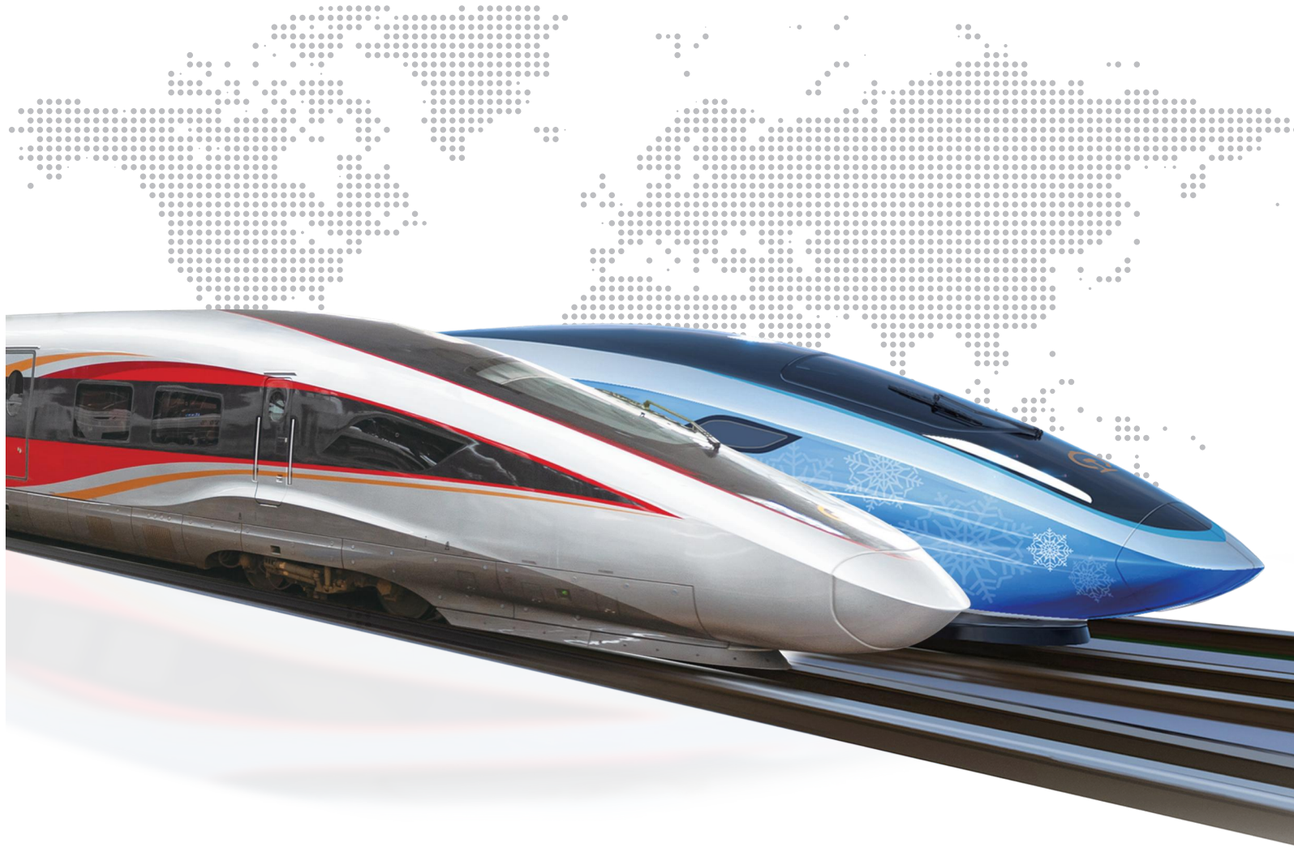
CRRC



中车长春轨道客车股份有限公司
CRRC CHANGCHUN RAILWAY VEHICLES Co., Ltd.

中国 • 吉林 • 长春 • 青荫路435号
No. 435, Qingyin Road, Changchun, Jilin, China

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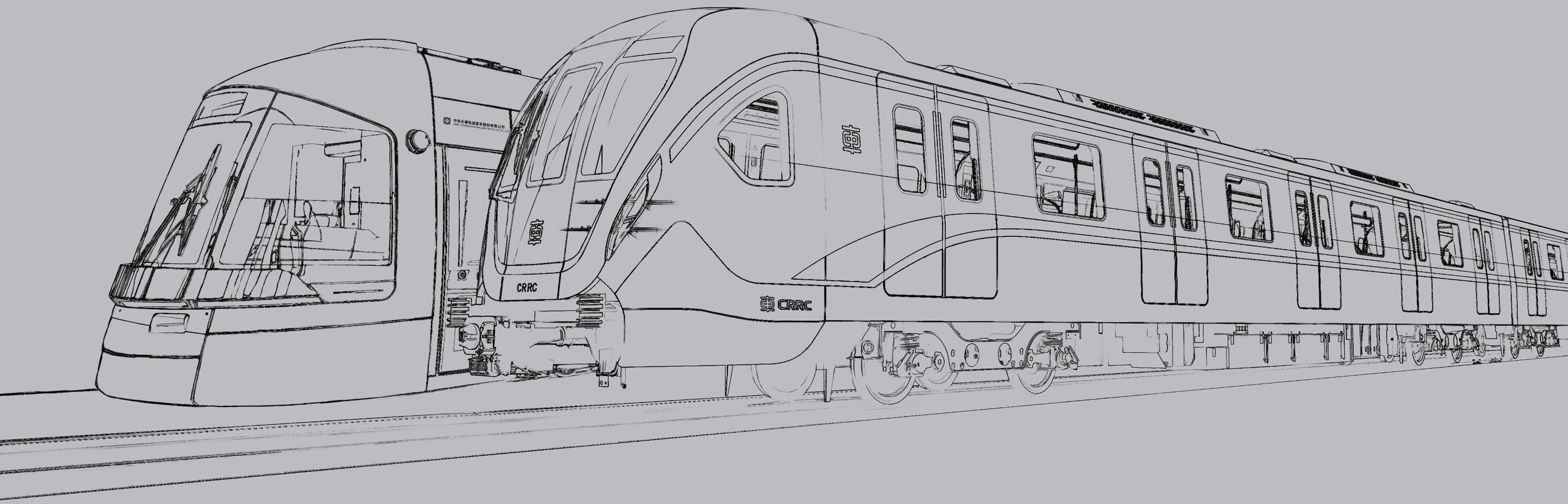
www.crrcgc.cc/ckgf

