

# LOYALTY ROBOTICS WELDING SYSTEMS

World-Class AI Welding and Cutting Solutions



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## Loyalty Robotics Welding Systems (Chengdu) Corporation.

📍 Company address: No.1, Road 3, Aviation Power Industrial Functional Zone, Lichun Town, Pengzhou, Chengdu

✉ E-mail: [info@lerobotics.com](mailto:info@lerobotics.com)

☎ +86 - 400 - 8785881

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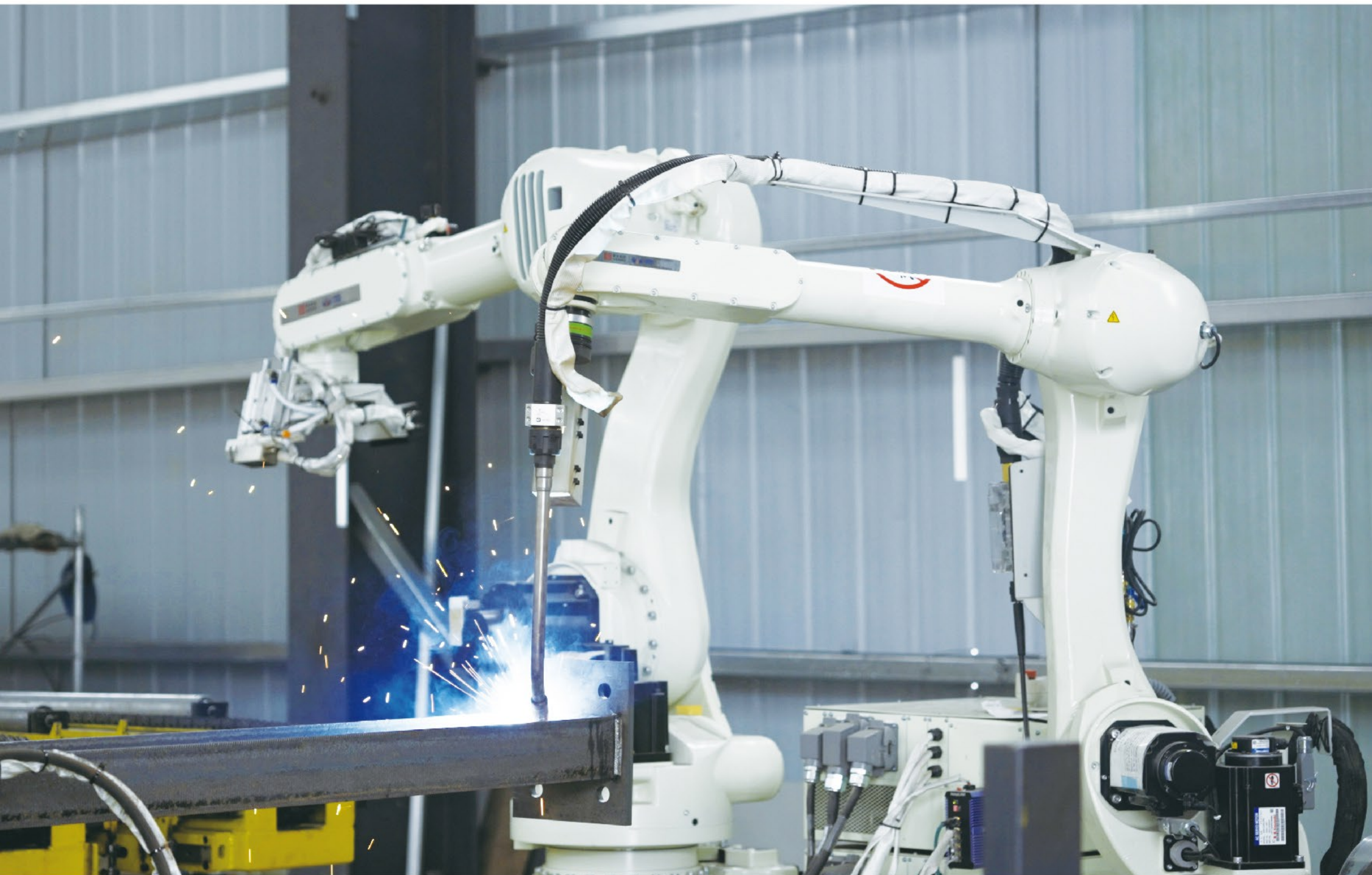
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# Product

## SELECTION GUIDE





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# Company Introduction

Loyalty Enterprises Group is an integrated industrial, scientific, and commercial international enterprise group, focusing on the promotion and application of high and new technology, advanced productivity, and international management concepts. The group is committed to building a world-leading industrial robot and intelligent robot factory high-tech company, a world-class circular economy and deep processing and remanufacturing listed company, and a globally renowned new material production and new energy utilization enterprise.

The group's headquarters is located in Shanghai, China, with dozens of subsidiaries distributed in various regions at home and abroad, including Henan, Tianjin, Sichuan, Hong Kong, the United States, Thailand, South Korea, and Brazil. The business covers industries such as circular economy, new materials, intelligent equipment manufacturing, robot welding machines, Internet technology, and international trade, with products and services covering the globe.

The overseas business unit of Loyalty Enterprises Group has achieved an output value of several billion US dollars, realizing the transformation from "Made in China" to "Designed in China, Intelligently Made in China." The company has won nearly a thousand honors, including "National Excellent Foreign-Invested Enterprise," "High-Tech Enterprise," and "Top 100 Enterprises for the Transformation of High-Tech Achievements."

Loyalty Robotics Welding Systems (Chengdu) Corporation is a high-tech enterprise under Loyalty Enterprises Group, focusing on welding and cutting technology innovation, committed to providing advanced automation and intelligent solutions for traditional manufacturing industries. The company is deeply involved in the research and development and application of automation technology, promoting the transformation and upgrading of the manufacturing industry.

Our core technologies cover the forefront of today's technological fields, including 3D vision technology,

Loyalty AI, SLAM autonomous navigation, and robot control technology. In response to the complex welding and cutting process requirements of large non-standard structural parts, Loyalty Robotics Welding Machines have launched a variety of products through independent innovation, including robot welding machines (AgileMover, WindRunner Welder, Strider Welder, IntelliMover, etc.), robot cutting (WindRunner Cutting, Navigator Cutting, etc.), intelligent robot welding workstations (gantry type, rail type, etc.), and intelligent robot factory solutions (tunnel rebar intelligent production line), totaling more than thirty types of products.

These products are widely used in a variety of production applications such as large-scale engineering machinery, construction machinery, wind power equipment, petroleum equipment, environmental protection machinery, machinery manufacturing, and automotive manufacturing. They can meet the strict requirements of different materials and processes. Our goal is to achieve "world-class AI Welding and cutting solutions," providing customers with customized solutions.

Looking forward to the future, Loyalty Robotics Welding Machines will continue to increase investment in AI research and development, further integrating AI technology to continuously improve the level of product intelligence. By deeply applying AI technology, we are committed to achieving self-learning and self-optimization of equipment, making the robot welding and cutting process more intelligent and efficient, while ensuring the flexibility and reliability of the production process.

Loyalty Robotics Welding Machines is determined to become a world-leading provider of intelligent welding and cutting solutions. We will continue to maintain a leading position in the field of technology and work hand in hand with customers and partners to jointly promote the intelligent transformation of the manufacturing industry, helping the global manufacturing industry to move towards a smarter and more efficient new era.

## Corporate Culture

Love the Country, Love the Nation,  
Love the Enterprise, Love the People.

## Enterprise Spirit

Striving for the Best,  
Only Starting, No Ending Point.


