本集團營運決策提供指引，為產業及社會可持續發展做出更積極的貢獻。

In 2019, the Group analysed the materiality of various environmental, social and governance ("ESG") issues with reference to peer practice and expert opinions, in accordance with the Group's actual operations circumstances, and gave a salient response to these material issues in this report.

2019年，本集團採取同業對標及專家意見相結合的方式，結合本集團營運實際的情況，分析各項環境、社會及管治(「ESG」)議題的重要性，並在本報告中對該等重要議題進行重點回應。

ESG issues ESG議題		Materiality analysis 重要性分析	Corresponding section 對應章節
Emissions **排放物**	Exhaust and greenhouse gas emissions 廢氣及溫室氣體的排放	The Group is principally engaged in the business of design of security smart card chips and does not involve in manufacturing. Apart from greenhouse gases, non-hazardous wastes produced in offices (such as waste paper), and a small number of waste toner cartridges, the Group does not produce significant exhaust emissions, cause water and land pollutions and generate hazardous wastes during its operation. 本集團的主營業務為智能卡及安全芯片之設計，在業務過程中不涉及生產。除溫室氣體、辦公環節產生的無害廢棄物(如廢紙等)以及少量廢棄碳粉匣外，本集團於營運期間並無產生顯著廢氣的排放、向水及土地的排污以及有害廢棄物的排放。	6.1 Green operations 6.1 綠色營運
	Water and land pollutions 向水及土地的排污		6.1 Green operations 6.1 綠色營運
	Hazardous and non-hazardous waste generation 有害及無害廢棄物的排放		6.1 Green operations 6.1 綠色營運
Use of resources **資源使用**	Use of energy 能源使用	The Group consumes energy (including electricity, fuel consumed by vehicles for office use), water resources and packaging materials used in finished products during its operation. Managing the use of resources can help to reduce the Group's operating costs as well as the Group's impact on the environment. 本集團營運過程會消耗能源(包括電力、辦公用車的耗油)、水資源以及製成品所用包裝材料。資源使用管理有助於降低本集團的營運成本，同時也有助於減少本集團對環境的影響。	6.1 Green operations 6.1 綠色營運
	Use of water resources 水資源使用		6.1 Green operations 6.1 綠色營運
	Packaging materials used in finished products 製成品所用包裝材料		6.1 Green operations 6.1 綠色營運
Environment and natural resources **環境及天然資源**		In the process of smart card chips manufacturing, suppliers who work with the Group will exert impacts on the environment and natural resources. 在智能卡芯片製造過程中與本集團合作的供應商會對環境及天然資源產生影響。	6.2 Green products 6.2 綠色產品

ESG issues ESG議題		Materiality analysis 重要性分析	Corresponding section 對應章節
Employment and labour practices **僱傭及勞工常規**	Employment 僱傭	Employees are an asset to the Group and a driving force for the Group to innovate persistently. Therefore, the rights and benefits, health and safety, training and development of employees are all key areas of work of the Group regarding corporate social responsibility. 員工被視為本集團的資產，同時為本集團提供不斷創新的原動力。因此，員工的權益及福利、健康及安全，培訓及發展均為本集團於企業社會責任方面的重要工作。	4.1 Employment and employee benefits 4.1 僱傭及員工福利
	Health and safety 健康及安全		4.3 Occupational health and safety 4.3 職業健康及安全
	Training and development 培訓及發展		4.2 Training and development 4.2 培訓及發展
	Labour standards 勞工準則	Child labour and forced labour are prohibited by the laws and regulations of the place where the Group operates. 禁止使用童工以及強制勞工為本集團各營運地法律法規的要求。	4.1 Employment and employee benefits 4.1 僱傭及員工福利
Supply chain management **供應鏈管理**	Management of environmental and social risks of the supply chain 供應鏈環境及社會風險管理	The management of supply chain not only can help the Group to avoid environmental and social risks, but is also crucial to the Group's product quality. 供應鏈的管理不僅能幫助本集團規避在環境及社會方面的風險，也對本集團的產品質量至關重要。	5.1 Supply chain management 5.1 供應鏈管理

ESG issues ESG議題		Materiality analysis 重要性分析	Corresponding section 對應章節
Product responsibility **產品責任**	Quality and safety of products and services 產品及服務的質量及安全	Given the type of business the Group operates, information safety protection, effective quality management and customer service are the foundation for achieving sustainable operation of the Group. 基於本集團的業務類型，保障信息安全、有效的質量管理及顧客服務為本集團實現可持續經營的基礎。	3.1 Information safety 3.1 信息安全 3.2 Quality management 3.2 質量管理 3.4 Customer service 3.4 顧客服務
	Intellectual property management 知識產權管理	The daily operation of the Group involves the use of intellectual properties owned by customers, suppliers or the Group. Therefore, to protect the intellectual properties of the Group and business partners, and to avoid infringement of others' intellectual properties are all key areas of work of the Group regarding corporate social responsibility. 本集團的日常營運中會涉及到使用顧客、供應商或本集團自身擁有的知識產權。因此，保護自身及業務夥伴的知識產權，同時防止侵犯他人的知識產權為本集團於企業社會責任方面的重要工作。	3.3 Research and development innovation, and intellectual property protection 3.3 研發創新與知識產權保護
	Information safety and privacy protection of customers 顧客信息安全及隱私保護	The daily operation of the Group involves confidential information of some of its customers and business partners. 本集團的日常營運中會涉及到部分顧客及業務夥伴的機密信息。	3.4 Customer service 3.4 顧客服務
Anti-corruption **反貪污**	Anti-corruption practices 反貪污常規	Anti-corruption is a key safeguard for the healthy and sustainable development of the Group's business. 反貪污是本集團業務健康、可持續發展的重要保障。	5.2 Anti-corruption 5.2 反貪污
Community investment **社區投資**	Community welfare 社區公益	The Group mainly operates in the Mainland China. Servicing the needs and development of the local communities have considerable impacts on the Group's development. 本集團主要營運地點在中國內地，營運當地社區的需要及發展對本集團的發展有一定影響。	7. Community investment 7. 社區投資

2.3 ESG working group

The Administrative and Legal Department is responsible for coordinating the preparation of the corporate social responsibility report, and implementing ESG-related tasks to different implementation departments such as the Human Resources Department, the Quality Assurance Department, the production centres, etc. The Managing Director of the Company is responsible for supervising the progress of the ESG work.

2.3 ESG工作小組

由行政法務部負責統籌協調企業社會責任報告編製工作，並將ESG相關任務落實到人力資源部、質量部、生產中心等各實施部門。本公司董事總經理負責監管ESG工作的進展。

3. PRODUCTS AND SERVICES

The Group reviews regularly the management systems regarding the safety, advertisement, labels and privacies of its products and services by adhering to the "make innovations through reform and cherish integrity towards the world" operation philosophy, and with reference to the Standardisation Law of the People's Republic of China, the Intellectual Property Law of the People's Republic of China, the Product Quality Law of the People's Republic of China, and the Advertising Law of the People's Republic of China as well as the industrial policies, and continues to enhance the corresponding information safety management system, product quality management system, intellectual property management system and customer service system. In 2019, there was no litigation against the Group or violation of laws and regulations by the Group in relation to the safety, advertisement, labels and privacies of its products and services.

3. 產品及服務

本集團秉承「知變圖新、誠達天下」的經營理念，參考《中華人民共和國標準化法》、《中華人民共和國知識產權法》、《中華人民共和國產品質量法》、《中華人民共和國廣告法》及行業政策，對本集團產品及服務的安全、廣告、標籤及隱私等方面的管理制度定期進行檢討，並持續完善相應信息安全管理體系、產品質量管理體系、知識產權管理體系及顧客服務體系。本集團於2019年在產品及服務的安全、廣告、標籤及隱私方面未發生訴訟及違法違規事件。

3.1 Information safety

As the practitioner and facilitator of the smart card chips design industry in the PRC, the Group regards maintenance of information safety as its own responsibility, concerns with the laws and regulations regarding information safety management such as the Requirements for the Management of Safety Production of Electronic Information Industry, the Safety Protection of Computer Information System Regulation of the People's Republic of China, the Network Security Law of the People's Republic of China, the Regulations for the Management of Commercial Cryptographic, etc., focuses on independent research and development of security smart card chips while building a safe operating environment, strives to be the cornerstone of China's information technology modernisation and information safety.