中车长客公众号

中车长春轨道客车股份有限公司
CRRC CHANGCHUN RAILWAY VEHICLES Co., Ltd.


CRRC
CRRC

COMPANY PROFILE
公司简介

公司鸟瞰图
Aerial view of the company

中车长春轨道客车股份有限公司始建于 1954 年，是国家“一五”期间重点建设项目之一，2002 年 3 月改制为股份公司，现有员工 19000 余人。公司是中国地铁、动车组的摇篮，也是我国核心的轨道客车研发、制造、检修及出口基地。主要经营业务包括轨道交通客运装备研发试验、产品新造、检修运维、机电总包业务和新能源系统解决方案业务，是我国首批创新型企业和全国文明单位，荣获“国家制造业单项冠军示范企业”称号。中车长客搭建了国家级企业技术中心、国家轨道客车系统集成工程技术研究中心、轨道交通车辆系统集成国家工程研究中心（长春）、博士后科研工作站、院士工作站、国家技能大师工作室“六位一体”的技术创新平台，构建了动车组、高档客车、城际及市域车、地铁列车等 9 大产品平台，相继自主研发“和谐号”“复兴号”等系列产品，填补了多项国内空白。这里是国内行业中出口最早、出口数量最多的企业，产品出口到美国、澳大利亚、巴西、泰国、沙特、新加坡、新西兰、阿根廷、埃塞俄比亚等 20 多个国家和地区。

CRRC Changchun Railway Vehicles Co., Ltd. was founded in 1954 as one of the state key construction projects in China's "First Five-year Plan", and restructured into a joint-stock company in March 2002, the company has more than 19,000 employees. As the cradle of metro vehicles and EMU in China, the company is also a core base for research and development, manufacturing, overhaul and export of railway vehicles. The company is mainly engaged in the research and development test, the product manufacturing, the overhaul and the O&M services of rail passenger transport equipment, as well as the businesses of electromechanical EPC and new energy system solutions. The company has been awarded the first batch of "National Innovative Enterprise", "National Civilized Units", and "National Manufacturing Single Champion Demonstration Enterprise" The company has established the "Six in One" technical innovation platform consisting of National-Level Enterprise Technical Center, National Engineering Technology and Research Center for System Integration of Railway Vehicle, National Engineering Research Center for System Integration of Rail Transit Vehicle (Chang chun), Post-doctoral Research Workstation, Academician Workstation, and National Craft Master Workroom, built 9 product lines for EMU, high-grade passenger vehicles, intercity and urban vehicles, and metro vehicles, independently developed series products of "Hexie" and "Fuxing", and filled multiple blanks of the market in China. The company is the earliest and the largest exporter in the domestic industry, with the products exported to more than 20 countries and regions, including the United States, Australia, Brazil, Thailand, Saudi Arabia, Singapore, New Zealand, Argentina, and Ethiopia.

QUALIFICATIONS AND CAPACITIES
资质能力

- ISO/TS 22163质量管理体系
- ISO 9001质量体系
- EN 15085焊接质量体系
- DIN 6701粘接质量体系
- CMMI (DEV+SPM LEVEL3) 成熟度评价
- ISO/IEC 27001信息安全管理体系
- ISO/IEC 17025检测和校准实验室能力认证
- ISO 10012测量管理体系

- ISO/TS 22163 Quality Management System
- ISO 9001 Quality System
- EN 15085 Welding Quality System
- DIN 6701 Adhesive Bonding Quality System
- CMMI (DEV+SPM Level 3) Maturity Evaluation
- ISO/IEC 27001 Information Security Management System
- ISO/IEC 17025 Testing and Calibration Laboratory Accreditation
- ISO 10012 Measurement Management System


测量管理体系认证证书

中启计量体系认证中心


Appraisal Certificate

CRRC Changchun Railway Vehicles Co., Ltd.

R & D Center, Engineering Technology Center, Supply Management Department, Quality Assurance Department, Strategic Planning Department, PMO, Human Resources Department, High-speed EMU Manufacturing Center, Vehicles Manufacturing Center

中车长春轨道客车股份有限公司

Has been successfully appraised at

Maturity Level 3

CMMI for Development + Supplier Management (DEV+SPM) - Maturity Level 3

成功通过了能力成熟度模型集成2.0版本开发+采购模型的3级评估

using the Benchmark（CAS ID： 59094）

From April 16-22, 2022 and will be valid till April 22, 2025

使用的评估方法是基准评估（评估编号： 59094）

评估执行时间2022年04月16-22日，有效期至2025年04月22日

Mu Chaofeng

Lead Appraiser ID #1201928-03

Subject to CMMI Institute approval!

