



**Special Robot Application for safety and emergency response to extreme environment + innovative technology and solution service**

**With protection of Xinke intelligent special robot,  
people's life will have no risky!**

## Enterprise introduction

**Xinke Robot is a well-known special robot research and development enterprise integrating research and development, production, sales and service.**

**Since its establishment, the company has always adhered to independent innovation, practiced social responsibility, and used advanced robots and intelligent technology to enable the transformation and upgrading of many industries and high-quality social and economic development.**





# Bear the mission of innovation bravely

**In 2016, the Xuzhou municipal government introduced special robots**

Industry introduction into the Quanshan Economic Development Zone, and listed as Provincial and municipal level key projects of the first special robot research institute of the first robot rescue team

**In 2018, it was listed in the "Top 10 High-tech Enterprises"**

**In 2018, it was recognized as the "Special Robot Engineering and Technology Research Center"**

**In 2018, it was awarded as a national high-tech enterprise**

The robot was used as a rescue force to avoid casualties. At the same time, it can demonstrate the application, publicize the enterprise, build the brand, and practice the social responsibility

The industry is the first "service-

**In 2023, the 3250 system layout will be formed to realize the application of autonomous robot technology**

**In 2023, the post-market drainage i**

**In 2024, to develop a mobile intelligent welding robot**

**In 2025, it will become a national specialized and special new enterprise**



**In 2019, the only "special robot dynamic demonstration center" was built in China**

**In 2019, the largest special robot production workshop in China will be built**

**In 2019, it was included in the national catalogue of Advanced applicable technology and equipment**

**In 2020, it was included in the "multi-purpose special robot machine research and development and industrialization key research and development plan (industry foresight and common key technologies) in 2021, and was identified as "Xuzhou City Rescue and Dangerous Operation Robot Engineering Research Center"**

**In 2021 the team of "ten thousand experts"**

**In 2022, it will be included in the "fourth batch of pilot enterprises of industry and education integration in Jiangsu Province" and the "Construction cultivation Database of Jiangsu Province"**

**In 2022, it was awarded as the "Enterprise with Outstanding Contribution" in scientific and technological innovation** In 2022, enter the chemical and JG segment; start market operation; and start marketing channel construction.

**In 2022, the provincial industrial design Center**

**In 2022, the mode of "robot mobile emergency rescue station" will be launched.**

**Expand the petrochemical, mining, military, energy and other market segments**

# Innovative development achievements



Special Robot Research Institute  
 Provincial JM fusion and innovation platform  
 Provincial industrial design Center  
 It has three research and development centers in Xuzhou, Hangzhou and Xiamen  
 Chinas largest special robot production base (annual capacity of 2000 units / set), including design and development, industrialization, engineering technology research center, experience display, drill and demonstration, service and training 6 centers  
 Jointly established "Jiangsu Province Special Robot Product Quality Supervision and Inspection Center" with



For many years, the market share ranks at the first .  
 Presided over and participated in the compilation of more than 10 national, industrial and group standards, such as fire extinguishing robots, smoke exhaust robots, underwater robots and special robots  
 More than 50 authorized patents, more than 20 software Copyrights  
 Domestic robot actual combat application of the most enterprises: participated in fire rescue more than 2,000 times.  
 The only special robot industry talent training and evaluation organization in China



National high-tech enterprise  
 It has been included in the national catalogue of advanced and applicable technology and equipment for production safety emergency rescue Crawler robot chassis, explosion-proof structure modular, image recognition in complex environment, perception fusion in special environment, front-end intelligence and other technologies are leading in China  
 National intellectual property rights standard enterprises  
 Provincial first (set) of major equipment and components enterprises  
 Jiangsu Province "integration of two industries" Jiangsu Province, "integration of industry and Scientific and technological innovation of the Key trademark protection enterprises  
 We will support advanced units in national defense development.



# Li Guohua team backbone: Robot basic technology research



Li Guohua

He holds a master's degree in semiconductor devices and physics from the Department of Electronic Engineering of Nanjing Institute of Technology, and he the former deputy chief engineer of CITIC Special Robot. He started his career in 1974 and has 10 years of experience as an engineer in a radio factory and 28 years of experience in business management. He mainly researches outdoor navigation technology, fire source location and tracking technology, special robot explosion-proof technology, etc., and is responsible for robot design and R&D management and team building.