3.1 信息安全

本集團作為中國智能卡芯片設計行業的實踐者及推動者，以維護信息安全為己任，關注《電子信息產業安全生產管理規定》、《中華人民共和國計算機信息系統安全保護條例》、《中華人民共和國網絡安全法》及《商用密碼管理條例》等信息安全管理相關的法律法規，研發自主可控的智能卡及安全芯片，同時打造安全的營運環境，為中國信息技術現代化以及信息安全提供基石。

The Group established an information safety management system by adhering to the Group's information safety policy of "catering for safety demand through system protection; striving for sustainable development through the involvement of all staff", with reference to the requirements of standards such as the Information Technology – Security Technology – Information Safety Management System – Requirements (ISO/IEC 27001), the Information Technology – Security Technology – Practical Rules for Information Safety Management (ISO/IEC 27002), etc. It also set up an information safety management team to coordinate information safety management work and ensure stable operation of the information safety management system.

本集團秉承「系統防範，滿足安全需求；全員參與，追求持續發展」的信息安全方針，參考ISO/IEC 27001《信息技術－安全技術－信息安全管理體系－要求》、ISO/IEC 27002《信息技術－安全技術－信息安全管理實用規則》等標準要求，建立信息安全管理體系，並設立了信息安全管理小組，負責協調信息安全管理工作，確保信息安全管理體系的穩定運行。

In order to further consolidate and improve information safety performance, maintain the effective operation of the information safety management system, Huada Electronics established the information safety target and the ancillary management requirements; coordinated external suppliers with a view to optimising information safety management, and launched information safety training activities to promote employees awareness on information safety. In 2019, Huada Electronics organised employees to conduct an online quizzes on information safety, and invited external experts to provide ISO 27001 standard training for key employees.

為進一步鞏固、提高信息安全績效，保持信息安全管理體系運行的有效性，華大電子建立信息安全目標及配套管理要求，協調外部供應商完善信息安全管理工作，並開展信息安全培訓活動，提升員工信息安全意識。2019年，華大電子組織員工進行線上信息安全知識答題，並聘請外部專家向骨幹員工開展ISO 27001標準培訓。

- *Development of security chip*

The Group focuses on the business of design of security smart card chips. As the practitioner and facilitator of the smart card chips technology in the PRC, the Group owns the globally advanced and domestic leading security attack and defense technology, covering the protection technology at levels such as the system level, algorithm level, circuit level and layout level, with technologies such as side channel attack, malfunction-injection attack and physical attack technologies, and forming a set of comprehensive safety management system.

- *安全芯片開發*

本集團專注於智能卡及安全芯片設計業務。作為中國智能卡芯片技術的實踐者及推動者，本集團擁有世界先進、國內領先的安全攻防技術，覆蓋系統級、算法級、電路級及版圖級等防護技術，具備側信道攻擊、故障注入攻擊及物理攻擊等技術，形成了完整的安全管理體系。

A number of high-end security control chips of the Group was accredited with security certification such as the domestic EAL4+ Certificate, international CCEAL5+ Certificate, EMVCo Certificate, etc., which lead the domestic security chip technology, attain international level, and demonstrate China's "Smart Card Chips" capability.

本集團多款高端安全控制芯片獲得中國EAL4+、國際CCEAL5+及EMVCo等安全資質認證，引領國內安全芯片技術、達致國際水平，展現中國「芯」實力。

In addition, the Group actively participates in the formulation of industry standards for various types of security cards and smart card chips, and some of these standards such as the Implementation Guidelines for Production and Protection Capacity Building of Commercial Cryptographic Products and the Implementation Guidelines of Production Capacity Assessment Criteria for Commercial Cryptographic Products have already been issued.

此外，本集團積極參加各類安全卡及智能卡芯片行業標準的制定，其中《商用密碼產品生產和保障能力建設實施指南》及《商用密碼產品生產能力評估準則實施指南》已發佈。

- *Safe operating environment*

While focusing on the development of smart card chips with high security and high reliability, the Group also pays attention to physical environment security, that is, protecting computer network equipment and facilities from being destroyed by accidents such as earthquakes, floods, as well as human acts. The Group established a series of physical security management system, such as the Procedures for the Physical Security Control, the Measures for the Management of Security Facilities, the Control Code for Central Control Room, the Measures for the Management of Security Officer, etc., for protecting the design and development of security smart card chips. In 2019, in response to the CCEAL6+ certification approval requirements, the Group revised the Procedures for the Physical Security Control and the Measures for the Management of Security Facilities, and adopted a series of measures, such as the installation of warning devices, etc., with a view to further strengthening the safety management of physical environment.

- *安全營運環境*

在專注於高安全性、高可靠性智能卡芯片開發的同時，本集團注重物理環境安全，即保護計算機網絡設備及設施免遭地震、水災等事故以及人為行為導致的破壞。本集團制定有《物理安全控制程序》、《安防設施管理辦法》、《中控室控制規範》、《保安員管理辦法》等一系列物理安全管理制度，為智能卡及安全芯片設計及開發提供保障。2019年，為應對CCEAL6+認證審核要求，本集團對《物理安全控制程序》、《安防設施管理辦法》進行修訂，並採取一系列措施，例如增加警報設備等，進一步加強了物理環境安全管理。

- *Development of smart card chips with independent intellectual property rights*

As the core of electronic information industry, integrated circuit is playing an increasingly important role in aspects such as promoting economic development and social progress, protecting information safety, etc. With information safety rising gradually to become a national strategy, the Group will continue to follow the pace of national development, focus on the development of electronic information industry, continue to launch domestic-made smart card chips with independent intellectual property rights, and keep on accumulating its core technologies.

- *自主知識產權智能卡芯片開發*

集成電路作為電子信息產業的核心，在推動經濟發展、社會進步及保障信息安全等方面正日益發揮重要作用。隨著信息安全逐步上升為國家戰略，本集團將繼續跟隨國家發展步伐，專注於電子信息產業發展，繼續推出自主知識產權的國產智能卡芯片，不斷積累核心技術。

While strengthening its internal management, the Group develops diversified products so as to provide better professional smart cards and embedded security chips and related solutions. At the same time, the Group also promotes its domestic-made smart card chips which are widely used in sectors such as financial payment, social security, resident health, public transportation, telecommunication, network authentication, identity authentication, Internet of Things, etc.

本集團在加強內部管理的基礎上，開發多樣化產品，以提供更好的專業智能卡及嵌入式安全芯片及相關解決方案。同時，本集團亦致力於推廣國產智能卡芯片，廣泛應用於金融支付、社會保障、居民健康、公共交通、電信、網絡認證、身份識別及物聯網等領域。

In 2019, the Group pursued innovative research and development on projects such as "low-powered, highly secured and highly reliable Internet of Things core chips research and development", "intelligent internet of car-road collaboration security chips", etc., with project funding support from the government.

2019年，本集團在「低功耗高安全高可靠性物聯網核心芯片研發」、「智能網聯車路協同安全芯片」等項目上開展創新研發，並獲得政府項目資金支持。

3.2 Quality management

- *Quality management system*

The integrated circuits design operation of the Group comprises the design of smart card chips and the development of application system. The Group is not directly involved in aspects such as manufacturing, assembling, transportation, etc., albeit adhering to the tenet of "zero defect" in provision of products and services to customers as well as the quality policy of "catering for customers demand through continuous innovation; striving for customers' satisfaction through the involvement of all staff". The Group advocates comprehensive quality management with the involvement of all staffs, striving to control and improve continuously the entire aspects of production of its products.

3.2 質量管理

- *質量管理體系*

本集團的集成電路設計業務涵蓋智能卡芯片設計及應用系統開發，不直接涉及生產、封裝及運輸等環節，但秉承著向顧客提供「零缺陷」產品及服務的宗旨，「持續創新，滿足顧客需求，全員參與，追求顧客滿意」的質量方針。本集團倡導全員參與的全面質量管理，致力於對產品實現全過程控制及持續改進。

The Group established a quality management system covering aspects such as product research and development, raw material acceptance, outsourcing of production and processing, finished products and after sales services, in accordance with the requirements of ISO9001 Quality Management System, so as to meet the customers' demands for diversification, personalisation and refinement through systematic management. In 2019, in response to the Master CQM certification approval requirements, the Group further optimised its quality management system, including the revision of the Quality Assurance Manual, Product Engineering Operation Guidance, and the addition of the Master CQM Certification Management Procedures, and provided employees with training and online quizzes on quality management system.

