

2018

可持续发展报告

Sustainable Development Report



金卡, *Make life better*!
让生活更美好!

2018

可持续发展报告

Sustainable Development Report

关于本报告

About the Report

《金卡智能集团股份有限公司2018年可持续发展报告》是金卡智能集团股份有限公司对外发布的首份可持续发展报告。是在公司连续四年发布企业社会责任报告后的一次升级，公司未来将更加注重自身商业运营与环境、内外部利益相关方的协调与可持续发展。

“Sustainable Development Report-2018-Goldcard Smart Group Co., Ltd.” is the first sustainable development reports Goldcard Smart Group Co., Ltd (“the Company”) has ever published. It is an upgrade of corporate governance after the Company has issued the CSR reports for four consecutive years. From now on the Company will pay more attention to the coordination and sustainable development between its business operation and the environment, its internal and external stakeholders.

报告范围 / Report scope

本报告的组织范围涵盖了公司对财务和运营政策及措施有控制权或有重大影响的所有实体。除特殊说明，本报告所披露信息发生时间为2018年1月1日至2018年12月31日。

This report covers all entities in which the Company has controlling power or significant influence over financial and operational policies and practices. Unless otherwise stated, the information disclosed in this report occurs from January 1, 2018 to December 31, 2018.

数据来源 / Data Sources

本报告所披露数据均为金卡智能集团股份有限公司在经营、环境和社会方面的运营情况，全部来自公司的正式文件和统计报告，最终数据以集团年报为准。

The data disclosed in this report are the business, environmental and social operations of the Company, all from the Company's official documents and statistical reports. The final data is subject to the Group's annual report.

称谓说明 / Addressing clearance

为便于表述和方便阅读，在报告中“金卡智能集团股份有限公司”也以“金卡智能集团”、“公司”表示。

For the sake of clear statement and convenience of reading, in this report, Goldcard Smart Group Co., Ltd is also addressed as Goldcard Smart Group, Goldcard, or the Company, all stands the same.

编制依据 / Report reference

本报告参照全球报告倡议组织（GRI）《可持续发展指南4.0》（G4）、国际标准化组织（ISO 26000）。

This report refers to the Global Reporting Initiative (GRI) Sustainable Development Guide 4.0 (G4) and the International Organization for Standardization (ISO 26000).

报告获取方式 / Access the report

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董事长致辞 Message from the Chairman of the Board

在过去的一年中，我国迎来了改革开放40周年，伴随中国经济的快速腾飞，今天的中国已进入改革发展的重要机遇期。与此同时，我们确立了金卡智能集团未来发展战略，提升公司可持续发展管理作为服务公司实现战略目标的重要支柱，将为公司的快速发展创造优越的外部环境。我们深刻地感受到公司可持续发展的重要性，并努力将可持续发展理念贯穿业务的方方面面。

In the past year, China celebrated the 40th anniversary of reform and opening up. With the rapid development of China's economy, an important opportunity comes in for further reform and development. At the same time, we have established the future development strategy of Goldcard Smart Group. Enhancing the Company's sustainable development management is an important pillar to support the Company's strategic goal, and will create most favorable external environment for its rapid development. We deeply feel the importance of the company's sustainable development and strive to integrate the concept of sustainable development into all aspects of the business

回顾这一年，金卡智能集团作为燃气表行业物联网先行者，NB-IoT智能燃气表在全国部署近百万台，位居行业第一，IoT平台接入150万台智能燃气表，云服务的业务持续突破，我们让500多家燃气企业和4,000多万燃气用户享受到云服务带来的便利。我们持续深化海外市场战略，现在已有20个国家选择我们作为智能化发展的伙伴。

In the past year, as a pioneer in application of IoT technology in gas industry, Goldcard has deployed around one

million NB-IoT based smart gas meters in China, No.1 in the market. The IoT platform connected over 1.5 million smart gas meters. The business of cloud service has made breakthrough which brings benefits of cloud service convenience to over 500 gas suppliers and 40 million gas consumers. We also stick to the overseas market, with clients in over 20 countries as our partner for developing smart gas application.

回顾这一年，我们持续加大研发投入，打造高规格人才储备机制，引入专业的研发人才，建立了一支600多人的研发团队。我们不断加强多元化员工队伍建设，明确人才培养理念，建立健全职业发展通道，努力建设优秀的企业文化，促进多元文化融合，为公司的可持续发展注入活力。

In the past year, we continued to increase R&D investment, created a high-standard talent reserve mechanism, introduced professional R&D talents, and established an R&D team of more than 600 people. We continued to build a strong and diversified workforce, clarified the concept of talent development, established and improved employee career development channels, strived to build an excellent corporate culture, promoted multicultural integration, and invigorated the company's sustainable development.

回顾这一年，我们坚定贯彻落实国家节能环保战略部署，服务国家清洁能源建设，坚定不移地支持“煤改气”工程，服务低碳环保、安全高效的清洁能源。我们关注社会，关注身边的社区，以己发展带动社会进步，公司与员工共同注资595万元发起设立了金卡智能公益基金会，秉持“助人发展、助社会和谐、助生活美好”的公益使命推进践行社会责任。

In the past year, we firmly followed the deployment of national energy conservation and environmental protection strategy, serving the country's clean energy initiative and supporting the “coal to gas” transformation project, to achieve low-carbon, environment-friendly, safe and efficient clean energy. We pay attention to the society, pay attention to the communities around us, to promote societal progress with our own development. The Company and employees jointly donated RMB 5.95 million to set up the Goldcard Smart Public Welfare Foundation, adhering to the public welfare mission of “helping the people to develop, helping the society to harmony and helping with the good life”, promoting the wider implementation of social responsibility.

在纪念我国改革开放40周年这个历史时刻，我们怀抱感恩之心，迎来了新的发展机遇期。我们坚定执行公司发展战略，努力实现高质量发展，为实现公司和中国社会的可持续发展贡献力量。

In this historical moment of commemorating the 40th anniversary of China's reform and opening up, embraced with grateful heart we step towards a new wave of development opportunities. We firmly implement the company's development strategy, strive to achieve high-quality development, and contribute to the sustainable development of the company and China society.

金卡智能集团股份有限公司 董事长
Goldcard Smart Group Co., Ltd.
Chairman of the Board

(一) 公司概况 Company Profile

金卡智能集团股份有限公司成立于1997年，是一家专注于智慧公用事业解决方案服务商，围绕客户需求持续创新，历经20多年的卓越发展，已成为智慧燃气行业领导企业之一。2012年，金卡智能在深圳证券交易所成功上市，成为行业内第一家上市公司，股票代码为300349。

Founded in 1997 as a smart utility solution service provider, Goldcard Smart Group Co., Ltd. has become one of the leading companies in the smart gas industry after over two-decade continuous innovation centered on customer requirements. In 2012, Goldcard was listed on the Shenzhen Stock Exchange with stock code 300349, as the first public listed company in the industry.

金卡智能积极追随物联网和互联网的时代潮流，努力构建全新的公用事业行业生态体系，并积极开拓新的技术、产品与业务，在智能终端、智能通讯、大数据、云计算及移动应用等方面，产生强大的协同效应，与旗下天信仪表、银证软件、易联云为公用事业领域客户提供从智能设备、



通讯网络、应用管理软件到互联网云服务的高价值、高性能的产品及端到端解决方案，并与各大燃气公司、华为、阿里巴巴等建立了长期战略合作伙伴关系。目前公司拥有公用事业企业2000+，城市覆盖1500+，服务城市家庭用户3500万+。

Goldcard catches up with the tide of IoT and Internet development, devotes to build a brand-new public utility industry ecosystem. With new technologies, products, and services expanded, Goldcard brings great synergy in smart terminal, smart communication, big data, cloud computing, and mobile application. Together with subsidiaries such as Tancy Instrument, ENESYS Software and Eslink, Goldcard provides high-value and high-performance products and end-to-end solutions including smart devices, communication networks, application management software and Internet cloud services to public utility customers. Goldcard also builds long-term strategic cooperation relationships with various big gas suppliers, Huawei, and Alibaba etc. Currently the company is serving more than 2000 utility companies, covering over 35 million end users in more than 1500 cities.

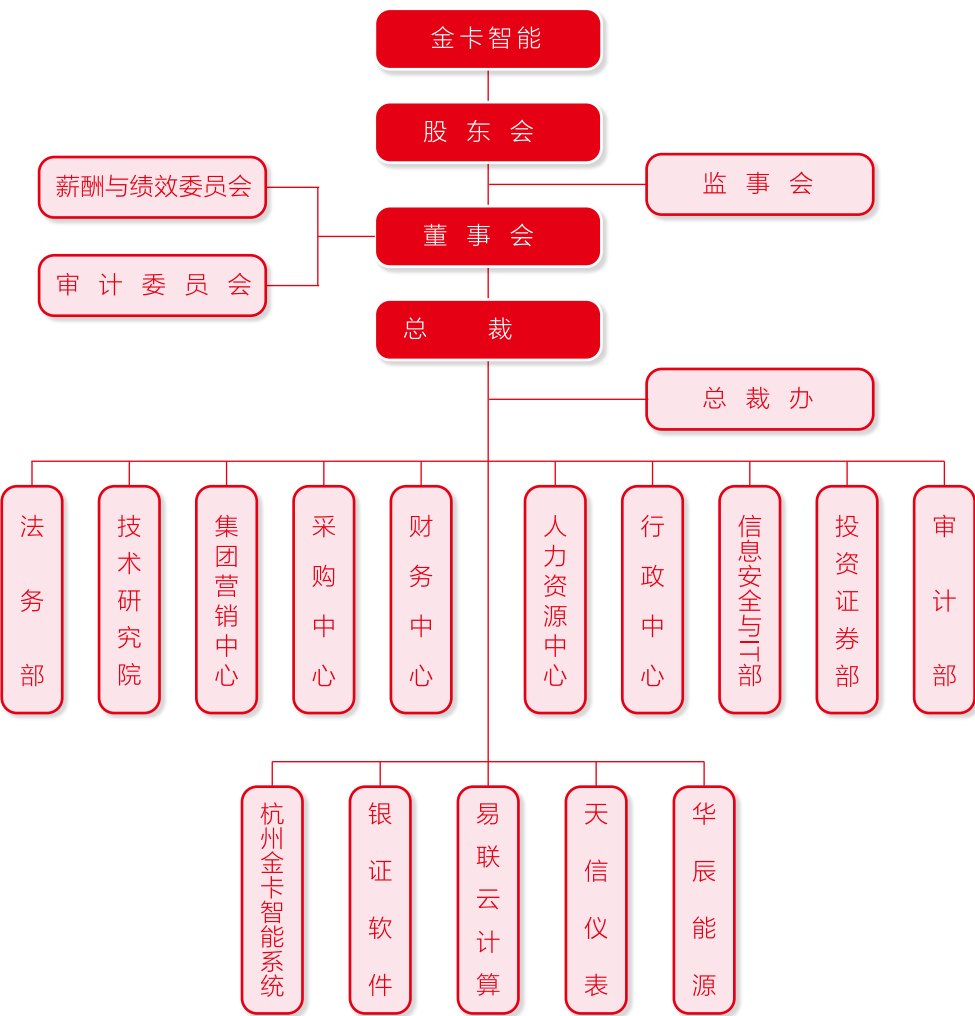


价值理念 Philosophy and Values



金卡智能集团严格按照《公司法》、《上市公司治理准则》、《深圳证券交易所创业板上市规则》、《深圳证券交易所创业板上市公司规范运作指引》以及国家有关法律法规的要求, 建立包括股东大会、董事会、监事会、公司管理层在内的现代化企业组织制度和运行机制。公司董事会下设薪酬与绩效委员会、审计委员会, 各职所能, 推动公司高效、科学、规范运行。2018年, 公司严格按照有关法律法规的要求执行《公司信息披露事务管理制度》, 信息披露真实、准确、完整、及时, 全年共对外发布公告103份, 定期公告4份, 有效保证了信息披露的及时性与准确性。

(二) 公司治理 Corporate Governance



图：金卡智能集团组织架构图
Fig. Organizational Structure of Goldcard Smart Group

Goldcard Smart Group strictly follows the "Company Law", "Listed Companies Governance Guidelines", "Shenzhen Stock Exchange GEM Listing Rules", "Shenzhen Stock Exchange GEM Listed Companies Standard Operation Guidelines" and the relevant national laws and regulations. It established a modern enterprise organization system and operational mechanism including the shareholders' meeting, the Board of Directors, the Board of Supervisors, and the management team. The company's Board of Directors has a remuneration and performance committee and an audit committee, which help promote the company's efficient, scientific and standardized operation. In 2018, the company strictly implemented the "Guidelines on Company Information Disclosure Related Issue" in accordance with the requirements of relevant laws and regulations. The information disclosure was true, accurate, complete and timely. A total of 103 announcements were issued in the year, including 4 regular scheduled notices, effectively ensuring information disclosure in time and accurate.