## Yu Xiao, a postdoctoral fellow in Information and Communication Engineering

He has been engaged in research work in embedded systems, Internet of Things engineering, signal analysis, artificial intelligence, etc., published 8 SCI/EI journal papers, many national core journal papers, authorized 5 invention patents, 3 authorized software copyrights, presided over 1 sub-project of the National Key R&D Program, 1 Xuzhou Science and Technology Plan Project, won 2 Xuzhou Science and Technology Progress Awards, 1 Xuzhou Science and Technology Information Award, and participated in 1 National Key Basic Research and Development Program (973) project. 1 general project of the National Natural Science Foundation of China



## Xu Xuhao, master of mechanical manufacturing

Master of Mechanical Engineering from the University of New South Wales. Involved in the design of the vehicle chassis and suspension for a race car at the University of New South Wales, using Ansys analysis data to discover the direction of optimization. Participated in the thermal structure analysis and prototype assembly of hybrid vehicle modules of BMW and Geely; Participate in the company's work experience in docking with module production line manufacturers. He specializes in algorithm and program development.



## Yang Wenjie, Master of Mechanical Engineering

Born in June 1993, master's degree, mechanical engineering of Anhui University of Science and Technology, 3 patents, participated in the major project of Shanxi Province "key technical equipment for adjustable rotary ventilators of mining external unit motors", and participated in the research project "hydrodynamics, feng shui". Performance Optimization of Linkage Dust Suppressor", "Design and Analysis of Hydraulic Support of Downhole Groove Unit and Supporting Auxiliary Transportation Equipment"



## Zheng Yulong, Master of Electrical Engineering and Automation

Proficient in the design of basic circuits, analog circuits and digital circuits, proficient in soldering skills, and manual placement of complex chips. Proficient in all kinds of software, languages, and communication parties type, design platform. He is good at designing, formulating product testing plans and validating them. Responsible for project management.



# Xu Shugong team backbone: research on robot autonomy and group control technology



Xu Shugong

Ph.D., expert in wireless communication and intelligent fusion perception, chief scientist of 863, IEEE fellow, and national "10,000 people" leading talent. He is the deputy director of the Video Communication Committee of the Chinese Graphic and Image Society, and a member of the Standing Committee of the Pattern Recognition and Intelligent Control Committee of the Chinese Society of Automation. Specialty: 5G communication, intelligent fusion sensing.



Dr. Yuan Jianjun

Ph.D., expert in mechanical dynamics algorithms, senior member of IEEE. Engaged in remote control, collaborative robot research. Specialty: SLAM and dynamics algorithms



Dr. Sheng Bao

Ph.D., Harbin Institute of Technology, postdoctoral fellow, presided over a number of special projects of the Ministry of Science and Technology of the People's Republic of China. Specialty: Control and electrical systems.



Dr. Du Liang

Ph.D., expert in mechanical innovation design, special robot structure, industrial automation equipment development and design, Shanghai Pujiang talent. Specialty: Immersive remote control systems.



Dr. Hua Wang

Ph.D., expert in mechanical theory and design, non-standard structure design, senior member of Chinese Mechanical Engineering Society. Specialty: Mechanical body design and optimization

## Bailong team backbone: research on robot walking mechanism and light-weight technology



Bailong

Ph.D. in mechanical design, manufacturing and theory from Northwest University of Technology, and joint training of national public doctoral students from National University of Singapore. 47 national invention patents have been authorized. His main research areas are: bionic and special robots, marine robots, exoskeletons, lightweight and soft robots



PhD in Control Theory

main research interests include robot control theory and soft robotics. 4 invention patents have been authorized.



Sun Tianxi, PhD of Mechanical design and theoretical Engineering

Main research directions: exoskeleton robots, intelligent human-machine interactive robots. 3 invention patents have been authorized.



Chen Xiaohong, PhD in mechanical design and theory

Her main research interests include bionic and special robots, porous lattice intelligent structures, etc. 1 invention patent was authorized.