本集團按照 ISO9001質量管理體系要求，建立了覆蓋產品研發、原材料入庫、委外生產加工、成品和售後服務各環節的質量管理體系，通過體系化管理滿足顧客多樣化、個性化、精細化等訴求。2019年，為應對萬事達CQM認證審核的要求，本集團進一步完善質量管理體系，包括修訂《質量手冊》、《產品工程作業指導書》，新增《萬事達CQM認證管理程序》，並向員工開展質量管理體系培訓及線上答題。

Quality management system
質量管理體系

Product research and development
產品研發
- Quality assurance of research and development projects
- 研發項目質量保證

Raw material acceptance
原材料入庫
- Restricting the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Directive ("RoHS") and Registration, Evaluation, Authorisation and Restriction of Chemicals ("REACH") monitoring
- 《關於限制在電子電器設備中使用某些有害成分的指令》(「RoHS」)及《化學品的註冊、評估、授權和限制》(「REACH」)監控

Outsourcing of production and processing
委外生產加工
- Online quality monitoring on outsourcing of production and processing
- 委外生產加工在線質量監控
- RoHS and REACH monitoring
- RoHS及REACH監控

Finished products
成品
- Quality inspection on delivery of finished products
- 成品交付質量檢測
- Controlling substandard products
- 不合格品控制

After sales services
售後服務
- Handling customer complaints and feedback
- 顧客投訴與反饋處理
- Controlling substandard products
- 不合格品控制

In the product research and development aspect, the Group formulated quality management measures according to different product types, including the HED Smart Card Chip Product Development Process, the Embedded Software Product Development Procedures, etc.

本集團在產品研發環節按照產品類型的不同制定《HED智能卡芯片產品開發流程》、《嵌入式軟件產品開發程序》等質量管理辦法。

The Group managed the quality risk in aspects such as outsourcing of production and processing, etc., in accordance with the QMS Risk Management and Control Procedures. The Group required key suppliers to carry out failure mode and effects analysis management on manufacturing and processing procedures of the related products and equipments to identify risks and implement risk treatment measures, so as to further ensure the quality of the products provided by the suppliers.

本集團按照《QMS風險管理控制程序》管理委外生產加工等環節的質量風險。本集團要求關鍵供應商對相關產品生產及加工流程以及設備開展故障模式影響分析管理，識別風險並實施風險處置措施，從而進一步保障了供應商所提供產品的質量。

For substandard products found during operation, the Group will deal with the substandard products in accordance with the requirements of the Substandard Products Control Procedures, while arrangements will be made for the responsible departments to analyse the reason for the generation of substandard products, formulate rectification and preventive measures, and be responsible to follow up on their implementation and the effectiveness of these measures. In 2019, there was no occurrence of any recall of the Group's products sold or delivered due to safety and health concerns.

針對在營運過程中發現的不合格品，本集團按照《不合格品控制程序》的要求進行處置，同時安排責任部門分析不合格品產生原因、糾正及預防措施制定，以及負責跟進實施情況及措施有效性。於2019年，本集團並未發生因安全及健康理由而須對已售或已運送產品進行回收的事件。

For the management of product labels, the Group established labelling requirements for information such as product model number, product lot number, product quantity, time of processing, product origin, etc. with respect to the packaging specifications for various products such as IC card, smart card, etc.

在產品標籤的管理方面，本集團制定了針對IC卡、智能卡卡片等產品包裝規範，明確規定對產品型號、產品批號、產品數量、加工時間、產地等信息的標籤要求。

- *Quality inspection procedures*

The Group conducted quality inspection on products such as wafers, modules, cards, circuits, etc, that are developed independently with procurement and processing outsourced in accordance with the requirements in respect of the quality inspection operational process imposed by its quality management system. Inspections are performed by professional inspectors in accordance with the inspection specifications and practice guidelines, and by using professional inspection equipment, so as to avoid the delivery of substandard products. In addition, the professional high-precision instruments used for quality inspection are calibrated regularly to ensure the accuracy of the inspection result.

- *質量檢測流程*

本集團按照其質量管理體系對質量檢測流程的操作要求，針對其自主研發並委外採購及加工的圓片、模塊、卡片、電路等產品進行質量檢驗。質量檢驗由具備專業技能的檢驗人員，依據檢驗規範及作業指導書，使用專業的檢驗設備進行檢驗，防止不合格品交付。此外，檢驗人員通過定期對用於質量檢測的專業高精密儀器進行校準，以保證檢驗結果的準確性。

3.3 Research and development innovation, and intellectual property protection

The Group attaches importance to original innovation and collective innovative capabilities, scientific discovery and technology invention, and through incentive measures encourage employees to actively apply for intellectual properties and publish academic papers, etc. Huada Electronics has established awards such as the technology contribution awards and the technology innovation awards, etc. to commend employees for their significant research and development innovation achievements. In 2019, a total of 14 employees received the technology contribution award. As at 31 December 2019, the Group owned 486 patents.

The Group conducts patent retrieval and infringement analysis at all stages of research and development, and regularly monitors patent information of other parties to reduce the risk of infringing others' intellectual properties. Moreover, the Group conducts intellectual property training for employees every year. In 2019, Huada Electronics launched training activities such as "intellectual property basic training", "patent retrieval training", etc., to constantly promote employees' awareness on intellectual property protection.

The Group respects intellectual properties and regulates the usage of intellectual properties from customers and third parties. It also keeps all its business partners' product's technical information strictly confidential. Moreover, the Group concerns about the protection of its own intellectual properties, and issued the Measures for the Management of Intellectual Properties for the first time in 2003 and continues to improve and amend it.

The Measures for the Management of Intellectual Properties explicitly defines the responsibilities and working procedures for all departments and personnel, and states the detail requirements regarding the evaluation, searching, retrieval and analysis of relevant intellectual properties during the technology research and development process, contract filing management, intellectual properties ownership, protection and application of intellectual properties, training and awards. The Measures for the Management of Intellectual Properties facilitates the formation of innovation mechanism, and creates a regulated sound environment with rules and precedents to follow for the developing of intellectual properties.

3.3 研發創新與知識產權保護

本集團重視原始創新、集成創新能力，重視科學發現及技術發明，亦通過獎勵措施鼓勵員工積極進行知識產權申請、論文發表等。華大電子設立了技術貢獻獎及技術創新獎等獎勵，表揚有重大研發創新成果的員工，2019年共有14名員工獲得技術貢獻獎。截至2019年12月31日，本集團擁有專利486項。

本集團於研發各環節開展專利檢索與侵權分析，並對他人的專利信息進行定期監控，減少侵犯他人知識產權的風險。此外，本集團每年向員工開展知識產權培訓。華大電子於2019年開展「知識產權基礎培訓」、「專利檢索培訓」等培訓活動，持續提升員工知識產權保護意識。

本集團尊重知識產權，規範使用顧客及第三方的知識產權，亦對所有業務夥伴的產品技術信息進行嚴格保密。此外，本集團關注對自身知識產權的保護，於2003年首次發佈《知識產權管理辦法》，並持續完善修訂。

《知識產權管理辦法》明確了各部門及人員的職責及工作程序，對包括技術研發過程中對相關的知識產權的評估、查新、檢索、分析、合同檔案管理、知識產權歸屬、知識產權的保護、知識產權的申請、培訓及獎勵等都做了詳細的規定，促進了創新機制的形成，營造了知識產權工作有法可依、有章可循的良好環境。

3.4 Customer service

- *Customer service system*

The Group adheres to the "users first and customers foremost" philosophy and builds a comprehensive customer service system to provide more convenient and better quality service to customers. In addition, the Group has site engineer teams with strong technical knowledge to provide immediate professional technical services to customers to solve their technical problems before, during and after a purchase.

Customer Complaint Procedures are established by the Group to assist customers to solve any issues encountered after products are sold and during usage, and any feedback from customers will be used for on-going enhancement of service and product quality. In addition, depending on the issue raised by the customer, the Group will organise respective specialists from the failure analysis team, product research and development and design team, production and processing professional technical team, sales service team, technical support team and project management team to work together to analyse and identify the fundamental causes of the issue, formulate rectifying and precautionary measures, ensure the effectiveness of such measures, and keep track of the customer's subsequent usage in the long run.

As for customers' information safety and privacy protection, the Group established the Measures for the Management of Technology Confidentiality Agreement and the Requirements for the Management of Confidentiality, and employees are required to keep trade secrets of the Group and customers in strict confidence, so as to ensure information confidentiality for both sides during business interaction between the Group and customers.