可持续发展管理

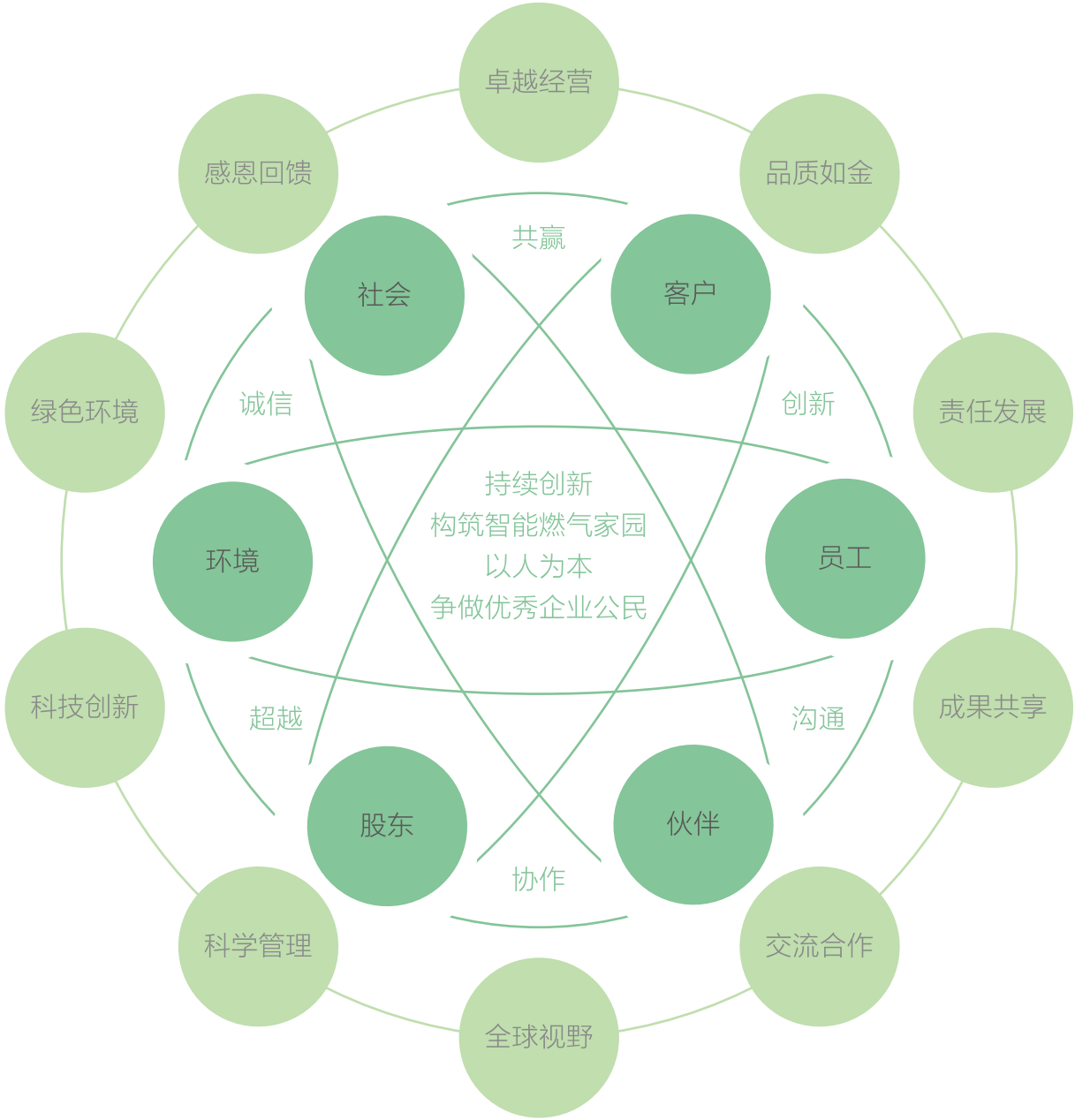
Sustainable development management



(一) 可持续发展理念 Sustainable development Concept

金卡智能集团股份有限公司始终致力于做最安全、最智能、最便捷的智慧公用事业综合解决方案服务商。公司将安全作为首要目标，把公用事业的智能、便捷和超前的服务作为前提，持续创新，构筑智能燃气家园；以人为本，争做优秀企业公民。

Goldcard Smart Group is committed to being the safest, smartest and most convenient smart utility integrated solution service provider. The Company takes safety as its top priority, puts the intelligent, convenient and preemptive services of the public utilities as the premises, and continues to innovate to build a smart gas homeland. It is people-oriented, and strive to be an excellent corporate citizen.



图：金卡智能集团可持续发展模型图
Fig. Goldcard Sustainable development model

(二) 可持续发展议题 Sustainable Development issues

金卡智能集团将社会责任管理与经营管理相结合，实现社会责任管理与实践的有机统一，是践行金卡可持续发展目标、实现公司可持续发展的重要依托。在此基础上，公司结合实际分析并筛选出了公司可持续发展的四大核心议题：

Goldcard Smart Group adhered to both social responsibility management and business management, fulfilling organic integration of social responsibility management principle and practice. It is an important support for achieving sustainable development goals of Goldcard and realizing the continuous development of the Company. On this basis, connected with the reality analysis, the Company selected four core subjects relating to its sustainable development:

议题一：可持续的商业运营 Subject A: sustainable business operation	遵纪守法、依法合规； Legal operation, following laws and regulations. 保障股东权益； Protection of shareholders' interest 创新驱动； Driven by innovation 关注员工、优化企业文化。 Care for employees, harmonious corporate culture.
议题二：可持续的客户服务 Subject B: sustainable customer services	以客户满意为原则； Customer satisfactory as principle 以实现客户价值为前提； Customer value as premise 持续改进客户服务能力； Continuous improve customer service capacity 保障客户权益。 Protection of customer rights
议题三：可持续的生态环境 Subject C: sustainable eco- environment	以环境优先为原则； Environment priority 积极配合国家环境保护战略； Support national environment protection initiative 持续改进节能环保技术。 Continuous improvement in energy efficiency and environment protection technology
议题四：可持续的社区关系 Subject D: sustainable community relationship	落实国家全面小康战略及扶贫攻坚工作； Implement China well-off society strategy and work hard to help the poor 持续推进和谐社区建设。 Continuously promote building harmonious community activities

(三) 金卡与利益相关方 Goldcard and its stakeholders

利益相关方 Stakeholders	要求与期望 Requirements and expectations	沟通方式 Channels of communication
股东 Shareholders	保障股东权益； Protection of shareholders' rights 稳健经营发展； Stable operation and development 创造持续盈利。 Continued profitability	依法合规召开股东大会；公平对待所有股东； Convene general meetings of share- holders in accordance with the law; treat all shareholders fairly; 完善公司治理机制； Improve corporate governance mechanism 加强内控管理体系建设； Strengthen internal control management system 透明公开披露经营信息。 Disclose operational information clearly and openly
政府 Government	依法合规运营； Legally operated 依法纳税； Following taxation law 积极带动地区经济发展及就业。 Promote regional economy development and employment level.	遵守各项法律法规及规范性文件，主动纳税； Following applicable laws, regulations, and directories, proactive taxation. 建立与政府良好的沟通渠道； Establish good communication channels with government agencies 积极创造就业机会，引入人才。 Create employment opportunities, introduce talents.
客户 Clients	诚实守信的营销理念； Honest and Trust marketing guideline 提供安全可靠的产品； Supply safe and reliable products 提供智能便捷的产品； Supply smart ready products 提供优质的服务。 Provide superior service	制作产品精益求精，符合国家标准、行业标准和 和企业标准； Refined products, meeting national, industry and enterprise standards; 弘扬和践行公司的“工匠精神”； Encourage and promote craftsmanship 设立客户服务的监督和抽查机制，秉承“感动客户”的信念，为客户提供最优的服务。 Set up customer service supervision and check mechanism, adhere to the belief of “customer feels” , provide customers with best service.
合作伙伴 Business partners	遵守商业道德； Abide by business morale 公平竞争； Fair competition 公平、公正、公开采购； Fair, honest and open procurement, provides 提供相应辅导与支持。 counseling and support	健全完善采购体系； Set up perfect procurement system 倡导建立良性的行业竞争秩序； Advocate to establish a benign business competition atmosphere 开展供应链合作，实现产业链共赢。 Cooperate with the supply chain to achieve win-win.

利益相关方 Stakeholders	要求与期望 Requirements and expectations	沟通方式 Channels of communication
员工 Employees	安全健康舒适美丽的工作和生活环境； Safe, healthy, comfortable and beautiful work and living environment 完善的薪酬福利保障； Perfect salary and welfare protection 提供职业发展与晋升通道； Career development and promotion opportunity 员工对公司存有归属感，创造良好的企业氛围 Beneficial company atmosphere with strong sense of belonging。	构建多样化人才发展通道，开展定制化培训； Build diversified talent development channels and conduct customized training 开展多形式、个性化的活动丰富员工生活，陶冶情操； Organize multi-form, personalized activities to enrich employees' lives and cultivate sentiment 提供健康安全的工作环境及应知应会培训。 Provide a healthy and safe work environment, and relevant training
环境 Environment	落实国内外节能减排政策、法规； Follow domestic and overseas' laws and regulations on energy saving and emission reduction. 关爱环境，守护碧水蓝天； Care for environment, guarding the blue sky and clean water 实现绿色管理与绿色运营； Realize green management and operation 保护生态环境。 Protect the eco system.	贯彻6S管理精髓；重视环保、资源消耗管理和清洁能源发展并打造数字化工厂； Implement the essence of 6S management; pay attention to environmental protection, resource consumption management and clean energy development and build a digital factory; 建立与政府良好的沟通渠道； Establish good communication channels with government agencies 绿色作业，绿色服务。 “Green” operation and service
社区 Community	支持社区发展； Support community development 打造社区文化活动。 Co-sponsor community cultural activities	积极开展公益慈善活动；开展志愿服务活动； Actively carry out public welfare and charity activities; carry out voluntary service activities 参与社区建设。 Participate in community activities

（四）金卡与联合国SDGs Goldcard and UN SDGs



金卡智能集团作为联合国全球契约组织的成员，在推进达成联合国可持续发展目标的进程中具有重要意义。基于公司可持续发展理念与实践，对标联合国可持续发展目标SDGs，系统性地展示公司在为各利益相关方发展层面对全球可持续发展的贡献，并为金卡智能集团今后的可持续发展指明方向。

As a member of the UN Global Compact, advancing in the process of achieving the UN SDGs is of great significance to Goldcard Smart Group. Based on the company's sustainable development philosophy and practice, and in line with UN SDGs, we will systematically demonstrate the company's contribution to the global sustainable development in regards of all stakeholders at the development level, and help illuminate the direction of the future sustainable development of Goldcard Smart Group.

