

Stock Code: 603232.SH

# **2024** Environmental, Social and Governance (ESG) Report

Koal Software Co., Ltd.

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Yang Wenshan, Chairman of Koal Software Co., Ltd.

Drawn Together by the Light on the ESG Journey, Inspired Every Step of the Way

Dear colleagues, partners, and all friends who follow and support Koal:

From the introduction of the ESG concept by the United Nations Global Compact to the release of annual ESG reports by over 2,000 A-share listed companies, ESG has grown from a niche concept into a widely recognized topic in mainstream discourse, which is now taking root and gaining real momentum in China. Today, the ESG we are talking about is no longer just a concept or a label, but a transformation of corporate strategy development and management. It genuinely helps businesses tap into their potential value and inspire resilience in a highly competitive environment.

2024 marks the 20th anniversary of the ESG concept and the second year of Koal's ESG journey. Over the past two years, the Company's governance structure has undergone changes. We have fully embraced a paperless office system, with gradual implementation across our six R&D centers, ten delivery centers, and all marketing and service locations. In addition, Koal Academy has been launched, extending employee benefits to include comprehensive training programs, career development guidance, and support for mental and physical well-being. Our commitment to rural revitalization continues as we partner with Guo Dazhai Township in Fengging County, Lincang City, Yunnan Province, to help promote the Oiong Ying Ancient Tree Tea" to the wider world. We understand that ESG is a long-term journey, one that evolves steadily from within, rather than something that can be achieved overnight. With this in mind, Koal will continue to strengthen internal capabilities while focusing our efforts in three key directions:

Direction 1: Strengthen data security governance to safeguard a green digital ecosystem. In today's data-driven era, data security is not only our lifeline but also a critical pillar of ESG. We must protect user data with the same rigor as we do our financial assets. This not only involves ensuring the confidentiality, integrity, and availability of the data, but also integrating ESG principles into the management of data throughout its entire lifecycle. Koal will increase R&D investment in areas such as data encryption, access control, and data breach prevention to establish a comprehensive data protection system—one that offers users a true sense of ease and trust. At the same time, we will actively participate in the formulation of data security standards, driving forward industry-wide governance and contributing to a healthy, green digital ecosystem. In an increasingly competitive cybersecurity landscape, we aim to stand out through real value creation and demonstrating Koal's distinctive strengths.

**Direction 2:** Advancing industry collaboration to build a shared future in cybersecurity. The development of the cybersecurity industry is not a solo effort of a single company, but rather requires the collective efforts of the entire industry. At Koal, we are committed to fulfilling our social responsibilities under ESG, collaborating with our peers to break down barriers and achieve the sharing of technology, expertise,



and resources. Through the formation of industry alliances and joint research initiatives, we aim to collectively address the growing complexity of cybersecurity threats. Our vision is to build a new security paradigm centered on cryptographic technologies and empowered by the integration of multiple security solutions. This includes developing an autonomous and controllable cybersecurity environment grounded in cryptographic infrastructure and ultimately achieving a trusted, interconnected, and open framework for security. We will also deepen cooperation with universities and research institutions to cultivate more cybersecurity talent, injecting new energy into the industry's sustainable growth. Our goal is to build a vibrant cybersecurity community, characterized by shared responsibility and collective progress.

Direction 3: Energizing innovation within the Company to support the secure upgrade of digital transformation. With the ongoing advancement of new quality productive forces, digital transformation is accelerating in both depth and scale, accompanied by a growing demand for cybersecurity. We aim to seize this opportunity to continuously drive innovation within the Company and incorporate ESG principles into our products and services. We continue to increase investment in advanced technologies such as Zero Trust architecture and AI security, focusing on both research and practical application. Through ongoing innovation, we aim to make breakthroughs in critical, foundational, and frontier technologies, delivering smarter, more efficient, and more secure solutions for businesses. At the same time, we focus on the pain points and challenges that enterprises face during digital transformation and offer customized security services to address them. Our goal is to ensure robust cybersecurity throughout the transformation process, enabling businesses to navigate the digital wave with peace of mind and achieve sustainable development.

In 2025 and beyond, Koal will remain firmly committed to the ESG vision and continue advancing on the path of network and information security. Let us walk together on the path of ESG—guided by its light, inspired with every step, and dedicated to building a brighter future. Through these collective efforts, we will drive the high-quality development of Koal and contribute to a secure and trustworthy digital world for all.



This Environmental, Social, and Governance (ESG) report (hereinafter referred to as "the report") is publicly released by Koal Software Co., Ltd. (hereinafter referred to as "Koal"). This report is prepared in accordance with the principles of objectivity, openness, and transparency, and aims to disclose Koal's sustainability philosophy, management practices, and key performance results for 2024 to its stakeholders.

#### **Reporting Scope**

Organizational Scope: The scope of this report aligns with that of the annual consolidated financial statements of the Company. Time Range: This report covers the period from January 1, 2024, to December 31, 2024. Some content may be extended beyond this timeframe as deemed appropriate. This report is an annual report.

#### **Definition of Terms**

For ease of expression and reading, Koal Software Co., Ltd. is referred to as "Koal," "the Company," or "we" in this report.

#### **Basis of Preparation**

This report has been compiled according to the GRI Standards by the Global Sustainability Standards Board, Guidelines No. 1 of Shanghai Stock Exchange for the Self-Regulation of Listed Companies — Standardized Operation (2023), Guideline No.14 of Shanghai Stock Exchange for the Self-Regulation of Listed Companies — Sustainability Report (Trial), Guide No.4 for Self-Regulatory Supervision on Listed Companies of the SSE - Compilation of Sustainable Development Reports, and the United Nations Sustainable Development Goals (SDGs).

#### Source of Information

All the information and data used in the report are sourced from the Company's official documents statistical reports, and financial statements, as well as information on sustainable development practices of each that have been gathered and reviewed by the relevant functional departments of the Company. Unless otherwise specified, all monetary amounts mentioned in this report are measured in RMB.

#### Assurance of Accuracy

The Company assures that this report contains no false records, misleading statements, or significant omissions, and is accountable for the authenticity and accuracy of its content. This report has been reviewed by the Company's Board of Directors and is being publicly released.

#### **Report Access & Contact**

The electronic version of this report is available on the Shanghai Stock Exchange website (www.sse.com.cn) and the Cninfo website (www.cninfo.com.cn). If you have any questions regarding this report, please feel free to contact us through the following channels:

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Website: www.koal.com



#### Company Profile

Founded in March 1998, Koal Software Co., Ltd. (stock code: 603232.SH) stands as a pioneer and leader in China's information security digital trust sector. The Company went public on the main board of the Shanghai Stock Exchange in April 2017. Koal has established 6 R&D centers and 10 delivery centers, with marketing and service outlets spanning major provincial capitals across China. The Company provides comprehensive security solutions and professional services to over 30 national ministries and commissions, more than 100 state-owned and central enterprises, and over 200 commercial banks. As a secretariat member of the Infrastructure Group of the State Cryptography Administration, Koal has spearheaded and contributed to the development of over 100 relevant standards, including nearly 20 national standards. The Company has been honored twice with the second prize of the National Science and Technology Progress Award and has garnered more than 20 National Party and Government Cryptography Science and Technology Progress Awards, as well as ministerial and provincial-level Science and Technology Progress Awards.

#### Mission

To defend digital sovereignty and safeguard the digital world

and digital asset security



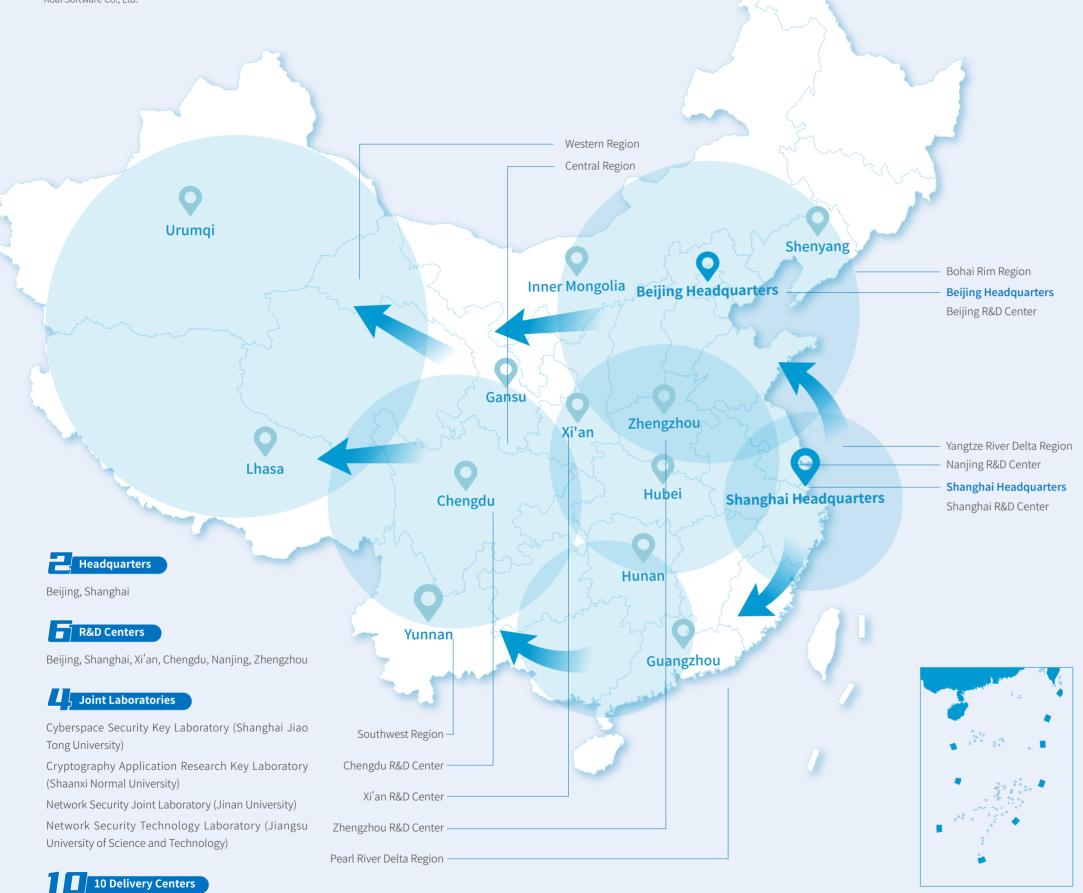
#### **Corporate Culture**

Unity, Dedication, Innovation, Security, Efficiency, Sharing

#### Vision

To be a leader in cyberspace





Beijing, Shanghai, Zhengzhou, Shenyang, Xi'an, Wuhan, Chengdu, Urumqi, Lhasa, Guangzhou

#### **Company Product Series**

#### **Identity Security Product Series**

The identity security product series encompasses Public Key Infrastructure (PKI) and trusted identity control platforms. The PKI serves as a security foundation, integrating digital certificate authentication systems, certificate registration systems, and collaborative signature services. It ensures confidentiality, integrity, authenticity, and non-repudiation across various digital scenarios, forming the cornerstone for building digital trust systems. The trusted identity control platform amalgamates PKI with other identity technologies, broadening the scope of identity management. Beyond certificate-based identities, it offers unified lifecycle management for diverse digital entities, along with multi-factor authentication, access policy management, and identity risk analysis functionalities, providing platform-level support for constructing robust digital trust systems.

#### **Data Security Product Series**

The data security product series incorporates fundamental cryptographic components such as key management systems, cryptographic machines, and digital signature and verification servers. It also features products like SSL VPN, IPSEC VPN, application-integrated security gateways, data access control gateways, database encryption systems, and storage encryption gateways. Additionally, it includes a cryptographic service platform that facilitates unified management and service-oriented extension of these components and products. Collectively, this series delivers end-to-end solutions for the collection, transmission, storage, use, and exchange stages of the data security lifecycle, serving as the bedrock for comprehensive data security.

#### **IoT Security Product Series**

The IoT security product series is underpinned by commercial cryptography, guided by national standards, and aims to achieve authentic identity, protocol integrity, and data encryption across multi-dimensional spaces including sky, ground, sea, air, network, people, and objects. By implementing authentication, authorization, and encryption technologies in intelligent IoT scenarios, it establishes a scalable security foundation. This enables secure and efficient interconnection in smart IoT applications, prevents unauthorized access to critical information, safeguards sensitive data from breaches, protects individual privacy, and bolsters the overall security of smart networks.

2024 in Review

Total assets: RMB

1.67 billion

Operating revenue: RMB

0.529 billion

Net profit attributable to shareholders of listed company: RMB

36.8121

Total tax contribution: RMB



Basic earnings per share: RMB **0.16** share

the vear: RMB

Software re-verification rate:

97.8889 million

100%

Customer service satisfaction rate:

98.2%

100%

679

21%

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# 200,000

Total investment in public welfare/external donations: RMB

## 0.0209equivalent/RMB 10.000 revenue

Greenhouse gas emission intensity:



#### Honors & Memberships



The

Decision-

Making Body

The

Management

Body

The

Execution

Body



#### ESG Governance Structure

Koal places great emphasis on sustainable development management and is committed to embedding sustainability principles across all aspects of its operations. The Company has established and continuously improved its ESG governance framework and management system, formulated ESG-related policies, and developed an efficient ESG management mechanism. ESG strategies are effectively integrated into various departments and core business processes, which consistently enhances top-down ESG engagement and management capabilities.

The Company has built a comprehensive ESG governance framework encompassing the decision-making, management, and execution levels. The Board of Directors, as the leadership and decision-making body for ESG affairs, is responsible for reviewing and approving Koal's ESG strategy, governance framework, major policies, material ESG-related matters, and risk response plans. Under the oversight and guidance of the Board, the ESG Committee was established, chaired by the Chairman of the Board. The Committee is responsible for defining and continuously optimizing the ESG governance structure, setting key ESG strategic goals and plans, reviewing the annual ESG work plans, and supervising their implementation. Under the ESG Committee, the ESG Executive Committee has been formed to oversee the day-to-day management and implementation of ESG activities. During the reporting period, Koal approved the *Implementation Rules of the ESG Committee of Koal Co., Ltd. and released the Announcement on the Establishment of the ESG Committee of Koal Co., Ltd.*, marking a significant step forward in strengthening the Company's ESG management system.

#### **Board of Directors**

- Review and approve the Company's ESG strategic planning and objectives, ESG governance framework, and key policies.
- Review and approve material ESG matters and the Company's response strategies to major ESGrelated risks.
- Review the Company's ESG-related disclosure documents, including but not limited to the annual ESG report.

#### ESG Committe

- Establish and continuously optimize the Company's ESG governance structure.
- Aligned with the Company's development strategy, formulate key ESG objectives and plans, review the annual ESG plan, and oversee its execution to ensure successful implementation.
- Supervise, guide, and optimize key tasks related to environmental protection, social responsibility, and corporate governance of the Company, promoting the Company's sustainable development.
- Review other major issues related to ESG
- Handle other matters authorized by the Board of Directors.

#### ESG Executive Committee

- Coordinate and implement the execution of assigned ESG matters.
- Monitor and report on project progress and target achievement.
- Collect and consolidate ESG-related information and data.

▶ Koal's ESG Governance Structure



Koal attaches great importance to the opinions and concerns of its stakeholders. The Company continuously improves stakeholder engagement mechanisms and communication channels to ensure regular interaction and enable effective stakeholder participation in ESG governance.



	Communication Channels and Methods
nt on	<ul> <li>General meeting of shareholders</li> <li>Roadshow and performance briefing</li> <li>Investor hotline and email</li> <li>Engagement with small and medium shareholders</li> <li>Regular information disclosure (annual financial report, ESG report, WeChat official account, company website, etc.)</li> </ul>
nt on protection nt	<ul> <li>Dedicated reception days</li> <li>Information disclosure platform</li> <li>Government meetings and official visits</li> <li>Regular information disclosure (annual financial report, ESG report, WeChat official account, company website, etc.)</li> <li>Communication with industry associations and other organizations</li> </ul>
ent protection green	<ul> <li>Customer satisfaction survey</li> <li>Communication with customers before, during, and after sales</li> <li>Customer visits</li> <li>Customer review</li> <li>Third party training</li> </ul>
ment ;	<ul> <li>Employee activities and communication</li> <li>Employee performance communication</li> <li>Internal information communication platform</li> <li>Employee satisfaction survey</li> <li>Employee grievance channels</li> </ul>
	<ul> <li>Supplier training</li> <li>On-site audit and communication</li> <li>Regular visits</li> </ul>
protection nt	<ul> <li>Face-to-face communication</li> <li>Complaint hotline</li> <li>Public welfare activities</li> <li>Regular information disclosure (annual financial report, ESG report, WeChat official account, company website, etc.)</li> </ul>

#### Material Issue Management

Koal places high importance on and consistently refines its identification, management, and analysis of material issues. In 2024, the Company updated its analysis methods based on the latest disclosure standards, including the Guidelines No. 14 of Shanghai Stock Exchange for the Self-Regulation of Listed Companies—Sustainability Report (Trial), the GRI Standards, and the IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information. Combining these with the Company's business characteristics, Koal conducted a double materiality assessment, comprehensively analyzing the impact of ESG issues on the Company's finances as well as on the economy, environment, and society. Based on the identification results, the Company adjusts its ESG work arrangements promptly to ensure effective implementation and optimization of ESG-related work, providing focused responses to material issues in this report.

Koal's Double Materiality Assessment Process for 2024

#### ESG Issue Identification

With reference to macro-level policies in the regions where the Company operates and industry-specific regulations or standards, ESG issues were identified based on an analysis of internal and external development trends. Both general and industry-specific material issues were recognized through the following approaches: (1) referring to authoritative domestic and international sustainability reporting guidelines and standards; (2) reviewing leading ESG rating frameworks and sustainability issues of concern within the industry; (3) considering issues of shared concern among internal and external stakeholders, while also taking into account industry characteristics, stage of development, the Company's business model, and position in the value chain to identify topics of financial or impact materiality; and (4) incorporating expert opinions.

#### Stakeholder Communication and Materiality Analysis

Research was conducted among key internal and external stakeholder groups in accordance with the principle of double materiality. Both impact materiality and financial materiality assessments were carried out, resulting in the 2024 materiality matrix and the identification and prioritization of material issues for the year. Stakeholder participants included board members, senior executives, employees, customers, suppliers, investors, regulators, media, and the public.

#### Issue Confirmation and Reporting

The results of impact and financial materiality assessments were integrated and reviewed through two channels: internal management and external experts. The ESG Committee further reviewed and confirmed the findings. For material topics, the report provides focused disclosures covering governance, strategy, risk and opportunity management, as well as relevant indicators and targets.

High	•		
Significance of Impact on Economic, Environmental, and Social Sustainability	Indi Sustainable Su Community (Including F Volunteeri Vevitalizat	Product Quality and Safety R&D Innovation Occupational Health and Safety ustry Ecosystem Development pply Chain Clean Technology Opportunities (Green Products and Solutions) Labor and Human Rights Management Pengagement Public Welfare ng and Rural ion Support) Addressing Climate Change Business Ethics and Anti-corruption Human Resource Develop Customer Relationship Management Management Public Welfare ng and Rural ion Support) Addressing Climate Change Business Ethics and Anti-corruption Customer Relationship Management Management Management Management Addressing Climate Change Climate Change Climate Change Business Ethics and Anti-corruption Customer Relationship Management Management Management Addressing Climate Change Climate Change Customer Relationship Management Corporate Gover and Waste Management	oment
Low		Significance of Impact on the Company's Financial Performance	High
Materia I.	Governance	Dimension • Environmental Dimension • Social Dim	ension
Material Issues	Impact Period	Risks and Opportunities	Impact Level
Product Quality and Safety	Short-term, medium-term, long-term	Inconsistent code quality and frequent security vulnerabilities may compromise system stability, eroding user trust. High-quality products can enhance customer trust, increase market share, and provide competitive advantages.	highly significant;
Information Security and Privacy Protection	Short-term, medium-term, long-term	Data breaches, cyber attacks, and evolving compliance requirements may expose the Company to compliance risks or reputational damage. Robust internal information security measures can bolster customer confidence.	Negative Impact: highly significant; Positive Impact: highly significant
R&D Innovation	Short-term, medium-term, long-term	Significant R&D investments carry inherent failure risks, while rapid technological advancements may lead to swift product and service obsolescence. Emerging technologies such as AI and cloud computing drive business growth, complemented by policy support accelerating the commercialization of technological achievements.	Negative Impact: moderately significant; Positive Impact: highly significant
Human Capital Development	Short-term, medium-term, long-term	Inadequate employee training and development may result in strategic and organizational change risks, as well as increased employee turnover. A comprehensive employee learning and talent development system will strongly support the achievement of strategic goals, enhance brand value and market competitiveness, and generate potential business opportunities.	Negative Impact: moderately significant; Positive Impact: highly significant
Business Ethics and Anti- corruption	Short-term, medium-term, long-term	Instances of commercial bribery and corruption can incur significant economic costs, legal repercussions, operational risks, and reputational damage. Robust anti-bribery and anti-corruption measures help establish sound internal management systems, optimize processes, and improve operational efficiency and transparency.	Negative Impact: significant; Positive Impact: moderately significant
Customer Relationship Management	Short-term, medium-term, long-term	Standardized services may fall short of meeting personalized needs, potentially leading to decreased customer satisfaction. Tailored services can precisely align with customer business models, fostering increased user loyalty.	Negative Impact: significant; Positive Impact: moderately significant
Climate Change Mitigation	Medium-term, long-term	Growing demand for climate-friendly products and services may expose the Company to operational risks such as downward pressure on product prices, increased raw material costs, and potential misalignment with market demands. Development and innovation of climate-friendly products and technologies, catering to customers with environmental protection and energy-saving needs, can unlock new growth opportunities.	Impact: significant; Positive

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#### Koal's Green Products **Special** Topic

## And Solutions

Intelligent Algorithms Enhance Energy Efficiency

As a leading provider of information security services, Koal focuses on leveraging digital technology to enable a green economy. The Company consistently pursues the development of eco-friendly digital technologies, striving to integrate environmental protection requirements throughout the entire product lifecycle. For new product development, Koal has adopted a strategy of "enhancing hardware performance through software optimization," offering more efficient and environmentally friendly solutions to customers while reducing energy consumption and carbon emissions.

# ENERGY EFFICIENCY

- Hardware platforms comprehensively implement instruction set optimization and performance scheduling algorithms, supporting dynamic adjustment of hardware system parameters to achieve optimal performance and energy efficiency ratios.
- Through intelligent algorithm optimization, energy efficiency on the Hygon CPU platform has improved by approximately 15%.