3.4 顧客服務

- *顧客服務體系*

本集團秉承「用戶第一、顧客至上」的理念，打造完善的顧客服務體系，為顧客提供更便捷、優質的服務。此外，本集團擁有技術實力雄厚的現場工程師團隊，為顧客即時提供售前、售中、售後的專業技術服務，解決技術難題。

本集團制定《顧客抱怨處理程序》，幫助解決在產品銷售後、顧客使用中遇到的問題，並同時通過顧客反饋的問題持續提升服務質量及產品質量。此外，本集團根據顧客提出的不同問題，組織失效分析團隊、產品研發設計團隊、生產加工專業技術團隊、銷售服務團隊、技術支撐團隊、項目管理團隊中相關的專業人員，共同完成整個問題的分析處理工作，挖掘問題發生的根本原因，制定糾正及預防措施，保證其措施的有效性，並長期跟蹤顧客的後續使用情況。

在顧客信息安全及隱私保護方面，為確保本集團與顧客業務交往中雙方的信息保密，本集團制定了《技術保密協議管理辦法》以及《保密管理規定》，並要求員工需嚴格保守本集團及顧客的商業秘密。

- *Customer satisfaction survey*

The Group attaches importance to customer satisfaction survey and through the survey identifies key factors affecting the satisfaction of customers so as to enhance the quality of its services and products. The Group sends out customer satisfaction questionnaires to customers each year to understand customer's satisfaction, opinion and suggestions on its products' or projects' design quality, service quality, and pace and capability in handling issues arose, and Customer Satisfaction Surveillances and Measurements Evaluation Report will be prepared summarising feedbacks from customers and passed to respective departments for on-going improvement of service standards.

- *顧客滿意度調查*

本集團重視顧客滿意度調查，通過調查挖掘影響顧客滿意度的關鍵因素，從而改善服務及產品質量。本集團每年向顧客發放顧客滿意度調查表，全面瞭解顧客對產品或項目的設計質量、服務質量、處理問題的速度及能力等方面的滿意情度，收集相關意見及建議，並編製《顧客滿意度監視及測量評價報告》，將結果反饋給相應部門，持續提升服務水平。

Statistics on product and customer service key performance indicators
產品及顧客服務相關關鍵績效指標統計

Indicators	**指標**	**2019** **2019年度**	2018 2018年度
Number of customer complaints received	顧客投訴事件	116	132
Percentage of customer complaints dealt with (%)	顧客投訴處理率(%)	100	100
Customer satisfaction (%)	顧客滿意度(%)	96.35	94.74

4. EMPLOYEES

The Group reviews and enhances regularly on the management systems regarding its employees' rights, remuneration and benefits, recruitment and promotion, training and development, working environment and occupational health, child labour and forced labour by adhering to the "responsibility orientated, attaches importance to competent and rewards linked with performance" talent philosophy, and with reference to the industrial policies as well as operational location's laws and regulations relevant to employment such as the Labor Law of the People's Republic of China, the Work Safety Law of the People's Republic of China, the Women's Rights and Interests Protection Law of the People's Republic of China and the Regulations on Paid Annual Leave for Employees. In 2019, there was no litigation against the Group or violation of laws and regulations by the Group in relation to employment, occupational health and safety, child labour and forced labour.

4. 員工

秉承「盡責是才、重能酬績」的人才理念，參考《中華人民共和國勞動法》、《中華人民共和國安全生產法》、《中華人民共和國婦女權益保障法》及《職工帶薪年休假條例》等與僱傭相關的營運地法律法規及行業政策，本集團對員工權益、薪酬及福利、招聘及晉陞、培訓及發展、工作環境及職業健康、童工及強制勞工等方面的管理制度定期進行檢討及完善。本集團於2019年在僱傭、職業健康及安全、童工及強制勞工方面未發生訴訟及違法違規事件。

4.1 Employment and employee benefits

- *Employment and employees' rights*

The Group attaches importance to attracting and fostering of talents, provides protection to the equal rights of its employees on aspects such as terms of employment, training, promotion and remuneration, and ensures no discrimination against any person on grounds such as gender, marital status, disability, age, race, family conditions, nationality and religion. In addition, the Group resolutely prohibits child labour and all forced labour, so as to comply with the relevant laws and regulations.

The Group established the Administrative Management Systems, which clearly set out, among others, the management of the recruitment and dismissal of employees. The Group also established the Code for Employees, which covers area such as the standards of daily behaviour, attendance management, management of sick leave and other leave, performance management, remuneration and benefits, employee training, etc.

4.1 僱傭及員工福利

- *僱傭及員工權益*

本集團注重人才的引進及培養，在員工的僱傭條件、培訓、晉陞、薪酬等方面提供平等權利，確保沒有因性別、婚姻狀況、殘疾、年齡、種族、家庭狀況、國籍、宗教等因素而遭受歧視。另外，本集團堅決杜絕僱用童工及一切強制勞工的行為，以確保符合相關法律法規。

本集團制定了《行政管理制度》，其中明確規定了在員工招聘及解僱方面的管理工作。本集團亦制定了《員工守則》，包含員工日常行為準則，考勤管理，病、事假管理，績效管理、薪酬福利及員工培訓等的內容。

The Group encourages employees to introduce talents with competitiveness. Employees introduce talents according to the demands announced by the Group periodically, so as to assist the Group in identifying talents who will benefit its development, enhance the strength of the Group and enlarge its talent pool.

本集團鼓勵員工推薦有競爭力的人才，通過定期發佈人才需求，員工根據需求推薦人才，從而為本集團尋找契合發展的人才，增強本集團實力、擴大人才隊伍。

In addition, the Group introduced an e-HR human resources information system covering all employees in 2019, featuring online management of employee's promotion, training and remuneration, etc.

此外，本集團於2019年引入了覆蓋全體員工的e-HR人力資源信息系統，涵蓋員工晉升、培訓、薪酬等的在線管理。

Overview of the employment and employee's rights system 僱傭及員工權益制度概覽		
Recruitment and dismissal **招聘及解聘**	**Work hours and leave system** **工時及休假**	**Remuneration and benefits** **薪酬及福利**
✓**Recruitment**: New employees are recruited in accordance with the principle of "openness, equality, competition and on the basis of merit". ✓**招聘**：按照「公開、平等、競爭、擇優」的原則招聘錄用新員工。	✓**Work hours**: Work hours meets the requirements of operational location's laws and regulations. ✓**工時**：工作時間符合營運地法律法規的要求。	✓**Remuneration**: The remuneration of each position is determined with reference to market level and adjusted accordingly after considering the value and contribution of such position. ✓**薪酬**：參考市場水平定義崗位薪酬，同時考慮崗位價值及貢獻對薪酬進行合理的調整。
✓**Dismissal**: Employees are dismissed in accordance with the related requirements in the Code for Employees and in compliance with operational location's laws and regulations. ✓**解聘**：按照《員工守則》相關規定開展，並符合營運地法律法規的要求。	✓**Overtime work**: Employees are entitled to pay or time-off in lieu for overtime work. Overtime work compensation meets the requirements of operational location's laws and regulations. ✓**加班**：員工享有加班費或加班調休權利，加班補償符合營運地法律法規的要求。	✓**Social insurance**: Various social insurances are purchased for all employees in accordance with operational location's laws and regulations. ✓**社會保險**：按照營運地法律法規為全體員工繳納各項社會保險。
	✓**Leave system**: Paid annual leave, marriage leave, bereavement leave, maternity leave, sick leave, etc., are provided pursuant to operational location's laws and regulations. ✓**休假**：帶薪年休假、婚假、喪假、生育假、病假等按營運地法律法規提供。	✓**Benefits**: Employees are provided with various benefits such as annual body checks, supplementary medical insurance, etc. in accordance with the actual circumstances of the Group. ✓**福利**：結合本集團實際情況為員工提供多項福利，如年度體檢及補充醫療保險等。

Statistics on employment key performance indicators
僱傭相關關鍵績效指標統計

Indicators		指標		2019 2019年度	2018 2018年度
Number of employees		員工人數		361	368
By gender:	Male	按性別：	男性	221	225
	Female		女性	140	143
By type of employment:	Permanent	按僱傭類型：	勞動合同制	351	358
	Secondment		勞務派遣制	10	10
By age group:	> 50	按年齡組別：	50歲以上	19	19
	30 to 50		30至50歲	292	294
	< 30		30歲以下	50	55
By geographical region:	Mainland China	按地區：	中國內地	359	365
	Overseas[1]		海外[1]	2	3
Employee turnover rate (%)		員工流失率 (%)		12	15
By gender:	Male	按性別：	男性	12	16
	Female		女性	13	13
By age group:	> 50	按年齡組別：	50歲以上	10	5
	30 to 50		30至50歲	12	15
	< 30		30歲以下	15	23
By geographical region:	Mainland China	按地區：	中國內地	12	15
	Overseas[1]		海外[1]	33	25

Note:

1. Including Hong Kong, Macau and Taiwan.

附註：

1. 含香港、澳門及台灣。

- *Employee communication and caring*

An effective employee communication is important to the formulation of decision-making and enterprise development. The Group strives to establish an open working culture, and strengthen the communication between employees and management. It also sets up various communication channels to understand employees' opinions, so as to create a frank and an open communication atmosphere.