为客户创造价值

Create Customer Value



（一）助力打造智慧燃气城市

Supporting the rise of smart gas cities

随着物联网、大数据、云计算等技术不断发展，“数字中国”理念推动智慧城市演进，智慧燃气成为智慧城市的重要组成部分，城市燃气企业需要科学保障城市能源供给，促进经济社会发展。

With the continuous development of technologies such as the Internet of Things, big data, and cloud computing, the concept of “digital China” promotes the evolution of smart cities. While smart gas being an important part of smart cities, the gas suppliers need to scientifically safeguard urban energy supply to promote economic and social development.



>>>>案例：金卡智能助力打造智慧广州



2018年，金卡智能集团协助广州燃气集团开展物联网智能燃气表安装及更换工作。为推进建设智能安全供气工程，同时配合阶梯气价，为广州市民打造低碳环保、优质高效的智能家居生活，提供更优质、更贴心的燃气服务。此次广州燃气集团计划在5年时间内实现全市160万用户智能燃气表安装及更换。金卡智能集团积极配合广州燃气集团开展基于物联网技术的“智慧燃气”项目建设，为打造智慧广州贡献力量。

Case: Goldcard Smart Group support building smart Guangzhou

In 2018, Goldcard Smart Group assisted Guangzhou Gas Group in the installation and replacement of IoT smart gas meters. In order to promote the construction of smart and safe gas supply system, and at the same time support the block gas pricing, create a low-carbon, environment-friendly, high-quality and efficient smart home life for Guangzhou residents, and provide them with better and more intimate gas services, the Guangzhou Gas Group plans to install and replace 1.6 million smart gas meters to users in the city within five years. Goldcard actively cooperated with Guangzhou Gas Group to develop the “Smart Gas” project based on Internet of Things technology, contributing to the creation of Smart Guangzhou,an important part of smart cities, the gas suppliers need to scientifically safeguard urban energy supply to promote economic and social development.



>>>>案例：金卡输出中国模式，升级智慧莫斯科



2018年金卡智能集团助力莫斯科州燃气公司智慧燃气项目，通过技术方案输出，物联网燃气终端设计推广，全面输出中国模式，当年成功为莫斯科3万多名天然气新装用户安装应用中国造的先进物联网燃气表。该项目不仅帮助莫斯科州燃气彻底解决多年困扰的入户难，抄表难，监控难，计费难准的问题，更为广大的燃气用户安全用气保驾护航，同时通过网络账单缴费全面提升莫斯科智慧城市服务水平。

莫斯科州燃气不仅赞赏金卡的技术能力，认同中国的成功模式，积极与中国燃气企业交流经验心得，更与金卡共同潜心研究下一代的升级物联产品，通过可插拔通讯模块更好适应未来快速迭代的互联网网络。

Case: Based on experiences in China, Goldcard assisted in building the smart Moscow

In support to the smart gas supply project of Moscow State Gas Co, Goldcard Smart Group exported technical solution of proved Chinese market model with IoT gas meter terminal design. In 2018, a total of 30,000 new residential clients have the China-made IoT gas smart meter installed in their homes. This project helped Moscow State Gas solve the years-long problem in difficulty in entering residential houses for meter reading, meter monitoring and accurate billing. It also facilitated the safe usage of gas of the broad utility consumers. The billing and payment through network service enhanced the overall smart city experience of Moscow municipal.

Moscow State Gas has given high regards to the technical ability of Goldcard Smart and acknowledged the success of China model. In addition to exchange the market experience and knowledge with the China gas meter supplier, it opened up the new subject with Goldcard on the design of next generation of IoT smart gas meters- that with plug-and-play communication modules to effectively adapt to the fast upgrading communication networks.

(二) 创新促进可持续发展

Innovation stimulate sustainable development



金卡智能集团积极探索NB-IoT技术在燃气行业的应用场景，重点基于华为NB-IoT连接技术、IoT平台、金卡智能燃气软件，共同孵化面向燃气行业的智慧燃气联合解决方案，共同推动燃气行业的数字化转型。公司自主研发新型电子式燃气表——家用超声波燃气表和热式燃气表，不仅体积小、耐污染、计量精度高，其特有先进技术可与国际一流公司相媲美。与此同时，公司不拘泥于智慧燃气产品的生产制造与软件开发，还将服务对象延伸至其他公用事业领域，并促进产业结构升级，优化物联网、云计算等多项核心技术，在完成精益制造的基础上推动智慧解决方案落地、云服务普及，以此为公用事业客户提供最全面的服务。

Goldcard Smart Group actively explores the application scenarios of NB-IoT technology in the gas industry, focusing primarily on Huawei NB-IoT connection technology, IoT platform, and Goldcard smart gas software to jointly incubate the smart gas common solution for the gas industry, and jointly promote the digital transformation of the gas industry. The company independently developed new electronic gas meters – domestic ultrasonic gas meters and thermal gas meters, which are small in size, pollution-resistant, and high in measurement accuracy, and their unique advanced design can compete with those of international leading companies. At the same time, the company does not limit the manufacturing and software development of smart products to the gas industry only, but extends the service clients to other public utilities, and promotes the upgrading of industrial structure, optimizes many core technologies such as Internet of Things and cloud computing. On the basis of fulfilling lean manufacturing, we promote and expand our smart solutions and cloud services to provide the most comprehensive services for utility customers.

>>>>案例：易联云携手深圳燃气打造智慧燃气

2018年，深圳燃气旗下赛易特与金卡智能旗下易联云签约战略合作协议，充分发挥各自在行业的优势，共同促进双方的业务发展和服务延伸，共同打造城市燃气智慧客户服务体系。双方在公用事业行业云服务平台、公用事业行业信息化管理咨询服务、城市燃气客户服务“互联网+”解决方案与城市燃气ATM自助终端解决方案四大块达成共识，“双拳出击”，赋能客户服务体系，深入客户服务核心，挖掘客户服务价值。

Case: Eslink partners Shenzhen Gas to develop smart gas

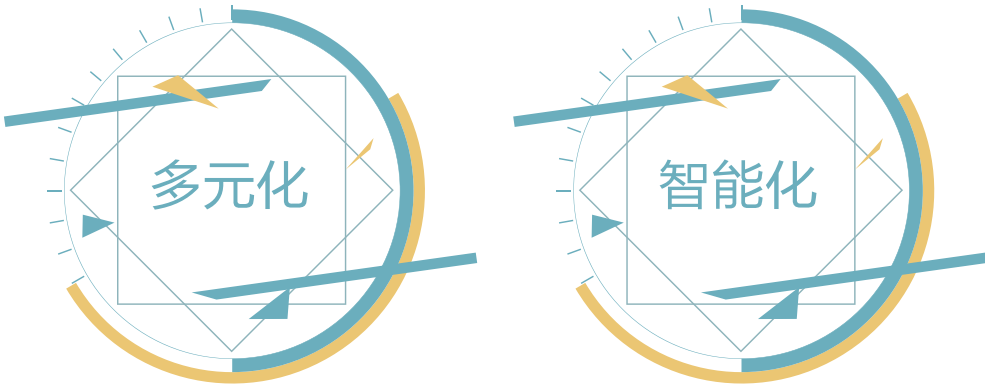
In 2018, SAIIT, a subsidiary of Shenzhen Gas, signed a strategic cooperation agreement with Eslink, a subsidiary of Goldcard Smart Group, to jointly promote business development and service extension, and jointly create a municipal smart gas customer service system, giving full play to their respective advantages in the industry. The two sides reached a consensus on four areas: the cloud service platform of the utility industry, the information management consulting service of the public utility industry, the "Internet +" solution for the city gas customer service and the solution for urban gas ATM self-service terminals. This is a "double fist attack", empowering customer service system, deep into the core of customer service, and cultivating the value of customer service.



2.1 先进技术 Advanced technology

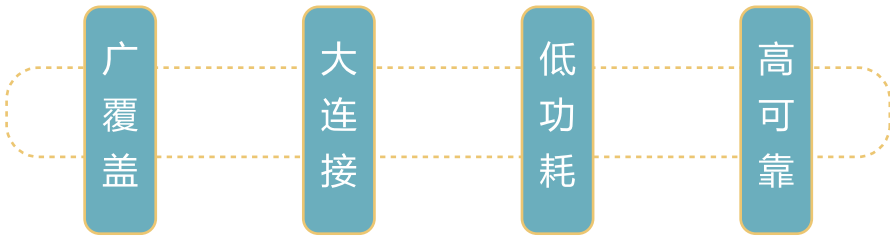
公司积极响应政府在《中国制造2025》和《深化工程建设标准化工作改革的意见》中提出相关要求，对燃气远传抄表系统提出相应的技术要求，大胆创新，攻克技术难题，研发出多项先进技术与产品，助力燃气行业向多元化、智能化方向发展。

The company actively responded to the government's relevant requirements in "China Manufacturing 2025" and "Guidelines on Deepening Reform of Engineering Construction Standardization Work", put forward corresponding technical requirements for remote gas meter reading system, boldly innovated, overcame technical problems, and developed a number of advanced technology and products to help the gas industry developing into diversified and intelligent directions.



NB-IoT通信应用技术：随着移动物联网（NB-IoT）技术的全面推进，公司顺应时代潮流，率先通过华为技术有限公司的技术认证，推出NB-IoT智能燃气表。其广覆盖、大连接、低功耗、高可靠的技术优势，不仅覆盖了通讯信号不好的偏远地区，提高通信成功率，更减少了电池使用量，保护环境持续发展。

NB-IoT communication application technology: With the comprehensive advancement of mobile Internet of Things (NB-IoT) technology, the company has taken the lead in adopting the technical certification of Huawei Technologies Co., Ltd. and launched the NB-IoT smart gas meter. Its technical advantages: wide coverage, mass connectivity, low power consumption, and high reliability, not only help cover remote areas with poor communication signals, but also improve communication success rate, reduce battery usage and better protect the environment. Overcame technical problems, and developed a number of advanced technology and products to help the gas industry developing into diversified and intelligent directions.



NB-IoT智能燃气表技术优势

用气安全技术，探测燃气泄漏，及时报警关闭阀门。公司采用高可靠、长寿命的半导体气体传感器，通过温度补偿和算法优化，实现了高精度的气体浓度输出，可以对危险进行分级处理，确保了用气安全；并通过构建燃气报警器和燃气表的互动平台，采用大数据分析，诊断用户燃气泄漏的风险等级，实现早预防、早解决，切实提高居民用气安全，服务民生。

Adopting safety gas using technologies, detecting gas leakage, promptly sending alert and closing the valve. The Company uses highly reliable, long-life semiconductor gas sensors, and with temperature compensation and algorithm optimization, to acquire high precision gas concentration output, which can be used to classify and deal with hazardous situation to ensure gas safety; By building interactive platform between gas leakage detectors and gas meters, and using big data analysis, the risk level of user gas leakages can be evaluated, which helps to realize advance prevention and early resolution, and effectively improves the safety of residents' gas consumption and better serves the people's daily life.