ISACA. Licensed Premium CMMI Partner


认证证书

ISO 9001:2015


CERTIFICATE

Welding of railway vehicles and components according to EN 15085-2

DVS ZERT hereby confirms that the company

CRRC Changchun Railway Vehicles Co., Ltd. (aluminium car body workshop) 435 Qingyin Road, Changchun City, Jilin 130062 Changchun CHINA

fulfils the requirements for the scope according to

EN 15085-2 certification level CL1

in the range indicated on the reverse.

validity: 29.07.2018 until 29.04.2021

MANAGEMENT SYSTEM
管理体系

中车长春轨道客车股份有限公司在管理体系上实现了与国际标准接轨，在国内同行业中率先通过 ISO/TS 22163 质量管理体系、ISO 9001 质量体系、EN 15085 焊接质量体系、DIN 6701 粘接质量体系、CMMI（DEV+SPM LEVEL3）成熟度评价、ISO/IEC 27001 信息安全管理体系、ISO/IEC 17025 检测和校准实验室能力认证、ISO 10012 测量管理体系。

打造了 PDM、MOM、SRM、APS、QMS、EWM、SMART 等信息化系统平台。推行了精益管理、项目管理、“门、碑、点”质量管理等管理方案，企业管理水平始终保持行业领先。

With a management system keeping up with international standards, CRRC Changchun Railway Vehicles Co., Ltd. takes the lead in passing the certification of ISO/TS 22163 Quality Management System, ISO 9001 Quality System, EN 15085 Welding Quality System, DIN 6701 Adhesive Bonding Quality System, CMMI (DEV+SPM Level 3) Maturity Evaluation, ISO/IEC 27001 Information Security Management System, ISO/IEC 17025 Testing and Calibration Laboratory Accreditation, and ISO 10012 Measurement Management System.

A number of information system platforms have been created, such as PDM, MOM, SRM, APS, QMS, EWM, and SMART. By promoting the lean management, project management, "Gates, Milestones and Points" quality management and other programs, the mangement level of the company has always kept ahead in the industry.


IRIS Certification

CERTIFICATE

IRIS Certification® Conformity assessment:2020 and based on ISO/TS 22163:2017


管理体系认证证书

DNV·GL

中车长春轨道客车股份有限公司

ISO/IEC 27001:2013 标准


CNAS

中国合格评定国家认可委员会

实验室认可证书


Certificate

QUALIFICATIONS AND CAPACITIES
资质能力

R& D CAPABILITY
研发能力

中车长春轨道客车股份有限公司搭建了国家级企业技术中心、国家轨道客车系统集成工程技术研究中心、轨道交通车辆系统集成国家工程研究中心（长春）、博士后科研工作站、院士工作站等创新平台，有力支撑轨道车辆基础零部件、系统到整机创新研究与试验验证。

公司研发了国内首列地铁客车（1969 年）、国内首列电动车组（1989 年）、国内首列跨座式单轨列车（2004 年）、国内首列出口双层动车组（2006 年）、国内首列 100% 低地板有轨电车（2009 年）、国内首列高速高寒动车组（2012 年）等。

公司打造面向产品 +、系统 +、市场、制造、服务的数字化研发创新体系，围绕全寿命周期数字化主线，打造研发运营管理平台，以数字孪生技术打造涵盖全业务链的数字列车，以产品构型、单车构型、服务构型为载体，实现产品全寿命周期数据的全面贯通。

公司被评为首批“国家创新型企业”“国家高新技术企业”“国家科技兴贸基地”“国家技术创新示范企业”，产品荣获“国家名优产品”称号。

CRRC Changchun Railway Vehicles Co., Ltd. has built a number of innovation platforms, such as National-Level Enterprise Technical Center, National Engineering Technology and Research Center for System Integration of Railway Vehicle, National Engineering Research Center for System Integration of Rail Transit Vehicle (Chang chun), Post-doctoral Research Workstation, Academician Workstation, and National Craft Master Workroom, which strongly support the innovative research and test verification of base parts, systems and complete vehicles for railway vehicles.

The company has successively developed the first metro passenger vehicle in China (1969), the first EMU in China (1989), the first straddle type monorail vehicle in China (2004), the first exported double-decker EMU in China (2006), and the first 100% low-floor tram in China (2009), the first high-speed EMU for cold regions in China (2012).

Relying on a digital R&D innovation system oriented to product+, system+, market, manufacturing and service, the company has built a R&D and operation management platform centring on the digital main line of full-life cycle, aiming to create digital trains covering the whole business chain by virtue of digital twin technology. Accordingly, the full-life cycle data of products are fully linked up with the product configuration, single-car configuration and service configuration as the carriers.

The company has won the titles including the first batch of "National Innovative Enterprises", "National High-Tech Enterprises", "National Science and Technology Trade Promotion Base", and "National Technological Innovation Demonstration Enterprise", with its products awarded "National Famous Products".

1969
中国首列
地铁客车
The first metro passenger vehicle in China

1989
中国首列
电动车组
The first EMU in China

1996
中国首个
整车出口项目
The first complete vehicle export project in China

2004
中国首列
跨座式单轨列车
The first straddle type monorail vehicle in China

2006
中国首列
出口双层动车组
The first export double-decker EMU in China

2009
中国首列
100%低地板有轨电车
The first 100% low-floor tram in China

2012
中国首列
高速高寒动车组
The first high-speed EMU for cold regions in China

2014
中国首列
混合动力动车组
The first hybrid EMU in China

2017
中国首批
美标地铁列车
The first batch of American standard metro vehicle in China

2020
中国首列可变轨距
跨国互联互通高速动车组
The first variable gauge transnational interconnection high-speed EMU in China

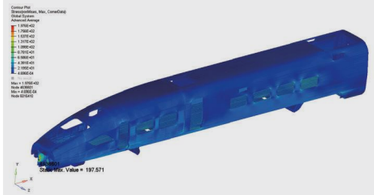
2022
中国首列
双流制市域列车
The first dual current system regional railway vehicle in China