#### Virtualization Technology Reduces Energy Consumption



• Implementing lightweight virtualization for products such as cloud server cryptographic machines and cryptographic service platform appliances allows more virtual services to run on the same hardware. This increases hardware utilization, reduces the need for physical devices, and lowers overall energy consumption.

#### Code Structure Optimization Decreases Energy Usage



 Comprehensive code structure optimization, including the introduction of CPU affinity binding technology in core libraries, precisely allocates processor resources and optimizes memory management mechanisms. This significantly reduces processor load and memory usage, further lowering overall device energy consumption.







#### New Product Energy Consumption Optimization



#### CPU Cryptographic Module - Achieving Improved Computational Efficiency per Unit Case of Power Consumption

Traditional discrete "CPU + cryptographic card" security solutions face dual challenges in energy consumption and environmental protection. Koal has achieved a significant improvement in cryptographic computation efficiency per unit of power consumption by integrating the cryptographic module into the CPU chip, combined with micro-architecture level energy efficiency optimization design. Taking the SM2 algorithm as an example, under the same power conditions, the CPU cryptographic module provides higher SM2 signature performance while avoiding energy efficiency degradation caused by

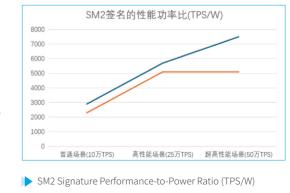
multiple card paralleling in ultra-high performance demand scenarios. By eliminating independent cryptographic card hardware, PCB board material consumption is reduced, simultaneously lowering energy loss and electronic waste generation from both chip-level optimization and systemlevel streamlining. This contributes to the construction of a comprehensive green computing system, from chip-level energy saving to system-level environmental protection.

#### **Real-time Monitoring and Continuous Improvement**

• Deploying monitoring systems on hardware platforms to track real-time system utilization of cryptographic and computational components provides data support for performance optimization of various system modules, ensuring continuous reduction in overall device energy consumption.

• After software optimization, new products achieve an average energy savings of 20% to 30%, effectively reducing electricity consumption.

• The new generation of high-performance digital signature and verification server products, leveraging intelligent algorithms and other optimization measures, achieves a performance increase of about 200% in the Hygon CPU hardware environment compared to the previous generation. This significantly improves hardware utilization efficiency and reduces energy consumption and carbon emissions.



# Forging a Digital Shield

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## **Innovation as a Driving Force**

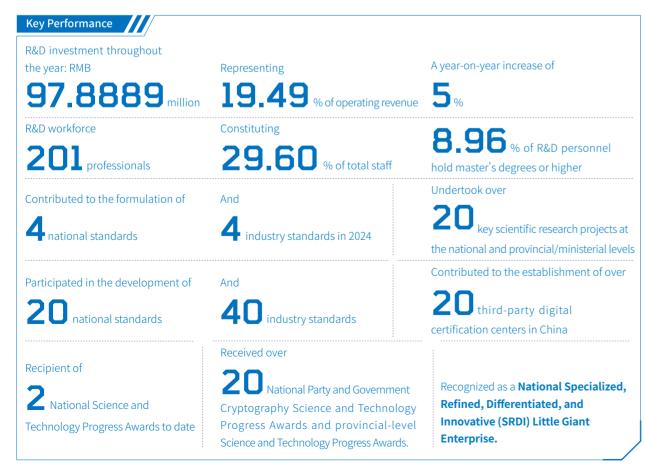
#### Governance

Koal, upholding its mission to "defend digital sovereignty and safeguard the digital world," has consistently advanced its Integrated Product Development (IPD) system and refined its R&D processes. In May 2024, the Company achieved CMMI Level 5 certification, marking a significant leap in its R&D management capabilities. The Company persistently enhances its R&D management framework, expands its portfolio of innovative security product lines, and positions innovation as the core driver of new growth.

During the reporting period, the Company refined its R&D management structure by integrating the former Technology Center and Product Business Center. All product and R&D personnel were consolidated into product line departments, and the Product and Technology Committee was established to oversee unified management. To further strengthen front- and back-end support for R&D, the Company set up four supporting departments: the Product and Ecosystem Management Department, the Infrastructure Department, the Consulting and Strategic Projects Department, and the Innovation and Development Department. These departments work collaboratively to drive the Company's product and technology R&D efforts. This organizational and process optimization enables more effective resource integration and crossdepartmental collaboration, fostering innovative thinking and accelerating the development of cutting-edge technologies and products.

#### Strategy and Approach

Koal embraces a dual-drive strategy focusing on technology and products, maintaining substantial R&D investments in emerging technologies and products while preserving its leading position in scientific research and innovation. The Company actively cultivates a technology innovation ecosystem that is enterprise-centric, market-oriented, and deeply integrates industry, academia, and research. It adopts a multifaceted approach that balances independent R&D, collaborative research, and strategic project acquisition, with a primary focus on developing PKI and cryptographic service platforms. This approach aims to nurture new quality productive forces and establish robust security barriers.



#### **Recruitment and Development of Innovative Talent**

The Company constantly intensifies its efforts to attract high-caliber scientific and technological talent, refining management mechanisms that foster the development of research personnel. It implements sustained incentive plans for core talent and provides a diverse range of online and offline professional skills training for R&D staff. This has culminated in the establishment of a product technology R&D team distinguished by exceptional professional expertise, extensive industry experience, and robust innovative capabilities. During the reporting period, the Company conducted over 10 specialized product technology training sessions, including "HarmonyOS Next Development Sharing," a series of courses on "Post-Quantum Era Cryptography Research," and foundational training in anti-quantum algorithms.

Case

#### Co-building of Scientific and Technological Innovation Platforms

The Company has established six major R&D centers strategically located in Beijing, Shanghai, Xi'an, Chengdu, Nanjing, and Zhengzhou. It has also forged collaborations with multiple domestic research institutions and universities to establish four joint laboratories. These initiatives have resulted in the creation of high-level, open scientific and technological innovation platforms and comprehensive innovation systems, accelerating technological advancement, promoting industrial upgrading, and consistently contributing to industry development.



Four Joint

Laboratories

Shaanxi Normal University: The Cryptography Application Research Key Laboratory was jointly established. Collaborating with the Xi'an R&D center and local universities, it focuses on in-depth cooperative research in new cryptographic algorithms, participation in national standard formulation, and research and design of industry cryptographic application solutions. Jiangsu University of Science and Technology: The Network Security Technology Laboratory was jointly established. Collaborating with the Nanjing R&D center and local Jiangsu universities, it emphasizes application innovation and conducts in-depth cooperation in the field of cybersecurity. Jinan University: The Network Security Joint Laboratory was co-established in Guangzhou to conduct cutting-edge research on distributed identity and autonomous identity technologies.

#### IPD Integrated Product Development and DFX Training

In 2024, the Company conducted comprehensive training on IPD (Integrated Product Development) and DFX (Design for X). The training primarily focused on strategies to promote DFX work and establish DFX baseline models. DFX, where X represents any stage in the product lifecycle such as manufacturing, testing, or service, requires various functional systems to advance product development activities in parallel with the R&D system. It emphasizes incorporating requirements from different stages and domains as early as the product requirement analysis and design phases. This training initiative further enhanced the collaborative development efficiency and quality across relevant departments within the Company, bolstering product competitiveness and R&D capabilities.

#### **Positioning and Functions**

Six R&D centers have been established based on two key considerations: addressing the talent needs of production lines and aligning with the distribution of educational and research resources.

Shanghai Jiao Tong University: The Cyberspace Security Key Laboratory was jointly established, leveraging local academic resources in Shanghai to carry out comprehensive collaboration in the field of

#### Establishment of Donghua-Koal Industry-Education Integration Base with Donghua University Case

On November 5, 2024, Koal and the School of Computer Science and Technology at Donghua University held a university-enterprise cooperation signing ceremony at the headquarters of the G60 Commercial Cryptography Industrial Base. The Donghua-Koal Industry-Education Integration Base was officially inaugurated. Additionally, several key management personnel from Koal were appointed as off-campus mentors for fulltime professional graduate students at Donghua University, providing project practice guidance and collaboratively cultivating high-quality talent in computer science and technology.

KO AL 格尔安信&东华大学 产教融合校企合作签约仪式

#### Advancing New Quality Productive Forces

The Company actively responds to the national initiative for developing new quality productive forces by promoting the application of R&D innovation outcomes. It focuses on next-generation PKI, leveraging its cryptographic service platform as a flagship product to support new industry expansion. Leveraging its Common Building Blocks (CBB) — a cryptographic library and infrastructure platform — the Company supports four US standards and three Chinese national standards for post-quantum algorithms, with core cryptographic products fully equipped with post-quantum capabilities. During the reporting period, the Company achieved the following innovative milestones:



SVS digital signature and verification server

and successfully productized post-quantum cryptographic technologies. A comprehensive range of post-quantum products was unveiled at the 10th China (Shanghai) International Technology Fair (CSITF) in 2024.

cryptographic technology with Huawei's HarmonyOS NEXT operating system, promoting digital and intelligent transformation.

Actively participated in the drafting of several key industry research outputs, including the Post-Quantum Cryptography Application Research Report, the Cryptographic Service Maturity Model, and the Web 3.0 Digital Identity Cryptography Research Report. Recognized as an Outstanding Contributing Unit for the Year by the China Academy of Information and Communications Technology.

Spearheaded the drafting of the Implementation Guidelines for Cryptographic Application and Security Assessment of Government Affairs Cloud in the Government Affairs Domain and the Implementation Guidelines for Cryptographic Application and Security Assessment of Government Service Platforms in the Government Affairs Domain, both of which were officially released by the Cryptography Evaluation Joint Committee of the Chinese Association for Cryptologic Research.

Achieved a significant milestone as Koal's Security Authentication Gateway with Post-Quantum Cryptography (PQC) Capabilities became the first to pass the post-quantum cryptography verification test by the China Academy of Information and Communications Technology. Won the Golden Intelligence Award in China's Network Security and Information Industry for the Koal's Gateway for Video Integrity Protection.

#### Special Topic

#### Post-Quantum Cryptography Technology

As a pioneer in cryptographic applications, Koal has established a comprehensive ecosystem in post-quantum cryptography, encompassing technology R&D, product innovation, and collaborative partnerships. The Company has forged alliances with universities to establish post-quantum cryptography laboratories, KOAL格尔 driving the formulation of national standards and industrial implementation. It has developed a robust post-quantum cryptographic product portfolio, with its security authentication gateway successfully passing the POC application system upgrade verification test conducted by the China Academy of Information and Communications Technology.

#### In the area of technology R&D

The Company integrates Quantum Random Number Generation (QRNG), Quantum Key Distribution (QKD), and other quantum cryptography technologies with post-quantum cryptographic algorithms. This integration forms the foundation for fully integrated quantum network security and data security solutions. Through unified key management services, it achieves seamless compatibility between quantum and post-quantum keys, providing a robust security barrier against quantum computing attacks for business systems.

The Company leverages academic resources to develop cutting-edge awareness tools, enabling closedloop management throughout the and effectively addressing gaps in the product line. It has successfully upgraded mainstream products with post-quantum cryptographic capabilities and introduced China's first series of fully quantum-secure PKI/CA, key management systems, developed post-quantum cryptographic cards and related algorithmic products, establishing a comprehensive post-quantum cryptographic service capability.

cryptographic detection and situational lifecycle of cryptographic applications products, including quantum-secure cryptographic machines, and VPNs. The Company has also independently





#### In the area of product development

#### In the area of ecosystem collaboration

Koal has taken the lead in establishing the G60 Quantum Cryptography Application Innovation Center, partnering with industry leaders to promote technology integration and ecosystem development. In the financial sector, it has spearheaded research on post-quantum cryptography innovation in the securities industry, setting a benchmark for the field. The Company has instituted regular technical exchange forums, convening university experts for seminars on cutting-edge topics such as post-quantum cryptography and privacy computing. Through standards adaptation, technology integration, and cross-domain cooperation, the Company consistently reinforces its technological leadership in postquantum cryptography, delivering forward-looking, fully quantum-secure solutions across various industries.

#### Case Launch of the New Generation KOAL-SVS Digital Signature and Verification Server

The digital signature and verification server is a sophisticated cryptographic device that provides digital signature and verification services based on PKI infrastructure. It employs advanced digital signature and certificate technologies to ensure non-repudiation and integrity protection for data, forming the cornerstone of trust for data collection, storage, transmission, and sharing. Koal's new generation digital signature and verification server boasts enhanced security, superior performance, and user-friendly operations. It comprehensively addresses both server-side and client-side digital signature and verification security, accommodating multi-language and multi-platform application integration needs while supporting centralized

management of multiple digital signature and verification servers. Furthermore, this cutting-edge product supports an expanded range of algorithms, including SM2, RSA, SM9, international ECC (13 types), and post-quantum cryptography, delivering a 200% performance improvement over its predecessor. It offers tailored signature capabilities for diverse scenarios, providing robust solutions for government affairs, finance, healthcare, and other sectors. With streamlined business logic and intuitive interaction, it significantly enhances usability, enabling users to effortlessly manage complex tasks.



#### Case Empowering the Low-Altitude Economy and Building the "City in the Sky"

Koal is at the forefront of developing a comprehensive security system for the low-altitude economy, leveraging cryptographic technology as its core driver for new quality productive forces. As a founding member of the China Low-Altitude Economy International Cooperation Alliance, the Company focuses on three key directions to build a secure ecosystem:



Establishing a trust service system for low-altitude aircraft by deploying identity-aware devices and signal monitoring systems. This system, enhanced by AI, dynamically identifies cooperative and non-cooperative aircraft, precisely preventing and controlling illegal gatherings and other anomalous behaviors, while providing crucial data support for cross-departmental governance.



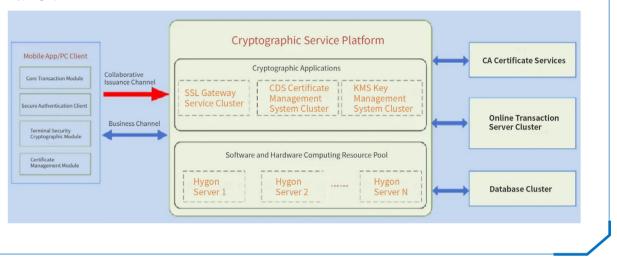
Constructing an advanced cloudedge collaborative security system that implements robust communication protection through cryptographic chips at the edge, while building a centralized cryptographic service platform in the cloud. This platform offers comprehensive services such as digital signatures and data encryption. Additionally, zero-trust technology is integrated to fortify network security protection.



Developing a sophisticated data asset management system that utilizes cutting-edge cryptographic technology for precise entry and monitoring of low-altitude geospatial data. This system forms a comprehensive asset library and establishes network security baseline management capabilities, creating a trustworthy and controllable digital foundation for the high-quality development of the low-altitude economy.

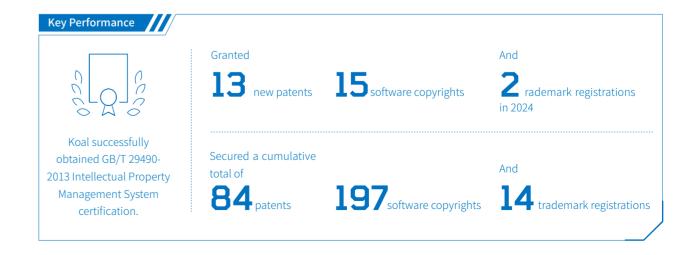
## Case Application Practice Based on CPU-Integrated Cryptographic Modules Showcased at the OpenAnolis Security Conference

Koal, in strategic collaboration with Hygon Information Technology Co., Ltd., participated in the Private Session for the OpenAnolis Conference 2024. At this event, Koal unveiled its innovative application solution based on CPU cryptographic coprocessor modules. The Company proactively explores technological applications and solutions for integrating cryptographic coprocessor modules within CPU chips. Their commercial cryptographic application, built on the Hygon platform, features an advanced cryptographic coprocessor module designed to implement public key cryptography (SM2), hash function (SM3), symmetric cryptography (SM4), and random number generation. As of the end of the reporting period, Koal's entire product line has been successfully equipped with the capability to integrate CPU cryptographic modules.



#### Intellectual Property Protection

Koal maintains strict adherence to key legislation, including the Patent Law of the *People's Republic of China, the Trademark Law of the People's Republic of China,* and the *Copyright Law of the People's Republic of China.* The Company has implemented comprehensive policies such as the *Intellectual Property Management Manual* and the *Company Patent Work System*. A dedicated patent work management team has been established to enhance the identification and control of intellectual property infringement risks and safeguard intangible assets. While rigorously protecting its own intellectual property, the Company ensures scrupulous respect for the trademarks, patents, copyrights, and other intellectual property rights of external entities. During the reporting period, the Company conducted Contract and Compliance Training, which incorporated essential intellectual property content, significantly enhancing employees' understanding of intellectual property protection. A total of 152 trainee attendances were recorded for the specialized intellectual property training, with a cumulative training duration of 4 hours.



#### Impact, Risk, and Opportunity Management

To effectively address various risks including technology development, market competition, intellectual property, and policy and regulatory challenges. Koal has established a Product and Technology Committee. This committee strengthens the evaluation and approval processes for technology and product development projects. Additionally, four supporting departments have been created to enhance front- and back-end support. Through cross-departmental collaboration in R&D, marketing, procurement, and quality control, the Company ensures that risk management activities are integrated throughout the entire product and technology development lifecycle. Throughout the lifecycle of R&D projects, the Company closely monitors market trends, technological advancements, and policy developments. It consistently conducts risk identification, assessment, and monitoring, promptly adjusting risk management strategies based on changes in internal and external environments. The Company has implemented risk warning mechanisms and reporting systems to ensure that all R&D activities remain within manageable risk parameters.

Analysis of R&D Risks	Response Strategies
Technology development and integration risks Market competition risks Policy and regulatory risks Intellectual property risks	<ul> <li>Actively participate in domestic and international anti-quantum cryptography standard-setting, dynamically adjusting research directions to align with mainstream standards.</li> <li>Develop a comprehensive innovation system covering technology development, productization, and ecosystem collaboration.</li> <li>Conduct regular customer surveys to optimize product functionality and adaptability; implement modular design to swiftly respond to evolving market demands.</li> <li>Monitor data security regulation dynamics, performing regular compliance reviews to ensure products meet the latest policy requirements.</li> <li>Conduct patent infringement risk analysis on the technical content of R&amp;D projects, and incorporate specific intellectual property legal risk review nodes in the contract approval process to identify and mitigate IP risks.</li> </ul>

#### Indicators and Targets

Indicator/Target	2024 Target Achievement Status
Management Level: Implement product manager responsibility system to restructure product and R&D practices. Establish 4 new supporting departments. Merge testing and production to enhance production efficiency. Implement performance evaluation mechanism for R&D personnel.	Target achieved
Product Level: Focus on next-generation PKI development. Launch new version of SVS. Utilize cryptographic service platform as flagship product to support new industry expansion. Deepen user data business to establish foundation for data security product line.	Target achieved
Support Level: Improve development efficiency across product lines by establishing Common Building Blocks (CBB), a cryptographic library and infrastructure platform. Implement company-wide security testing environment. Develop consulting expert teams for key industries.	Target achieved



#### Governance

Koal prioritizes customer needs, integrating these requirements into product technology development, quality control, and sales processes. The Company has established a collaborative response mechanism among product technology, quality, and sales departments. This ensures rigorous quality and risk management throughout the product lifecycle, guaranteeing high-quality products while ensuring customer needs are swiftly addressed and clearly implemented across all business chain links. This approach delivers superior products that satisfy customers and significantly enhances market competitiveness.

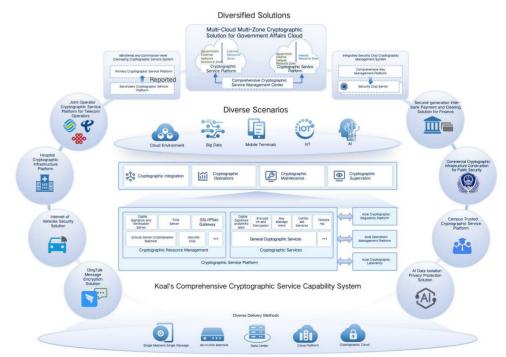
#### Strategy and Approach

The Company adheres to the strategic policy of "constantly meeting customer and relevant legal and regulatory requirements through secure and reliable product functions and consistently improving service quality." It maintains the principle of "balancing product innovation with reliability and security; coordinating technology, progress, and quality." Koal consistently enhances its quality management system, strictly adheres to quality standards, and provides customers with satisfactory products and exceptional services. Concurrently, the Company actively pursues a "going global" strategy, focusing on expansion under the Belt and Road Initiative. This involves providing data transaction security services for overseas customers and assisting them in addressing technical challenges and service assurance issues.

#### **Data Security Products and Services**

#### Comprehensive Cryptographic Service Capability System

Koal has developed a comprehensive cryptographic service capability system, centered around the Cryptographic Service Platform. This "1+3" product ecosystem incorporates the Cryptographic Regulatory Platform, Operations Management Platform, and Cryptographic Laboratory. The Cryptographic Service Platform is capable of managing various cryptographic devices heterogeneously and integrating diverse cryptographic services, offering a wide range of sophisticated cryptographic service capabilities for upper-layer applications.



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The Cryptographic Service Platform and its components offer flexibility in tailoring and combination to meet specific requirements. They can be delivered through various means, including single machine single package, all-in-one machine, data center, cloud platform, or cryptographic cloud. These solutions provide comprehensive cryptographic integration, operations, maintenance, and regulatory functions across diverse scenarios such as cloud environments, big data, mobile terminals, IoT, and AI.

#### Single Machine Single Package Delivery

This option offers straightforward and flexible deployment at a low cost, making it ideal for small enterprises and individual users. Its plug-and-play functionality enables rapid deployment and simple maintenance, significantly reducing the IT management burden.

#### All-in-One Machine Delivery

This solution integrates hardware and software in a ready-to-use package, minimizing deployment time. It is particularly suitable for scenarios requiring rapid launch, operating under budget constraints, or involving numerous small-scale business applications.

#### Data Center Delivery

This approach provides robust computing and storage resources, capable of handling large-scale data processing. It ensures high availability and fault tolerance, guaranteeing business continuity while offering ease of expansion and management.

#### Cloud Platform Delivery

By leveraging cloud platform advantages, this method offers flexible resource management and elastic scaling. It optimizes cost and performance while enhancing business agility and security.