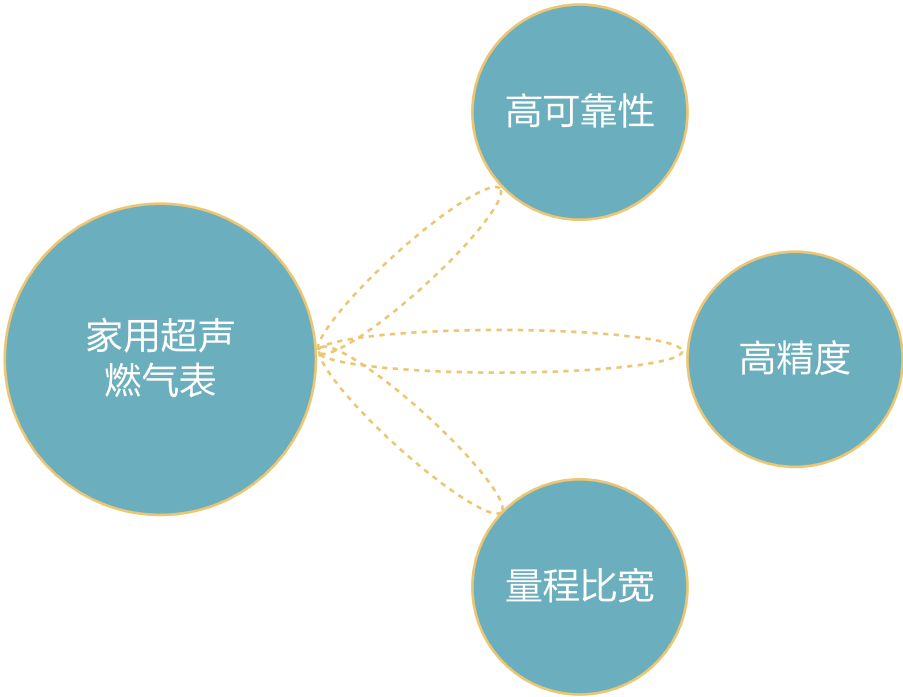


通讯安全技术，表端采用硬件加密芯片，云端采用符合商用密码产品等级的密码机及安全服务器对密钥及关键参数进行保护。通过硬件计算消息认证码及签名数据实现双向身份认证，并对充值及阀门控制等关键操作提供防抵赖机制，快速识别虚假终端对云服务器的攻击，并杜绝燃气表终端被非授权控制。通过对端到端通信数据进行硬件加解密，有效防止用户及燃气公司信息泄露。

Communication security technology, the hardware encryption chip is used at the meter end, and the security key and other critical parameters are protected by the cipher machine and security server that meet the commercial safety product level in the cloud end. Two-way identity authentication is implemented with hardware computing message authentication code and digital signature, and an anti-repudiation mechanism is provided for key operations such as top-up and valve control. The attacks of fake meter terminals from the cloud can be quickly identified, and the gas meter terminal is prevented from unauthorized control. By applying hardware encryption and decryption to end-to-end communication data, information leakage of users and gas suppliers is effectively prevented.

家用超声燃气表利用超声波在介质中传递的时间差进行计量的新型全电子计量仪表，具备高可靠性、高精度、量程比宽的特点。其介质适应性强，无需修正，测量精度在适用范围内不受气体组分变化影响。温度适应性强，无需修正，测量精度在工作温度范围内满足计量精度。创新流道和计量算法设计，在现场多变环境下测量精度不受影响。采用气体识别算法，可得到介质气体类别，可快速判断表的工作状态是否正常。内置温度传感器，可快速实现温度补偿体积流量计量。无可动部件，耐污染，长期运行稳定可靠。家用超声波燃气表计量性能行业领先，可有效降低产销差，且制造工艺简单，是未来天然气流量计量的主要方向之一，发展前景十分广阔。

The residential ultrasonic gas meter is a new type all-electronic measuring device that uses the time difference of ultrasonic transmission in the gas media to measure the gas consumption. It has the characteristics of high reliability, high precision and wide range ratio. It has strong adaptability to different media and no correction is needed, and the measurement accuracy is not affected by changes in gas composition within the applicable range. The temperature adaptability is strong, no correction is needed, and the measurement accuracy satisfies the measurement accuracy within the working temperature range. With innovative flow path and measurement algorithm design, the measurement accuracy is not affected by variable environment factors in the field. Using the gas identification algorithm, it can identify the working gas media, thus a judgement of whether the meter is working in normal condition can be obtained. Built-in temperature sensor can be used for fast temperature compensated flow measuring. Without moving parts, pollution-resistant, it is stable and reliable for long-term operation. The measurement performance of residential ultrasonic gas meters is leading in the gas meter category. It can effectively reduce the difference between gas supply and consumption, and the manufacturing process is simple. It is one of the main directions of natural gas flow measurement in the future, and the development prospect is very bright.



热式气体质量流量计/燃气表被评为2019年度浙江省装备制造业重点领域首台（套）产品。该产品采用了气体类别的自动识别转换技术、相应气体补偿算法技术和实气标准检测设备及检测方法，实现了直接标况计量，解决了传统热式计量精度对气体组分的依赖性，气体适应性强，可广泛应用于中国城镇燃气多气源供气，减少管理成本和供销差，更有利于公平交易，有利于民生。同时该产品通过了荷兰皇家计量院的认证，取得了欧盟标准EN14236的标准符合性证书（其中包含了燃气与空气的关系），是国内第一家、国际第二家热式产品取得该证书，到达国际先进水平；配套研发的实验装置——低压活塞实气循环检测装置填补了国内空白。

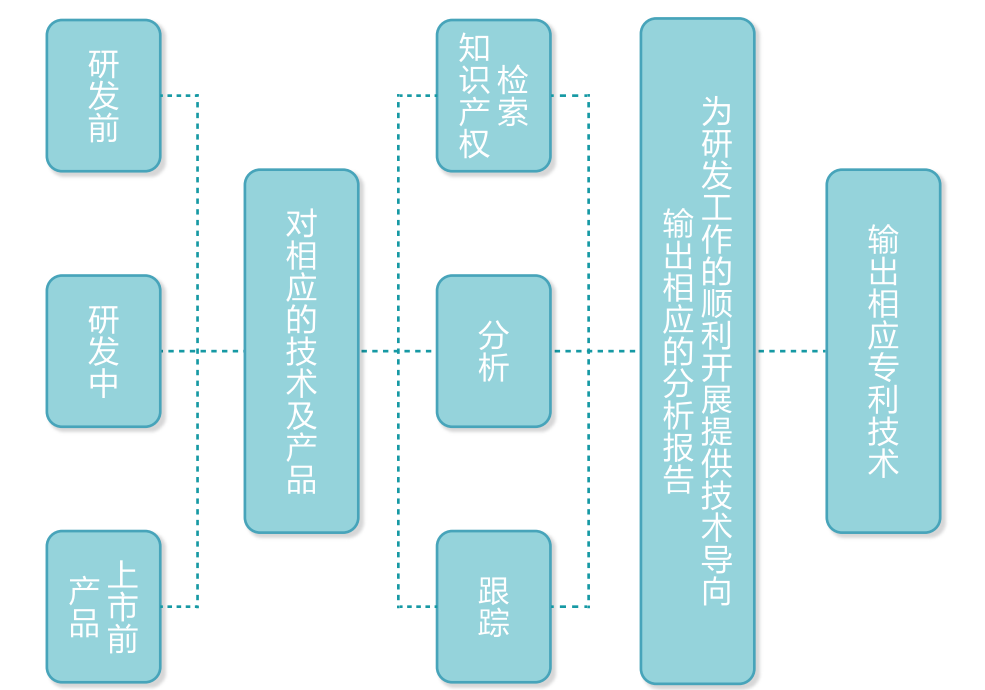
The thermal gas mass flow meter/gas meter was awarded as “the first (set) new product in the key equipment manufacturing section in Zhejiang Province” in 2019. The product adopts automatic gas identification and conversion technology, the corresponding gas compensation algorithm technology and real gas standard detection equipment and detection method. It realizes direct measuring under standard condition and solves the problem of traditional thermal measurement accuracy of its dependence on gas components. It has strong adaptability and can be widely used in China's urban gas supply with multiple gas sources. It can reduce management costs, and the supply and sales difference, and is more conducive to fair trade and beneficial to people's livelihood. At the same time, the product has passed the certification by NMI of the Netherlands and obtained the standard conformity certificate of the European standard EN14236 (which includes the relationship between natural gas and air). It is the first domestic and internationally the second thermal meter product to obtain this certification, among the first class product of this type. The laboratory equipment for supporting research and development — low-pressure piston real gas circulation detection device has filled the gap in China.



2.2 加大研发创新，知识产权成果丰厚

Increase R&D and innovation, and make abundant achievements in intellectual property rights

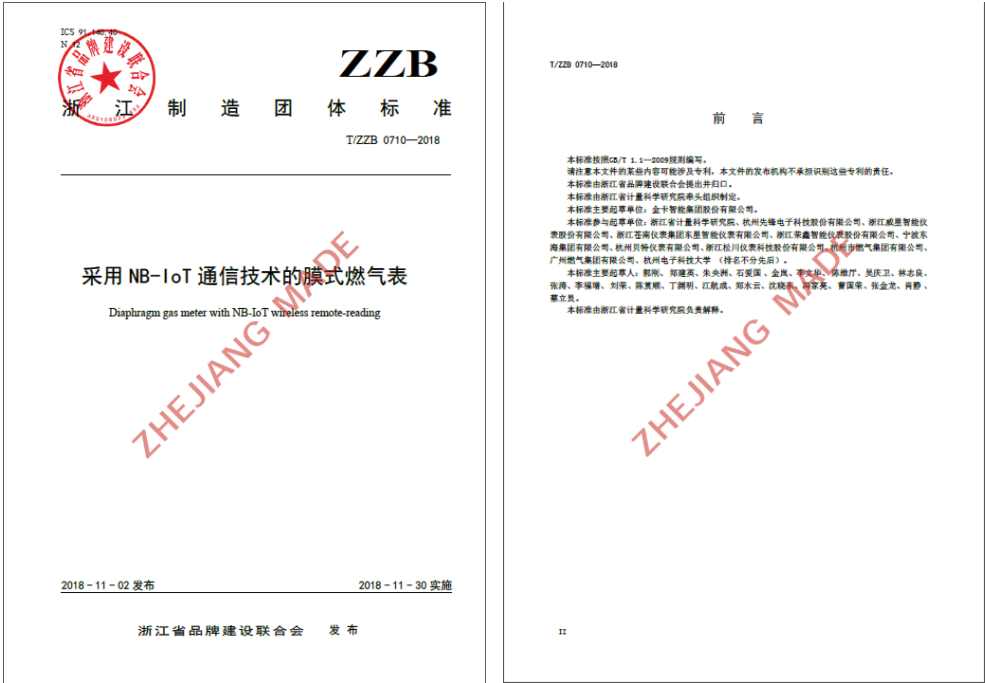
公司高度重视知识产权管理工作，保护公司自有技术及产品。2018年，公司持续优化知识产权管理体系，整理制定了年度知识产权目标，在研发前、研发中、产品上市前对相应的技术及产品进行知识产权检索、分析、跟踪，并输出相应的分析报告，为研发工作的顺利开展提供技术指导；同时根据研发过程不同阶段的创新点，输出相应专利技术，做到专利先行，为公司的技术发展及持续经营保驾护航。截至2018年底，公司累计公开知识产权600多项。



截至2018年底，公司累计公开知识产权600多项。

The company attaches great importance to intellectual property management and protects its own technology and products. In 2018, the company continued to optimize the IP management system, formulated the annual IP objectives, and conducted IP search, analysis and tracking of corresponding technologies and products before R&D, during R&D, and before the product launch, and produced corresponding analysis reports. This provided technical guidance for the smooth development of R&D projects. At the same time, according to the innovation points at different stages of the R&D process, the corresponding patent technology is exported to apply the patent in time, to protect the company's technology development and continuous smooth operation. By the end of 2018, the company had accumulated more than 600 intellectual property rights.