# Sun Lining: President of Xinke Special Robot Research Institute

01

## The Russian Academy of Engineering for evaluation

"Sun Lining has contributed to promoting the innovative development in the global robotics field."

02

## Individual Resume

Foreign academician of Russian Academy of Engineering, winner of He Liang ,He Li Fund, JieQing, Changjiang, Deputy Director of State Key Laboratory of Robotics Technology and Systems, expert of micro and nano robotics

03

## Responsibility













Special robot forward-looking technology and micro-small, humanoid robot research.





# Xinke Special Robot Family

## 明星产品

 RXR-RC080D 消防灭火侦察机器人	 RXR-8400 消防灭火机器人	 多功能机器人移动应急救援站	 无人伴送运输机器人	 微炭巡逻机器人
 清淤机器人	 RXLS-E4102 防爆轮式巡检机器人 (危化)	 RXQD-E448(A) 防爆轨道巡检机器人	 光伏巡检机器人	 地下空间智能巡检机器人
 配电间智能巡检机器人	 变电站智能巡检机器人	 配电间轨道式巡检机器人	 管道检测机器人	

## 智能矿山

 矿用轮式巡检机器人	 矿用履带式 消防侦察机器人	 矿用履带式 消防灭火机器人	 矿用履带式安全型轮式巡检机器人	 矿用履带式安全型 轨道巡检机器人
 矿用安全型 轨道巡检机器人	 矿用履带式安全型 轨道巡检机器人	 智能井筒巡检机器人	 固定值守机器人	 矿用履带式安全型 轨道检测机器人
 井下运输安全预警机器人	 选矸机器人			

## 应急救援

 RXR-8012080 全地形履带消防灭火侦察机器人	 RXR-RC20080 消防灭火侦察机器人	 RXR-C400 消防侦察机器人	 RXR-8040-E 救援消防消防泡沫灭火侦察机器人	 RXR-YM102000 消防排灌灭火机器人
 RXR-80400 (S) 消防灭火侦察机器人	 LXM-30L 消防巡检灭火机器人	 RV-03001 水下机器人	 KG-RDV 水下机器人	 KRZ 1 灾区侦测机器人

## JS应用

 SAGER08-SCU 810 车库巡检机器人	 SAGER08-E03 A20 智能中型垃圾机器人	 SAGER08-MSR A30 武装打靶机器人
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## 涉危涉化

 冷冰冰箱机器人	 RCR-T1 轨道式履带机器人
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# Serve and protect the national economy

## Emergency rescue

The first explosion-proof firefighting robot in China Widely used to promote the transformation of fire rescue



## Intelligent mine

More than 30 years of deep cultivation of mining technology and application A number of intelligent demonstration mines have been built



## Petrochemical

Smart inspection batch application "black technology" of petrochemical station safety management



## Coal Chemical/Coking

Robots are the first to be applied to the coal chemical industry Key parts to achieve "unattended"



## Electricity

Autonomous inspection and identification analysis Integration of intelligent early warning and disposal



## Smelting

Safe, autonomous and efficient inspection Solve the pain points of traditional production management

## Cultural relics preservation

Patrol and rescue in special places The "patron saint" of cultural relics safety and intelligence



## Transportation & Construction

Airports, tunnels, highways, comprehensive pipe corridors and other scene inspection and rescue and special operations



## Underwater detection

Underwater search and rescue, safety inspection, submarine pipeline and optical cable detection in the marine industry, etc



## Civil Explosion

Application of gas, pharmaceutical factories, fireworks factories and other high-risk, toxic, flammable environments