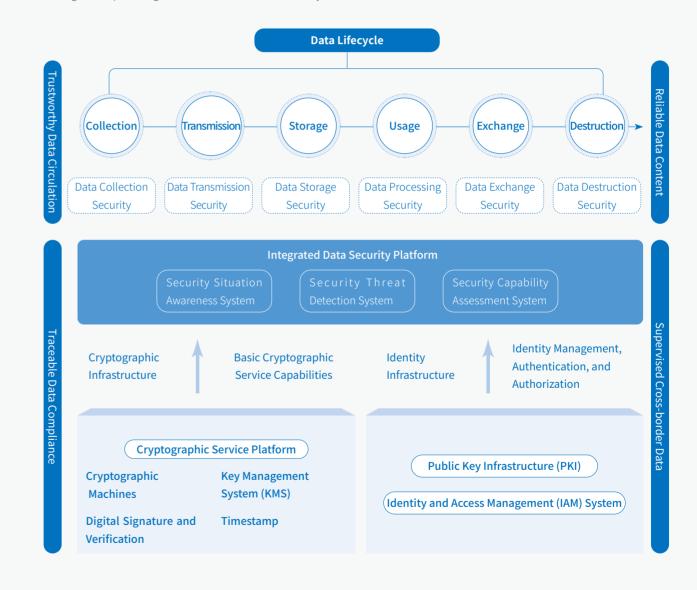
#### Cryptographic Cloud Delivery

This specialized service focuses on encryption, employing advanced technology and stringent access control to ensure the security of data transmission and storage. It simplifies cryptographic management, offering instantly accessible cryptographic services.

#### Data Security Product System

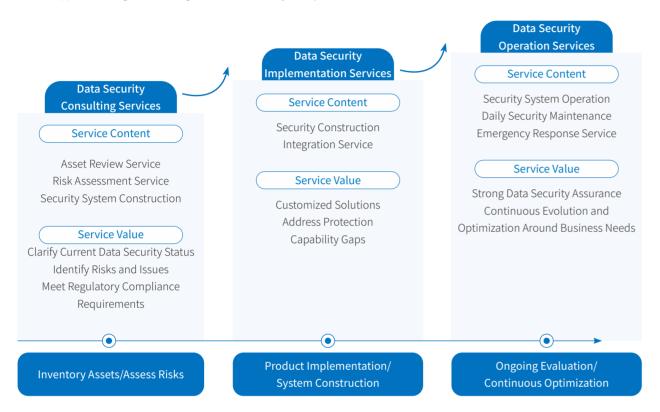
In today's digital landscape, data has emerged as a critical asset for both businesses and society at large. Data security is not only vital for maintaining operational stability and corporate reputation but has also become an essential compliance requirement in an increasingly stringent regulatory environment. Recognizing this, Koal has consistently positioned data security as a cornerstone of its strategic expansion. The Company constantly invests significant resources in the deep cultivation and innovative R&D within the data security domain, striving to deliver exceptional data security products and comprehensive solutions to clients worldwide.

Koal excels in integrating cutting-edge technology with practical client needs, crafting bespoke data security solutions for each customer. To achieve this, the Company has assembled a multidisciplinary R&D team. This team comprises seasoned data security experts, specialized software engineers, and elite AI algorithm researchers. Their focus is on exploring the frontiers of data security technology and driving practical innovation, resulting in breakthroughs across numerous critical technical areas. Consequently, Koal has developed a comprehensive and multi-layered data security product system that encompasses the entire data lifecycle management, providing clients with a robust data security shield.



#### Security Service System

Koal has developed a comprehensive, one-stop data security service capability. The process begins with in-depth consulting, enabling clients to gain thorough insights into their data assets and precisely identify potential risks. The Company then provides security construction integration services and product implementation services to ensure the smooth deployment of data security solutions. In terms of ongoing support, Koal offers a range of data security operations services, including security system operations, daily security maintenance, and emergency response services. Regular professional assessments help enterprises constantly optimize their security measures, ensuring the continuous enhancement of data security protection capabilities. This holistic approach safeguards the digital transformation journey of enterprises.





#### Case CM Financial Technology National Cryptographic Service Platform Construction Project

Koal played a pivotal role in developing the CM Financial Technology National Cryptographic Service Platform. Adhering to the Central Bank's Document No. 140 compliance requirements, they engineered a service platform compatible with multiple vendors' financial cryptographic machines. This platform achieves unified management, centralized monitoring, and standardized cryptographic service API interfaces. The solution implements a distributed cascading architecture (one master, multiple slaves model), incorporating collaborative signature services. It supports mobile key splitting technology and can issue digital certificates for hundreds of millions of users. The platform seamlessly integrates with existing systems such as 4A and Firefly, minimizing application modification costs through unified key interface encapsulation. Furthermore, it enhances cryptographic service situation awareness and analysis capabilities. Key components include a cryptographic service platform, key management system, cryptographic machine adaptation module, collaborative signature gateway, and mobile cryptographic module. These elements collectively meet the compliance and operational efficiency requirements of the financial sector.

#### Case Shanghai Municipal Bureau of Finance Treasury Budget Integration Innovation Project

In 2023, Koal began its involvement in the Shanghai Municipal Bureau of Finance's Treasury Budget Integration Innovation Project. This initiative aims to modernize electronic management of centralized treasury payments across municipal, district, and town levels while adapting to innovative technologies. The project leverages domestically produced innovative products as its operating platform, incorporating Koal's electronic seal and digital signature security devices to safeguard electronic vouchers and data integrity. By centrally deploying electronic voucher security support components and electronic seals, and utilizing government networks alongside dedicated treasury networks, the project establishes secure connections between financial departments, agent banks, and sub-treasuries. The implementation of digital certificate-based electronic signatures and seal technology significantly enhances the efficiency of district-level financial payments and bolsters voucher security management.

#### **Product Quality and Safety**

Building upon on the ISO 9001 Quality Management System and CMMI 5 Capability Maturity Model Integration certification, Koal has formulated institutional documents such as the *R&D Project Quality Assessment Measures (Draft)* and *Quality Management Manual*. Focusing on customer needs, key areas, and core processes, the Company has established a comprehensive quality management system that spans the entire product lifecycle to deliver high-quality products and services. Annual internal audits and management reviews of the quality management system are conducted as scheduled, refining existing processes and integrating new requirements into business operations. During the reporting period, Koal maintained an impeccable record with no major quality or safety-related incidents concerning its products and services.

#### Key Performance

Achieved ISO 9001 Quality Management System Certification Obtained ISO 20000 Information Technology Service Management System Certification

000 Secu blogy Info ent Secur ion Level 2

#### Full Lifecycle Quality Management

During the reporting period, the Company undertook a comprehensive upgrade of its quality management system, drawing inspiration from the CMMI 5 model. This initiative aimed to bolster the implementation of quality management practices, enhance product quality, and improve R&D and testing efficiency. The result was the establishment of a robust quality management system that spans the entire product lifecycle, encompassing requirements, design, coding, testing, production, delivery, and maintenance phases. As part of this effort, the Company developed the R&D Project Quality Assessment Measures (Draft). This document serves as a supplement to the existing quality management system, redefining activity requirements for each stage of R&D projects. It also introduces corresponding assessment and incentive measures designed to foster greater employee initiative in quality-related tasks. Furthermore, the Company has raised the bar for high-level requirement documentation and review processes, thereby strengthening the qualification rate of high-level requirements and enhancing overall review effectiveness.

Secured CCRC Information Security Service Level 2 Certification

Attained CMMI 5 Capability Maturity Model Integration Certification Acquired ISO 27001 Information Security Management System Certification



- Product requirements must adhere to principles of reasonableness, stability, and accuracy, aligning with CMMI model and template writing standards throughout the product lifecycle.
- For system testing-related projects, the involvement of testing personnel in requirement reviews is mandatory to ensure testability.



- Design processes must prioritize efficiency and maintainability, following CMMI templates for outline design.
   A/B class projects necessitate
- separate outline design documentation, which is subject to a "formal inspection" review.
- All code must comply with established standards, with a particular emphasis on security design. Unit tests are mandatory, with test cases and results meticulously recorded.
- These unit tests should comprehensively cover key elements such as test objects, inputs, and outcomes.

#### Production

- The production process is governed by a set of guiding documents, including the *Product Assembly Production Guidelines, Product Inspection Specifications, Product Factory Inspection Form, and Product Protection Operating Instructions.* Adherence to these documents ensures the manufacture and delivery of qualified products.
- Integration testing is conducted following functional acceptance, with A/B class projects requiring independent test cases and defect lists. Configuration managers are tasked with verifying delivery item compliance.

Testing

- In system testing, test cases must provide full coverage of requirements, and test reports are subject to review. QA personnel are responsible for checking the completeness of test documentation.
- The Company places significant emphasis on integration testing execution requirements to verify module functionality, interface integrity, data transmission accuracy, and compliance with system design specifications. This approach facilitates more efficient problem detection and localization.



- Upon product arrival at the user site, a structured process of display, installation, adaptation, and debugging is carried out in accordance with guiding documents such as the *Product Delivery Process* and *Implementation Plan*. User satisfaction data is collected as part of this process.
- Regular product maintenance is conducted following management control documents, including the *Monitoring* and *Measuring Equipment Control Procedures and Equipment Maintenance Regulations.*

#### Product Testing and Recall

The Company has established comprehensive institutional documents, including the *Test Operation Guidelines* and *Quality and Safety Requirements for Company Products and Software Deliverables.* These documents provide clear stipulations on various aspects of software testing, including test classification, objectives, design, steps, pass criteria, and primary evaluation methods. The testing regime requires different objects to be evaluated at various stages of the software lifecycle. Notably, all company products must meet internal security testing "Level 1" requirements before they can be cleared for delivery. During the reporting period, the Company successfully shipped 2,512 hardware products. Each of these products underwent rigorous inspection in accordance with the checkpoints defined in the *Product Inspection Specifications* prior to shipment.

The Company has implemented a *Non-conforming Product Control Procedure* to guide the identification and control of non-conforming products at various stages of the product lifecycle. In cases where non-conforming products are discovered after delivery to customers or after use has commenced, the Company conducts a thorough verification of the specific circumstances. Based on this assessment, a determination is made regarding whether to notify customers for a potential recall, thereby preventing the unintended use or further delivery of non-conforming products. During the reporting period, the Company did not experience any product recall events.

#### **Quality Culture Development**

Koal actively fosters a quality-centric culture. The Company regularly conducts quality training sessions for employees to enhance overall quality awareness and improve management efficiency and product quality. During the reporting period, four comprehensive quality training sessions were held, covering crucial topics such as project management processes, institutional document dissemination, advanced requirement writing and review techniques, and sharing of best practices.

#### Supply Chain Quality Control

Koal places significant emphasis on supply chain quality control. The Company establishes clear quality standards by signing the *Supplier Product Quality Assurance Agreement* with its suppliers. This agreement delineates specific requirements regarding quality responsibilities, issue resolution processes, and problem-handling procedures, ensuring consistent quality throughout the entire supply chain. Additionally, Koal regularly organizes quality-related training and exchange programs with suppliers. These initiatives enable suppliers to gain a deeper understanding of the Company's quality requirements, thereby promoting overall quality improvement across the entire supply chain ecosystem.

#### Key Performance

Achieved **100** coverage of product quality training for R&D personnel. Accumulated a total of **629.83** hours of
product quality training.

#### Customer Relationship Management

Koal prioritizes customer needs and interests, constantly enhancing its service system to improve the precision and professionalism of customer service, thereby elevating overall service quality and customer satisfaction.

#### **Customer Service Management**

The Company consistently refines its internal customer service management systems, clearly delineating pre-sales, mid-sales, and after-sales service processes. This comprehensive approach manages all aspects of customer service, encompassing after-sales service requests and handling, hardware warranty services, software defect resolution, product inspection services, customer complaint management, and system upgrades. The objective is to deliver high-quality, efficient, and flexible services with customer satisfaction as the primary focus.



 "Integration Testing Execution Requirements and Best Practices Sharing" themed quality training session

**685** attendances in product quality training sessions.

Recorded

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Pre-Sales
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- Market research and customer development: Identify target customers through industry analysis, competitive research, and customer profiling.
- Requirements analysis and communication: Engage in thorough discussions with customers to clarify pain points, budget constraints, and timeline requirements.
- Solution design: Develop tailored solutions based on specific requirements.

• Project implementation: Execute product production or service preparation according to standard

Mid-Sales

- procedures, monitoring progress, overseeing quality, and maintaining timely communication throughout implementation.
- Logistics and delivery: Coordinate transportation, provide on-site support for installation, debugging, and user training to enhance the customer experience.

- After-Sales
- Customer follow-up and feedback collection: Conduct regular followups (via phone, email, or on-site visits) to assess product usage and service experience. Identify areas for improvement through satisfaction surveys and complaint analysis.
- Technical support and problem resolution: Offer free maintenance and remote technical guidance within the contract period, establish rapid response mechanisms (e.g., 24/7 availability), and maintain constant readiness.
- Customer relationship maintenance: Conduct regular customer visits to bolster satisfaction.

The Company annually undertakes key improvement projects to optimize customer service and enhance service capabilities. During the reporting period, Koal focused on improving customer service capabilities through three main initiatives: strengthening knowledge base construction, refining key customer engagement models, and enhancing ERP system process operations.



Delivery and maintenance personnel input their problem-solving methods and experiences into the knowledge base in real-time. Professional staff regularly curate the knowledge base, identifying effective information and segmenting it for use by maintenance personnel and customers before publication. The Company is undergoing system upgrades, with plans to implement AI technology for intelligent, generative Q&A to assist maintenance staff and customers, aiming to provide enhanced service.

#### **Refining key customer** engagement models

To ensure premium, continuous service experience for key customers, the Company has adopted a onestop, dedicated engagement model. A triad of sales manager, technical manager, and project manager provides ongoing service to key customers, with each specialist offering tailored service solutions based on specific customer situations and needs, ensuring prompt response and resolution of customer requirements.

#### Enhancing ERP system process operations

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The Company has comprehensively reviewed and restructured existing business processes within the ERP system, eliminating unnecessary steps and streamlining procedures to ensure efficiency and rationality in each process. By integrating different business modules, automated data flow is achieved, reducing manual intervention and error rates, significantly shortening response times, and markedly improving customer service satisfaction. Through enhanced ERP system process operations, the Company has achieved dual improvements in communication and management efficiency.

The Company emphasizes the development of professional skills and business acumen within its sales team, regularly conducting training to enhance customer service capabilities. These sessions cover key aspects including market analysis, customer needs identification, and after-sales service, aiming to cultivate a high-quality, efficient customer service team. During the reporting period, the Company conducted 35 customer service training sessions.

#### Listening to Customer Concerns

Koal prioritizes customer concerns and feedback, implementing robust institutional documents such as the Koal Customer Service Hotline Handling Process and Customer Service Hotline Handling Guidelines to establish a standardized customer communication process. This system ensures swift response to and resolution of customer issues, enhances the investigation, handling, tracking, and supervision of customer complaints, and conducts thorough post-mortem analyses of customer feedback for continuous improvement. These measures guarantee timely responses to customer needs and consistently elevate customer satisfaction.

- Utilize multiple channels for receiving Customer service personnel customer complaints, including customer service hotlines, emails, and customer service platforms.
- Upon receipt of a complaint, customer service personnel meticulously document all details, including the complainant's basic information, specific issues raised. and time of complaint.

or relevant department heads conduct an initial assessment to determine departments.

**Complaint Reception** 

#### Summary and Improvement . < .

• Summarize the complaint handling process, analyzing root causes and identifying areas for improvement in the handling process.

The Company regularly conducts customer satisfaction surveys. Following onsite customer service, technical support personnel collect customer-completed satisfaction survey forms and personally deliver them to the department manager. The survey encompasses satisfaction with both the current service and the product. After collecting this information, the Company thoroughly analyzes the survey results, promptly adopting targeted improvement measures to consistently optimize products and services and enhance overall customer satisfaction.

- whether immediate resolution is required or if the complaint should be escalated to other
- Allocate complaints to appropriate departments or teams based on their category and severity.

#### **Preliminary Analysis**

#### Follow-up and Feedback

• After implementing the solution, conduct follow-up assessments to gauge customer satisfaction with the resolution.

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#### Investigation and Resolution

Assignment

- Responsible personnel conduct a thorough investigation of the complaint, including understanding the specific circumstances and gathering relevant evidence and materials.
- Communicate the proposed solution to the customer, soliciting their feedback to ensure satisfaction.



#### **Responsible Marketing**

Koal adheres strictly to relevant laws, regulations, and industry norms in its operational regions. In compliance with regulatory requirements, the Company has implemented a rigorous review process and established a responsible marketing material review and supervision mechanism. This ensures that all marketing materials undergo approval by authorized management personnel before release. Products and materials provided to customers are accompanied by certification from authoritative institutions. All customer case studies publicly display traceable customer names and contact information, ensuring authenticity through stringent verification processes. The products provided to customers, in conjunction with other customer products, form comprehensive information systems that can only be activated for use after certification by authoritative departments following system deployment. Furthermore, the Company regularly conducts responsible marketing training for all employees involved in marketing activities, providing guidance and mandating adherence to approved messaging during external communications. This prevents the dissemination of inaccurate, exaggerated, outdated, ambiguous, or undisclosed information. During the reporting period, the Company maintained a clean record with no significant marketing-related violations.

# Total duration of responsible marketing training 3,248.17 hours 1,802





#### Impact, Risk, and Opportunity Management

Koal has implemented a multifaceted risk prevention and control system that encompasses data security product services, quality management, and customer response. Through systematic risk control, the Company ensures the robust security support capability of its cryptographic technology in critical sectors such as government affairs, finance, and national defense, thereby providing a reliable data security foundation for the development of Digital China.

Analysis of Customer Privacy Protection Risks	Response Strategies
<ul> <li>Core cryptographic technology vulnerability risks</li> <li>Product compatibility and adaptability risks</li> <li>Quality control risks</li> <li>After-sales support capability risks</li> </ul>	<ul> <li>Enhance investment in anti-quantum cryptography and national cryptographic algorithm upgrades, while actively participating in the formulation of industry standards (e.g., cryptographic module security testing standards) to maintain technological leadership.</li> <li>Offer pre-deployment testing services on the customer side to proactively identify and resolve adaptation issues.</li> <li>Reinforce product quality control throughout the entire lifecycle, constantly improving product quality and enhancing R&amp;D and testing efficiency.</li> <li>Establish industry-specific service teams to provide dedicated technical support for key customers.</li> <li>Develop a remote operation and maintenance platform, leveraging AI technology for predictive fault detection and rapid response.</li> </ul>

#### **Indicators and Targets**

Indicator/Target	
Average defect density of submitted product test versions < 20/KLOC	<b>Ta</b> Ac
Training plan implementation rate ≥ 95%	<b>Ta</b> Act
Procurement material inspection pass rate $\geq$ 95%	<b>Ta</b> Act
Product production process error detection rate < 10%	<b>Ta</b> Act
Test software reconfirmation rate $\geq$ 90%	<b>Ta</b> Act
Customer service satisfaction rate $\geq$ 95%	<b>Ta</b> Act

#### 2024 Target Achievement Status

arget achieved ctual average defect density: 16.96/KLOC

arget achieved ctual implementation rate: 100%

arget achieved ctual pass rate: 100%

arget achieved ctual error detection rate: 2.05%

arget achieved ctual reconfirmation rate: 100%

arget achieved ctual satisfaction rate: 98.2%



## **Protecting Data Security**

As a pioneer and leader in China's information security digital trust sector, Koal consistently enhances its internal information security management system while providing robust security protection for customers. The Company has established comprehensive confidentiality protocols for both employees and the organization, ensuring data security for the Company and its clients. Koal has developed PKI infrastructure and created an all-encompassing information security, data security, and IoT security service framework.

The Company has fully integrated its business systems, email platforms, cloud storage, and other digital assets, implementing gateway IDaaS single sign-on control. Leveraging its distinctive identity management technology and cryptographic applications, Koal comprehensively manages online business and information flows across sales, procurement, production, customer management, financial management, and human resource functions. This enables secure remote access control in the cloud, establishes a comprehensive information security assurance system, and raises employees' information security awareness, fostering a safe and reliable information environment.

#### Governance

Koal strictly adheres to relevant laws and regulations, including the *Cybersecurity Law of the People's Republic of China*, the *Data Security Law of the People's Republic of China*, the *Personal Information Protection Law of the People's Republic of China*, the *State Security Law of the People's Republic of China*, and the *Measures for the Administration of Data Security in the Industry and Information Technology Sector (Trial Implementation)*. The Company has formulated internal policies and management norms, such as the *Information Security Management System Manual, Network and Information Security Management System*, and *Confidentiality Work Assessment and Reward and Punishment System*. These measures contribute to a comprehensive information security management framework and establish an automated early warning mechanism for information security incidents, safeguarding the Company's information infrastructure, application systems, products, and customer data.

Koal has established a Confidentiality Work Leading Group, integrating information security and confidentiality practices into the business processes of all departments. The group is led by Director Fan Feng, who bears overall responsibility for the Company's information security and confidentiality efforts. Deputy leader Zhong Jian coordinates and promotes information security and confidentiality initiatives. Under the Confidentiality Work Leading Group, the Confidentiality Office manages daily confidentiality operations, while the General Office oversees network and information security decision-making. Other departments are responsible for implementing information security and confidentiality measures within their respective domains, ensuring a standardized, orderly, and efficient approach to the Company's information security management.

### The Management Bodies

The

Execution Bodies

#### Confidentiality Work Leading Group

The group leader bears overall responsibility for the Company's information security and confidentiality efforts

Oversee the implementation of information security and confidentiality work responsibility systems, and address critical issues in these areas.

Review and approve information security and confidentiality management systems.

Allocate human, financial, and material resources to support information security and confidentiality initiatives.

#### **Confidentiality Office**

#### **General Office and Information Group**

Responsible for the daily organization and management of confidentiality work.

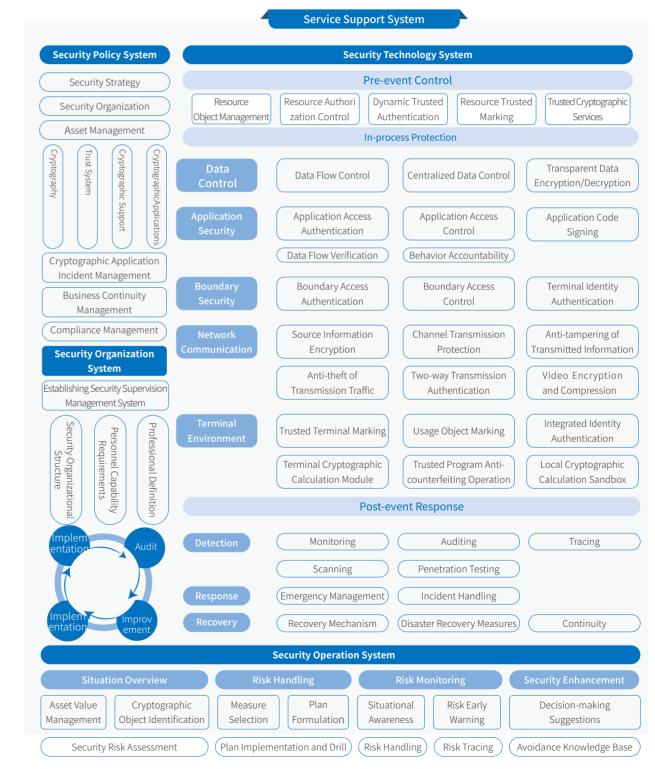
Oversee decision-making and implementation of network and information security measures.