2.3 参与标准制定 Participation in Standardization works



公司积极参与各类产品及技术标准的制定工作。2018年，由金卡智能集团主起草的“浙江制造”标准《采用NB-IoT通信技术的膜式燃气表》发布实施。在标准制定完成的过程中，公司全面负责立项答辩、标准文稿及评审资料的准备，且做了大量的实验，为标准参数的最终确定提供了强有力的技术保证，为标准的顺利发布与实施奠定了基础。按该标准实施将有利促进国内NB-IoT通信的膜式燃气表技术水平的提升，产品达到国际先进水平，也是对金卡智能集团在燃气计量领域NB-IoT通讯技术应用的专业性与权威性的认可。公司也将持续创新，为智能燃气表行业的发展添砖加瓦。

The company actively participated in the formulation of various products and technical standards. In 2018, the “Zhejiang Manufacturing Standard”: “Diaphragm gas meter with NB-IoT wireless remote-reading” drafted by Goldcard Smart Group was released and implemented. In the process of standard drafting and completion, the company is fully responsible for the preparation of the project defense, standard document compilation and review materials, and has done a lot of experiments, providing a strong technical support for the finalization of standard parameters, and the smooth release and implementation of the standard. The implementation of this standard will greatly promote the technical level of domestic membrane gas meter with NB-IoT communication module, reaching the international advanced level. It is also an recognition of the professionalism and authority of Goldcard Smart Group in the field of applying NB-IoT communication technology in gas metering. The company will continue to innovate and contribute to the development of the smart gas meter industry.

2.4 政府荣誉项目 Government honor projects

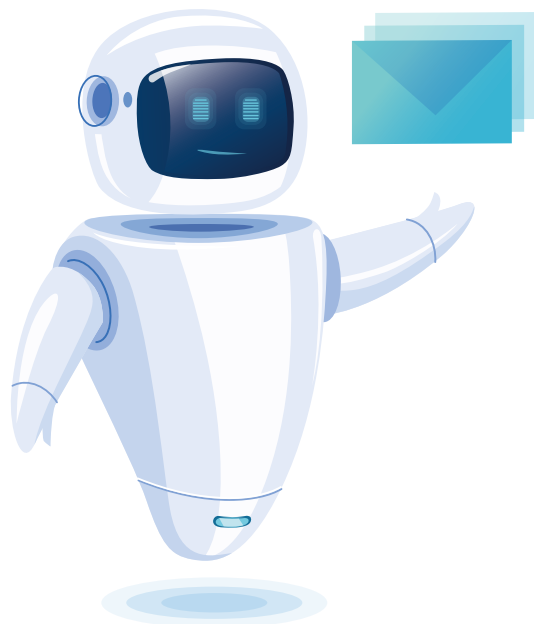
公司积极参与各类政府荣誉项目的申报工作，并获得行业和政府部门的一致认可，获得的多项示范企业称号和科技项目奖励，充分体现公司的管理水平和技术水平。其中2018年获得省部级及以上荣誉称号6项。

The company actively participated in the declaration of various government honor projects, which was unanimously recognized by the industry and government agencies. It has won a number of demonstration enterprise titles and scientific and technological project awards, fully reflecting the company's management level and technical level. Among them, six provincial and ministerial honors were awarded in 2018.

获奖名称 Awarded project	颁奖部门 Awarding agency
2018年制造业与互联网融合试点示范项目 2018 Manufacturing and Internet Integration Pilot Demonstration Project	浙江省经济和信息化委员会 Zhejiang Economic and Information Commission
2019年度浙江省装备制造业重点领域首台（套）产品（气体热式质量流量计及其计量管理系统/JGM系列（G1.6~G40）） The first (set) products in the key equipment manufacturing section in Zhejiang Province in 2019 (gas thermal mass flowmeter and its measurement management system / JGM series (G1.6 ~ G40))	浙江省经济和信息化厅 Zhejiang Economic and Information Technology Bureau
浙江省服务型制造示范企业（第二批） Zhejiang Service-oriented Manufacturing Demonstration Enterprise (Second batch)	浙江省经济和信息化委员会 Zhejiang Economic and Information Committee
2018年大数据产业发展试点示范项目（金卡智能大数据分析平台） 2018 Big Data Industry Development Pilot Demonstration Project (Goldcard Smart Big Data Analysis Platform)	工业和信息化部办公厅 Office of the Ministry of Industry and Information Technology
浙江省重点高新技术产品验收证书（NB-IoT智能膜式燃气表-G1） Zhejiang Key High-tech Product Acceptance Certificate (NB-IoT Intelligent Diaphragm Gas Meter-G1)	浙江省经济和信息化委员会 Zhejiang Economic and Information Committee
浙江省省级工业新产品开发项目（光电取样膜式燃气表） Zhejiang Provincial New Industrial Product Development Project (photoelectric sampling diaphragm gas meter)	浙江省经济和信息化委员会 Zhejiang Economic and Information Committee

（三）能制造引领时代潮流

Intelligent manufacturing leads the trend of the times



- 推进“机器人+”工程
promoted the “Robot+” concept
- 推动数字化新技术、新工艺、新装备创新和应用推广
promoted the “Robot+” concept, promoted digital new technologies, new processes, new equipment innovations and application promotion
- 建立高度自动化的装备和设施
established highly automated equipment and facilities
- 建设智能制造单元、智能生产线、数字化车间、智能工厂
built intelligent manufacturing units, intelligent production lines, digital workshops, and smart factories
- 推动生产方式向柔性化、智能化、精细化转变
promoted the “Roto transform production mode towards flexible, intelligent, and refined

金卡智能集团积极深化实施数字经济在智造层面的应用，积极推进智能制造。公司推进“机器人+”工程，推动数字化新技术、新工艺、新装备创新和应用推广，建立了高度自动化的装备和设施，建设智能制造单元、智能生产线、数字化车间、智能工厂，推动生产方式向柔性化、智能化、精细化转变。

Goldcard Smart Group actively deepened the application of the digital economy at the smart fabrication level and actively promoted intelligent manufacturing. The company promoted the “Robot+” concept, promoted digital new technologies, new processes, new equipment innovations and application promotion, established highly automated equipment and facilities, and built intelligent manufacturing units, intelligent production lines, digital workshops, and smart factories to transform production mode towards flexible, intelligent, and refined.

2018年，公司重点开展智能工厂“云检测”项目，将检测软件直接布置在云端，各类检测数据直接在云端生成，打破了以往本地电脑检测可能出现的漏检、运算速度慢等弊端。此项目的成功开展有效提高了检测校准精度，提升了检测软件运行稳定性，整体检测效率提升20%。

In 2018, the company paid special attention on the "cloud inspection" project of the smart factory, and deployed the inspection software directly on the cloud. All kinds of inspection data were generated directly in the cloud, which overcame the drawbacks of the previous inspection method through local computer, such as missed inspection and slow operation speed. The successful development of this project has effectively improved the accuracy of inspection and calibration, improved the operational stability of the inspection software, and improved the overall inspection efficiency by 20%.



>>>>案例：天信仪表推进智能制造改造，实现天信智能制造新飞跃



2018年，天信仪表着力推进智能制造工程，率先将物联网和云技术嵌入到终端产品，将智慧技术与天信传统的精密制造体系融合，投资2,000多万元建立精工柔性生产线，实现了机械制造的高自动化与高柔性化改造，改造后的天信智能生产线有效缩短了生产交付周期，实现了天信仪表智能制造的新一轮转型升级。

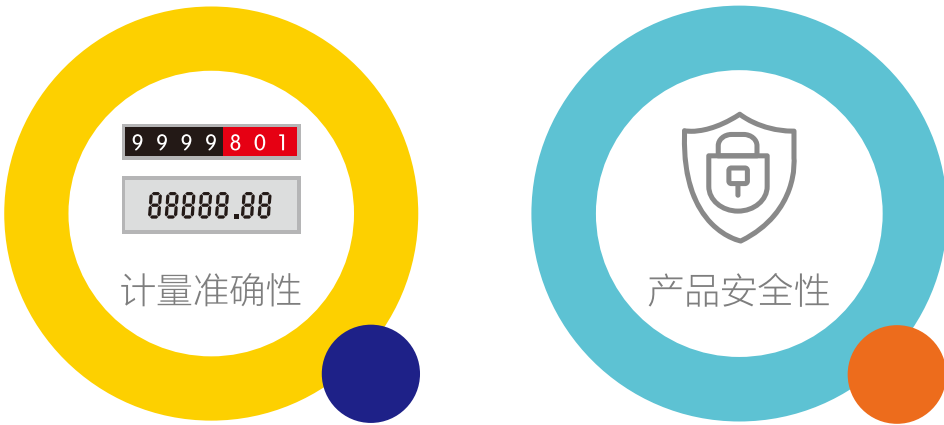
Tancy Instrument promoted smart manufacturing transformation and realized a new leap in intelligent manufacturing

In 2018, Tancy Instrument promoted intelligent manufacturing project, pioneered in embedding the IoT and cloud technology into its terminal products, integrated the smart technology with the traditional precision manufacturing system of Tancy. It invested more than 20 million RMB to establish a flexible precision production line, realized integration of high automation and high flexibility in mechanical manufacturing. The new Tancy intelligent production line effectively shortened the production delivery cycle, evidenced a new success of transformation and upgrading of Tancy Instrument' s intelligent manufacturing.

（四）卓越品质确保产品质量
Guarantee distinguished product quality

优质的产品品质保障是企业的核心竞争力，也是企业实现可持续发展的重要基石。确保计量准确性和产品安全性是燃气表行业最重要的两大品质保障，金卡智能集团严格把控产品质量，强抓产品质量风险防控，将最好最安全的产品提供给客户。

Guaranteed product quality is the core competitiveness of the company and an important cornerstone for the company to achieve sustainable development. Ensuring measurement accuracy and product safety are the two most critical quality factors in the gas meter industry. Goldcard Smart Group strictly controlled product quality, strengthened product quality risk prevention and control, and supplied the best and safest products to customers.



燃气表行业最重要的两大品质保障



- 金卡智能集团严格把控产品质量
- 强抓产品质量风险防控
- 将最好最安全的产品提供给客户

4.1 提高品质管理水平 Enhance quality management level

2018年，公司不断建立和完善品质的大数据库，并通过品质工具深入分析数据，为质量问题的发现和深度发掘根本原因提供真实可靠的数据基础，实现品质管理水平的持续提升；在客户服务反馈方面，公司修订客户服务流程，由以前的售后直接退回到测试中心分析，变更到由品质客服工程师作为直接对接窗口，客户投诉问题上OA系统，将客户的问题和品质改善落实紧密结合，更紧密把握客户的需求；在生产端，成立两大新车间以实现核心部件自制，更好地保障了产品质量。

In 2018, the company continuously established and improved the large quality database, and used quality tools to do in-depth analysis to the data, providing a true and reliable data foundation for the discovery of quality issues and deep exploration of root causes, achieving continuous improvement of quality management level. In respect to feedback from customers, the company revised the customer service process, which was previously directly returned to the test center for analysis by after-sale, provided customers with direct docking window to the customer service quality engineers. The customer complaint issues were loaded on the OA system, connecting the customer's problems more closely with quality improvements, grasping closely the needs of customers. On the production side, two new workshops were set up to internalize production of core components, which better ensured the quality of the products.



>>>>案例：金卡智能集团再获安全生产标准化二级企业



2018年，金卡智能集团再次被评为国家安全生产标准化二级企业（2014年首次获证），该证书由浙江省安全生产监督管理局颁布，说明公司在安全生产标准化工作方面符合行业安全生产标准化评审标准（“标准号：GB/T 33000-2016”《企业安全生产标准化基本规范》）的相关要求。同时，安全标准化工作的推进也促进了产品安全性能，确保用户在使用金卡智能产品时放心、安心。

Case: Goldcard Smart Group awarded safety production standardization Level II Enterprise

In 2018, Goldcard Smart Group was rated as a national safety production standardization Level II enterprise for the second time (first time certified in 2014). The certificate was issued by Zhejiang Provincial Safety Production Supervision Administration, indicating that the company is in compliance with industrial safety production standards. The relevant requirements of the evaluation standard: GB/T 33000-2016 ("Basic Specifications for Enterprise Safety Production Standardization"). At the same time, the promotion of safety standardization has also promoted product safety performance, ensuring users' peace of mind when using Goldcard smart products.

