



2025

环境、社会和公司治理报告

Environmental, Social, and Corporate Governance (ESG) Report

中国铁路通信信号股份有限公司
China Railway Signal & Communication Co., Ltd.

关于本报告

About this Report

本报告是中国铁路通信信号股份有限公司（以下简称“中国通号”“公司”或“我们”）发布的第六份环境、社会和公司治理报告。本着客观全面、规范透明的原则，详细阐述2025年度中国通号环境、社会和公司治理工作的管理理念、亮点实践及年度成效。

This Report is the sixth Environmental, Social, and Governance Report of China Railway Signal & Communication Co., Ltd. (hereinafter referred to as “CRSC”, “the Company” or “we”). Based on objective, comprehensive, regulative and transparent principles, this Report expounds management ideas, key practices and annual achievements for environmental, social and governance work of CRSC in 2025.

报告范围

Scope of the Report

除特殊说明外，本报告涵盖中国通号总部、分支机构及附属公司，与《中国铁路通信信号股份有限公司2025年年度报告》对外披露范围保持一致。

Unless otherwise stated, this Report includes CRSC headquarters, all its branches and subsidiaries, with the same scope of *2025 CRSC Annual Report*.

时间范围为2025年1月1日至2025年12月31日，部分内容超出此范围。

The reporting period is from January 1, 2025 to December 31, 2025. Some contents are sourced from historical data.

参考标准

Reference Standards

全球报告倡议组织《可持续发展报告标准（GRI Standards）》

Global Reporting Initiative *Sustainability Reporting Standards (GRI Standards)*

联合国可持续发展目标（SDGs）

United Nations Sustainable Development Goals (SDGs)

国务院国资委《关于新时代中央企业高标准履行社会责任的指导意见》

The Guidelines on High-Standard Fulfillment of Social Responsibility by Central State-Owned Enterprises in the New Era by State-owned Assets Supervision and Administration Commission (SASAC) of the State Council

香港联合交易所《环境、社会及管治报告守则》

Environmental, Social and Governance Reporting Guide issued by HKEX

《上海证券交易所上市公司自律监管指引第14号——可持续发展报告（试行）》《上海证券交易所上市公司自律监管指南第4号——可持续发展报告编制》

Guidelines No. 14 of Shanghai Stock Exchange for Self-Regulation of Listed Companies—Sustainability Report (Trial), Guidelines No. 4 of the Shanghai Stock Exchange for the Self-regulation of Listed Companies - Preparation of Sustainability Report

中国企业改革与发展研究会、责任云研究院《中国企业可持续发展报告指南（CASS-ESG 6.0）之铁路、船舶、航空航天和其他运输设备制造业》

The Guidelines for Chinese Enterprises’ Sustainable Development Reports (CASS ESG 6.0) for the Railway, Ship, Aerospace and Other Transportation Equipment Manufacturing Industries of the China Enterprise Reform and Development Society and CSR Cloud Research Institute

发布周期

Reporting Cycle

本报告为年度报告，于每年3月发布。

This is an annual report released in March.

报告语言

Reporting Language

本报告中英文版本如有歧义，概以中文版为准。

This Report is compiled in Chinese and English versions. Should there be any minor content difference, the Chinese version prevails.

可靠性保证

Reliability Guarantee

公司董事会承诺对报告内容进行监督，确保不存在虚假记载、误导性陈述或重大遗漏。

The board of directors of the company promises to supervise the content of the report to ensure that there are no false records, misleading statements or major omissions.

数据说明

Data Specification

本报告关键财务绩效来自《中国铁路通信信号股份有限公司2025年年度报告》，其他数据来自公司内部职能部门提报。本报告相对公司往年ESG报告披露范围并无重大调整，且使用一致的披露统计方法。除特别说明外，本报告均以人民币为金额单位。

All key financial performance data disclosed in this Report are collected from the *2025 Annual Report of China Railway Signal & Communication Co., Ltd.*, and other data are mainly sourced from internal functional departments of the Company. There is no significant adjustment to the scope of disclosure in this Report compared with the ESG reports of the Company in previous years, and consistent disclosure statistical methods are used. Unless otherwise specified, this Report is presented in CNY as the currency unit.

报告获取

Access to the Report

本报告提供纸质版和电子版两种形式。您可以登录中国通号公司门户网站“文化与责任—社会责任”板块或香港联合交易所、上海证券交易所网站阅读或下载本报告。

This Report is available both in hard copy and electronic format. You may browse or download the Report at the official website of CRSC (Culture & Responsibility - Social Responsibility) or at the websites of HKEX and the Shanghai Stock Exchange.

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董事长致辞

Message from the Chairman

中国铁路通信信号股份有限公司
China Railway Signal & Communication Co., Ltd.
董事长 楼齐良
Chairman Lou Qiliang



2025年是“十四五”规划收官之年，也是“十五五”规划谋篇布局之年。中国通号坚持以习近平新时代中国特色社会主义思想为指导，深入学习贯彻党的二十大和二十届历次全会精神，锚定“1241”发展思路，全力提升“五个价值”，在技术创新中勇毅前行，在产业协同中携手共进，在践行社会责任中躬身力行，以实干实绩向着建设世界一流企业的目标扎实迈进。

2025 marks the concluding year of the 14th Five-Year Plan and the year for laying out the 15th Five-Year Plan. Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, CRSC has thoroughly studied and implemented the spirit of the 20th National Congress of the Communist Party of China and the plenary sessions of the 20th Central Committee, anchored on the “1241” development strategy, and strived to enhance the “Five Values”. We forged ahead bravely in technological innovation, pursued win-win cooperation in industrial synergy, and earnestly practiced social responsibilities, making solid strides toward the goal of building a world-class enterprise with solid performance.

这一年，我们笃行实干，筑牢发展根基。坚持以高质量党建引领高质量发展，持续完善中国特色现代企业制度，不断健全合规经营、风险防控体系，公司治理效能稳步提升，获评2024年度和2022—2024年任期中央企业负责人经营业绩考核A级。我们聚焦主责主业，深耕“轨道+低空”双赛道融合发展，实现智能轨交、智能低空、智慧城市、智能作业四大智能业务多点突破，低空空域智能管控系统、无蜂窝通信系统等核心技术实现产业化落地，海外市场斩获塞尔维亚、迪拜、墨西哥等多个高端项目，全产业链竞争优势得到持续巩固。

Over the year, we stayed committed to solid work to consolidate the foundation for development. Adhering to high-quality Party building leading high-quality development, we continued to improve the modern enterprise system with Chinese characteristics, constantly improved the compliance operation and risk prevention and control system, and steadily enhanced corporate governance efficiency. The Company was rated A-level in the business performance assessment of central enterprise leaders for 2024 and the 2022-2024 term. Focusing on our core business, we deepened the integrated development of the “Rail Transit + Low-altitude Economy” dual tracks, achieving breakthroughs in four smart businesses: smart rail transit, smart low-altitude, smart city and smart operation. Core technologies such as low-altitude airspace intelligent management and control system and non-cellular communication system were industrialized. In the overseas market, we secured a number of high-end projects in Serbia, Dubai, Mexico and other countries, and the competitive advantages of the whole industrial chain were continuously consolidated.

这一年，我们勇于创新，激活发展动能。始终把创新作为第一动力，持续强化科技创新战略支撑，建设高能级创新平台，优化创新人才培育机制，“通号科学家”团队引领攻关，承接国家重大工程技术项目，攻克一批“卡脖子”技术，以创新活力点燃高质量发展引擎，有效授权专利数量稳步增长。2025年，中国通号新增3家国家级制造业单项冠军企业、2家铁路行业科技创新基地，新增授权专利815项，其中发明专利693项。

Over the year, we dared to innovate to boost development momentum. We always take innovation as the primary driving force, continuously strengthen the strategic support of scientific and technological innovation, build high-level innovation platforms, and optimize the training mechanism for innovative talents. Led by the “CRSC Scientists” team, we undertook major national engineering and technological projects, overcame a number of “bottleneck” technologies, and ignited the engine for high-quality development with innovation vitality, with a steady growth in the number of validly authorized patents. In 2025, CRSC added 3 national-level manufacturing single champion enterprises, 2 railway industry technological innovation bases, and 815 new authorized patents, including 693 invention patents.

这一年，我们向绿而行，践行低碳承诺。深入贯彻“双碳”战略，成立“双碳”工作领导小组和工作小组，所属企业全部通过ISO 14001环境管理体系认证。积极应对气候变化，强化节能降耗管控，持续提升能源利用效率，筑牢生态保护屏障，绿色发展基石不断夯实。2025年，中国通号4家所属企业获评绿色工厂称号，其中国家级1家、省部级3家。

Over the year, we pursued green development to honor low-carbon commitments. We thoroughly implemented the “dual carbon” strategy, established a leading group and a working group for “dual carbon” work, and all affiliated enterprises passed ISO 14001 environmental management system certification. We actively responded to climate change, strengthened energy conservation and consumption control, continuously improved energy utilization efficiency, promoted resource recycling, and built a solid barrier for ecological protection, further consolidating the cornerstone of green development. In 2025, 4 affiliated enterprises of CRSC were awarded the title of Green Factory, including 1 national-level and 3 provincial and ministerial-level.

这一年，我们以人为本，厚植责任担当。坚持“以人为本、安全至上、精诚致远”发展理念，深入开展安全生产“雷霆行动”，压实安全责任链条，提升本质安全水平。深化产业工人队伍建设改革，发挥劳模创新工作室引领作用，营造尊重人才、培育人才、成就人才的良好生态。扎实推进定点帮扶工作，投入800万元无偿帮扶资金，推动社旗县帮扶工作从“输血”向“造血”转变，获评国务院国资委定点帮扶工作成效考核最高等次“好”。以“同心筑梦”志愿服务品牌为引领，开展各类公益志愿服务活动，以点滴善举凝聚向善力量，以实干担当诠释央企使命。

Over the year, we put people first to strengthen our sense of responsibility. Adhering to the development philosophy of “People-oriented, Safety First, Sincerity for Long-term Success”, we carried out in-depth the “Thunder Action” for work safety, consolidated the safety responsibility chain, and improved the intrinsic safety level. We deepened the reform of the industrial worker team, gave play to the leading role of model worker innovation studios, and fostered a sound ecosystem of respecting, cultivating and realizing talents. We solidly promoted targeted assistance, investing 8 million yuan in free assistance funds, and promoted the transformation of assistance work in Sheqi County from “blood transfusion” to “blood-making”. The Company was rated “Excellent”, the highest grade, in the effectiveness assessment of targeted assistance work by SASAC. Led by “Building Dreams Together” volunteer service brand, we carried out various public welfare volunteer activities, gathering positive strength with every good deed, and interpreting the mission of central enterprises with solid work and responsibility.

大道至简，实干为要；行而不辍，未来可期。2026年，站在新的发展起点，中国通号将继续以习近平新时代中国特色社会主义思想为指导，紧扣打造智能控制领域“大国重器”总目标，加快构建“12415”发展格局，持续深化双赛道布局，做强做大智能终端装备产业，在服务国家战略中增强核心功能，在深化改革创新中提升核心竞争力，为“十五五”高质量发展开好局、起好步。

The greatest truth lies in simplicity, and the key lies in solid work; perseverance makes the future promising. In 2026, standing at a new starting point for development, CRSC will continue to be guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, closely focus on the overall goal of building “national key equipment” in the field of intelligent control, accelerate the construction of the “12415” development pattern, continuously deepen the dual-track layout, strengthen and expand the intelligent terminal equipment industry, enhance core functions in serving national strategies, improve core competitiveness in deepening reform and innovation, and make a good start for the high-quality development of the 15th Five-Year Plan.

最后，我谨代表中国通号董事会及全体员工，向长期以来给予我们信任、支持与指导的合作伙伴、各界友人致以最诚挚的感谢！未来，我们将继续秉持笃行不怠的初心，深耕主业、守正创新，与各方同心聚力、并肩同行，书写时代奋进新华章！

Finally, on behalf of the board of directors and all employees of CRSC, I would like to express our sincere gratitude to our partners and friends from all walks of life who have long trusted, supported, and provided guidance for us! In the future, we will continue to uphold our unremitting original aspiration, deepen our core business, uphold integrity and pursue innovation, work together with all parties, and write a new chapter of progress in the era!

关于我们

About Us

公司简介

Company Profile

中国铁路通信信号集团有限公司始建于1953年，是我国创建最早的铁路专业化公司之一，是国务院国资委直接监管的大型中央企业，目前已经发展成为以智能控制技术为特色的高科技产业集团、全球领先的轨道交通控制系统提供商。公司所属中国铁路通信信号股份有限公司2015年在香港联交所上市，2019年作为首家中央企业在上海证券交易所科创板上市，成为第一家A+H股上市的大型央企，2020年首次跨入“千亿资产央企”行列。公司现有18家重要二级企业，员工总数近2万人。（股票代码：688009.SH，03969.HK）。

China Railway Signal & Communication Group Co., Ltd., founded in 1953, is one of the earliest specialized railway companies established in China and a large central enterprise directly supervised by SASAC. It has developed into a high-tech industrial group featuring intelligent control technology and a world-leading provider of rail transit control systems. China Railway Signal & Communication Co., Ltd., a subsidiary of the Group, was listed on The Stock Exchange of Hong Kong Limited in 2015, and became the first central enterprise listed on the Science and Technology Innovation Board (STAR Market) of the Shanghai Stock Exchange in 2019, making it the first large central enterprise listed both A-share and H-share. In 2020, it ranked among the “central enterprises with 100 billion assets” for the first time. The Company now has 18 important secondary enterprises with nearly 20,000 employees. (Stock code: 688009.SH, 03969.HK).



指标 Indicators	单位 Unit	2023	2024	2025
资产总额 Total assets	亿元 CNY 100 million	1,189.90	1,178.91	1,183.22
营业收入 Operating income	亿元 CNY 100 million	370.87	324.73	345.53
净利润 Net profit	亿元 CNY 100 million	40.15	40.69	42.47
全年实现新签合同额 Total amount of new contracts signed throughout the year	亿元 CNY 100 million	731.21	500.69	441.4

发展战略

Development Strategy

中国通号落实“1241”工作思路，加速推动产业结构转型升级，围绕打造智能控制领域“大国重器”总目标，聚焦“轨道交通+低空经济”两条主赛道，着力打造发展“第二曲线”，更好履行支撑服务国家重大战略功能使命。

CRSC implements the “1241” working approach, accelerates the transformation and upgrading of the industrial structure, centers on the overall goal of building “national key equipment” in the field of intelligent control, focuses on the two main tracks of “Rail Transit + Low-altitude Economy”, strives to create the “second growth curve” of development, and better fulfills the functional mission of supporting and serving major national strategies.

“1241” 战略 “1241” Strategy	
1个总目标 One overall goal	智能控制领域“大国重器”总目标 Building “national key equipment” in the field of intelligent control
2条主赛道 Two main tracks	轨道交通+低空经济 Rail Transit + Low-altitude Economy
4项智能业务 Four smart business segments	智能轨交、智能低空、智慧城市、智能作业 Smart rail transit, smart low-altitude, smart city, smart operation
1个产业 One key industry	加快发展智能终端装备产业 Accelerate the development of the intelligent terminal equipment industry

业务布局

Business Layout

中国通号以智能控制技术优势为基础，拓宽“智能控制+N”产业路径，以“轨道+低空”融合发展理念，布局发展智能轨交、智能低空、智慧城市、智能作业四项智能业务，加快发展智能终端装备产业，坚持以数智赋能巩固深化轨道交通“三位一体”全产业链新优势，完整塑造低空空域管理、无人机制造、服务运营“三业一态”产业格局。

Based on the advantages of intelligent control technology, CRSC broadens the "Intelligent Control + N" industrial path. With the concept of integrated development of "Rail + Low-altitude", it lays out and develops four smart businesses: smart rail transit, smart low-altitude, smart city and smart operation, and accelerates the development of the intelligent terminal equipment industry. Adhering to digital empowerment, it consolidates and deepens the new "Trinity" whole-industry-chain advantages of rail transit, and fully shapes the industrial pattern of "Three Industries & One Format" covering low-altitude airspace management, UAV manufacturing and service operation.

企业文化

Corporate Culture

使命愿景

Mission and vision

造就智能运载产业 引领交通现代化 用心守护人们美好生活

Cultivating the intelligent transport industry, leading transportation modernization, and wholeheartedly safeguarding a better life for people

核心价值观

Core values

以人为本 创新求进 安全至上 共创价值

People-oriented, innovative and progressive, safety first, co-creation of value

企业精神

Corporate spirit

求实 创新 拼搏 奉献

Practicality, innovation, perseverance, dedication

中国通号·荣誉 2025

Awards and Honors Won by CRSC in 2025

• 奖项及认可
Awards and honors

• 获授机构
Won by

• 颁发机构
Presented by

• 获奖时间
Date



中国专利优秀奖
China Patent Excellence Award

卡斯柯

CASCO

国家知识产权局

China National Intellectual Property Administration

2025年1月

January 2025



2024年度中国铁道学会科学技术奖
2024 Science and Technology Award given by China Railway Society

中国铁路通信信号股份有限公司

China Railway Signal & Communication Co., Ltd.

中国铁道学会

China Railway Society

2025年1月

January 2025



2024年度中国铁道学会科学技术奖
2024 Science and Technology Award given by China Railway Society

中国铁路通信信号股份有限公司

China Railway Signal & Communication Co., Ltd.

中国铁道学会

China Railway Society

2025年1月

January 2025



中国交通运输协会科学技术奖
China Communications and Transportation Association Science and Technology Award

研究设计院集团、卡斯柯、通信信息集团、上海工程局集团

CRSC Research & Design Institute Group, CASCO, CRSC Communication & Information Corporation, CRSC Shanghai Engineering Bureau Group

中国交通运输协会

China Communications and Transportation Association

2025年3月

March 2025



第七届全国文明单位
7th National Civilized Unit

研究设计院集团
CRSC Research & Design Institute Group

中央精神文明建设办公室
Central Spiritual Civilization Development Steering Commission

2025年5月
May 2025



2024年度中央企业定点帮扶工作成效考核评价结果，获最高等次“好”的评价

Rated "Good" (highest grade) in the 2024 Assessment of Targeted Assistance Effectiveness of Central Enterprises

中国铁路通信信号股份有限公司
China Railway Signal & Communication Co., Ltd.

国务院国资委
SASAC

2025年6月
June 2025



质量信得过班组优秀奖
Excellence Award for Quality Trustworthy Team

西安工业集团
CRSC (Xi'an) Rail Transit Industry Group Co., Ltd.

中国铁道企业管理协会
China Railway Enterprise Management Association

2025年7月
July 2025



上海市科技进步奖二等奖
Second Prizes of Shanghai Technology Progress Award

卡斯柯
CASCO

上海市人民政府
Shanghai Municipal People's Government

2025年8月
August 2025



2023—2024年度铁路优质工程（勘察设计）奖
2023-2024 High-Quality Railway Engineering (Investigation & Design) Award

中国铁路通信信号股份有限公司
China Railway Signal & Communication Co., Ltd.

国家铁路局
National Railway Administration of the People's Republic of China

2025年6月
June 2025



2024年度和2022—2024年任期中央企业负责人经营业绩考核A级

Grade A in the 2024 and 2022-2024 Term Business Performance Evaluation of Heads of Central Enterprises

中国铁路通信信号股份有限公司
China Railway Signal & Communication Co., Ltd.

国务院国资委
SASAC

2025年7月
July 2025



2025年先进级智能工厂
2025 Advanced Smart Factory

研究设计院集团北信公司
Beijing Railway Signal Co., Ltd. of CRSC Research & Design Institute Group

北京市经济和信息化局
Beijing Municipal Bureau of Economy and Information Technology

2025年8月
August 2025



2025年先进级智能工厂
2025 Advanced Smart Factory

西安工业集团西信公司
Xi'an Railway Signal Co., Ltd. of CRSC (Xi'an) Rail Transit Industry Group Co., Ltd.

陕西省工业和信息化厅
Industry and Information Technology Department of Shaanxi Province

2025年8月
August 2025



2025年度全国质量小组一类成果
First-Class Achievement of 2025 National Quality Control Group

研究设计院集团
CRSC Research & Design Institute Group

中国铁道企业管理协会
China Railway Enterprise Management Association

2025年7月
July 2025



2025年质量管理小组成果发布邀请赛优秀奖
Excellence Award in 2025 Quality Control Group Achievement Presentation Invitational Tournament

卡斯柯
CASCO

中国铁道企业管理协会
China Railway Enterprise Management Association

2025年7月
July 2025



“2025精益数字化创新大会”最佳组织奖
Best Organization Award of "2025 Lean Digital Innovation Conference"

中国铁路通信信号股份有限公司
China Railway Signal & Communication Co., Ltd.

中国企业改革与发展研究会
China Enterprise Reform and Development Society

2025年9月
September 2025



2025中国精益数智化创新大赛1个一等奖、2个二等奖、4个三等奖
1 First Prize, 2 Second Prizes, 4 Third Prizes in 2025 China Lean Digital Intelligence Innovation Competition

中国铁路通信信号股份有限公司
China Railway Signal & Communication Co., Ltd.

中国企业改革与发展研究会
China Enterprise Reform and Development Society

2025年9月
September 2025



中国ESG上市公司先锋100 (2025)
ESG Pioneer Top 100 Listed Companies in China (2025)

中国铁路通信信号股份有限公司
China Railway Signal & Communication Co., Ltd.

中央广播电视总台
China Media Group

2025年10月
October 2025



中国 ESG 上市公司央企先锋 100 (2025)
China ESG Central Enterprise Listed Companies Pioneer 100 (2025)

中国铁路通信信号股份有限公司
China Railway Signal & Communication Co., Ltd.

中央广播电视总台
China Media Group

2025年10月
October 2025



2025央企产业链创新发展优秀案例
Excellent Cases of Innovation and Development of Central Enterprise Industrial Chains 2025

中国铁路通信信号股份有限公司
China Railway Signal & Communication Co., Ltd.

国务院国资委
SASAC
中国企业改革与发展研究会
China Enterprise Reform and Development Society

2025年11月
November 2025



中央企业品牌引领行动创建成果
Achievement of Central Enterprise Brand Leading Action

卡斯柯
CASCO

国务院国资委
SASAC

2025年11月
November 2025



“2025年度软件和信息技术服务竞争力百强企业” 位列第35名，刷新历史最佳
Ranked 35th in “2025 Top 100 Enterprises in Software and Information Technology Service Competitiveness”, hitting a record high

研究设计院集团
CRSC Research & Design Institute Group

中国电子信息行业联合会
China Federation of Electronics and Information Industry (CFEII)

2025年10月
October 2025



第八届“绽放杯”标准化特色赛全国三等奖
Third Prize in the National Finals of the 8th “Bloom Cup” Standardization Featured Competition

城交公司
CRSC Urban Rail Transit Technology Co., Ltd.

中国信息通信研究院
China Academy of Information and Communications Technology (CAICT)
中国通信标准化协会
China Communications Standards Association

2025年10月
October 2025



ESG鲸牛奖—ESG先锋企业
ESG Whale & Bull Award - ESG Pioneer Enterprise

中国铁路通信信号股份有限公司
China Railway Signal & Communication Co., Ltd.

中国企业改革与发展研究会
China Enterprise Reform and Development Society
责任云研究院
CSR Cloud Research Institute

2025年11月
November 2025



2025年全路职工技术创新和合理化建议优秀成果
Excellent Achievements of National Railway Staff Technological Innovation and Rationalization Proposals 2025

西安工业集团
CRSC (Xi'an) Rail Transit Industry Group Co., Ltd.

中华全国铁路总工会
Chinese National Railway Federation of Trade Unions

2025年11月
November 2025



国家级制造业单项冠军企业
National Single Champion Enterprise of Manufacturing Industry

研究设计院集团北信公司
Beijing Railway Signal Co., Ltd. of CRSC Research & Design Institute Group

北京市经济和信息化局
Beijing Municipal Bureau of Economy and Information Technology

2025年10月
October 2025



IDC中国未来企业大奖
IDC China Future Enterprise Award

通号集团财务有限公司
CRSC Group Finance Co., Ltd.

国际数据公司 (IDC)
International Data Corporation (IDC)

2025年10月
October 2025



2024年度北京市科学技术奖 (技术发明奖) 二等奖
Second Prize of 2024 Beijing Science and Technology Award (Technological Invention Award)

研究设计院集团
CRSC Research & Design Institute Group

北京市科学技术委员会
Beijing Municipal Science & Technology Commission
中关村科技园区管理委员会
Administrative Commission of Zhongguancun Science Park

2025年11月
November 2025



2024—2025年度中国股权投资行业优秀新锐机构奖
2024-2025 Excellent New Institution Award in China's Private Equity Investment Industry

中国铁路通信信号股份有限公司
China Railway Signal & Communication Co., Ltd.

全球PE论坛
Global PE Forum
财新数据
Caixin Data

2025年12月
December 2025

可持续发展管理

Sustainable Development Management

可持续发展理念

Concept of sustainable development

中国通号始终秉持可持续发展理念，以“造就智能运载产业，引领交通现代化，用心守护人们美好生活”的使命愿景为引领，将可持续发展理念融入公司生产经营各环节，推动公司与社会、环境协同共进，为可持续发展贡献力量。

CRSC has always adhered to the philosophy of sustainable development. Guided by its mission and vision of “cultivating the intelligent transport industry, leading transportation modernization, and wholeheartedly safeguarding a better life for people”, CRSC integrates sustainable development into all aspects of production and operation, promotes coordinated progress of the Company with society and the environment, and contributes to sustainable development.

使命愿景：造就智能运载产业，引领交通现代化，用心守护人们美好生活
Mission & Vision: Cultivating the intelligent transport industry, leading transportation modernization, and wholeheartedly safeguarding a better life for people



可持续发展管治

Sustainable development Governance

中国通号持续完善可持续发展治理架构与工作机制，高层深度把关参与可持续发展工作，各部门协同联动开展工作，不断提升公司可持续发展能力。2025年，公司入选中央广播电视总台财经节目中心“中国上市公司ESG先锋100”指数第17位、央企第10位，并在2025年ESG中国创新年会规范披露会议上作交流分享，树立中央企业可持续发展标杆。

CRSC continuously improves its sustainable development governance structure and working mechanism, with senior management deeply involved in overseeing sustainable development, and all departments working in coordination to continuously enhance the Company's sustainable development capacity. CRSC ranked 17th in CMG Finance Program Center's "ESG Pioneer Top 100 Listed Companies in China" Index and 10th among central enterprises. It also shared experiences at the 2025 ESG China Innovation Annual Conference on Standardized Disclosure, setting a benchmark for sustainable development among central enterprises.



利益相关方沟通

Stakeholder communication

中国通号高度重视与各类利益相关方的良性互动与开放沟通，通过多渠道、常态化的沟通交流活动，倾听各方诉求与关切，凝聚共识，携手同行，推动公司与社会环境的和谐共生与长远发展。

CRSC attaches great importance to positive interaction and open communication with all stakeholders. Through multi-channel and regular communication activities, CRSC listens to the demands and concerns of all parties, builds consensus, and moves forward together to promote the harmonious coexistence and long-term development of the Company with society and the environment.

利益相关方类型 Type of Stakeholder	期望与诉求 Expectations and Appeals	沟通方式 Communication Channels
 政府与监管机构 Government and regulators	<ul style="list-style-type: none"> 响应国家战略 Respond to national strategy 诚信守法经营 To operate honestly and legally 依法纳税 To pay taxes according to law 带动就业 Employment promotion 助力地方经济发展 Support local economic development 	<ul style="list-style-type: none"> 工作汇报 Work reporting 参加会议 Conferences 监督检查 Supervision and inspection 信息报送 Information reporting
 股东与投资者 Shareholders and investors	<ul style="list-style-type: none"> 良好的经营业绩 Good operation performance 资产保值增值 Asset preservation and appreciation 信息合规披露 To disclose information 降低经营风险 To reduce operation risks 股东权益保护 To protect the interests of shareholders and investors 	<ul style="list-style-type: none"> 企业定期报告及公告 Corporate annual report, middle term report and announcements 股东会 Board of shareholders 业绩说明会 Performance presentation session 投资者反向路演活动 Investor reverse roadshows 投资者交流活动 Investor exchange activities 沟通汇报 Reporting and communication
 客户 Customer	<ul style="list-style-type: none"> 合同履行 To perform contracts 产品服务优质 High-quality products and services 隐私保护 Privacy protection 	<ul style="list-style-type: none"> 客户拜访 Customer visit 客户满意度调查 Customer satisfaction survey 电话、邮件、信件及在线反馈 Telephone, e-mail, letter, and on-line feedback

利益相关方类型 Type of Stakeholder	期望与诉求 Expectations and Appeals	沟通方式 Communication Channels
 员工 Employee	<ul style="list-style-type: none"> 保障员工权益 To protect staff interests 促进职业发展 To promote occupational development 员工身心关怀 Physical and mental care for employees 保障薪酬福利 To offer rational salary and welfare 海外员工管理 Management of overseas staff 	<ul style="list-style-type: none"> 职工代表大会 Employees' congress 员工培训教育 Staff training and education 员工培养 Staff development 日常沟通 Daily communication 薪酬激励 Compensation
 供应商与合作伙伴 Suppliers and partners	<ul style="list-style-type: none"> 诚信经营 Integrity operations 阳光采购 To guarantee open, fair and legal procurement 互利共赢 Mutual benefit and win-win 隐私保护 Privacy protection 	<ul style="list-style-type: none"> 公开招标 Open tendering 开展合作 Carrying out cooperation 沟通交流 Communication and exchange 高层互访 High-level exchange visits
 行业协会 Industry associations	<ul style="list-style-type: none"> 公平竞争 Fair competition 科技创新 Science and technology innovation 行业进步 To promote the industrial development 	<ul style="list-style-type: none"> 加强同业交流 Enhancing communication with peers 参加行业论坛 Participating in industry forums 制定行业标准 Develop industry standards 考察互访 Research tours and exchange visits
 社区及公众 Community and the public	<ul style="list-style-type: none"> 社区建设 Community construction 社会公益 Social welfare 	<ul style="list-style-type: none"> 社区沟通宣传 Community communication and publicity 公益慈善活动 Public service and charity activities 志愿服务活动 Volunteer activities

双重重要性议题

Dual materiality topics

中国通号对标国际国内政策导向，结合行业发展趋势，充分吸纳专家研判意见，并结合公司业务开展情况，从影响重要性与财务重要性两个维度系统开展重要性议题分析，并在年度ESG报告中对重要性议题进行详尽披露。

CRSC aligns with international and domestic policy guidelines, according to industry development trends, fully absorbs expert opinions, and conducts a systematic analysis of material topics from two dimensions - impact materiality and financial materiality - based on its business operations, with detailed disclosure in the annual ESG Report.