#### Other Functional Departments

Tasked with promoting and executing information security and confidentiality practices within their respective areas of operation.

#### Strategy and Approach

Koal adheres to the principle of "security first, prevention as a priority." Drawing upon mainstream domestic and international regulatory requirements, general information security management system standards, and industry best practices, the Company has established a comprehensive information security and confidentiality management system. It constantly enhances its security management framework for critical information infrastructure, implementing robust information security measures across policies, organization, personnel, infrastructure, and operations. Concurrently, the Company employs cutting-edge technological solutions to safeguard the integrity and availability of internal data, thus ensuring comprehensive protection of the Company's information assets.



#### Information Security Management

#### **Network Security Management**

- The establishment of private networks by any department is strictly prohibited. Network activation is conducted solely by the Office Department following a comprehensive feasibility study.
- Any unauthorized modification of company IP addresses or connection methods by departments or individuals is strictly forbidden. Access to internal network systems by external personnel is rigorously controlled.

#### **File Storage Encryption**

- Storage of critical company documents on the C drive (including desktop) is prohibited. Such files must be regularly backed up and stored in designated department folders on the company file server, with each department overseeing review and security management.
- Upon an employee's departure, the department head is responsible for transferring all work-related materials to the appropriate department folder
- Encryption is mandatory for files containing sensitive information. Electronic versions of company certificates, official letters, and other critical documents must include explanatory watermarks or purpose annotations. Individuals responsible for improper handling or usage resulting in information leaks or losses will be held fully accountable.

#### **Equipment Security Management**

- The Company provides computer equipment for internal use. Employees are required to refrain from unauthorized exchange or disassembly of equipment and must maintain a clean, safe, and optimal working environment for all computer equipment.
- Employees must strictly adhere to safety protocols and proper usage guidelines for computer equipment, including startup and shutdown procedures, and are held responsible for the security of the computers and related equipment under their use.

#### Information Confidentiality Management

- Company sensitive information is managed under the principle of "strict management, tight prevention, ensuring security, facilitating work," with complete and secure handover procedures enforced at every stage
- Information transmission must be carried out by designated personnel in accordance with established protocols. Transmission through ordinary postal or courier services is strictly prohibited.
- Prior to leaving their position or the Company, employees are required to return all classified materials. Further exit procedures can only be initiated after confirmation of complete return.
- The destruction of classified materials must be supervised by at least two individuals and processed at designated secure locations.

#### Information Security Certification and Audit

The Company actively pursues the development and implementation of robust information security management systems and qualification certifications. As of the end of the reporting period, the Company has successfully obtained ISO 27001 Information Security Management System certification and two confidentiality qualifications.

In compliance with the *Measures for the Administration of Integrated Qualifications for Classified Information Systems* and *Confidentiality Standards for Integrated Qualifications for Classified Information Systems*, the Company conducts regular and adhoc information security and confidentiality inspections through self-examination and in cooperation with regulatory checks. A comprehensive audit of all information security and confidentiality matters is completed bi-annually. Additionally, the Company undergoes aperiodic external inspections of information security by third parties, including government agencies. During the reporting period, the Company conducted two internal information security audits.

## Case Special Information Security Review by the Network Security Corps of Shanghai Public Security Bureau

In September 2024, Koal underwent a specialized information security inspection conducted by the Network Security Corps of Shanghai Public Security Bureau. The inspection focused on two critical areas: network security and supply chain integrity. It involved an in-depth analysis of the Company's network architecture, data protection systems, and information exchange processes across various supply chain stages to precisely identify potential vulnerabilities. In response to issues identified in network security and supply chain aspects, the Company established a dedicated remediation team. This team rigorously adhered to the requirements outlined in the remediation report issued by the Network Security Corps to develop comprehensive improvement plans. Key personnel were actively assigned to attend meetings at the Network Security Office to stay abreast of the latest requirements, ensuring precise and effective remediation efforts to foster a secure, stable, and efficient operational environment.

Furthermore, the Company regularly conducts confidentiality supervision and inspections focusing on sensitive information and personnel. Bi-monthly self-inspections are mandated for personnel handling classified information, reinforcing the importance of adhering to confidentiality requirements, conducting work in accordance with established protocols, and avoiding disciplinary or legal violations. Monthly self-inspections are scheduled for departments dealing with confidential business. Department leaders implement and inspect confidentiality measures tailored to their specific business characteristics. Quarterly inspections are conducted on department leaders' implementation of confidentiality responsibilities, semi-annual checks on the confidentiality responsibility implementation of leaders overseeing confidentiality, and annual reviews of the General Manager's confidentiality responsibility implementation. All supervision and inspection results are meticulously documented in confidentiality inspection work records.

#### Information Security Enhancement Technologies and Plans

In 2024, the Company undertook a comprehensive upgrade of its internal security protection systems, significantly elevating overall network security levels to safeguard corporate information assets. To further bolster internal information security protection capabilities, the Company has formulated a strategic information security enhancement plan for the upcoming year. This plan includes: i) further optimization of existing security strategies to address increasingly sophisticated and covert attack methods; ii) regular review and update of security policies to maintain their effectiveness; iii) exploration of AI-based security tools, such as automated threat detection and response systems, to enhance the intelligence level of security protection; and iv) leveraging machine learning and big data analysis technologies to improve the accuracy and response speed of threat detection.

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#### Enhancing Monitoring and Traceability

- Deploy XDR systems and increase honeypot nodes: Implement comprehensive monitoring of internal business systems and office computers through XDR system deployment for rapid intrusion detection. XDR systems provide holistic security event detection and response capabilities, swiftly identifying potential threats through automated analysis and correlation.
- Strengthen behavior auditing: Enable transparent terminal IP functionality for internal wireless networks and remote access VPNs. Integrate access logs of critical business systems and DMZ demonstration systems into a centralized log audit system. Continuous monitoring and analysis of terminal behavior enable real-time detection and alerts for anomalous activities.

#### **Reducing Attack Surface**

- Minimize external network mapping ports: Systematically close long-unused temporary ports and implement stringent source IP and validity period restrictions for newly opened temporary ports. Regularly review and update port mapping policies to ensure only necessary ports are exposed externally.
- Phase out legacy systems: Eliminate obsolete network devices like OpenVPN and WireGuard that are no longer maintained, and uniformly migrate to 7-series security authentication gateways and IPSec VPN gateways to enhance overall system security and stability.

#### Strengthening Internal Network Isolation

- Delineate network access security zones: Strategically relocate relevant network security access devices to designated security zones and apply more stringent network policies.
- Restrict high-risk port usage: Prohibit the use of commonly vulnerable and virus-prone ports such as 139, 445, 3389, etc.
- Enhance basic protection of internal systems: Strengthen SSH configurations across systems, avoid using default ports, and disable unnecessary services (e.g., tcpforward). Implement robust IP whitelist mechanisms for core systems to strictly control access permissions and mitigate the risk of lateral movement.

#### **Optimizing Rapid Response**

• Deploy WAF systems: Protect OA portals, remote access, and other critical systems from common Web attacks such as SQL injection and cross-site scripting (XSS), ensuring comprehensive Web application security.

#### **Development of Information Security Culture**

The Company enhances employees' information security awareness and fosters a robust corporate information security culture through various channels, including educational campaigns, training sessions, reports, and knowledge competitions. Furthermore, the Company integrates confidentiality education into its comprehensive training plan, disseminating crucial confidentiality knowledge and analyzing current confidentiality work situations during these sessions. This helps employees heighten their awareness, clarify their responsibilities, and strengthen their commitment to confidentiality. The Company regularly conducts confidentiality examinations to evaluate training effectiveness, enabling employees to gauge their understanding of confidentiality-related knowledge and incorporate confidentiality practices into their daily work routines. During the reporting period, the Company conducted four information security and confidentiality training sessions.



For new employees, the Company provides comprehensive confidentiality awareness training, requiring them to pass a confidentiality entry exam before commencing employment. New hires are also obligated to sign confidentiality agreements, which explicitly prohibit the disclosure of any information related to company business and clients. Business personnel are strictly forbidden from disclosing customer information, work notes, reports, quotations, invoices, and labor contracts. Developers and implementation staff are prohibited from revealing source code, system design documents, database structures, and data. During the reporting period, the Company organized a company-wide specialized confidentiality training program themed "Strengthening Confidentiality Awareness, Building a Solid Security Defense Line." The final assessment following the training yielded an impressive average score of 97 points across all employees, significantly enhancing the confidentiality awareness and information security protection capabilities of the entire workforce.

#### **Data Privacy Protection Awareness**

Employees are educated on the purpose of regular training, which is to enhance their understanding of data privacy protection and the critical importance of safeguarding information security. They are encouraged to internalize and implement the concept of protecting customer data privacy and security while providing services.

#### Project Information Confidentiality Awareness

Employees are thoroughly educated on the sensitivity of all project-related information (including project contracts, proposals, data, working papers, and reports) and that access is restricted to employees with appropriate credentials and permissions. For classified projects, employees are made acutely aware of the crucial role of the Confidentiality Office and the importance of implementing stringent confidentiality requirements throughout the entire project lifecycle.

#### Authentication and Access Management Awareness

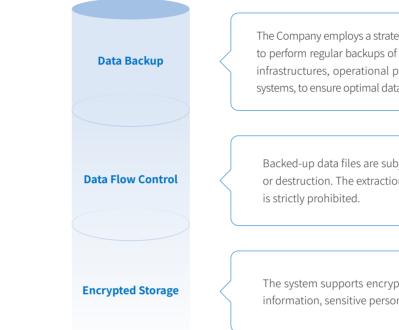
Employees are instructed that their digital certificates are vital symbols of identity and must be diligently safeguarded to prevent unauthorized access. They are made to understand that system permissions for different positions are preset, and they should only access information and resources within their authorized scope.

#### Proactive Knowledge Maintenance and Updates

Through regular and comprehensive training, employees are kept abreast of the latest security policies and best practices. They are also taught how to effectively apply this knowledge to enhance work efficiency while maintaining security.

#### **Privacy and Data Security**

Koal adheres to the principle of "minimal data collection," systematically storing customer information in a robust ERP system. This approach is integrated with the Company's internal information security management system, ensuring both data integrity and confidentiality. The system incorporates role-based access controls, applies data masking techniques to critical customer information, and utilizes cryptographic products certified for commercial confidentiality detection to provide multi-layered protection.





The Company employs a strategic combination of full and incremental backup methodologies to perform regular backups of data across all critical systems. This includes internal network infrastructures, operational platforms, portal websites, corporate email servers, and ERP systems, to ensure optimal data recovery capabilities in the event of system failures.

Backed-up data files are subject to stringent safeguards to prevent unauthorized copying or destruction. The extraction of databases from the system without proper authorization

The system supports encrypted storage for sensitive data fields, encompassing personal information, sensitive personal information, and enterprise-critical data.

#### **Product Lifecycle Security Management**

The Company integrates rigorous information security requirements throughout the entire product development and design process. This establishes a comprehensive information security management system that spans the full product lifecycle, creating a robust protective framework for all company offerings.

Security Requirements

#### Security Design

- Identify sensitive data using a security red line checklist and determine appropriate protection levels.
- Define compliance requirements, including Level 2 Protection standards and industry-specific regulations.
- Transform security requirements into technical solutions based on established security red lines.
- Conduct peer reviews to ensure comprehensive coverage of all security requirements.

#### Security Development

- Enhance security training programs to elevate employees' security awareness and technical proficiency.
- Implement a routine code auditing system incorporating security self-inspection, static tool scanning, and manual code review.
- Execute effective open-source software governance, i.e., full lifecycle control + deployment package vulnerability + license scanning, to ensure product safety and regulatory compliance.
- Initiate the application of AI-assisted security development techniques, such as intelligent coding assistants, to address potential security issues.

#### **Security Testing**



- Refine the security testing framework, augmenting security test case design and multi-language security code examples to ensure increasingly rigorous and effective testing processes.
- Employ a hybrid approach combining automated tool scanning with manual penetration testing to ensure products meet security red line requirements.
- Integrate penetration testing into the release process for key projects, enhancing pre-launch security assurance.
- Implement pre-release host checks to ensure all-inone machines are optimally configured and hardened according to security guidelines.

#### Harden products and operational environments based on security hardening guidelines.

Security Deployment and Operations

- Strengthen vulnerability management for live network components through daily updates on the latest opensource component vulnerabilities, proactively reducing potential security risks.
- Establish robust vulnerability alert and handling processes, track product vulnerability risks, and implement a tiered emergency response system based on vulnerability risk levels.

Impact,	Risk, and	Opportunity	<sup>v</sup> Managemen
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Koal consistently refines its information security and confidentiality risk management mechanisms. The Company has implemented the Information Security Risk Management Procedure and Confidentiality Management System, establishing robust protocols for ongoing information security risk control. This approach ensures early detection and prompt handling of potential risks.



#### **Information Security Risk Prevention Measures**

to quantify risk values.

authentication, and requiring periodic password changes.

comprehensive risk

inventory.

- Conduct regular system scans for updates and promptly install new patches to address identified vulnerabilities.
- Restrict software installation to official or trusted sources only, minimizing malware risks.
- Enhance network perimeter protection through advanced firewall software or hardware to monitor intrusions and restrict unauthorized access effectively. Implement dual-factor authentication and access control lists to ensure network access is limited to authorized users only. Utilize secure protocols (e.g., HTTPS) to encrypt sensitive data transmission, preventing man-in-the-middle attacks and data theft.
- recovery in case of damage. Deploy offline backup devices for critical data.

The Company adheres to the principle of "prevention-focused, enhanced monitoring; people-oriented, collaborative defense; standardized operations, constant vigilance." A robust mechanism for preventing and responding to information security and confidentiality incidents has been established. Koal has formulated detailed institutional process documents, including the Information Leakage Incident Emergency Response Plan, which standardizes emergency response processes and measures for various security incidents. This significantly enhances the Company's ability to respond effectively to emergencies. To bolster its information security defense capabilities, the Company conducts regular emergency drills and attack-defense exercises as part of its routine operations. During the reporting period, Koal conducted one comprehensive information security and attack-defense emergency drill.

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the entire risk assessment process for future reference.

confidentiality risk assessment management to enhance overall confidentiality management standards and proactively manage potential risks.

Enforce robust password security protocols, including mandating strong passwords, implementing two-factor

• Establish regular data backup and emergency recovery plans, storing backup data offline in secure locations to ensure

#### Information Security Incident Emergency Response Process and Measures

Incident Discovery and Initial Response Anomaly Detection: Monitor servers for anomalies such as potential hacker attacks or unusual processes. Conduct preliminary assessments to determine if an intrusion or information leakage has occurred.

**Emergency Plan Activation:** Upon confirmation of an intrusion or leakage, immediately initiate the emergency response plan.

Business Impact Evaluation: Assess whether affected servers are critical to business operations. If operations remain unaffected, promptly take servers offline. In cases where business operations are impacted, escalate to supervising leadership and implement network isolation protocols, including disconnecting external network access.

Investigation and Leak Confirmation Log and File Examination: Inspect database operation logs, server processes, network logs, and suspicious files to confirm the extent of information leakage. Upon discovery, promptly report findings to leadership and assemble a dedicated emergency response team.

**Critical Evidence Preservation:** Back up all logs, malicious files, and attack traces. In severe cases, escalate the matter to appropriate law enforcement authorities.

Leak Source Identification: Conduct analysis of leaked data to pinpoint the source, including attack vectors and vulnerabilities. Address and rectify identified security weaknesses.

Emergency Handling and System Recovery Threat Elimination: Remove viruses, trojans, and attack files. Implement security measures on compromised servers. Conduct thorough checks on all connected systems to prevent pivot attacks or secondary leaks.

System Fortification: Update all vulnerability patches, implement encryption for core data, rectify high-risk systems, and establish security baselines.

**Recovery and Enhanced Monitoring:** Restore network connections after confirming system security. Implement heightened monitoring protocols, with particular emphasis on database access logs.

Post-Incident Management and Compliance Reporting **Incident Documentation and Archiving:** Compile detailed incident reports, documenting leaked content, potential harm, mitigation measures implemented, and responsible personnel involved.

**Compliance Reporting:** Ensure responsible departments submit written reports to the Company's Confidentiality Office and leadership group within 24 hours of leak discovery. The Company must provide written notification to the Shanghai Secrecy Administration Bureau within 24 hours and submit investigation results within 3 months.

**Internal Leak Handling:** For unintentional leaks, follow established virus handling procedures for equipment and intensify employee training programs. In cases of intentional leaks, restrict involved employees' account privileges, collect log evidence, and, in severe cases, refer the matter to relevant national authorities for further action.

**Continuous Improvement:** Regularly conduct emergency plan drills, and critically assess and revise operational procedures as needed. Implement encryption storage and leak prevention measures for all critical data.

#### Indicators and Targets

Koal establishes its information security objectives and strategies based on its information security policy. To ensure business continuity and maintain secure, stable operations, the Company translates information security requirements into actionable and measurable objectives across various organizational levels. The achievement of these objectives is directly tied to performance incentives for the Company's management team.

#### Indicator/Target

Controlled information leaks: No more than 3 incidents/year

Confidential information leaks: Zero incidents/year

Loss of critical information equipment: Zero incidents/year

Information security/IT service training coverage throughout the year: 100%

Cumulative large-scale internal network (60% coverage) downtime: Less than 120 minutes/year

Large-scale virus outbreaks (60% of computers infected): No more than 1 incident/year

Major service/information security incidents: Zero incidents/ year

System and equipment availability: Maintained at 99% or higher

Confidentiality breach incidents: Zero occurrences



2024 Target Achievement Status
Target achieved No controlled information leak incidents occurred.
Target achieved No confidential information leak incidents occurred.
Target achieved No incidents of critical information equipment loss occurred.
<b>Target achieved</b> All personnel received information security/IT service training.
<b>Target achieved</b> No large-scale internal network (60% coverage) downtime exceeding 120 minutes occurred.
<b>Target achieved</b> No large-scale virus outbreaks (60% of computers infected) occurred.
<b>Target achieved</b> No major service or information security incidents occurred.
<b>Target achieved</b> System and equipment availability remained above 99%.
Target achieved No confidentiality breach incidents occurred.



Koal consistently enhances its supply chain management system by developing and strictly adhering to policies such as the *Qualified Supplier System* and *Procurement Management Process*. These policies govern the entire lifecycle of supplier relationships, from admission to evaluation and exit, while fostering robust long-term communication mechanisms with suppliers. This effectively mitigates potential risks in the supply chain and promotes sustainability.

#### Supplier Lifecycle Management



Suppliers are classified into three priority levels (A, B, C) and three categories based on material importance. The selection and evaluation of project suppliers is a collaborative effort involving procurement personnel, project managers, and financial managers, with procurement personnel taking the lead. The team assesses suppliers based on the Company's Preferred Supplier List and TORDC Evaluation Criteria, considering five key dimensions: technology and technical services, quality, responsiveness, delivery performance, and material cost.

Supplier Audit With reference to the TORDC Evaluation Criteria, the Company conducts annual supplier performance evaluations based on suppliers' comprehensive performance throughout the year. The results are documented in the Supplier Annual Performance Assessment Form and the Supplier Evaluation Record Form. A Preferred Supplier Evaluation Form is also completed to provide a thorough assessment of supplier performance.

Tiered and Categorized Management Based on the annual supplier performance assessment forms, the Company implements a detailed tiered and categorized management approach for suppliers. This is done in strict accordance with the scoring standards outlined in the Qualified Supplier Evaluation System. The assessment comprehensively considers suppliers' performance across various aspects, including quality, delivery, and service.

Supplier Exit The Company implements a comprehensive supplier evaluation process based on clearly defined scoring criteria. This assessment incorporates data from the annual supplier performance evaluation reports. For suppliers who do not meet specified standards, we initiate a replacement procedure to ensure the continued stability of our supply chain and maintains the high quality of our products and services.

#### Key Performance

64

Total number of suppliers

Total number of domestic suppliers







#### Enhancing Supply Chain Resilience

The Company has implemented the Supply Chain Continuity As chain risk management.



#### Develop a comprehensive supply chain risk management plan

Conduct thorough risk assessments for critical suppliers and evaluate potential risks associated with natural disasters or political instability. Establish a robust risk management plan and an effective emergency response system for supply chain disruptions.



Conduct monthly inventories of raw materials in warehouses, promptly updating records after each count. Perform daily checks of inventory quantities against established safety stock levels, with immediate notification to relevant procurement personnel if quantities fall below or exceed specified thresholds. Upon receiving low or high stock alerts from warehouse managers, swiftly liaise with suppliers based on actual production requirements. Maintain a minimum 1.5-month safety stock for items with extended procurement cycles or limited production capacity.

#### ESG Management in the Supply Chain

Koal integrates sustainability requirements into supplier collaborations, guiding partners to consistently improve their sustainability performance through procurement contracts, tender requirements, and other formal documents, thereby strengthening supplier ESG management. We incorporate ESG criteria such as environmental considerations, business ethics, product quality, and compliant employment practices into supplier evaluation indicators. Suppliers are required to sign documents including the *Integrity Agreement, Partner Integrity and Honesty Commitment Letter, and Supplier Product Quality Assurance Agreement* to standardize supplier ESG management practices.

#### The Company has implemented the Supply Chain Continuity Assurance Measures, employing various strategies to bolster supply



Document high-frequency disruption points and issues within the supply chain. Assess suppliers' organizational scale, monitor supplier material quality data, and regularly review response rates to quality issues.