# LE ROBOTICS





# Strategic Layout

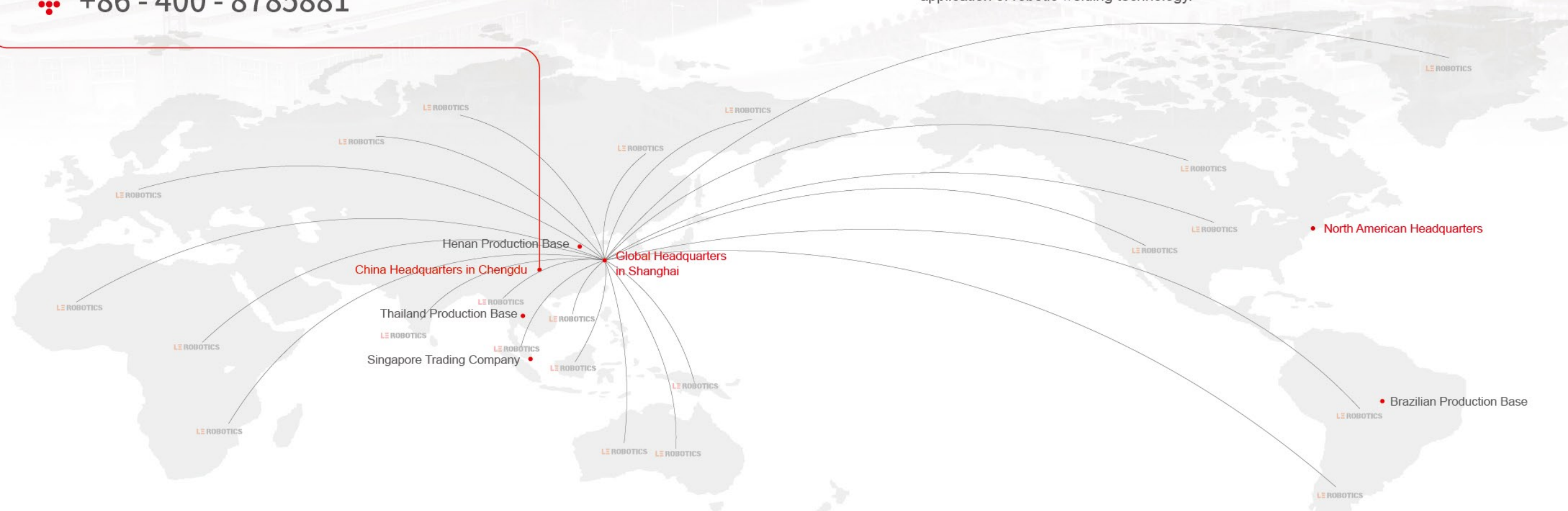
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LE Robotics adheres to a customer-first philosophy, delivering products and services that are more efficient, intelligent, and dependable to customers around the globe. Presently, the company has expanded its business map worldwide, securing solid partnerships with customers in various countries and regions through its effective, stable, and reliable products, earning unanimous praise from its global clients.

Moving forward, LE Robotics will continue to embrace an innovation-driven development strategy, steadily propelling the advancement of robotic technology to meet the growing demands of customers worldwide. Currently, the company will enhance its globalization strategy, forging more partnerships across different countries and regions to collectively foster the evolution and application of robotic welding technology.



### Global Headquarters in Shanghai

Address: 22nd floor, Huading Building, No.2368  
Zhongshan Road, Xuhui District, Shanghai

### Henan Production Base

Address: Wuli Town, Pingqiao District, Xinyang City,  
Henan Province

### Thailand Production Base

Address: 228 Moo 8 Hua Wa, Srimahapho, Prachin Buri  
25140, Thailand

### Brazilian Production Base

Address: Rua Abílio Soares 219, Santo Amaro,  
São Paulo, SP, Brazil

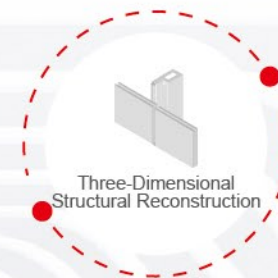
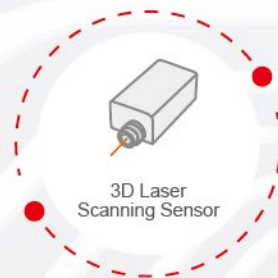


## 3D Visual Scanning System

Three-dimensional (3D) point cloud processing enables workpiece recognition and intelligent positioning, eliminating the need for programming or manual teaching. The 3D vision system generates a 3D model and automatically creates a welding path.

## SLAM Autonomous Navigation

Refining motion control allows for the arbitrary placement of workpieces regardless of their size, without the need for fixtures or jigs for positioning, saving substantial costs for the clamping of non-standard workpieces.



## RX Welding Process Library

By analyzing the 3D model to obtain information such as the thickness of the workpiece and the dimensions of the bevel, it automatically matches the RX welding process library to achieve automatic matching of multi-layer and multi-pass welding paths and wire feeding speed. It also meets the needs of different workpieces for deep penetration pulse, dual-wire single-arc, and dual-wire dual-arc gas shielded welding.

## Loyalty AI

With the help of self-learning intelligent engine, full-process automation, cross-platform seamless integration, one-click configuration experience and AI decision support system, realizes the improvement of efficiency in welding and cutting processes, the reduction of human errors, the linkage of operations and data, the simplification of operation processes, as well as the optimization of schemes and the assistance of decision-making.



▲ WindRunner Welder (Standard Model)



▲ IntelliMover Welder (Standard Model)



▲ Navigator Welder (Standard Model)



▲ Strider Welder (Standard Model)



▲ CompactPro Welder (Standard Model)



▲ Navigator Cutter (Standard Model)



▲ WindRunner Cutter (Standard Model)



▲ AgileMover Welder (Standard Model)



# Industry-wide Solutions



LE Robotics Welder is dedicated to providing intelligent welding solutions for the entire industry. Its product line includes robotic welders, robotic cutting machines, intelligent robotic welding workstations, and smart robotic factory solutions, totaling more than thirty types of products. By employing cutting-edge 3D vision recognition, SLAM autonomous navigation, and AI technology, LE Robotics Welder ensures that every welding and cutting process meets standards of high precision and efficiency.

In the process of continuous technological innovation and research and development, the Loyalty AI, which is globally launched by Loyalty Robotics Welding Systems for the first time, continuously optimizes the welding parameters, enabling the products of Loyalty Robotics Welding Systems to meet the special welding and cutting needs of multiple industries from large construction machinery to construction machinery and wind power equipment, and thus creating greater value for customers.





ROBOTIC WELDER  
WindRunner Welder

- 

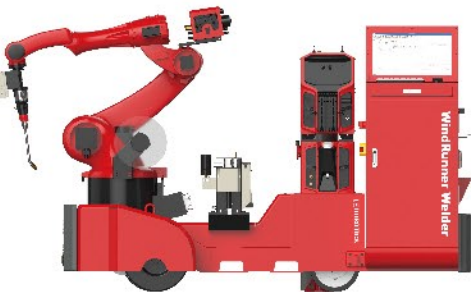
Pressure Vessel
- 

Petroleum Machinery
- 

Shipbuilding
- 

Construction Machinery
- 

Steel Structure Manufacturing







»» WindRunner Welder (Standard Model)

Equipped with a differential drive power system, offering high precision and flexibility advantages. Incorporating 3D vision technology, Loyalty AI, and wireless teleoperation for intelligent, flexible welding operations without the need for programming or teaching. The system is outfitted with an RX welding process library, capable of auto-generating accurate paths and welding poses, easily accommodating a variety of welding scenarios.



