





合肥水泥研究设计院有限公司(以下简称合肥院)是世界500强企业中国建材集团的核心技术创新与装备研发企业,隶属于全球最大水泥工程系统集成服务商之一的中国中材国际工程股份有限公司。国资委"双百行动"标杆企业。

合肥院以绿色节能为发展方向,为国内外客户提供一站式、系统性解决方案,服务范围覆盖五大洲3000 多个公司,在行业内外打造了备受赞誉的良好企业形象。

合肥院持续深耕建材创新领域,先后获得国家和省部级科学技术进步奖近150项,承担包括国家科技攻关项目、省部级项目、行业项目及其他各类重点项目在内的研究项目600余项;结合市场需求研发出一批辊压机、立式磨、提升机等拥有自主知识产权的核心技术与装备,实现了进口替代,多项技术领先世界;享有首批制造业单项冠军、制造业单项冠军产品、中国工业大奖提名奖等荣誉。

合肥院坚持以"材料创造美好世界"为企业使命,贯彻落实中国建材集团"4335"指导原则,深刻中材国际"1236"发展战略,以"211"创新联合体为抓手,促进创新链和产业链深度融合,以科技创新推动先进制造业高质量发展;构建以装备智造为核,以技术服务为翼的可持续业务体系,打造协同发展的科研、智造、集成、人才、投融5大平台,努力成为一家世界一流、以水泥为特色、无机非金属材料及环境治理领域的科技服务型企业。

Hefei Cement Research & Design Institute Corporation Ltd. (HCRDI) is a core technology innovation and equipment R&D enterprise of China National Building Material Group, a Fortune Global 500 company. It is also affiliated with China National Materials International Engineering Co., Ltd., one of the world's largest cement engineering system integration service providers. HCRDI is a benchmark enterprise in SASAC's "Double Hundred Action".

HCRDI focuses on green and energy-saving development, providing one-stop and systematic solutions for domestic and foreign customers. Its services cover more than 3,000 companies on five continents, and it has established an excellent corporate image both inside and outside the industry.

HCRDI has won nearly 150 national and provincial-level scientific and technological progress awards, and undertaken more than 600 research projects, including national scientific and technological key projects, provincial and ministerial-level projects, industry projects, and other key projects. It has developed a series of core technologies and equipment with independent intellectual property rights, such as roller presses, vertical mills, and elevators, in response to market demand, achieving import substitution and leading the world in many technical aspects. It has also won honors such as the first batch of single-item champions in manufacturing, single-item champion products in manufacturing, and nominations for China Industry Awards.

HCRDI adheres to the corporate mission of "CNBM Makes the World Better", implementing the guiding principles of CNBM "4335" and deeply implementing SINOMA "1236" development strategy. It uses the "211" innovative alliance as a lever to promote the deep integration of innovation chains and industrial chains, and to promote the high-quality development of advanced manufacturing with technological innovation. It is committed to building a sustainable business system with equipment intelligence as the core and technology services as the wing, creating five major platforms for collaborative development of scientific research, intelligent manufacturing, integration, talent, and investment, and striving to become a world-class technology service enterprise with cement as its characteristic, inorganic non-metallic materials, and environmental governance.

HISTROY 历史沿革

迁址合肥

Relocation to Hefei

1978年1月10日,国家建材总局在北 京召开会议,决定合并江油水泥工艺 研究所、辽宁水泥自动化研究所、唐山 水泥机械研究所,在合肥建院,院名为 "国家建材总局水泥研究院"。

On January 10th, 1978, the National Building Materials Bureau held a meeting in Beijing and decided to merge the Jiangyou Cement Process Research Institute, Liaoning Cement Automation Research Institute, and Tangshan Cement Machinery Research Institute into a new institute in Hefei. The institute was named "National Building Materials Bureau Cement Research Institute".

1999 事业单位改制

Reform of Public Institutions

1999年7月1日,合肥院由国家事业单 位转制为企业,进入中国新型建筑材 料(集团)公司。

On July 1st, 1999, Hefei Institute was reformed from a state-owned public institution to an enterprise and became a member of CNBM.

2005 V 拓展国际业务

Expanding International Business

2005年,合肥院与沙特NAJRAN水泥 公司签订了6000td水泥熟料生产线 合同。这是合肥院承接的第一个EPC 模式的总承包工程,是当时国内规模 最大的水泥出口项目,也是沙特国内 最大的水泥生产线工程。

HCRDI signed a contract with Najran Cement Company in Saudi Arabia for a 6000t/d cement clinker production line. This was the first EPC (engineering, procurement, and construction) project undertaken by Hefei Institute, and was the largest cement export project in China at the time. It was also the largest cement production line project in Saudi Arabia.