背景研究
Background research

全面梳理公司业务活动及外部政策环境，同时识别核心利益相关方群体，确保议题识别全面

Comprehensively sorts out the Company's business activities and external policy environment, and identifies core stakeholder groups to ensure comprehensive topic identification

搭建议题清单
Topic list establishment

以香港联合交易所《环境、社会及管治报告守则》、上海证券交易所《上海证券交易所上市公司自律监管指引第14号—可持续发展报告（试行）》为基础，结合行业特性、自身商业模式及同业实践，补充潜在重要议题，形成全面且贴合企业实际的初步议题清单

Based on the *Environmental, Social and Governance Reporting Guide* issued by HKEX and the *Guidelines No. 14 of Shanghai Stock Exchange for Self-Regulation of Listed Companies—Sustainability Report (Trial)*, supplements potential material topics by combining industry characteristics, business model and peer practices to form a comprehensive and practical preliminary topic list

开展双重性评估
Dual materiality assessment

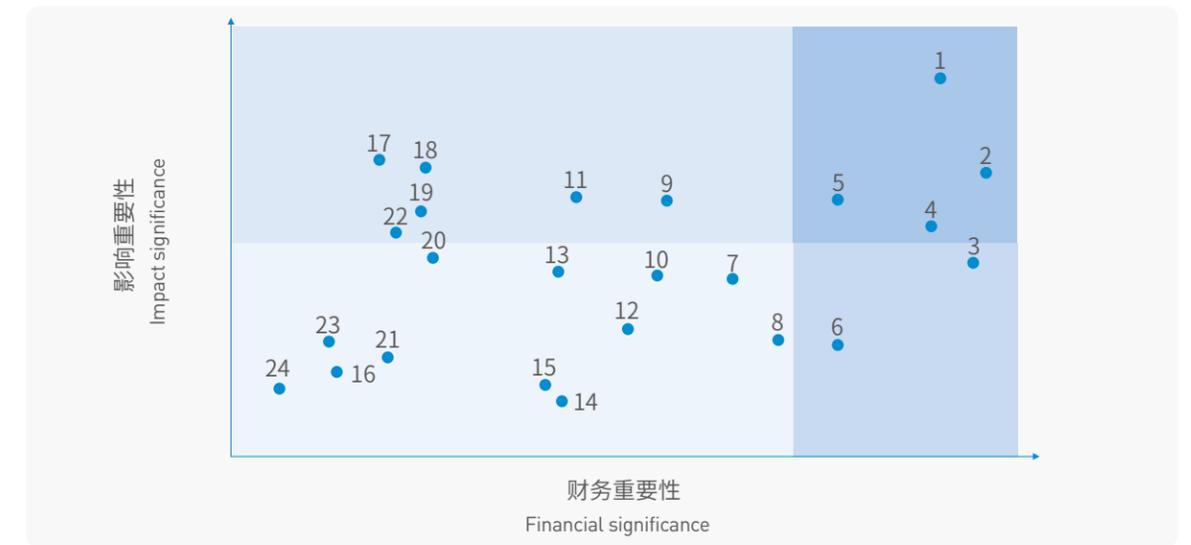
从影响重要性和财务重要性两个维度出发，结合专家意见与利益相关方反馈，进行议题选定和议题重要性评估排序

Conducts topic selection, evaluation and ranking from impact materiality and financial materiality dimensions, incorporating expert opinions and stakeholder feedback

确认议题
Topic confirmation

得出议题双重重要性评估得分，明确优先级排序，为后续可持续发展工作和报告披露重点方向提供依据。经识别，“安全生产管理”“创新驱动”“产品和服务安全与质量”“环境合规管理”“反商业贿赂与反腐败”“应对气候变化”6个议题为具有财务重要性的议题，依照“治理”“战略”“影响、风险和机遇管理”“指标与目标”四个方面予以回应。其余18个议题均依照《指引》对相关议题的披露要求在本报告中予以回应

Obtains double materiality assessment scores, clarifies priority ranking, and provides a basis for follow-up sustainable development work and key disclosure directions of the report. 6 topics are identified as financial materiality topics: Work Safety Management, Innovation Driven, Safety and Quality of Products and Services, Environmental Compliance Management, Anti-Commercial Bribery and Anti-Corruption, Addressing Climate Change. They are addressed in four aspects: Governance, Strategy, Impact, Risk and Opportunity Management, and Indicators and Targets. The remaining 18 topics are addressed in this report in accordance with the disclosure requirements of the Guidelines



编号 No	议题 Issues	编号 No	议题 Issues
1	安全生产管理 Work safety management	13	公司治理 Corporate governance
2	创新驱动 Innovation driving	14	尽职调查 Due diligence
3	产品和服务安全与质量 Safety and quality of products and services	15	利益相关方沟通 Stakeholder communication
4	环境合规管理 Environmental compliance management	16	社会贡献 Social contribution
5	反商业贿赂与反腐败 Anti-commercial bribery and anti-corruption	17	废弃物处理 Waste disposal
6	应对气候变化 Addressing climate change	18	乡村振兴 Rural revitalization
7	能源利用 Energy utilization	19	循环经济 Circular economy
8	供应链安全 Supply chain security	20	污染物排放 Pollutant emission
9	智能化与数字化转型 Intelligent and digital transformation	21	生态系统和生物多样性保护 Ecosystem and biodiversity conservation
10	数据安全与客户隐私保护 Data security and customer privacy protection	22	水资源利用 Utilization of water resources
11	员工 Employee	23	平等对待中小企业 Equal treatment for small and medium enterprises
12	反不正当竞争 Anti-unfair competition	24	科技伦理 Technology ethics



回应的 SDGs
SDGs addressed



中国通号以党建引领发展方向，持续完善公司治理体系，强化合规经营与风险防控，聚焦“双赛道”战略培育核心竞争优势，严守安全生产底线，全力推动公司实现高质量发展。

Guided by Party building, CRSC continuously improves its corporate governance system, strengthens compliant operation and risk prevention and control, focuses on its “dual-track” strategy to foster core competitive advantages, strictly adheres to the bottom line of work safety, and fully promotes high-quality development.

01

国之重器 引领发展新程

National Key Equipment
Leading a New Journey of Development

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党建引领 强基铸魂

Party Building Leads, Strengthening Foundations and Soul

深化理论武装

Deepening theoretical study

始终把强化理论武装作为首要政治任务，坚持以习近平新时代中国特色社会主义思想为指引，严格落实党委理论中心组学习制度，深入学习党的二十届三中全会和二十届历次全会精神。持续加强理想信念教育、党性教育和纪律教育，开展专题党课，不断提升政治判断力、政治领悟力、政治执行力，切实把学习成果转化为企业发展动能。

We have always taken strengthening theoretical arming as our top political priority, adhered to taking Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era as the guide, strictly implemented the system of theoretical study sessions for Party committee leading groups, and thoroughly studied the spirit of the 20th National Congress of the Communist Party of China and all plenary sessions of its 20th Central Committee. We have continued to strengthen education in ideals and convictions, Party spirit, and discipline, held special Party lectures, continuously enhanced our political judgment, political understanding, and political execution, and effectively translated learning outcomes into driving forces for enterprise development.



中国通号组织召开传达学习贯彻党的二十届四中全会精神视频会议暨宣讲报告会

CRSC organized and held a video conference and a report meeting to convey, study and implement the spirit of the Fourth Plenary Session of the 20th Central Committee of the Communist Party of China

夯实组织基础

Consolidating organizational foundation

中国通号指导9家所属企业党组织设置调整，对所有三级企业换届进行提级督导，全级次152个基层党组织顺利换届。高质量发展党员225名，“两节”“七一”慰问基层党组织30个、党员140名，持续深化岗、区、队建设及党建品牌创建。

CRSC guided the adjustment of Party organizations in 9 affiliated enterprises, supervised the re-election of all tertiary enterprises at a higher level, and successfully re-elected 152 primary-level Party organizations at all levels. It recruited 225 high-quality Party members, visited 30 primary-level Party organizations and 140 Party members during the "New Year's Day, Spring Festival, and The Founding Day of the Communist Party of China", and continued to deepen the development of posts, areas, teams and Party building brand creation.



中国通号在江西瑞金举办党建强基赋能专题研讨班暨新任支部书记培训班

CRSC held a special seminar on strengthening the foundation and empowering Party building and a training course for new branch secretaries in Ruijin, Jiangxi Province



中国通号召开2025年度二级企业党组织书记抓基层党建述职评议会

CRSC held a meeting for the assessment and evaluation of the performance of grassroots Party building by the secretaries of the Party organizations of its secondary enterprises in 2025

强化党建引领

Conduct theoretical learning

中国通号以党建赋能核心业务提质增效，高质量推动“第一议题”、党委重要事项督办、两级巡视整改、深化改革提升行动等专项任务。深化党建强基赋能，明确11家牵头企业实施党建强基赋能专项行动，推动80余个基层党组织开展联建共建，11项成果入选国企党建优秀案例，创历史新高。

CRSC empowered core business to improve quality and efficiency through Party building, and promoted special tasks with high quality, including the "First Topic", supervision of important matters of the Party Committee, rectification of two-level inspections, and deepening reform and improvement actions. It deepened the special action of strengthening Party building, designated 11 leading enterprises, promoted joint construction among more than 80 primary-level Party organizations, and 11 achievements were selected as excellent cases of SOE Party building, reaching a record high.

党风廉政建设

Improving Party conduct and upholding integrity

中国通号深入贯彻落实国务院国资委、驻委纪检监察组部署要求，新增《党委关于推进党的纪律教育常态化长效化实施办法》，修订《领导干部廉政档案管理办法》，以扎实开展深入贯彻中央八项规定精神学习教育和“三化”建设年行动为主线，推动领导班子成员报告履行全面从严治党“一岗双责”情况，对“一岗双责”履责重点提出具体要求。以“作风建设专项活动”为抓手，组织开展廉政小课堂、作风建设调查评测，以上率下，将作风建设融入日常、抓在经常、落在平常。

CRSC thoroughly implemented the deployment requirements of SASAC and the discipline inspection and supervision team stationed in SASAC. It newly issued the *Measures for Promoting the Normalization and Long-term Effectiveness of Party Discipline Education* and revised the *Measures for the Administration of Clean Government Archives of Leading Cadres*. Focusing on in-depth study and education on the spirit of the Eight-point Regulation of the Central Committee and the “Three Modernizations” Construction Year campaign, it urged leading group members to report on the performance of the “dual responsibilities” for full and strict governance over the Party, and put forward specific requirements for key responsibilities. Through the “Special Campaign on Work Style Construction”, it carried out clean government micro-classes and work style surveys, leading by example to integrate work style construction into daily work.

2025年，中国通号党委对3家二级企业开展巡视、18家三级企业开展巡察，督导组深入西安工业集团、上海工程局现场，督促问题整改落实，利剑作用充分彰显，压实管党治党政治责任。

In 2025, the Party Committee of CRSC conducted inspections in 3 secondary subsidiaries and disciplinary inspections in 18 tertiary subsidiaries. Supervision teams were dispatched to CRSC (Xi'an) Rail Transit Industry Group Co., Ltd. and CRSC Shanghai Engineering Bureau to supervise the rectification and implementation of problems, fully demonstrating the role of inspection as a “sharp sword” and consolidating the political responsibility of Party governance.



中国通号2025年党风廉政建设和反腐败工作会议暨警示教育大会

CRSC 2025 Conference on Party Conduct, Integrity and Anti-Corruption Work and Warning Education Conference



中国通号深入贯彻中央八项规定精神学习教育专题党课暨警示教育大会

CRSC held a special Party class and warning education conference on thoroughly implementing the spirit of the Central Eight-point Regulation



中国通号2025年纪检干部培训班

CRSC's 2025 discipline inspection cadre training course



中国通号2025年廉政警示教育小课堂活动

CRSC's 2025 small classroom activity on integrity warning education

公司治理 行稳致远

Corporate Governance Ensures Steady and Long-Term Development

完善公司治理

Improve corporate governance

中国通号根据《中华人民共和国公司法》《中华人民共和国证券法》及国务院国资委、证监会等监管机构要求，修订《公司章程》及相关制度，保证公司治理职责范围明晰、议事程序规范。落实党委“把方向、管大局、保落实”的领导作用，明确董事会“定战略、作决策、防风险”、经理层“谋经营、抓落实、强管理”的核心权责，保障外部董事知情权、表决权、监督权、建议权，加快建立健全权责法定、权责透明、协调运转、有效制衡的公司治理机制。

In accordance with the *Company Law of the People's Republic of China*, the *Securities Law of the People's Republic of China* and the latest requirements of regulators including SASAC and CSRC, CRSC revised its Articles of Association and relevant systems to ensure clear governance responsibilities and standardized procedures. It implemented the leading role of the Party Committee in “setting direction, managing overall situation and ensuring implementation”, clarified the core powers of the Board of Directors in “setting strategy, making decisions and preventing risks” and the executive team in “managing operations, implementing and strengthening management”, protected the rights of external directors to know, vote, supervise and make proposals, and accelerated the establishment of a sound corporate governance mechanism with legally defined powers, transparent responsibilities, coordinated operation and effective checks and balances.

2025年，中国通号入选国务院国资委2024年度和2022—2024年任期中央企业负责人经营业绩考核A级企业名单。

In 2025, CRSC was rated Grade A in the 2024 and 2022-2024 term business performance evaluation of heads of central enterprises by SASAC.

董事会建设

Construction of the Board of Directors

董事会有效性

Effectiveness of the Board of Directors

中国通号董事会充分发挥经营决策主体作用，坚持科学决策、民主决策、依法决策，实行集体审议、独立表决、个人负责的决策制度，严格执行合法合规性审查、审议、表决等程序，召开独立董事专门会议对日常关联交易等议案进行独立审议。

The Board of Directors fully plays its role as the main decision-making body, adheres to scientific, democratic and law-based decision-making, implements a decision-making system of collective deliberation, independent voting and individual accountability, and strictly complies with legal compliance review, deliberation and voting procedures. It held special meetings of independent directors to independently review bills such as daily related party transactions.

2025年，中国通号召开董事会会议7次、专门委员会会议12次、独立董事专门会议1次，股东会会议2次。

In 2025, CRSC held 7 Board meetings, 12 special committee meetings, 1 special meeting of independent directors and 2 general meetings of shareholders.

董事会独立性

Independence
of the Board of
Directors

中国通号董事会下设5个专门委员会，薪酬与考核委员会、审计与风险管理委员会成员均由外部董事担任，且独立董事占多数，提名委员会独立董事占多数，战略与投资委员会、质量安全委员会外部董事占多数。各专门委员会均对分属领域事项进行深入细致研究，辅助董事会提高决策效率和运行质量。

The Board of Directors has 5 special committees. The Remuneration and Assessment Committee and the Audit and Risk Management Committee consist entirely of external directors with a majority of independent directors. The Nomination Committee has a majority of independent directors. The Strategy and Investment Committee and the Quality and Safety Committee have a majority of external directors. Each committee conducts in-depth research on its respective areas to assist the Board in improving decision-making efficiency and quality.

公司研究制定《所属企业董事会议事规则指引》《所属企业董事会和外部董事报告工作实施办法》，动态调整所属企业应建董事会清单，配齐建强外部董事队伍。加大专职外部董事遴选力度，常态化选拔决策能力强、企业经营管理经验丰富的干部担任专职外部董事。加强外部董事专业化培训，组织专职外部董事参加国资委国有企业现代公司治理培训班，不断提升外部董事履职能力。

The Company formulated the *Guidelines for Rules of Procedure of Boards of Directors of Affiliated Enterprises* and the *Measures for the Reporting of Work by Boards of Directors and External Directors of Affiliated Enterprises*, dynamically adjusted the list of affiliated enterprises required to establish boards of directors, and built a strong team of external directors. It strengthened the selection of full-time external directors, regularly selected cadres with strong decision-making ability and rich enterprise management experience as full-time external directors. It also enhanced professional training for external directors, organized full-time external directors to participate in the modern corporate governance training course for state-owned enterprises organized by the State-owned Assets Supervision and Administration Commission, so as to continuously enhance the performance capabilities of external directors.



董事会多元化

Diversity of the
Board of Directors

中国通号出台《董事会成员多元化及雇员（包括高级管理层）多元化实施办法》，构建专业互补、经验深厚、结构多元的董事会成员架构，以多元化治理提升决策科学性。

CRSC issued the *Measures for the Implementation of Diversity of Board Members and Employees (Including Senior Management)*, building a Board structure with complementary expertise, rich experience and diversified composition to improve decision-making scientificity through diversified governance.

投资者管理

Investor management

投资者权益保护

Protecting the rights
and interests of
investors

中国通号出台《市值管理制度》，制定提质增效重回报、市值管理相关方案，推出一系列提振投资者信心、维护市值稳定的扎实举措。2025年6月，中国通号A股首次入选上证180指数成分股；保持纳入沪深300、恒生综合指数、科创50等多项指数成分股，企业影响力持续增强。

CRSC issued the *Market Value Management System*, formulated plans for improving quality, efficiency and returns, and launched a series of measures to boost investor confidence and maintain market value stability. In June 2025, CRSC A-shares were included in the SSE 180 Index for the first time, and remained in the CSI 300, Hang Seng Composite, STAR 50 and other indices, with continuously enhanced corporate influence.

投资者沟通交流

Communication
and exchange with
investors

中国通号认真落实证监会《上市公司信息披露管理办法》、交易所上市规则等要求，真实、准确、完整、及时、公平披露公司重大事项，组织业绩说明会、投资者反向路演活动、投资者交流活动，方便中小投资者快速准确掌握公司重要信息。2025年，公司在上海证券交易所发布公告及披露文件93份，在香港联交所发布公告及披露文件58份，连续三年获上海证券交易所科创板上市公司信息披露“A”级评价。

CRSC earnestly implemented the requirements of the *CSRC Measures for the Information Disclosure of Listed Companies* and exchange listing rules, disclosed major events truthfully, accurately, completely, timely and fairly, and organized performance briefings, investor reverse roadshows and exchange activities to facilitate small and medium-sized investors to quickly and accurately grasp important information. In 2025, the Company issued 93 announcements and disclosure documents on the Shanghai Stock Exchange and 58 on the Stock Exchange of Hong Kong, and received an “A” rating for information disclosure of STAR Market listed companies by the Shanghai Stock Exchange for three consecutive years.



中国通号2024年度暨2025年第一季度业绩说明会

CRSC's 2024 Annual and 2025 First Quarter Results Briefing

反商业贿赂与反腐败

Anti-commercial bribery and anti-corruption

治理

Governance

中国通号严格执行反商业贿赂与反腐败相关制度规定，以制度建设为核心强化廉洁管理，健全完善配套管控机制，筑牢廉洁经营管理防线。

CRSC strictly implements systems on anti-commercial bribery and anti-corruption, strengthens clean governance with system construction as the core, improves supporting control mechanisms, and builds a strong line of defense for clean operation.

中国通号反商业贿赂与反腐败重要制度（部分）
Key anti-commercial bribery and anti-corruption systems of CRSC (partial)

《对领导干部进行提醒、函询和诫勉的实施细则》
Rules for Reminding, Inquiring and Admonishing Leading Cadres

《职工违纪违规处理规定》

Regulations on Punishments against Employee Violations

《关于查办腐败案件向集团公司纪委报告的实施办法（试行）》

Measures for Reporting Corruption Cases to the Discipline Inspection Commission of the Group Company (Trial)

《受处分人员回访教育实施暂行办法》

Interim Measures for the Follow-up Education of Punished Personnel

《纪检信访举报工作管理办法》

Measures for Managing Discipline Complaint and Whistleblowing Handling Work

《领导干部容错纠错实施办法（试行）》

Measures for Tolerating and Correcting Misconducts of Leading Cadres (Trial)

《监督执纪工作暂行办法》

Interim Measures for Executing Supervision and Discipline Enforcement Work

战略

Strategy

中国通号建立规范保密与举报人保护机制，畅通员工及利益相关方监督举报途径，全过程严格保密管理，有效保护举报人权益，强化廉洁合规与公平商业环境建设。

CRSC has established a standardized confidentiality and whistleblower protection mechanism, opened up smooth channels for employees and stakeholders to conduct supervision and reporting, implemented strict confidentiality management throughout the whole process, effectively protected the rights and interests of whistleblowers, and strengthened the development of an integrity-compliance and fair business environment.



信访举报保密制度 Petition and report confidentiality system

设立并公布专门的举报电话和电子邮箱，明确专人负责问题线索的接收与处理

Establish and publicize a special report hotline and email address, with designated personnel responsible for receiving and handling problem clues

严格执行《纪检信访举报工作管理办法》，提倡、鼓励实名举报，对实名举报优先办理、优先处置、给予答复

Strictly implement the Measures for Managing Discipline Complaint and Whistleblowing Handling Work, encourage real-name reporting, give priority to handling, disposal and reply to real-name reports

严格保密实名举报人信息和举报内容，对于匿名举报材料，不得擅自核查举报人的笔迹、网际协议地址（IP地址）等信息，在受理信访举报或者开展核查工作时，须以不暴露举报人身份为前提

Strictly keep confidential the information of real-name reporters and report contents; for anonymous reports, shall not verify handwriting, IP address and other information without permission; accept petitions and conduct verification without exposing the identity of reporters

影响、风险与机遇管理

Impact, risk and opportunity management

中国通号认真执行《招标监督管理办法》《巡视整改督查督办暂行办法》《关于进一步严明整治“靠企吃企”问题纪律要求的意见》等内部监督制度，持续完善党风廉政建设和反腐败工作协调小组工作机制，定期召开党风廉政建设和反腐败工作协调小组会议，充分运用《廉洁风险防控工作手册》，确保监督无死角。

CRSC earnestly implements internal supervision systems including the Measures for the Supervision and Administration of Bidding, the Interim Measures for the Supervision and Supervision of Inspection and Rectification, and the Opinions on Further Strictly Strengthening the Disciplinary Requirements for Rectifying the Problem of "Feeding on Enterprises". It continuously improves the working mechanism of the coordination group for Party conduct and clean governance and anti-corruption work, holds regular meetings, and fully applies the Integrity Risk Prevention and Control Handbook to ensure full supervision.

指标与目标

Indicators and targets

指标 Indicators	单位 Unit	2023	2024	2025
接受反腐败培训的员工比例 Proportion of employees receiving anti-corruption training	%	100	100	100
人均反腐败培训时长 Anti-corruption training hours per participant	小时 Hour	8.5	9	9.5
针对公司或雇员提出的贪污诉讼案件 Number of corruption lawsuits filed against the company or its employees	件 Piece	0	0	0
已审结的重大贪腐、舞弊、欺诈、洗黑钱等案件 Number of major corruption, fraud, misuse, money laundering and other cases concluded	件 Piece	0	0	0

合规经营 风险防控

Compliance Management and Risk Prevention

合规管理

Compliance management

合规管理体系

Compliance Management System

中国通号不断夯实合规管理组织体系，设立公司首席合规官，由总法律顾问兼任，深度参与重大合同、重要决策的审核把关，牵头组织合规管理制度建设、合规体系有效性运行评估等各项工作。

CRSC has continuously consolidated its compliance management organization system, has appointed its General Legal Advisor to concurrently serve as the Chief Compliance Officer, who is deeply involved in the review and control of major contracts and important decisions. Additionally, they lead the development of the compliance management system and assess the effectiveness of its operation, among other duties and functions.

2025年，公司组织开展《岗位合规职责清单》编制，形成覆盖重要领域、重要业务、重要岗位和关键环节的合规约束指南。修订《管控权力清单》《总部权限管理手册》，进一步明晰股份公司总部权责界面，规范各项审批流程权限。组织开展合规评价“回头看”，推进各二级企业完成对所属三级企业合规评价的全覆盖，合规管理体系运行有效性不断增强。

In 2025, the Company organized the compilation of the *Post Compliance Responsibility List*, forming a compliance guide covering key areas, businesses, posts and links. It revised the *Control Power List* and the *Headquarters Authority Management Manual* to further clarify the power and responsibility interface of the headquarters and standardize approval processes. It carried out a "review" of compliance evaluation, promoting full coverage of compliance evaluation of tertiary enterprises by secondary enterprises, and continuously enhancing the effectiveness of the compliance management system.

指标 Indicators	单位 Unit	2023	2024	2025
法律审核率（企业规章制度、经济合同、重大决策的法律审核） Legality review rate (review of the legality of internal rules & regulations, economic contracts and major decisions of enterprises)	%	100	100	100
经济合同履约率 Economic contract performance rate	%	100	100	100

合规文化建设

Compliance culture construction

中国通号始终坚持“合规从高层做起、全员主动合规、合规创造价值”的合规理念，着力构建高层人员引领合规、全体员工践行合规的价值体系，坚定捍卫合规经营底线。

CRSC always adheres to the compliance philosophy of "top management leading by example and all employees proactively complying to create value on the premises of compliance", strives to build a value system where senior management leads compliance and all staff practice compliance, and firmly defends the bottom line of compliant operation.



中国通号2025年度法治工作会暨世界一流法治企业建设推进会
CRSC's 2025 Annual Legal Work Conference and the Promotion Conference for the Construction of a World-Class Legal Enterprise



中国通号首届法治合规“领航人才”培训班
The first "Leading Talent" training course on rule of law and compliance of CRSC

指标 Indicators	单位 Unit	2023	2024	2025
守法合规培训场次 Number of compliance training sessions	次 Time	106	116	173
守法合规培训人次 Aggregate number of participants of compliance training sessions	人次 Person-time	8,164	8,852	12,667

平等对待中小企业

Equal treatment for small and medium enterprises

中国通号落实《中华人民共和国民营经济促进法》《保障中小企业款项支付条例》等监管要求，发布《关于保障中小企业款项支付、强化项目管理的通知》，修订标准合同文本，加大保障中小企业款项支付，加强工程项目管理，切实保障中小企业合法权益，促进产业链上下游协同发展。截至报告期末，公司应付账款（含应付票据）余额为409.11亿元，公司不存在任何逾期未支付款项。

CRSC implements regulatory requirements including the *Law on the Promotion of Private Economy of the People's Republic of China* and the *Regulations on Ensuring Payment to SMEs*. It issued the *Notice on Ensuring Payment to SMEs and Strengthening Project Management*, revised standard contract texts, increased efforts to ensure payment to SMEs, strengthened project management, effectively protected the legitimate rights and interests of SMEs, and promoted coordinated development of the industrial chain. As of December 31, 2025, CRSC's accounts payable (including notes payable) amounted to 40.911 billion, with no overdue payables outstanding.