2023
中国首列
市域C型列车
China's First Reginal Type C Train

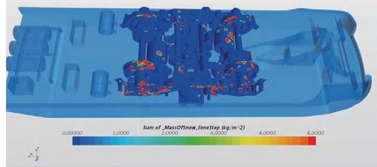
公司构建了以长春本部为主，北京、上海、重庆、俄罗斯、美国、德国、澳大利亚等海内外研发分中心为辅的一体化全球研发协同体系，整合全球先进技术资源，深入开展轨道车辆基础前沿技术研究以及核心平台技术开发，助推产品持续创新。

Headquartered in Changchun, the company has built an integrated global R&D collaboration system supported by domestic and foreign R&D branches in Beijing, Shanghai, Chongqing, Russia, U.S.A., Germany, Australia and other countries. The global advanced technology resources have been integrated for the in-depth research on the cutting-edge technology of railway vehicles and the development of core platform technology, boosting the continuous innovation of products.

审图号：GS(2016)1613号
自然资源部 监制



平台设计
Platform Design



仿真分析
Simulation Analysis

数据处理
Data Processing

碰撞试验
Vehicle Crashworthiness Test

试验论证
Test Demonstration

科研合作
Scientific Research Cooperation

虚拟现实
Virtual Reality

公司拥有满足异地协同的仿真分析平台，具备轨道车辆 15 大技术领域的虚拟验证能力，结构强度、碰撞吸能、热工、空气动力学等部分项点行业领先。公司拥有动车组、城铁车等 9 条不同制式，共 32 公里的动调试验线，32 台（套）大型试验装备和一个数据中心，拥有多个国际一流、行业唯一的试验验证平台，具备 15 大类检测项目、共计 100 个项点的 CNAS 检测资质，实现了整车级型式试验项点的全覆盖。

The company has a simulation and analysis platform that meets the requirements of off-site collaboration, capable of virtual verification in 15 major technical fields of railway vehicles, and takes the leading role in the industry in some items such as structural strength, collision energy absorption, thermal engineering, aerodynamics, etc. The company has 9 dynamic commissioning test lines of different systems for EMUs and urban rail vehicles, in total of 32km, 32 sets of large-scale test equipment, and a data center. It also has many world-class and industrial-unique test and verification platforms qualified in CNAS testing for 15 categories of testing projects, including a total of 100 items, covering all items of vehicle-level type test.

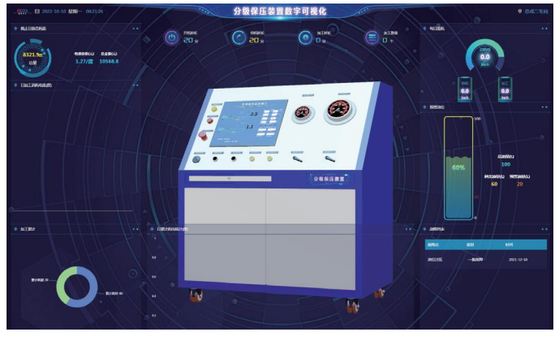
公司以成为具有全球竞争力的轨道装备制造商和系统解决方案提供商为目标，按照培育“服务经济”的理念，面向轨道交通全产业链业务，打造以技术服务（含检修技术服务）、试验检测业务为支撑的“技术 + 服务”商业化运作模式。

Aiming for a railway equipment manufacturer and system solution provider with global competitiveness, the company intends to build a "Technology + Service" commercial operation mode supported by technical services (including technical services for overhaul), test and testing business oriented to the entire industrial chain of rail transit in a concept of cultivating "service economy".

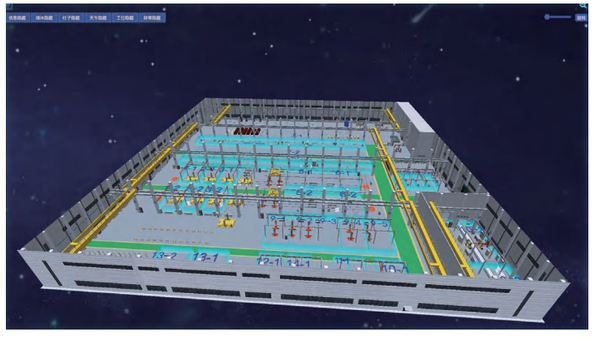
QUALIFICATIONS AND CAPACITIES
资质能力

铝合金搅拌摩擦焊制造技术平台
Friction Stir Welding Manufacturing Platform of Aluminum Alloys

高端不锈钢车体激光焊制造技术平台
Laser Welding Manufacturing Platform for High-End Stainless-Steel Car Body



工业互联网IOT平台
Industrial Internet IOT Platform



三维电子地图
3D Electronic Map

MANUFACTURING CAPACITY
制造能力

中车长春轨道客车股份有限公司坚持“数字技术 + 工艺创新”双轮驱动，基于工位制节拍化生产线、物资采购仓储配送线、工位制人员组合线、工位工时绩效分配线、数据一体化信息线的五线合一精益理念，打造了精益高效的生产模式，结合数字技术和数据资源，实现了“业务 - 平台 - 数据 - 价值”的应用拓展与价值创造，打造具有高效管控、精准执行、动态感知、敏捷运营等特点的数字化制造模式。公司通过 MOM、SMART 系统的研发应用，打通了生产制造系统与产线层、设备层互联，搭建自主 IOT 平台，实现了制造环节的实时数据采集、决策支持透明化、跨业务高效协同、动态调度。同时推进智能工厂、智能站段、绿色工厂建设，为构建高效、智能、绿色的制造体系奠定制造端数字化转型基础。