»» WindRunner Welder (Lift Model)

The WindRunner Welder (Lift Model) is an enhanced version of the standard model. It incorporates all the functions of the standard model and adds a vertical lift feature to the robot's external axis, which expands the robot's range of motion. By doing so, it not only increases efficiency but also ensures welding quality, making it an ideal choice for welding various components.

	Product	WindRunner Welder (Standard Model)	WindRunner Welder (Lift Model)	Product Features
Basic Parameters	Total Power	36KVA	37KVA	 <p><b>Flexible Workpiece Placement</b> Workpieces can be placed arbitrarily without the need for fixture - based positioning.</p>  <p><b>Good Maneuverability</b></p> <ul style="list-style-type: none"><li>Powered by a battery and wirelessly remote-controlled, it moves with ease.</li><li>Ideal for workshop operations due to its low requirement for ground flatness.</li><li>With an expanded arm reach and lift range, it's suitable for welding taller workpieces (lift model).</li></ul>  <p><b>3D Vision Recognition</b> No programming or teaching required; it autonomously scans workpiece models and extracts seam information.</p>  <p><b>Loyalty AI</b> With the help of self-learning intelligent engine, full-process automation, cross-platform seamless integration, one-click configuration experience and AI decision support system, realizes the improvement of efficiency in welding and cutting processes, the reduction of human errors, the linkage of operations and data, the simplification of operation processes, as well as the optimization of schemes and the assistance of decision-making.</p>
	Operational Power Supply	Three-Phase Five-Wire System 3x380V±10%/50Hz	Three-Phase Five-Wire System 3x380V±10%/50Hz	
	Power Supply Method	Quick-Connect Power Supply	Quick-Connect Power Supply	
	Equipment Weight	1650kg (Slight Differences in Selection)	2200kg (Slight Differences in Selection)	
	Dimensions	2800mm×1500mm×1600mm	3500mm×1500mm×2000mm	
Visual Performance	Vision (Standard Configuration)	≤0.5mm	≤0.5mm	<p><b>Product Model Explanation:</b> The specific product model is customized according to the specific requirements of the customer.</p>
	Scanning Frame Rate	2000 Frames/Second	2000 Frames/Second	
	Standard Vision	RX01	RX01	
Battery Life	Battery Voltage	48V	48V	
	Battery Capacity	73ah	73ah	
	Travel Power Supply	DC48V	DC48V	
Mobility Performance	Robot Arm Extension Range	2010mm (Slight Differences in Selection)	2010mm (Slight Differences in Selection)	
	Type of Drive	Three-Wheel Drive	Three-Wheel Drive	
	Control Method	Wireless Remote Control	Wireless Remote Control	
	Travel Speed	2km/h	2km/h	
	Cruising Range	10km	10km	
Application Environment	Lifting Range	/	700mm	
	Ambient Temperature	0°C to +45°C (Operating); -20°C to +60°C (Tansport and Storage)	0°C to +45°C (Operating); -20°C to +60°C (Transport and Storage)	
	Relative Humidity	≤90% RH (Non-Condensing)	≤90% RH (Non-Condensing)	



ROBOTIC WELDER  
Strider Welder



Harsh and  
Complex Conditions



Large Metal Components  
for Road and Bridge Tunnels



Membrane Channels and  
Corrugated Plates for Road  
and Bridge Applications







»» Strider Welder (Standard Model)

An outdoor welding powerhouse, featuring an ability to adapt to various terrains. With 3D vision technology, Loyalty AI, and wireless remote operation, it offers programming-free and teaching-free welding operations that are both flexible and intelligent. Equipped with an RX welding process library, it can autonomously generate precise paths and welding postures, ensuring flawless execution of welding tasks. Optionally available with an all-weather canopy, it is versatile enough to operate in a range of climatic conditions.



»» Strider Welder (Lift Model)

The Rambler Welder (Lift Model) amplifies the capabilities of the standard version by integrating an external axis vertical lift, enhancing the robot's range of motion, bolstering productivity, and maintaining welding excellence, all essential for elevating overall manufacturing throughput.

	Product	Strider Welder (Standard Model)	Strider Welder (Lift Model)	Product Features
Basic Parameters	Total Power	36.5KVA	37.5KVA	 <b>Flexible Workpiece Placement</b> Workpieces can be placed arbitrarily without the need for fixture - based positioning.
	Operational Power Supply	Three-Phase Five-Wire System 3x380V±10%/50Hz	Three-Phase Five-Wire System 3x380V±10%/50Hz	
	Power Supply Method	Quick-Connect Power Supply	Quick-Connect Power Supply	
	Equipment Weight	1550kg (Slight Differences in Selection)	2050kg (Slight Differences in Selection)	
	Dimensions	2900mm×1700mm×1750mm	3400mm×1700mm×2000mm	
Visual Performance	Vision (Standard Configuration)	≤0.5mm	≤0.5mm	 <b>Good Maneuverability</b> <ul style="list-style-type: none"><li>Powered by a battery and wirelessly remote-controlled, it moves with ease.</li><li>Suitable for outdoor operations due to its minimal ground flatness requirement.</li><li>With an expanded arm reach and lift range, it's suitable for welding taller workpieces (lift model).</li></ul>
	Scanning Frame Rate	2000 Frames/Second	2000 Frames/Second	
	Standard Vision	RX01	RX01	
Battery Life	Battery Voltage	48V	48V	 <b>3D Vision Recognition</b> No programming or teaching required; it autonomously scans workpiece models and extracts seam information.
	Battery Capacity	73ah	73ah	
	Travel Power Supply	DC48V	DC48V	
Mobility Performance	Robot Arm Extension Range	2010mm (Slight Differences in Selection)	2010mm (Slight Differences in Selection)	 <b>Loyalty AI</b> With the help of self-learning intelligent engine, full-process automation, cross-platform seamless integration, one-click configuration experience and AI decision support system, realizes the improvement of efficiency in welding and cutting processes, the reduction of human errors, the linkage of operations and data, the simplification of operation processes, as well as the optimization of schemes and the assistance of decision-making.
	Type of Drive	Track-Wheeled	Track-Wheeled	
	Control Method	Wireless Remote Control	Wireless Remote Control	
	Travel Speed	1km/h	1km/h	
	Lifting Range	/	700mm	
Application Environment	Ambient Temperature	0°C to +45°C (Operating); -20°C to +60°C (Transport and Storage)	0°C to +45°C (Operating); -20°C to +60°C (Transport and Storage)	<b>Product Model Explanation:</b> The specific product model is customized according to the specific requirements of the customer.
	Relative Humidity	≤90% RH (Non-Condensing)	≤90% RH (Non-Condensing)	



ROBOTIC WELDER  
IntelliMover Welder



Heavy Industry



Oil Machinery



Aerospace



Hydraulics and Hydropower

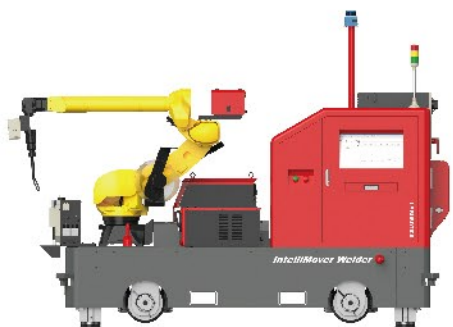


Rail Transit



»» IntelliMover Welder (Standard Model)

Equipped with a steering wheel power system, it features omnidirectional movement capabilities, helping clients overcome the challenges of rough terrain. With 3D vision technology, Loyalty AI, and autonomous navigation, it requires no programming or teaching. Outfitted with the RX welding process library, the system allows for more precise and flexible welding operations. A mobile app enables remote dispatching of tasks, achieving coordinated operation among multiple robots to meet the dynamic production needs of users.