## Defense modernization

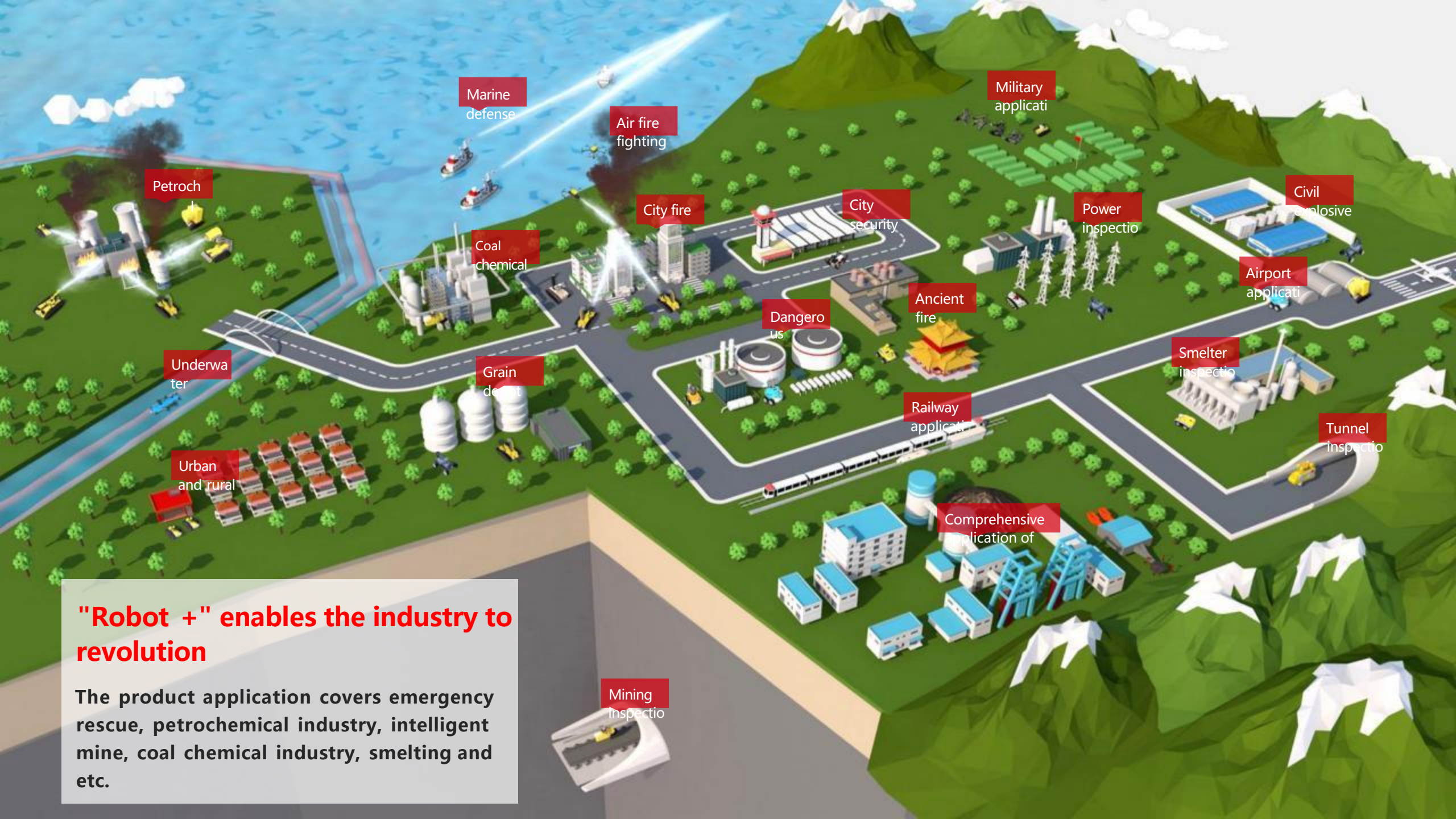
National defense and military applications such as reconnaissance, combat, search and rescue, and defense