#### Implement an emergency mechanism for supply chain disruption risks

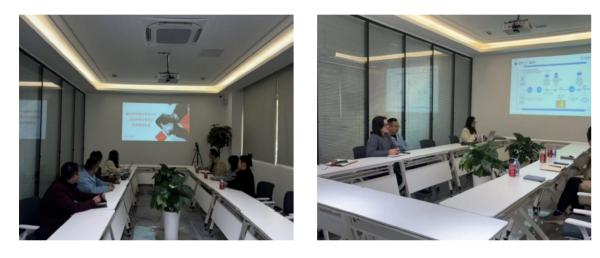
Regularly monitor the qualification status and any negative information regarding key information system technology service providers. If monitoring reveals adverse information that could impact a service provider's operations, relevant system managers should promptly report and assess the situation, preparing appropriate contingency measures. Incorporate comprehensive contingency plans for sudden supplier issues into the Company's emergency management framework to enhance overall supply chain resilience.

#### **Empowering Suppliers**

The Company places significant emphasis on supplier capacity building and supports suppliers in improving product quality through targeted training and assistance, with the aim of jointly building a mutually beneficial supply chain system. During the reporting period, Koal conducted two comprehensive training sessions for suppliers.

#### Case Supply Chain ESG Training and Exchange

In 2024, Koal organized two supply chain ESG training sessions for suppliers. These sessions systematically shared ESG management practices, covering crucial topics such as supply chain environmental responsibility, anti-corruption norms, and business ethics standards, enhancing collaboration in environmental protection, social responsibility, and governance capabilities. During on-site visits, the Company conducted thorough examinations of suppliers' green factory initiatives. Through productive exchanges on green manufacturing technological innovations and environmental management experiences, the initiative provided bilateral empowerment for optimizing green supply chain development.



**Industry Ecosystem Development** 

Koal is acutely aware of its responsibility and obligation to promote industry development. While focusing on its core business, the Company actively contributes to building the industry ecosystem through various strategic initiatives, including enterprise cooperation, educational outreach, industry talent cultivation, and active participation in influential industry forums.

#### Industry Collaboration

Koal places a high value on collaborative development within the industry. The Company has forged a strategic partnership with Huawei to build a robust security ecosystem and joined forces with Guotai Junan Securities Co., Ltd. to promote the largescale application of domestic cryptographic technologies, accelerating the process of replacing imported technologies with domestically controlled alternatives. Additionally, the Company leverages its entry into the commercial cryptography industrial park as a strategic opportunity to integrate upstream and downstream resources, fostering a powerful industry cluster effect. Koal is also deeply involved in Shanghai's information technology innovation initiatives, driving the leap from pilot projects to full-scale implementation of domestic technologies across various sectors.

#### Partnering with Huawei to Build a Secure Ecosystem

In November 2024, Koal and Huawei formalized their collaboration in the HarmonyOS ecosystem by signing a HarmonyOS Memorandum of Cooperation at the Enterprise Essential Applications HarmonyOS Forum. As a Huawei Kunpeng native

development partner, Koal will leverage the Kunpeng hardware infrastructure, openEuler systems, and the Kunpeng DevKit development toolkit to focus on constructing robust network security trust systems. The Company will develop native cryptographic applications tailored for key sectors, including government agencies, military and defense industries, and financial institutions. Koal aims to create cutting-edge digital asset security solutions for the Kunpeng architecture while constantly optimizing commercial software performance, thereby contributing to the development of an efficient, stable, and innovative data security ecosystem.

#### Collaborating with Guotai Junan Securities to Promote Domestic Cryptographic Applications Case

At Guotai Junan Securities's 2024 Financial Technology Culture Festival forum, Koal entered into a comprehensive strategic cooperation agreement with Guotai Junan Securities Co., Ltd. Both entities are committed to deepening cooperation in capital and technology domains, harnessing their respective expertise and resources to jointly advance innovative applications and development of commercial cryptographic technology within the securities industry. Moving forward, they will explore novel scenarios and pilot applications of cutting-edge cryptographic technology in the securities sector, collaboratively promoting the implementation and evolution of high-security, domestically controllable products based on national cryptographic systems in critical areas such as finance.

#### Case Joining Industrial Park to Leverage Industry Cluster Effects

In October 2023, Koal's newly acquired headquarters, situated in the G60 Commercial Cryptography Industrial Base A2 in Shanghai's Songjiang District, was completed and became operational. This industrial base represents a science and technology innovation and application demonstration site, implemented by Shanghai to foster the development of the commercial cryptography industry. It aligns with national guidelines on cryptographic application and innovative development, under the framework of the Yangtze River Delta integration strategy. By establishing its Shanghai headquarters in this strategic location, the Company positions itself to benefit from industry cluster effects, facilitating technical exchanges, fostering cooperation, and driving innovation with related enterprises, ultimately enhancing the Company's brand recognition and market influence.





#### Case Promoting Shanghai's Information Technology Innovation Development

Since 2019, Koal has proactively responded to governmental directives by establishing and operating the Shanghai Information Technology Application Innovation Engineering Adaptation Center, supporting Shanghai's Party and government information technology innovation reform initiatives. As the project transitioned into a normalization phase, the adaptation center evolved into the Shanghai Information Technology Application Innovation Comprehensive Service Center in early 2022. While maintaining core services such as innovation adaptation, engineering verification, and promotional training, the center has significantly enhanced its capabilities in after-sales support, talent cultivation, and security early warning systems. It provides comprehensive support for information Office designated the center as the sole authorized adaptation certification institution for Shanghai's medical industry. As of December 2024, the center has processed adaptation applications for 855 products from 171 manufacturers, with 614 products from 131 manufacturers successfully completing adaptation certification and receiving official validation reports.



#### **Educational Outreach**

Koal actively engages in educational outreach initiatives focused on cryptographic security knowledge, enhancing public awareness through innovative online and offline popular science promotions. The Company has developed a professional cryptographic technology exhibition hall, employing interactive and scenario-based methods to educate the public about the practical applications and security concepts of cryptographic technology. Furthermore, the Company has collaborated with industry experts to create *Little Crypto's Adventures in the Four Great Classical Novels*, an engaging and accessible series that interprets complex cryptographic knowledge for a younger audience. This initiative aims to spark interest in cryptographic technology among young people, nurturing potential talent for the industry's long-term development.

#### Case Participating in National Security Education Day Activities

Koal actively engages in educational initiatives promoting cryptographic security. The Company participated in the "Cryptographic Security in Government Agencies" event, a key component of the National Security Education Day, held at the Information Plaza in Henan Province. Organized by various government and industry bodies, the event featured Koal alongside over 20 cryptography companies in a dedicated exhibition area. The companies showcased cutting-edge applications and practical outcomes of commercial cryptography in government affairs, emphasizing the critical role of cryptographic security as a cornerstone of information security. This initiative not only enhanced government officials' understanding and proper usage of cryptographic security but also promoted the widespread adoption and development of commercial cryptographic technology, significantly contributing to the security of government affairs information.



#### Case Company Cryptography Exhibition Hall

Koal has developed a distinctive cryptography exhibition hall, creating an immersive educational platform with diverse zones focused on cryptographic technology applications and industry education. The hall is strategically divided into four primary functional areas. The model solution display area systematically presents real-world implementations of cryptographic technology in government affairs and urban governance through various models, including the General Office of the CPC Central Committee model, the Changning model, and two Shanghai-specific models. The application display area visually demonstrates industry chain collaboration results through ecosystem partner logos, adaptation scenarios (e.g., financial systems, government platforms), and advanced security products (e.g., root certificate issuance systems, key management systems). The innovative business display area highlights cutting-edge technologies and products such as video conferencing equipment and cloud-based solutions. Through scenario-based presentations, ecosystem synergy, and interactive experiences, Koal's cryptography exhibition hall comprehensively promotes understanding and awareness of cryptographic technology among visitors.



#### **Case** Collaborative Authorship of Little Crypto's Adventures in the Four Great Classical Novels

In collaboration with industry experts, Koal has authored *Little Crypto's Adventures in the Four Great Classical Novels.* This innovative work ingeniously uses China's four great classical novels as a backdrop to craft engaging storylines that allow readers to enjoy the narrative while gaining a more intuitive and profound understanding of cutting-edge developments in China's information security field. The book artfully showcases the information security stories behind China's quantum cryptography, resulting in a comprehensive read that seamlessly combines technical knowledge, entertainment value, and educational content.





#### **Industry Talent Cultivation**

Koal places a strong emphasis on cultivating industry talent through systematic training and evaluations, school-enterprise cooperation, and integration of production and education to inject new vitality into the industry. During the reporting period, the Company nurtured a total of 216 information technology innovation talents through comprehensive training and assessments, including 22 internal and 194 external participants. Additionally, the Company co-established an information technology innovation training room with Shanghai Technical Institute of Electronics & Information.

#### Case Co-establishing an Information Technology Innovation Training Room

Koal actively participates in industry talent cultivation. In partnership with the Shanghai Information Technology Application Innovation Comprehensive Service Center and Shanghai Technical Institute of Electronics & Information, the Company has co-established the first-of-its-kind information technology innovation training room in Shanghai's higher vocational colleges. This cutting-edge facility not only serves the college's information technology innovation curriculum and research needs but also provides advanced teacher training for secondary and higher vocational colleges and industry professionals. It offers a dynamic platform for deep integration of industry, academia, research, and practical application. By leveraging the strengths of higher vocational colleges, the information technology innovation industry, and leading manufacturers, the Company, along with other partner enterprises, cultivates application-oriented talents that meet evolving industry needs, significantly contributing to the high-quality development of vocational education.



#### Hosting Student Visits from Shanghai Dianji University Case

Koal hosted an immersive visit for students from Shanghai Dianji University, providing a meaningful hands-on experience for students in the Software Engineering Excellence Program. During the visit, students gained insights into Koal's development

trajectory, corporate achievements, and research directions. They also acquired in-depth knowledge of cryptographic technology principles and their real-world application scenarios. Furthermore, through lectures organized by the Information Technology Innovation Center, the Company inspired students to focus on the development of domestic technologies and actively support China's burgeoning information technology industry through practical engagement, aiming to nurture the next generation of information technology talents.



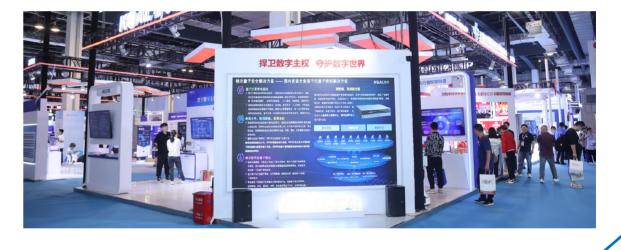
#### **Industry Exchange**

Case

To swiftly gain insights into the latest industry developments, policy changes, and market trends, Koal actively engages in a wide range of industry forums and academic exchanges. The Company has strategically joined multiple industry associations and academic alliances to forge close business connections, expand collaboration opportunities, and contribute significantly to industry development through shared resources. During the reporting period, Koal participated in 37 diverse industry exchange activities. As of the end of the reporting period, the Company had joined a total of three national-level academic societies and industry alliances.

#### Participation in the 10th China (Shanghai) International Technology Fair (CSITF) Case

In June 2024, Koal, as a vanguard in the commercial cryptography industry, showcased its groundbreaking achievements in post-quantum cryptography at the 10th CSITF. The Company unveiled the nation's first comprehensive post-quantum cryptography solution, a milestone in the field. This cutting-edge solution incorporates core products such as quantum-safe VPNs and quantum-safe key management systems, featuring critical functionalities including secure networking and advanced key management. Notably, it has pioneered in successfully passing the rigorous PQC application system upgrade verification test conducted jointly by the CAICT and VIAVI, achieving seamless transition to post-quantum cryptographic algorithms. Furthermore, the Company exhibited innovative applications that synergize cryptographic technology with frontier fields such as AI, blockchain, and privacy computing. Through engaging keynote speeches at the data element sub-forum, interactive cryptography education experiences, and targeted regulatory promotion, the Company significantly raised public awareness of the value of commercial cryptography technology and catalyzed a deeper understanding within the industry.



#### Co-organizing the Information Technology Innovation Application Work Exchange Meeting at the **Global Digital Economy Conference 2024**

In July 2024, Koal, as a pioneer and leader in China's information security and digital trust domain, co-organized the Information Technology Innovation Application Work Exchange Meeting at the Global Digital Economy Conference 2024. This high-profile conference addressed critical issues such as deepening digital cooperation, coordinating aid to Tibet, bridging the digital divide between eastern and western regions, and stimulating digital cultural tourism consumption. The Company's Deputy Chief Engineer, Lang Wenhua, delivered a keynote report titled "New Generation Digital Trust System Architecture and Practice." This presentation systematically elucidated Koal's technological advancements and 名尔软件 practical achievements in the digital trust field, thereby contributing significantly to industry-wide digital transformation efforts and fostering the robust development of the digital economy.



## Efficient and Robust Operations

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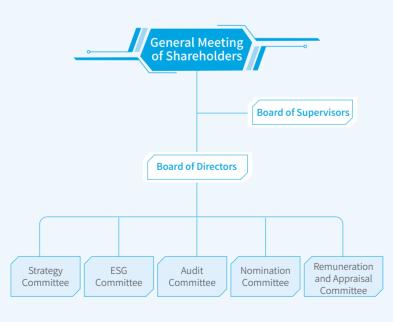
57



#### Corporate Governance System

Koal adheres to a comprehensive set of laws and regulations, including the *Company* Law of the People's Republic of China, the Securities Law of the People's Republic of China, the Code of Corporate Governance for Listed Companies, the Listing Rules of the Shanghai Stock Exchange, and the Guidelines No. 1 of the Shanghai Stock Exchange for Self-regulation of Listed Companies — Standardized Operation. In alignment with its Articles of Association and other normative documents, the Company has established a governance structure that ensures clear responsibilities, independent operations, and effective checks and balances. This structure comprises the General Meeting of Shareholders, the Board of Directors, and the Board of Supervisors. The governance system delineates distinct responsibilities among the power organ, decision-making body, supervisory body, and executive body. This arrangement fosters coordinated operations and mutual oversight, constantly enhancing corporate governance efficiency. The General Meeting of Shareholders, consisting of all shareholders, serves as the highest authority. The Board of Directors oversees strategic decisions and daily operations, while the Board of Supervisors monitors the Board of Directors and management. Through clear division of responsibilities and efficient collaboration, these bodies collectively ensure scientific and standardized corporate governance, safeguarding the interests of both the Company and its shareholders. During the reporting period, Koal further refined its governance mechanisms. The Company introduced new guidelines, including the ESG Committee Implementation Rules and the Public Opinion Management System. Additionally, it revised existing protocols such as the Board of Directors Rules of Procedure and the Independent Director System. These actions aim to enhance the scientific nature, standardization, and transparency of corporate governance.

The nomination and selection process for governance body members, including directors and supervisors, strictly adheres to *the Company Law of the People's Republic of China* and Koal's *Articles of Association*. This approach ensures both fairness and professionalism in appointments. While the Board of Directors' membership remained unchanged during the reporting period, its scope of responsibilities expanded with the establishment of the ESG Committee.



Organization Chart



Board of Directors Appraisal Committee, and the ESG Committee. These committees handle specific Board-authorized matters and provide expert advice for decision-making.
Mr. Zhang Keqin, an independent director, serves as the chair of the Audit Committee. Mr. Ma Lizhuang, also an independent director, serves as the chair of both the Nomination Committee and the Remuneration and Appraisal Committee. Independent directors constitute the majority and serve as chairs in the Audit Committee, the Nomination Committee, and the Remuneration and Appraisal Committee, ensuring professionalism and independence in the decision-making process.

The Board of Directors convened 9 meetings over the year, during which 51 resolutions were reviewed and approved, with a 100 % attendance rate among all Board members.

Over the year, **5** Audit Committee meetings, **1** Nomination Committee meeting, **4** Remuneration and Appraisal Committee meetings, and **1** Strategy Committee meeting were convened, contributing effectively to the advancement of the Company's strategic development goals.

Board of Supervisors

were reviewed and approved.

As the Company's supreme authority, the General Meeting of Shareholders is responsible for reviewing annual budgets and financial reports, electing or replacing directors and supervisors, approving profit distribution plans, and making critical company decisions. It operates in compliance with regulations such as the *Rules for the Shareholders' Meetings of Listed Companies* and Koal's own *Rules of Procedure for General Meeting of Shareholders*. The meetings combine on-site and online voting to ensure the protection of shareholders' rights.

**4** general meetings of shareholders were held during the year, at which **18** resolutions

Accountable to the General Meeting of Shareholders, the Board of Directors' responsibilities include convening general meetings of shareholders, formulating business strategies, preparing budgets and financial reports, proposing profit distribution plans, and structuring internal management. The Board operates through five specialized committees: the Strategy Committee, the Audit Committee, the Nomination Committee, the Remuneration and Appraisal Committee, and the ESG Committee. These committees handle specific Board-authorized matters and provide expert advice for decision-making.

Reporting to the General Meeting of Shareholders, the Board of Supervisors oversees the legality of the Company's financial and operational activities. Its duties include inspecting financial conditions, monitoring the conduct of directors and senior management, attending general meetings of shareholders, and ensuring legal compliance in the performance of duties by financial personnel, directors, and senior management. The Board plays a crucial role in protecting the legal rights and interests of both the Company and its shareholders.

The Board of Supervisors convened **7** meetings over the year, during which **32** resolutions

#### **Board Diversity and Effectiveness**

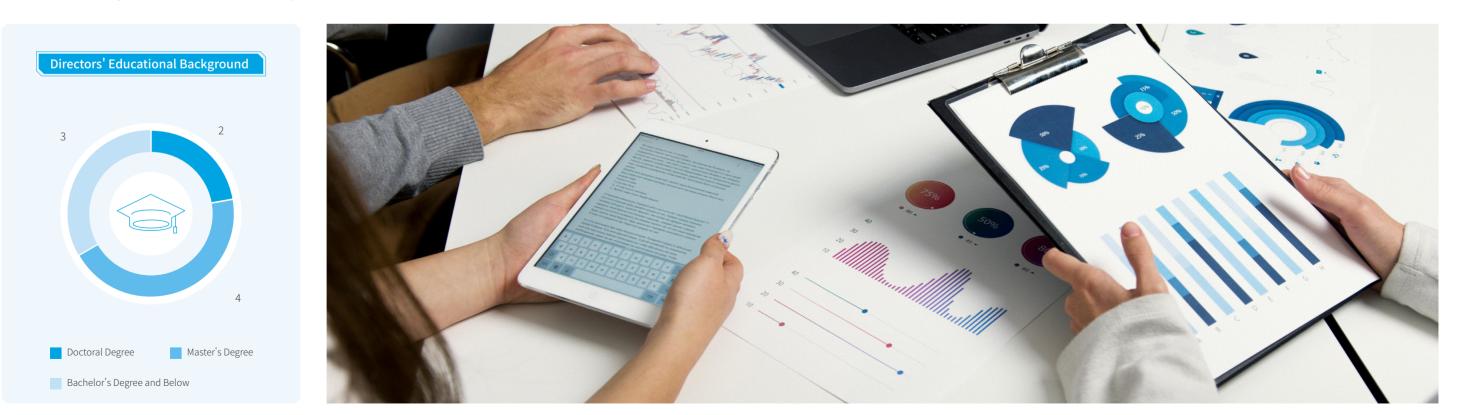
Koal is committed to fostering a diverse Board of Directors. The Company places great emphasis on the backgrounds, skills, and professional expertise of Board members, aiming to integrate various perspectives and experiences to guarantee well-informed and efficacious Board decisions. The Board consists of nine members, comprising six non-independent directors and three independent directors. These Board members bring a wealth of interdisciplinary knowledge and extensive industry experience. spanning multiple fields including information technology, risk management, finance and accounting, law, and finance. This composition reflects a balanced representation of experience, background, and professional capabilities within the Board. The Chair of the Audit Committee possesses a strong professional accounting background, while several directors have extensive practical experience in risk management and prevention. This includes establishing comprehensive risk management systems and handling significant risk events, which effectively supports the Company's efforts in risk identification, assessment, response, and mitigation.

The nomination process for Board members follows a rigorous selection procedure. The Nomination Committee incorporates diversity as a key consideration, thoroughly evaluating candidates' educational backgrounds, industry experience, professional skills, and career histories. This approach aims to maintain a well-balanced board in terms of competencies, skills, experiences, and cultural and educational backgrounds. Moreover, the Company places high importance on the ethical conduct and leadership reputation of potential Board members. Following review and approval, independent director candidates must undergo qualification and independence assessments conducted by the Shanghai Stock Exchange. They are then elected through cumulative voting at the general meetings of shareholders, a process that constantly enhances the Company's governance standards and decision-making capabilities.

Koal actively encourages Board members to participate in professional development training and compliance education to enhance their professional competencies and performance capabilities. During the reporting period, the Company's directors, supervisors, and senior management enthusiastically responded to the China Association for Public Companies' initiative by participating in the "Special Topic on Violations of Laws and Regulations" training. All participants successfully passed the associated test, demonstrating a significant improvement in their regulatory awareness and compliance capabilities, thereby strengthening the foundation for the Company's stable operations.

Throughout the reporting period, all directors of Koal strictly adhered to relevant laws, regulations, and the Company's articles of association, diligently and prudently fulfilling their responsibilities. Independent directors engaged in Board activities through various means, offering independent opinions on significant matters to ensure scientific decision-making. They effectively exercised their supervisory functions, promoting the execution of Board resolutions and ensuring the accuracy of information disclosure, thus safeguarding the legal rights and interests of both the Company and its shareholders. The remuneration scheme for Koal's Board members undergoes annual review by the General Meeting of Shareholders. This review takes into account industry salary levels, regional development conditions, and job responsibilities to determine appropriate compensation.

Name	Туре	Gender	Professional Capabilities			
			Industry Experience	Risk Management	Accounting	Legal
Yang Wenshan	Chairman, Director	Male	~	~		
Lu Haitian	Director	Male		~		
Ye Feng	Director, General Manager	Male	~			
Xu Yongkang	Director	Male	~			
Zhu Litong	Director, Deputy General Manager	Male	~			
Cai Guanhua	Director, Board Secretary	Male	~	~		
Zhang Keqin	Independent Director	Male		~	~	
Xiao Yongji	Independent Director	Male		~	~	~
Ma Lizhuang	Independent Director	Male	~			



#### Investor Relations Management

#### Information Disclosure

Koal rigorously adheres to the Securities Law of the People's Republic of China, the Measures for the Administration of Information Disclosure of Listed Companies, and the Provisions on the Registration and Management System of Insiders Who Have Access to Insider Information of Listed Companies, among other pertinent regulations. The Company has implemented a comprehensive Information Disclosure System to ensure the authenticity, accuracy, and timeliness of disclosures, thereby enhancing transparency and quality. During the reporting period, Koal issued 4 periodic reports and 99 ad hoc announcements, ensuring equitable access to information for all shareholders. The Company's disclosures were free from false records, misleading statements, significant omissions, or other improprieties. Concurrently, Koal vigilantly monitored public sentiment and market trading patterns to safeguard investors' legal interests effectively.