»» IntelliMover Welder (Lift Model)

The IntelliMover Welder (Lift Model) is an enhanced version of the standard model. It retains all the functionalities of the standard model while uniquely incorporating vertical lift capabilities to the robot's external axis, thereby expanding its range of motion. This advancement not only boosts efficiency but also guarantees welding quality, making it the optimal selection for various welding components.

	Product	IntelliMover Welder (Standard Model)	IntelliMover Welder (Lift Model)	Product Features
Basic Parameters	Total Power	50KVA	51KVA	<div><div></div><div><b>Flexible Workpiece Placement</b> Workpieces can be placed arbitrarily without the need for fixture - based positioning.</div></div> <div><div></div><div><b>Good Maneuverability</b><ul style="list-style-type: none"><li>Offers dual-mode operation with autonomous navigation and manual remote control for convenience.</li><li>Capable of operating on rough terrain, adapting to challenging ground conditions.</li><li>With an expanded arm reach and lift range, it's suitable for welding taller workpieces (lift model).</li></ul></div></div> <div><div></div><div><b>3D Vision Recognition</b> No programming or teaching required; it autonomously scans workpiece models and extracts seam information.</div></div> <div><div></div><div><b>Loyalty AI</b> With the help of self-learning intelligent engine, full-process automation, cross-platform seamless integration, one-click configuration experience and AI decision support system, realizes the improvement of efficiency in welding and cutting processes, the reduction of human errors, the linkage of operations and data, the simplification of operation processes, as well as the optimization of schemes and the assistance of decision-making.</div></div> <div><div><b>Product Model Explanation:</b> The specific product model is customized according to the specific requirements of the customer.</div></div>
	Operational Power Supply	Three-Phase Five-Wire System 3x380V±10%/50Hz	Three-Phase Five-Wire System 3x380V±10%/50Hz	
	Power Supply Method	Cable Reel	Cable Reel	
	Equipment Weight	3200kg (Slight Differences in Selection)	3800kg (Slight Differences in Selection)	
	Dimensions	3400mm×1500mm×2400mm	3400mm×1500mm×2400mm	
Visual Performance	Vision (Standard Configuration)	≤0.5mm	≤0.5mm	
	Scanning Frame Rate	2000 Frames/Second	2000 Frames/Second	
	Standard Vision	RX01	RX01	
Mobility Performance	Robot Arm Extension Range	2272mm (Slight Differences in Selection)	2272mm (Slight Differences in Selection)	
	Type of Drive	Steering Wheel Type	Steering Wheel Type	
	Navigation Method	Lidar (Light Detection and Ranging)	Lidar (Light Detection and Ranging)	
	Control Method	Upper Computer Software and Mobile APP	Upper Computer Software and Mobile APP	
	Travel Speed	2.2km/h	2.2km/h	
	Lifting Range	/	700mm	
Application Environment	Ambient Temperature	0°C to +45°C (Operating); -20°C to +60°C (Transport and Storage)	0°C to +45°C (Operating); -20°C to +60°C (Transport and Storage)	
	Relative Humidity	≤ 90% RH (Non-Condensing)	≤ 90% RH (Non-Condensing)	



ROBOTIC WELDER  
Navigator Welder



Heavy Industry



Oil Machinery



Aerospace



Hydraulics and Hydropower



Rail Transit



»» Navigator Welder (Standard Model)

The chassis features a Mecanum wheel drive system for precise omnidirectional maneuverability. Equipped with 3D vision, Loyalty AI, and autonomous navigation technologies, it operates without the need for programming or teaching. It comes with an RX welding process library for automatic welding protocol selection. The mobile app enables remote, swift dispatching of tasks, accommodating multi-robot collaboration to flawlessly execute welding operations.



»» Navigator Welder (Lift Model)

The Navigator Welder (Lift Model) is an enhanced version of its standard counterpart. It retains all functionalities of the standard model while incorporating an additional vertical lift feature for the robot's external axis, which expands its operational range. This enhancement improves efficiency and ensures welding quality, making it a vital tool for users aiming to increase welding efficiency on large workpieces.

	Product	Navigator Welder (Standard Model)	Navigator Welder (Lift Model)	Product Features
Basic Parameters	Total Power	50KVA	51KVA	<div><div></div><div><b>Flexible Workpiece Placement</b> Workpieces can be placed arbitrarily without the need for fixture - based positioning.</div></div> <div><div></div><div><b>Good Maneuverability</b><ul style="list-style-type: none"><li>Offers dual-mode operation with autonomous navigation and manual remote control for convenience.</li><li>Features highly accurate omnidirectional movement, suitable for operation on flat and hard surfaces.</li><li>With an expanded arm reach and lift range, it's suitable for welding taller workpieces (lift model).</li></ul></div></div> <div><div></div><div><b>3D Vision Recognition</b> No programming or teaching required; it autonomously scans workpiece models and extracts seam information.</div></div> <div><div></div><div><b>Loyalty AI</b> With the help of self-learning intelligent engine, full-process automation, cross-platform seamless integration, one-click configuration experience and AI decision support system, realizes the improvement of efficiency in welding and cutting processes, the reduction of human errors, the linkage of operations and data, the simplification of operation processes, as well as the optimization of schemes and the assistance of decision-making.</div></div> <div><div><b>Product Model Explanation:</b> The specific product model is customized according to the specific requirements of the customer.</div></div>
	Operational Power Supply	Three-Phase Five-Wire System 3x380V±10%/50Hz	Three-Phase Five-Wire System 3x380V±10%/50Hz	
	Power Supply Method	Cable Reel Power Supply	Cable Reel Power Supply	
	Equipment Weight	3200kg (Slight Differences in Selection)	3800kg (Slight Differences in Selection)	
	Dimensions	3400mm×1500mm×2400mm	3400mm×1500mm×2400mm	
Visual Performance	Vision (Standard Configuration)	≤0.5mm	≤0.5mm	
	Scanning Frame Rate	2000 Frames/Second	2000 Frames/Second	
	Standard Vision	RX01	RX01	
Mobility Performance	Robot Arm Extension Range	2272mm (Slight Differences in Selection)	2272mm (Slight Differences in Selection)	
	Type of Drive	Mecanum Wheel	Mecanum Wheel	
	Navigation Method	Lidar (Light Detection and Ranging)	Lidar (Light Detection and Ranging)	
	Control Method	Upper Computer Software and Mobile APP	Upper Computer Software and Mobile APP	
	Travel Speed	1km/h	1km/h	
	Lifting Range	/	700mm	
Application Environment	Ambient Temperature	0°C to +45°C (Operating); -20°C to +60°C (Transport and Storage)	0°C to +45°C (Operating); -20°C to +60°C (Transport and Storage)	
	Relative Humidity	≤ 90% RH (Non-Condensing)	≤ 90% RH (Non-Condensing)	



ROBOTIC WELDER  
AgileMover Welder



Pressure  
Vessel



Petroleum  
Machinery



Shipbuilding



Construction  
Machinery



Steel Structure  
Manufacturing



»» AgileMover Welder (Standard Model)

A welding tool designed for confined spaces, compact in size. Equipped with hub motors and a power steering system, it offers wireless remote control for flexible movement and steering. Featuring 3D vision technology, Loyalty AI, and no need for programming or teaching, it comes with a variety of pre-installed welding programs that can automatically generate precise welding paths and postures. The AgileMover Welding's strong price advantage makes it an ideal choice for enterprises looking to improve production efficiency and reduce labor costs.