风险防控

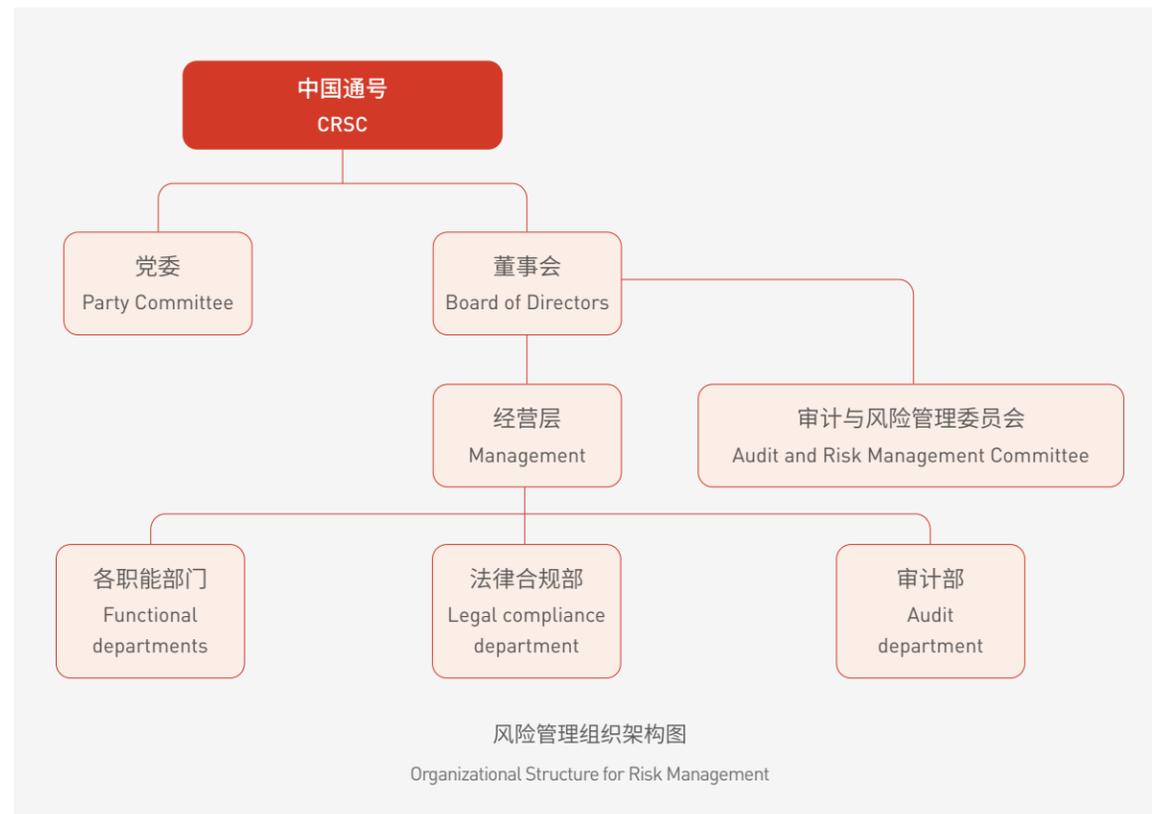
Risk prevention and control

中国通号遵循风险分级管理、分类管理和集中管理的原则，建立符合自身特点的全面风险管理组织体系。持续夯实风险管理体制机制，组织开展2025年度重大风险预测评估，编制《重大风险预测评估报告》。

CRSC follows the principles of risk grading, classification and centralized management, and establishes a comprehensive risk management system suitable for its own characteristics. It continuously consolidates the risk management mechanism, organized the 2025 major risk prediction and evaluation, and compiled the *Report on the Prediction and Evaluation of Major Risks*.

公司持续跟踪监测和督导重大经营风险事件和风险事项，指导事件相关子企业落实风险防范措施。建立“一企一表”的差异化风险量化监测指标体系，组织全系统开展季度监测并编制报告。推行工程企业法律人员对接重点项目机制，加快工程项目风险化解进度。组织涉及境外业务的所属企业排查境外项目合规风险，发布企业境外廉洁合规相关工作指引，持续筑牢境外业务风险合规防线。

The Company continuously tracks, monitors and supervises major operational risk events, and guides relevant subsidiaries to implement risk prevention measures. It established a differentiated risk quantitative monitoring index system of "one table for one enterprise", organized quarterly monitoring and reporting across the system. It implemented a mechanism for legal personnel of engineering enterprises to connect with key projects to accelerate risk resolution. It organized subsidiaries with overseas business to screen overseas project compliance risks and issued guidelines on overseas clean compliance, continuously building a strong risk and compliance line for overseas business.



内控管理

Internal control management

中国通号持续推进内控体系建设，形成以章程为统领、覆盖全级次的上下协调、有序互动、流程清晰、对接顺畅的内控制度体系。内部控制与公司战略、经营规模、业务范围、竞争状况和风险水平等相适应，并随着内外部环境的变化及时加以调整，每年发布制度建设计划，并按月跟踪落实情况。2025年，公司制修订制度32项。

CRSC continuously promotes the construction of the internal control system, forming a system led by the Articles of Association, covering all levels, with coordinated interaction, clear processes and smooth connection. Internal control adapts to corporate strategy, operation scale, business scope, competition and risk level, and is adjusted timely with changes in internal and external environments. The Company issues an annual system construction plan and tracks implementation monthly. In 2025, 32 systems were formulated or revised.

公司建立企业自评、上级公司监督评价、外部内控审计“三位一体”内控监督评价机制，实现内控监督评价第二轮三年全覆盖。制定《2023年—2025年内控监督规划》，分级分层开展对所属企业内控体系有效性的监督检查。基于内控自评价、外部专项审计以及内控监督检查三项系统评价机制，编制并对外披露内控有效性评价报告，提高公司经营管理水平和风险防范能力。

CRSC established a “three-in-one” internal control supervision mechanism: enterprise self-evaluation, higher-level supervision and evaluation, and external internal control audit, realizing the second round of three-year full coverage of internal control supervision and evaluation. It developed the 2023-2025 *Internal Control Supervision Plan* and carried out hierarchical and tiered supervision and inspections of affiliated enterprises’ internal control systems. Based on three evaluation mechanisms (internal control self-evaluation, external special audit and internal control supervision), it compiled and disclosed the internal control effectiveness report to improve operation and risk prevention capabilities.

审计监督

Audit supervision

中国通号持续推动构建“集中统一、全面覆盖、权威高效”的内部审计监督体系，充分发挥董事会审计委员会指导作用，制定《2025年内部审计工作要点》，围绕重点业务领域开展审计监督，发布《所屬子企业内部审计绩效考核实施细则》，开展审计工作质量评估，不断提升审计监督质效。同时，公司持续开展智慧审计监督平台建设，为实现“穿透式”监督提供坚实保障。

CRSC continuously promotes the construction of a “centralized, unified, comprehensive, authoritative and efficient” internal audit supervision system. It gives full play to the guidance of the Audit Committee of the Board of Directors, formulated the 2025 *Internal Audit Work Priorities*, carried out audit supervision around key business areas, issued the *Implementation Rules for Internal Audit Performance Assessment of Affiliated Subsidiaries*, conducted audit quality evaluation, and continuously improved audit supervision quality and efficiency. Meanwhile, the Company continued to develop the smart audit supervision platform to provide a solid guarantee for “penetrating” supervision.

指标 Indicators	单位 Unit	2023	2024	2025
开展审计 Audits carried out	次 Time	106	108	111
其中，专项审计 Including special audits	次 Time	62	64	60

反不正当竞争

Anti-unfair competition

中国通号严格遵守《中华人民共和国反垄断法》《中华人民共和国反不正当竞争法》，坚决保护合作方或潜在合作方合法权益，杜绝不正当竞争与垄断行为，落实执行《招标投标活动投诉处理实施办法》，及时有效处理招标投标相关投诉。

CRSC strictly abides by the *Anti-Monopoly Law of the People’s Republic of China* and the *Anti-Unfair Competition Law of the People’s Republic of China*, resolutely protects the legitimate rights and interests of partners or potential partners, eliminates unfair competition and monopolistic practices, implements the *Measures for the Handling of Complaints in Bidding and Tendering Activities*, and timely and effectively handles bidding-related complaints.

2025年，中国通号未发生不正当竞争事件
No unfair competition incidents occurred in CRSC in 2025

聚焦主业 价值创造

Focusing on Core Business to Create Value

双赛道发展

Dual-track development

生态体系构建

Ecosystem construction

中国通号系统构建低空战新产业新格局，推进顶层规划与标准体系建设，打造“轨道+低空”产业融合生态。

CRSC systematically built a new pattern of low-altitude strategic emerging industries, promoted top-level planning and standard system construction, and created an integrated "Rail + Low-altitude" industrial ecosystem.

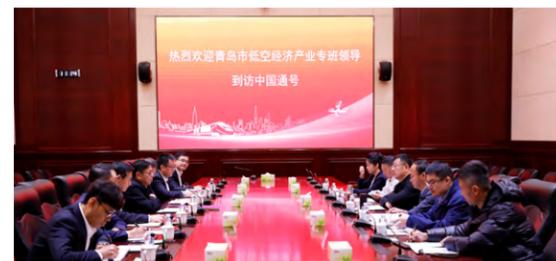


产业培育落地

Industrial cultivation and implementation

中国通号加快推动形成智能飞行器产业体系，加速在典型场景示范应用。

CRSC accelerated the formation of an intelligent aircraft industrial system, and accelerate the demonstration and application in typical scenarios.



中国通号与青岛市低空经济产业专班座谈交流

CRSC held a discussion with the Qingdao Low-altitude Economy Industrial Task Force



中国通号与承德市人民政府签订战略合作协议，推动低空经济产业创新应用

CRSC signed a strategic cooperation agreement with the People's Government of Chengde City to promote innovative applications of the low-altitude economy industry

资本赋能发展

Capital empowerment

中国通号落实“产业+资本”双轮驱动发展要求，聚焦双赛道稳步开展合资合作和投资并购。2025年，中国通号设立通号创业投资基金管理（北京）有限公司（简称“通号基金公司”）并取得私募基金管理人资格，组建通号紫金通信科技（南京）有限公司（简称“通号紫金公司”）、怒江大峡谷低空公司，加快产业落地步伐。

CRSC implemented the "Industry + Capital" dual-wheel drive strategy, and steadily carried out joint ventures, cooperation, investment and mergers and acquisitions focusing on the dual tracks. In 2025, CRSC established CRSC Venture Capital Fund Management (Beijing) Co., Ltd. ("CRSC Fund") and obtained the private equity fund manager qualification; set up CRSC Zijin Communication Technology (Nanjing) Co., Ltd. ("CRSC Zijin") and Nujiang Grand Canyon Low-altitude Company, accelerating industrial landing.



中国通号揭牌成立通号紫金公司

CRSC Zijin was inaugurated



中国通号成立通号基金公司

CRSC Fund was established



中国通号首支智能控制产业基金——通号智控千帆企航（安徽）投资基金签约仪式

Signing ceremony of CRSC Intelligent Control Qianfan Qihang (Anhui) Investment Fund - CRSC's first intelligent control industrial fund

质量管理

Quality management

治理

Governance

中国通号持续深化以ISO 9001质量管理体系和IRIS国际铁路行业标准为核心的质量管理体系顶层设计，全面覆盖研发设计、生产制造、工程施工、运营维护等全业务链条，形成“横向协同、纵向贯通”的一体化质量治理结构。

CRSC continued to deepen the top-level design of the quality management system centered on ISO 9001 and IRIS (International Railway Industry Standard), fully covering the entire business chain including R&D, design, manufacturing, construction, operation and maintenance, forming an integrated quality governance structure of "horizontal coordination, vertical integration".

战略

Strategy

中国通号围绕领先技术和优质服务，打造具有公司特色的质量管理模式，为产品卓越品质筑起坚实防线，不断增强产品竞争力。

Centered on leading technology and high-quality services, CRSC built a quality management model with corporate characteristics, built a solid line of defense for product quality, and continuously enhanced product competitiveness.

 质量管理体系建设 Quality management system construction

中国通号以“质量强国”战略为引领，构建了覆盖研发、设计、制造、工程交付及运维全生命周期的“五维一体”质量管理体系（即战略驱动、标准引领、数字赋能、风险前置、持续改进），依托ISO 9001、IRIS及EN 50126/8/9等国际标准，实现质量目标与碳中和、安全生产、供应链责任等ESG核心议题有机协同。通过质量监管平台（QMS），依托MES、PLM等系统强化过程管控与闭环改进，实现近三年重大质量事故归零，支撑高铁列控系统国产化率提升至100%，有力保障国家轨道交通本质安全与绿色低碳运营。

Guided by the “Quality Powerful Nation” strategy, CRSC built a “five-dimensional integrated” quality management system covering the entire life cycle of R&D, design, manufacturing, project delivery and O&M (namely strategy-driven, standard-led, digital-enabled, risk-prepositioned, continuous improvement). Relying on international standards including ISO 9001, IRIS and EN 50126/8/9, it achieved organic coordination between quality objectives and core ESG topics such as carbon neutrality, work safety and supply chain responsibility. Through the Quality Management System (QMS) and relying on systems such as MES and PLM, it strengthened process control and closed-loop improvement, achieving zero major quality accidents in the past three years. It supported the localization rate of high-speed rail train control systems to 100%, effectively guaranteeing the intrinsic safety and green and low-carbon operation of national rail transit.

2025年，中国通号9家企业完成安保体系与IRIS体系融合，1家企业通过IRIS体系金牌认证、7家企业通过银牌认证，4家企业通过CMMI体系5级认证。

In 2025, 9 enterprises of CRSC completed the integration of security management systems with the IRIS system; 1 enterprise obtained IRIS Gold Certification; 7 enterprises obtained Silver Certification; 4 enterprises obtained CMMI Level 5 certification.



卡斯柯成功斩获IRIS金级绩效认证，成为全球轨道交通控制系统集成领域首家获此殊荣的企业
CASCO successfully achieved IRIS Gold Performance Certification, becoming the world's first enterprise in the rail transit control system integration sector to receive this honor

9家企业完成安保体系与IRIS体系融合

9 enterprises of CRSC completed the integration of security management systems with the IRIS system

1家企业通过IRIS体系金牌认证

1 enterprise obtained IRIS Gold Certification

7家企业通过银牌认证

7 enterprises obtained Silver Certification

4家企业通过CMMI体系5级认证

4 enterprises obtained CMMI Level 5 certification

 质量检测能力提升 Improvement of quality inspection capability

中国通号抓住国推铁路产品RC认证机遇，配合推进相关认证工作，有效巩固行业引领地位。研究设计院集团西安检验站及其北京分公司积极推进CMA资质扩项，西安检验站已取得9大类实验室资质认定（CMA），西安检验站北京分公司已取得3大类47小类实验室资质认定（CMA），检测范围覆盖33项通信信号关键产品型式试验检测项目，有效提升了公司在轨道交通领域的检验检测能力。

CRSC seizes the opportunity of national railway product RC certification and promotes relevant certification work to effectively consolidate its leading position in the industry. The Xi'an Inspection Station of the Research & Design Institute Group and its Beijing Branch actively promote the expansion of CMA qualifications. The Xi'an Inspection Station has obtained 9 major categories of laboratory qualification certification (CMA), while the Beijing Branch of the Xi'an Inspection Station has obtained 3 major categories and 47 subcategories of laboratory qualification certification (CMA). The testing scope covers 33 key communication signal product type test and testing projects, which effectively enhances the Company's inspection and testing capabilities in the field of rail transit.

 QC小组建设 Development of QC group

中国通号始终秉承“质量是生命，安全大于天”的理念，高度重视质量管理活动开展，已形成一批优秀成果，并推广应用到生产研发施工当中。2025年，中国通号在全国铁道行业质量管理小组成果发布邀请赛暨质量信得过班组选拔赛中再创佳绩，选派的8个质量管理小组、2个质量信得过班组均摘得奖项，1个QC成果斩获优胜奖，9个成果荣获优秀奖。

Adhering to the philosophy that “Quality is life, safety is paramount”, CRSC attaches great importance to quality management activities, which have yielded a number of outstanding achievements that are applied and promoted in production, R&D and construction. In 2025, CRSC achieved outstanding results in the National Railway Industry Quality Control Group Results Invitational Competition and Trustworthy Quality Team Selection. All 8 quality control groups and 2 trustworthy quality teams selected by CRSC won awards, including 1 Excellence Award and 9 Outstanding Achievement Awards for QC achievements.

 工程质量管理 Project quality management

中国通号致力于打造高品质工程，通过制定统一标准、优质工程创建细则、明确质量安全等要求，推广新工艺、新技术，建立奖惩机制等措施，形成科学有效的工作体系。

CRSC is committed to developing high-quality projects. By establishing unified standards, detailed guidelines for high-quality projects, clear quality and safety requirements, promoting new processes and technologies, and implementing incentive and disciplinary mechanisms it forms a scientific and effective work system.

2025年，中国通号11项工程荣获铁路优质工程奖一等奖，26项工程荣获二等奖
In 2025, CRSC's 11 projects won the First Prize of the High-Quality Railway Engineering Award, and 26 projects won the Second Prize

影响、风险与机遇管理

Impact, risk and opportunity management

中国通号以“零缺陷、全生命周期、系统性防控”为质量战略内核，统筹影响、风险与机遇管理。在影响层面，通过标准化、数字化的信号控制系统交付，持续提升轨道交通安全运行水平，降低事故率与碳排放强度；在风险管理上，依托ISO 9001/14001/45001三标一体化平台驱动的质量预警模型，实现供应链、研发、工程实施全过程质量风险动态识别与闭环管控；在机遇把握方面，以质量创新驱动智能列控（CTCS-4）、重载铁路自动化等新技术产业化落地，支撑国家新型基础设施建设。

With “zero defects, full life cycle and systematic prevention and control” as the core of its quality strategy, CRSC coordinates impact, risk and opportunity management. In terms of impact: Through the delivery of standardized and digital signal control systems, CRSC continuously improves the safe operation of rail transit, and reduces accident rates and carbon emission intensity; in terms of risk management: Supported by a quality warning model driven by the ISO 9001/14001/45001 integrated platform, CRSC realizes dynamic identification and closed-loop control of quality risks across the supply chain, R&D and project implementation; in terms of opportunity capture: CRSC drives the industrialization of new technologies such as intelligent train control (CTCS-4) and heavy-duty railway automation through quality innovation, to support the construction of new national infrastructure.

指标与目标

Indicators and targets

指标 Indicators	单位 Unit	2025
产品合格率 Product qualification rate	%	100
已售或已运送产品中因安全与健康理由而必须回收的比例 Percentage of total products sold or shipped subject to recalls for safety and health reasons	%	0
产品和服务相关的安全与质量重大责任事故 Major safety and quality liability accidents related to products and services	起 Nos.	0

客户服务

Customer service

提升服务质量

Improvement of service quality

中国通号严格遵守《中华人民共和国消费者权益保护法》等法律法规，设置专门部门负责售后服务及投诉解决事宜，同时采用三级管理模式力求高质量满足客户需求。项目部建制在项目开通交付后依然保留，并在现场配合客户完成包保、克缺等工作，大部分售后服务在该阶段得以解决；二级企业对本企业负责项目进行监督管理，负责协调本企业范围内资源，解决相应问题；股份公司统筹管理售后服务及投诉解决事宜，对本级及全系统重点项目进行监督管控，视客户需求，必要时协调全系统相关资源加以解决。

CRSC strictly abides by the *Consumer Rights and Interests Protection Law of the People's Republic of China* and other laws and regulations. It establishes dedicated departments for after-sales service and complaint resolution, and adopts a three-level management model to meet customer needs with high quality. The project department remained active even after the project was opened and delivered, collaborating with customers on-site to complete warranty and defect elimination work. Most after-sales services were resolved during this stage. The secondary enterprise supervised and managed its own projects, scheduled its own resources, and resolved corresponding issues. The joint-stock company coordinated and handled after-sales service and complaint matters. It also supervised and controlled key projects across the group and all its subsidiaries and allocated the required resources within the group to address issues based on customer needs.

2025年，中国通号工程系统在建项目849个，新开工项目25个，竣工交付340个，顺利完成铁路营业线I级施工开通10次，II级施工开通49次，超危大工程实施45项，危大工程实施134项，高铁客专开通总里程1,232公里。

In 2025, CRSC had 849 ongoing projects, 25 new projects commenced, and 340 projects completed and delivered. It successfully carried out 10 Class-I railway construction openings and 49 Class-II openings, implemented 45 extra-high-risk projects and 134 high-risk projects, with a total new mileage of 1,232 km for high-speed railways and passenger dedicated lines.

中国通号客户服务管理体系 CRSC Customer Service Management System

项目咨询 Project consultation	需求分析 Requirement analysis	项目管理 Project management	技术支持 Technical support	质量监督 Quality supervision	售后服务 After-sales service	客户关系管理 Customer relationship management
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指标 Indicators	单位 Unit	2023	2024	2025
客户满意度 Customer satisfaction	%	100	100	100
投诉解决率 Resolution rate of complaints	%	100	100	100

加强隐私保障

Strengthening privacy protection

中国通号严格遵守《中华人民共和国数据安全法》《中华人民共和国个人信息保护法》等法律法规，使用统一的客户信息管理系统，设立专门部门负责客户资料保护，确保客户信息及资料不泄露，有效保护客户权益。

CRSC strictly complies with the *Data Security Law of the People's Republic of China*, *Personal Information Protection Law of the People's Republic of China* and other laws and regulations. It uses a unified customer information management system and sets special departments to protect customer data, to ensure no leakage of customer information and effectively safeguard customer rights and interests.

把牢防线 安全永续 Holding the Line for Sustainable Safety

治理

Governance

中国通号各层级均成立安全生产管理委员会，每季度召开安全生产委员会，研究安全生产相关事项，安全生产管理委员会成员由公司副总师及以上领导和各部门负责人组成。

CRSC establishes work safety management committees at all levels, which hold quarterly meetings to address work safety issues. Members of the committees consist of deputy chief engineers and above, as well as heads of all departments.

战略

Strategy

中国通号持续保障国家轨道交通安全运营，按照“穿透式管理”和“三管三必须”要求，强化安全生产责任落实，持续推动“轨道+低空”安全发展，不断提升安全保障能力。

CRSC continues to safeguard the safe operation of national rail transit. In accordance with the requirements of “penetrating management” and “three-management and three-must” principle, it strengthens the work safety responsibilities, promotes the safe development of “rail + low-altitude” integration, and continuously improves safety assurance capabilities.

安全生产培训

Work safety training

中国通号高度重视安全教育与培训，全面提升全员安全素养和履职能力，推动企业落实安全生产主体责任、提升本质安全水平。

CRSC attaches great importance to safety education and training, comprehensively improves the safety literacy and performance capabilities of all employees, and promotes enterprises to fulfill their main responsibilities for work safety and enhance intrinsic safety levels.

2025年，中国通号举办“人人讲安全、个个会应急”安全生产教育培训会，1,200余人参与培训；开展铁路安管人员考试取证工作，1,287人通过考试，通过率90.8%；开展安管人员培训取证工作，146人取得证书；组织开展公司施工负责人及四员一长安全生产穿透式管理培训及考试取证工作，114人完成培训并考核合格。

In 2025, CRSC held a work safety training session themed “everyone pays attention to safety, and everyone knows emergency treatment”, with more than 1,200 participants; it carried out examination and certification for railway safety management personnel, with 1,287 people passing the exam and a pass rate of 90.8%; it conducted training and certification for safety management personnel, with 146 people obtaining certificates; it organized penetrating management training, examination and certification on work safety for construction principals and the “four members and one leader” model, with 114 people completing the training and passing the assessment.

网络与信息安全

Network and information security

中国通号成立网络安全和信息化领导小组、领导小组办公室，制定《网络安全管理规定》《网络安全责任制实施办法》《网络安全突发事件专项应急预案》等核心制度，建立完善网络与信息安全事故通报机制，组织开展网络安全专项活动与全面自查评估，持续优化应急预案，在国家重大活动等关键时期，严格执行24小时值班值守与“每日零事件报告”制度，实现了重要时期网络安全“零事故”的既定目标。

CRSC establishes a leading group for cybersecurity and informatization and its office, formulates core systems including the *Regulations on Network Security Management*, *Measures for the Implementation of Cybersecurity Responsibility System and Special Emergency Response Plan for Cybersecurity Emergencies*, improves the cybersecurity and information security notification mechanism, carries out special cybersecurity activities and comprehensive self-inspection and evaluation, and strictly implements a 24-hour on-duty system and a “daily zero-incident report” system during key periods such as major national events, thus achieving the goal of “zero cybersecurity incidents” during critical periods.



研究设计院集团“铁路列控系统网络安全技术研究与应”成果入选世界互联网大会领先科技奖成果集《科技之魅》，成为本年度全球轨道交通领域唯一获此殊荣的技术成果

The achievement “Research and Application of Cybersecurity Technology for Railway Train Control Systems” by the Research & Design Institute Group is selected into the Charm of Science and Technology, the collection of leading science and technology awards of the World Internet Conference, becoming the only technological achievement in the global rail transit sector to receive this honor this year

影响、风险与机遇管理

Impact, risk and opportunity management

中国通号建立安全生产风险管理流程，通过风险识别，风险防范，风险监控与筛查，风险处理、汇报与体系完善，持续优化风险清单与防控方案，全面打造安全健康的工作环境。

CRSC establishes a work safety risk management process. Through risk identification, risk prevention, risk monitoring and screening, risk response, reporting and system improvement, it continuously optimizes risk lists and prevention and control plans to create a safe and healthy working environment.

安全监督检查

Safety supervision and inspection

中国通号印发《安全生产“雷霆行动”实施方案的通知》，组织所属企业深入开展安全生产“雷霆行动”，制定发布安全生产“雷霆行动”方案，在全系统内开展专项整治，深入基层一线开展风险隐患大起底、大排查、大整治。

CRSC issues the *Notice on the Implementation Plan for the "Thunder Action" for Work Safety*, organizes affiliated enterprises to carry out the campaign, formulates and promulgates the action plan, launches special rectification across the entire system, and conducts investigation, screening and rectification of potential risks and hidden dangers at the grassroots level.

2025年，中国通号各层级主要负责人带队检查83次，安全生产检查1,115次，排查事故隐患2,374项，整改率100%；共监督检查考核18家二级企业，实现监督考核全覆盖。

In 2025, principal leaders at all levels of CRSC led 83 inspections, carried out 1,115 work safety inspections, and identified 2,374 potential accidents, with a 100% rectification rate; a total of 18 secondary enterprises were supervised, inspected and evaluated, achieving full coverage of supervision and assessment.

中国通号各层级主要负责人带队检查
83次
principal leaders at all levels of CRSC led
83 inspections

安全生产检查
1,115次
carried out 1,115 work
safety inspections

整改率
100%
with a 100%
rectification rate

安全应急管理

Emergency response management

中国通号不断完善应急管理体系，制定应急预案5,661个，其中综合应急预案283个、专项预案1,041个、现场处置方案（含应急处置卡）4,337个。组织开展应急救援演练920场，参与18,181人次，共计消防设施11,946台套，其他应急物资4,684台套，进一步增强了应急预案的科学性、实用性和操作性。

CRSC continuously improves its emergency management system, and formulates 5,661 emergency response plans, including 283 comprehensive emergency responses, 1,041 special emergency responses, and 4,337 on-site disposal plans (including emergency response cards). It organizes and carries out 920 emergency rescue drills with 18,181 participants in total, and uses 11,946 sets of fire-fighting facilities and 4,684 sets of other emergency supplies, further enhancing the scientificity, practicality and operability of the emergency response plan.

指标与目标

Indicators and targets

2025年，中国通号安全发展理念持续增强，安全生产责任体系持续完善，制度体系持续健全，安全防控能力稳步提升，安全基础保障能力不断夯实，应急处置能力显著增强，实现安全质量“总体可控”目标。

In 2025, CRSC further strengthened the safety development philosophy, continuously improved its work safety responsibility and institutional systems, steadily enhanced safety prevention capabilities, consolidated safety support, and significantly improved emergency response capacity, achieving the goal of "overall controllable" safety and quality.



指标 Indicators	单位 Unit	2023	2024	2025
安全生产投入 Work safety investment	亿元 CNY 100 million	4.08	3.58	2.52
安全事故数量 Number of safety accidents	件 Piece	0	0	1
因工亡故人数 Number of work-related deaths	人 Person	0	0	0
因工亡故人数占总员工数比率 Ratio of work-related fatalities to total number of employees	%	0	0	0
工伤损失工作日数 Number of lost workdays due to work-related injury	日 Day	520	518	737
工伤保险、安全生产责任险投入额 Investment in work injury insurance, work safety liability insurance	万元 CNY ten thousand	—	—	1,905.36
工伤保险、安全生产责任险人员覆盖率 Coverage rate of personnel for work injury insurance, work safety liability insurance	%	—	—	100

回应的 SDGS

SDGs addressed



中国通号坚持创新驱动发展战略，不断健全创新管理体系，集聚优质创新资源，深化产学研协同创新，以智能轨交、智能低空、智慧城市、智能作业四大业务为支撑推进数字化转型与精益管理，激活可持续发展强劲动能。

CRSC adheres to an innovation-driven development strategy, continuously improves its innovation management system, gathers high-quality innovation resources, deepens industry-university-research collaborative innovation, promotes digital transformation and lean management supported by four major businesses (smart rail transit, smart low-altitude, smart city and smart operation), and activates strong momentum for sustainable development.

02

智创先锋 驱动未来变革

Intelligent Pioneer
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创新管理 攻关核心

Innovation Management, Tackling Core Technologies

治理

Governance

中国通号充分发挥国家战略科技力量和技术创新的主体作用，围绕高水平科技自立自强、现代化产业体系建设与新质生产力发展，构建了以公司党委统筹领导的战略架构。公司聚焦科技创新主体作用发挥，围绕“1241”发展思路确立“轨道交通+低空经济”双赛道布局，实施业务线与创新线并行的管理模式，为高质量发展注入强劲动能。

CRSC fully leverages its role as a national strategic scientific and technological force and a main entity for technological innovation. Focusing on high-level self-reliance in science and technology, the construction of a modern industrial system, and the development of new quality productive forces, it establishes a strategic framework under the unified leadership of the Party Committee. Focusing on its role as a main player in scientific and technological innovation, CRSC defines a dual-track layout of “rail transit + low-altitude economy” in line with the “1241” development strategy, and implements a management model featuring parallel development of business and innovation lines, to inject strong impetus into high-quality development.