Adhering to the dual driving force by "digital technology + process innovation", CRRC Changchun Railway Vehicles Co., Ltd. created a lean and efficient production mode based on a lean concept integrating the station-based task production line, the materials procurement, warehousing and distribution line, the station-based staffing combination line, the station, work hours and performance distribution line, and the data integration information line. Through the combination of digital technology and data resources, it has realized the application expansion and value creation of "business - platform - data - value", and created a digital manufacturing mode characterized by efficient management and control, accurate execution, dynamic perception, and agile operation. By the R&D and application of MOM and SMART systems, the company has got through the interconnection between the production system and the production line layer and the equipment layer, built an independent IOT platform, and achieved real-time data collection, transparent decision support, efficient cross departments collaboration, and dynamic scheduling in the manufacturing process. Meanwhile, the construction of intelligent factories, intelligent stations and green factories will be promoted to lay a foundation for the digital transformation at the manufacturing end to build an efficient, intelligent and green manufacturing system.

PRODUCTS AND SERVICES
产品和服务

PRODUCT PLATFORMS
产品平台

中车长春轨道客车股份有限公司建立了基于全寿命周期正向设计的全过程标准化研发设计流程体系，以客户需求为导向，以结构性产品向功能性产品研发转型为推进路径，以平台化、模块化、系列化、标准化设计为基础，建设了高速动车组、铁路客车、城际动车组、市域列车、地铁列车、有轨电车、磁浮列车、单轨列车和电子导向列车等 9 大产品平台 25 个主型产品，形成了全类型、全品种轨道车辆研制能力，有效缩减车辆交付时间，更好满足全球不同用户多样化、定制化需求。

CRRC Changchun Railway Vehicles Co., Ltd. has built a whole process standardized research, development and design process system based on positive design of full-life cycle. Oriented to customer needs and in a path of promoting the development transformation from structural products to functional products, a total of 9 major product lines, including 25 product platforms for high-speed EMU, railway passenger vehicle, intercity EMU, regional vehicle, metro vehicle, tram, maglev vehicle, monorail vehicle and electronic guiding train, have been constructed on the basis of platform, modularized, serial and standardized design. The development capability for all types and varieties of railway vehicles has been formed to effectively reduce the delivery period of vehicles, and better satisfy the diversified and customized needs of different users all over the world.

京张高铁复兴号冬奥智能动车组
Fuxing Intelligent High-Speed EMU from Beijing to Zhangjiakou for Winter Olympics

CR400BF复兴号智能动车组
CR400BF Fuxing Intelligent EMU

时速350公里复兴号亚运智能动车组
350 Km/h Fuxing Intelligent EMU for Asian Games

CRH5A动车组
CRH5A EMU

CR400BF复兴号中国标准动车组
CR400BF Fuxing China Standard EMU

CRH380BG高速高寒动车组
CRH380BG High-Speed EMU for Cold Regions

时速400公里跨国互联互通高速动车组
400km/h Transnational Interconnection High-Speed EMU

HIGH-SPEED EMU PLATFORM
高速动车组平台

公司形成了和谐号、复兴号两大高速动车组产品谱系，搭建了涵盖运营 160-400km/h 速度等级，可适应高寒、高温、高海拔、大风沙等不同环境条件和不同运输需求的产品平台，开发了 20 余种系列化产品，具有安全可靠、智能先进、舒适环保等技术特点，促进了中国高铁产业链快速发展，体现了中国高端装备制造业水平。

The company has formed two high-speed EMU product series for Hexie and Fuxing. The product platform covering from 160 to 400km/h of operation has been built to adapt to different transportation needs under different environmental conditions, such as extremely cold, high temperature, high altitude, strong wind and sand. More than 20 kinds of serialized products, characterized by safety, reliability, advanced intelligence, comfort and environmental protection, have been developed to promote the rapid development of China's high-speed railway industry chain, reflecting the level of high-end equipment manufacturing industry in China.

CRH3A型城际动车组
CRH3A Intercity EMU

CJ5E-A型城际动车组
CJ5E Type A Intercity EMU

城际动车组
Intercity EMU

CJ5E型混合动力城际动车组
CJ5E Hybrid Power Intercity EMU

智能城际动车组
Intelligent Intercity EMU

INTERCITY EMU PLATFORM
城际动车组平台

公司依据城际动车组的运用特点和市场需求，先后研发了 CRH3A 型城际动车组、CJ5E 型城际动车组，满足短距离、高密度、公交化、互联互通要求，同时吸收了传统地铁和轻轨的轻型优点，起到衔接高铁、快铁和城轨的纽带作用，有效完善轨道交通层次架构。

According to the application characteristics and market demand of Intercity EMU, the company has successively developed CRH3A Intercity EMU and CJ5E Intercity EMU, which can meet the requirements of short distance, high capacity, public transportation and interconnection. At the same time, it absorbs the light advantages of traditional subway and light rail. It plays a role as a link between high-speed rail, express rail and urban rail, and effectively improves the hierarchical structure of rail transit.