	Product	AgileMover Welder (Standard Model)	Product Features
Basic Parameters	Total Power	30KVA	<b>Compact Size</b> Suitable for automated, intelligent welding in narrow spaces, especially ideal for welding low-height workpieces. <b>Flexible Workpiece Placement</b> Workpieces can be placed randomly without the need for jig positioning. <b>Good Product Mobility</b> <ul style="list-style-type: none"><li>Powered by a battery, it offers wireless remote control for flexible movement.</li><li>Some requirements for floor flatness, suitable for workshop operations.</li></ul> <b>3D Vision Recognition</b> No programming or teaching required, it autonomously scans workpiece models and extracts weld information. <b>Loyalty AI</b> with the help of self-learning intelligent engine, full-process automation, cross-platform seamless integration, one-click configuration experience and AI decision support system, realizes the improvement of efficiency in welding and cutting processes, the reduction of human errors, the linkage of operations and data, the simplification of operation processes, as well as the optimization of schemes and the assistance of decision-making. <b>Price Advantage</b> Economical and affordable, helping enterprises reduce production costs.
	Operational Power Supply	Three-Phase Five-Wire System 3x380V±10%/50Hz	
	Power Supply Method	Quick Plug Power Supply	
	Equipment Weight	1500kg (Slight Differences in Selection)	
	Dimensions	2500mmx900mmx1800mm	
Visual Performance	Vision (Standard Configuration)	≤0.5mm	<b>Flexible Workpiece Placement</b> Workpieces can be placed randomly without the need for jig positioning. <b>Good Product Mobility</b> <ul style="list-style-type: none"><li>Powered by a battery, it offers wireless remote control for flexible movement.</li><li>Some requirements for floor flatness, suitable for workshop operations.</li></ul> <b>3D Vision Recognition</b> No programming or teaching required, it autonomously scans workpiece models and extracts weld information. <b>Loyalty AI</b> with the help of self-learning intelligent engine, full-process automation, cross-platform seamless integration, one-click configuration experience and AI decision support system, realizes the improvement of efficiency in welding and cutting processes, the reduction of human errors, the linkage of operations and data, the simplification of operation processes, as well as the optimization of schemes and the assistance of decision-making. <b>Price Advantage</b> Economical and affordable, helping enterprises reduce production costs.
	Scanning Frame Rate	2000 Frames/Second	
	Vision (Standard Configuration)	RX01	
Battery Life	Battery Voltage	48V	
	Battery Capacity	32ah	
	Travel Power Supply	DC48V	
Mobility Performance	Robot Arm Extension Range	2010mm (Slight Differences in Selection)	
	Type of Drive	Three-Wheel Drive	
	Control Method	Wireless Remote Control	
	Travel Speed	2.5km/h	
Application Environment	Ambient Temperature	0°C to +45°C (Operating); -20°C to +60°C (Transport and Storage)	
	Relative Humidity	≤ 90% RH (Non-Condensing)	

Product Model Explanation:  
The specific product model is customized according to the specific requirements of the customer.

ROBOTIC WELDER  
CompactPro Welder



Pressure  
Vessel



Petroleum  
Machinery



Shipbuilding



Construction  
Machinery



Steel Structure  
Manufacturing



»» CompactPro Welder (Standard Model)

Portable collaborative robots, with their compact size, become the ideal tools for welding in narrow spaces. The body is equipped with a hub - motor power system, allowing for flexible movement. Technologies such as 3D vision and wireless remote - control driving enable programming - free and teaching - free operation, and it is pre - installed with multiple welding programs that can automatically generate accurate paths and welding postures. With its excellent cost - performance ratio, the CompactPro welder is the preferred equipment for enterprises to improve manufacturing efficiency and reduce labor costs.

	Product	CompactPro Welder (Standard Model)	Product Features
Basic Parameters	Total Power	30KVA	<b>Flexible Workpiece Placement</b> Workpieces can be placed randomly without the need for jig positioning. <b>Good Product Mobility</b> <ul style="list-style-type: none"><li>Powered by a battery, it offers wireless remote control for flexible movement.</li><li>CompactPro Welder is small in size and suitable for automated welding operations in narrow spaces within the workshop.</li></ul> <b>3D Vision Recognition</b> No programming or teaching required, it autonomously scans workpiece models and extracts weld information. <b>Price Advantage</b> Economical and affordable, helping enterprises reduce production costs.
	Operational Power Supply	Three-Phase Five-Wire System 3x380V±10%/50Hz	
	Power Supply Method	Quick Plug Power Supply	
	Equipment Weight	1000kg (Slight Differences in Selection)	
	Dimensions	1550mmx860mmx1500mm	
Visual Performance	Vision (Standard Configuration)	≤0.5mm	<b>Flexible Workpiece Placement</b> Workpieces can be placed randomly without the need for jig positioning. <b>Good Product Mobility</b> <ul style="list-style-type: none"><li>Powered by a battery, it offers wireless remote control for flexible movement.</li><li>CompactPro Welder is small in size and suitable for automated welding operations in narrow spaces within the workshop.</li></ul> <b>3D Vision Recognition</b> No programming or teaching required, it autonomously scans workpiece models and extracts weld information. <b>Price Advantage</b> Economical and affordable, helping enterprises reduce production costs.
	Scanning Frame Rate	2000 Frames/Second	
	Vision (Standard Configuration)	RX01	
Battery Life	Battery Voltage	48V	
	Battery Capacity	32ah	
	Travel Power Supply	DC48V	
Mobility Performance	Robot Arm Extension Range	1300mm (Slight Differences in Selection)	
	Type of Drive	Three-Wheel Drive	
	Control Method	Wireless Remote Control	
	Travel Speed	2.5km/h	
Application Environment	Ambient Temperature	0°C to +45°C (Operating); -20°C to +60°C (Transport and Storage)	
	Relative Humidity	≤ 90% RH (Non-Condensing)	

Product Model Explanation:  
The specific product model is customized according to the specific requirements of the customer.



# Robotic Cutter



The robotic cutting products cover two core areas: plasma cutting and flame cutting. Plasma cutting, with its high speed and high precision, is suitable for various metal materials, especially for the processing requirements of complex shapes; flame cutting focuses on the cutting of thick plate metals. Plasma cutting and flame cutting have been widely used in industries such as pressure vessels, shipbuilding, and construction engineering, providing efficient and stable cutting solutions to meet the diverse processing needs of customers.





ROBOTIC CUTTER  
WindRunner Cutter

-  Tank Cutting
-  Cylinder Cutting
-  Template and Construction Materials
-  Automobile Manufacturing
-  Aerospace Field
-  Metal Fabrication
-  Customized Production






»» WindRunner Cutter (Lift Model)

TheWindRunner Cutter(Lift Model) is an enhanced version of its standard model. In addition to having all the functions of the standard model, it specially adds a vertical lifting function for the robot's external axis, expanding the robot's range of motion, and able to more accurately meet the cutting needs at different heights and angles. It is the preferred choice for intelligent cutting operations in complex industrial environments. Equipped with plasma cutting.



»» WindRunner Cutter (Standard Model)

Equipped with a differential bridge power system and dual-wheel steering. 3D vision technology, wireless remote control driving technology, etc., no programming or teaching required, it can independently plan and determine the cutting path, capable of achieving cutting trajectories for various spatial curves. Its use not only improves production efficiency and cutting quality but also reduces the labor intensity for workers. Optional plasma cutting or flame cutting is available.