2019 构建"211"创新联合体

Establishing the "211" **Innovation Consortium**

2019年,中国建材(合肥)技术中心项 目启动,自此,合肥院开启了两线一园 一中心的"211"创新联合体的宏伟蓝 图,构建基础研发、实验应用、成果转 化和落地的"产、学、研、用"深度融合 的创新体系。

In 2019, CNBM (Hefei) Technology Center project was launched, marking the start of Hefei Institute's grand plan for the "211" innovation consortium, which includes two production lines, one park, and one center. This plan aims to build a deep integration of "production, learning, research, and application" innovation system, which combines basic research, experimental applications, achievement transformation, and landing.

2022 进入中材国际

Entering SINAMA International

2022年,合肥院进入中材国际,并按照 集团要求,进行业务整合,开启了崭新 的征程。

In 2022, HCRDI entered SINOMA International and, in accordance with the group's requirements, underwent business integration, embarking on a new journey.



AWARDS HONORS



国家发明奖 1 National Invation Award

国家科技进步奖

19 National Science and Technology Progress Awards

省部级科技进步奖 114 Provincial Science and Technology Progress Awards

国家级和行业级工程奖 293 National and Provincial Patent Awards

国资委"双百行动"标杆企业

SASAC "Double Hundred Action" benchmark enterprise

国家勘察设计甲级资质

3 categories Grade a qualification of national survey and design

中国工业大奖提名奖

Nomination Award of China Grand Awards for Industry

国际、国际及行业标准

38 international, National and industrial standards

获得专利数

576 Patents

(数据截止到2023年6月)

(Data up to July 2023)

TECHNOLOGY INNOVATION

目前合肥院拥有国家级企业技术中心、省、市企业技术中心、工程技术中心、工业设计中心、 制造业创新中心和研发实验基地等创新平台,年均科研项目40项以上,多项技术成果被列入 国家重大科技成果推广计划。2020年被评为国家技术创新示范企业。

At present, HCRDI has several innovation platforms, including a national-level enterprise technology center, provincial and municipal enterprise technology centers, engineering technology centers, industrial design centers, manufacturing innovation centers, and research and development experimental bases. We undertake an average of more than 40 scientific research projects each year, and many of our technological achievements have been included in the national major scientific and technological achievements promotion plan. In 2020, HCRDI was recognized as a national technology innovation demonstration enterprise.



国家企业技术中心

State-accredited Enterprise Technology Center

高新技术企业

State-accredited Enterprise Technology Center

省级工业设计中心

Provincial Industrial Design Center.

制造业单项冠军

制造业单项冠军企业(中建材粉体公司) Enterprise leading an individual field of the Manufacturing industry (CNBM Powder Co., Ltd.)

制造业单项冠军产品(立式辊磨机) Product leading an individual field of the Manufacturing industry (Vertical Mill)