## More areas

Facing more fields and constantly innovating application scenarios





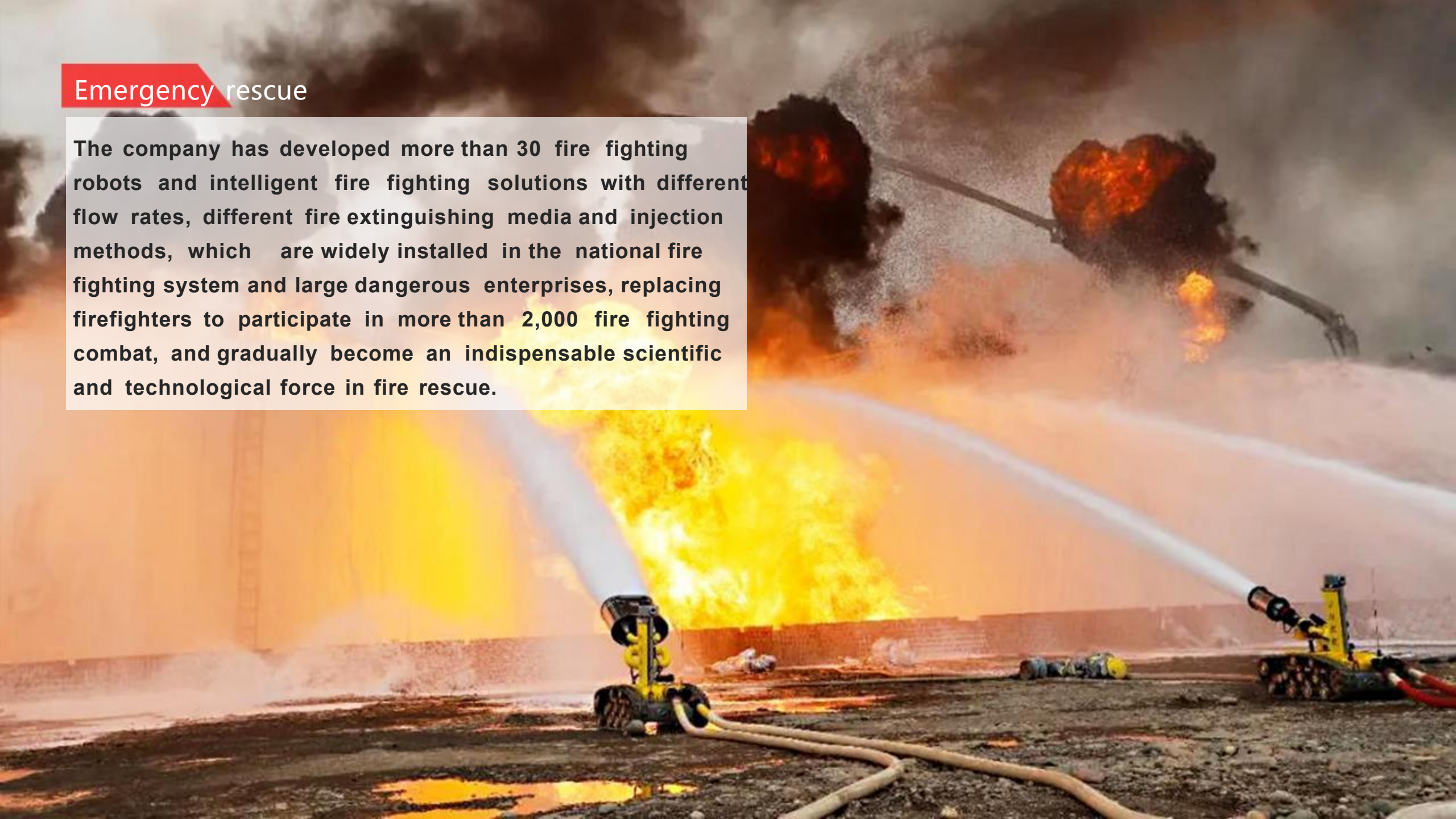
## "Robot +" enables the industry to revolution

The product application covers emergency rescue, petrochemical industry, intelligent mine, coal chemical industry, smelting and etc.



## Emergency rescue

The company has developed more than 30 fire fighting robots and intelligent fire fighting solutions with different flow rates, different fire extinguishing media and injection methods, which are widely installed in the national fire fighting system and large dangerous enterprises, replacing firefighters to participate in more than 2,000 fire fighting combat, and gradually become an indispensable scientific and technological force in fire rescue.