	Product	Flame Cutting		Plasma Cutting	Product Features
		WindRunner Cutter (Standard Model)	WindRunner Cutter (Lift Model)	WindRunner Cutter (Standard Model)	
Basic Parameters	Total Power	97KVA		20KVA	<div><b>Flexible Workpiece Placement</b> Flexible workpiece placement is facilitated, allowing workpieces to be positioned randomly without the need for jigs. Users may also equip self-purchased roller stands for convenient cutting of tanks or cylinders from various orientations.</div> <div><b>Good Maneuverability</b> 1. Powered by a battery and operated through wireless remote control, it ensures flexible mobility. 2. The low requirement for ground levelness makes it suitable for workshop environments. 3. An expanded range of arm extension and lifting accommodates the cutting of holes and beveling in large tanks.</div> <div><b>3D Vision Recognition</b> The autonomous scanning of the workpiece model is conducted, which utilizes posted QR codes or markers, or through manual pinpointing to determine the cutting start, intermediate, and termination points. These control points are then fitted into a smooth curve for generating the cutting path, directing the robot to execute the cutting process with a smoothly flowing trajectory.</div> <div><b>Product Model Explanation:</b> The specific product model is customized according to the specific requirements of the customer.</div>
	Operational Power Supply	Three-Phase Five-Wire System 3x380V±10%/50Hz		Three-Phase Five-Wire System 3x380V±10%/50Hz	
	Power Supply Method	Quick-Connect Power Supply		Quick-Connect Power Supply	
	Cutting Speed	100~6000mm/min		50~750mm/min	
	Cutting Thickness	Depends on the Plasma Power Supply		6~150mm (Standard Configuration Plasma Torch)	
	Equipment Weight	2300kg (Slight Differences in Selection)	3500kg (Slight Differences in Selection)	2300kg (Slight Differences in Selection)	
	Dimensions	2800mm × 1480mm × 1690mm	3200mm × 1600mm × 2300mm	2800mm × 1480mm × 1690mm	
Visual Performance	Vision (Standard Configuration)	≤0.5mm		≤0.5mm	
	Scanning Frame Rate	2000 Frames/Second		2000 Frames/Second	
	Standard Vision	RX01		RX01	
Battery Life	Battery Voltage	48V		48V	
	Battery Capacity	73ah		73ah	
	Travel Power Supply	DC48V		DC48V	
Mobility Performance	Robot Arm Extension Range	2010mm (Slight Differences in Selection)		2010mm (Slight Differences in Selection)	
	Type of Drive	Three-Wheel Drive		Three-Wheel Drive	
	Control Method	Wireless Remote Control		Wireless Remote Control	
	Travel Speed	2km/h		2km/h	
	Lifting Range	/	1000mm	/	
Application Environment	Ambient Temperature	0°C to +45°C (Operating); -20°C to +60°C (Transport and Storage)		0°C to +45°C (Operating); -20°C to +60°C (Transport and Storage)	
	Relative Humidityttt	≤90% RH (Non-Condensing)		≤90% RH (Non-Condensing)	



ROBOTIC CUTTER  
AgileMover Cutter

-   
Pressure Vessel
-   
Petroleum Machinery
-   
Shipbuilding
-   
Construction Machinery
-   
Steel Structure Manufacturing











»» AgileMover Cutter (Standard Model)

The ultimate cutting tool for confined spaces, compact in size. Equipped with hub motors and a power steering system, it offers wireless remote control driving and flexible movement and steering. With 3D vision technology, Loyalty AI, and no need for programming or teaching, it can independently plan and determine the cutting path, achieving cutting trajectories for various spatial curves. The AgileMover Cutting's strong price advantage makes it an ideal choice for enterprises to improve production efficiency and reduce labor costs.






»» Navigator Cutter (Standard Model)

The CutMaster Pro is equipped with a wheel pair drive system integrated into its body, automatically navigating tracks designed specifically to precisely cut large steel components. It utilizes 3D vision technology for programming-free and teaching-free operations, enabling rapid positioning and acquisition of workpiece models. The multifunctional algorithm autonomously plans and determines the cutting path. Moreover, through a mobile app, users can quickly issue dispatch tasks remotely, facilitating collaborative operations between multiple Navigator Cutter units, thus meeting the dynamic production needs of users.

	Product	AgileMover Cutter (Standard Model)	Product Features
Basic Parameters	Total Power	30KVA	 <b>Compact Size</b> Suitable for automated, intelligent cutting in tight spaces, particularly ideal for cutting low-height workpieces.  <b>Flexible Workpiece Placement</b> Workpieces can be placed randomly without the need for jig positioning.  <b>Good Mobility</b> <ul style="list-style-type: none"><li>Powered by a battery, it offers wireless remote control for agile movement.</li><li>Requires a slightly even surface, suitable for workshop operations.</li></ul>  <b>3D Vision Recognition</b> It can autonomously scan workpiece models and determine the cutting start point, intermediate points, and end points by reading QR codes, markers, or through manual selection. It then interpolates the control points into a smooth curve to generate the cutting path, controlling the robot to cut a trajectory with smooth edges.  <b>Price Advantage</b> Cost-effective, helping enterprises reduce production costs.
	Operational Power Supply	Three-Phase Five-Wire System 3x380V±10%/50Hz	
	Power Supply Method	Quick Plug Power Supply	
	Equipment Weight	1500kg (Slight Differences in Selection)	
	Dimensions	2500mmx900mmx1800mm	
Visual Performance	Vision (Standard Configuration)	≤0.5mm	 <b>Flexible Workpiece Placement</b> Workpieces can be placed arbitrarily without the need for fixture - based positioning.  <b>Good Maneuverability</b> Automatically moves along tracks to carry out multi-station task commands.  <b>3D Vision Recognition</b> Independently scans workpiece models to autonomously plan and determine cutting paths.
	Scanning Frame Rate	2000 Frames/Second	
	Vision (Standard Configuration)	RX01	
Battery Life	Battery Voltage	48V	
	Battery Capacity	32ah	
	Travel Power Supply	DC48V	
Mobility Performance	Robot Arm Extension Range	2010mm (Slight Differences in Selection)	
	Type of Drive	Three-Wheel Drive	
	Control Method	Wireless Remote Control	
	Travel Speed	2.5km/h	
Application Environment	Ambient Temperature	0°C to +45°C (Operating); -20°C to +60°C (Transport and Storage)	
	Relative Humidity	≤ 90% RH (Non-Condensing)	

Product Model Explanation:  
The specific product model is customized according to the specific requirements of the customer.

	Product	Navigator Cutter (Standard Model)	Product Features
Basic Parameters	Total Power	60KVA	 <b>Flexible Workpiece Placement</b> Workpieces can be placed arbitrarily without the need for fixture - based positioning.  <b>Good Maneuverability</b> Automatically moves along tracks to carry out multi-station task commands.  <b>3D Vision Recognition</b> Independently scans workpiece models to autonomously plan and determine cutting paths.
	Operational Power Supply	Three-Phase Five-Wire System 3x380V±10%/50Hz	
	Power Supply Method	Cable Drag Chain Power Supply	
	Equipment Weight	2800kg (Slight Differences in Selection)	
	Dimensions	2600mm×1400mm×2150mm	
Visual Performance	Vision (Standard Configuration)	≤0.5mm	
	Scanning Frame Rate	2000 Frames/Second	
	Standard Vision	RX01	
Mobility Performance	Robot Arm Extension Range	1831mm (Slight Differences in Selection)	
	Maximum Range of Motion	Determined by the Track Length	
	Type of Drive	Track-Wheeled	
	Control Method	Wireless Remote Control	
Application Environment	Travel Speed	1km/h	
	Ambient Temperature	0°C to +45°C (Operating); -20°C to +60°C (Transport and Storage)	
	Relative Humidity	≤90% RH (Non-Condensing)	