时速160公里全自动市域A型列车
160km/h Full-Automatic Regional Type A Vehicle

双流制市域列车
Dual Current System Regional Railway Train

出口巴西里约电动车组
EMU Exported to Rio de Janeiro, Brazil

出口澳大利亚墨尔本地铁列车
Metro Train Exported to Melbourne, Australia

出口澳大利亚悉尼双层动车组
Double Deck EMU Exported to Sydney, Australia

时速160公里智能市域C型动车组
160km/h Intelligent Regional Type C EMU

REGIONAL VEHICLE PLATFORM
市域列车平台

公司搭建市域（A/B/C/D 型）产品平台，速度等级涵盖 120-160km/h，研制系列化中国标准智能市域列车，产品具有“大载客量、快起快停、快速乘降”等特点，实现与高铁、城市轨道交通的“内畅外联”，满足多层次、多模式、公交化的核心区域 1 小时通勤需求，为构建便捷顺畅的立体轨道交通网提供解决方案。

The company has built a regional (Type-A/B/C/D) product platform, with the speed from 120km/h to 160km/h, and developed a series of China standard intelligent regional trains. The regional trains have the characteristics of "large passenger capacity, fast starting and stopping, as well as fast boarding and descending", and have realized the "smooth and extensive traffic" with high-speed rail and urban rail transit. It can meet the demands of one-hour commuting in the multi-level, multi-mode and public transportation in core area, and provide solutions for building a convenient and smooth three-dimensional rail transit network.

时速80公里A型中国标准地铁列车
80km/h Type A China Standard Metro Vehicle

下一代地铁列车
Next Generation Metro Vehicle

香港南港岛线地铁列车
Metro Vehicle for MTR South Island Line, Hong Kong

出口美国波士顿地铁列车
Metro Vehicle Exported to Boston, U.S.A.

出口沙特麦加地铁列车
Metro Vehicle Exported to Mecca, Saudi Arabia

METRO VEHICLE PLATFORM
地铁列车平台

公司自上世纪 60 年代，研制中国第一代地铁客车，成为中国地铁客车的摇篮。公司已形成A\B\C全类型、钢\铝\碳纤维全材料、全谱系标准地铁列车，率先研制耐高寒地铁、无人驾驶地铁、智慧地铁等 30 余种地铁列车。公司研制下一代地铁、系列化中国标准地铁，探索示范行业前沿技术。2018 年公司研制的首批美国波士顿橙线地铁列车运抵美国，成为中国首个整车进入美国高端市场的轨道交通装备企业。

Since the 1960s, the company has developed the first generation of metro passenger vehicle in China, which has become the cradle of China's metro passenger vehicle. The company has formed a full series of standard metro trains of all types, steel, aluminum and carbon fiber, and has taken the lead in the development of more than 30 types of metro vehicles, such as cold-resistant metro, unmanned metro and intelligent metro. The company developed the next generation metro, serialized China standard metro, and explored the cutting-edge technology of the demonstration industry. In 2018, the first batch of Boston Orange Line metro vehicles developed by the company arrived in the U.S., so that the company become the first Chinese rail transportation equipment enterprise which has entered the high-end market of the U.S.

RAILWAY PASSENGER VEHICLE PLATFORM
铁路客车平台

公司先后研制了数十种铁路客车产品，生产数量一度占中国铁路客车保有量的 46%，打造以25 型铁路客车和动力集中动车组为主力车型的高档客车系列化产品，为中国铁路历次大提速做出贡献。铁路客车产品出口多个国家和地区，为旅客带来经济舒适、方便快捷的出行体验。

The company has successively developed dozens of railway passenger vehicle products, which once accounted for 46% of the total number of railway passenger vehicles in China. It has created high-end passenger vehicle series products led by Type 25 railway passenger vehicles and power-centralized EMUs, making contributions to the previous large speed increases of China's railway. Railway passenger vehicle products have been exported to many countries and regions, offering economic, comfortable, convenient and fast travel experience to passengers.

时速160公里动力集中动车组
160km/h Power-Centralized EMU

25T型铁路客车
25T Railway Passenger Vehicle

双层铁路客车
Double Deck Railway Passenger Vehicle

出口孟加拉米轨铁路客车
Meter Gauge Railway Passenger Vehicle Exported to Bangladesh

出口阿根廷宽轨铁路客车
Broad Gauge Railway Passenger Vehicle Exported to Argentina

出口泰国铁路客车
Railway Passenger Vehicle Exported to Thailand

无网超能100%低地板有轨电车
Catenary-Free Super Capacity 100% Low Floor Tram

出口埃塞俄比亚亚的斯亚贝巴70%低地板车辆
70% Low Floor Vehicle Exported to Addis Ababa, Ethiopia

出口以色列特拉维夫100%低地板车辆
100% Low Floor Vehicle Exported to Tel Aviv, Israel

麦德林100%低地板轻轨
100% Low Floor Light Rail for Medellin

出口哥伦比亚波哥大70%低地板车辆
70% Low Floor Vehicle Exported to Bogota, Colombia

100%低地板现代有轨电车
100% Low Floor Modern Tram

TRAM PLATFORM
有轨电车平台

公司引领中国有轨电车发展，率先构建了自主知识产权的70%和100%两大低地板车辆平台，服务全球市场。产品满足极小曲线、极大坡道、高寒、高温、高海拔等复杂工况运行需求，具有安全可靠、便捷舒适、经济环保等特点。

The company guides the development of trams in China by taking the lead in building 70% and 100% low floor vehicle platforms with proprietary intellectual property rights to serve the global market. The products meet the operation requirements under complex working conditions, such as extremely small curves, extremely large ramps, extremely cold, high temperature, high altitude, and etc., characterized by safe, reliable, convenient, comfortable, economic and environment-friendly.

中低速磁浮列车
Medium and Low Speed Maglev Vehicle

小型磁浮列车
Small-Sized Maglev Vehicle

高速磁浮列车
High Speed Maglev Vehicle

超导高速磁浮列车
High-Speed EDS Maglev Vehicle

新一代高温常导高速磁浮列车
A New Generation of High Temperature and High-Speed EMS Maglev Vehicle

MAGLEV TRAIN PLATFORM
磁浮列车平台

公司从上世纪 90 年代初开始致力于磁浮列车的研发与制造，经过技术积累，掌握了不同制式、不同速度等级的磁浮列车系统集成技术，搭建了全谱系磁浮产品的研发制造平台，是中国同时具有高速磁浮列车和中低速磁浮列车研制和应用经验的企业。

The company has been committed to the research and manufacturing of maglev vehicle since the early 1990s. Through technical accumulation, it has mastered the system integration technology of maglev vehicle with different systems and different speed levels, built a research and development platform for whole family of maglev products. The company is the enterprise with experience both in the development and application of high-speed maglev vehicle and medium and low-speed maglev vehicle in China.