上家 国家级"专精特新"小巨人

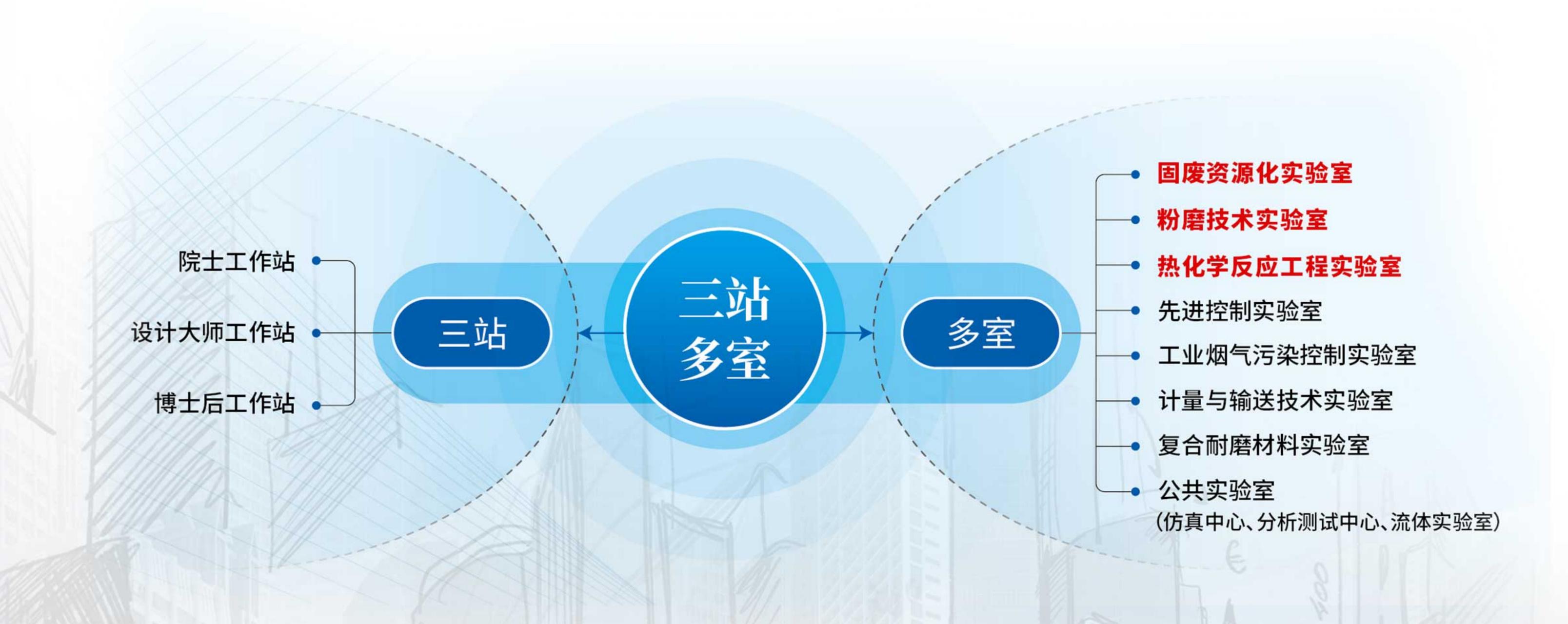
National "little-giants" SMEs featuring "professionalization, refinement specialization and novelty*

省市级"专精特新"企业

Province and Municipal "little-giants" SMEs featuring "professionalization, refinement specialization and novelty" WORKSTATIONS AND MULTIPLE LABORATORIES

合肥院以中国建材(合肥)技术中心为依托,规划院士工作站、大师工作站、博士后工作站"三 站"以及固废资源化实验室、先进控制实验室、粉磨技术实验室、热化学反应工程实验室等" 多室"的创新体系,打通基础研究、应用基础研究、技术开发、成果转化及产业化全创新链,为 市场化发展和新技术突破提供良好的创新环境。

HCRDI relies on the CNBM (Hefei) Technology Center, and has planned an innovative system consisting of three workstations - Academician Workstation, Master Workstation, and Postdoctoral Workstation - as well as multiple laboratories such as Solid Waste Resource Utilization Laboratory, Advanced Control Laboratory, Powder Grinding Technology Laboratory, and Thermal Chemical Reaction Engineering Laboratory. This system aims to establish a complete innovation chain that connects basic research, applied basic research, technology development, achievement transformation, and industrialization, providing a favorable environment for market-oriented development and breakthroughs in new technology.



HIGH-END EQUIPMENT 高端装备

合肥院拥有水泥工业全流程成套高端技术装备的研发能制造能力,合肥院目前拥有三个产 业制造基地,通过把雄厚的科研优势转化成技术成果,打造出一批以辊压机、立磨、钢丝胶带 提升机为代表的核心技术和关键装备,荣获多项国家科技进步奖和省部级奖项。

HCRDI is able to develop and manufacture high-end equipment for complete process. We currently have 3 industrial manufacturing bases, which have transformed their strong research advantages into technological achievements, creating a number of core technologies and key equipment represented by roller press, vertical mills, and wire rope belt elevators. These achievements have won multiple national scientific and technological progress awards as well as provincial and ministerial level awards.



高端装备智造园

High-end equipment intelligent manufacturing industrial park.

EQUIPMENT SYSTEM 装备体系

粉磨技术与装备

GRINDING TECHNOLOGY & EQUIPMENT

辊压机 Roller Press

立式辊磨机 Vertical Roller Mill

选粉机 High Efficiency Separator

球磨机磨内技术 In-mill grinding technology of Ball Mill

快速沸腾式烘干技术 Rapid Boiling Technology

超细分级机 Ultra-fine Classifier

热工技术与装备

BURNING TECHNOLOGY & EQUIPMENT

预热器分解炉 **Roller Press**

自适应低氮燃烧技术 Self-Adaptive Low Nitrogen Calcination Technology

多通道燃烧器 Multi-channel Burner

第四代冷却机 The 4th Generation Cooler

环保技术与装备

ENVIRONMENT PROTECTION TECHNOLOGY & EQUIPMENT

收尘器 Dust collector

水泥窑 SCR 脱硝改造技术 SCR denitration retrofit technology for cement kilns

精准SNCR技术

Sophisticated SNCR technology

水泥窑协同处置

The domestic waste and sludge co-processing by cement kiln

计量输送技术与装备

METERING CONVEYING TECHNOLOGY AND EQUIPMENT.