- *員工溝通及關懷*

有效的員工溝通對決策制定、企業發展至關重要。本集團致力建設開放的工作文化，並加強員工與管理層的溝通，亦設立了多樣溝通渠道以瞭解員工的意見，營造坦誠開放的溝通氛圍。

The Group cares and supports every employee who is in need. Through proactively carrying out multi-level and multi-channel employee caring activities, the Group ensures paying visit for those employees suffered from injuries and sickness, attending employees' wedding ceremony and funeral ceremony and helping employees who are in difficulties. In addition, the Group carries out consolatory activities on public holiday strictly in accordance with the relevant requirement of the China Federation of Trade Unions. Huada Electronics established the Measures for the Management of Trade Union Expenditure, stating the detail requirements on expenditure such as consolation money and support for employees who are in difficulties. As for the caring for female employees, Huada Electronics has set up nursing rooms, and subsidised the vaccination for female employees.

本集團關心及支持每一位需要幫助的員工，通過積極開展多層次、多渠道的員工關愛活動，做到傷病必訪、婚喪必訪、幫助困難員工，同時嚴格按照中國總工會的有關規定，開展法定節假日慰問活動。華大電子制定了《工會經費管理辦法》，對員工慰問、困難員工幫扶等的經費支出做了詳細規定。在女員工關愛方面，華大電子設置了母嬰室，並為女員工接種疫苗提供補助。

In 2019, Huada Electronics convened a staff representative meeting, and completed the revision of the Implementation Rules for the Enterprise Annuity of Huada Electronics through communication ahead of the meeting as well as a question & answer session at the meeting.

華大電子於2019年召開職工代表大會，通過會前溝通與會上答疑的形式，完成了對《華大電子企業年金實施細則》的修訂。

Overview of employee activities in 2019

- ✧ "Feel Green in Development, Be Civilised for Ecology" – A theme-based activity
- ✧ "Concerted Efforts for Exploration and Innovation" – A theme-based spring outing and team building activity
- ✧ "Dream the Future" – 2019 Huada Electronics family day activities
- ✧ "Binshui Free Run, Green Living" – Binshui Park autumn freedom run activity

2019年度員工活動概覽

- ✧ 「感受綠色發展，踐行生態文明」主題活動
- ✧ 「凝心聚力，開拓創新」主題春遊及團隊拓展活動
- ✧ 「築夢未來」2019年華大電子家庭開放日活動
- ✧ 「濱水自由跑 • 環保你我他」濱水公園秋季自由跑活動

4.2 Training and development

- *Employee training*

Facilitating employees' growth provides impetus for corporate development. The Group's employee training divided into three levels, corporate level, departmental level and individual level. The corporate level trainings focus mainly on cross-departmental and internal all-purpose training, such as new employee training, quality and safety requirements training. Departmental level trainings focus mainly on enhancing knowledge and skills in specific departmental professional areas. Trainings for individuals act as a useful supplement to the above two.

Upon completion of a 12 months services, every employee of Huada Electronics is entitled to an individual training allowance of up to RMB3,000 per person per year starting from the 13th month onwards. Such allowance can be used for trainings as designated by the Group, or can be used in relation to employee's job-related trainings at his/her own choice subject to prior approval by the Group.

Huada Electronics established the Training System, which covers area such as types of training and effectiveness assessment, training implementation, internal training instructors, etc., as well as defines the four major categories, namely system, and rules and regulations, experience exchanges, knowledge and skills, and cultural awareness, to be covered in the annual training programme.

4.2 培訓及發展

- *員工培訓*

促進員工的成長是企業發展的動力源泉。本集團員工培訓分為公司級、部門級及個人三級。公司級培訓側重於跨部門、通用性培訓，如新員工培訓、質量及安全要求培訓等，部門級培訓側重於知識技能類培訓，在部門專業方向上實施，個人培訓作為前兩者的有益補充。

華大電子員工自入職第13個月起享有個人培訓津貼，每年每人最高限額人民幣3,000元，可以由本集團指定的培訓時使用，或由員工自主選擇與本職位相關的培訓，在經過申請同意後參加使用。

華大電子制定了《培訓制度》，包含培訓類型以及效果評估、培訓實施、內部培訓講師等內容，並制定了涵蓋體系及規章制度、經驗交流、知識技能、文化意識四大類的年度培訓計劃。

Overview of employee training activities in 2019
2019年度員工培訓活動概覽

Training project 培訓項目	Training content 培訓內容
• The State-owned Assets Supervision and Administration Commission of the State Council rule of law training activities • 國務院國有資產監督管理委員會法治講堂	• Contents including legal risk management in government capital and social capital cooperation business, compliance management, etc. • 政府及社會資本合作業務法律風險管理、合規管理等內容。
• "Cyberspace Class" educational training series by China Electronics Corporation Limited • 中國電子信息產業集團有限公司「網信課堂」系列教育培訓	• Topics including current macroeconomic situation analysis, the basic characteristics of legal thinking, etc. • 當前宏觀經濟形勢分析、法律思維的基本特徵等專題。
• Training for the management • 管理層培訓	• Training on recognition and positioning of managers' role, effectiveness management, staff motivation, employee training and coaching, etc. • 分別從管理者的角色認知與定位、效能管理、如何激勵員工、員工培養與輔導等方面進行了培訓。

Statistics on employees' training key performance indicators
員工培訓相關關鍵績效指標統計

Indicators		指標		2019 2019年度	2018 2018年度
Employees' training coverage rate (%)		員工培訓覆蓋率 (%)		93	96
By gender:	Male	按性別：	男性	95	95
	Female		女性	91	97
By grade:	Senior management	按級別：	高級管理層	100	100
	Middle-management		中級管理層	100	100
	Grass-roots employees		基層員工	92	95
Employees' average number of hours of training per person per year		員工每年人均接受培訓的小時數		35	23
By gender:	Male	按性別：	男性	35	26
	Female		女性	34	21
By grade:	Senior management	按級別：	高級管理層	85	21
	Middle-management		中級管理層	70	32
	Grass-roots employees		基層員工	29	22

- *Occupational development*

The Group implements a qualification management system and establishes an occupational development channel to provide an important basis for employee's promotion and salary increment. The Group implements dual channel development path for the technicians that accounts over 60% of the Group's total headcount. The technicians are divided into six grades, those who have reached grade four can select either the management line or the technical line. In the technical line, they can become technical expert, system engineer, etc., and in the management line, they can enter into the administrative management or project management field.

- *職業發展*

本集團實施任職資格管理制度，建立職業發展通道，為員工晉陞、提薪提供重要依據。對於佔本集團60%以上的技術族員工實行雙通道發展路徑，技術族分為六級，到四級後可選擇管理線或技術線，技術線發展到技術專家、系統工程師等，管理線則可進入行政管理或項目管理範疇。

4.3 Occupational health and safety

- *Production safety management*

The Group has all along been insisting on the "safety first, focus on prevention and manage comprehensively" safety philosophy. The Group managed its production safety with reference to the principle of the Production Safety Law of the People's Republic of China, and by focusing on tackling the potential safety risks, and aiming at preventing and avoiding the occurrence of material safety incidents.

In 2019, under the supervision and guidance of the production safety management team in strict adherence to the Production Safety Law of the People's Republic of China, and the Requirements for the Management of Production Safety of Electronic Information Industry, Huada Electronics focused on tackling the potential safety risks and launched activities such as the "production safety month" activities and organised employees to join production safety knowledge quizzes, monthly and important public holiday extensive production safety inspections, elevators emergency escape drill, monthly safety publicity, etc., with a view to ensuring safe operation throughout the year.