在创新链条与保障支撑方面，中国通号强化高质量科技供给，覆盖从基础前瞻研究到成果转化全流程，依托国家级创新平台、院士团队进站合作等机制，推动科技与产业创新深度融合。在运行机制上，公司推行“揭榜挂帅”“赛马”等机制，搭建“产学研用”深度融合生态，持续完善科技创新体系，夯实双赛道创新基础，不断推动产品和服务创新升级，建设目标聚焦打造智能控制领域“大国重器”，以科技自立自强支撑交通强国战略。

In terms of innovation chain and support, CRSC strengthens high-quality scientific and technological supply covering the whole process from basic and forward-looking research to achievement transformation. Relying on national-level innovation platforms and cooperation with academician teams, it promotes deep integration of technology and industrial innovation. In terms of operational mechanisms, the Company implements mechanisms such as “unveiling and leading” and “horse racing”, builds an in-depth integration ecosystem of “industry-university-research-application”, continuously improves the scientific and technological innovation system, consolidates the innovation foundation of the dual tracks, and promotes the innovation and upgrading of products and services, builds “national key equipment” in the field of intelligent control, and supports the strategy of building a country with strong transportation through scientific and technological self-reliance.

战略

Strategy

中国通号建立完备的科技创新管理体系，不断完善科技管理制度，形成《科技管理办法》《科研项目管理办法》《科技成果评审管理办法》等管理办法，并同步建立配套的科技创新考核体系和支持政策，为科技创新工作提供坚实制度保障。

CRSC establishes a complete scientific and technological innovation management system, improves relevant management systems, including the *Measures for Science and Technology Management*, *Measures for Scientific Research Project Management* and *Measures for Review and Evaluation of Scientific and Technological Achievements*, and builds a supporting scientific and technological innovation assessment system and supportive policies to provide solid institutional guarantees for scientific and technological innovation.

创新平台建设

Development of innovation platforms

中国通号积极开展创新平台建设，着力打造原创技术策源地。公司大力推进院士专家工作站等平台建设，高效运转列车自主运行智能控制铁路行业工程研究中心和电磁环境效应及电磁安全铁路行业工程研究中心。

CRSC actively promotes the construction of innovation platforms, and strives to build a source of original technologies. The Company vigorously promotes the construction of platforms such as academician and expert workstations, and efficiently operates the Railway Industry Engineering Research Center for Intelligent Control of Autonomous Train Operation and the Railway Industry Engineering Research Center for Electromagnetic Environmental Effects and Electromagnetic Safety.

2025年，中国通号新增3家国家级制造业单项冠军企业，研究设计院集团院士工作站入选北京市十家优秀院士专家工作站之一，列车自主运行智能控制铁路行业工程研究中心经国家铁路局考评获得优秀荣誉。

In 2025, CRSC added 3 national-level manufacturing single champion enterprises. The Academician Workstation of the Research & Design Institute Group was selected as one of Top 10 Excellent Academician and Expert Workstations in Beijing. The Railway Industry Engineering Research Center for Intelligent Control of Autonomous Train Operation was rated excellent by the National Railway Administration.



中国通号研究设计院集团获评“2025年优秀院士专家工作站”

Research & Design Institute Group of CRSC was awarded the “2025 Excellent Academician and Expert Workstation”



案例
CASE

中国通号再添两家铁路行业科技创新基地

CRSC adds two railway industry science and technology innovation bases

2025年12月，国家铁路局公布第三批铁路行业科技创新基地认定名单，中国通号旗下通号低空公司获批“低空应用与安全工程研究中心”、卡斯柯获批“智能调度集中工程研究中心”。

In December 2025, the National Railway Administration released the list of the third batch of recognized railway industry science and technology innovation bases. CRSC’s subsidiary, CRSC Low-altitude Intelligence Technology Co., Ltd, was approved as the “Low-altitude Application and Safety Engineering Research Center”, and CASCO was approved as the “Intelligent Centralized Dispatching Engineering Research Center”.



案例
CASE

卡斯柯发起成立“中国工业软件协同创新平台”

CASCO initiates the establishment of the “China Industrial Software Collaborative Innovation Platform”

2025年11月，卡斯柯与华东师范大学共同发起成立“中国工业软件协同创新平台”，平台汇聚了航天八院804所、中国电科集团32研究所、电气交通等近20家业内企业及科研院所，标志着我国在攻克工业软件“卡脖子”难题，构建自主创新生态方面迈出了关键一步。

In November 2025, CASCO and East China Normal University jointly initiated the establishment of the “China Industrial Software Collaborative Innovation Platform”, which brings together nearly 20 enterprises and research institutes including the 804th Research Institute of the Eighth Academy of Aerospace, the 32nd Research Institute of China Electronics Technology Group Corporation and Electric Transportation, marking a crucial step for China to overcome the “bottleneck” of industrial software and build an independent innovation ecosystem.



创新人才培养

Innovative talent cultivation

中国通号制定《科学家管理办法》，完善科技领军人才队伍建设，为专家量身打造研发平台，组建高水平科研团队，充分赋予其在技术路线决策、团队组建、经费使用及内部考核分配等方面的自主权。根据产业趋势超前布局战略性新兴产业人才，深入推进工程硕博培养改革专项试点工作，充分借助高校优势资源，培养企业急需的科技人才。

CRSC formulates the *Measures for the Management of Scientists*, improves the development of its leading scientific and technological talent team, builds customized R&D platforms for experts, forms high-level scientific research teams, and fully grants them autonomy in decision-making on technical routes, team formation, fund utilization, and internal assessment and distribution. It strategically lays out talents for strategic emerging industries in advance in light of industrial trends, further promotes the special pilot program for the reform of master’s and doctoral education in engineering, and fully leverages the superior resources of universities to cultivate much-needed scientific and technological talents for the enterprise.

中国通号授予三位领军人才“通号科学家”称号 CRSC awarding three leading talents the title of “CRSC Scientist”



江明
Jiang Ming

打破垄断
实现我国高铁列控
系统自主可控

Breaking monopolies to achieve independent control of China’s high-speed rail train control systems



费振豪
Fei Zhenhao

坚持创新
打造全新列车调度
系统智慧中枢

Upholding innovation to build an intelligent center for a brand-new train dispatching system



陈志强
Chen Zhiqiang

破冰出海
叩开高端列控装备
全球市场大门

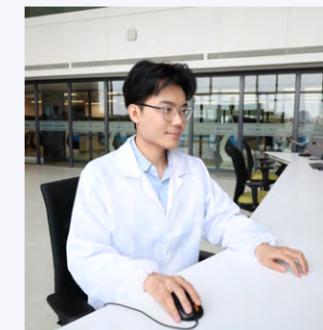
Breaking through to global markets and opening doors to the high-end train control equipment market

中国通号员工入选第十届中国科协“青年人才托举工程”

CRSC employees selected for the 10th “Young Talent Support Program” of the china association for science and technology



洪槐斌
Hong Huaibin



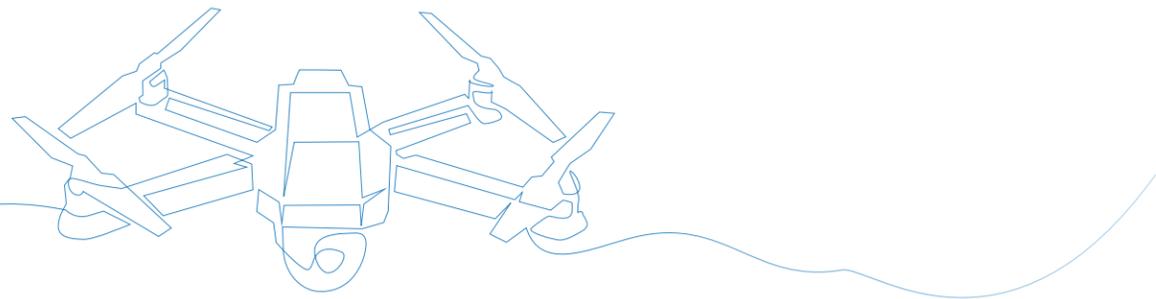
李炳霖
Li Binglin

外部协同创新

External collaborative innovation

中国通号持续深化外部协同创新布局，积极参与中央企业创新联合体建设，深度协同产业链上下游资源，联动中国电子、中国移动等央企，国家铁路局、国铁集团、国能集团等行业主管单位与核心用户企业联合开展科研攻关，推动技术共研、标准共建、产能联动，加速科研成果转化落地与规模化应用。

CRSC continuously deepens its layout of external collaborative innovation, actively participates in the construction of central enterprise innovation consortiums, deeply coordinates upstream and downstream industrial chain resources, jointly conducts research with central enterprises such as China Electronics Corporation and China Mobile, as well as industry authorities and core users including the National Railway Administration, China Railway and CHN Energy, promotes joint technology research, standard development and production capacity linkage, and accelerates the transformation and large-scale application of scientific research achievements.



重要产学研合作 Key industry-university-research cooperation

联合发起东北大学——通号先进轨道交通智能化联合实验室

Jointly initiate the Northeastern University - CRSC Advanced Rail Transit Intelligence Joint Laboratory

依托北京市重点实验室与北京航空航天大学在低空管控方面开展合作

Cooperate with Beihang University on low-altitude management and control, relying on Key Laboratory of Beijing

与北京理工大学在感知反制方向开展合作

Cooperate with Beijing Institute of Technology on perception and countering

与紫金山实验室在 6G 无蜂窝通信方向开展合作

Cooperate with Purple Mountain Laboratories on 6G cell-free communications

与湖南大学在无人机蜂群以及人工智能方向开展合作

Cooperate with Hunan University on UAV swarms and artificial intelligence

科技创新成果

Achievements in scientific and technological innovation

国家重大工程技术项目 National major engineering and technological projects

《面向群组列车运行控制的高安全高精度定位技术及应用示范》项目：自主研发的重载列车群组运行控制系统成功实现世界首次 3.5 万吨级重载群组列车试验开行，在不新建线路的情况下整体运能提升 50%，核心技术指标达到国际领先水平

High-safety and High-precision Positioning Technology and Application Demonstration Project for Group Train Operation Control: The independently developed heavy-haul train group operation control system successfully carried out the world's first test operation of 35,000-ton heavy-duty group trains, increasing overall transport capacity by 50% without building new lines, with core technical indicators reaching international leading levels

《轨道交通调度控制一体化与联程运输服务技术》项目：攻克调度与控制在“时—空—运行状态”多维度下实时连续耦合的技术难题，国际首次实现高速度高自动化等级、跨制式跨主体的协同高效智能运营

Rail Transit Dispatching, Control Integration, and Intermodal Transportation Service Technology Project: Overcame technical challenges of real-time continuous coupling of dispatching and control across "time, space and operation status", and realized the world's first highly automated, cross-system and cross-operator coordinated and efficient intelligent operation

重大科研项目 Major scientific research projects

启骥 TACS 系统：在上海 3、4 号线完成示范应用，为国内首次 TACS 系统在大客流高密度线路中的应用

Qiji TACS System: Completed demonstration application on Shanghai Metro Lines 3 and 4, marking the first application of TACS system in high-density lines with large passenger flow in China

智能故障预测与健康管理平台 (I-PHM)：完成关键技术研究 and 主要装备研制，在京沪线示范站部署

Intelligent prognostics and health management (I-PHM): Completed key technology research and main equipment development, and deploy at demonstration stations on the Beijing-Shanghai Railway

四电数字孪生设计仿真运维一体化平台：实现“工程设计—工程施工—运营维护”的数据贯通

Integrated platform for the design, simulation, operation and maintenance of digital twins for 4 E/E projects: Realized data connectivity through "engineering design - construction - operation & maintenance"

数字城轨智能化产品解决方案：在厦门 9 号线和迪拜蓝线项目实现落地应用

Digital urban rail intelligent product solutions: Realized implementation and application of Xiamen Line 9 and Dubai Blue Line projects

复杂恶劣环境系统集成方案和列车运行动态评估系统：完成系统集成部署并成功揭榜北京市科学技术委员会重大科研课题

System integration scheme for complex and severe environments and train operation dynamic evaluation system: Completed system integration and deployment, and successfully won a major research project from the Beijing Municipal Science & Technology Commission

低空空域智能管控系统 ID—Space 2.0：实现低空安全管控核心功能，并在雄安、青岛等地部署应用

Low-altitude airspace intelligent control system ID—Space 2.0: Realized the core functions of low-altitude safety management and control, and deployed applications in Xiong'an, Qingdao, etc.

无蜂窝通信系统：发布“一塔一城”低空通信解决方案，在云南怒江、江苏南京、内蒙古包头等地开展试验试用

Cell-free communication system: Release of the “One Tower, One City” low-altitude communication solution, and conduct test trials in Nujiang, Yunnan, Nanjing, Jiangsu, Baotou, Inner Mongolia, etc.

低空空域感知与反制系统：攻克多传感器融合感知、软反制技术，在京沪高铁、青岛及福州等地部署应用

Low-altitude airspace perception and countering system: Overcame key technologies including multi-sensor fusion perception and soft countermeasures, and deployed applications in the Beijing-Shanghai High-Speed Railway, Qingdao, Fuzhou, etc.

 **创新成果转化与应用** Transformation and application of innovative achievements

自主化 400T 车载：获得国铁集团新车装备商业订单

Autonomous 400T on-board system: Obtained commercial order for new car equipment from China Railway

C3 智能分析系统：完成上海局合新项目和广州局武广项目

C3 intelligent analysis system: Completed the Hefei-Xinyi Project (Shanghai Bureau) and Wuhan-Guangzhou Project (Guangzhou Bureau)

安全 LED 信号机：获渝贵线赶水东商业合同及塞尔维亚机场线海外订单

Safe LED signal: Obtained commercial contracts for Ganshuidong on the Chongqing-Guiyang Line and overseas orders for the Serbia Airport Line

编组站综合智能化系统 CIPS2.0：在南京东、阜阳北、徐州北、南翔等多个编组站应用

Comprehensive intelligent system CIPS2.0 for marshaling yards: Applied at multiple marshaling yards such as Nanjingdong, Fuyangbei, Xuzhoubei and Nanxiang

“羲和”数字城轨解决方案：成功中标厦门 6 号线项目，实现智能调度、智能运维、智能运控、智能场段功能的落地应用

“Xihe” digital urban rail transit solution: Successfully won the bid for Xiamen Metro Line 6, and realized the practical application of intelligent scheduling, intelligent operation and maintenance, intelligent operation control and intelligent field segment

SATC 备用信号系统：成功签约北京 9 号线，商业合同落地

SATC standby signaling system: Successfully signed commercial contract for Beijing Metro Line 9

高韧性 C2+ATO 系统：在上海市域铁路三条线实现成果转化

High-resilience C2+ATO system: Realized the transformation of achievements on three railway lines in Shanghai

无人机智能巡检与应急指挥平台：在无锡、昆明完成科研落地

UAV intelligent spot inspection and emergency command platform: Completed scientific research landing in Wuxi and Kunming



案例
CASE

研究设计院集团多项成果获 2025 年度中国交通运输协会科学技术奖

Multiple achievements of the Research & Design Institute Group honored with 2025 CCTA Science and Technology Award

2026年1月，“2025年度中国交通运输协会科学技术奖”评选结果揭晓，研究设计院集团荣获6项大奖，含主申报一等奖2项、二等奖2项，参与申报一等奖2项，覆盖重载铁路、轨道交通信号、电缆径路测绘等关键领域。

In January 2026, results of the “2025 CCTA Science and Technology Award” were announced. The Research & Design Institute Group won 6 major awards, including 2 first prizes and 2 second prizes as the main applicant, and 2 first prizes as a participant, covering key fields such as heavy-haul railways, rail transit signal and cable route surveying.

知识产权保护

Intellectual
property
protection

中国通号坚持以专利池筑牢核心技术“护城河”，建立专利与技术秘密协同保护机制、专利申请前评估机制、专利导航实施机制、专利质量动态评估机制，评估知识产权有效性、知识产权管理与激励机制，围绕关键领域形成高密度专利集群，以数字化系统规避侵权风险，提前识别技术研发与市场拓展过程中的专利风险，并不断加强海外专利策划与布局。

CRSC insists on building a “defensive moat” for core technologies through patent pools, establishes a collaborative protection mechanism for patents and technical secrets, pre-patent application evaluation mechanism, patent navigation implementation mechanism and dynamic patent quality evaluation mechanism, assesses intellectual property validity, intellectual property management and incentive mechanisms, forms high-density patent clusters in key fields, avoids infringement risks through digital systems, identifies patent risks in the process of technology R&D and market expansion in advance, and continuously strengthens overseas patent planning and layout.



案例
CASE

卡斯柯入选首批国家级产业知识产权运营中心

CASCO selected as the first batch of national industrial intellectual property operation centers

2025年10月，卡斯柯成功入选国家知识产权局发布的首批国家级产业知识产权运营中心认定名单，将负责建设智慧交通信息与控制产业知识产权运营中心，这是轨道交通行业目前唯一一个国家级知识产权运营中心。

In October 2025, CASCO was successfully selected into the first batch of national industrial intellectual property operation centers announced by the China National Intellectual Property Administration, to build the Intellectual Property Operation Center for Intelligent Transportation Information and Control, the only national IP operation center in the rail transit industry so far.



案例
CASE

卡斯柯入选“百链千企”专利产业化推进工程典型案例

CASCO selected as a typical case in the “Hundred Chains, Thousand Enterprises” patent industrialization promotion project

2025年10月，中国专利保护协会正式发布2025年度“百链千企”专利产业化推进工程典型案例评选结果。卡斯柯《智能运控专利密集型产品培育，引领轨交“大脑”全产业链出海》成果成功入选全国20大典型案例，成为轨道交通领域唯一获此国家级认可的企业代表。

In October 2025, the China Patent Protection Association officially announced the results of the 2025 “Hundred Chains, Thousand Enterprises” patent industrialization promotion project. CASCO’s achievement of *Cultivating Patent-intensive Products for Intelligent Train Control, Leading the Whole Industrial Chain of Rail Transit “Brain” to Go Global* was selected as one of the top 20 national typical cases, becoming the only enterprise representative in the rail transit sector to receive this national recognition.

影响、风险和机遇管理

Impact, risk and opportunity management

中国通号明确科研项目立项、执行、变更、结题验收的相关流程，有效规避资源浪费与进度失控风险。加强科研项目经费管理、专利管理工作、科技成果评审管理工作，规范实验室建设和运行管理。设立科学技术奖，充分调动相关单位和科技人员的积极性、创造性。

CRSC clarifies procedures for project initiation, implementation, change and conclusion acceptance of scientific research projects, and effectively avoids risks such as resource waste and schedule overruns. It strengthens the management of research funding, patents, and scientific and technological achievement evaluation, and standardizes the construction and operation of laboratories. It establishes science and technology awards to fully mobilize the enthusiasm and creativity of relevant units and scientific and technological personnel.

指标与目标

Indicators and targets

指标 Indicators	单位 Unit	2023	2024	2025
研发投入 R&D investment	亿元 CNY 100 million	20.38	20.38	21.59
研发投入占主营业务收入比例 Proportion of R&D investment in main business revenue	%	5.44	6.20	6.18

指标 Indicators	单位 Unit	2023	2024	2025
开展科研项目 Number of scientific research projects launched	个 Nos.	871	835	781
承担国家级科研项目 Number of national-level scientific research projects undertaken	件 Piece	5	5	6
承担省部级科研项目 Number of provincial- and ministerial-level scientific research projects undertaken	件 Piece	7	9	10
新增国家级奖励 Number of new national-level incentives	项 Item	2	0	1
新增省部级奖励 Number of new provincial and ministerial-level incentives	项 Item	70	61	47
累计拥有研发人员 Total number of R&D personnel	人 Person	4,345	5,064	5,085
研发人员占员工总人数比例 Ratio of R&D personnel to the total employees	%	—	—	26.49
累计拥有有效授权专利 Total number of valid patents granted	件 Piece	4,618	5,248	6,032
累计拥有发明专利 Total number of patents for invention granted	件 Piece	2,434	3,091	3,837
应用于主营业务的发明专利数量 Number of patents for invention applied in main business	件 Piece	2,434	3,091	3,837
累计拥有海外授权专利 Total number of patents granted overseas	件 Piece	281	345	437
累计拥有软件著作权 Total number of software copyrights granted	项 Item	2,606	3,053	3,418
新增授权专利 Number of patents newly granted	件 Piece	820	765	815
新增授权发明专利 Number of patents for invention newly granted	件 Piece	667	624	693
新增申请专利 Number of patents newly applied for	件 Piece	1,510	1,658	1,561
新增申请发明专利 Number of patents for invention newly applied for	件 Piece	1,281	1,496	1,435
新增申请海外专利 Number of patents newly applied for overseas	件 Piece	170	177	165

智慧赋能 高效生产 Smart Empowerment, Efficient Production

智能轨交

Intelligent rail transit

中国通号壮大发展智能轨交业务，加快实施轨道交通运控、运维装备技术数智化转型升级，将科技伦理融入创新流程，确保轨道交通核心技术服务公共利益与行业可持续发展。

CRSC strengthens the development of intelligent rail transit business and accelerates the digital transformation and upgrading of rail transit operation and maintenance equipment technology, integrate tech ethics into innovation processes, ensuring core rail transit technologies serve public interests and the industry's sustainable development.



卡斯柯《城市轨道交通在线列车高效重组控制关键技术与应用》荣获“上海市科技进步奖二等奖”

CASCO's project *Key Technologies and Application of Efficient Reorganization Control for Online Urban Rail Transit Trains* won the "Second Prize of Shanghai Science and Technology Progress Award"



通信信息集团自主研发的“铁路通信智能助手”成功部署应用，标志着铁路通信领域智慧化服务取得里程碑式突破

The "railway communication intelligent assistant" independently developed by the Communication & Information Corporation was successfully deployed and applied, marking a milestone breakthrough in intelligent services for railway communications

案例 CASE 普速铁路轨道电路电子编码 + 移频脉冲首次开通运用

First application of electronic coding + frequency-shift pulse for conventional railway track circuits

2025年1月，由研究设计院集团研发的电子编码方式轨道电路设备在布尔台站正式开通运用，这是电子编码移频脉冲轨道电路首次在普速重载铁路复杂场景应用，解决了现场继电编码和分路不良的痛点。

In January 2025, the electronic coding track circuit equipment developed by the Research & Design Institute Group was officially put into operation at Buertai Station, which was the first application of electronic coding frequency-shift pulse track circuits in complex scenarios of conventional heavy-haul railways, solving the pain points of on-site relay coding and poor branching.



案例 CASE

国内首创编组站智能化系统落地应用

First domestic application of an intelligent marshaling station system

2025年11月，国内首个编组站智能化系统成功落地应用，标志着我国编组站运营正式迈入智能化阶段。该系统由研究设计院集团研发，融合人工智能、大数据、机器人等多项新技术，通过“大脑+中枢神经+四肢”的协同架构，形成编组站综合智能化系统、驼峰智能编解管控系统、驼峰峰顶提钩机器人、货运站场调机自动驾驶系统和无人机智能巡检平台5个成套装备，完成编组站作业全流程重塑，构建起全流程智能解决方案。

In November 2025, China's first intelligent marshaling yard system was successfully implemented, marking the official entry of China's marshaling yard operation into the intelligent era. Developed by the Research & Design Institute Group, the system integrates artificial intelligence, big data, robotics and other new technologies. Through a collaborative architecture of "brain + central nervous system + limbs", it forms 5 complete sets of equipment: integrated intelligent marshaling station system, intelligent hump marshaling control system, hump peak uncoupling robot, autonomous driving system for marshaling locomotives and UAV intelligent inspection platform. It reshapes the entire workflow of marshaling station operations and builds a full-process intelligent solution.



智能低空

Smart low-altitude

中国通号立足自身智能控制核心技术优势，联合院士团队构建了涵盖“低空空域管控、低空通信、感知反制、数字底座、无人机”的创新体系，推进关键核心技术攻关，加速应用场景拓展，为低空经济安全、有序、规模化发展提供了关键支撑。

Based on its core advantages in intelligent control, CRSC joins hands with academician teams to build an innovation system covering "low-altitude airspace management, low-altitude communication, perception and countering, digital bases and UAVs", promotes breakthroughs in key core technologies, accelerates the expansion of application scenarios and provides critical support for the safe, orderly and large-scale development of the low-altitude economy.

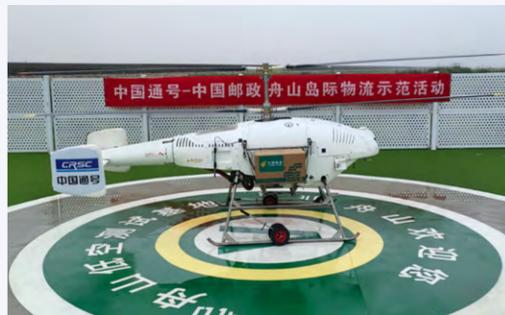
智能低空应用场景拓展
Expansion of smart low-altitude application scenarios



中国通号无人机技术助力构建铁路公安低空综合安防体系
CRSC's UAV technology helps build a comprehensive low-altitude security system for railway public security



中国通号助力广州“双热”治理
CRSC assists Guangzhou in the “dual heating” governance initiative



中国通号携手中国邮政开展岛际跨海物流航线示范活动
CRSC cooperates with China Post on demonstration inter-island cross-sea logistics routes



中国通号赋能黄河口生态旅游区“低空文旅”项目
CRSC empowers the “Low-Altitude Cultural Tourism” project in the Yellow River Estuary Ecological Scenic Area



中国通号携手中信集团打造全国首例“低空+铁路”跨海综合立体交通示范场景
CRSC and CITIC Group jointly build China's first “low-altitude + railway” cross-sea comprehensive three-dimensional transportation demonstration scenario



中国通号联合中信国安在青海盐湖矿区打造低空智能巡检场景
CRSC and CITIC Guoan create a low-altitude intelligent inspection scenario in the Qinghai Salt Lake mining area

案例
CASE

中国通号发布低空通信专网解决方案
CRSC releases low-altitude communication private network solution

2025年1月，中国通号携手紫金山实验室成功发布并圆满完成“一塔一城”低空通信专网解决方案，率先实现6G无蜂窝技术在低空领域的应用，标志着“一塔一城”低空通信专网解决方案实现产业化重大突破。

In January 2025, CRSC and Purple Mountain Laboratories successfully released and completed the “One Tower, One City” low-altitude communication private network solution, pioneering the application of 6G cell-free technology in the low-altitude domain. This marks a major industrial breakthrough for the solution.



复合翼无人机短航线飞行

P4 compound wing UAV in short-route flight

智慧城市

Smart city

中国通号努力发展智慧城市业务，加快推进智控技术在城市智慧治理领域发展进步，持续赋能多元化城市治理，加强城市治理体系和治理能力现代化。

CRSC actively develops smart city business, accelerates the advancement of intelligent control technology in urban governance, continuously empowers diversified urban governance and strengthens the modernization of urban governance systems and capabilities.



案例
CASE

卡斯柯助力全球首个智慧城市运营中心用例分析国际标准发布

CASCO contributes to the release of the world's first international standard for *Use Case Analysis of Smart City Operation Center*

2025年11月，卡斯柯参编的《IEC 63302—2 智慧城市运营中心用例分析》国际标准正式发布，这是全球首个聚焦智慧城市运营的国际标准，标志着中国在智慧城市运营管理标准化领域取得重大突破，为全球智慧城市建设提供了可借鉴的标准方案。

In November 2025, the international standard IEC 63302-2 Use Case Analysis of Smart City Operation Center, co-authored by CASCO, was officially released, which is the world's first international standard focused on smart city operation, signifying a major breakthrough for China in the standardization of smart city operation management and providing a replicable standard solution for global smart city construction.



案例
CASE

通信信息集团打造全域智能感知平台

CRSC Communication & Information Corporation builds an intelligent full situational awareness platform

针对城市治理中存在的感知盲区、数据孤岛与响应滞后等难题，通信信息集团以低空技术为核心，启动空地天地网立体感知体系建设全域智能感知平台，构建智慧、高效、全覆盖的城市感知神经网络，为智慧城市治理新业态提供可复制的“智慧样板”。该平台已成功在云南省、山东省、安徽省以及重庆市等多个省市县区落地，形成跨区域的规模化示范。

In response to the challenges such as blind spots in awareness, data silos and lagging response in urban governance, CRSC Communication & Information Corporation has initiated the construction of an integrated awareness system of air, space and ground integrating low-altitude technology to build an intelligent full situational awareness platform and establish a smart, efficient and all-encompassing urban perception neural network, bringing a replicable "smart model" for new forms of smart city governance. The platform has been successfully implemented in multiple provinces, cities, counties and districts including Yunnan Province, Shandong Province, Anhui Province and Chongqing Municipality, forming a cross-regional scale demonstration.



智能作业

Smart operation

中国通号发挥数智赋能优势，着力发展智能作业业务，并推动智控技术向矿山、港口、油田作业延伸。

CRSC leverages its advantages in digital and intelligent empowerment, focuses on developing smart operation business and extends the intelligent control technology to mining, port and oilfield operations.