4.2 供应商管理升级 Upgrading of vendors

2018年，公司重点加强了采购与供应商管理工作。公司实行集中采购管理，优化了采购制度及流程，实现了全面招投标制度。公司成立采购反舞弊专项小组，开设反舞弊监督电话并同供应商签订反舞弊协议书。

In 2018, the company emphasized on strengthening procurement and supplier management. The company implemented centralized procurement management, optimized the procurement system and process, and launched a comprehensive bidding system. The company set up a special anti-fraud team, set up an anti-fraud supervision hotline, and signed anti-fraud agreement with suppliers.



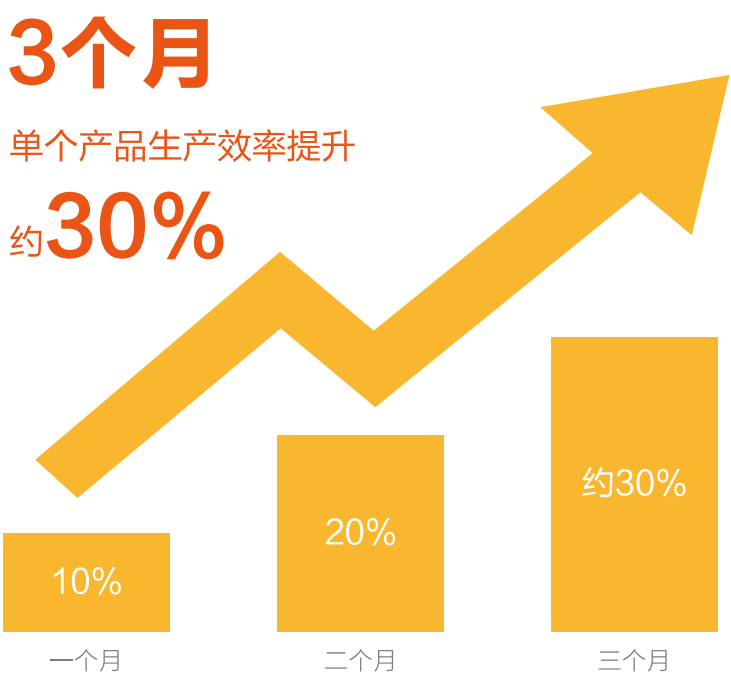
采购与供应商管理工作

全面实现智能化供应商管理，供应商考核及淘汰机制更加严格。针对重要供应商，公司采取扶持改善措施，逐个落实产品技术改善，全面保障产品质量。

Fully implemented intelligent supplier management, carried on more stringently the supplier assessment and elimination mechanism. For key suppliers, the company took measures to support and improve their product technology one by one, so to guarantee overall product quality.



>>>>案例：金卡专案小组推动基表供应商技术改善提高产品精度



供应商供应基表产品的精度不稳定问题一直以来都是困扰公司产品的一项重大问题。2018年，公司抽调多部门技术骨干组织成立了专案解决小组，针对该问题对基表供应商开展了专案扶持改善工作，通过多次技术论证及生产追踪，历时3个月时间基本解决基表产品精度问题。改善后，供应商技术难题得以解决，公司对该供应商产品实现抽检或免检，单个产品生产效率也提升约30%。

Case: Goldcard’ s special force supporting base meter vendor to improve product accuracy

The problem of unstable accuracy in the supply of base meter products by suppliers has always been a major problem that perplex the company's products. In 2018, the company set up a multi-sector technical special task force to carry out quality support and improvement work with the base meter suppliers. After three months’ work, through several technical discussions and production following-ups, the basic meter product accuracy problem was fundamentally solved. After the improvement, the supplier's technical problems were solved. The company achieved random inspection or inspection exemption from the vendor’ s supply, the production efficiency of individual product increased by about 30%.

>>>>案例：“和衷共济”金卡智能集团召开首届供应商大会



2018年，以“变革创新、合作共赢”为主题的首届供应商大会在金卡智能集团杭州总部召开，60余家供应商伙伴、百余位嘉宾参加此次大会。这次大会是公司强化供应商管理的一项重要工作。未来，供应商管理工作将紧密围绕公司“云大物移智”战略规划，以公开公正公平的核心原则开展。在社会化生产中，公司将继续秉持开放心态，以坚定的决心加强企业战略合作，同时也以严格的要求规范供应商管理，强抓产品质量，实现优势互补、互惠共赢。

Case: “Cordial mutual-support” Goldcard Smart Group convene first vendor meeting

In 2018, the first supplier conference with the theme of “change and innovation, cooperation and win-win” was held at the headquarters of Goldcard Smart Group in Hangzhou. More than 60 supplier partners and more than 100 guests attended the conference. This conference is an important step for the company to enhance supplier management. In the future, the supplier management work will closely focus on the company's strategic plan of “Cloud, Big Data, IoT, Mobile and AI” and carry out the core principles of openness, integrity and fairness. In socialized production, the company will continue to uphold its open mind and firmly strengthen its strategic cooperation with suppliers. At the same time, it will also strictly regulate supplier management, strengthen product quality, and achieve complementary advantages and mutual benefit.

（五）优质服务赢得客户感动

Superior customer service moved customers’ hearts

>>>>案例：聚焦后燃气2.0时代，2018金卡智能用户大会召开



2018年7月，2018金卡智能用户大会在重庆召开。大会围绕后燃气2.0时代新技术与燃气领域的融合，以实际案例的形式展现新技术在燃气行业应用，吸引了国内外600余家燃气企业前来参会。金卡智能用户大会旨在促进行业新技术发展态势交流、客户信息化应用实践分享的同时，围绕物联网智能表具、移动外勤作业、工程管理、大数据、CIS、SaaS云等主题展开，邀请燃气、自来水、能源行业专家、新技术专家进行深入探讨。公司以金卡智能用户大会为平台，在向客户企业展现金卡自身实力的同时，拉近客户同公司的距离，增进客户对公司的了解，倾听客户需求的心声，以期为客户提供更加及时、优质的产品与服务。

Case: Focus on Post Gas2.0 Era, Goldcard user conference hold in 2018

In July 2018, the 2018 Goldcard Smart Group User Conference was held in Chongqing. The conference centered on the integration of new technologies with gas sector in the post gas 2.0 era, and demonstrated the application of new technologies in the gas industry with actual cases, attracting more than 600 gas companies from home and abroad to attend the conference. The Goldcard User Conference aims to promote the exchange of new technology development trends in the industry and the sharing of customer information technology applications. At the same time, in-depth discussion of gas, tap water, energy industry experts and new technology experts were arranged, surrounding the themes of the IoT smart meter, mobile field operations, project management, big data, CIS, SaaS cloud, etc. The company took the Goldcard Smart User Conference as the platform, exhibited Goldcard’s corporate strength to the customers, drew close the distance between the customer and the company, enhanced the customer’s understanding of the company, listened to customer’s deep requirements, and aimed to provide customers with more timely, high quality products and services.



公用事业行业信息化系统和云服务是公司智慧燃气整体解决方案不可或缺的组成部分，借助信息技术和互联网+应用，切实帮助燃气企业降本增效、科学决策，改善燃气企业形象，受到燃气企业广泛好评。

The utility industry information system and cloud service are an integral part of the company's smart gas overall solution. With the help of information technology and Internet+ applications, it can help gas companies to reduce costs and increase efficiency, make scientific decisions, improve the image of gas companies. This is widely appraised by the gas companies.



>>>>案例：天信仪表、银证软件服务首都燃气系统安全运维

作为服务首都经济、社会稳定发展的重要公共事业服务企业，北京燃气肩负着重要使命。2018年，金卡智能集团旗下天信仪表、银证软件携手北京燃气，为北京市燃气供应提供整体运维服务。目前，北京燃气拥有非民用天然气计量仪表8万台次，为此天信仪表制定了整套完善的北京运维项目计划书和运维项目管理制度；银证软件开发的运维系统也已正式上线。北京运维项目的成功实施，为全国各大燃气市场提供了运维项目的模板的同时，严格、规范的运营维护程序和标准，有效地保证了工业天然气的安全使用，为保障首都北京燃气供应贡献了重要作用。



Case: Tancy Instrument, ENESYS Software supported safety gas operation and maintenance in Beijing

As an important public service enterprise serving the capital economy and social stability, Beijing Gas holds important missions. In 2018, Tancy Instrument and ENESYS Software of Goldcard Smart Group cooperated with Beijing Gas to provide overall operation and maintenance services for Beijing municipal gas supply. At present, Beijing Gas operates 80,000 non-domestic natural gas metering instruments. Tancy Instrument has developed a complete set of operation and maintenance project plan for Beijing and established the project management regulations; the operation and maintenance system developed by ENESYS Software has also been officially launched. The successful implementation of the Beijing Operation and Maintenance Project provides a template for operation and maintenance projects of other major gas markets across the country. Strict and standardized operation and maintenance procedures and standards effectively ensured the safe use of industrial natural gas. The company played an important role in supporting safe supply of gas in Beijing.

>>>>案例：易联云云服务助力新疆燃气实现互联网服务升级

随着云计算深入人心，“互联网+”运营模式已经为燃气领域带来新的变革。2018年，金卡智能集团旗下易联云公司成功为新疆燃气提供互联网客户服务及网上商城运营。新疆地域面积广大、燃气用户众多，通过易联云互联网云服务，新疆燃气实现了微信、支付宝、APP等多渠道受理咨询业务，有效提高了服务便捷性和满意度。此外，网上商城还为新疆燃气带来数百万的商城交易流水，显著提高了非气收入。



Case:Eslink cloud service supported Sinkiang Gas to upgrade its internet service

With the expanding of cloud computing, the "Internet+" operating model has brought new changes to the gas industry. In 2018, Eslink, a subsidiary of Goldcard Smart Group, successfully provided Internet customer service and online mall operation for Sinkiang Gas. Sinkiang is large in area and has a large number of gas consumers. Through the Eslink internet cloud service, Sinkiang Gas has realized multichannel access consulting services such as WeChat, Alipay and APP, effectively improved service convenience and customer satisfaction. In addition, the online store also brought millions of transactions to Sinkiang Gas, significantly increased its non-gas revenue.

2018年，结合公司战略发展的需要，公司改进了客户服务人员培训考核制度，完善了一系列培训课程及考核机制，使客户服务人员能够更快更好的掌握物联网表等新产品，以便更好地服务客户。2018年客户满意度回访，客户总体满意度达96.7%。

In 2018, in order to meet the needs of the company's strategic development, the company improved the customer service personnel training and evaluation system, and improved a series of training courses and assessment mechanisms to enable customer service personnel to quickly and better master new product knowledge, such as the IoT meter, to provide better service to customers. According to the customer satisfaction survey in 2018, the overall customer satisfaction rate reached 96.7%.



为员工创造机遇

Provide Employee Opportunity



(一) 员工与公司共同成长

Employee Growth with the company

金卡智能集团以开放包容的胸怀，广阔吸纳各领域的优秀人才，秉持以人为本、人尽其才、唯贤任用的人才宗旨，开展员工管理工作。紧扣公司战略规划和企业文化的需求，不断建立健全人才管理体系，构建科学合理的绩效管理体系、全面的培训体系和完善的晋升机制，打造一支具有创造力和造血功能的人才队伍，进而实现公司的可持续发展。

With an open and broad mind, Goldcard Smart Group has absorbed outstanding talents in various fields. The company's HR management upholds the personnel tenet of people-oriented, using the best talent of the people, and using people according to their talents. It closely follows the needs of the company's strategic plan and corporate culture development, continuously establishes and improves the HR management system, formulates a scientific and rational performance appraisal system, comprehensive training system and perfect promotion mechanism to create a talented team with creativity and self-healing function. This helps to achieve sustainable development of the company, promote economic and social development.