中国首列跨座单轨列车
China's First Straddle Monorail Train

A型跨座式单轨列车
Type A Straddle Monorail Train

跨座式单轨列车
Straddle-type Monorail Train

跨座式单轨列车
Straddle-type Monorail Train

中运量跨座式单轨列车
Medium Capacity Straddle Monorail Train

新一代跨座式单轨列车
A New Generation of Straddle-type Monorail Train

MONORAIL PLATFORM
单轨列车平台

公司是中国唯一具有大、中、小型全谱系化跨座式单轨列车产品平台企业。公司跨座式单轨列车产品以“智能先进、维护便捷、安全可靠、绿色环保、乘坐舒适”为设计理念，全面融合智能化、智慧化技术，采用标准化、模块化设计，满足不同城市、不同用户多元化载客量和运能的需求。

The company is the only enterprise in China that has a full series of large, medium and small straddle monorail product platform. With the design concept of "intelligent and advanced, convenient maintenance, safe and reliable, green and environmental protection, and comfortable ride", the company's straddle monorail train products are fully integrated with intelligent and smart technologies, and are adopted standardized and modular design to meet the demands of diversified passenger capacity and transport capacity for different cities and users.

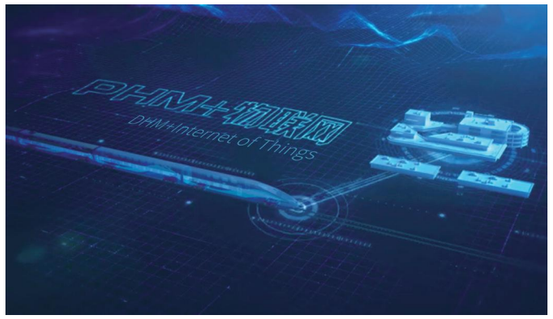
ELECTRONIC GUIDING TRAIN PLATFORM
电子导向列车平台

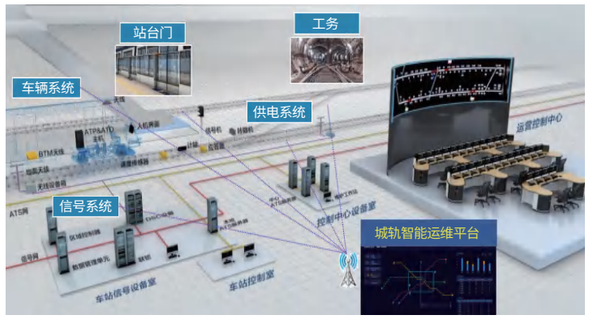
公司电子导向列车平台根据导向方式和悬挂方式的不同，分为光电导向和磁钉导向、独立悬挂和非独立悬挂平台产品，为轨道交通提供了一种全新的选择。电子导向列车平台采用了业内先进的空间定位技术、多体动力学技术、融合感知技术、图像识别技术和自学习技术。平台产品具有小曲线通过能力、系统建设成本低、建设周期短、运营指挥灵活等优点，适用于中低运量线路。

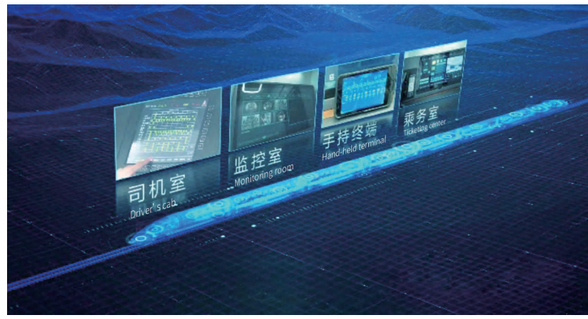
According to the different guiding methods and suspension methods, the company's electronic guiding train platform is divided into photoelectric guided and magnetic nail guided, independent suspension and non-independent suspension platform products, which provides a new choice for rail transit. The electronic guiding train platform adopts the industry-advanced spatial positioning technology, multi-body dynamics technology, fusion perception technology, image recognition technology and self-learning technology. The platform products have the advantages of small curve negotiation ability, system construction low cost, short construction cycle, flexible operation command, etc., which is suitable for medium and low capacity lines.