中国通号自主研发的DS6—C型安全云平台获得SIL4（安全完整性等级四级）安全认证证书，为轨道交通信号系统集中化、智能化升级提供贴合行业需求的解决方案

DS6-C safety cloud platform independently developed by CRSC has obtained SIL4 (Safety Integrity Level 4) certification, providing an industry-tailored solution for the centralized and intelligent upgrade of rail transit signaling system



2025年6月，中国通号成立“智创未来·产业赋能”智能作业论坛暨城交公司智能作业产业孵化中心

In June 2025, CRSC established the "Smart Future, Industrial Empowerment" Smart Operation Forum and the Smart Operation Industry Incubation Center of CRSC Urban Rail Transit Technology Co., Ltd.

数字转型 精益管理 Digital Transformation, Lean Management

数字化转型

Digital transformation

中国通号持续推进国有企业数字化转型行动计划专项工作，深化“1433”全产业链数智化平台，发布《精益数字化管理评价体系与指标体系》，完成企业体系试评价工作。加快精益数字化组织建设与人才培养，构建企业“领导小组—推进组—实施组”三级精益管理工作推进架构，进一步加快以“模块化设计、工位节拍化生产、均衡化施工”为核心的各项精益数字化重点任务，以板块协同发力推动全集团精益数字化转型落地。2025年，公司已有3家企业获评先进级智能工厂；“一企一策”完成工业精益数字化改善项目（一期），企业生产计划达成率提升15%，生产效率提升20%，产品工序间作业平衡率提升20%。

CRSC continues to advance the digital transformation action plan for state-owned enterprises, deepens the “1433” full-industry-chain digital intelligence platform, releases the *Lean Digital Management Evaluation System and Indicator System*, completes the trial evaluation of the enterprise system, accelerates the construction of lean digital organization and talent cultivation, establishes a three-level lean management promotion framework of “leading group - promotion group - implementation group”, further advances key lean digital tasks centered on “modular design, workstation-paced production and balanced construction”, and promotes the lean digital transformation of the whole group through the collaborative efforts of all sectors. By 2025, three companies have been recognized as advanced smart factories; the “One Enterprise, One Strategy” initiative completed the industrial lean digital improvement project [Phase I], achieving a 15% increase in production plan fulfillment rate, 20% improvement in production efficiency and 20% enhancement in inter-process operation balance.



通号集团财务有限公司携手通号信息产业有限公司凭借共建的“‘三位一体’全域攻击面管理实战化安全运营”项目，成功荣获“2025年IDC中国未来企业大奖”，并荣膺“安全与信任领军者”称号

CRSC Group Finance Co., Ltd. and CRSC Information Industry Co., Ltd. successfully won the “2025 IDC China Future Enterprise Award” and were honored as “Security and Trust Leader” for their co-developed “Trinity Full Attack Surface Management and Practical Security Operation” project

小通档案 CRSC Profile

IDC 中国未来企业大奖作为数字化转型领域的标杆奖项，已连续举办 10 年，是业界针对不同机构、组织、个人在数字化转型大背景下对其努力与成绩进行表彰的奖项，具有前瞻性、中立性和国际性特点。其中“安全与信任领军者”称号更是对企业在安全领域技术实力、行业影响力及社会责任的高度肯定。

As a benchmark award in the field of digital transformation, the IDC China Future Enterprise Award has been held for 10 consecutive years. It is an industry award that recognizes the efforts and achievements of different institutions, organizations and individuals in digital transformation, characterized by foresight, neutrality and international perspective. The title of “Security and Trust Leader” is a high affirmation of the technical strength, industry influence and social responsibility of enterprises in the field of security.



工程项目数字化转型举措 Digital transformation initiatives for engineering projects

牵头行业权威单位编制了《铁路通信信号工程数字化转型白皮书》，对数字化转型提出了工程建设全生命周期实施建议

Led industry authorities in compiling the *White Paper on Digital Transformation of Railway Communication and Signal Engineering*, and put forward suggestions on the implementation of the whole life cycle of engineering construction for digital transformation

主编《铁路通信信号工程智能建造施工技术指南》，在工厂化预配、智能工装、BIM 技术应用、新一代信息技术应用等方面提出工程建设导向，建立考核体系和评价标准

Chief-edited the *Technical Guide for Intelligent Construction of Railway Communication and Signal Engineering*, proposed construction-oriented guidelines in aspects such as factory pre-assembly, intelligent tooling, BIM technology application, and the application of new-generation information technology, and established a performance assessment system and evaluation criteria

建立智能工装谱系化研发清单与推广路线，实施 8 个方向、31 项智能工装的研究与应用

Developed a systematic R&D list and promotion roadmap for intelligent tooling, and implemented research and application of 31 intelligent tooling items in 8 directions

自主研发国内首套铁路通信信号基础模型库，建立面向铁路四电工程全流程的数字孪生建维一体化平台，打造“实体工程+数字孪生工程”双交付模式

Independently developed China's first railway communication and signal foundational model library, created a full-process digital twin construction-maintenance integrated platform for railway 4 E/E Projects, and established a dual-delivery model of “physical project + digital twin project”

工程精益数字化

Engineering lean digitalization

中国通号系统性布局传统产业转型升级，以工位制均衡施工为基础，构建工程精益数字化管理体系，组织各工程企业健全精益数字化管理组织，形成任务推进机制，模块化设计、工厂化生产、插接化作业、均衡化施工形态初步形成。

CRSC systematically plans the transformation and upgrading of traditional industries, builds a lean digital management system for engineering based on the workstation-based balanced construction, organizes all engineering enterprises to improve the lean digital management organization, establishes a task promotion mechanism, and initially forms a modular design, factory production, plug-in operation and balanced construction.

顶层设计

Top-level design

形成中国通号工程精益数字化“3361”管理体系架构，确立了以模块化装配式施工革新建造方式、工位制均衡施工夯实基础管理、机械化施工强化技术支撑、信息化平台赋能管理提效的强基路径，同步建立精益管理成熟度评价标准及机制

Form a “3361” lean digital management system framework for engineering, establish a foundational path of innovative construction mode with modular assembly construction, solid foundation management with workstation-based balanced construction, technical support with mechanized construction, and effective management with information platform, and build the lean management maturity evaluation standards and mechanisms

生产模式

Production mode

制定工位制均衡施工管理办法和现场实操指南，完成通信专业31个、信号专业38个标准工位设计和测定写实，形成接口管理、模拟施工和异常管理保障机制

Develop management measures and on-site operation guidelines for workstation-based balanced construction, complete the design and measurement of 31 standard workstations for communication discipline and 38 for signaling discipline, and form a safeguard mechanism for interface management, simulated construction and anomaly management

人才培养

Talent cultivation

制定工程人员基本培训管理办法，规范建立4个教育培训基地，储备专兼职教师200余人，编制各类培训教材32册，视频教程18项

Formulate management measures for basic training of engineering personnel, standardize the establishment of 4 education and training bases, reserve over 200 full-time and part-time instructors, and compile 32 training materials and 18 video tutorials

通号工程局集团《高速铁路通信信号工厂化预配技术》荣获中国铁道学会科技进步奖一等奖

Factory Pre-assembly Technology for Communication and Signal Systems of High-Speed Railways developed by CRSC Engineering Bureau Group won the first prize of Science and Technology Progress Award of China Railway Society

西安工业集团津信公司作品《精益数字化赋能提升铁路产品零件热处理效率》荣获2025中国精益数智化创新大赛三等奖

The Lean Digital Empowerment to Enhance the Efficiency of Heat Treatment for Railway Product Parts developed by Tianjin Railway Signal Co., Ltd., a subsidiary of CRSC (Xi'an) Rail Transit Industry Group Co., Ltd., won the third prize in the 2025 China Lean Digital Intelligence Innovation Competition



通信信号工厂化预配车间及搭建的样板站

Factory pre-assembly workshop for communication and signal, and the built model station



案例
CASE

中国通号探索城轨改造数字化转型新范式

CRSC explores a new paradigm for digital transformation of urban rail renovation

中国通号以北京地铁5号线为载体，制定城轨改造数字化转型实施方案，组织研究设计院、卡斯柯和上海工程局同向发力、分工协作，交付优质的实体工程和智能化的数字孪生工程。

Using Beijing Metro Line 5 as a platform, CRSC formulates an implementation plan for the digital transformation of urban rail renovation, and organizes the Research and Design Institute, CASCO and CRSC Shanghai Engineering Bureau to work collaboratively and deliver high-quality physical projects and intelligent digital twin projects.

建立城轨业务构型编码规范和基础模型库，提供设计、集成、施工、运维同源化设计服务

Establish a configuration coding standard and basic model library for urban rail services, and provide homogeneous design services for design, integration, construction and operation and maintenance

通过模块化产品设计和配线插接化改造，形成8类32项标准模块，开展预装预配流水线作业

Form 32 standard modules across 8 categories through modular product design and wiring plug-in transformation, and carry out the pre-assembly and assembly line operations

研制敷缆辅助车、漏缆支架打孔装置、数控轨道钻孔装置、限界检查车等智能工装，替代劳动密集型作业

Develop intelligent tooling such as cable-laying auxiliary vehicle, leaky cable bracket drilling device, CNC track drilling device and gauge inspection vehicle to replace labor-intensive operations

建立互联互通仿真测试平台，研制新旧系统智能倒切装置，采用“影子模式”运行验证，保障调测过程安全高效

Establish an interconnected simulation testing platform, develop an intelligent switching device for old and new systems, and adopt “shadow mode” operation verification to ensure safe and efficient commissioning process



回应的 SDGs

SDGs addressed



中国通号将绿色发展理念融入公司血脉，健全环境管理体系，积极应对气候变化，加强能源资源节约与污染物减排管理，推动废弃物循环利用与生态保护，以实际行动践行低碳发展承诺，助力生态文明建设。

CRSC integrates green development concepts into its corporate DNA, improves its environmental management system, actively responds to climate change, strengthens the management of energy and resource conservation and pollutant emission reduction, promotes waste recycling and ecological protection, and fulfills its low-carbon development commitments through practical actions to support ecological civilization construction.

03

绿色向新 践行低碳承诺

Green Innovation

Fulfilling Low-Carbon Commitments

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环境管理 绿色经营

Environmental Management, Green Operations

治理

Governance

中国通号严格落实生态环境保护“党政同责、一岗双责”，明确各级党组织负责人和行政主要领导为本单位生态环境保护第一责任人、分管领导在其职责范围内对生态环境保护工作负相应责任。健全完善覆盖全员的生态环境保护责任清单，将环保责任落实到各级所属企业。

CRSC strictly implements the principle of “joint responsibility of the Party and government, dual responsibility for one position” in ecological environmental protection, clarifies that the leaders of Party organizations at all levels and the main administrative leaders are the primary responsible persons for ecological environmental protection in their respective units, while the leaders with specific duties bear corresponding responsibilities within their scope of duties, improves and refines the list of ecological environmental protection responsibilities covering all employees, and implements environmental protection responsibilities to affiliated enterprises at all levels.

战略

Strategy

中国通号严格遵循《中华人民共和国环境保护法》《中华人民共和国环境影响评价法》《中华人民共和国水污染防治法》《中华人民共和国大气污染防治法》等运营所在地相关法律法规，建立体系化的环境管理机制，以确保符合运营所在地相关法规及标准作为主要的污染防治与控制目标。2025年，中国通号全系统签订安全质量环保责任书 21,928份；新制定、修订节能环保制度63个；所属企业全部通过ISO 14001环境管理体系认证并保持有效运行；研究设计院集团北信公司顺利通过企业绿色信用复评，保持“绿色信用四星级企业”，全年未发生重大污染事件。

CRSC strictly abides by the relevant laws and regulations in its operating locations, such as the Environmental Protection Law of the People's Republic of China, Environmental Impact Assessment Law of the People's Republic of China, Water Pollution Prevention and Control Law of the People's Republic of China and Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, and establishes a systematic environmental management mechanism to ensure compliance with local regulations and standards as the primary pollution prevention and control objective. In 2025, CRSC signed 21,928 letters of responsibility for safety, quality and environmental protection, formulated and revised 63 new energy conservation and environmental protection systems. All affiliated enterprises have passed ISO 14001 environmental management system certification and maintained effective operation. Beijing Railway Signal Co., Ltd., a subsidiary of CRSC Research & Design Institute Group, successfully passed the re-evaluation of corporate green credit and remained a “Green Credit Four Star Enterprise”, with no major pollution incidents occurring throughout the year.

绿色生产

Green production

中国通号深耕绿色制造，积极推进绿色工厂创建，加大绿色化改造投入，着力实现用地集约化、原料无害化、生产洁净化、废物资源化、能源低碳化的发展目标。

CRSC is deeply engaged in green manufacturing, actively promoting the establishment of green factories, increasing investment in green transformation, and striving to achieve the development goals of intensive land use, harmless raw materials, clean production, recycling waste and low-carbon energy.



2025年，中国通号4家所属企业获评“绿色工厂”称号，其中国家级1家、省部级3家
In 2025, 4 affiliated enterprises of CRSC were awarded the title of Green Factory, including 1 national-level and 3 provincial and ministerial-level



绿色施工

Green construction

中国通号建立绿色施工管理体系，制定绿色施工管理制度，编制绿色施工专项施工方案，推进施工标准化、规范化，落地“四节一环保”建设要求，强化精益化施工组织，持续提升现场绿色施工管理水平。2025年，通号工程局集团城建公司泰山路学校初中部扩建工程通过绿色建造新技术示范项目验收，同步申报江苏省绿色施工工地；通号建设集团3个项目获评“绿色施工评价”。

CRSC establishes a green construction management system, formulates a green construction management system, prepares a special construction plan for green construction, advances standardized and regulated construction practices, implements the “Four Savings and One Environmental Protection” requirements, strengthens lean construction organization, and continuously improves the management level of green construction on site. In 2025, the expansion project of the junior high school section of Taishan Road School undertaken by CRSC Engineering Bureau Group Urban Construction Engineering Co., Ltd. passed the acceptance as a green construction technology demonstration project and simultaneously declared the green construction site in Jiangsu Province. Three projects undertaken by CRSC Construction Group were awarded “Green Construction Evaluation”.

绿色轨交

Green rail transit

研究设计院集团研制的全自动灵活编组技术实现了列车编组的快速转换，通过灵活编组技术减少列车编组数量，可降低牵引能耗 40%—50%

The fully automatic flexible marshaling technology developed by CRSC Research & Design Institute Group enables rapid train marshaling changes. This flexible marshaling technology reduces the number of train formations, decreasing the traction energy consumption by 40%-50%

城交公司研制的城轨列控系统智能化节能控制技术平均节约牵引能耗 10% 以上

The intelligent energy-saving control technology of urban rail train control system developed by CRSC Urban Rail Transit Technology Co., Ltd. saves an average of over 10% in traction energy consumption

研究设计院集团研制的电磁感应加热道岔融雪系统，使电—热转换效率由 50% 提升至 90% 以上，全站电力需求降低约 27%，年用电量约 6.8 万千瓦时，二氧化碳排放约 53.7 吨，可节约标准煤 10.4 吨，减少碳排放 19.8 吨 / 站年，节约电费约 2.6 万元 / 站年

The electromagnetic induction heating switch snow-melting system developed by CRSC Research & Design Institute Group improves electrical-to-thermal conversion efficiency from 50% to over 90%, reducing station-wide power demand by approximately 27%. The annual electricity consumption is about 68,000 kWh, with CO₂ emissions around 53.7 tons, which saves 10.4 tons of standard coal, and reduces carbon emissions by 19.8 tons per station per year and electricity charges by approximately CNY 26,000 per station per year

通信信息集团铁路通信基站双冷源节能空调创新融合“重力热管 + 光伏”双冷源技术，50 处基站应用该技术后年节能 20.81 吨标准煤，减少排放 96.58 吨二氧化碳

The dual-cooling-source energy-saving air conditioner for railway communication base stations, innovatively integrating “gravity heat pipe + photovoltaic” dual-cooling technology by CRSC Communication & Information Corporation achieves annual energy savings of 20.81 tons of standard coal and reduces CO₂ emissions by 96.58 tons across 50 base stations

环保宣教

Environmental education

中国通号树牢“绿水青山就是金山银山”理念，着力加强环保宣教工作，切实将思想共识转化为绿色发展的行动自觉。

CRSC firmly upholds the concept of “Lucid waters and lush mountains are invaluable assets”, and strengthens environmental education efforts to translate consensus into proactive actions for green development.

2025年，中国通号组织开展环保讲座培训505个，覆盖员工13,758人次。

In 2025, CRSC organized and carried out 505 environmental protection lectures and training sessions, covering 13,758 employee participations.



通号工程局集团鼓励员工绿色出行

CRSC Engineering Bureau Group encouraged employees to adopt green travel



西安工业集团制作《做生态理念的传播者》宣传片

CRSC (Xi'an) Rail Transit Industry Group Co., Ltd., produced a promotional video “Be a Disseminator of Ecological Concepts”

影响、风险和机遇管理

Impact, risk and opportunity management

中国通号根据国务院国资委《关于开展中央企业环境保护提升专项排查整治工作的通知》要求，全面深入开展环境保护提升专项排查整治工作，努力构建完善高效的生态环境保护工作机制和责任体系，将生态环境保护要求落实到企业发展规划、投资决策、绩效考核等各方面，推动环保工作从“专项整治”向“常态化管理”转变。公司严格落实监督检查“三个全覆盖”，加大汛期危险废物、采暖季大气污染物等季节性生产、重要时间点的专业化专项检查频次和力度，有效降低环境风险，杜绝突发环境事件。

According to the requirements of the Notice of State-owned Assets Supervision and Administration Commission of the State Council on Carrying out Special Investigation and Rectification of Environmental Protection Promotion of Central Enterprises, CRSC comprehensively and deeply carries out special investigation and rectification for environmental protection promotion, strives to establish a sound and efficient working mechanism and responsibility system for ecological environmental protection, implements the requirements of ecological environmental protection in enterprise development planning, investment decision-making, performance appraisal and other aspects, and promotes the transformation of environmental protection work from “special rectification” to “routine management”. The company strictly implements the “three full coverages” of supervision and inspection, increases the frequency and intensity of specialized supervision and inspection for seasonal production such as hazardous waste during flood seasons and air pollutants during heating seasons, as well as important time points, effectively reduces environmental risks and eliminates sudden environmental incidents.

2025年，中国通号开展环保监督检查496次，实现问题整改率100%。

In 2025, CRSC carried out 496 times of environmental supervision and inspection, achieving a 100% problem rectification rate.

指标与目标

Indicators and targets

指标 Indicators	单位 Unit	2025
环保节能投入 Investment in environmental protection and energy saving	万元 CNY ten thousand	1,622.12
其中，节能投入 Including energy-saving investment	万元 CNY ten thousand	528.47
环保投入 Environmental investment	万元 CNY ten thousand	1,093.65
采购绿电 Green electricity procurement	万千瓦时 Ten thousand kWh	1,010.91

应对气候变化

Addressing Climate Change

气候变化治理

Climate change governance

中国通号成立“双碳”工作领导小组和工作小组，全面统筹推进“双碳”工作，监督气候相关风险和机遇的治理。所属企业成立相应领导机构，企业主要负责人作为“双碳”工作第一责任人，其他有关负责人在职责范围内承担相应责任。

CRSC established a “Dual-Carbon” Leading Group and a Working Group to comprehensively coordinate and promote the “dual-carbon” initiatives (carbon peaking and carbon neutrality), as well as oversee the management of climate-related risks and opportunities. Each subsidiary formed its own leading group, with its principal acting as the person responsible for its “dual-carbon” initiatives. Other relevant individuals assumed corresponding responsibilities within their scope of duties.

“双碳”工作领导小组主要职责 Main Duties of the “Dual-Carbon” Leading Group

- 组织制定中国通号“双碳”工作行动方案
Organize the development of CRSC’s “dual-carbon” action plan
- 全面统筹协调推进“双碳”工作开展
Coordinate and oversee the overall implementation of “dual-carbon” initiatives
- 研究解决“双碳”工作中遇到的重大问题
Study and resolve major challenges encountered in the “dual-carbon” efforts
- 总结推广经验、做法，推进建立长效机制，确保实现“双碳”工作目标
Summarize and share successful experiences and practices, promote the establishment of long-term mechanisms, and ensure the achievement of “dual-carbon” work goals

○ “双碳”工作小组主要职责 Main Duties of the “Dual-Carbon” Working Group

- 落实工作领导小组要求，监督检查“双碳”工作进度，落实“双碳”工作
Implement the directives of the Leading Group, oversee and monitor the progress of “dual-carbon” initiatives to promote the effective execution of “dual-carbon” work

气候行动战略

Climate action strategy

中国通号高度重视环境与气候相关风险和机遇，根据自身业务发展布局和特点，参考外部专家意见，对各项气候变化风险和机遇的重要性进行评估，研讨制定对应的气候策略与行动。

CRSC attaches great importance to environmental and climate-related risks and opportunities, evaluates the importance of various climate change risks and opportunities according to its own business development layout and characteristics and referring to the opinions of external experts, and discusses and formulates corresponding climate strategies and actions.

碳管理

Carbon management

中国通号加强碳资产管理，在确保合规的基础上，通过主动管理，实现碳资产的保值增值，做好新改扩建项目的能评、开展重点产品碳足迹评价。

CRSC strengthens the carbon asset management, realizes the preservation and appreciation of carbon assets through proactive management on the basis of ensuring compliance, conducts the energy assessment for new, modified and expanded projects and carries out the carbon footprint evaluation for key products.

2025年，研究设计院集团北信公司企业账户碳配额可用碳排放配额9,968吨；西安工业集团上通公司开展温室气体排放核查，形成《温室气体排放盘查报告》；通号电缆集团焦缆公司为项目编制节能报告；西安工业集团上通公司完成产品碳足迹核算；津信公司开展产品碳足迹评价。

In 2025, Beijing Railway Signal Co., Ltd., a subsidiary of CRSC Research & Design Institute Group, had 9,968 tons of available carbon emission allowances in its enterprise account; Shanghai Railway Communication Co., Ltd., a subsidiary of CRSC (Xi'an) Rail Transit Industry Group Co., Ltd., carried out the greenhouse gas emission verification and formed the Greenhouse Gas Emission Inventory Report; Jiaozuo Railway Cable Co., Ltd., a subsidiary of CRSC Cables Group, prepared the energy-saving reports for projects; Shanghai Railway Communication Co., Ltd., a subsidiary of CRSC (Xi'an) Rail Transit Industry Group Co., Ltd., completed the product carbon footprint accounting; Tianjin Railway Signal Co., Ltd. conducted the product carbon footprint evaluation.

清洁能源建设

Clean energy construction

中国通号持续推进光伏项目建设，扩大绿色能源应用规模，助力绿色能源替代、强化温室气体减排。西安工业集团西信公司、津信公司通号轨道光伏项目装机量共计7.9MWP，每年可提供清洁电能487.6万千瓦时，年均节约标煤598.9吨，减排二氧化碳2,781吨，2025年获取绿证3,366个。

CRSC continues to advance photovoltaic project construction, expand the application scale of green energy, facilitate green energy substitution and strengthen greenhouse gas emission reductions. The total installed capacity of CRSC rail photovoltaic projects undertaken by Xi'an Railway Signal Co., Ltd. and Tianjin Railway Signal Co., Ltd., subsidiaries of CRSC (Xi'an) Rail Transit Industry Group Co., Ltd., reaches 7.9MWP, which can provide 4.876 million kWh of clean electricity every year, save 598.9 tons of standard coal and reduce CO₂ emissions by 2,781 tons annually, and obtain 3,366 green certificates by 2025.

气候影响、风险和机遇管理

Climate impact, risk and opportunity management

中国通号主动开展气候风险识别与研判，建立健全气候风险管理机制，持续提升公司适应气候变化、抵御气候风险的综合能力。

CRSC proactively conducts climate risk identification and assessment, establishes a sound climate risk management mechanism, and continuously enhances the company's comprehensive capacity to adapt to climate change and withstand climate risks.

风险 Risk	风险描述 Risk description	应对措施 Mitigation measures
物理 风险 Physical risk	<p>急性风险：极端天气 Acute risks: Extreme weather</p> <p>台风、暴雨、高温等极端天气可能导致轨道交通信号系统、电气设备损坏，影响铁路和城市轨道交通的安全运营 Extreme weather conditions, such as typhoons, rainstorms, and high temperatures, can damage rail transit signal systems and electrical equipment, thereby impairing the safe operation of both railways and urban rail transit</p>	<p>增强设备耐候性，提高极端天气下的稳定性 Enhance the weather resistance of equipment to improve stability under extreme weather conditions</p> <p>建立气候监测与预警系统，降低安全风险 Establish a climate monitoring and early warning system to mitigate safety risks</p> <p>加强极端天气条件下的巡检维护，制定应急预案 Strengthen spot inspections and maintenance during extreme weather conditions. Create emergency response plans</p>
	<p>慢性风险：气温上升 Chronic physical risks: temperature rise</p> <p>可能影响轨道材料的稳定性、信号设备的寿命及运营效率，增加维护成本 May affect the stability of track materials, reduce the service life and operational efficiency of signal equipment, and increase maintenance costs</p>	<p>增强设备耐候性，提高极端天气下的稳定性 Enhance the weather resistance of equipment to improve stability under extreme weather conditions</p> <p>增加绿色低碳施工工艺 Increase green and low-carbon construction technologies</p>
转型 风险 Trans-formation risk	<p>政策与法规 Policies and regulations</p> <p>国家“双碳”目标推动轨道交通行业加快低碳转型，若未能及时适应相关政策，可能面临合规成本上升和市场竞争压力 The national “dual-carbon goals” accelerate the low-carbon transformation in the rail transit industry. If the company fails to adapt to relevant policies in a timely manner, it may face increased compliance costs and greater market competition pressure</p>	<p>持续跟踪“双碳”政策与轨道交通低碳标准 Continuously track “dual-carbon” policies and low-carbon standards for rail transit</p> <p>推动产品符合国家与国际低碳标准，提升市场竞争力 Promote product compliance with national and international low-carbon standards to enhance market competitiveness</p>

风险 Risk	风险描述 Risk description	应对措施 Mitigation measures
转型 风险 Trans- for- mation risk	<p>市场需求变化 Changes in market demand</p> <p>客户对绿色低碳交通系统的需求增加，若未能提供节能环保的信号控制和智能运维方案，可能导致市场份额下降 The increasing demand for green and low-carbon transportation systems from customers may result in a decline in market share if energy-saving, eco-friendly signal control, and intelligent operation and maintenance solutions are not provided</p>	<p>推进能源绿色低碳转型和能源体系调整 Promote the green and low-carbon transformation of energy and the adjustment of the energy system</p> <p>拓展绿色交通市场，研发节能高效信号解决方案 Expand the green transportation market and develop energy-saving and efficient signal solutions</p>
	<p>技术升级压力 Technological upgrade pressure</p> <p>数字化、智能化、低碳化技术变革加速，若研发跟进不足，可能影响公司在行业中的竞争力 The rapid advancements in digital, intelligent, and low-carbon technologies can impact the company's competitiveness in the industry if its research and development efforts fail to keep up with these changes</p>	<p>优化能耗管理，提高整体能效 Optimize energy consumption management and improve overall energy efficiency</p> <p>推进数字化运维，提高能源利用效率 Promote digital operations & maintenance to enhance energy efficiency</p>

指标与目标

Indicators and targets

指标 Indicators	单位 Unit	2023	2024	2025
温室气体排放量 Greenhouse gas emissions	吨 Ton	68,126	57,415	57,236
范围一温室气体排放总量 Scope 1 GHG emissions	吨 Ton	20,181	16,212	16,499
范围二温室气体排放总量 Scope 2 GHG emissions	吨 Ton	47,945	41,203	40,737
万元产值温室气体排放量 GHG emissions per CNY 10,000 of output value	吨/万元 t/CNY ten thousand	0.0183	0.0181	0.0169

节约能源 减排降耗

Energy Conservation, Emission and Consumption Reduction

能源管理

Energy management

中国通号严格遵守《中华人民共和国节约能源法》等法律法规，健全能源管理体系，强化节能降耗管控，持续提升能源利用效率，推动公司绿色低碳发展。

CRSC strictly complies with laws and regulations such as the Energy Conservation Law of the People's Republic of China, improves the energy management system, strengthens the management and control of energy conservation and consumption reduction, continuously enhances energy utilization efficiency, and promotes the company's green and low-carbon development.