分格转子定量喂煤系统 CWF Cellular Rotor Type Quantitative Coal Feeding System

轮辐转子粉体定量给料系统 PWF/R Spoke Rotor Type Powder Qualitative Feeding System

入窑生料喂料控制系统 PWF/V Kiln Feed Raw meal Control System

多通道微量粉体定量喂料系统 TQS/M Multichannel Small Flow Powder Quantitative Feeding System

高低压电气开关柜 High and low voltage electrical switchgear cabinet.

钢丝胶带提升机 Steel Wire Belt Conveyor Bucket Elevatorr

板链提升机 Plate chain bucket elevator

科氏力秤粉体计量系统 Coriolis flow meter measurement system

气力输送技术 Pneumatic conveying technology

正压输送设备

Positive pressure conveying equipment

负压输送设备

Negative pressure conveying equipment

高性能耐磨材料

HIGH-PERFORMANCE WEAR-RESISTANT MATERIALS

陶瓷金属复合耐磨材料

Ceramic-metal composite wear-resistant materials.

新型耐磨材料 New type of wear-resistant materials

钢结构

STEEL STRUCTURE ENGINEERING

轻钢结构 Light steel structure

重钢结构

Heavy steel structure

网架结构 Grid structure

智能化技术与装备

INTELLIGENT TECHNOLOGY AND EQUIPMENT

KXT(SZ)智能散装计量系统 KXT (SZ) intelligent bulk material measurement system.

智能一卡通发运系统 One-Card System for material Entry-out Packing & Dispatch

自动机器人插袋机 Automatic robot bag inserting machine

全自动机器人装车系统 Fully automatic robot loading system

监测和系统智能化

Monitoring and system intelligence

设备全生命周期管理平台 Equipment full life cycle management platform

CORE EQUIPMENT 核心装备

据压机

ROLLER PRESS

HFCG系列辊压机主要技术经济指标达到国际领先水平,应用涉及建材、化工、冶金、选矿、工业废渣处置和城市废弃物处理等多个行业领域。HFCG系列辊压机全球用量超过1800台套,中国前10强水泥企业采购量超过800台套,并出口土耳其、菲律宾、埃塞、印尼、智利、越南等20多个国家和地区。2017年入选全国首批制造业单项冠军;2020年荣获中国工业大奖提名奖。

HFCG series roller press has achieved international leading level in terms of key technical and economic indicators, and has been widely used in various industries such as building materials, chemical industry, metallurgy, ore dressing, industrial waste disposal, and urban waste treatment. The global usage of HFCG series roller press has exceeded 1800 sets, and the top 10 cement enterprises in China have purchased over 800 sets. The equipment has been exported to more than 20 countries and regions including Turkey, the Philippines, Ethiopia, Indonesia, Chile, and Vietnam. In 2017, it was selected as one of the first batch of manufacturing single-item champions in China, and in 2020, it was nominated for the China Industry Award.



工式辊磨机

VERTICAL ROLLER MILL

HRM系列立式辊磨机产品线覆盖了水泥生产线上下游产品的粉磨全应用,可以实现水泥生产无"球"化。在水泥行业外,实现矿渣、钢渣、原煤、非金属矿、建筑垃圾等众多粉磨领域全覆盖,产品应用领域国内外最广,在多个应用领域为第一台立式辊磨机的应用单位。累计应用2000余台套。2022年荣获第七批单项冠军产品称号。

The HRM series vertical roller mill product line covers the full range of powder grinding applications for upstream and downstream products in cement production, enabling cement production to be free of "balls". In addition to the cement industry, it covers a wide range of powder grinding areas such as slag, steel slag, raw coal, non-metallic minerals, and construction waste. Its product application fields are the widest at home and abroad, and it has been the first vertical roller mill used in multiple application fields. It has been applied in more than 2,000 sets. In 2022, it was awarded the title of the seventh batch of single-item champion products.





CORE EQUIPMENT 核心装备

提升机

BUCKET ELEVATOR

核心技术产品"N-TGD钢丝胶带斗式提升机"、"NSE系列板链斗式提升机"、"KXT科氏力秤粉 体计量系统"已在市场应用近7000套。围绕核心技术,我们为用户提供系统化技术方案和工 程咨询服务。

"N-TGD wire rope belt bucket elevator", "NSE series plate chain bucket elevator", and "KXT Coriolis flow meter powder measurement system", have been applied in nearly 7,000 sets in the market. Based on these core technology, we provide users with systematic technical solutions and engineering consulting services.