#### **Investor Communication**

Koal is dedicated to fostering a relationship of mutual trust and timely communication with investors. The Company consistently refines its internal Investor Relations Management System and has established diverse communication channels. Through direct phone lines, email correspondence, interactive investor relations platforms, and on-site research opportunities, the Company addresses investor inquiries and engages in substantive dialogues. This approach enables investors to gain comprehensive insights into the Company's business model, development strategies, and financial position, facilitating informed investment decisions. On the investor relations platform, the Company's Securities Department consults with technical managers to ensure responses are both accurate and technically sound. Koal maintains a steadfast policy against concept hype and exaggeration, prioritizing honest and responsible communication to bolster investor trust and satisfaction. In 2024, Koal disseminated 163 announcements and related materials, conducted 3 performance briefings, engaged in 125 offline and 24 online investor exchanges, issued 4 investor record forms, responded to 53 investor inquiries on the sseinfo.com platform, fielded 66 direct phone calls, and addressed 10 email inquiries.

#### **Investor Rights Protection**

Koal acknowledges the critical role of investor relations management in maintaining corporate reputation and investor confidence, diligently monitoring and responding to diverse investor concerns. The Company proactively identifies and mitigates potential risks, standardizes procedures for general meetings of shareholders (convening, holding, deliberating and voting), and ensures investors' rights to information and participation in major corporate decisions. This comprehensive approach effectively safeguards investor interests and reinforces market trust.

Fund Management

Protection of Minority Shareholders' Rights

Guided by the annual Special Audit Report on the Summary of Non-operating Fund Occupation and Other Related Fund Transactions, issued by Shanghai Certified Public Accountants (Special General Partners), and the Company's Special System for Preventing Fund Occupation by Major Shareholders and Related Parties, Koal explicitly prohibits controlling shareholders, actual controllers, and their affiliates from misappropriating company funds, thereby protecting the legal rights of all shareholders and creditors.

Koal upholds the principle of equal treatment for all shareholders. of shareholders either in person or through online voting platforms. For significant issues potentially impacting minority investors, the meeting agendas include dedicated Q&A sessions for small and medium investors to voice their opinions and suggestions. Meeting schedules and locations are strategically chosen to maximize participation, with modern technology utilized to enhance shareholder engagement. When reviewing profit distribution proposals, independent directors and specialized committees diligently provide thorough opinions. Relevant proposals undergo scrutiny by both the Board of Directors and the Board of Supervisors before submission to the General Meeting of Shareholders, ensuring robust protection of minority shareholder interests.

#### **Company Executives Engage in** Case **High-Quality Dialogue with Stock Star**

In November 2024, the Company's Director and Board Secretary took part in a high-quality dialogue hosted by Stock Star. The discussion centered on "Leveraging cryptography as a niche approach to safeguard the broader development of data element security." The executive provided comprehensive insights into Koal's expertise in the cryptography domain, the Company's current business operations, and prospective development opportunities.



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#### **Tax Management**

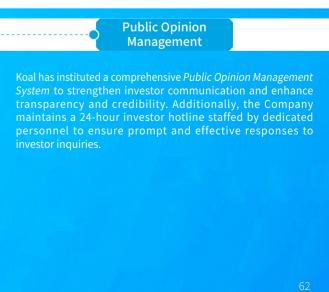
Koal rigorously complies with domestic legislation such as the Enterprise Income Tax Law of the People's Republic of China, as well as international tax regulations. The Company has implemented a comprehensive tax management system to ensure compliant tax reporting and payment, upholding regulatory compliance and efficiency in tax administration. We are committed to refraining from transferring value to low-tax jurisdictions, avoiding tax structures lacking commercial substance, adhering to the arm's length principle for transfer pricing, and eschewing the use of confidential jurisdictions or so-called "tax havens" for tax avoidance purposes. Throughout the reporting period, Koal reported no significant tax violations.

+ 关注

Investor Education

Recognizing the technical complexity of the commercial cryptography industry, Koal proactively engages with institutional investors through strategy meetings, site visits, and investor conferences to enhance understanding of the Company's operations and industry dynamics.





# Risk and Compliance Management

In alignment with the *Basic Standard for Enterprise Internal Control*, the *Guidelines for the Application of Enterprise Internal Control*, and other pertinent regulatory requirements, Koal has formulated its *Internal Control System and Internal Audit System*, customized to its specific operational context. The Company consistently enhances its risk and compliance management framework to guarantee the legality and compliance of its business activities.

#### **Risk Management Structure**

Koal has established well-defined responsibilities and decision-making protocols for risk and compliance management through the collaborative efforts of the Board of Directors, Board of Supervisors, and Management.



Board of Supervisors oversee and evaluate the efficacy of risk and compliance management, ensuring transparency and efficiency in the management mechanism.



Management is tasked with orchestrating daily internal control operations, safeguarding the compliance and efficiency of management activities.



Given the Company's specialized business nature, a dedicated Confidentiality Office has been established to oversee classified projects, qualifications, and personnel throughout their lifecycle, ensuring the security and proper supervision of confidential information.

#### **Risk Identification and Response**

Koal consistently enhances its risk identification and response capabilities, streamlining business management processes. The Company implements a comprehensive approach to risk identification, assessment, response, monitoring, and continuous improvement across its core business segments. Through thorough identification and management of market, operational, financial, legal compliance, and technological risks, the Company ensures resilient development in a complex market landscape. Moreover, the Company integrates Environmental, Social, and Governance (ESG) risks into its comprehensive risk management system, further identifying and addressing potential risks in quality, safety, environmental protection, and anti-corruption, thereby bolstering corporate resilience.

#### **Risk Assessment**

Employ quantitative tools to analyze the probability and impact of risks.

#### **Risk Identification**

Comprehensively identify internal and external risks across all facets of company operations.

#### **Risk Training**

To enhance employee compliance awareness, the Company regularly conducts specialized training sessions encompassing historical compliance risk analysis, case studies, compliance reviews, risk assessment and response techniques, and internal audit oversight. Through these training initiatives, employees have significantly improved their risk management proficiency, further mitigating compliance risks and fostering stable corporate growth.





## **Business Ethics and Anti-Corruption**

#### Governance

Koal is dedicated to cultivating an ethical and transparent business environment. The Company rigorously adheres to pertinent laws and regulations, including the Company Law of the People's Republic of China, the Anti-unfair Competition Law of the People's Republic of China, the Anti-Monopoly Law of the People's Republic of China, the Anti-Money Laundering Law of the People's Republic of China, as well as industry standards. Internal policies such as the Code of Business Ethics, the Anti-bribery and Anti-corruption Policy, and the Whistleblowing and Whistleblower Protection Policy set out detailed requirements for anticorruption and anti-bribery practices across all aspects of the Company's operations. Koal also actively promotes compliance with ethical business conduct and anti-corruption standards among its employees and business partners.

The implementation of business ethics and anti-corruption policies is ensured through the collaborative efforts of the Board of Directors, Board of Supervisors, and Audit Committee. A dedicated supervisory body oversees the execution of these policies, while the Company's Internal Audit Department conducts regular reviews and risk assessments to ensure operational compliance with legal requirements and internal ethical standards.

#### Strategy and Approach

Koal has seamlessly integrated principles of integrity and ethical conduct into its corporate culture and long-term development strategy. These standards extend to the supply chain, safeguarding high-quality development. The Company has institutionalized the cultivation of business ethics and anti-corruption culture through documents like the Code of Ethical Conduct, which clearly defines mandatory business ethics standards for employees. All staff members are required to sign the Employee Ethical Conduct Commitment. Adherence to company values, professional ethics, and behavioral standards serves as a critical criterion for employee performance evaluations, promotions, and personnel decisions. During the reporting period, Koal reported no major litigation cases involving corruption or unfair competition.

#### Supply Chain Integrity Management

The Company has implemented robust centralized procurement management measures and procedural mechanisms. Internally, potential conflicts of interest are scrutinized according to the procurement process system. Externally, business ethics and anticorruption requirements are incorporated into the Company's template contracts for supplier signature. Alternatively, suppliers may be required to separately sign an Integrity Agreement or a Cooperation Partner Integrity Commitment. These documents mandate compliance with national and local laws, regulations, policies, and industry standards, prohibiting any form of corruption, fraud, extortion, or embezzlement. For non-compliant suppliers, the Company reserves the right to take measures including suspension of cooperation or contract termination.

#### Anti-Unfair Competition

Koal strictly adheres to the Anti-unfair Competition Law of the People's Republic of China, the Anti-Monopoly Law of the People's Republic of China, the Several Provisions on Prohibiting Infringements upon Trade Secrets, and relevant fair competition regulations in all operational jurisdictions. The Company pledges to refrain from collecting competitors' trade secrets or confidential information through illegal means and to avoid engaging in activities such as price collusion that could disrupt market order. Koal is committed to resisting all forms of unfair competition and maintaining a level playing field. During the reporting period, the Company reported no violations of anti-unfair competition laws or regulations.

Koal maintains a zero-tolerance policy towards corruption and unethical business practices. The Company has established open, transparent, and diverse reporting channels, encouraging both internal employees and external partners to disclose violations. Reporting methods include the Company's official telephone line, dedicated hotline, mail, or in-person visits. Upon receiving a report, the Company forms a professional investigation team to conduct an independent inquiry in accordance with relevant laws and regulations, collaborating with pertinent departments to ensure efficient information flow. Investigation results are reported directly to senior management, with appropriate accountability measures implemented for substantiated allegations.

The Company is committed to maintaining strict confidentiality regarding whistleblowers' personal information and reported materials. All reports are handled by designated personnel and managed according to stringent confidentiality protocols. It is explicitly prohibited to disclose whistleblower information or report status to the accused or to unrelated personnel. While safeguarding whistleblower confidentiality, the Company also takes severe action against any retaliatory behavior. Verified cases of retaliation are dealt with seriously, and in instances where whistleblowers' rights are severely compromised, the Company promptly reports to judicial authorities and pursues criminal liability in accordance with the law.

#### Impact, Risk, and Opportunity Management

Whistleblowing and Whistleblower Protection

Koal has integrated business ethics and anti-corruption risks into its comprehensive risk management framework. To effectively address business ethics-related risks, the Company conducts regular business ethics risk identification and assessment exercises (for detailed processes, please refer to the "Risk and Compliance Management" section of this report). Koal meticulously analyzes factors that may trigger ethical risks, various potential conflicts of interest, improper benefit transfers, and unfair competition practices. The Company has formulated detailed policies and procedures to ensure all business conduct aligns with ethical standards and legal requirements. To facilitate timely disclosure of potential risks, the Company constantly enhances its monitoring system, incorporating internal audits, compliance checks, and robust whistleblowing mechanisms. The Internal Audit Department systematically reviews the implementation of business ethics-related systems and conducts thorough audits and inspections of business ethics risks across various operational scenarios. Audit results, significant findings, and matters requiring attention are regularly reported directly to the Board's Audit Committee and the Chairman, maintaining independence at organizational, business, and individual levels.

#### Indicators and Targets

#### Indicator/Target

Zero occurrence of major corruption incidents

Ensure comprehensive audit coverage of all business areas every three years

100% effective handling rate of reports

#### **2024 Achievement Status**

Target achieved

Target achieved

Target achieved



Since its establishment in 2001, the Party Branch of Koal Software Co., Ltd. has consistently adhered to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era. The branch closely aligns with the Company's development strategy, dedicating itself to strengthening Party organization and constantly enhancing the cohesion and effectiveness of the Party organization. The Party Branch has maintained a work orientation that integrates Party building with business development, driven by both innovation and service, effectively shouldering the responsibility of serving the enterprise and its development.

Within the Company's governance structure, Communist Party members account for 44.44% of the management team, including directors, supervisors, and senior executives, demonstrating the significant influence of the Party organization at the decision-making level. As of the end of 2024, the Company's Party Branch comprised 82 Communist Party members and 1 probationary member. The composition of the Party membership has been consistently optimized, with steady improvement in overall quality, providing a solid political and organizational foundation for the Company's sustained and stable development. In accordance with Party requirements and the Company's specific circumstances, Koal constantly refines its Party-building regulations, promotes the institutionalization and standardization of Party activities, and strengthens exemplary leadership through the "Internet + Party building" model, transforming the Party's political and organizational advantages into market advantages that drive enterprise development.



Embracing the concept of innovative development, the Company advances both online and offline educational resources. It has developed the "Theory Classroom" learning platform, guiding Party members and cadres to transform theoretical knowledge into a powerful driving force for enterprise development, achieving a synergy between theory and practice. By the end of the reporting period, Koal's "Theory Classroom" had successfully completed its third session, focusing on six core themes: political discipline, organizational discipline, integrity discipline, mass discipline, work discipline, and life discipline. Through carefully designed course content and diverse teaching methods such as specialized lectures, case analyses, and interactive discussions, new vitality has been injected into the Party Branch's learning activities.

The Company has invested in constructing the "Red Cryptography" exhibition hall, utilizing touch screens combined with holographic projection technology to vividly showcase "the Party's leadership over cryptography." This initiative integrates Party culture into business areas such as the Internet of Vehicles and video security, serving as a dedicated platform for promoting Party-building culture.

#### Participation in Party Course Training Case

In December 2024, six Party members from the Company actively participated in a Party course training organized by the Party Committee of Shanghai Dongtan Construction Group. The theme focused on an in-depth study and implementation of General Secretary Xi Jinping's new ideas, viewpoints, and assertions on comprehensively deepening reform, as well as the spirit of the Third Plenary Session of the 20th CPC Central Committee. The training aimed to further assist Party members and cadres in thoroughly assimilating General Secretary Xi Jinping's pivotal speeches and directives, as well as the core principles outlined in the Third Plenary Session of the 20th CPC Central Committee. The primary objective was to strengthen the theoretical foundation of Party members and cadres while simultaneously enhancing their political acumen.

#### Marching Ahead Through Historic Passes to Guizhou Case

Following the 2023 Red Tour to Jinggangshan led by Chairman Yang Wenshan and General Manager Ye Feng, Koal organized an educational visit to Zunyi in 2024. Through these activities, the Company further encourages employees to reinforce ideals and beliefs, commemorate revolutionary martyrs, adhere to Party principles in password management, and inspire patriotic enthusiasm. After the journey, senior management personnel composed reflections expressing their admiration for revolutionary predecessors and demonstrating their commitment to integrating Party spirit into corporate management and personal work practices.



#### Party Branch Organizes Collaborative Visit to the China Securities Museum Case

The Koal Party Branch, in collaboration with the securities company's Party branch, organized a visit to the China Securities Museum. During the tour, Party members gained an in-depth understanding of the development of China's capital market under the leadership of the Communist Party of China through the museum's comprehensive exhibits, including a lifelike scene of Deng Xiaoping meeting John Joseph Phelan Jr., historical photographs, and detailed archival materials. This experience deepened their understanding of China's economic system reform and financial market development.



# **Striving for a Shared Prosperous Future**

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## **Diverse and Inclusive Workplace**

Koal places great emphasis on attracting diverse talent, actively welcoming individuals from various backgrounds, cultures, genders, and professional skillsets. The Company is dedicated to cultivating an inclusive workplace ecosystem that offers employees extensive opportunities for growth while constantly infusing the organization with innovation and a competitive edge.

### Compliant Employment

Koal consistently upholds the principle of "forward-looking planning and diverse talent acquisition." In alignment with the Company's strategic objectives and business development trajectory, Koal proactively plans its talent deployment. Through a comprehensive series of measures, the Company ensures precise talent identification, effective recruitment, and standardized employment processes, attracting a wide spectrum of talents to establish a robust foundation for sustainable corporate growth.

#### **Compliant Hiring**

Koal advocates for equitable and fair recruitment principles, rigorously adhering to international human rights standards including the International Bill of Human Rights, the ILO Conventions, the ILO Declaration on Fundamental Principles and Rights at Work, the UN Guiding Principles on Business and Human Rights, and the ten principles of the UN Global Compact. The Company meticulously complies with pertinent domestic regulations and policies, such as the Labor Law of the People's Republic of China, and the Labor Contract Law of the People's Republic of China. Koal has implemented internal policies, including the Koal Employee Recruitment Management System and Employee Handbook, to govern the entire talent acquisition process. The Company firmly opposes discrimination based on gender, education, age, race, family status, religious beliefs, or cultural background. It strictly prohibits child labor, forced labor, and any form of discrimination or harassment, actively promoting fair employment practices.

Koal conducts regular and rigorous audits of its recruitment and employment processes. To ensure full compliance with laws and regulations at every stage of employment, the Company actively encourages employees to report any violations of company policies or regulations through established channels. All reported infractions are subject to thorough investigation and addressed with utmost seriousness. When necessary, corrective measures are implemented, ranging from warnings and public reprimands to demerits or termination of employment contracts. During the reporting period, Koal reported zero incidents involving child labor or forced labor.



#### Labor and Human Rights Management

Koal has implemented a comprehensive human rights risk management system that spans the entire employment lifecycle. This system is founded on principles derived from the International Bill of Human Rights, the ILO Conventions, the UN Guiding Principles on Business and Human Rights, and the Labor Law of the People's Republic of China. The Company has developed key policy documents, such as the Koal Employee Rights Code, to proactively mitigate human rights risks and ensure robust protection of labor rights across all core business operations. This code encompasses crucial provisions including the prohibition of forced labor and child labor, freedom of association, diversity and inclusion, and anti-discrimination measures. Its scope extends to all regular employees, interns, and other personnel throughout the Company's direct and indirect subsidiaries and affiliated entities. During the reporting period, Koal reported no significant labor or human rights risk incidents.

#### Excerpt from the Koal Employee Rights Code

"We unequivocally reject all forms of forced labor and are committed to safeguarding our employees' rights to freedom and personal dignity. Our recruitment processes are firmly rooted in the principle of voluntariness. We strictly prohibit the use of forced, bonded, indentured, or involuntary labor, including prison labor. Our Company has zero tolerance for any form of coercion, threats, or restriction of personal freedom aimed at compelling employees to work or engage in overtime. We rigorously adhere to relevant labor organization conventions and local laws and regulations applicable to our business operations, and strictly refrain from employing child labor in accordance with legal standards."

#### Diversity and Equal Opportunity

Koal champions and embraces diverse, equitable, and inclusive cultures, lifestyles, and work practices. The Company profoundly respects employee diversity and individual differences, actively fostering an inclusive corporate culture. Diversity and inclusion principles are woven into the fabric of the Company's operations, influencing recruitment, employment practices, training initiatives, promotion processes, and compensation and benefits structures. This ensures equal opportunities and expansive career development platforms for every employee. During the reporting period, Koal recorded no complaints related to discrimination or harassment.

For female employees, the Company is dedicated to providing equitable career development opportunities, ensuring fair compensation and benefits, and effectively eliminating gender-based income disparities. Koal actively offers equal training and promotion opportunities for female employees, supporting and nurturing their diverse skill sets. The Company encourages women to assume management positions, breaking through traditional career limitations and ensuring increased participation and growth opportunities across various functions and management areas. Furthermore, the Company prioritizes female employees' reproductive health, offering commercial maternity insurance and providing statutory prenatal leave, maternity check-up leave, maternity leave, breastfeeding leave, and parental leave. Male employees are granted statutory paternity leave (care leave) to encourage shared family responsibilities, fostering a more secure and stable work environment for female employees and supporting their long-term career development. During the reporting period, Koal implemented several initiatives to ensure female employees' career continuity, growth, and development:

Ongoing optimization of gender structure across various job categories and management levels;

Regular organization of gynecological examinations and provision of health consultation services;

Establishment of Mommy Rooms as dedicated spaces for mothers and infants, equipped with breastfeeding and rest facilities to alleviate concerns for pregnant and breastfeeding employees;

Organization of Women's Day celebration events and female leadership forums, providing platforms for female employees to showcase their talents and exchange experiences, thereby stimulating their potential and creativity.







▶ International Women's Day event



## **Human Capital Development**

#### Governance

Koal has developed and implemented a comprehensive suite of policies, including the Talent Recruitment System, Compensation Structure System, Employee Promotion Management System, and Training Management System. These policies effectively optimize human resource planning, ensuring that employees are utilized to their full potential while mitigating organizational risks associated with key talent turnover or shortages.

The talent strategy at Koal is spearheaded by the Human Resources Department and subsequently submitted to the Board of Directors for approval. The Company consistently refines its human resource management system to ensure seamless alignment with overall corporate strategic objectives. Under the Board of Directors, a Remuneration and Appraisal Committee has been established to formulate and oversee the implementation of remuneration policies and assessment standards for directors and senior management. The Company's HR Director is charged with developing human resource plans that align with the overall corporate strategy, providing critical support and recommendations for strategic decision-making from a human resources perspective. The Human Resources Department takes responsibility for formulating and executing the Company's human resource planning, goal-setting, policies, and procedures. With clearly delineated responsibilities across various levels, these structures collectively drive the Company's human capital development initiatives.



#### Strategy and Approach

Koal's talent strategy is meticulously crafted to align with industry characteristics and the Company's overall business strategy. Talent review serves as a pivotal tool in realizing this strategy, and the Company has established a robust process encompassing "refining talent standards - talent selection methods - talent cultivation."

> Conduct targeted campus recruitment talks at key universities (e.g., Shanghai University of Electric Power, Donghua University)

#### Establish joint training bases:

Set up internship bases at partner universities, providing hands-on training and project-based learning opportunities.

Collaborate with universities to design bespoke IT innovation-related courses, integrating realworld corporate cases into the curriculum.

Co-develop an IT innovation training facility with Shanghai Technical Institute of Electronics & Information, addressing teaching, research, faculty development, and industry training needs.

#### Foster industry-academia-research collaboration:

Enter into school-enterprise cooperation agreements with Shanghai University of Electric Power, Donghua University, and Shanghai Polytechnic University.



School-

Enterprise

Cooperation

Employees interested in internal job opportunities submit detailed self-recommendation reports or Competition Application Forms to the HR Department, either in writing or via email. The HR Department conducts a comprehensive evaluation of all submissions and proposes a shortlist of candidates for competitive interviews. Upon selection, an Internal Transfer Notice is issued to the relevant department, and the successful candidate formally assumes the new role following a structured work handover process.



Proactively expand diverse social recruitment channels, leveraging a mix of online professional recruitment platforms, offline talent market job fairs, social media outreach, executive search firms, and HR service companies. This multifaceted approach effectively reaches potential talents from varied backgrounds and professional domains, establishing a comprehensive, multi-tiered talent acquisition pipeline.