体系建设 System construction

- 西安工业集团沈信公司、西信公司、津信公司、上通公司通过ISO 50001能源管理体系认证
Shenyang Railway Signal Co., Ltd., Xi'an Railway Signal Co., Ltd., Tianjin Railway Signal Co., Ltd. and Shanghai Railway Communication Co., Ltd., subsidiaries of CRSC (Xi'an) Rail Transit Industry Group Co., Ltd., have obtained the ISO 50001 energy management system certification

信息化建设 Informationalization construction

- 研究设计院集团北信公司投入240.6万元建设智慧能碳平台，达成对全部能源数据的自动化全面采集以及智能评估
Beijing Railway Signal Co., Ltd., a subsidiary of CRSC Research & Design Institute Group Co., Ltd., invested CNY 2.406 million to build a smart energy carbon platform. This project aims to automate the comprehensive collection and intelligent evaluation of all energy data
- 西安工业集团津信公司建设智能管理工业大数据应用项目，实现对能耗的实时监控和异常情况的远程报警
Tianjin Railway Signal Co., Ltd., a subsidiary of CRSC (Xi'an) Rail Transit Industry Group Co., Ltd., has implemented an intelligent management industrial big data application project to realize real-time monitoring of energy consumption and remote alarm of abnormal situations
- 通信信息集团利用统一数据平台搭建的能耗统计分析模块，实现能源消耗数据的动态统计、监测
CRSC Communication & Information Corporation has established an energy consumption statistical analysis module on a unified data platform to enable dynamic statistics and monitoring of energy consumption data

○ 设备节能改造 Energy-saving transformation of equipment

- 西安工业集团津信公司更新2台变压器，降低损耗约40%；购进气动式油水分离机，实现切削液反复回用，废切削液产生量同比下降31.8%

Tianjin Railway Signal Co., Ltd., a subsidiary of CRSC (Xi'an) Rail Transit Industry Group Co., Ltd., has replaced 2 transformers, reducing the energy loss by approximately 40%. The pneumatic oil-water separator was purchased to realize the repeated reuse of cutting fluid, decreasing the output of waste cutting fluid by 31.8% year-on-year
- 研究设计院集团北信公司投入399.54万元完成变压器增容项目改造，空载损耗、负载损耗分别降低约30%、10%

Beijing Railway Signal Co., Ltd., a subsidiary of CRSC Research & Design Institute Group, has invested CNY 3.9954 million to complete the transformer capacity expansion project, reducing no-load loss and load loss by approximately 30% and 10% respectively
- 通号电缆集团焦缆公司开展变压器升级增容，淘汰落后设备，购入高效节能设备，生产效率提升1.4倍，能耗降低20%以上；天缆公司淘汰落后设备，新增氩弧焊管设备，采用封闭水循环系统，年节约水资源1,000吨左右

Jiaozuo Railway Cable Co., Ltd., a subsidiary of CRSC Cables Group, has upgraded transformers, phased out outdated equipment and procured high-efficiency energy-saving equipment, improving production efficiency by 1.4 times while reducing energy consumption by over 20%. Tianshui Railway Cables Co., Ltd. has replaced outdated equipment with argon arc welding pipe machines and adopted a closed water circulation system, saving approximately 1,000 tons of water annually

○ 人才建设 Talent construction

- 组织公司骨干参加中国节能协会“能源管理师”（高级）培训并取证

Key company personnel took part in the "Senior Energy Management Specialist" training sessions organized by the China Energy Conservation Association

○ 绿色办公 Green office

- 西安工业集团西信公司对95台路灯进行太阳能市电互补升级改造；津信公司897个灯管、灯泡荧光灯等全部更换为LED灯管

Xi'an Railway Signal Co., Ltd., a subsidiary of CRSC (Xi'an) Rail Transit Industry Group Co., Ltd., has upgraded and retrofitted 95 streetlights with solar-grid complementary systems; Tianjin Railway Signal Co., Ltd., a subsidiary of CRSC (Xi'an) Rail Transit Industry Group Co., Ltd., has replaced all 897 fluorescent tubes and bulbs with LED tubes
- 电缆集团天缆公司拆除原有120套 60W 荧光灯管，更换为一级能效LED 平板灯，年节约用电0.8万千瓦时

Tianshui Railway Cables Co., Ltd., a subsidiary of CRSC Cables Group Co., Ltd., has dismantled the original 120 sets of 60W fluorescent tubes and replaced them with Grade-1 energy-efficient LED panel lights, saving 8,000 kWh of electricity annually

指标 Indicators	单位 Unit	2023	2024	2025
电力消耗 Electrical power consumption	兆瓦时 MWh	78,035	69,120.9	71,278.9
汽油消耗 Gasoline consumption	吨 Ton	3,602.6	3,034.84	3,184.29
柴油消耗 Diesel consumption	吨 Ton	1,644.7	902.227	876.55
天然气消耗 Natural gas consumption	立方米 m ³	2,094,311	2,056,058	2,057,290
热力消耗 Heat consumption	百万千焦 MkJ	56,821.3	37,002.5	23,449.7
可再生资源消耗量及占相应资源总消耗量的比例 Renewable resource consumption and its proportion to the total consumption of corresponding resources	%	—	—	14.18
用水量 Water consumption	吨 Ton	886,154	803,481	802,947
万元产值用水量 Water consumption per CNY 10,000 of output value	吨/万元 t/CNY ten thousand	0.22	0.25	0.23
可再生能源使用量 Renewable energy consumption	万千瓦时 Ten thousand kWh	—	—	1,010.91
综合能源消耗量 Total energy consumption	吨标煤 TCE	22,024	18,307	18,311
万元产值综合能源消耗量 Aggregate energy consumption per CNY 10,000 output value	吨标煤 / 万元 TCE/CNY ten thousand	0.01	0.01	0.01

水资源管理

Water resources management

中国通号制定科学的水资源利用方案，开展节水改造、废水回收等项目，提高用水效率。

CRSC develops scientific water resource utilization plans and implements water-saving renovations, wastewater recycling and other programs to improve water use efficiency.

加强对施工现场用水的管理，杜绝跑、冒、滴、漏等浪费现象，设置雨水收集点、循环用水装置，用于施工现场的降尘、车辆冲洗、混凝土养护等环节

Strengthen the on-site water management to prevent waste such as leaks and spills, and set up rainwater collection points and water recycling devices at construction sites for dust reduction, vehicle washing, concrete curing and other processes

采用节水器具、雨水污水收集再利用等措施节约自来水

Adopt water-saving appliances, rainwater and wastewater collection, and reuse measures to conserve tap water

污染物管理

Pollutant management

废气

Exhaust
gas

中国通号严格落实《中华人民共和国大气污染防治法》等法律法规，强化废气源头治理与过程管控，严控废气排放，守护大气环境质量。

CRSC strictly abides by the relevant laws and regulations such as the Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, strengthens the waste gas source control and process control, controls waste gas emissions and protects the quality of atmospheric environment.

加强对现场扬尘的管控，按要求配备雾炮机、喷雾桩、喷淋系统、车辆洗车机、扬尘监测仪等设备，确保施工现场扬尘排放达标；加强对车辆运输的密闭管理，严禁使用劣质油，降低废气排放量；严禁在施工地焚烧可能产生有毒有害气体、烟尘、臭气的物质

Enhance the dust control at construction sites with fog cannons, spray systems, vehicle washers and dust monitors to ensure compliance; strengthen the enclosed management of vehicle transportation, prohibit the use of inferior oil and reduce exhaust emissions; prohibit to burn substances that may produce toxic and harmful gases, smoke and odors on the construction site

西安工业集团成通公司积极推动低挥发性原辅料替代高低挥发性原辅料在生产中的应用

Chengdu Railway Communication Equipment Co., Ltd., a subsidiary of CRSC (Xi'an) Rail Transit Industry Group Co., Ltd., has actively promoted the substitution of high-volatility raw materials with low-volatility alternatives in production

通号电缆集团焦缆公司投入 1.356 万元升级废气处理设施，加大活性炭填充量，将小型集气罩改造为集气房，大幅提升无组织废气收集效率

Jiaozuo Railway Cable Co., Ltd., a subsidiary of CRSC Cables Group, has invested CNY 13,560 to upgrade the exhaust treatment facilities, increase the filling amount of activated carbon and transform the small gas collection hood into a gas collection room, significantly improving the efficiency of unorganized exhaust collection

指标 Indicators	单位 Unit	2023	2024	2025
二氧化硫排放量 Sulfur dioxide emissions	吨 Ton	0.0237	0.0249	0.0256
化学需氧量排放量 Chemical Oxygen Demand (COD) emissions	吨 Ton	7.73	7.58	7.57
氨氮排放量 Ammonia nitrogen emissions	吨 Ton	0.672	0.671	0.668
氮氧化物排放量 NOx emissions	吨 Ton	0.727	0.727	0.726

废水

Wastewater

中国通号严格执行《中华人民共和国水污染防治法》等法律法规，加强生产生活废水管控，规范废水处理与排放，守护水环境安全。

CRSC strictly abides by the relevant laws and regulations such as the Water Pollution Prevention and Control Law of the People's Republic of China, strengthens the control of production and domestic wastewater, regulates wastewater treatment and discharge and protects the water environment safety.

研究设计院集团北信公司投入 124.8 万元，将分散的污水处理设备设施升级为一体化污水处理设备，提升污水处理总磷、总氮的能力

Beijing Railway Signal Co., Ltd., a subsidiary of CRSC Research & Design Institute Group, has invested CNY 1.248 million to upgrade the decentralized sewage treatment equipment to integrated sewage treatment equipment, so as to improve the sewage treatment capacity of total phosphorus and total nitrogen

西安工业集团上通公司投入 40 万元，完成江场西路厂区雨污管道分离改造项目

Shanghai Railway Communication Co., Ltd., a subsidiary of CRSC (Xi'an) Rail Transit Industry Group Co., Ltd., has invested CNY 400,000 to complete the separation and reconstruction project of rain and sewage pipelines in Jiangchang West Road Factory

废弃物

Wastes

中国通号严格遵守《中华人民共和国固体废物污染环境防治法》等法律法规，践行“减量化、无害化、资源化”治理原则，健全固废全生命周期管理体系，规范危废管控与处置流程，持续提升废弃物管理能力。

CRSC strictly abides by the relevant laws and regulations such as the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste, practices the governance principle of "reduction, harmlessness and recycling", improves the life cycle management system of solid wastes, standardizes the management and disposal process of hazardous wastes, and continuously enhances the waste management capabilities.

生活垃圾设置专人收集，集中处理；施工安装后，及时回收包装废弃物；彻底清理拆迁及工地撤离产生的建筑垃圾，运至指定的弃渣场或其他指定场所进行处置。2025年，公司固废合规处置率100%

The domestic waste is collected by a special person for centralized treatment, and the packaging waste is promptly recycled after construction and installation. The construction waste generated from demolition and site clearance is thoroughly cleaned and transported to the designated spoil area or other specified locations for disposal. By 2025, the company's solid waste compliance disposal rate will reach 100%

大都集中在生产制造企业，建设有危废专用库房，对生产经营过程中产生的危险固体废物实行集中统一存储，制定包括防渗漏等预防性措施，委托具备危废处置资质的第三方专业机构负责危险废物的运输及最终处置，建立清晰的台账，转移单据完整可查。2025年，公司危废合规处置率100%

Most of them are concentrated in manufacturing enterprises, with special warehouses for hazardous waste, centralized and unified storage of hazardous solid waste generated in the process of production and operation, formulation of preventive measures including leakage prevention, entrusting a third-party professional agency with hazardous waste disposal qualification to be responsible for the transportation and final disposal of hazardous waste, establishing clear records and making the transfer documents complete and traceable. By 2025, the company's hazardous waste compliance disposal rate will reach 100%

加强施工机械的检修，避免施工机械的跑、冒、滴、漏油；当堆料场存放特殊性的物资，如：沥青、水泥等应设篷盖，防止被雨水冲刷造成流失，污染土壤

Strengthen the maintenance of construction machinery to avoid oil leaks, spills and drips; when storing special materials such as asphalt and cement in the stockyard, the canopy shall be set to prevent them from being washed away by rain and polluting the soil

指标 Indicators	单位 Unit	2023	2024	2025
生产制造环节一般废弃物排放量 General waste discharge in the manufacturing process	吨 Ton	1,807.05	1,839	1,897
无害废弃物排放量 Discharge of harmless waste	吨 Ton	17,954.97	7,584	3,003.6
万元产值无害废弃物排放量 Discharge of harmless waste per CNY 10,000 of output	吨/万元 t/CNY ten thousand	0.0048	0.0023	0.0044
电镀污泥 Electroplating sludge	吨 Ton	—	—	0
有机溶剂 Organic solvents	吨 Ton	—	—	8.0525
乳化液 Emulsion	吨 Ton	—	—	81.078

指标 Indicators	单位 Unit	2023	2024	2025	
生产制造环节一般废弃物处理量 Manufacturing process General waste treatment capacity	木材 Wood	吨 Ton	—	—	146.35
	塑料 Plastic	吨 Ton	—	—	490.95
	金属 Metal	吨 Ton	—	—	1,102.938
	纸箱 Carton	吨 Ton	—	—	99.9287
	其他 Others	吨 Ton	—	—	954.385

噪声

Noise

中国通号严格遵守《中华人民共和国噪声污染防治法》等法律法规，优化施工与生产作业管控，选择环境要求较低的位置作为固定作业场地，尽量避免振动敏感区域，必要时采用隔声围挡或隔声工棚控制噪声。

CRSC strictly abides by the relevant laws and regulations such as the *Law of the People's Republic of China on Prevention and Control of Pollution from Environmental Noise*, optimizes the control of construction and production operations, chooses a location with low environmental requirements as a fixed production site, avoids vibration-sensitive areas as much as possible, and adopts soundproof barriers or sheds to control noise when necessary.



建筑垃圾回收

Construction waste recycling



复合材料拼装式围台

Composite material assembled platform

物资盘活

Materials revitalization

中国通号制定《闲置资产及废旧物资处置管理办法》，在“通购网”增加宜企拍模块，用以处置闲置资产和废旧物资。通号宜企拍上线运行以来，共发布1,110个废旧物资竞拍项目，成交总价6,849.85万元。

CRSC formulates the Management Measures for the Disposal of Idle Assets and Waste Materials, and adds the Yiqipai module on the "CRSC e-Commerce Platform" for disposing idle assets and waste materials. Since its launch by CRSC, the "Yiqipai" platform has published a total of 1,110 bidding items for the disposal of waste materials, with a total transaction value of CNY 68.4985 million.

绿色流通

Green circulation

中国通号推广应用可循环使用的物流包装，优化物流组织模式，建立绿色物流体系。

CRSC promotes green circulation and emphasizes the use of reusable packaging for logistics, optimizes logistics organization models and establishes a green logistics system.

建材类包装 材料构成 Composition of construction packaging materials	塑料 0.3吨	金属 0.3吨	纸箱 13.5吨	木材 3.6吨	ESP\EPE\珍珠棉 0.67吨
	Plastic 0.3 tons	Metal 0.3 tons	Carton 13.5 tons	Wood 3.6 tons	ESP\EPE\ pearl cotton 0.67 tons

资源循环 高效利用

Resource Recycling, Efficient Utilization

材料节约

Material saving

中国通号积极推行绿色建造工艺与低碳建材应用，推动建材减量化、循环化利用，构建绿色低碳循环发展型企业。公司在施工过程中实行就地取材原则，制定限额领料制度，采用建筑垃圾再生利用、材料加工工厂化、周转材料工具化、项目管理信息化等措施节约材料，利用BIM技术对场地进行布置，采用永临结合、基坑支护等措施节约土地。

CRSC actively promotes green construction processes and the application of low-carbon building materials, drives the reduction and recycling of building materials, and builds a green, low-carbon and circular development-oriented enterprise. The company adheres to the principle of using local materials during construction, implements a quota-based material requisition system, and adopts measures such as recycling of construction waste, factory processing of materials, tooling of reusable materials and informationization of project management, uses BIM technology to arrange the site, and adopts measures such as permanent-temporary integration and foundation pit support.

呵护自然 共建家园

Protecting Nature, Building a Shared Home

流域与生态保护

River basin and ecological protection

中国通号落实《中央企业长江黄河流域生态环境保护专项整治行动方案》《中央企业长江黄河流域生态环境保护专项整治行动要点》要求，加大对位于长江、黄河流域所属企业（项目部）及建设项目的管控、整治和监督检查力度。在生态环境脆弱地区，加强施工人员管理，严格执行畜牧业、环保、水土保持、野生动物保护等部门的相关规定，严禁任意扩大作业面。

CRSC implements the requirements of the Action Plan for the Special Rectification Tasks of Central SOEs against Issues in Ecological Environment Protection in the Yangtze River and Yellow River Basins and the Key Points for the Special Rectification Tasks of Central SOEs against Issues in Ecological Environment Protection in the Yangtze River and Yellow River Basins, and enhances control, rectification, supervision and inspection of its subsidiaries' project departments and construction projects located in the Yangtze River and Yellow River basins. In ecologically fragile areas, the construction personnel management is enhanced to strictly adhere to the regulations from animal husbandry, environmental protection, soil and water conservation, and wildlife protection departments, and it is strictly forbidden to arbitrarily expand the work areas.

绿色生态项目建设 Green ecological project construction

- 承建的六盘水市乌蒙山东部石漠化综合治理和生物多样性保护项目，累计实施退化林修复28,248.60亩，封山育林25,400.3亩
The Comprehensive Control of Rocky Desertification and Biodiversity Protection Project in Eastern Wumeng Mountain, Liupanshui City, has restored 28,248.60 mu of degraded forests and implemented forest conservation on 25,400.3 mu
- 承建的富顺县沱江流域生态修复及环境综合整治项目建成后，将有效推动沱江流域生态修复、筑牢长江上游生态安全屏障
Upon completion, the Ecological Restoration and Comprehensive Environmental Improvement Project of Tuojiang River Basin in Fushun County will effectively promote the ecological restoration of Tuojiang River Basin and build an ecological security barrier in the upper reaches of the Yangtze River

公益实践

Public welfare practices

中国通号积极组织开展各类环保志愿服务活动，引导员工主动参与生态保护实践，共建清洁美丽家园。

CRSC actively organizes various environmental protection volunteer activities, and guides employees to participate in ecological protection practices and jointly build a clean and beautiful homeland.



中国通号义务植树活动

CRSC Voluntary Tree Planting Activity



案例
CASE

守护蓝色星球，共建清洁家园

Protecting the Blue Planet, Building a Clean Home Together

2025年，卡斯柯开展低碳倡议周打卡活动、“碳路先锋”绿植领养活动、“守护蓝色星球”净滩活动、“将守护健行到底”公益捐步活动等多元化环保公益活动，并为敦煌石窟保护项目捐赠草方格2.7万平，构建具有持续性环保文化体系。

In 2025, CASCO launched diversified environmental public welfare activities including a Low-Carbon Initiative Week Check-In Event, "Carbon Trailblazer" Green Plant Adoption Activity, "Protecting the Blue Planet" Beach Cleanup, and "Perseverance in Protection" Charity Step Donation, and donated 27,000 square meters of straw checkerboards for the Dunhuang Grottoes Conservation Project to build a sustainable environmental protection cultural system.





回应的 SDGS

SDGs addressed



中国通号秉持‘以人为本’核心价值观，将员工发展融入长远布局，以健全机制保障员工合法权益，以多元培育赋能员工成长进阶，以人文关怀营造温暖和谐的职场氛围，以榜样引领激发全员奋进热情，在全公司构建起尊重人才、培育人才、成就人才的良好生态。

CRSC upholds the core value of ‘people-oriented’ philosophy, integrates employee development into the long-term layout, protects employees’ legitimate rights and interests with a sound mechanism, empowers career advancement through diversified training, fosters a warm and harmonious workplace with humanistic care, inspires all employees to forge ahead with examples, and builds a good ecology of respecting, cultivating and achieving talents throughout the company.

04

海聚英才 相伴温暖成长

Gathering Talents

Growing Together with Warmth

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保障权益 进阶提升

Safeguarding Rights and Interests and Promoting Advancement

平等雇佣

Equal employment

中国通号严格遵守《中华人民共和国劳动法》《中华人民共和国劳动合同法》等法律法规，制定《招聘工作管理办法》《劳务派遣用工管理办法》，规范员工招聘和劳务派遣用工管理，依法签订劳动合同。坚决杜绝基于性别、民族、宗教信仰、年龄等因素的歧视，构建和谐稳定的劳动关系。

CRSC strictly abides by laws and regulations such as the *Labor Law of the People's Republic of China* and the *Labor Contract Law of the People's Republic of China*, and has formulated the Recruitment Work Management Measures and the Labor Dispatch Employment Management Measures to standardize employee recruitment and labor dispatch employment management and sign labor contracts in accordance with the law. It resolutely putting an end to discrimination based on factors such as gender, ethnicity, religious belief and age, and building harmonious and stable labor relations.

2025年，中国通号劳动合同签订率100%，吸纳就业1,073人，创造灵活岗位206个。

In 2025, CRSC achieved a 100% labor contract signing rate, created 1,073 jobs, and generated 206 flexible positions.

指标 Indicators	单位 Unit	2023	2024	2025	
员工总数 Total number of employees	人 Person	19,425	19,232	19,211	
按员工 类型划 分 By employ- ment contract	劳动合同员工 Number of regular employees with labor contracts signed with the company	人 Person	19,425	19,232	19,211
	劳务协议员工 Number of independent contractors with service contracts signed with the company	人 Person	49	42	50
	第三方派遣员工 (含劳务派遣和股东方派驻) Number of employees dispatched by third-party labor providers and share- holders to the Company	人 Person	1,191	1,140	1,128
按年龄 结构划 分 By age	≥51岁 Number of employees aged ≥ 51	人 Person	2,324	2,409	2,327
	31—50岁 Number of employees aged 31-50	人 Person	12,177	12,734	12,831
	≤30岁 Number of employees aged ≤ 30	人 Person	4,924	4,089	4,053

指标 Indicators	单位 Unit	2023	2024	2025	
按层级 划分 By job level	高级管理人员 Senior management	人 Person	302	268	266
	中层管理人员 Middle management	人 Person	1,098	1,126	950
	普通员工 Number of non-management employees	人 Person	18,025	17,838	17,995
按性别 划分 By gender	男 Male	人 Person	14,566	14,401	14,393
	女 Female	人 Person	4,859	4,831	4,818
按地区 划分 By region	中国内陆 Number of employees from Mainland China	人 Person	19,340	19,152	19,091
	港澳台 Number of employees from Hong Kong, Macao and Taiwan	人 Person	1	1	0
	国外 Overseas	人 Person	84	79	120

薪酬福利

Remuneration and benefits

中国通号制定《所属子企业负责人薪酬管理办法》《薪酬管理办法》，建立健全激励和约束并举、效率和公平并重的薪酬体系。依法足额为员工缴纳社会保险、企业年金、补充医疗保险及住房公积金，并为员工提供涵盖卫生保健、日常生活等多方面的补贴与福利。

CRSC has formulated the *Compensation Management Measures for Heads of Subsidiary Enterprises* and the *Compensation Management Measures* to establish a sound compensation system that combines incentives and constraints and balances efficiency and fairness. It fully pays social insurance, enterprise annuities, supplementary medical insurance, and housing provident funds for employees in accordance with the law, and provides subsidies and benefits covering health care, daily life and other aspects.

2025年，中国通号社会保险覆盖率100%，人均带薪年假8天。

In 2025, CRSC achieved a 100% social insurance coverage rate, with an average of 8 days of paid annual leave per employee.

民主管理

Democratic management

中国通号不断完善以职工代表大会为核心的民主管理制度，全面推行厂务公开，保障员工知情权、参与权、表达权、监督权。在劳动合同管理制度中对劳动争议处理进行了明确的说明和规范，为及时化解矛盾、维护和谐劳动关系提供有力支撑。2025年，中国通号未发生劳动争议事件。

CRSC continuously improves the democratic management system with the workers' congress as the core, comprehensively implements factory affairs disclosure, and safeguards employees' rights to know, participate, express and supervise. The labor contract management system clearly explains and standardizes labor dispute resolution, providing strong support for promptly resolving conflicts and maintaining harmonious labor relations. In 2025, CRSC had no labor dispute incidents.



中国通号2025年度工作会议暨二届四次职工代表大会

CRSC's 2025 Annual Work Conference and the Fourth Session of the 2nd Employees' Congress

员工发展

Employee development

中国通号修订发布《优秀年轻干部选拔、培养及使用暂行办法》《干部交流管理办法》等制度，加大优秀年轻干部培养与选拔力度，推动人才交流学习。实施专题培训计划，举办中国通号优秀年轻干部、年轻专业人才培养“扬帆计划”、数字化与精益管理高级管理人员研修培训班等业务培训，为公司发展筑牢人才根基。

CRSC has revised and issued the *Interim Measures for the Selection, Training and Use of Outstanding Young Cadres* and the *Cadre Exchange Management Measures* and other systems to increase the training and selection of outstanding young cadres and promote talent exchange and learning. It has implemented specialized training plans and organized business training such as the "Sailing Plan" for the training of outstanding young cadres and young professionals of CRSC and the senior management training course on digitalization and lean management, laying a solid talent foundation for the Company's development.



中国通号“扬帆计划”培训班

CRSC's "Sailing Plan" Training Course

2025年，中国通号3个集体荣获中华全国铁路总工会“火车头奖杯”，7名职工荣获“火车头奖章”

In 2025, three collectives of CRSC won the "Locomotive Trophy" from the All-China Federation of Railway Workers' Unions, and seven employees won the "Locomotive Medal"



中国通号首期数字化与精益管理高级管理人员研修班

CRSC's First Senior Management Training Course on Digitalization and Lean Management



中国通号2025年“匠心领航”高技能人才培训班

CRSC's 2025 "Craftsmanship Leading the Way" High-Skilled Talent Training Course

中国通号员工培训情况 CRSC's Employees Training

指标 Indicators	单位 Unit	2023	2024	2025	
员工培训人数 Number of employees trained	人 Person	—	18,491	18,240	
员工培训支出金额 Expenditure for employees training	万元 CNY ten thousand	—	2,081.35	3,301.60	
按雇员层级划分 员工人均培训 时长 Average training duration per employee, by job level	高级管理人员人均培训时长 Average training hours per top-level manager	小时 Hour	118.99	115.21	127.90
	中层管理人员人均培训时长 Average training hours per middle-level manager	小时 Hour	104.06	112.40	95.96
	普通员工人均培训时长 Average training hours per non-management employee	小时 Hour	42.05	48.96	48.86
按性别划分员工 人均培训时长 Average training duration per em- ployee, by gender	男性员工人均培训时长 Average training duration of male employees	小时 Hour	55.813	64.02	53.72
	女性员工人均培训时长 Average training duration of female employees	小时 Hour	36.3	46.81	48
按雇员层级划分 的员工培训人数 Number of em- ployees trained, by job level	高级管理人员参加培训人数 Number of top-level managers trained	人 Person	—	264	266
	中层管理人员参加培训人数 Number of middle-level managers trained	人 Person	—	1,116	950
	基层员工参加培训人数 Number of non-management employees trained	人 Person	—	17,111	17,024
按性别划分的员 工培训人数 Number of em- ployees trained, by gender	男性员工培训人数 Number of male employees trained	人 Person	—	13,821	13,634
	女性员工培训人数 Number of female employees trained	人 Person	—	4,670	4,624

关爱员工 幸福职场

Caring for Employees and Creating a Happy Workplace

职业健康

Occupational health

中国通号严格遵守《中华人民共和国职业病防治法》等法律法规，健全职业病预防管控机制，督促所属企业全面落实职业病防治主体责任，完善职业病危害因素分类管理档案，持续开展职业病危害因素作业场所第三方检测监测工作和职业病危害作业人员职业健康检查工作，圆满完成职业健康和职业病防治各项管控工作目标。

CRSC strictly abides by laws and regulations such as the *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases*, improves the occupational disease prevention and control mechanism, urges subsidiary enterprises to fully implement their main responsibilities for occupational disease prevention and control, improves the classified management files of occupational disease hazard factors, continuously carries out third-party testing and monitoring of occupational disease hazard factors in workplaces and occupational health examinations for workers exposed to occupational disease hazards, and successfully completes all management and control work objectives for occupational health and occupational disease prevention and control.

2025年，中国通号234个职业危害作业点全部合格，达标率100%，未发现职业病和疑似职业病患者。

In 2025, all 234 occupational hazard work points of CRSC passed the inspection, with a 100% compliance rate, and no cases of occupational diseases or suspected occupational diseases were found.

指标 Indicators	单位 Unit	2023	2024	2025
职业健康体检完成率 Completion rate of occupational health examinations	%	100	100	100
新增职业病数 Number of new occupational diseases	例 Case	0	0	0

员工关爱

Care for employees

中国通号坚持举办多元活动丰富员工业余生活，缓解工作压力，增强集体凝聚力。西安工业集团工会女职工委员会“红妆破界·匠心冠领”等10个品牌为公司工会“一委一品”女职工工作品牌。2025年，公司举办各类活动80余场，覆盖员工1.5万人次，营造了积极向上、和谐融洽的工作氛围。

CRSC has been committed to organizing a variety of activities to enrich employees' spare time, alleviate work pressure and enhance collective cohesion. The Women's Committee of the Trade Union of CRSC (Xi'an) Rail Transit Industry Group Co., Ltd., has created 10 brand programs such as "Red Makeup Breaks Boundaries · Ingenuity Leads the Way", which are included in the "One Committee, One Brand" women's work brands of the Company Trade Union. In 2025, the Company held more than 80 activities of various types, covering 15,000 employee participations, fostering a positive, progressive, harmonious and inclusive working atmosphere.



中国通号工会组队参加全国铁路职工三人制篮球比赛，获得优异成绩

The CRSC Trade Union team took part in the National Railway Employees' 3x3 Basketball Competition and attained outstanding performance



通号工程局集团举办女职工刺绣活动
CRSC Engineering Bureau Group hosted an embroidery event for female staff



西安工业集团在妇女节期间开展插花活动

CRSC (Xi'an) Rail Transit Industry Group Co., Ltd. organized a flower arrangement activity on Women's Day

职工文化

Care for employees

中国通号以“书香通号 成长”为主题，举办第十一届“书香通号”职工征文活动，收集征文、家书作品200余篇，充分运用读书活动成果强化职工宣传教育和思想引领，传承家风文化，引领更多职工养成“好读书、读好书”的习惯。

With the theme of "Scholarly CRSC, Growing Together", CRSC organized the 11th "Scholarly CRSC" Employee Essay Competition, collecting more than 200 works including essays and family letters. We have fully leveraged the achievements of reading activities to strengthen employee publicity, education and ideological guidance, inherit family style culture, and encourage more employees to develop the habit of "loving reading and reading good books".