1.1多元化的员工培训 Diversified employee training

2018年，公司着力加强员工培训，建立完善了包括MTP、创课堂、管理沙龙等一系列员工培训项目，为公司各层级员工提供了多元化的学习与内部交流课程。公司全年投入培训经费达**110**万元，开展各类培训**498**场次，人均培训时间达**21.62**小时。

In 2018, the company emphasized on employee training, and established a series of employee training programs, including MTP, creation workshops, and management salons, providing diversified learning and internal communication courses for employees at all levels of the company. The company invested 1.1 million yuan in training funds in the year, with 498 training sessions of various types. The per capita training time reached 21.62 hours.



>>>>案例：天信仪表开设天信大讲堂，落实培训积分制度

天信大讲堂是公司最有特色的内训形式，以公司组织内部讲师队伍，面向所有员工开展各类主题培训。2018年共开展“产品”主题3期、“岗位技能”主题6期、“管理知识”主题8期、“质量”主题1期，天信大讲堂为员工提升岗位技能和内部讲师队伍发展奠定了良好的基础。围绕充分调动并激发员工参与培训的积极性和主动性，2018年，公司还推出《培训积分管理制度》，按照内训1小时积分10分，外训1小时积分5分，并且要求中层及以上管理人员年度培训积分500分/年，主管及以下员工300分/年。18年公司员工达成积分要求，并且有100名员工获得了积分奖励。通过天信大讲堂的开设以及培训积分制的全面推行，极大程度调动了员工学习的积极性与主动性，为打造学习型企业奠定了良好的基础。

Case: Tancy Instrument set up Tancy Lectures with training credits.

Tancy Lecture is the company's most distinctive form of internal training. It organizes a team of in-house lecturers and conducts training on various themes for all employees. In 2018, lectures on 3 product theme, 6 job skill theme, 8 management knowledge theme, and 1 quality theme were delivered. The Tancy Lecture laid the foundation for employees to improve their job skills and helped the development of internal lecturers. In order to fully mobilize and motivate employees' enthusiasm and initiative to participate in training, the company launched the "training credits regulation" in 2018. According to the rules, attending internal training earns 10 points per hour, attending external training earns 5 points per hour. The requirement for middle and senior managers is to achieve 500 training credits per year, and for junior managers and below 300 credits per year. In 2018, company employees fulfilled the credit requirements, and 100 employees received awards for getting credits. Through the opening of the Tancy Lecture and the comprehensive implementation of the training credits system, the enthusiasm and initiative of employees' learning have been greatly mobilized, laying a good foundation for building a learning enterprise.



1.2 双重职业通道模式 Dual career development channel



图：金卡智能集团职业成长树
Fig: Goldcard Smart Group career development tree

多年来，公司启用双重职业通道管理模式，确保公司既能聘请到具有高技能的管理者，又能吸引到具有高技能的专业技术人员，优化公司人力资源的配置，合理利用人才，为员工提供适合自己的职业发展通道。

Over the years, the company has adopted a dual career channel management model to ensure that the company can retain highly skilled managers, and also attract highly skilled professional technicians. It helped optimize the company's human resources allocation, utilize talents rationally and provide employees with suitable career development channel.

1.3 员工激励机制 Employee incentive mechanism

良性的人才管理离不开合理的员工激励机制，公司为员工提供具有竞争力的薪酬待遇的同时也通过多种手段激励员工的工作积极性。2018年，公司实施了股权激励计划预留部分授予工作，向49名激励对象共计授予74.2万股金卡智能股票；2018年9月为首期145名激励对象办理了股份解除限售业务，申请解除限售股份达203.04万股。

A good talent management is inseparable from a reasonable employee incentive mechanism. The company has provided employees with competitive remuneration packages and also motivates employees through various means for active working attitude. In 2018, the company implemented the equity incentive plan and granted a total of 742,000 reserved Goldcard shares to 49 nominees. In September 2018, the first batch allotted shares of 145 incented employees were approved for free transaction in the open market. The sanctioned shares totally are 2.03 million shares.



(二) 企业文化与氛围建设
Corporate culture and atmosphere buildup



2018年，公司通过特色员工活动、员工关怀等具体工作激发团结、快乐、奋进的企业文化氛围。公司针对购房难的问题设立专项购房贷款，为员工派送结婚礼金、生育礼金，还设立爱心基金重点关照部分员工开展大病慰问工作和困难援助工作。

In 2018, the company stimulated a corporate culture of unity, happiness and positive attitude through specific employee activities and employee care work. The company set up a special house loan to help solve the difficulty of employees purchasing houses, sent wedding gifts and maternity gifts to the employees. It also set up a charity fund to take care of some employees in need, to help employees deal with serious illness and other major difficulties.

(三) 员工职业健康与安全

Employee career health and safety

保障员工安全与健康，是公司对每位员工的承诺。公司高度关注员工的身心健康，坚持开展年度健康体检工作和心理健康培训工作。坚决落实针对特殊员工安全防护器具的管理，开展安全防护培训，为关键工序员工在购买雇主责任险的同时补充购买了安全责任险。深入开展安全生产月活动，组织年度消防演练和消防知识竞赛，将安全生产落到实处。公司还邀请了外部专业人员为员工开展心肺复苏培训，严防突发性健康事故的发生。

Protecting employees' safety and health is the company's commitment to every employee. The company pays close attention to the physical and mental health of employees and carries out employee annual health checkups and mental health counseling. The company strictly follows the management rule of safety protective equipment for employees undertaking special tasks, carries out safety protection training to them, and supplements the safety liability insurance for these employees in addition to the employer liability insurance. The company actively promotes safety production month initiative, organizes annual fire drills and fire knowledge contests to awaken the safety production conscious. The company also introduced external professionals to conduct cardiopulmonary rescue training for employees to prevent accident health issues.



组织年度消防演练



开展心肺复苏培训

为社会做出贡献

Contribute to the Society



(一) 环境保护营造绿色家园

Environment protection and build green homeland

1.1 助力清洁能源应对气候变化 Support clean energy, cope with climate change

随着全社会环保意识的增强、国家环保政策落地实施，天然气作为高效能的清洁能源在能源消费中占据越来越重要的地位。在2017年全国两会政府工作报告中提出，要加大生态环境保护治理力度，坚决打好蓝天保卫战。以此为契机，金卡智能集团自2017年以来积极投身参与全国各地清洁能源建设工程。在当前全国各地加强大气污染防治和应对气候变化的双重背景下，公司全面助力我国北方“煤改气”工程项目，利用智能民用表和流量计抓实家庭用户和工商户，并积极融入物联网、云计算、大数据等前沿技术，打造贯穿上下游、贯穿表端到平台端的“煤改气”解决方案。金卡智能集团坚持绿色发展理念，积极助力清洁能源发展，以实际行动服务低碳环保、安全高效的清洁能源。



With the promotion of environment protection awareness in the whole society and the implementation of national environmental protection policies, natural gas, as a high-efficiency clean energy source, plays an increasingly important role in energy consumption. In the 2017 government report to the National People's Congress, it is proposed to increase the force in ecological environmental protection and treatment measures, and resolutely fight to safeguard the blue sky. Taking this as an opportunity, Goldcard Smart Group has been actively involved in clean energy construction projects throughout the country since 2017. Under the dual background of strengthening air pollution prevention and combating climate change all over the country, the company fully involved in the “coal to gas” transformation project in northern China, using smart gas meters and flow meters to serve household users and industrial and commercial users, and actively integrate them with frontier technologies such as IoT, cloud computing and big data, etc. It has created a “coal to gas” solution that runs through the industry upstream and downstream, through the meter terminals to the platform side. Goldcard Smart Group adheres to the concept of green development, actively contributes to the development of clean energy, and provides real value serving to the low-carbon, environment-friendly, safe and efficient clean energy.

>>>>案例：金卡智能集团物联网表服务“煤改气”，助力蓝天保卫战

近年来，我国北方冬季雾霾频现，大气污染态势严峻，多地PM2.5指数持续“爆表”。自2016年开始北方多省市政府出台文件，执行“煤改气”政策，鼓励燃气公司应用适合农村“煤改气”工程的物联网燃气表。金卡智能集团先后同新奥燃气、华港燃气等燃气企业建立合作关系，共同推进落实“煤改气”工程。截至2018年，先后在北京、天津、河北、山西、山东30余个城市上线应用物联网表具200余万台。物联网表运用实时在线监测系统，准确监控燃气使用情况，燃气供销差从原来的10%下降至5%以内，有效控制了天然气资源的浪费情况。物联网系统还开通了APP、支付宝、微信等线上缴费功能，用户可足不出户解决了缴费难的问题，有效降低了碳排放。



Case: Goldcard IoT gas meter serve “Coal to Gas” helping protect the blue sky

In recent years, smogs happened more frequently in north of China, and the atmospheric pollution situation is grim. The PM2.5 index in many places continuously blast the ceiling. Since 2016, many provincial and municipal governments in north China have issued documents to implement the “coal to gas” initiative, encouraging gas suppliers to deploy IoT gas meters suitable for rural “coal to gas” projects. Goldcard Smart Group has established cooperative relations with ENN Gas, Huagang Gas and other gas companies to jointly implement the “coal to gas” projects. As of 2018, it has deployed more than 2 million IoT gas meters in more than 30 cities in Beijing, Tianjin, Hebei, Shanxi and Shandong provinces. The IoT meters use real-time online monitoring system to accurately monitor the flow of gas. The gas supply and sales difference has dropped from previously 10% to within 5%, effectively controlling the waste of natural gas resources. The IoT system also supports online payment functions through APP, Alipay and WeChat. Users can now avoid the inconvenience of payment, without leaving the house, and effectively reducing carbon emissions.

1.2 排放与废弃物管理 Emission and Waste Management

金卡智能集团在燃气表生产过程中排放的污染物较少，主要为装配过程中产生的少量危险废弃物和一般固体废弃物。公司按照法律法规的各项规定，遵照“分类回收、集中保管、统一处理、综合评价”的原则妥善处理各类废弃物。对于一般废弃物，公司实行集中管理，采用回收利用或交由第三方回收处理。对于危险废弃物，公司制定《危险化学品管理制度》，规范危险化学品的采购、使用、存储和处理等环节的管理控制工作，降低化学品对环境的危害和污染。

There is very little emission and disposal of pollutants in the production of Goldcard gas meters. The wastage mainly comes from assembly process. For these small amount of hazardous waste and general solid waste, the company abides by relevant provisions of laws and regulations, and properly handles different types of waste in accordance with the principles of “recycling by categories, centralized storage, unified treatment, and comprehensive evaluation”. For general waste, the company implements centralized management to recycle or to dispose through third party agencies. For hazardous waste, the company has established a “Hazardous Chemicals Management Regulation” to regulate the management and control process of the procurement, usage, storage and disposal of hazardous chemicals, to reduce harm and pollution to the environment by these chemicals.



(二) 践行公益贡献社会和谐

Public welfare action and contribution to social harmony

2.1 积极投身公益慈善事业 Actively involve in public welfare & charity activities

金卡智能集团致力于成为富有社会责任感的企业,在企业快速发展的同时矢志造福人类的社会公益事业。2018年,公司进一步彰显企业公民责任,努力回报社会,进一步加强公司在慈善公益事业的规划和管理,与员工共同出资595万元设立了浙江金卡智能公益基金会。基金会未来将在扶贫济困、扶老救孤、恤病助残、抗震救灾、助医、助学等重点领域开展工作,促进社会发展与进步,践行上市公司社会责任。

Goldcard Smart Group is committed to becoming a socially responsible company, and is committed to the welfare of human beings while developing its business rapidly. In 2018, the company and its employees jointly established the Zhejiang Goldcard Smart Public Welfare Foundation with a total investment of 5.95 million RMB, further demonstrated its corporate citizenship responsibility and determination to reward the society, and further strengthened the company's planning and management of charitable public welfare undertakings. In the future, the Foundation will work in key areas such as poverty alleviation, helping the elderly and orphan, aiding the sick and disabled, assisting in disaster relief, improving medical situation, and helping students, etc. Goldcard promotes social development and progress, practices the social responsibility of a public listed company.