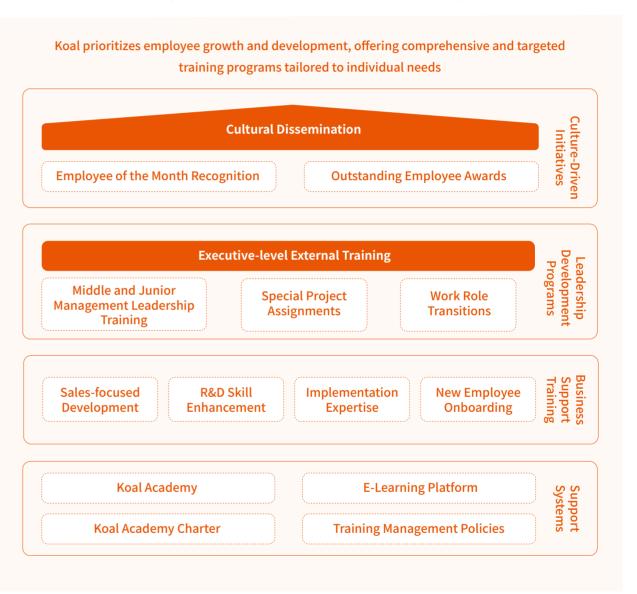
#### Talent Attraction

Koal has established a diverse array of open recruitment channels and a comprehensive Koal talent pool, enabling precise identification of talent gaps in key positions. The Company conducts regular talent assessments, enriches its talent reserves, and fosters talent pipeline development. Guided by corporate strategy, Koal has constructed an efficient and equitable talent attraction system. On one hand, the Company introduces high-caliber human resources through external recruitment to fill critical positions and expands its talent sources through diversified channels such as social media and university collaborations, thereby enhancing recruitment efficiency and improving the match between positions and talents. On the other hand, the Company uncovers existing talent through internal recruitment, ensuring that recruitment plans closely align with strategy through internal and external synergy, thus optimizing human resource allocation and structure. Moreover, the Company places significant emphasis on talent integration and development, particularly focusing on the recruitment and onboarding experience of campus hires. By consistently refining recruitment strategies, Koal achieves full-cycle management of talent, encompassing "precise introduction efficient empowerment - continuous retention.



#### **Employee Training**

Koal places a strong emphasis on talent cultivation and development, offering employees a robust platform for continuous learning and growth. Through a comprehensive array of internal and external learning activities tailored for all staff members, the Company aims to enhance professional skills, broaden perspectives, and expand career development opportunities. Regular evaluations of various training and development programs are conducted to ensure they effectively support employees' personal career trajectories, thereby providing a solid foundation of talent for the Company's sustainable growth.



To further align corporate strategy with talent development, Koal has established an internal training institution - the Koal Academy. This academy is designed to serve the Company's core business objectives and strategic goals, emphasizing an operational philosophy of "derived from business, serving the business." It plays a crucial role in supporting Koal's strategic transformation. As a key component of the Company's talent development ecosystem, Koal Academy strengthens employee capabilities through an integrated "training-and-practice" model while also serving as a vehicle for standardized corporate culture dissemination. In the future, it is poised to become a driving force for organizational change. During the reporting period, the Company formulated the Koal Academy Charter, which outlines the training management framework and lays the groundwork for a strategy-driven talent cultivation ecosystem.



#### **New Employee Training**

Koal has enhanced its new employee training system, implementing a comprehensive model that integrates "online self-study and on-the-iob guidance" with "learning and assessment." This approach is designed to accelerate the adaptation period and boost new employee performance. To further support new employee development, the Company has instituted a mentorship program that encourages mutual selection between employees and mentors. Each new hire is paired with a mentor who provides personalized on-the-job guidance throughout their initial adjustment phase.

#### Leadership Training

Koal has developed tiered leadership training plans catering to employees across various levels of the organization. The Company offers a diverse range of comprehensive and systematic management and leadership courses, delivered through both online and offline platforms. These programs are tailored for current and aspiring managers, aimed at expanding their perspectives, pushing boundaries, and regularly updating their knowledge and skills for practical application in business development.

In an effort to foster youthful and innovative leadership while enhancing management capabilities to support steady business growth, the Company sponsors promising young managers to participate in prestigious programs such as the China Europe International Business School (CEIBS) EMBA, PBC School of Finance (PBCSF) EMBA, and Advanced Management Programme (AMP). Furthermore, to unlock the potential of middle-level managers, Koal engages external experts to conduct empowering leadership training. These sessions, conducted in an open and trusting environment, are designed to enhance critical thinking, project planning, and reflective skills within the talent pool, ultimately driving the precise achievement of key business objectives.

#### Professional Skills Training

To facilitate the growth and development of employees across various professional tracks, Koal designs annual skill training plans tailored to specific job requirements. These comprehensive plans encompass crucial areas such as R&D, testing, implementation, and sales, ensuring that each employee acquires all necessary skills and professional knowledge. This ongoing enhancement of employees' professional capabilities aids in clarifying their career trajectories and development goals.





Koal professional skills training session

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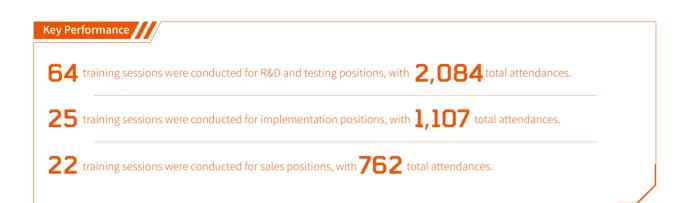
New employee online training session



Empowering leadership training session

#### Collaboration with External Institutions

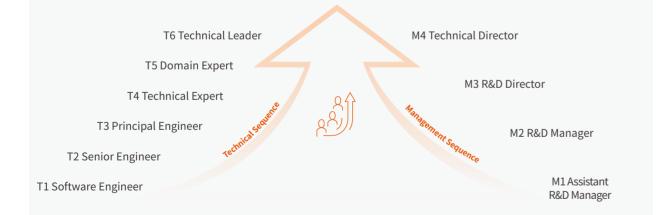
Koal proactively creates opportunities for employees to access high-quality external educational resources, introducing premium, specialized training programs to help employees deepen their expertise in their respective fields. In 2024, the Company collaborated with multiple external institutions to implement diverse training initiatives, including sponsoring select young managers to attend prestigious programs such as the CEIBS EMBA, PBCSF EMBA, and AMP, providing robust support for employee growth and professional development.



#### **Employee Development**

#### **Career Development**

Koal prioritizes employee career development, having established a comprehensive promotion system. Recognizing technology as the core of its productivity, the Company has implemented a "dual-track" promotion path, offering advancement opportunities in both management and technical roles. This structure creates an open, transparent, and well-defined career development framework.



#### **Education and Qualification Support**

The Company actively encourages and supports employees in their pursuit of higher degrees, publication of academic papers, and acquisition of professional certifications. Through a system of incentive subsidies, Koal aims to enhance employees' professional qualifications. The Company has implemented the Revised Measures for Encouraging and Rewarding Employee Paper Publications and Measures for Encouraging and Rewarding Employees Obtaining Qualification Certificates, which clearly define reward standards for these achievements. Upon approval, employees can receive benefits such as expense reimbursement and performance bonuses, facilitating continuous professional growth. During the reporting period, 26 employees successfully obtained relevant professional qualification certificates and were rewarded accordingly.

#### **Compensation and Benefits**

Koal has established a comprehensive compensation structure and a scientifically designed remuneration system. The Company has developed and constantly refines its compensation, assessment, and incentive policies to provide employees with externally competitive and internally equitable compensation and benefits packages.

#### Scientific Compensation Structure

Koal has implemented a robust compensation structure and employee evaluation system. The Company regularly assesses employees' performance, capabilities, and attitudes, providing a solid foundation for salary adjustments, promotions, and training decisions. Compensation levels are benchmarked against industry peers, taking into account employees' job performance and position requirements. The Company offers competitive base salaries and performance-based pay, including annual bonuses and projectspecific incentives. Furthermore, an employee stock ownership plan has been introduced to establish a medium to long-term incentive mechanism that promotes risk- and profit-sharing, enabling employees to benefit from the Company's growth and development.

The Company's compensation system consists of base salary, performance pay, allowances, and bonuses. Senior management compensation is determined based on factors such as position, responsibilities, capabilities, and market salary trends. Their variable compensation is linked to the Company's operational performance and individual performance evaluation results, aligning their interests with the Company's development and growth. The compensation structure for general staff includes base salary, performance pay, year-end performance bonuses, and allowances. The year-end performance bonus is closely tied to the Company's overall operational results and a comprehensive evaluation of individual behavior and achievements. This approach ensures that bonuses are effectively linked to organizational and individual performance evaluation results, allowing for dynamic management of employee income. This system has proven effective in enhancing employee satisfaction and productivity while reducing turnover rates among core staff. Additionally, the Company conducts regular market salary surveys to ensure its compensation levels remain competitive, attracting and retaining top talent. During the reporting period, all employees and departments underwent regular performance evaluations, with all management personnel and general staff, particularly those in non-sales functions, receiving compensation commensurate with their evaluation results.

#### **Employee Performance Evaluation and Feedback**

The Company regularly conducts performance evaluations, adhering to the principles of "openness, equity, and fairness." Annual and long-term performance assessments are carried out for the Company, departments, and individuals. Overall performance objectives are cascaded and implemented across various departments, ensuring that each team and employee has clear goals and responsibilities, leading to efficient task completion. For employees at different levels and in various roles, a combination of qualitative and quantitative methods is used to comprehensively evaluate key performance indicators and work objectives. Individual performance achievements are directly linked to personal bonus coefficients. Through scientific guidance, timely supervision, and objective measurement, the Company ensures a comprehensive and fair assessment of employee performance.

To motivate employees to focus on both company and departmental performance, the Company links these performance results to the overall bonus pool, encouraging employees to recognize their value and contribution within the organization. Koal has established open channels for performance communication, actively collecting employee feedback and fostering timely coaching and communication between superiors and subordinates. This approach helps both employees and the organization improve performance and achieve their goals.



#### **Employee Benefits and Welfare**

Koal has implemented a comprehensive, multi-faceted welfare system that encompasses all employees. Beyond the statutory basic benefits, the Company offers an extensive range of non-monetary benefits to its entire workforce, covering health protection and life support. This enhances employees' sense of belonging and well-being, fostering a warm and supportive workplace environment that drives high-quality enterprise development.

Statutory Social Insurance and Housing Fund	In compliance with national regulations, the Company contributes to social pension insurance, medical insurance, unemployment insurance, work-related injury insurance, maternity insurance, and housing provident fund for eligible employees.
Leave Benefits	The Company has established a robust leave system, including paid annual leave, marriage leave, maternity leave, and sick leave, ensuring that employees' rest and personal needs are adequately addressed.
Health Care	The Company provides employees with comprehensive medical insurance and health management services, including regular physical examinations and health consultations, focusing on both physical and mental well-being.
Employee Care	The Company attends to employees' personal needs and family circumstances, offering services such as birthday wishes and support for children's education.
Work-Life Balance	The Company regularly organizes various cultural and sports activities for employees, including fitness sessions and sports competitions.

Koal consistently invests in optimizing the office environment, creating comfortable, safe, and creative workspaces equipped with state-of-the-art office facilities and ergonomic work equipment to enhance the employee experience. To promote work-life balance, the Company actively organizes a diverse range of engaging employee activities, such as regular team-building events, cultural and sports competitions, and holiday celebrations. These initiatives strengthen communication and interaction among employees, fostering a warm and harmonious corporate family atmosphere.







#### Koal Children's Summer Cryptography Exploration Tour + Case

To support employees in achieving work-life balance and to enhance their identification with and sense of belonging to the enterprise, Koal organized a summer cryptography exploration tour for employees' children. This activity provided an opportunity for employees' children to understand corporate culture, promoting the inheritance of corporate values and demonstrating the Company's care for future generations and commitment to social responsibility.



#### **Employee Engagement and Communication**

Koal places great importance on employee communication and exchange, respects employees' opinions and suggestions, and actively builds positive employee relations. The Company strives to create an equitable, harmonious, open, and transparent communication environment for all employees.

#### **Open Communication Channels**

Koal has established a multi-dimensional communication system that transcends hierarchical barriers, providing employees with open and diverse communication channels. These include suggestion (complaint) boxes, on-site complaints, written complaints, a general manager hotline, and a general manager email. The Company encourages employees to freely share views and suggestions across all levels, constantly improving reporting procedures and handling processes, ensuring that every employee concern receives a prompt response and appropriate action. Additionally, the Company respects employees' freedom of association rights to join, form, or not join unions in accordance with local laws. For employees who join legally recognized unions, the Company is committed to engaging in constructive dialogue and collective bargaining with unions or employee representatives.

Channel Type	Functional P
Human Resources Department	All types of comp
General Manager Hotline	Direct reporting o
General Manager Email	Submission of writi and comp



#### ositioning

Response Time Commitment

plaint handling

of major issues

itten suggestions nplaints

As per company policy

#### Grievance Reporting Procedure

Koal has implemented an open and confidential formal grievance reporting procedure that covers all regular employees and part-time personnel. Employees are encouraged to promptly appeal to their superiors or the Human Resources Department when experiencing any unfair treatment. The Company has designated personnel to receive and handle employee grievances and reports. The Human Resources Department serves as the grievance reception center, working in conjunction with the Internal Audit Department to manage the reception, investigation, processing, and follow-up of grievances. Based on principles of authenticity, confidentiality, and effectiveness, the Company ensures timely acceptance of each reasonable report and conducts independent investigations. The Company strictly maintains the confidentiality of the complainant's personal information and the content of the complaint, taking necessary measures to protect the safety and legal rights of the complainant. Any retaliation against complainants or information leaks, once verified, will be dealt with severely.

#### Satisfaction Survey

Koal regularly conducts employee satisfaction surveys to comprehensively gather employee opinions and suggestions, listening to employee voices and demands across multiple dimensions. The Company consistently improves its management practices based on employee satisfaction survey data analysis and feedback. During the reporting period, in response to commuting challenges identified in the employee satisfaction survey, the Company developed a commute optimization plan, adding early peak hour services and simultaneously enhancing the station coverage of two existing commuter routes.

# Employe in 2024 75%

#### Impact, Risk, and Opportunity Management

Koal places paramount importance on human capital risk management, meticulously identifying key areas of potential vulnerability. The Company employs a continuous process of risk identification, assessment, response, and monitoring of human capital risks, guided by its strategic objectives. By integrating insights from employee satisfaction surveys, Koal consistently refines its human resource management strategies throughout the entire talent lifecycle, encompassing "attraction, development, utilization, and retention." This comprehensive approach ensures that human capital development risks remain within manageable parameters, enabling high-quality organizational growth through a high-caliber talent pool.

#### Analysis of Hu<u>man</u> Capital Risks

- Strategic and organizational change risks
- Core technical talent attrition risks
- Skills and business needs mismatch risks
- Insufficient international talent reserve risks
- Performance incentive and compensation competitiveness risks
- Diversity and inclusion risks
- Insufficient training and development risks
- Compliance and employment risks

#### **Response Strategies**

- Enhance human capital risk identification and assessment mechanisms, maintaining an up-to-date human capital risk inventory.
- Implement a scientifically robust human resource management system, featuring demand-driven strategic talent pool planning. Conduct regular talent and organizational assessments aligned with the Company's strategic direction and business development trajectory, effectively mitigating, reducing, or transferring identified risks.
- Prioritize the recruitment of technical talent that aligns with the Company's evolving needs while conducting targeted, specialized training for existing employees to enhance skill adaptability.
- Establish clear and measurable performance standards, foster open communication and feedback channels, and constantly refine performance management tools and processes.
- Implement regular employee satisfaction surveys to identify potential issues in talent management processes and develop targeted improvement initiatives.

#### Indicators and Targets

#### Indicator/Target

Human resource cost control ≤ 100%

Employee training rate 100%



Koal rigorously adheres to pertinent laws and regulations, including the Law of the People's Republic of China on the Prevention and Control of Occupational Diseases and the Provisions on the Supervision and Administration of Occupational Health at Work Sites, while fully complying with the requirements of the ISO 45001 management system. The Company consistently enhances its occupational healthrelated policies and regulations, establishes robust procedures for identifying and addressing potential risks and opportunities, and implements comprehensive daily supervision and inspection protocols. By prioritizing health and safety across all business operations, the Company ensures the safeguarding of employees' occupational health.



#### **2024 Achievement Status**

Target achieved

Target achieved



Koal has obtained ISO 45001 Occupational Health and Safety Management System certification.

**Community Engagement** volunteer activities, thereby giving back to society with tangible actions. Total charitable donations and external contributions

#### **Rural Revitalization**

In an effort to strengthen east-west support collaboration between Shanghai's Chongming District and Yunnan Province's Lincang City, Koal has partnered with Guodazhai Township in Fengqing County. The Company established the Qiongving Ancient Tree Tea Professional Cooperative as a designated industry collaboration project. This initiative invested RMB 200,000 in purchasing Qiongying ancient tree tea, benefiting over 800 local households and boosting the revitalization of rural industries.

RMB 200,000



Koal's designated industry collaboration project - Qiongying Ancient Tea Targeted Harvesting Base

#### Charitable Education Support

Koal has developed non-profit research and study bases for schools, focusing on key themes such as "digital economy," "cryptography," and "information technology innovation." These centers provide teachers and students with opportunities to gain insights into the development and trends of the information technology innovation industry, as well as the role of cryptographic technology as security foundations through interactive learning experiences. The Company offers complimentary access to its facilities, including server rooms, IT innovation adaptation and verification practice areas, and cryptography factories. This allows visiting schools to witness firsthand the increasing capabilities of domestically produced, independent, and controllable server systems.

#### Voluntary Blood Donation

In 2024, four Koal employees demonstrated their commitment to social responsibility by participating in blood donation drives. Their actions not only contributed to alleviating the shortage of medical blood supplies but also inspired fellow employees to engage in similar charitable activities.



Koal employees at the blood donation site



incidence rate:

Workdays lost due to

work-related injuries:

0%

Π

Π

0%

Koal is committed to enhancing urban and rural public infrastructure and supporting the advancement of education, science and technology, culture, health, and sports in the public sector. The Company actively encourages its employees to participate in social

Rural revitalization efforts







# Green and Low-Carbon Operations

- 89 Environmental Management System
- 91 Climate Change Mitigation
- 95 Green Operations

7 AFFORDABLE AND CLEAN ENERGY

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## **Environmental Management System**

Koal has implemented a comprehensive environmental management framework based on the ISO 14001 Environmental Management System, ensuring compliance with relevant domestic and international laws, regulations, and standards, including the Environmental Protection Law of the People's Republic of China and the Energy Conservation Law of the People's Republic of China. The Company has developed a suite of policy documents, such as the Environmental Management Manual and Environmental Monitoring and Measurement Procedures. Koal regularly conducts environmental risk assessments, organizes company-wide environmental protection training, and implements awareness-raising initiatives, aiming to mitigate the environmental impact of its operations. During the reporting period, the Company reported no environmental pollution incidents, received no environmental administrative penalties, and experienced no major environmental accidents.



Koal has established a robust environmental management structure and process. The General Manager assumes overall leadership responsibility for environmental management, coordinating related activities across business operations. The Management Representative ensures the establishment, implementation, and maintenance of environmental management system processes. Each functional department is tasked with identifying and evaluating environmental factors and potential hazards within their area, setting departmental environmental objectives, and monitoring progress towards these goals.

#### **General Manager**

• Establish environmental policies

and objectives aligned with the

Company's strategic direction.

management system requirements into business operations and secure

understanding and implementation

approaches and risk-based thinking.

• Integrate environmental

necessary resources.

• Ensure company-wide

of environmental policies,

promoting process-based

#### Management Representative

#### **Functional Departments**

- Oversee the establishment, implementation, and maintenance of environmental management system processes.
- Report to the General Manager on the environmental management system's performance and internal audit results, including improvement recommendations.

 Identify and assess environmental factors and potential hazards within their department.

 Develop departmental environmental objectives and monitor their achievement status.





ental		
Process		
quantifiable ental ent targets:		<b>100%</b> classified of solid waste.
	t comply with	perating location creates annual n relevant national and regional
conducts annu al managemer <i>Review Control</i> re. Corrective a ed on review fir y undergoes and om external stal	nt system, <i>Procedure</i> ctions are ndings. nual third-	In 2024, Koal conducted <b>1</b> internal audit review and underwent <b>1</b> external audit.
		supervision to identify and suring the effective operation of
edure. Annual er cidents and mi	nvironmental tigate enviro	e Emergency Preparedness and emergency drills are conducted onmental impacts. During the emergency response drills.
		tion culture. Employees nized by the industrial park.



In response to global climate change, Koal actively supports the national "dual carbon" goals. The Company adheres to the framework recommendations outlined in the Guidelines No. 14 of Shanghai Stock Exchange for the Self-Regulation of Listed Companies-Sustainability Report (Trial), proactively identifying various risks that climate change poses to its business operations. By integrating four key dimensions - climate change-related governance, strategy, impact, risk and opportunity management, and indicators and targets - Koal actively develops response measures. These efforts aim to enhance the Company's resilience in the face of climate change scenarios and constantly improve its ability to address climate risks.

#### Governance

The Company has seamlessly integrated climate change-related functions into its ESG governance structure, clearly delineating management responsibilities across various levels. This facilitates comprehensive discussions on climate change-related issues, enables the identification of climate risks and opportunities, and supports the development of targeted measures to address climate change.



#### Strategy and Approach

transition risks) and opportunities facing its business operations.