员工帮扶

Employee assistance

中国通号高度重视困难员工帮扶与关爱慰问工作，修订《工会帮扶救助实施办法》，扩大帮扶范围，提高救助标准，精准开展帮扶救助，常态化开展一线员工慰问、节日走访及离退休人员关怀活动，营造和谐稳定、守望相助的良好氛围。

CRSC attaches great importance to the support for employees in need and care and condolence work. It has revised the Measures for the Implementation of Assistance and Relief by the Trade Union of CRSC, expanded the scope of assistance, raised relief standards, and carried out targeted assistance and relief. Regular visits and care are provided to frontline employees, holiday visits are conducted, and care activities for retired employees are held, fostering a harmonious, stable and supportive working atmosphere.

2025年，中国通号困难员工帮扶投入69.58万元，帮扶员工174人。

In 2025, CRSC invested CNY 695,800 in helping employees in difficulty, assisting 174 employees.

劳模典范 树立标杆

Model Workers as Examples and Setting Benchmarks

中国通号深入贯彻落实《中共中央 国务院关于深化产业工人队伍建设改革实施意见》，成立产改工作小组，出台《关于深化产业工人队伍建设改革工作实施方案》，明确了改革目标和具体措施，指导各企业开展相关工作，制定《中国通号工匠人才培育实施方案》，紧扣“1241”总体发展思路，以培育通号工匠为核心，构建“选、育、管、用”全链条培育体系，遴选20名通号工匠培育对象，落实“一人一策”针对性自主培育方案，精准落实培育计划，举办“匠心领航”高技能人才培训班，共50人参加培训。西安工业集团入选全总层面重点助推百家企业名单，成为产改工作示范单位。

CRSC has thoroughly implemented the *Opinions of the Central Committee of the Communist Party of China and the State Council on Deepening the Reform of the Industrial Worker Team Construction*. It has established a leading group for industrial worker reform and issued the *Implementation Plan of CRSC on Deepening the Reform of the Construction of Industrial Worker Teams*, which clarifies the reform objectives and specific measures to guide all subsidiaries in carrying out relevant work. Furthermore, CRSC has formulated the *Implementation Plan for Cultivating Craftsman Talents of CRSC*. Aligning with the “1241” overall development strategy and centering on cultivating “CRSC Craftsmen”, it has built a full-chain cultivation system covering “selection, training, management and utilization”. Twenty “CRSC Craftsman” candidates have been selected, with targeted independent cultivation plans implemented for each individual [“one policy per person”] to precisely deliver cultivation programs. The “Ingenuity Leads” high-skilled talent training course has been held, with a total of 50 participants. CRSC (Xi’an) Rail Transit Industry Group Co., Ltd. has been selected into the list of 100 key enterprises supported by the All-China Federation of Trade Unions, becoming a demonstration unit for industrial worker reform.

2025年，中国通号柯晓宾创新工作室已完成《研制JXW—25型相敏轨道接收器配套产品测试台》等多项成果；邓宇创新工作室入围沈阳市技能大师工作室，成为全国铁路机务系统劳模和工匠人才创新工作室联盟理事会成员。

In 2025, Ke Xiaobin Innovation Studio of CRSC has completed multiple achievements such as the *Development of a Test Bench for Supporting Products of the JXW-25 Phase-Sensitive Track Receiver*; Deng Yu Innovation Studio has been shortlisted for the Shenyang Skilled Master Studio and has become a member of the Alliance Council of Model Workers and Craftsman Talent Innovation Studios in the National Railway Locomotive System.

大国工匠 Great country craftsman



中国通号职工创新成果亮相第三届大国工匠创新交流大会暨大国工匠论坛

CRSC's employee innovation achievements were displayed at the Third National Craftsman Innovation Exchange Conference and National Craftsman Forum

劳动模范 Labor model



杨湘毅
Yang Xiangyi

湖南省劳动模范
Hunan Provincial Model Worker



徐昱
Xu Yu

“轨道上的京津冀”铁路职工劳动竞赛一等奖
First Prize in the Railway Employee Labor Competition for the “Beijing-Tianjin-Hebei on the Track”



李营东
Li Yingdong

“轨道上的京津冀”铁路职工劳动竞赛二等奖
Second Prize in the Railway Employee Labor Competition for the “Beijing-Tianjin-Hebei on the Track”





回应的 SDGs
SDGs addressed

- 1 无贫穷
- 2 零饥饿
- 3 良好健康与福祉
- 4 优质教育
- 5 性别平等
- 6 清洁饮水和卫生设施
- 10 减少不平等
- 11 可持续城市和社区
- 16 和平、正义与强大机构
- 17 促进目标实现的伙伴关系

中国通号积极承担央企责任使命，主动履行社会责任，以开放合作汇聚发展合力，以务实担当助力乡村振兴，以志愿服务温暖社区家园，致力于实现企业与社会共同前行、共创美好。

CRSC actively undertakes the responsibilities and missions of a central enterprise, takes the initiative to fulfill its social responsibilities, gathers development momentum through open cooperation, assists in rural revitalization with a pragmatic and responsible attitude, and warms community homes with volunteer services, committed to achieving common progress and creating a better future for the enterprise and society.

05

同心同行 共赴美好生活

Working Together
for a Better Life

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携手同行 伙伴共赢

Working Together and Achieving Win-Win Results with Partners

伙伴合作

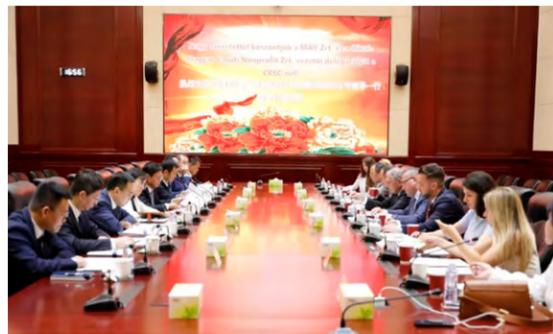
Partner cooperation

企地合作

Enterprise-local cooperation

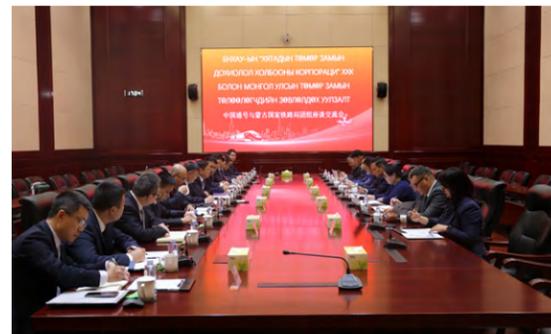
中国通号先后与匈牙利、蒙古、塞尔维亚等国家开展座谈交流，与河北省、贵州省等多地政府开展深度合作，为政企协同发展提供了卓越实践范例。

CRSC has successively held discussions and exchanges with countries such as Hungary, Mongolia and Serbia, and carried out in-depth cooperation with governments in Hebei Province, Guizhou Province and other places, providing excellent practical examples for government-enterprise collaborative development.



中国通号与匈牙利国家铁路集团董事长莱普塞尼·伊斯特万座谈交流

CRSC holds discussions with Lepsényi István, Chairman of the Hungarian National Railway Group



中国通号与蒙古国国家铁路局局长边·阿图尔座谈交流

CRSC holds discussions with Byambaatur, Director of the Mongolian National Railway Administration



中国通号与河北省常委、石家庄市委书记座谈交流，共签战略合作协议

CRSC holds discussions with a member of the Standing Committee of the CPC Hebei Provincial Committee and Secretary of the CPC Shijiazhuang Municipal Committee, and signs a strategic cooperation agreement



中国通号联合贵州省榕江县打造“村超”+“低空”融合应用新业态

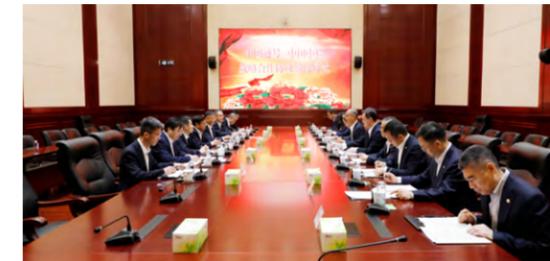
CRSC jointly creates a new business format of "Village Super League" + "low-altitude" integration with Rongjiang County, Guizhou Province

企业合作

Enterprise-enterprise cooperation

中国通号与多家企业建立战略合作关系，积极拓展合作的广度与深度，共同构建互利共赢、协同发展的产业生态。

CRSC has established strategic cooperative relationships with many enterprises, actively expanding the breadth and depth of cooperation, and jointly building a mutually beneficial, win-win and collaborative development industrial ecosystem.



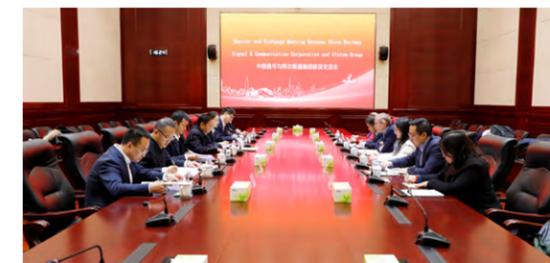
中国通号与中国中检签订战略合作协议

CRSC signs a strategic cooperation agreement with China Certification & Inspection Group



中国通号与中国电子签订战略合作协议

CRSC signs a strategic cooperation agreement with China Electronics Corporation



中国通号与阿尔斯通全球首席执行官一行进行探讨交流

CRSC holds discussions and exchanges with a delegation led by the Global CEO of Alstom



中国通号与南京地铁集团、紫金山实验室签订战略合作协议

CRSC signs strategic cooperation agreements with Nanjing Metro Group and Purple Mountain Laboratories

校企合作

School-enterprise cooperation

中国通号积极拓展与国内多所重点高校的合作关系，依托高校的学术积淀与人才资源凝聚发展动力。

CRSC actively expands its cooperative relationships with many key domestic universities, gathering development momentum by relying on their academic heritage and talent resources.



中国通号与湖南大学签订战略合作协议

CRSC signs a strategic cooperation agreement with Hunan University



中国通号与西南交通大学开展座谈交流

CRSC holds discussions with Southwest Jiaotong University

行业发展

Industry development

行业交流

Industry exchanges

中国通号主动搭建行业交流平台，积极主办、参与各类行业交流活动，分享前沿技术成果与实践经验，以实际行动助力行业高质量发展。

CRSC takes the initiative to build industry exchange platforms, actively hosts and participates in various industry exchange activities, shares cutting-edge technological achievements and practical experience, and contributes to the high-quality development of the industry with practical actions.



2025年12月，中国通号发起成立中国城市轨道交通协会低空交通分会

In December 2025, CRSC initiated the establishment of the Low-Altitude Transportation Branch of the China Association of Metros



中国通号应邀参加第八届中国国际进口博览会

CRSC is invited to participate in the 8th China International Import Expo



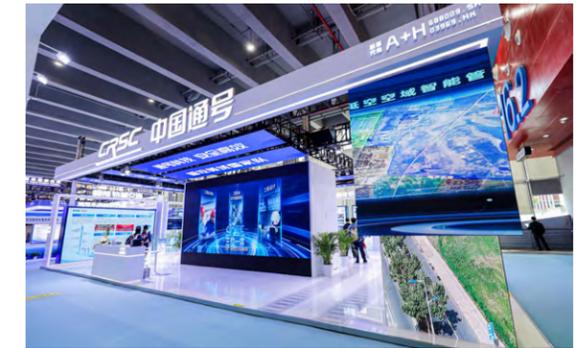
中国通号应邀参加第16届国际基础设施投资与建设高峰论坛

CRSC is invited to participate in the 16th International Infrastructure Investment and Construction Forum



中国通号亮相2025世界智能产业博览会

CRSC appears at the 2025 World Smart Industry Expo



中国通号亮相2025年国际轨道交通产业展览会

CRSC appears at the 2025 International Rail Transit Industry Exhibition

标准引领

Standard leading

中国通号通过系统性布局，已在ISO、IEC、UIC及IEEE等主要国际标准平台渗透国际影响力，并逐步发挥领导决策力。2025年，中国通号专家成功获任ISO/TC269/SC3与TC204的技术联络员，直接负责两大重要技术委员会间的协调，在智慧交通与铁路应用的交叉领域争取先发优势。

Through systematic layout, CRSC has penetrated its international influence on major international standard platforms such as ISO, IEC, UIC and IEEE, and gradually exerted leadership and decision-making power. In 2025, CRSC experts were successfully appointed as technical liaison officers of ISO/TC269/SC3 and TC204, directly responsible for coordination between the two important technical committees, and striving for a first-mover advantage in the cross-field of intelligent transportation and railway applications.

主持编制的国际电工委员会（IEC/TC9）国际标准《轨道交通 非 UGTMS 城市轨道交通信号与控制系统》是我国首次主持制定的轨道交通信号技术领域的国际标准

CRSC took the lead in formulating the international standard of the International Electrotechnical Commission (IEC/TC9) *Railway Applications - Signaling and Control Systems for Non-UGTMS Urban Rail Systems*, which is the first international standard in the field of railway signaling technology formulated under China's leadership

主持编制的 ISO/TC269 国际标准《轨道交通 运营与服务用列车检查原则》是我国在 ISO/TC269—SC3 立项主持的第一项国际标准

CRSC took the lead in formulating the ISO/TC269 international standard *Railway Applications - Principles of Train Detection for Operations and Services*, which is the first international standard initiated and hosted by China in ISO/TC269-SC3

公司专家在 IEEE 高速列车与磁浮标委会这一新领域成功承担工作组召集人，主导《铁路安全相关应用商用现货电子系统和软件（COTS—ESS）推荐规程》标准的制定

The Company's experts successfully undertook the role of working group convener in the new field of the IEEE High-Speed Train and Maglev Standards Committee, leading the formulation of the *Recommended Practice for Railway Safety-Related Applications Commercial Off-The-Shelf Electronic Systems and Software (COTS-ESS)*

发布《UIC 标准化国内对口支撑单位 UIC 标准化工作细则》，系统构建了 UIC 标准工作管理体系
The *Work Rules for UIC Standardization Domestic Counterpart Support Units* was released, systematically building a UIC standard work management system

发布《城市轨道交通全自动运行系统通用技术条件》（中文版）、《城市轨道交通信号系统车载设备人机界面显示规范》
The *General Technical Conditions for Fully Automatic Operation Systems in Urban Rail Transit* (Chinese version), the *Display Specification for the Man-Machine Interface of On-board Signaling System of the Urban Rail Transit* were released

发布《高速铁路通信工程细部设计和工艺质量标准》《高速铁路信号工程细部设计和工艺质量标准》
The *Detailed Design and Process Quality Standards for High-Speed Railway Communication Engineering* and the *Detailed Design and Process Quality Standards for High-Speed Railway Signaling Engineering* were released

负责任供应链

Responsible supply chain

中国通号按照监管要求建立健全供应链尽职调查管理体系，将环境合规、安全生产等关键要求纳入供应链尽职调查范围，覆盖供应商准入、日常管理、绩效评估等全流程环节。

CRSC establishes and improves a supply chain due diligence management system in accordance with regulatory requirements, incorporating key requirements such as environmental compliance and work safety into the scope of supply chain due diligence, covering all links such as supplier admission, daily management and performance evaluation.

供应链管理 Supply chain management

制度 Systems

制订完善《供应商信用评价管理办法》《工业物资与工程物资供应商管理办法》《委外服务供应商管理办法》等管理制度
Formulate and improve management systems such as the *Supplier Credit Evaluation Management Measures*, the *Industrial Materials and Engineering Materials Supplier Management Measures* and the *Outsourced Service Supplier Management Measures*

准入 Admission

对供应商的营业范围、财务状况、技术能力等重要指标进行评价，必要时进行现场考察或首件鉴定，以确定是否准入；结合历史交易记录、纪检监察、法院审理、行政处罚等公开信息加强供应商准入管理

Evaluate important indicators such as suppliers' business scope, financial status and technical capabilities, and conduct on-site inspections or first-article inspections when necessary to determine admission; strengthen supplier admission management by combining historical transaction records, discipline inspection and supervision, court hearings, administrative penalties and other publicly available information

监督 Supervision

强化对供应商的全过程监督管理，抓好质量源头管控，提高物资采购体系运行质量；对长期合作供应商进行产品质量常规抽检

Strengthen the whole-process supervision and management of suppliers, grasp quality source control, and improve the operation quality of the material procurement system; conduct regular product quality sampling inspections of long-term cooperative suppliers

评价 Evaluation

将可持续发展要素纳入供应商准入评价和日常考核，执行《供应商信用评价管理办法》，组织所属企业开展供应商日常和年度信用评价工作，落实对不良、低质、违规供应商的处罚

Incorporate sustainable development elements into supplier admission evaluation and daily assessment, implement the *Supplier Credit Evaluation Management Measures*, organize subsidiary enterprises to carry out daily and annual credit evaluations of suppliers, and implement penalties for bad, low-quality and non-compliant suppliers

培训 Training

面向供应商开展可持续发展培训，将绿色采购的管理要求纳入供应商培训范围

Provide sustainable development training for suppliers and incorporate green procurement management requirements into supplier training

供应链风险管控 Supply chain risk management and control

建立完善的采购与供应链内控风险管理体系，通过信息系统对招标采购、供应商选择、合同签订等关键环节进行合规管控

Establish a sound procurement and supply chain internal control risk management system, and carry out compliance control over key links such as bidding procurement, supplier selection and contract signing through information systems

完善“通购网”功能，进行采购全流程服务，对采购风险进行预警监督

Improve the functions of the "CRSC e-Commerce Platform" to provide full-process procurement services and conduct early warning and supervision of procurement risks

供应链安全稳定 Supply chain security and stability

重点企业分层分级建立核心物资产品需求清单，保持合理的库存和备用渠道，加强重点领域战略储备，做好必要情况下保证供应链安全的应对预案

Key enterprises created a demand list for core materials and products, categorized by tiers and levels. Maintained reasonable inventory levels and backup channels, reinforced strategic reserves in key areas, and prepared contingency plans to ensure supply chain security when necessary

持续推动关键设备及零部件标准化、国产化，建立必要的产业备份系统，确保在遭遇断供限制时，能够依靠自身实力保持供应链稳定

Continuously promote the standardization and localization of key equipment and components, establish necessary industrial backup systems, and ensure supply chain stability relying on its own strength in the event of supply disruptions

针对关键核心技术、关键零部件、基础产品等，做好应对预案，持续跟踪国内外供应链风险，有序培养新进供应商以应对供应链异常波动

Formulate response plans for key core technologies, key components, and basic products, continuously track domestic and foreign supply chain risks, and orderly cultivate new suppliers to cope with abnormal supply chain fluctuations

针对停产、货期长等难采物料，开展物料替代或物料换型，升级推广自主化新产品

For materials that are difficult to procure due to production stoppages or long lead times, carry out material substitution or material model changes, upgrade and promote independent new products

建立健全物资采购全流程闭环管理机制，深入推动集中采购，建立安全稳定的供应链渠道

Establish and improve a full-process closed-loop management mechanism for material procurement, deeply promote centralized procurement, and establish safe and stable supply chain channels

供应链数字化转型 Supply chain digital transformation

发挥数据和应用场景优势，加快大数据、云计算、区块链、5G、人工智能等数字技术开发，加强采购管理与研发设计、生产制造、市场营销、经营管理和协同运营等供应链场景融合

Give full play to the advantages of data and application scenarios, accelerate the development of digital technologies such as big data, cloud computing, blockchain, 5G and artificial intelligence, and strengthen the integration of procurement management with supply chain scenarios such as R&D and design, production and manufacturing, marketing, business management and collaborative operations

强化采购交易在线监管，充分利用全国企业采购交易寻源询价系统、全国企业供应商信用认证评价系统等平台的功能作用，增强企业寻源比价能力

Strengthen online supervision of procurement transactions, fully utilize the functions of platforms such as the national enterprise procurement transaction sourcing and inquiry system and the national enterprise supplier credit certification and evaluation system, and enhance the enterprise's sourcing and price comparison capabilities

绿色供应链 Green supply chain

鼓励各企业实施绿色采购，优先采购节能低碳环保材料、产品和设备

Encouraged all enterprises to adopt green procurement practices and prioritize energy-efficient, low-carbon, and eco-friendly materials, products, and equipment



案例
CASE

中国通号打造“1+3”采购交易平台布局

CRSC builds a "1+3" procurement transaction platform layout

2025年，中国通号推动完善企业内部采购交易管控体系建设取得新进展，逐步搭建完成“1+3”采购交易平台布局（即一个总部加三个分中心建设），切实提升区域供应链的协同效率与整体价值创造能力。

In 2025, CRSC made new progress in promoting the improvement of the internal procurement transaction control system and gradually built a "1+3" procurement transaction platform layout (i.e., the construction of one headquarters and three sub-centers), effectively improving the collaborative efficiency and overall value creation capability of the regional supply chain.



长沙分中心成立

Establishment of the Changsha Sub-center



上海分中心成立

Establishment of the Shanghai Sub-center

中国通号供应商分布情况
Distribution of CRSC's suppliers

指标 Indicators	单位 Unit	2023	2024	2025
中国 China	家 Nos.	3,930	5,667	5,072
欧洲 Europe	家 Nos.	18	10	16
北美 North America	家 Nos.	7	5	8
亚洲 (除中国) Asia (excluding China)	家 Nos.	5	0	7

指标 Indicators	单位 Unit	2023	2024	2025
审查的供应商数量 Number of suppliers reviewed	家 Nos.	3,819	5,535	4,985
因不合规被中止合作的供应商数量 Number of suppliers with whom the cooperation suspended for non-compliance	家 Nos.	41	24	6
供应商签订阳光协议比率 Proportion of suppliers signing integrity agreements	%	—	—	100



“一带一路”建设

Promoting "the Belt and Road Initiative"

业务拓展

Business development

中国通号坚持“属地化发展”战略，扎实推进海外经营布局，持续以“扩量、提质、增效”为导向，成功实现海外业务从“规模扩张”向“质量突破”的关键转变，在高端市场与新领域取得一系列标志性成果。

CRSC adheres to the "localization development" strategy, steadily promotes overseas business layout, and continuously takes "expanding scale, improving quality, and increasing efficiency" as the guide, successfully achieving a key transformation of overseas business from "scale expansion" to "quality breakthrough", and achieving a series of landmark results in high-end markets and new fields.

2025年，中国通号已设立境外分支机构15个，另有7个境外分支机构正在办理注册手续，业务范围基本覆盖重点国别市场，形成区域辐射效应，国际经营网络初步成型，经营基础持续夯实。

In 2025, CRSC has established 15 overseas branches, with another 7 overseas branches in the process of registration. Its business scope basically covers key national markets, forming a regional radiation effect. Its international business network has initially taken shape, and its business foundation has been continuously consolidated.

中标塞尔维亚国家体育场站信号工程项目，斩获中国通号全自主知识产权的 ETCS-1 系统首个海外业绩

It won the bidding for the Signal Engineering Project of the National Stadium Station in Serbia, securing the first overseas performance of CRSC's fully independently intellectual property right ETCS-1 system

中标迪拜蓝线通信信号系统集成项目，成功跻身海湾国家高端市场

It won the bidding for the Dubai Blue Line Communication and Signaling System Integration Project, successfully entering the high-end market in the Gulf countries

中标墨西哥城 STE 轻轨控制系统改造项目，拿下美洲市场首个 EPC 项目

It won the bidding for the STE Light Rail Control System Renovation Project for Mexico City, securing the first EPC project in the American market

签订沙特利雅得 KAFD 单轨信号系统合同，实现自主研发的 FAO 系统海外首次应用

It signed the contract for the Riyadh KAFD Monorail Signaling System in Saudi Arabia, achieving the first overseas application of its independently developed FAO system

中标摩洛哥菲斯铁路改造项目，标志着公司首次成功切入摩洛哥铁路市场，同时实现电气化专业领域海外零的突破

It won the bidding for the Fez Railway Renovation Project in Morocco, marking the Company's first successful entry into the Moroccan railway market and achieving a breakthrough in the overseas electrification discipline field



中国通号助力墨西哥城地铁1号线全线贯通
CRSC assisted in the completion of the full-line connection of Mexico City Metro Line 1



卡斯柯与中航国际携手共建的中埃铁路信号智能控制实验室成功落地埃及
The China-Egypt Railway Signaling Intelligent Control Laboratory jointly built by CASCO and AVIC International successfully landed in Egypt

人才培养

Talent cultivation

中国通号秉持本地化运营理念，重点培育本地市场、商务、技术人才，初步构建起“培养+流动”的人才发展机制，为拓展周边市场打下了基础。2025年，中国通号各所属企业属地化员工120名。

CRSC adheres to the localization operation concept, focuses on cultivating local market, business and technical talents, and initially builds a “cultivation + mobility” talent development mechanism, laying a foundation for expanding surrounding markets. In 2025, CRSC had 120 localized employees in its subsidiary enterprises.



中国通号“一带一路”沿线国家轨道交通技术人才培训班
CRSC's “Belt and Road” Railway Technology Talent Training Course for Countries along the Route



中国通号尼日利亚轨道交通智能控制系统研修班
CRSC's Nigeria Rail Transit Intelligent Control System Training Course



中国通号越南铁路通信信号技术研修班
CRSC's Vietnam Railway Communication and Signaling Technology Training Course

海外履责

Overseas Duty
Performance

中国通号在海外业务拓展进程中积极投身社区建设，助力当地经济民生改善，实现海外业务与当地社会福祉共同发展。

In the process of overseas business expansion, CRSC actively participates in community construction and helps improve the local economy and people's livelihood, achieving common development of overseas business and local social well-being.



案例
CASE

中国通号几内亚马西铁路项目部在当地社区开展慰问活动

CRSC's Guinea Massi Railway Project Department carries out condolence activities in the local community

2025年10月，中国通号几内亚马西铁路项目部在几内亚的村庄和小学开展“一路同行·情暖社区”主题慰问活动，向200余名村民和80名儿童赠送了大米、食用油、水果、糖果、文具等慰问品，并讲解了在铁路沿线生活的安全注意事项。

In October 2025, CRSC's Guinea Massi Railway Project Department carried out the “Walking Together · Warming the Community” themed condolence activities in villages and primary schools in Guinea, presenting condolence gifts such as rice, cooking oil, fruits, candies and stationery to more than 200 villagers and 80 children, and explaining safety precautions for living along the railway.



乡村振兴 展现担当

Rural Revitalization and Demonstrating Responsibility

中国通号立足帮扶县实际，聚焦“五大振兴”，发挥优势特长，用好用足产业帮扶、消费帮扶支持政策，积极布局特色优势产业项目，培育壮大龙头企业，强化人才支撑，参与央企消费帮扶专项行动，牵头推动社旗县低空智联平台建设落地，推动乡村振兴工作从“输血”向“造血”转变。

Based on the actual situation of the assisted county, CRSC focuses on the “five revitalizations”, gives full play to its advantages and strengths, makes good use of industrial assistance and consumption assistance support policies, actively lays out characteristic and advantageous industrial projects, cultivates and expands leading enterprises, strengthens talent support, participates in the central enterprise consumption assistance special action, takes the lead in promoting the construction and implementation of the Low-Altitude Intelligent Connection Platform of Sheqi County, and promotes the transformation of rural revitalization work from “blood transfusion” to “blood formation”.

2025年，中国通号投入帮扶资金814.94万元，直接投入无偿帮扶资金800万元，投入有偿帮扶资金14.94万元；通过“通号惠帮扶”电商平台上线24类200余款社旗特色农产品，直接采购帮扶产品353.34万元；依托央企“兴农周”等活动帮助销售1,094.46万元，在国务院国资委2024年95家中央企业定点帮扶工作成效考核评价结果中，获最高等次“好”的评价。

In 2025, CRSC invested CNY 8,149,400 in assistance funds, directly invested CNY 8 million in gratuitous assistance funds and CNY 149,400 in paid assistance funds; launched more than 24 categories and 200 Sheqi characteristic agricultural products on the “CRSC Beneficial Assistance” e-commerce platform, directly procuring CNY 3.5334 million worth of assistance products; helped sell CNY 10.9446 million worth of products through activities such as the central enterprise “Rural Revitalization Week”, and obtained the highest rating of “good” in the performance evaluation results of the designated assistance work of 95 central enterprises by SASAC of the State Council in 2024.