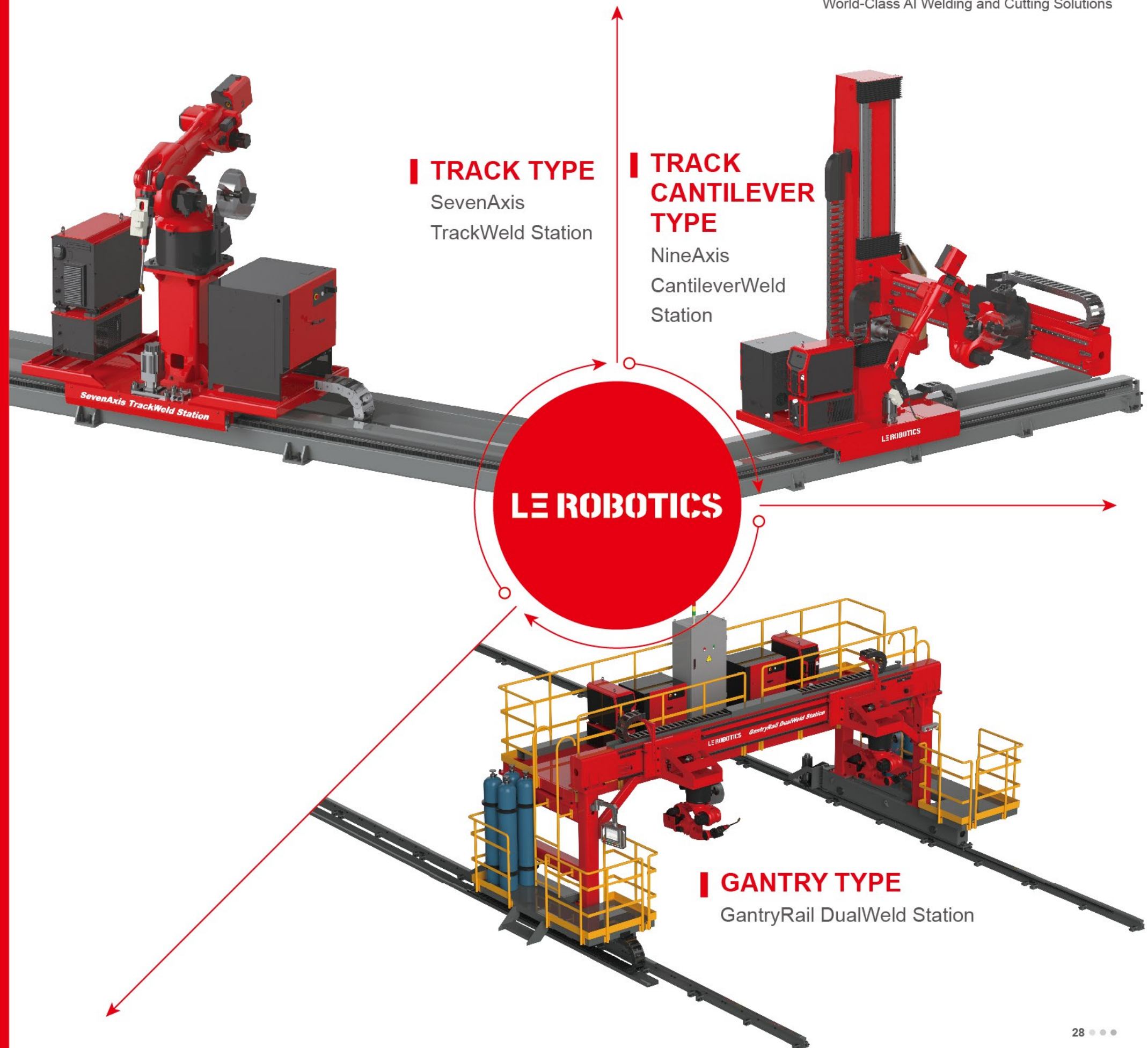
Product Model Explanation:  
The specific product model is customized according to the specific requirements of the customer.



# Robotic Welding Station



The Robotic Welding Station series from LE Robotics includes both the flexibly mobile cantilever rail type and the highly stable gantry type, catering to welding projects with varying spatial and precision requirements. Each station is equipped with an advanced sensing system and intelligent control algorithms, helping customers to increase production efficiency, ensure welding quality, and meet a wide range of industrial application needs.





## TRACK TYPE

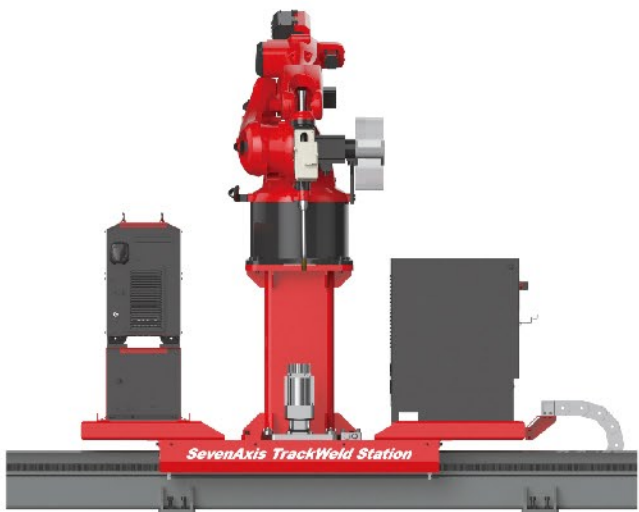
### SevenAxis TrackWeld Station

Suitable for welding of slender workpieces, such as H-beams, box beams, etc.

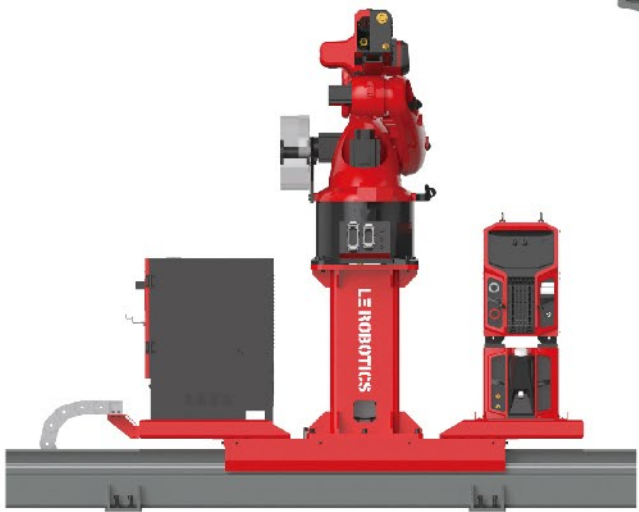
1. An additional seventh external axis is added, with coordinated control between the robot and the track, providing a larger working area;
2. Working areas can be set up on both sides of the track;
3. On the basis of the standard configuration, an additional handling robot is added, allowing for orderly relay operation of welding and handling, effectively improving production efficiency.



	Content	Main Technical Parameters and Range	Note
Basic Parameters	Degrees of Freedom	7 Axes	
	Maximum End Effector Load	12kg	
	Overall Machine Power	30KW	
	Operational Power Supply	Three-Phase Five-Wire System 3x380V+10950Hz	
Visual Performance	Vision (Standard Configuration)	≤0.5mm	
	Scanning Frame Rate	2000 Frames/Second	
	Robot Arm Extension Range	R=2010m	
Mobility Performance	Track Length	6m/8m/12m/14m/16m	Changes based on the robot selection
	Track Movement Speed	≥20m/min	Choose according to the workpiece situation
Application Environment	Ambient Temperature	0°C to +45°C(Operating); -20°C to +60°C (Transport and Storage)	Set according to the design
	Relative Humidity	≤90% RH (Non-Condensing)	



FRONT



BACK



# TRACK CANTILEVER TYPE

## NineAxis CantileverWeld Station

Suitable for welding long workpieces with larger cross-sections, but the width of the workpiece should not be too large, such as H-beam and derrick plates.

- 1. Depending on the different conditions of the workpiece, there are multiple degrees of freedom available for selection;
- 2. Multiple external axes provide a larger motion space for the robot, and when equipped with a positioning machine, it can achieve multi-position welding such as flat, vertical, and ship-shape, ensuring the consistency of welding quality.