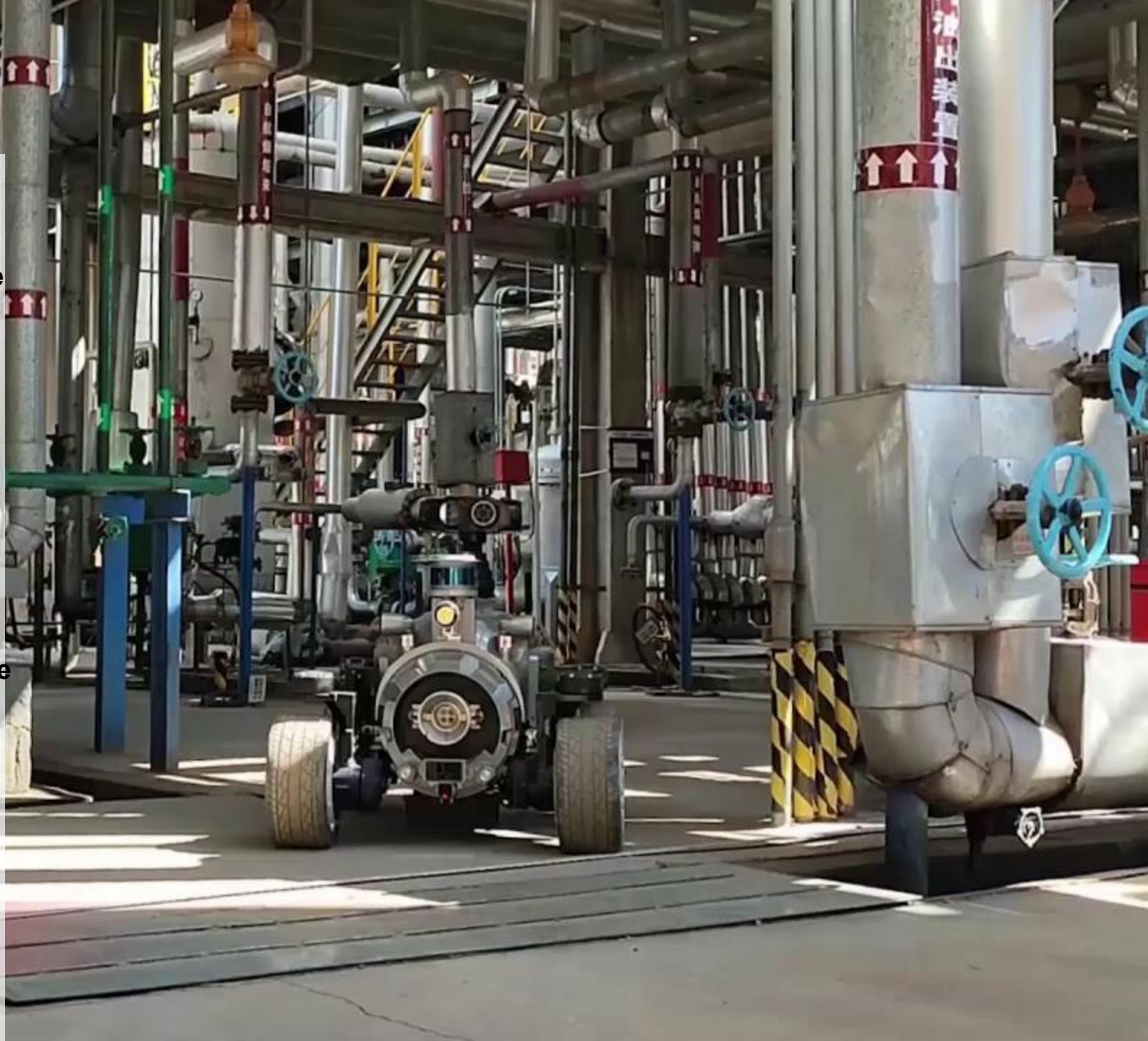




## Danger inspection

The hazardous chemical inspection robot integrates 5G communication and outdoor industrial laser navigation technology to achieve scientific and reliable inspection instead of inspectors, and effectively improve the intrinsic safety management level of hazardous chemical enterprises. At present, the robot has been applied in large quantities in many enterprises such as PetroChina, Sinopec, and the national pipeline network hazardous inspection robot integrates 5G communication and outdoor industrial laser navigation technology to realize scientific and reliable inspection, and effectively improve the essential safety management level of hazardous enterprises. At present, the robot has been put into use in large quantities in CNPC, Sinopec, national pipeline network and other enterprises.