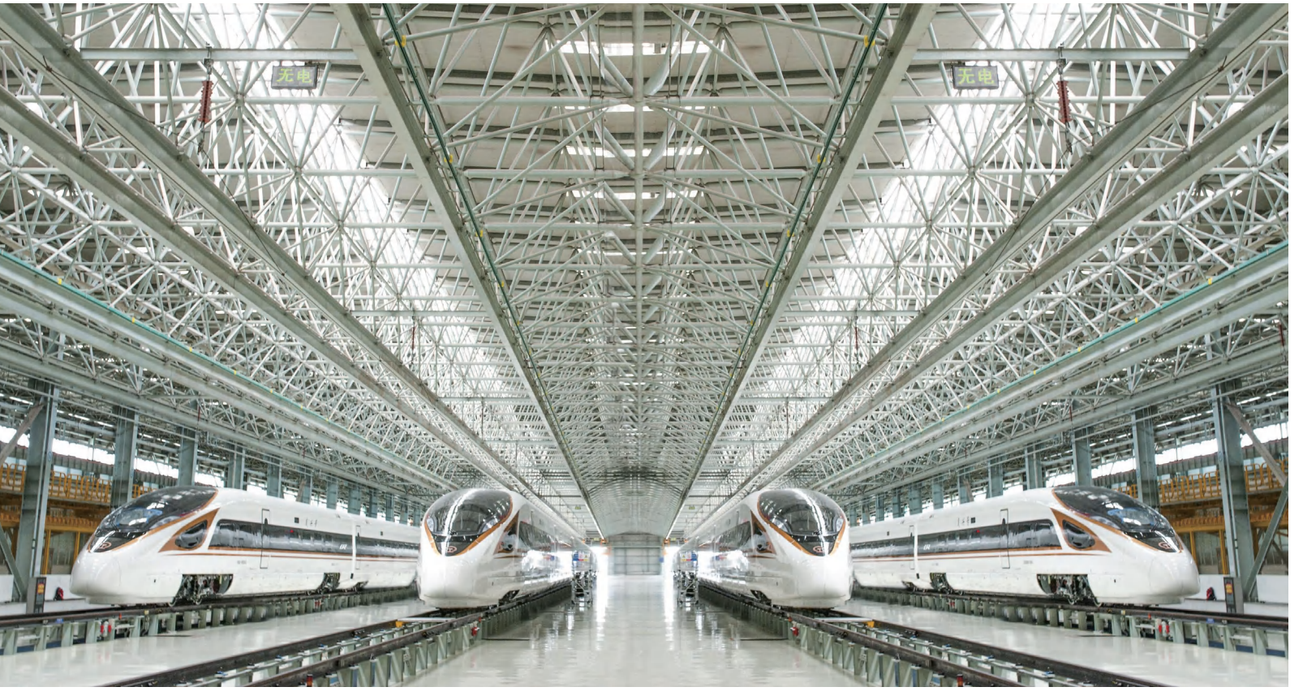
电子导向列车
Electronic Guiding Train

OVERHAUL, OPERATION AND MAINTENANCE
检修运维









中车长春轨道客车股份有限公司通过新兴智能技术与轨道交通产品深度融合，针对客户运营需求，自主开发了以数据驱动为基础，集车辆状态监测和运营服务管理功能一体化的智能运维平台。

该平台以轨道交通资产维护系统（SMART）为核心技术支撑，结合车辆健康监测系统（PHM），做到技术先进、功能齐全、业务覆盖范围广，是客户实现信息化管理和智能运维的基础，可以满足客户智能运维管理各方面需求，实现车辆安全、可靠、低成本运营的目标。

公司通过项目执行，从生产管理、物资采购、质量管控、技术支持、成本管理等方面，全面开展轨道交通车辆检修运维业务。

To satisfy the operation needs of customers, CRRC Changchun Railway Vehicles Co., Ltd. has independently developed an intelligent operation and maintenance platform integrating vehicle status monitoring and operation service management based on data-driven, through the deep integration of emerging intelligent technologies and rail transit products.

Technically supported by Systemic Maintenance of Asset for Railway Traffic (SMART) as the core, the platform combines with Prognostic and Health Management (PHM) to achieve advanced technology, complete functions and wide business coverage. It serves as the basis of information management and intelligent O&M for customers, which can meet customers' needs in all aspects of intelligent operation and maintenance management, and meanwhile achieve the goal of safe, reliable and low-cost operation.

Through project implementation, the company carries out the overhaul, operation and maintenance business of rail transit vehicles comprehensively from production management, materials procurement, quality control, technical support, cost management, and etc.

NEW INDUSTRIES ELECTROMECHANICAL EPC & NEW ENERGY
新产业 机电总包与新能源

中车长春轨道客车股份有限公司新产业包括机电总包和新能源业务。机电总包业务是以轨道交通客运装备为核心，依托公司完备的产业链条，全寿命周期全过程涵盖商业运作模式、项目执行模式、质量管控体系、安环合规体系、成本管控策略、“产品 +”和“系统 +”业务能力。

通过“车地一体化”智能集成技术打通车辆与信号、供电、工务、乘客服务、段场等典型场景的关联，承接了地铁列车、有轨电车及单轨列车等不同车辆平台机电系统业务。执行项目涵盖供电、通信、信号、综合监控、自动售检票、综合安防、火灾自动报警、站台门、场段设备、电扶梯等机电系统。

新能源业务是以“源网荷储用”一体化全寿命周期能源管理为主线，形成独立的新能源集成设计、全寿命周期成本管控、“智慧化”风光电场数字化管理能力。

The new industries of CRRC Changchun Railway Vehicles Co., Ltd. comprise electromechanical EPC and new energy businesses. The electromechanical EPC business is conducted based on rail transit passenger transport equipment as the core, relying on the complete industrial chain of the company and full-life cycle to cover the business operation mode, project implementation mode, quality control system, safety and environmental compliance system, cost control strategy, "product+" and "system+" business capabilities.

The "vehicle-ground integrated" intelligent technology connects the vehicles and typical scenes such as signaling, power supply, track maintenance, passenger service and depot, so as to undertake electromechanical system business of different vehicle platforms, including metro vehicles, tram and monorail vehicles. The implemented projects include power supply, communication, signaling, integrated monitoring, AFC, integrated security, automatic fire alarm, platform screen door, depot equipment, escalator and other electromechanical systems.

The new energy business takes the "source, network, load and storage" integrated full-life cycle energy management as the main line to form an independent new energy integration design, full-life cycle cost control, and "intelligent" digital management capability for wind and solar electric field.

油电混合动力动车组
Diesel-Electric Hybrid EMU

时速160公里氢能源全自动市域列车
160km/h Fully Automatic Regional Vehicle Powered by Hydrogen Energy