Category	Risk/ Opportunity Type	Risk/Opportunity Description	lmpact Period	Potential Financial Impact	Response Measures
Physical Risks	Acute Physical Risks	Severe climate events such as typhoons and floods may lead to extreme weather or natural disasters, potentially affecting Koal's infrastructure, servers, and other equipment across various operational sites. This could result in a series of direct or indirect economic losses, including asset damage, increased repair costs, and higher insurance premiums.	Short-term, medium-term	Revenue decline, cost increase, liability rise, and asset impairment	Implement timely forecasting and warning systems for extreme weather events. Develop comprehensive emergency response plans for extreme weather scenarios. Stockpile emergency supplies and conduct regular emergency drills to enhance response capabilities. Prioritize climate-resilient areas when selecting new operational sites, thoroughly considering local historical data on natural disasters.
	Chronic Physical Risks	Climate change-induced rise in average temperatures increases the need for ventilation and cooling in office spaces. This could negatively impact the normal operation and lifespan of the Company's servers and other hardware, while also leading to increased energy consumption and operational costs.	Medium-term, long-term	Revenue decline and cost increase	Consistently optimize energy efficiency and implement robust monitoring of energy use. Enhance precision management of energy consumption through advanced statistics and monitoring systems. Actively promote green office practices among employee
Transition Risks	Policy and Regulatory Risks	As progress is made towards "dual carbon" goals, stricter domestic and international policies and regulations are being introduced to mitigate climate change. The gradual advancement of carbon emissions trading mechanisms exposes the Company to heightened compliance risks.	Short-term, medium-term	Revenue decline and cost increase	Closely monitor changes in internationa and domestic environmental and carbo related laws, regulations, and policies. Strengthen compliance management strategies in alignment with the Company's specific circumstances.
	Market Risks	Influenced by climate change and global energy transition, prices for energy (electricity, steam), water, and hardware facilities are likely to increase, leading to higher operational costs. As demand for climate-friendly products and services grows, the Company may face operational risks such as pressure on product pricing, increased raw material costs, and potential misalignment of products with evolving market demands.	Medium-term, long-term	Revenue decline, cost increase, liability rise, and asset impairment	Forge strategic partnerships with high- quality collaborators to bolster supply chain resilience and risk response capabilities. Intensify research and application effor in green products and solutions to stay ahead of changing market trends.
	Technology Risks	Investment in research and application of new green products and technologies may lead to decreased product demand and revenue if customers do not accept these innovations.	Short-term, medium-term	Revenue decline and cost increase	Conduct rigorous feasibility studies on the R&D and application of green products and solutions. Actively engage in industry collaborations and work closely with value chain partners to promote low-carbon technology R&D and application.
	Reputational Risks	Increasingly stringent environmental performance disclosure requirements increase compliance costs associated with maintaining or enhancing corporate reputation.	Short-term, medium-term	Cost increase	Monitor market regulatory and disclosu requirements across various regions an implement comprehensive compliance measures.

#### The Company has conducted a comprehensive analysis and assessment of climate change risks (including physical risks and

Category	Risk/ Opportunity Type	, Risk/Opportunity Description	Impact Period	Potential Financial Impact	Response Measures
Climate Opportunities	Products and Services	The Company's development and innovation of climate-friendly products and technologies, catering to customers with environmental protection and energy-saving needs, can unlock new growth opportunities.	Short-term, medium-term	Revenue growth	Capitalize on opportunities for green transformation and upgrade. Develop targeted products and technologies that not only meet basic customer needs but also incorporate environmentally friendly technologies.
	Resource Efficiency	Achieve dual benefits of cost savings and environmental protection by adopting energy-efficient technologies and equipment to reduce energy consumption in operations.	Short-term, medium-term	Revenue growth	Integrate energy-saving technologies and equipment across all operational facets, driving down energy costs.

#### Impact, Risk, and Opportunity Management

To address potential risks and capitalize on opportunities brought about by climate change, Koal has established a robust process and framework for managing climate risks and opportunities. Through a combination of internal research, industry studies, and external recommendations, the Company systematically identifies, analyzes, evaluates, and manages significant climate change risks and opportunities. Based on comprehensive risk identification results, a climate risk-opportunity matrix and targeted mitigation measures are developed, promoting the integration of climate risk management into the company-wide multidepartmental risk management process to actively address climate change challenges.



<sup>1</sup> Greenhouse gas emissions reported here refer exclusively to carbon dioxide emissions and do not encompass other greenhouse gas types such as methane and nitrous oxide emitted from other sources. Scope 2 greenhouse gas emissions represent emissions caused by purchased electricity and heat. The electricity emission factor is derived from the Announcement on the Release of Carbon Dioxide Emission Factors for Electricity in 2022 (Announcement No. 33 of 2024) jointly issued by the Ministry of Ecology and Environment and the National Bureau of Statistics.



and opportunity types, including physical risks, transition risks, and climate opportunities, based on disclosure recommendations from authoritative sources such as the *Guide No. 4 for Self-Regulatory* Supervision on Listed Companies of the SSE -Compilation of Sustainable Development Reports (Draft for Comments) and the IFRS S2 Climaterelated Disclosures.

#### Identify Risk-Opportunity Inventory

- Identify climate risks and opportunities within the industry and along the value chain, forming a comprehensive risk inventory.
- Screen risks and opportunities relevant to Koal based on internal and external expert recommendations, databases, and other credible sources.



• Conduct a thorough assessment of the impact period and materiality level of climate risks and opportunities, leveraging internal research, industry studies, and external recommendations.

	Indirect greenhouse gas emissions (Scope 2)
	tons of CO <sub>2</sub> equivalent
1	1,104.22
	Greenhouse gas emission intensity
	tons of CO <sub>2</sub> equivalent/RMB 10,000 revenue
	0.0209



## **Opportunity Management**

- Perform in-depth materiality analysis and financial impact assessment of climate risks and opportunities, developing key response strategies.
- The ESG Executive Committee, functional departments, branches, and controlled subsidiaries implement targeted risk management and response initiatives, developing comprehensive risk treatment plans. The ESG Committee regularly monitors and tracks implementation progress to ensure effectiveness.

# **Green Operations**

Koal actively promotes green and low-carbon operational practices, incorporating climate change considerations into its business control processes. The Company consistently improves its environmental performance in areas such as energy usage, water resource management, and waste disposal. By implementing energy-saving measures, ensuring proper waste management, and fostering a green culture, Koal creates an environmentally friendly office environment, thereby reducing the environmental impact of its operations.

## Energy Management

We have established energy management policies, including the *Electricity Saving Management Measures*. Through various initiatives, we strive to reduce greenhouse gas emissions and actively address climate change.

## Indicator Purchased electricity Total energy consumption Energy consumption intensity

Administration of China.

#### Lighting electricity management

We maximize the use of natural light, turning off unnecessary lighting fixtures when daylight is sufficient. Natural light is prioritized in window-adjacent office areas. The number of lighting fixtures is adjusted according to area-specific functional requirements, with reasonable control of lighting brightness. Lighting in corridors, meeting rooms, restrooms, and other public areas is turned off when unoccupied, and lighting schedules are set based on actual usage patterns to avoid waste.

#### Office equipment management

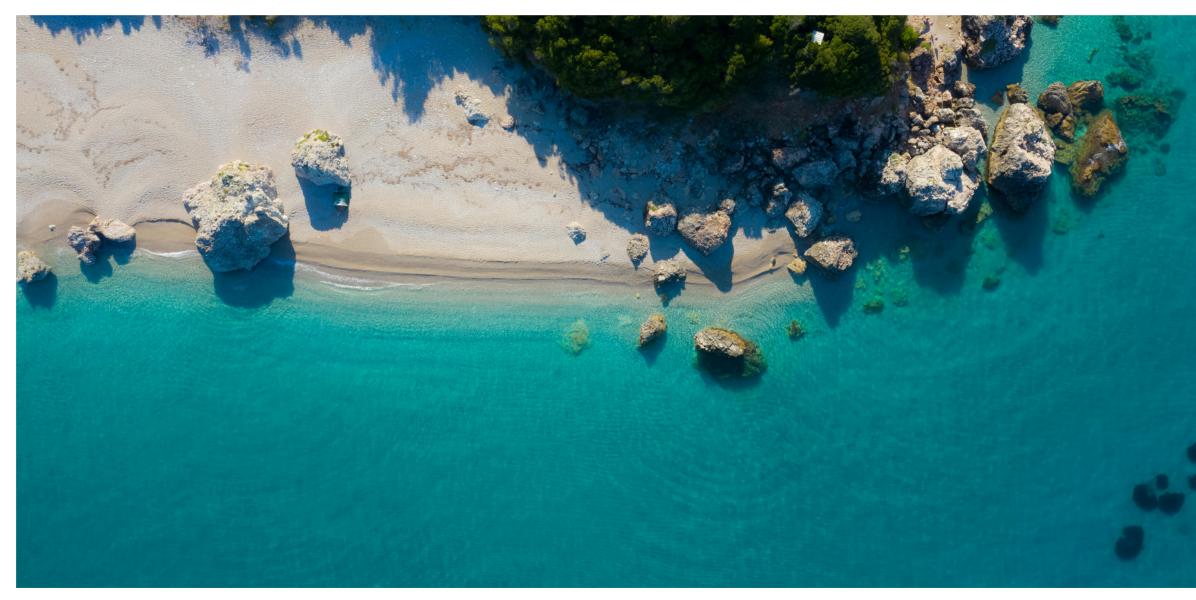
We require employees to turn off computers, printers, copiers, and other equipment when not in use. Devices are set to sleep mode or turned off when not used for extended periods (over 1 hour). Double-sided printing and copying are promoted to reduce paper consumption and equipment power usage.

#### Air conditioning temperature control

We set summer air conditioning temperature no lower than 26 ° C and winter temperature no higher than 20 ° C. Human comfort is balanced with energy-saving needs by adjusting temperature (every 1° C change) to optimize energy consumption. Air conditioning cooling capacity is reasonably adjusted based on server heat generation and server room ambient temperature to ensure the server room temperature remains within the specified range while reducing air conditioning energy consumption.

#### Energy conservation and environmental protection promotion

We display compelling green energy-saving slogans on prominent large screens, consistently exposing employees to green energy-saving concepts during daily work. This approach subtly enhances energy conservation awareness among staff.



Unit	2024
10,000 kWh	205.78
tons of standard coal equivalent	252.91
tons of standard coal equivalent/ RMB 10,000 revenue	0.0048

<sup>1</sup> Total energy consumption is calculated in tons of standard coal equivalent, in accordance with the General Rules for Calculation of the Comprehensive Energy Consumption (GB/T 2589-2020) issued by the State Administration for Market Regulation and the Standardization

#### Water Resource Management

The Company's primary water consumption is attributed to daily office use, with the municipal water supply serving as the main source. We have designed and implemented efficient water resource management measures for our business activities, establishing plans to reduce water consumption. By adopting appropriate measures to achieve water management goals, we constantly improve our water usage performance.

#### Water equipment management

We have installed faucets with temperature-controlled automatic shut-off functions in public restrooms to prevent water waste caused by prolonged water flow. Regular inspections of water facilities are conducted, and leaks are promptly repaired to ensure effective utilization of water resources.

#### Office drinking water management

We dynamically adjust the supply of bottled water based on seasonal variations, reasonably increasing supply during high-consumption summer months and reducing allocation during low-consumption winter months. The provision of individual bottled water in daily office scenarios has been discontinued, with employees encouraged to use centralized water dispensers instead.

#### Drinking water equipment maintenance

We carry out regular maintenance and inspections of water dispensers to ensure normal operation of heating/cooling functions, preventing equipment malfunctions that could lead to water waste.

#### Water conservation promotion

We conduct employee awareness campaigns, encouraging the use of personal water bottles to reduce disposable paper cup consumption. This approach also mitigates water waste from bottled water dispensers due to casual usage (e.g., overdispensing and discarding unconsumed water).

	Indicator	Unit	2024
Water Resource	Total water consumption	tons	202,322
Consumption	Water consumption intensity	kg/RMB 10,000 revenue	3.82

#### Waste Management

The Company primarily generates waste in the form of office paper, courier boxes, ink cartridges, toner cartridges, waste fluorescent tubes, and discarded electronic equipment. We actively encourage waste reduction, recycling, and reuse, aiming to minimize waste generation where feasible and mitigate the environmental impact of waste disposal.

#### **Green procurement**

We prioritize the purchase of environmentally friendly, biodegradable, or recyclable materials, reducing environmental pollution and resource waste.

#### Equipment downgrading

For electronic equipment such as servers, hosts, hard drives, and computers, we have established an internal equipment allocation platform to reassign devices suitable for downgraded use between different departments or projects within the Company. Hard drives with remaining storage capacity and read/write speeds suitable for non-critical operations are removed from high-performance hosts and installed in office computers with lower storage requirements for secondary utilization.

#### Equipment recycling

We repurpose refurbished equipment within the Company and explore external reuse channels, such as collaborating with small enterprises to sell idle but still functional computers at discounted prices.

#### Paperless office

We extensively utilize ERP systems, encouraging employees to store, share, and approve documents electronically. For instance, through the Company's internal cloud storage system, employees can conveniently store and retrieve various documents, replacing traditional paper file cabinets.

	Indicator	Unit	2024
Waste Discharge	Paper	tons	1.15
	Toner cartridges	/	4
	Ink cartridges	/	95
	Non-hazardous waste intensity	kg/RMB 10,000 revenue	0.22



#### Key Performance Table

#### Economic Performance

Indicator	Unit	2022	2023	2024
Operating revenue	Billion RMB	0.660	0.561	0.529
Net profit attributable to shareholders of the parent company	Million RMB	-9	37	37
Total assets	Billion RMB	1.746	1.661	1.670
Total tax payment	Million RMB	68.7196	29.6828	41.9318
Basic earnings per share	RMB/share	-0.04	0.16	0.16

#### Corporate Governance

Indicator	Unit	2022	2023	2024
Total number of Board members	Persons	9	9	9
Proportion of independent directors	%	33.33%	33.33%	33.33%
Major corruption and bribery incidents	Cases	0	0	0

#### **R&D** Innovation

Indicator	Unit	2022	2023	2024
Total R&D investment	Million RMB	92.7666	98.5999	97.8889
R&D investment as a percentage of operating income	%	14.07%	17.57%	18.49%
Number of newly granted patents	Items	8	9	13
Cumulative number of granted patents	Items	58	67	84
Number of newly registered software copyrights	Items	/	/	15
Cumulative number of registered software copyrights	Items	/	/	197

#### Products and Services

99

Indicator	Unit	2022	2023	2024
Incoming material inspection pass rate	%	/	/	100%
Software retesting confirmation rate	%	/	/	100%
Customer service satisfaction rate	%	93%	99.1%	98.2%

#### Supply Chain Management

#### Indicator

Total number of suppliers	
Number of domestic suppliers	
Number of overseas supplier	

#### Information Security and Privacy Protection

#### Indicator

Number of major service/information security incidents Annual training coverage rate for information security/ information technology services Number of data breach incidents

#### Employment

Employee turnover rate

by gender

#### Indicator Total number of employees Number of employees recruited during the reporting period Male Number of employees by gender Female Senior management Number of employees Middle management by hierarchical level Entry-level employees 29 years old and below 30-39 years old Number of employees 40-49 years old by age 50-59 years old 60 years old and above Chinese employees Number of employees by region Overseas employees Employees with associate degrees or below Employees with bachelor's degrees Number of employees Number of employees with by educational level graduate/MBA degrees Number of employees with bachelor' degrees or above Number of employees Regular employees classified by Temporary workers/labor employment type dispatch/interns Employee turnover rate

Male employees

Female

Unit	2022	2023	2024
Companies	66	68	64
Companies	66	68	64
Companies	0	0	0

Unit	2022	2023	2024
Times	0	0	0
%	100%	100%	100%
Times	0	0	0

	Unit	2022	2023	2024
	Persons	923	821	679
	Persons	168	123	75
	Persons	758	657	537
	Persons	165	164	142
	Persons	6	6	7
	Persons	110	116	82
	Persons	807	699	590
	Persons	410	321	210
	Persons	340	322	293
	Persons	150	158	153
	Persons	19	15	20
	Persons	4	5	3
	Persons	923	821	679
	Persons	0	0	0
	Persons	245	246	170
	Persons	616	516	455
	Persons	59	56	51
s	Persons	3	3	3
	Persons	913	791	663
	Persons	10	30	16
	%	20%	28%	23.95%
	%	77%	80%	19.75%
	%	23%	20%	4.20%

#### Employment

Employee turnover rate by age	29 years old and below	%	54%	51%	10.22%
	30-39 years old	%	32%	33%	7.95%
	40-49 years old	%	13%	13%	5.33%
	50-59 years old	%	1%	3%	0.34%
	60 years old and above	%	0%	0%	0.11%

#### Diversity and Equal Opportunities

Indicator	Unit	2022	2023	2024
Proportion of female employees	%	18%	20%	21%
Proportion of minority employees	%	2%	3%	3%
Proportion of employees with disabilities	%	1%	1%	2%
Proportion of female employees in middle management	%	/	/	17.74%
Proportion of female employees in senior management	%	/	/	8.3%

#### Employee Training

	Indicator	Unit	2022	2023	2024
Total investment in	employee training	Million RMB	/	1.6202	0.537
Total attendance of	training throughout the year	Attendance	6,149	9,918	7,237
Annual training hou	urs per employee	Hours	8,108.28	19,668.63	9,556.13
Annual training hours per employee		Hours	8.78	23.67	14.26
Training coverage r	ate	%	56%	99%	100%
Average	Temporary workers/labor dispatch/interns	Hours	0.10	0.86	14.42
training hours	Entry-level employees	Hours	8.69	22.80	14.42
per employee Mid-	Mid-level managers and key technical personnel	Hours	1.05	3.34	11.76
category	Senior management personnel	Hours	0.06	0.17	11.76

#### Health and Safety

Indicator	Unit	2022	2023	2024
Investment in health and safety	Million RMB	0.0566	0.3666	0.225
Annual production safety incidents	Cases	0	2	0

#### Health and Safety

Work injury rate	
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Occupational disease incidence rate

Number of employee fatalities due to work-related incidents

Number of working days lost due to work-related injuries

#### Community Engagement and Public Welfare

#### Indicator

Total investment in public welfare and external donations

#### Environmental Performance

Indicator	Unit	2022	2023	2024
Purchased electricity	Million kilowatt hours	/	/	2.0578
Total energy consumption <sup>1</sup>	Tons of standard coal	/	/	252.91
Energy consumption intensity	Tons of standard coal/RMB 10,000 of revenue	/	/	0.0048
Direct greenhouse gas emissions (Scope 1)	Tons of $CO_2$ equivalent	/	/	0
Indirect greenhouse gas emissions (Scope 2)	Tons of $CO_2$ equivalent	/	/	1,104.22
Greenhouse gas emissions (Scope 1 and 2) $^2$	Tons of $CO_2$ equivalent	/	/	1,104.22
Greenhouse gas emission intensity	Tons of CO₂ equivalent/RMB 10,000 of revenue	/	/	0.0209
Total water consumption	Tons	/	/	202,322
Water consumption intensity	Tons/RMB 10,000 revenue	/	/	3.82
Non-hazardous waste emission intensity	kg/RMB 10,000 revenue	/	/	0.22

Note 1. Total energy consumption: Calculated in terms of tons of standard coal in accordance with GB/T 2589-2020 General Rules for Calculation of Comprehensive Energy Consumption issued by the State Administration for Market Regulation and the Standardization Administration of China. Note 2. Greenhouse gas emissions: Refers only to carbon dioxide (CO<sub>2</sub>) emissions and does not include other types of greenhouse gases such as methane (CH<sub>4</sub>) or nitrous oxide (N<sub>2</sub>O) from other emission sources. Scope 2 greenhouse gas emissions: Emissions resulting from the consumption of purchased electricity and heat. The electricity emission factor is based on the Notice on the Release of the 2022 Electricity Carbon Dioxide Emission Factors (Announcement No. 33 [2024]) jointly issued by the Ministry of Ecology and Environment and the National Bureau of Statistics.

%	0%	0.2%	0%
%	0%	0%	0%
Persons	0	0	0
Day	0	180	0

Unit	2022	2023	2024	
Million RMB	/	/	0.2	

#### Indicator Index Table

Koal has reported the information referenced in this index for the period from January 1, 2024 to December 31, 2024, in accordance with the *Guidelines No. 14 of Shanghai Stock Exchange for Self-Regulation of Listed Companies—Sustainability Report (Trial)* and with reference to the GRI Standards.

Reporting Framework	Shenzhen Stock Exchange Sustainability Reporting Guidelines	GRI 1: Foundation 2021
Message from the Chairman	/	/
About This Report	/	2-2,2-3
About Koal		2-1,2-6,2-23
Sustainable Development Management	Article 12 (1), Article 12 (2), Article 12 (4), Article 12 (5), Article 13, Article 14 (1), Article 14 (2), Article 14 (2), Article 15 (3), Article 17, Article 18 (1), Article 18 (2), Article 18 (3), Article 18 (4), Article 51, Article 52, Article 53 (1), Article 53 (2)	2-9,2-13,2-14,2-16,2-29,3-1,3- 2,3-3
[Special Topic] Koal's Green Products and Solutions	Article 20, Article 28, Article 37(II)	302-5
Forging a Digital Shield		
Innovation as a Driving Force	Article 11, Article 19, Article 41, Article 42 (1), Article 42 (2), Article 42 (3), Article 42 (4)	203-1,416-1
Safeguarding Customer Privacy	Article 11, Article 19, Article 44, Article 47 (1), Article 47 (2), Article 47 (3), Article 47 (4)	3-3,418-1
Protecting Data Security	Article 11, Article 19, Article 48 (1), Article 48 (2), Article 48 (3), Article 48 (4)	203-2,416-1,417-1,417-2,417- 3,418-1
Sustainable Supply Chain	Article 44, Article 45(1), Article 45(2), Article 46	204-1,308-1,414-1,414-2
Industry Ecosystem Development	/	/
Efficient and Robust Operations		
Corporate Governance	/	2-10,2-12,2-27,2-15,3-3
Risk and Compliance Management	/	/

Reporting Framework	Shenzhen Stock Exchange Sustainability Reporting Guidelines	GRI 1: Foundation 2021
Business Ethics and Anti- Corruption	Article 11, Article 19, Article 54, Article 55 (1), Article 55 (2), Article 55 (4), Article 56 (1), Article 56 (2)	2-27,3-32-27,3-3,205-2,206- 1,205-2,206-1
Party Leadership	/	/
Striving for a Shared Prospe	rous Future	
Workplace Diversity and Inclusion	Article 49, Article 50 (I)	2-7,401-1,405-1,406-1
Human Resource Development	Article 11, Article 19, Article 50 (1), Article 50 (3)	401-2,404-1,404-2,404-3
Occupational Health and Safety	Article 50 (2)	403-1,403-2,403-3,403-5,403 8,403-9,403-10
Community Engagement	Article 38, Article 39(1), Article 39(2), Article 39(3), Article 40	203-1,203-2
Green and Low-Carbon Operations		
Environmental Management System	Article 29, Article 33(1), Article 33(2), Article 33(3)	2-27
Climate Change Mitigation	Article 11, Article 19, Article 20, Article 21, Article 22 (1), Article 22 (2), Article 22 (3), Article 23 (1), Article 23 (2), Article 23 (3), Article 24, Article 25 (3), Article 26, Article 27	201-2,3-3,302-5,305-1,305- 2,305-4
Green Operations	Article 34, Article 35(1), Article 35(3), Article 36(1)	2-27,3-3,302-1,302-3,303- 5,305-1,305-2,305-4,306- 3,306-4,306-5
Appendix		
Key Performance Table	/	/



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