计量输送

METERING CONVEYING TECHNOLOGY AND EQUIPMENT

CWF分格转子定量喂煤系统 **CWF Cellular Rotor Type Quantitative Coal** Feeding System

把传统的煤粉定量喂煤、计量和锁风功能 集成到一台装置中,专用于采用气力输送 煤粉的定量喂煤。尤其适用于水泥、建材、 冶金、电力等工业窑炉的定量喂煤。

CWF Rotor Constant Coal Feeding Control System integrates the functions of traditional constant coal feeding, metering and air locking into one device. It's specially used for constant coal feeding by pneumatic conveying pulverized coal. It is especially suitable for constant coal feeding of industrial kilns in cement, building materials, metallurgy and power industries.



TQS/M多通道微量粉体定量喂料系统

TQS/M Multichannel Small Flow Powder Quantitative **Feeding System**

主要应用于常温下各种工业添加剂和工 业小型窑炉燃料超小流量定量给料控制, 集定量控制及锁风为一体,同时可一机多

The system is mainly used for super small flow quantitative feeding control of different industrial additives and industrial small kiln fuels under normal temperature. It combines the quantitative feeding and air locking; in addition, it can feed several devices at the same time.



ENGINEERING TECHNOLOGY AND SERVICES 工程服务

通过打造核心技术和关键装备,并提供配套技术服务,合肥院具备为不同规模的水泥生产线 提供完整技术、装备和工程服务能力,致力于为全球客户提供水泥生产线的"一站式"的总体 解决方案和专业化服务。

With its core technology, key equipment, and quality service, HCRDI is capable of providing complete technology, equipment, and engineering service for various capacity cement lines, devoted itself to providing its customers across the world with one-stop solutions and professional services.

完整产业链集成系统服务

科技研发

TECHNICAL R & D

设计咨询

ENGINEERING CONSULTANCY

装备智造

EQUIPMENT MANUFACTURING

工程建设

CONSTRUCTION

生产运维

OPERATION AND MAINTENANCE SERVICES



合肥院基于新一代信息通信技术与先进制造技术深度融合,实现了水泥产业智能制造,将智能化贯 穿于设计、建造、生产、管理、服务等各个环节。

Thanks to deep integration of new generation communication technology with advanced manufacturing technology, HCRDI realizes intelligent manufacturing in cement industry, making each section intelligent: engineering, manufacturing, producing, managing, and serving.



OUR GLOBAL REACH 全球布局



KEY PROJECTS 典型项目



合肥南方日产6000吨熟料水泥生产线优化升级项目

Optimization and upgrading project of 6,000-ton clinker cement production line in Hefei Nanfang Cement Company.



印尼STAR日产5000吨熟料水泥生产线 5000t/d Clinker Production Line at STAR.Indonesia



沙特NAJRAN水泥公司日产9000吨熟料水泥生产线 6000t/d and 3000t/d Clinker Production lines at Najran Cement Company Ltd.Saudi Arabia



巴基斯坦Askari日产6500吨熟料生产线及余热发电项目 6500t/d Cement Line with Waste Heat Recovery System at Askari Cement Pakistan Ltd.

CORPORATE SOCIAL RESPONSIBILITY 社会责任

合肥院始终牢记政治责任和社会责任,始终秉承"材料创造美好世界"的使命,坚持"善用资 源、服务建设"的核心理念,在节能环保、扶贫攻坚、职业健康、社会环境等方面履行社会责任 ,全方位塑造企业品牌形象。

HCRDI always bears in mind its political and social responsibilities, adhering to its mission of "CNBM makes the world better". It upholds the core philosophy of "efficient resource utilization and service-oriented construction", fulfilling its social responsibilities in areas such as energy conservation and environmental protection, poverty alleviation, occupational health, and social environment, all while shaping its brand image comprehensively.









STAFF CARE 员工关怀

合肥院高度重视员工队伍建设,不断提升员工的工作和生活质量,定期组织形成品牌的文体 活动和培训,不断健全完善员工的职业发展规划和晋升机制,提高员工的工作积极性和创造 力,实现企业与员工的共同成长。

HCRDI attaches great importance to the construction of the employee team, constantly improving the quality of work and life of employees. Regularly organizing branded cultural and sports activities and training, continuously improving and perfecting the career development planning and promotion mechanism for employees, enhancing their work enthusiasm and creativity, and achieving the common growth of the enterprise and employees.