4.3 職業健康及安全

- *安全生產管理*

本集團始終堅持「安全第一、預防為主、綜合治理」的安全理念，以《中華人民共和國安全生產法》為原則，以治理安全隱患為重點，以防範及遏制重大安全事故發生為目標落實安全生產管理工作。

華大電子於2019年在安全生產管理小組的監督指導下，以貫徹執行《中華人民共和國安全生產法》及《電子信息產業安全生產管理規定》為主線，以治理安全隱患為重點，開展了「安全生產月」活動並組織員工參加安全生產知識答題、月度及重大節假日安全生產大檢查、電梯逃生應急演練及月度安全宣傳等活動，保障全年安全營運。

Statistics on employees' occupational health and safety key performance indicators
員工職業健康及安全相關關鍵績效指標統計

Indicators	指標	2019 2019年度	2018 2018年度
Number of work-related fatalities	因工作關係而死亡的人數	0	0
Number of work-related injuries	工傷事故發生次數	0	0

- *Quality working environment*

Quality working environment has a direct impact on the physical and mental health and work efficiency of employees. Based on the "people-orientated" philosophy, the Group is committed to provide and maintain a warm, comfortable, healthy and safe working environment for its employees. Huada Electronics has set up a library and a recreation area in its office, so as to create a quality office arena. The Company has equipped with safety packs in its offices, clearly set out the requirements for safe use of electrical appliances, installed new ventilation system, etc. for new office in response to the air quality conditions in Beijing. In addition, the Group purchased traffic safety insurance for its employees (such as insurance for employee travelling on planes, cars, etc.) to provide coverage for safe travel.

- *優質工作環境*

優質的工作環境對員工的身心健康及工作效率具有直接影響。本集團基於「以人為本」的理念，致力為員工提供及維持溫馨、舒適、健康而安全的工作環境。華大電子在其辦公區域內設置了圖書室及休閒區，打造優質辦公空間。本公司在辦公室內配備安全包，明確規定安全使用電器的要求；並針對北京地區的空氣質量狀況，在新辦公室安裝新風系統等。此外，本集團為員工購買差旅交通安全保險（例如員工乘坐飛機、汽車等的保險），為安全差旅提供保障。

5. COMPLIANCE OPERATION

The Group considers the compliance with laws and regulations is the cornerstone of an enterprise. The Group reviews and enhances regularly the management systems regarding its supply chain management, risk management and anti-commercial bribery with reference to the operational location's laws and regulations relevant to the compliance operation such as the Company Law of the People's Republic of China, the Contract Law of the People's Republic of China, the Anti-Unfair Competition Law of the People's Republic of China, as well as the industrial policies. In 2019, there were no occurrence of any confirmed corruption incident related to the Group or its employees, nor were there any legal proceedings against the Group or its employees.

5. 合規營運

本集團認為遵守法律及法規乃企業之基石，參考《中華人民共和國公司法》、《中華人民共和國合同法》、《中華人民共和國反不正當競爭法》等與合規營運相關的營運地法律法規及行業政策，對本集團供應鏈管理、風險管理、反商業賄賂等方面的管理制度定期進行檢討及完善。本集團於2019年並未發生與其或其員工有關的已確認的貪污事件及訴訟。

5.1 Supply chain management

- *Management and control procedures on suppliers*

The Group is principally engaged in the business of design of integrated circuit chips, our major suppliers are integrated circuit chips manufacturers. The effective management on suppliers during the course of the Group's development can help the Group to reduce its costs and cooperation risk, improve the quality of its products and services, and build up a quality brand. As such, the Group establishes the Management and Control Procedures on Suppliers setting out the requirement for the selection, evaluation and management for producers. In particular, it sets out the detail guiding principles for aspects such as selection of suppliers, approval, daily management, subsequent evaluation, etc., so as to ensure the long-term and stable provision of reliable products and services by the suppliers.

In addition, the Group establishes the Procurement and Outsourcing Control Procedures, setting out the requirements for the procedures and rules for managing the production procurement and the outsourcing. The procedures provide the definitions and corresponding operational requirements for aspects such as requirement planning, order formation and approval, procurement implementation, quality control, acceptance settlement, etc., so as to ensure the materials and products procured and outsourced comply with the requirements.

5.1 供應鏈管理

- *供應商管理控制程序*

本集團以集成電路芯片設計為主營業務，主要供應商為集成電路芯片製造商。對供應商的有效管理可以幫助本集團在發展過程中降低成本、降低合作風險，提高產品及服務質量，建立良好品牌。本集團為此制定《供方管理控制程序》，規定了對生產類供應商的選擇、評價及管理的要求，其中詳細規定了供應商選擇，審批，日常管理，以及再評價等方面工作的指導原則，以確保供應商能夠長期、穩定的提供質量可靠的產品及服務。

此外，本集團制定有《採購與外包控制程序》，規定了生產類採購及外包管理流程及規則。該程序對需求計劃，訂單形成及審批，採購實施，質量控制，以及入庫結算等環節做了定義及相應操作規定，以確保採購及外包的材料及產品符合規定的要求。

- *Periodic review on suppliers*

The Group chooses to cooperate with suppliers which comply with the requirements of the PRC laws and regulations in aspects such as environmental and social assessment. These suppliers also comply with the requirement of the Group's Key Factors of Inspection for Supplier Assessment Form regarding information safety management system and quality management system. Meanwhile, the Group requires suppliers to provide, prior to their access, integrated circuit card registration certificate, environmental management system accreditation certificate, national industrial product production licence, RoHS report, etc. upon the request of customers.

The Group carries out regular review on its approved suppliers each year. The review on the approved suppliers is based on criteria such as the availability of the supply of goods in previous year, the requirement planning for the coming year, etc. Based on the results of the review, the Group will adjust the eligibility and grading of its suppliers accordingly and compile a revised list of approved suppliers for the next year, while ad hoc two-party audits will also be conducted on suppliers during daily management. In the event that an approved supplier has no business dealing with the Group for the past 3 consecutive years, the Group will cancel the qualification of such supplier. In 2019, the Group conducted assessment on 40 suppliers, with a passing rate of 100%.

- *供應商定期評審*

本集團選擇合作的供應商在環境及社會考核方面均符合中國法律法規的要求，並且符合本集團《供方評估檢查要素表》中的信息安全管理體系及質量管理體系的規定。同時，本集團按照顧客要求，在供應商准入環節要求供應商提供集成電路卡註冊證書、環境管理體系認證證書、全國工業產品生產許可證、RoHS報告等。

本集團每年定期對合格供應商進行評審。本集團根據上一年度供貨情況、以及未來一年度需求計劃等，對合格供應商進行評審。根據評審結果，對供應商資格、等級進行調整，形成新一年度的合格供應商名單，日常管理中還會對供應商進行不定期的二方審核。如果合格供應商連續3年與本集團沒有業務往來，其合格供應商資格將會被取消。本集團於2019年對40家供應商進行考核，供應商考核通過率為100%。

Statistics on supply chain management key performance indicators
供應鏈管理相關關鍵績效指標統計

Indicators	指標	2019 2019年度	2018 2018年度
Total number of suppliers	供應商總數(家)	52	65
By geographical region	按地區		
• Mainland China	• 中國內地	47	62
• Overseas[1]	• 海外[1]	5	3

Note:

1. Including Hong Kong, Macau and Taiwan.

附註：

1. 含香港、澳門及台灣。

5.2 Anti-corruption

- *Anti-corruption management system*

The Group implements the building of clean code of conduct and governance by adhering to the "law abiding and establishing creditability, advocating honesty and nuturing people" integrity philosophy, insisting on the policy of "treating both symptoms and root causes, applying punishment and prevention for impeachments and putting focuses on precautions". In 2019, the newly established China Electronics Huada Technology (Shenzhen) Company Limited has completed the setting up of the Discipline Inspection and Supervision Department to be responsible for the supervision and management of observing disciplines and laws such as integrity in operation, etc.

In order to regulate the gift accepting arrangement during business interactions on behalf of the Group, eradicate the possibility of violating laws and disciplines, and strengthen self-restraint and awareness of preventing corruption, the Group announced and implements the Requirements on Handing Over of Gifts Collected (Provisional), the Implementation Measures for "significant issue, key official appointment and removal, significant project investment and large value fund utilisation" Decision-making System, and strengthens the education on anti-corruption among employees.