在奥星石化加氢裂化车间应用





A yellow tracked mobile welding robot with an orange robotic arm is positioned in a large industrial factory. The robot is on a yellow tracked base and is currently welding a large, dark metal beam. The background shows the factory's interior with high ceilings, steel beams, and various pipes. A red crane beam is visible at the top of the frame. The robot's arm is extended, and it appears to be in the middle of a welding process. The overall scene is well-lit, highlighting the industrial environment.

## Mobile Welding Robot

Through robot control, independent decision-making without teaching, positioning and vision technologies, it is the first to realize the welding robot "where to weld", and gradually realize "welding while walking".

It effectively solves the pain points such as the shortage of welders, unstable quality, and frequent safety accidents in welding application scenarios such as steel structures and ships, and brings new mobile intelligent welding solutions to industrial manufacturing.



## JM fuse

The company's special robots and intelligent equipment are in the national defense It has been put into application in the field of modernization construction



智能巡检无人车进入机场  
进行安防巡检

周界巡检



## Unmanned robot online dredging solution

Set detection, dredging function, suitable for all kinds of sewage treatment pool, coal mine waste water pool, purification pool, municipal pipe network, river, lagoon, drainage pipe, cooling tower pool, underground sewer





An aerial photograph of a large-scale photovoltaic power station. The image shows a vast array of solar panels arranged in a grid pattern across a flat, arid landscape. A central structure, possibly a control building or a maintenance hub, is visible, surrounded by a network of walkways and support structures. The ground is dry and yellowish, with some sparse vegetation. The overall scene is a typical representation of a modern solar farm.

## **Photovoltaic power station robot intelligent operation and maintenance solution**

**Integrating integrated management and control platform, intelligent subsystems, robots, unmanned aerial vehicles, unmanned vehicles, unknown field detection and navigation technology, to provide users with distributed photovoltaic robot cleaning and power station unmanned operation and maintenance solutions.**



## Grassroots emergency rescue solutions

Robot, truck, on-mounted pump, high pressure water mist, fire extinguishing agent, fire equipment, protective equipment, fire fighting, greening, disinfection, drainage, and other functions, solve the old village, mining enterprises, rural lane road inconvenience, water shortage, rescue equipment and technical shortage, greatly improve the villages and towns fire combat ability, effectively avoid rescue casualties, basic can achieve "3 minutes present" save the initial fire, put an end to "small fire dead" accident. The station can save the construction cost of the micro-fire station, which is an effective supplement to the urban public fire protection.



首辆“多功能机器人移动消防站”来了

## Operation and maint

Special Robot Operation Professional Skills Level Certificate (junior high school) is independently developed by enterprises and approved by the Ministry of Education, integrating more than 60 kinds of robots and 30 typical application scenarios reflecting new technologies, new processes, new specifications, new and standards; Certified personnel can engage in special robot assembly production, or operate and operate various robots; Certificate promotion will effectively solve the special robot industry rapid development of special robot skills talent shortage demand, promote special robot in our country natural disasters and major production disasters, public security, energy security and military security situation serious strategic emerging and widely used in the field of the peoples livelihood, power special robot industry high quality development.