产业振兴 Rural economy revitalization

艾草产业 Mugwort industry

牵头成立“艾草产业链”联盟，扶持龙头企业，联合高校建成2条艾草精油贴生产线及配套车间，推广“南艾10号”品种

Take the lead in forming the “Mugwort Industry Chain” alliance, support leading enterprises, jointly build two mugwort essential oil patch production lines and supporting workshops with universities, and promote the “Nanyang Mugwort No. 10” variety

蔬菜产业 Vegetable industry

新增发展大葱种植和特种辣椒产业；建立保鲜库和冷库，补齐冷链短板；推进大葱干菜系列深加工，延伸产业链条

Newly develop green onion planting and special pepper industries; establish preservation and cold storage facilities to fill the gap in cold chain logistics; promote the deep processing of dried green onion series products and extend the industrial chain

水果产业 Fruit industry

支持袁老庄村成立种植合作社，联合3个脱贫村组建乡村产业联盟、参股农产品销售公司，拓展线上渠道；借助“定点帮扶+企业+村集体+合作社+农户”模式，组建合作社与产业联盟；成立“众果通”梨树种植专业合作社

Support Yuanlaozhuang Village in establishing a planting cooperative, jointly form a rural industrial alliance with three poverty-stricken villages, and participate in an agricultural product sales company to expand online channels; form a cooperative and industrial alliance with the “designated assistance + enterprise + village collective + cooperative + farmer” model; establish the “Zhongguotong” pear tree planting professional cooperative

鸡产业 Chicken industry

推动改进风干鸡制作工艺，带动企业年增收800万元，60户建档立卡户年增收3,500元以上；联合张磊养鸡合作社等3家企业，形成“鸡饲料加工→养鸡→鸡肉加工→有机肥处理”完整产业链

Promote the improvement of the air-dried chicken production process, driving an annual increase of CNY 8 million in enterprise revenue and an annual increase of more than CNY 3,500 for 60 registered poverty-stricken households; joint with three enterprises including Zhang Lei Chicken Farming Co-operative to form a complete industrial chain of “chicken feed processing chicken farming chicken processing organic fertilizer treatment”

粮食加工产业 Grain processing industry

投入50万元援建2座烘干塔封闭精车间，服务周边3万亩良田；援助德鑫农产品公司建造“智能化玉米深加工”车间

Invest CNY 500,000 to build two closed drying tower precision workshops, serving 30,000 mu of surrounding fertile farmland; assist Nanyang Dexin Agricultural Products Industrial Co., Ltd. in building an “intelligent corn deep processing” workshop

生产设施 Production facilities

投入37.6万元购置2台新型履带收割机，应对秋季“连阴雨”极端天气

Invest CNY 376,000 to purchase 2 new crawler harvesters to cope with extreme weather such as “continuous rainy days” in autumn

人才振兴 Talent revitalization

加强培训
Strengthen training

建成“中国通号电商基地”“中国通号农业技术培训基地”；举办“中国通号培训班”“第一书记电商培训班”等各类培训90多期
Build the “CRSC E-commerce Base” and the “CRSC Agricultural Technology Training Base”; hold more than 90 training sessions such as the “CRSC Training Course” and the “First Secretary E-commerce Training Course”

产业孵化
Industrial incubation

依托两大基地平台，吸纳新质生产力创业团队5家，孵化企业20家、劳务公司2家、培训机构2家；举办“社旗农产季”活动24场，联合13家企业打造“老家赊店”公共品牌，孵化当地特色品牌20个，并免费培育带货主播
Relying on the two base platforms, attract 5 new productive entrepreneurship teams, incubate 20 enterprises, 2 labor service companies, and 2 training institutions; hold 24 “Sheqi Agricultural Product Season” events, jointly create the “Hometown Shedian” public brand with 13 enterprises, incubate 20 local specialty brands, and provide free training for live-streaming anchors

合作培养
Cooperative cultivation

创新构建“农户+公司+央企+政府”协同发展模式，加强与地方高校合作，开展教学实践互动，积极推行农业标准化生产
Innovate and build a collaborative development model of “farmers + companies + central enterprises + governments”, strengthen cooperation with local universities, carry out teaching practice interactions, and actively promote standardized agricultural production

生态振兴 Ecological revitalization

照明工程
Lighting engineering

2024年至今累计投入200万元参与“万盏路灯点亮乡村”行动
Cumulatively invest CNY 2 million in the action that “ten thousand lamps light up rural areas” since 2024

水利设施
Water conservancy facilities

新建4座集中供水站，改造16公里管网，解决8,500名群众饮水困难；清淤河道8.6公里，整治坑塘23处，新建生态护岸5.2公里
Build 4 centralized water supply stations, renovate 16 kilometers of pipelines, solve drinking water difficulties for 8,500 people; dredge 8.6 kilometers of river channels, renovate 23 ponds, and build 5.2 kilometers of ecological revetments

组织振兴 Organizational revitalization

秉持“党建为魂、产业为核、闭环推进”工作理念，通过“组织共建—项目共推—队伍共育—产销共保”四链联动机制，推动下属党支部与社旗县10个村党支部结对共建

Adhering to the work concept of “party building as the soul, industry as the core and closed-loop promotion”, CRSC promotes the paired-up co-construction between its subsidiary Party branches and 10 village Party branches in Sheqi County through the “four-chain linkage” mechanism of “organizational co-construction - project co-promotion - team co-cultivation - production and marketing co-guarantee”



中国通号领导赴社旗县调研乡村振兴工作

CRSC leaders visit Sheqi County to investigate rural revitalization work



中国通号希望小学操场改造工程顺利完工，为孩子们营造一个安全、舒适、美观的运动空间

The renovation project of the playground of CRSC Hope Primary School has been successfully completed, creating a safe, comfortable and beautiful sports space for the children of the hope primary school



河南省社旗县中国通号希望小学15名优秀学生和3名老师到北京开展“相聚通号 扶志筑梦”研学活动

15 outstanding students and 3 teachers from CRSC Hope Primary School in Sheqi County, Henan Province went to Beijing for the research and study activity themed “Gathering at CRSC, Nurturing Aspirations and Building Dreams”

指标 Indicators	单位 Unit	2023	2024	2025
投入无偿帮扶资金 Free assistance funds invested	万元 CNY ten thousand	550	1,000	800
引入无偿帮扶资金 Introduce grant-in-aid funds for uncompensated assistance	万元 CNY ten thousand	45.5	—	17.5
培训基层干部 Number of grassroots cadres trained	名 Nos.	431	1,416	1,188
培训乡村振兴带头人 Number of leaders trained for rural revitalization	名 Nos.	166	637	1,656
培训技术人员 Train technical personnel	名 Nos.	220	1,217	1,477
购买农产品 Agricultural products purchased	万元 CNY ten thousand	202+	385.4	353.34
帮助销售农产品 Sales of agricultural products promoted	万元 CNY ten thousand	2,100+	2,112.49	1,094.46



青年志愿者开展“学雷锋文明实践我行动”主题活动
Youth volunteers carried out the themed activity “Learn from Lei Feng: I Take Action in Civilized Practice”



青年志愿者走进许昌儿童福利院“儿童之家”
Youth volunteers visited the “Children’s Home” at the Xuchang Children’s Welfare Institute



青年志愿者走进大兴爱心希望学校开展志愿服务活动
Youth volunteers went to Daxing Aixin Hope School to carry out volunteer service activities



青年志愿者到星愿孤独症儿童服务中心开展“晴暖星童，与爱同行”志愿服务活动
Youth volunteers went to Xingyuan Autism Children’s Service Center to carry out the volunteer service activity themed “Warm Stars with Sunshine, Walk Together with Love”

志愿服务 共建社区

Volunteer Services and Building Communities Together

中国通号以“同心筑梦”志愿服务品牌为引领，鼓励员工积极主动参与志愿服务活动，不断提高志愿服务专业化水平和规范化程度。

Guided by the “United in Pursuing Dreams” volunteer service brand, CRSC encourages its employees to actively participate in volunteer service activities and continuously enhance the professional and standardized levels of volunteer services.

2025年，中国通号举办“中国通号志愿服务先进典型评选活动”“中国通号青年文明号、青年岗位能手评选表彰活动”，表彰优秀志愿者57名、优秀志愿服务集体33个、优秀志愿服务项目12个，青年文明号25个、青年岗位能手38名。

In 2025, CRSC held the “Advanced Model Selection Activity of CRSC Volunteer Service” and the “Selection and Commendation Activity of CRSC Youth Civilization Teams and Young Job Experts”, honoring 57 outstanding volunteers, 33 outstanding volunteer service collectives, 12 outstanding volunteer service projects, 25 youth civilization teams and 38 young job experts.

指标 Indicators	单位 Unit	2025
志愿活动参与人次 Number of participants in volunteer activities	人次 Person-time	1,887
志愿活动累计参与时长 Accumulated participation duration of volunteer activities	小时 Hour	7,950

未来展望 Future Outlook

奋楫扬帆开新局，笃行不怠建新功。中国通号将继续全面贯彻习近平总书记重要指示批示精神，深入贯彻落实党中央、国务院决策部署，紧紧围绕打造智能控制领域“大国重器”这一总目标，以产业转型为纲，以科技支撑为核，以市场拓展为要，以安全保障为基，以党建引领为魂，全力推动四项智能系统业务成熟定型，做强做大智能终端装备产业，为“十五五”良好开局提供有力支撑。

Forging ahead with determination to open a new chapter and persevering with diligence to achieve new accomplishments. CRSC will continue to fully implement the important instructions and directives of General Secretary Xi Jinping, thoroughly carry out the decisions and deployments of the CPC Central Committee and the State Council, closely focus on the overarching goal of building China into a global power in the field of intelligent control, take industrial transformation as the guiding principle, technological support as the core, market expansion as a priority, safety assurance as the foundation and Party building leadership as the soul. It will make every effort to promote the maturation and standardization of four intelligent system businesses, strengthen and expand the intelligent terminal equipment industry, and provide strong support for a favorable start to the 15th Five-Year Plan period.

附录 Appendix

ESG 指标索引

Index of ESG Indicators

上海证券交易所《上海证券交易所上市公司自律监管指引第14号—可持续发展报告（试行）》

Guidelines No. 14 of Shanghai Stock Exchange for Self-Regulation of Listed Companies—Sustainability Report (Trial)

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	3	废弃物处理 Waste disposal	第三十一条 Article 31	92-97
	4	生态系统和生物多样性保护 Ecosystem and biodiversity conservation	第三十二条 Article 32	98-99
	5	环境合规管理 Environmental compliance management	第三十三条 Article 33	80-83
	6	能源利用 Energy utilization	第三十五条 Article 35	89-91
	7	水资源利用 Utilization of water resources	第三十六条 Article 36	80
	8	循环经济 Circular economy	第三十七条 Article 37	96-97
社会 Society	9	乡村振兴 Rural revitalization	第三十九条 Article 39	126-130
	10	社会贡献 Social contribution	第四十条 Article 40	130-131
	11	创新驱动 Innovation driving	第四十二条 Article 42	54-65
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	19	利益相关方沟通 Stakeholder communication	第五十三条 Article 53	18-20
	20	反商业贿赂及反贪污 Anti-commercial bribery and anti-corruption	第五十五条 Article 55	33-34
	21	反不正当竞争 Anti-unfair competition	第五十六条 Article 56	40

香港联合交易所上市规则—附录C2《环境、社会及管治报告守则》
Appendix C2 Environmental, Social and Governance Reporting Cod

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A.环境 Environment A	
一般披露 General disclosure	
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A1.4 所产生无害废弃物总量（以吨计算）及（如适用）密度（如以每产量单位、每项设施计算）。 Total non-hazardous waste produced (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	94-95
A1.5 描述所订立的排放量目标及为达到这些目标所采取的步骤。 Describe emission targets set and the steps taken to achieve these goals.	83、86
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A2: 资源使用 A2: Use of resources	
一般披露 General disclosure	
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维度 Dimension	页码 Page
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B2: 健康与安全 B2: Health and safety	
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B3: 发展及培训 B3: Development and training	
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维度 Dimension	页码 Page
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一图读懂

《中国铁路通信信号股份有限公司 2025 环境、社会和公司治理报告》评级报告

一、评级结果



《中国铁路通信信号股份有限公司 2025 环境、社会和公司治理报告》（以下简称《报告》）为**五星级**，是一份卓越的企业可持续发展报告。

评级结果	评级图示	发展水平
五星佳	★★★★★+	典范
五星级	★★★★★	卓越
四星半级	★★★★☆	领先
四星级	★★★★	优秀
三星级	★★★	良好
二星级	★★	发展
一星级	★	起步

二、亮点绩效



《报告》的过程性、实质性、平衡性、可比性、可读性均达到五星级，完整性、创新性达到四星半级。

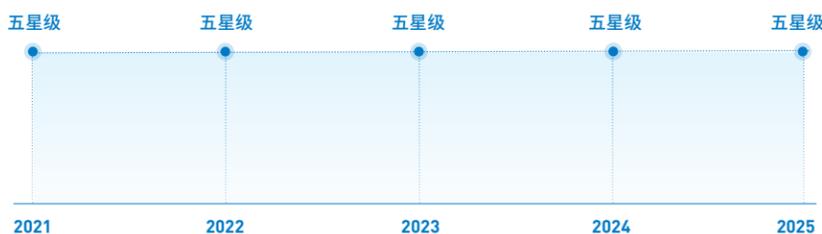


《报告》系统披露了铁路、船舶、航空航天和其他运输设备制造业核心指标的 83.82%，其中环境维度下环境合规管理、水资源利用，社会维度下乡村振兴、创新驱动、员工权益保障、职业健康与安全生产、职业发展与培训，治理维度下利益相关方沟通、反不正当竞争等议题的核心指标覆盖率最高，均达 100%。



《报告》详细披露了“研发投入金额”“研发投入占营业收入比例”“环保投入”“温室气体排放量”“员工培训人数”“客户满意度”等 97 个关键指标连续 3 年的对比数据，其中环境维度下能源利用、社会维度下创新驱动、治理维度下可持续治理机制连续 3 年的可比数据披露最为充分，分别为 7、18、6 组。

近五年报告评级趋势



《中国铁路通信信号股份有限公司 2025 环境、社会和公司治理报告》评级报告

受中国铁路通信信号股份有限公司委托，“中国企业社会责任报告评级专家委员会”抽选专家组成评级小组，对《中国铁路通信信号股份有限公司 2025 环境、社会和公司治理报告》（以下简称《报告》）进行评级。

一、评级依据

1. 财政部《企业可持续披露准则——基本准则（试行）》；
2. 香港联合交易所《环境、社会及管治报告守则》；
- 3.《上海证券交易所上市公司自律监管指引第 14 号——可持续发展报告（试行）》；
4. 中国企业改革与发展研究会、责任研究院《中国企业可持续发展报告指南（CASS-ESG 6.0）之铁路、船舶、航空航天和其他运输设备制造业》；
5. 责任云研究院《中国企业可持续发展报告评级标准（2026）》。

二、评级分析

过程性（★★★★★）

公司成立报告编制工作组，由党建工作部牵头协调、具体统筹报告编制工作，党委会、董事会把控报告内容、整体方向并负责报告终审。将报告定位为提升社会责任管理水平、传播企业责任品牌形象、披露企业履责信息、回应利益相关方信息披露需求、满足信息合规披露的有效工具，功能价值定位明确。结合国家宏观政策、行业对标分析、公司重大事项、国内外 ESG 标准等识别双重重要议题；计划通过官方网站发布中英文版本报告，并将以印刷品的形式呈现报告，过程性表现卓越。

实质性（★★★★★）

《报告》系统披露了应对气候变化、污染物排放、废弃物处理、节约能源、资源、环保产品或技术的研发和应用（清洁技术机遇）、推动运输设备绿色化、生态系统与生物多样性保护、可持续供应链、产品和服务安全与质量、职业健康与安全生产、社区影响（对周边环境、社区造成的影响）、可持续治理机制、反商业贿赂及反贪污等铁路、船舶、航空航天和其他运输设备制造业关键议题，叙述详细充分，其中可持续治理机制、废弃物处理、节约能源资源三项议题相关内容篇幅最多，均为 6 页，具有卓越的实质性表现。

完整性（★★★★☆）

《报告》主体内容从“国之重器 引领发展新程”“智创先锋 驱动未来变革”“绿色向新 践行低碳承诺”“海聚英才 相伴温暖成长”“同心同行 共赴美好生活”等角度系统披露了铁路、船舶、航空航天和其他运输设备制造业核心指标的 83.82%，其中环境维度下环境合规管理、水资源利用，社会维度下乡村振兴、创新驱动、员工权益保障、职业健康与安全生产、职业发展与培训，治理维度下利益相关方沟通、反不正当竞争等议题的核心指标覆盖率最高，均达 100%，具有领先的完整性表现。

平衡性（★★★★★）

《报告》披露了“针对公司或雇员提出的贪污诉讼案件”“产品和服务相关的安全与质量重大责任事故”“安全事故数量”“因工亡故人数”“工伤损失工作日数”等负面数据信息，简述了“2025 年，中国通号未发生劳动争议事件”“未发现职业病和疑似职业病患者”等情况，平衡性表现卓越。

可比性（★★★★★）

《报告》详细披露了“研发投入”“研发投入占营业收入比例”“环保投入”“温室气体排放量”“员工培训人数”“客户满意度”等 97 个关键指标连续 3 年的对比数据；其中环境维度下能源利用、社会维度下创新驱动、治理维度下可持续治理机制连续 3 年可比数据披露最为充分，分别为 7、18、6 组；通过“入选中央广播电视总台财经节目中心‘中国上市公司 ESG 先锋 100’指数第 17 位、央企第 10 位”等进行横向比较，具有卓越的可比性表现。

可读性（★★★★★）

《报告》采用议题型框架结构，从五大篇章全面阐述了企业年度履责实践与成效，框架结构清晰，重点议题突出；封面设计凸显了企业所在行业特色，融入企业主营业务元素，提升了报告辨识度；章节开篇设置“中国通号·荣誉 2025”板块，集中展现企业年度履责重点成果；正文中设置“通号档案”栏目解读行业专业术语，增强了报告的易读性；以具体可感的丰富案例、图片向公众展示履责成果，提升了报告的沟通力，可读性表现卓越。

创新性（★★★★☆）

《报告》积极响应国际标准与监管要求，参照“治理”“战略”“影响、风险和机遇管理”“指标与目标”四支柱框架披露应对气候变化等议题，增强

信息披露的规范性；参与报告评级，既提升了企业社会责任管理意识和高度，又增强了企业社会责任工作的规范性和可信度，具有领先的创新性表现。

三、综合评级 ★★★★★

综合以上七项评价指标，《中国铁路通信信号股份有限公司 2025 环境、社会和公司治理报告》在过程性、实质性、平衡性、可比性、可读性方面达到卓越，在完整性和创新性方面达到领先，综合为“五星级”，是一份卓越的企业可持续发展报告。

综合评级	评级图示	发展水平
五星佳	★★★★★+	典范
五星级	★★★★★	卓越
四星半级	★★★★☆	领先
四星级	★★★★	优秀
三星级	★★★	良好
二星级	★★	发展
一星级	★	起步

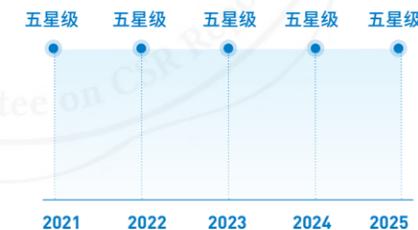
四、改进建议

1. 增加循环经济、生态系统与生物多样性保护等议题下核心指标的披露，进一步提升报告的完整性；
2. 进一步优化报告内容和设计的表现形式，提升报告的创新性。

五、评级勋章

中国铁路通信信号股份有限公司连续 7 年参与报告评级，获白银级勋章。

近五年报告评级趋势



扫码查看评级档案

评级专家委员会副主席

钟宋武 魏香雨

评级小组组长 评级小组专家

出具时间：
2026 年 3 月 20 日

One-picture Guide to

One-picture Guide to the 2025 Environment, Social and Governance Report of China Railway Signal & Communication Co., LTD. Rating report

I. Rating result

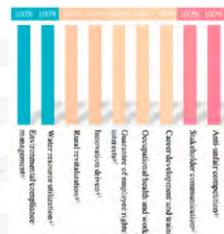


The 2025 Environment, Social and Governance Report of China Railway Signal & Communication Co., LTD. (hereinafter referred to as "the report") is rated as **five-star**, representing an outstanding corporate sustainability report.

Rating result	Rating illustration	Development level
Five-star plus	★★★★★+	Model
Five-star	★★★★★	Outstanding
Four-and-a-half-star	★★★★☆	Leading
Four-star	★★★★	Excellent
Three-star	★★★	Good
Two-star	★★	Developing
One-star	★	Beginning

II. Highlight performance

Process	★★★★★
Materiality	★★★★★
Integrity	★★★★☆
Balance	★★★★★
Comparability	★★★★★
Readability	★★★★★
Innovation	★★★★☆

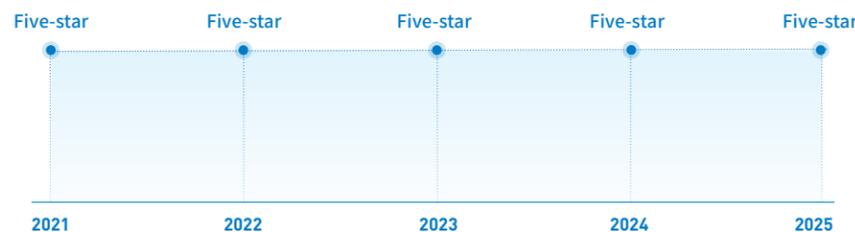


The 2025 ESG Report of CRSC achieved five-star rating in terms of process, materiality, balance, comparability and readability, and four-and-a-half-star rating in integrity and innovation.

The main content of the report systematically discloses 83.82% of the core indicators in the manufacturing of railway, ship, aerospace and other transportation equipment industries. Core indicators for environmental compliance management and water resource utilization under the environmental dimension, rural revitalization, innovation-driven development, employee rights protection, occupational health and work safety, and career development and training under the social dimension, and stakeholder communication and anti-unfair competition under the governance dimension have the highest coverage rates, all reaching 100%.

The report provides detailed comparative data for 97 key indicators over three consecutive years, including "R&D investment amount", "R&D investment", "proportion of R&D investment in main business revenue", "environmental investment", "greenhouse gas emissions", "number of employees trained", and "customer satisfaction". The most comprehensive three-year comparative data disclosures are for energy utilization under the environmental dimension (7 groups), innovation-driven development under the social dimension (18 groups), and sustainable governance mechanisms under the governance dimension (6 groups).

Trend of report ratings over the past five years



Rating Report of the 2025 Environment, Social and Governance Report of China Railway Signal & Communication Co., LTD.

Upon the request of China Railway Signal & Communication Co., LTD., the Chinese Expert Committee on CSR Report Rating invited experts to form a rating team to rate the 2025 Environment, Social and Governance Report of China Railway Signal & Communication Co., LTD. (hereinafter referred to as "the report").

I. Rating Criteria

1. The Corporate Sustainability Disclosure Guidelines - Basic Guidelines (Trial) issued by the Ministry of Finance;
2. The Guideline on Environmental, Social and Governance Report of the Hong Kong Stock Exchange;
3. Guidelines No. 14 of the Shanghai Stock Exchange for the Self-regulation - Sustainability Report (Trial);
4. The Guidelines for Chinese Enterprises' Sustainable Development Reports (CASS-ESG 6.0) for the Railway, Ship, Aerospace and Other Transportation Equipment Manufacturing Industries of the China Enterprise Reform and Development Society and CSR Cloud Research Institute;
5. The Rating Standards for Corporate Social Sustainability Reporting in China (2026) of the CSR Cloud Research Institute.

II. Rating analysis

Process (★★★★★)

The company established a report compilation working group, with the Party Building Work Department taking the lead in coordinating and overall planning the report compilation work. The Party Committee and the Board of Directors supervised the content and overall direction of the report and were responsible for the final review. The report is positioned as an effective tool to improve social responsibility management, promote the corporate social responsibility brand image, disclose corporate social responsibility information, meet the information disclosure needs of stakeholders, and ensure compliance with information disclosure requirements. The functional value is clearly defined. Double materiality issues were identified by considering national macro policies, industry benchmarking analysis, major corporate events, and domestic and international ESG standards. It is planned to release the report in Chinese and English versions on the official website and present it in printed form. The performance in the process is outstanding.

Materiality (★★★★★)

The report systematically discloses key issues in the manufacturing of railway, ship, aerospace and other transportation equipment industries, such as addressing climate change, pollutant emissions, waste disposal, saving energy and resources, research and development and application of environmentally protection products or technologies (clean technology opportunities), promotion of green transportation equipment, ecosystem and biodiversity protection, sustainable supply chains, product and service safety and quality, occupational health and safety, community impact (impact on the surrounding environment and communities), sustainable governance mechanisms, and anti-commercial bribery and anti-corruption measures. The descriptions are detailed and comprehensive, with the most extensive coverage for sustainable governance mechanisms, waste disposal, and energy and resource conservation, each spanning 6 pages, demonstrating excellent materiality performance.

Integrity (★★★★☆)

The main content of the report systematically discloses 83.82% of the core indicators in the manufacturing of railway, ship, aerospace and other transportation equipment industries from perspectives such as "National Key Equipment, Leading a New Journey of Development", "Intelligent Pioneer, Driving Future Transformation", "Green Innovation, Fulfilling Low-Carbon Commitments", "Gathering Talents, Growing Together with Warmth". Core indicators for environmental compliance management and water resource utilization under the environmental dimension, rural revitalization, innovation-driven development, employee rights protection, occupational health and work safety, and career development and training under the social dimension, and stakeholder communication and anti-unfair competition under the governance dimension have the highest coverage rates, all reaching 100%. It shows leading integrity.

Balance (★★★★★)

The report discloses negative data and information such as "number of corruption lawsuits filed against the company or its employees", "major safety and quality liability accidents related to products and services", "number of safety accidents", "number of work-related deaths", "number of lost workdays due to work-related injury". It also briefly describes situations such as "In 2025, CRSC had no labor dispute incidents" and "no cases of occupational diseases or suspected occupational diseases were found" with outstanding balance performance.

Comparability (★★★★★)

The report provides detailed comparative data for 97 key indicators over three consecutive years, including "R&D investment", "proportion of R&D investment in main business revenue", "environmental investment", "greenhouse gas emissions", "number of employees trained", and "customer satisfaction". The most comprehensive three-year comparative data disclosures are for energy utilization under the environmental dimension (7 groups), innovation-driven development under the social dimension (18 groups), and sustainable governance mechanisms under the governance dimension (6 groups). Horizontal comparisons are made, such as "ranked 17th in CMG Finance Program Center's 'ESG Pioneer Top 100 Listed Companies in China' Index and 10th among central enterprises", demonstrating with outstanding comparability performance.

Readability (★★★★★)

The report adopts an issue-based framework structure, comprehensively elaborating on the company's annual responsibility performance and achievements across five

chapters, with a clear framework and highlighted key issues. The cover design highlights the industry characteristics of the company and incorporates elements of its main business, enhancing the report's recognizability. The "Awards and Honors Won by CRSC in 2025" section at the beginning of each chapter showcases the company's key annual responsibility achievements. The "CRSC Profile" column in the main text interprets industry-specific terminology, improving the report's readability. Rich cases and images are used to present responsibility achievements to the public, enhancing the report's communication effectiveness and demonstrating outstanding readability performance.

Innovation (★★★★☆)

The report actively responds to international standards and regulatory requirements, disclosing issues such as climate change response in accordance with the four-pillar framework of "governance", "strategy", "impact, risk and opportunity management", and "indicators and targets", enhancing the standardization of information disclosure. Participating in the report rating not only enhances the awareness and standards of corporate social responsibility management, but also improves the compliance and credibility of its social responsibility work, demonstrating good innovativeness performance.

III. Comprehensive rating (★★★★★)

Based on the above seven evaluation indicators, the 2025 Environment, Social and Governance Report of China Railway Signal & Communication Co., LTD achieves outstanding performance in process-oriented, materiality, balance, comparability and readability aspects, and leading performance in integrity and innovation aspects, resulting in a comprehensive "five-star" rating. It is an outstanding corporate ESG report.

Rating result	Rating illustration	Development level
Five-star plus	★★★★★+	Model
Five-star	★★★★★	Outstanding
Four-and-a-half-star	★★★★☆	Leading
Four-star	★★★★	Excellent
Three-star	★★★	Good
Two-star	★★	Developing
One-star	★	Beginning

IV. Improvement suggestions

1. Add the disclosure of core indicators under issues such as circular economy and ecosystem and biodiversity protection to further improve the integrity of the report.
2. Further optimize the presentation forms of the report content and design to further improve the innovation of the report.

V. Rating medal

CRSC has participated in the report rating for 7 consecutive years and has been awarded the Silver Medal.

Trend of report ratings over the past five years



Scan the code to view the rating file

黄峭慧

Vice Chairman of China Expert Committee on CSR Report Rating

钟宏武

Panel Leader

魏香雨

Panel Expert

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意见反馈

Feedback

尊敬的读者：

您好！

非常感谢您百忙之中阅读《中国铁路通信信号股份有限公司2025环境、社会和公司治理报告》。为持续改进中国通号环境、社会及管治工作，我们希望聆听您的意见和建议，请您在百忙之中扫描下方二维码，对我们的报告提出宝贵意见。

Dear readers:

Thank you very much for reading the 2025 Environmental, Social and Governance Report of China Railway Signal & Communication Co., Ltd. during your busy schedule. In order to constantly improve CRSC's environmental, social and governance work, we sincerely hope to get your comments and suggestions regarding this report and our work as well. Please scan the QR code below to offer your constructive comments and suggestions. Thanks for your time and patience!





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