5.2 反貪污

- *反貪污管理制度*

本集團秉承「奉法立信、興廉樹人」的廉潔理念，堅持「標本兼治、懲防並舉、預防為主」的方針，落實廉政建設。於2019年，新成立的中電華大科技(深圳)有限公司完成設立紀檢監察部工作，負責對廉潔從業等遵紀守法方面的監督管理。

為了規範本集團業務交往中的饋贈行為、杜絕可能發生的違法違紀事件，增強員工的自我約束、防止腐敗的意識，本集團發佈並執行了《禮品上繳規定(試行)》、《「三重一大」決策制度實施辦法》，並加强對員工開展反貪污教育。

- *Complaint and whistleblowing management*

In order to regulate the management of complaints and whistleblowing reporting, the Group establishes the Measures for the Management of Complaints and Whistleblowing. Employees of the Group and outsider can report, in anonymity, on corporate or individual suspected misconducts relating to corruption, including bribery, extortion, fraud and money laundering, during the course of operation to either the internal audit department or the audit committee of the Company through letter, telephone, internet, facsimile, etc. In addition, in terms of informer protection, the Group keeps personal information of informers and whistleblowing cases strictly confidential.

- *投訴及舉報管理*

為了規範投訴及舉報管理工作，本集團制定《投訴及舉報管理辦法》。本集團內部員工、外部人員均可匿名通過信件、電話、互聯網、傳真等渠道向內部審核部門或本公司的審核委員會反映企業或個人經營過程中有關懷疑貪污，包括賄賂、勒索、欺詐及洗黑錢的不當事宜。此外，在對舉報人保護方面，本集團對舉報人個人信息及舉報個案進行嚴格保密。

6. ENVIRONMENT

The Group is committed to reducing the possible adverse impact of our operations on the environment. The Group regularly reviews the environmental protection management measures with reference to operational location's laws and regulations relevant to environment such as the Environmental Protection Law of the People's Republic of China and the industrial policies, encourages employees to take responsible actions on the environment and regularly provides employees with relevant training. In 2019, there was no occurrence of any environmental pollution incident, nor was there any litigation against the Group or violation of laws and regulations by the Group in relation to environmental protection that was material to the Group.

6. 環境

本集團致力減低營運可能對環境造成的不利影響，參考《中華人民共和國環境保護法》等與環境相關的營運地法律法規及行業政策，對環保管理措施進行定期檢討，鼓勵員工對環境採取負責任的行為，定期向員工提供相關培訓。本集團於2019年並未發生任何環境污染事件，亦沒有與環境保護相關並對本集團有重大影響的訴訟及違法違規事件。

6.1 Green operations

The potential environmental impacts of the Group's operations mainly include the use of energy and water resources, and packaging materials used in finished products, as well as greenhouse gas emissions. In response to the identified environmental impacts, the Group has formulated corresponding management measures.

6.1 綠色營運

本集團營運過程中可能造成的環境影響主要包括能源及水資源的使用和製成品所用包裝材料，以及溫室氣體排放方面。針對已識別的環境影響，本集團制定了相應的管理措施。

Aspects 範疇	Green operation measures 綠色營運措施
1. **Resource utilisation** 1. **資源利用**	• Water saving and energy saving measures, and recycling of packaging materials used in finished products in daily operations. • 日常營運過程中的節水與節能措施、對製成品所用包裝材料進行循環使用。
2. **Emission management** 2. **排放物管理**	• Measures to reduce greenhouse gas emissions and office waste generated during operations. • 對營運過程中產生的溫室氣體排放與辦公廢棄物的減量化措施。
3. **Incorporating environmental protection awareness** 3. **環保意識融入**	• Launching environmental protection educational activities to help employees establishing awareness on environmental protection and conservation of natural resources. • 開展環保教育活動，幫助員工樹立環境保護與節約自然資源意識。

- *Resource utilisation and emission management*

For daily operation, the Group incorporated the resources-conservation behaviors such as saving water and saving energy by employees into the Code on the Daily Conduct of Employees, requiring them to turn off the lights when leaving work, turn off the water tap readily, have the computer under standby mode temporarily when not in use, turn off the monitor readily, turn off the electric power supply when leaving the office, etc. At the same time, the Group took the initiative to convey the basic philosophy of saving water to its employees by posting gentle reminders. The water taps will be repaired in a timely manner if it is found damaged, so as to reduce water resource wastage. As the Group's consumption of water resource mainly arises from the operation of its offices, and currently the Group's water source is municipal water supply, it is not facing any problem and risk in accessing sufficient water source. Huada Electronics arranged for the cleaning and insulation pipe inspection of the variable refrigerant volume ("VRV") air conditioners in its office building, so as to enhance their work efficiencies and reduce energy consumption.

The Group also establishes the OA system to implement paperless office. Through the OA system, the receiving and sending of official documents, circulation of documents, and sharing of departmental documents are all carried out internally, so as to achieve paperless operation of office process. On the premise of protecting printing privacy, the Group implements double-sided printing, so as to reuse waste paper. In addition, the Group advocates bring-your-own-cup at internal meetings, so as to reduce the use of disposable paper cups.

Packaging materials used in finished products of the Group consists of cartons, black boxes, iron rings, stainless steel racks, etc. The Group recycles these black boxes, iron rings and stainless steel racks to the extent that the hygiene of such item is guaranteed, so as to reduce resources wastage.

- *資源利用及排放物管理*

在日常營運方面，本集團將員工節水節能等資源節約行為列入《員工日常行為規範》，要求員工做到人走燈滅，隨手關水龍頭，電腦暫時不用即進入待機狀態、隨手關閉顯示器、下班離開辦公室關閉電源等。同時，本集團通過張貼溫馨提示向全體員工倡導節約用水的基本理念，如發現水龍頭損害及時修理，減少水資源浪費。本集團對水資源的消耗主要來自於辦公營運，目前本集團取水來源為市政供水，不面臨求取適用水源方面的問題及風險。華大電子對辦公大樓內的VRV（變製冷劑流量多聯式）空調進行清洗，保溫管排查等，加強其工作效率，降低能耗。

本集團亦建立OA系統推行無紙化辦公，在內部建立對於公文收發、文件流轉、部門文件共享等方面均通過OA系統實現辦公流程無紙化操作；推行雙面打印紙張，在保障打印隱私的前提下重複利用廢棄紙張。此外，本集團內部會議提倡自帶水杯，減少一次性紙杯的使用。

本集團的製成品所用包裝材料主要包括紙箱、黑盒、鐵環及不銹鋼繃架等。其中，對於黑盒、鐵環及不銹鋼繃架，本集團在保障其清潔的情況下，進行循環使用，減少資源浪費。

Apart from greenhouse gases, non-hazardous wastes produced in the office (such as waste paper), and a small number of waste toner cartridges, the Group did not generate significant exhaust emissions, cause water and land pollutions, generate hazardous wastes and other environmental impacts in the course of operations. The Group reduces greenhouse gas emissions through saving electricity. Non-hazardous wastes are processed by property management companies. The Group is unable to quantify its production and reduces paper use and waste paper produced through building a paperless office. For the old computers generated from office use, the Group shall pass them to a third party organisation for disposal in accordance with the Equipment Management and Control Procedures. As for waste toner cartridges, the Group passes them to qualified organisations for recycling.

除溫室氣體、辦公環節產生的無害廢棄物(如廢紙等)以及少量廢棄碳粉匣外，本集團於營運期間並無產生顯著的廢氣排放、向水及土地的排污、有害廢棄物的排放以及其他環境影響。本集團通過節電減少溫室氣體排放。無害廢棄物均交由物業管理公司處理，本集團無法統計其產生量，通過開展無紙化辦公減少用紙以及廢紙產生。針對辦公環節產生的廢棄電腦，本集團按照《設備管理控制程序》，交由第三方機構進行報廢處置。針對廢棄碳粉匣，本集團交由有資質的機構進行回收處理。