### 职业技能等级证书师资培训证书

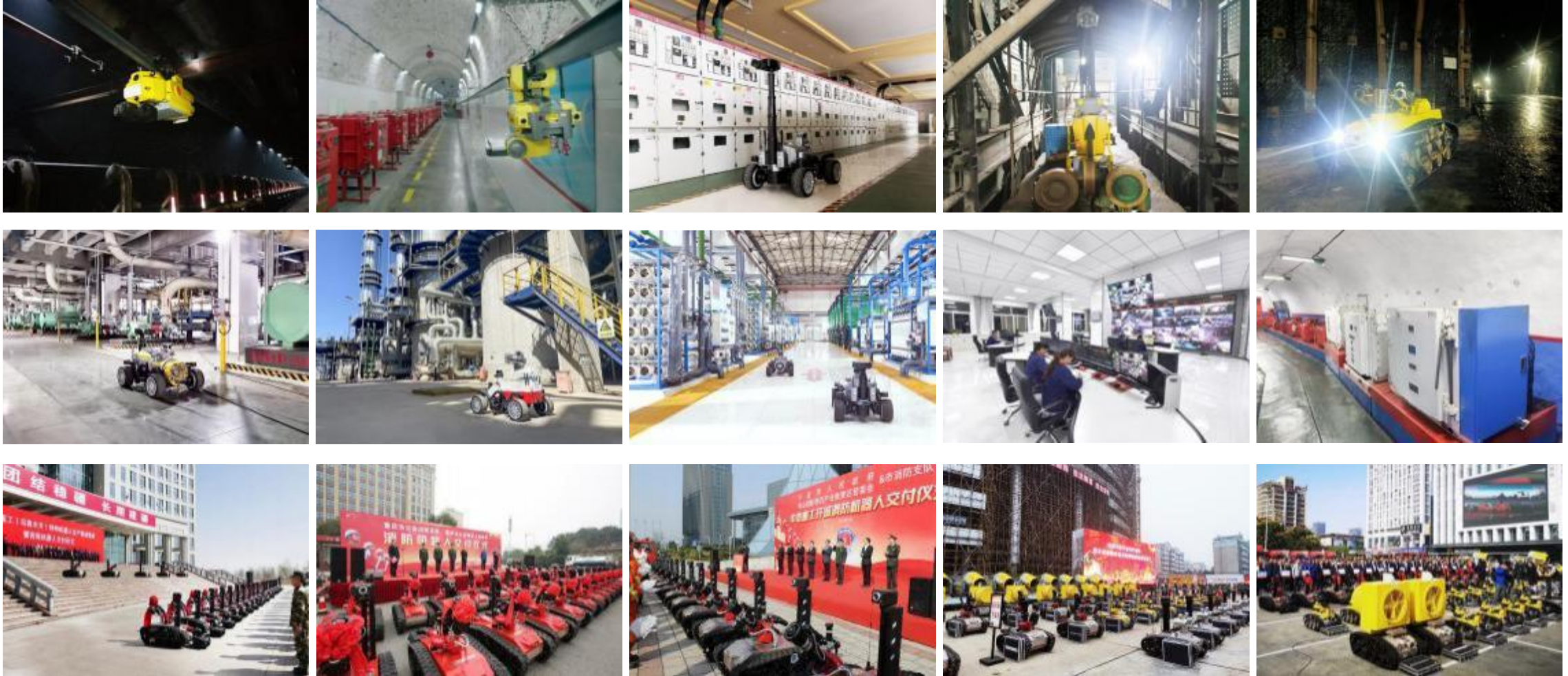


徐州鑫科机器人有限公司





# Product installation



At present, the company's special robots and intelligent equipment have been installed in the fire control system of many provinces and cities across the country, large coal mining groups and large dangerous chemical enterprises, playing an important role in improving the comprehensive emergency rescue ability and enterprise safety management level.



Robots attend the Dubai Fire Protection Show

Robots were delivered to South Korea



Belarus

Saudi Arabia

Taiwan

The Philippines Customers

Robot delivery of Taiwan, China



Robot delivery to Macao China Robot



Robot participated in Mumbai fire fighting combat robot delivered to the Philippines



## International business

The company actively expands the international market, and Korea, India, Saudi Arabia, U.A.E., Belarus and other countries and Hong Kong, Macao and Taiwan to carry out business cooperation, robot products steadily to the world.



# Two competition and one lead



On July 25, 2016, Li Qiang, then party secretary of Jiangsu Province, inspected the special robots of the company

**Two competition and one lead: one is competing to be the market development model; the other is coming to be the industrial application demonstration; one lead the is classification and development of special robot industry**

## Development vision

In the next 5 years, Xinke's efforts will be made to carry out the innovative practice of "robot +" application, form 10 important market segments, break more than 100 robot innovative application technologies and solutions, promote and promote more than 200 typical robot application scenarios with high technical level, innovative application mode and remarkable application results; build the largest special robot application experience center and test and verification center in China; help a group of users to become "robot +" application benchmarking enterprises, and significantly promote the application depth and breadth of special robot industry.

**Use special robots to regain  
the ground in the field of robotics to win glory  
for the Chinese country**







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