>>>>案例：基金会确立科学筹资制度，助力金卡公益可持续发展



筹资工作是基金会运营管理的一项重点工作,金卡智能公益基金会在成立后首先对基金会未来筹资管理工作作出了规划。金卡智能集团与金卡智能公益基金会共同制定并确立了三年捐赠计划(2018年-2020年),每年按照上一年度客户向公司各事业部采购产品和服务的数量为依据计算年度最高捐赠金额。筹资规划确定:客户每采购一台民用智能燃气表,公司向基金会捐赠一元;客户每采购一台工商业流量计,公司向基金会捐赠十元;客户每采购一项 SaaS 云服务,公司向基金会捐赠十元。三年捐赠计划期限届满前,公司与基金会按照届时实际情况决定后续捐赠方案。金卡智能公益基金会能够获得金卡智能集团持续性资金支持,将有效保障基金会的持续稳定运作,是金卡公益可持续发展的重要保障。

Case: Goldcard Smart Public Welfare Foundation scientific fundraising system help sustainable development

Fundraising is a key task in the operation and management of the Foundation. After the establishment of Goldcard Smart Public Welfare Foundation, it first planned the fundraising management in future. Goldcard Smart Group and Goldcard Smart Public Welfare Foundation jointly formulated and established a three-year donation plan (2018-2020), which is calculated according to the number of products and services purchased by customers from various business divisions in the previous year. The fund-raising plan announces that the company will donate RMB one yuan to the foundation for each sale of domestic smart gas meter; the company will donate RMB ten yuan to the foundation for each industrial and commercial flow meter purchased by the customer, and each time a customer purchases a SaaS cloud service, the company will donate RMB ten yuan to the fund. Before the expiration of the three-year donation plan period, the company and the foundation will decide on the follow-up donation plan according to the actual situation at that time. Goldcard Smart Public Welfare Foundation can obtain the continuous financial support from Goldcard Smart Group, which will effectively guarantee the sustainable and stable operation of the Foundation, which is an important safeguard for the sustainable development of public welfare undertakings.

为社会做出贡献 Contribute to the Society

>>>>案例：“成长路上，与爱同行” 金卡志愿者开展关爱儿童公益活动



2018年6月，金卡智能集团发起关爱儿童的六一公益募捐活动。此次活动得到了金卡智能集团众多员工的爱心支持，共募集善款11,764元。金卡志愿服务队带着用爱心善款购买的物资走进桐乡市儿童福利院，为先天肢体残疾的儿童开展“成长路上，与爱同行”的主题公益活动。金卡志愿者陪孩子们一起玩耍，为孩子们唱歌，让他们感受到社会的关怀与爱。

Case: “Love accompany your growth” Goldcard volunteers’ carried out children caring activity

In June 2018, Goldcard Smart Group launched June 1 children day charity fundraising. The event was supported by many employees of Goldcard Smart Group, raising a total of RMB 11,764 yuan. The Goldcard Volunteer Service Team went to the Tongxiang City Children's Charity House with gifts purchased by the fund raised, and carried out the activity themed “Love accompany your growth” for children with congenital physical disabilities. Goldcard volunteers played with the children and sing for them, letting the children feel the care and love of the society.

2.2 营造良好的社区关系 Build benign community relationship

公司高度重视自身运营对社区的影响，并采取积极有效的措施，帮助社区解决困难，带动当地社区共同发展，同时增加与社区的交流互动，进而营造良好的社区关系。

The company paid great attention to the impact of its operations to local community, and took active and effective measures to help the community to solve problems, to develop together with local community, to increase interaction with the community to create good community relations.

>>>>案例：金卡志愿者腊八节送温暖进社区



2018年1月，金卡志愿者在腊八节当天带着温暖的腊八粥和喜气的春联，为元成社区环卫所的环卫工人及社区康复中心的老人们送去一份温暖，一份祝福。

Case: Goldcard Volunteers send warmth into community in Laba Festival

In January 2018, Goldcard volunteers sent blessing to the sanitation workers of the Yuancheng Community and the old people of the community rehabilitation center with the warm Laba porridge and New Year scrolls on the day of Laba Festival.

为社会做出贡献 Contribute to the Society

>>>>案例：天信仪表积极参与社区公益活动，荣获“爱心企业”称号



2018年9月，由浙江省苍南县委县政府主办的第三届红色公益项目推介会在苍南县举行。此次相亲会推介的41个公益创投项目由29家公益社会组织申报，项目覆盖为老服务、青少年关爱、社区文化、助残扶残、医疗健康、环境保护、应急救援等领域。天信仪表成功认领雨花斋素食服务中心的爱心午餐计划项目，该项目主要针对灵溪镇周边村居孤寡、留守老人，通过免费配餐和上门服务的形式，为他们解决中午就餐问题。一直致力于践行企业社会责任，积极参与公益活动的天信仪表公司凭借公益事业中的突出表现被苍南县政府授予“爱心企业”称号。

Case: Tancy active in community public welfare activities, won the title of "Love Enterprise"

In September 2018, the 3rd Red Public Welfare Project Promotion Conference hosted by Cangnan County Government of Zhejiang Province was held in Cangnan County. There were 41 public welfare projects looking for sponsors. These projects, covering the fields of elders services, youth care, community culture, disability aids, medical care, environmental protection, and emergency rescue, were filed by 29 public welfare organizations. Tancy Instrument successfully claimed the Love Lunch Program proposed by Yuhuaazhai Vegetarian Service Center, which is aimed at the lonely and left-behind elder villagers around Lingxi Town, and solves the dinner problem by delivering free meal and on-site service. Tancy Instrument, which has been committed to practicing corporate social responsibility and actively participated in public welfare activities, has been awarded the title of "Love Enterprise" by Cangnan County Government for its outstanding performance in public welfare undertakings.

>>>>案例：天信仪表爱心助学情暖寒门学子



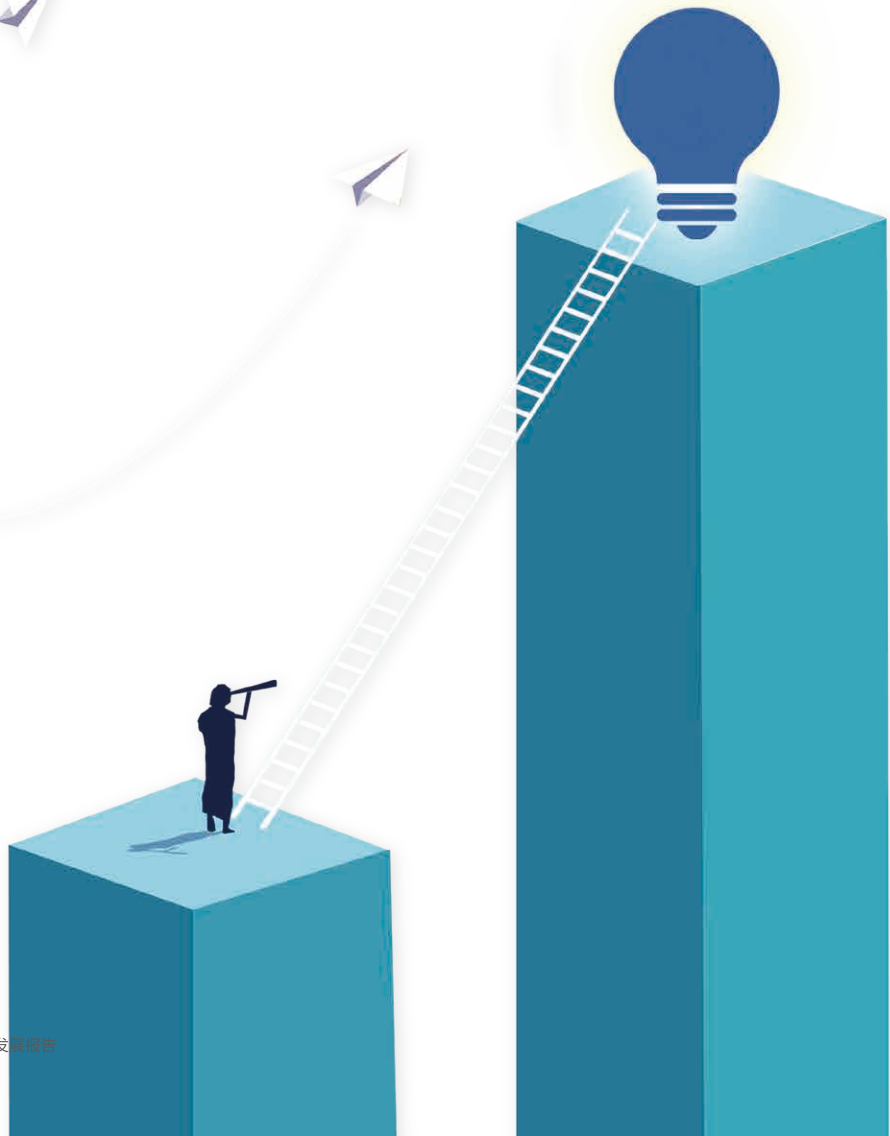
2018年12月，天信仪表公司的爱心志愿者来到桥墩镇八亩后村、马站镇下魁村开展助学活动，对10户寒门学子给予每人3,000元的爱心资助。这些孩子大多数为孤儿，有的家庭遭遇变故，有的是因病致贫，因此非常需要通过知识去改变自身的命运。而对于贫困的家庭来说，每年的学费都是一笔不小的开支。不能让贫穷阻碍了孩子前进的脚步，不能让孩子梦想被生活的风雨摧残，天信爱心基金会向这些寒门学子伸出援手，在对外公益中特别设置了爱心助学项目，贫困学生通过申请和审核后，每人每年可得到天信3,000元的学费补助。

Case: Tancy support poor child in study

In December 2018, the volunteers of Tancy Instrument came to the village of Bamuhou, Qiaodun Town, and the village of Xiakui, Mazhan Town, and carried out a student-support activity. They donated RMB 3,000 yuan to each of the 10 poor students. Most of these children are orphans, some families suffered from disasters, some fell into poverty due to illness. They need to change their own destiny through learning knowledge. For poor families, the annual tuition is a huge expense. To prevent poverty from hindering the children's progress, and the harshness of life from ruining the children's dreams, the Tancy Love Foundation has extended a helping hand to these students, and specially set up a study-supporting program in the public welfare pool. After proper apply and review, each poor student can receive a tuition subsidy of RMB 3,000 yuan per person per year.

2019年，新的机遇和挑战迎面而来。公司将进一步加强可持续发展理念与公司战略和企业文化的融合，形成内生于企业的可持续发展文化，催生更多的可持续发展优秀实践。公司将持续履行对利益相关方的社会责任，与利益相关方开展有效沟通，识别其合理期望和诉求，并融入公司日常运营实践，努力创造经济、社会和环境的综合价值最大化，助力实现可持续发展。

In 2019, both new opportunities and challenges are on the way. The company will further strengthen the integration of sustainable development concept with corporate strategy and corporate culture, form an endogenous sustainable development culture, and produce more model practice cases of sustainable development. The company will continue to fulfill its social responsibilities to stakeholders, communicate effectively with stakeholders, identify their reasonable expectations and demands, and integrate them into the company's daily operational practices, and strive to maximize the overall value in economic, societal and the environmental terms, and help achieve sustainable development.



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