Statistics on environment key performance indicators
環境相關關鍵績效指標統計

Indicators	指標	Units 單位	2019 2019年度	2018 2018年度
Total greenhouse gas emissions[1]	總溫室氣體排放量[1]	ton of CO_2 equivalent 噸 CO_2當量	1,495	1,529
• Scope 1 greenhouse gas emission	• 範圍1溫室氣體排放量	ton of CO_2 equivalent 噸 CO_2當量	25.72	29.89
• Scope 2 greenhouse gas emission	• 範圍2溫室氣體排放量	ton of CO_2 equivalent 噸 CO_2當量	1,470	1,499
Greenhouse gas emissions per square meter of floor area[2]	每平方米樓面面積的溫室氣體排放量[2]	ton of CO_2 equivalent/m^2 噸 CO_2當量／平方米	0.08	0.05
Waste toner cartridges produced	廢棄碳粉匣產生量	number 個	112	–
Total electricity consumption	總耗電量	Mwh 兆瓦時	1,827	1,869
Electricity consumption per square meter of floor area[2]	每平方米樓面面積的耗電量[2]	Kwh/m^2 千瓦時／平方米	95.98	65.12
Total water consumption	總耗水量	m^3 立方米	10,817	13,813
Water consumption per square meter of floor area[2]	每平方米樓面面積的耗水量[2]	m^3/m^2 立方米／平方米	0.57	0.47
Total fuel consumption[3]	總耗油量[3]	litre 升	9,497	11,042
Volume of paper used in offices	辦公用紙量	ton 噸	2	3
Volume of packaging materials used in finished products[4]	製成品所用包裝材料量[4]	ton 噸	6	16

Notes:

1. The total greenhouse gas emission was the sum of Scope 1 and Scope 2 greenhouse gas emissions. The Scope 1 and Scope 2 greenhouse gas emissions were calculated according to the automobile fuel consumption data and electricity consumption data respectively, together with the relevant emission factors.
2. In 2019, the Group's total operating area reduced when comparing with last year, resulting in increases in greenhouse gas emissions per square meter of floor area, electricity consumption per square meter of floor area and water consumption per square meter of floor area when comparing with 2018.
3. Total fuel consumption represents the fuel consumption of the Group's vehicles for office use.
4. In 2019, Huada Electronics used fewer packaging materials to pack the finished products than in 2018, as it changed its logistics and transportation arrangements, recycled packaging materials, etc.

附註：

1. 總溫室氣體排放量為範圍1、2溫室氣體排放量之和。範圍1、2溫室氣體排放量分別根據汽車耗油數據，耗電量數據及相關排放系數進行計算。
2. 2019年度本集團總經營面積較上年有所減少，因此每平方米樓面面積的溫室氣體排放量、每平方米樓面面積的耗電量、每平方米樓面面積的耗水量較2018年度均有所上升。
3. 總耗油量為本集團辦公用車的耗油量。
4. 2019年度華大電子通過改變物流運輸方式、對包裝材料進行循環使用等，使全年製成品所用包裝材料量較2018年度有所下降。

- *Incorporating environmental protection awareness*

Through launching environmental protection education activities, the Group incorporates environmental protection awareness into the minds of employees, thus facilitating their practising of environmental protection philosophy during daily work and life. Earth Hour is a global energy saving activity of World Wide Fund for Nature in response to the global climate change. In 2019, Huada Electronics held an environmental protection theme-based activity "Earth Hour 2019: coexist with nature". The whole event comprised several aspects such as environmental protection knowledge learning, an environmental protection quizzes and environmentally-friendly organic products sharing, etc., which attracted the participation of some 150 employees.

- *環保意識融入*

本集團通過開展環保教育活動，將環保意識融入員工心中，促進員工在日常工作及生活中踐行環保理念。地球一小時是世界自然基金會應對全球氣候變化所發起的一項全球性節能活動。2019年，華大電子舉辦了「2019年地球一小時：與自然共生」環保主題活動。整個活動分為環保知識學習、環保知識競答和領取環保有機產品等環節，共有約150名員工參與。

6.2 Green products

The Group is principally engaged in the business of design of security smart card chips. Overall speaking, despite the smart card chip only accounts for a relatively small portion of the technological product, smart card chip is the core to drive the operation of the products, and good design can effectively reduce the impacts on the environment during the whole product life cycle.

6.2 綠色產品

本集團的主營業務為智能卡及安全芯片之設計。智能卡芯片在科技產品整體來説佔比較小，但智能卡芯片是驅動產品運作的核心，良好的設計有利於減少產品整個生命週期對環境的影響。

Design stage 設計階段

During design stage of smart card chips, the Group's impacts on the environment include carbon emission, use of energy and water resources, etc.
The Group implements a green office, which reduces carbon emission and resources consumption.
本集團在智能卡芯片設計階段的環境影響包括碳排放，以及能源及水資源等的使用。本集團推行綠色辦公，減少碳排放及資源消耗。

Production stage 製造階段

The impacts on the environment are mainly produced by suppliers who work with the Group. The Group requires suppliers to provide relevant certifications according to customers' demands to manage their impacts on the environment.
主要為與本集團合作的供應商所產生的環境影響。本集團根據顧客要求，要求供應商提供相關資質證明，以此對供應商所產生的環境影響進行管理。

The Group's products include smart card chips, modules, circuits and cards. All products meet the requirements of RoHS. In particular, the smart card chips, modules and circuits also meet the requirements of REACH standards.

本集團產品形態包括智能卡芯片、模塊、電路、卡片。所有產品均滿足RoHS要求，其中智能卡芯片、模塊、電路同時滿足REACH標準要求。

7. COMMUNITY INVESTMENT

The Group concerns about community building, and currently focuses on three areas: poverty alleviation, care for the vulnerable groups and voluntary services.

In 2019, the Group drove poverty regions economic development by purchasing fruits for employees from the impoverished county Langzhong, Sichuan.

The Group has always been concerned with the development of Beijing Guangai School since 2009. It insists on participating in charitable fund raising events and provides donations for Beijing Guangai School. Over the years, employees have been providing the needed cash and material voluntarily, so as to extend their warmth and care to Beijing Guangai School. Every year, employees visit Beijing Guangai School and extend sympathy to the children voluntarily and interact with them. The objectives of Beijing Guangai School is to save the orphans, help homeless children to return home and go to school, and provide psychosocial support for the left-behind children and children of migrants, help them to establish a correct concept of values and outlook on life, and keep a positive and progressive spirit to contribute to the society in the future. In 2019, the Group called for its employees to purchase daily necessities worth some RMB6,000 for students of Beijing Guangai School.

In 2019, the Group started its caring activities for the Alanah's home. The Alanah's home was established in 2004 to provide post-surgical rehabilitation foster care for orphans from welfare organisation in China. As an effort targeting the lack of children's clothing situation, the Group organised employees to launch a second-hand clothing donation activity "clothing with love, let love travel". In addition, Huada Electronics donated 20 desktop computers to the talent development centre for the disabled of Chicheng County, Hebei to support employment training for poor locals with disabilities.

7. 社區投資

本集團關注社區建設，目前工作集中於三個主要範疇：扶貧、關愛弱勢群體以及志願服務。

本集團於2019年向四川省貧困縣閬中市採購水果發放給員工，推動貧困地區的經濟發展。

本集團自2009年至今，長期關注北京光愛學校的發展，堅持為北京光愛學校進行公益募捐及捐贈。多年來，員工自發進行捐款捐物，為北京光愛學校送溫暖及關懷，亦每年自願前往北京光愛學校進行慰問，並與孩子們進行愛心互動。北京光愛學校旨在救助孤兒，幫助流浪兒童返鄉入學，並對留守兒童、流動兒童進行心理健康輔導，建立正確的價值觀、人生觀，保持積極向上的精神風貌，將來為社會作出貢獻。2019年本集團號召員工為北京光愛學校學生購買生活必需品，投入物資約人民幣6,000元。

本集團於2019年開展兒童希望之家慰問活動。兒童希望之家成立於2004年，為來自全國福利機構的孤兒提供手術後康復寄養。針對兒童缺少衣物情況，本集團組織員工開展「衣物情深，讓愛遠行」舊衣捐贈活動。此外，華大電子向河北省赤城縣殘疾人人才發展中心捐贈台式電腦20台，用於支持當地貧困殘疾人就業培訓事業。

Statistics on community investment key performance indicator
社區投資相關關鍵績效指標統計

Indicator	指標	**2019** **2019年度**	2018 2018年度
Number of employees participated in voluntary services	員工志願活動參與人數	108	9

Note:

1. In 2018, employees participated in voluntary services through caring activities for Beijing Guangai School, while such voluntary services extended to caring activities for the Alanah's home apart from Beijing Guangai School in 2019.

附註：

1. 2018年度員工志願活動為北京光愛學校慰問活動，2019年度員工志願活動包括北京光愛學校慰問活動以及兒童希望之家慰問活動。

Room 3403, 34th Floor,
China Resources Building,
26 Harbour Road,
Wanchai, Hong Kong
香港灣仔港灣道26號
華潤大廈34樓3403室
Tel 電話: (852) 2598 9088
Fax 傳真: (852) 2598 9018

www.cecht.com.cn