	Content	Main Technical Parameters and Range			Note
Basic Parameters	Degrees of Freedom	7 Axes	8 Axes	9 Axes	7 Axes & 8 Axes optional
	Overall Machine Power	31kw	33kw	36kw	
	Maximum End Effector Load	12kg			
	Operational Power Supply	Three-Phase Five-Wire System 3x380V+10950Hz			
Visual Performance	Vision (Standard Configuration)	/	≤0.5mm	≤0.5mm	
	Scanning Frame Rate	/	2000 Frames/Second	2000 Frames/Second	
Mobility Performance	Robot Arm Extension Range	R=1465mm			Depends on the robot model chosen
	Track Length	6m/8m/12m/14m/16m			Selected based on the workpiece condition
	Track X-Axis Movement Speed	≥20m/min			Determined by design
	Cantilever Y-Axis Movement Speed	/	≥12m/min	≥12m/min	Y-Axis travel designed based on the workpiece condition
	Column Z-Axis Movement Speed	/	/	≥8m/min	Z-Axis travel designed based on the workpiece condition
Application Environment	Ambient Temperature	0°C to +45°C(Operating); -20°C to +60°C (Transport and Storage)			
	Relative Humidity	≤90% RH (Non-Condensing)			

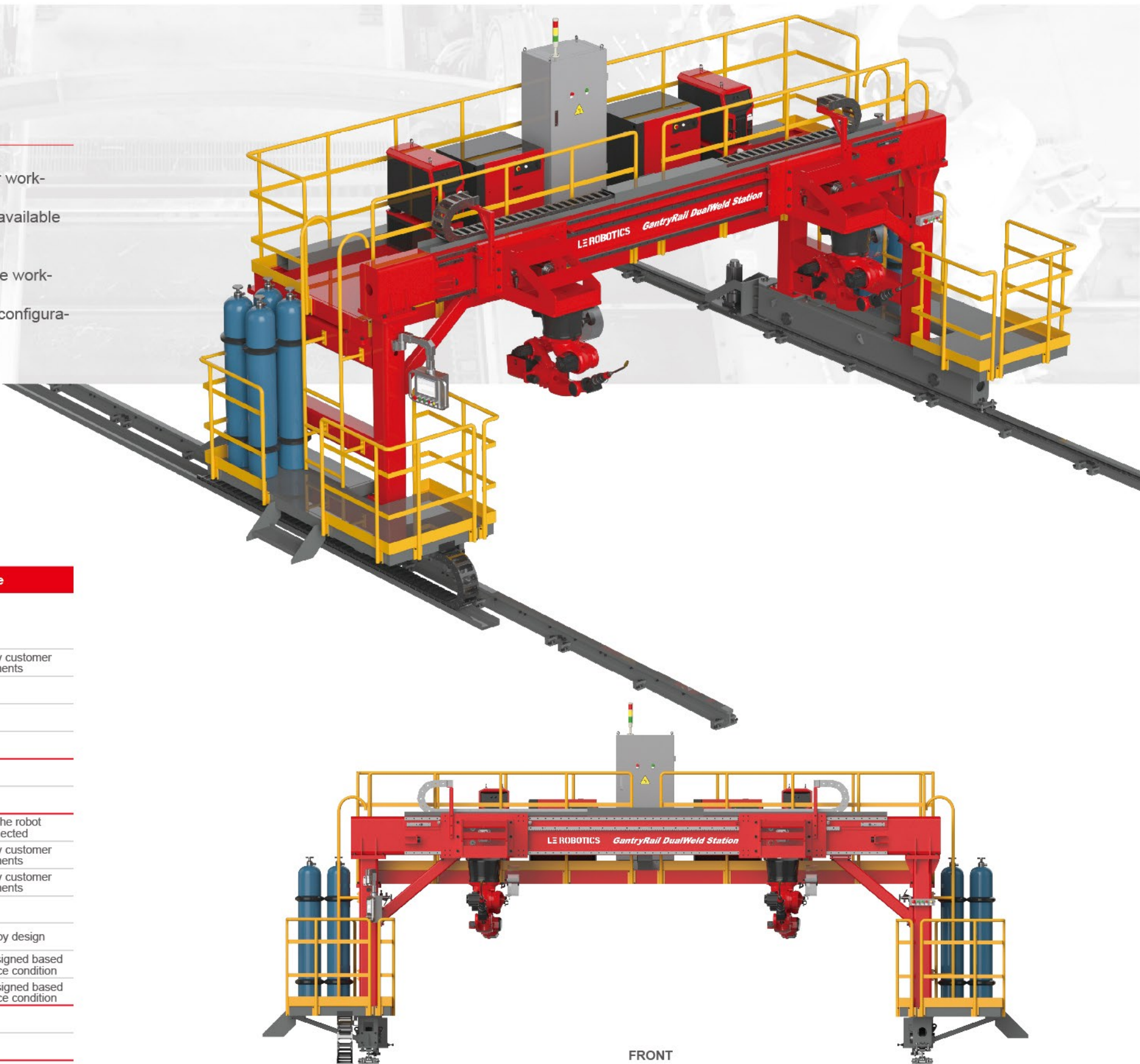


# GANTRY TYPE

## GantryRail DualWeld Station

Suitable for welding long workpieces with larger cross-sections, and also capable of handling wider workpieces, such as U-shaped rib beams and bridge girders.

- 1. Depending on the different conditions of the workpiece, there are multiple degrees of freedom available for selection;
- 2. Multiple external axes provide a larger motion space for the robot;
- 3. Dual robot configuration increases production efficiency and reduces welding deformation of the workpiece, effectively ensuring the welding quality;
- 4. To improve economic efficiency indicators, this series of products generally opts for dual robot configuration.



	Content	Main Technical Parameters and Range				Note
Basic Parameters	Degrees of Freedom	8 Axes	9 Axes	7 Axes + 7 Axes + 1 Shared Rail Axis	8 Axes + 8 Axes + 1 Shared Rail Axis	
	Robot Configuration Quantity	Single Robot	Single Robot	Tandem Robots	Tandem Robots	Determined by customer requirements
	Overall Machine Power	34kw	37kw	55kw	61kw	
	Maximum End Effector Load	12kg		12kg+12kg		
	Operational Power Supply	Three-Phase Five-Wire System 3x380V+10950Hz				
	Visual Performance	Vision (Standard Configuration)	≤0.5mm			
Scanning Frame Rate		2000Frames/Second				
Mobility Performance	Robot Arm Extension Range	R=1465mm				Varies with the robot model selected
	Steel Rail Length	≤30m				Determined by customer requirements
	Steel Rail Gauge	≤6m				Determined by customer requirements
	Gantry Beam Height	Designed according to the non-standard height of the customer's workpiece				
	Track X-Axis Movement Speed	≥20m/min				Determined by design
	Cantilever Y-Axis Movement Speed	≥12m/min				Y-Axis travel designed based on the workpiece condition
	Column Z-Axis Movement Speed	/	≥8m/min	/	≥8m/min	Z-Axis travel designed based on the workpiece condition
Application Environment	Ambient Temperature	0°C to +45°C(Operating); -20°C to +60°C (Transport and Storage)				
	Relative Humidity	≤90% RH (Non-Condensing)				



## Smart Robotic Factory Solution

To achieve high-standard and high-quality construction and fully realize intelligent production at the factory floor, the company's Smart Robotic Factory Solution integrates the use of 3D vision technology and robotic control technology. This integration visualizes on-site operations, continuously improving the quality of production work.

### Fully Realizing Intelligent Manufacturing on the Production Site

Integrating multiple automatic production lines and analyzing the manufacturing environment we utilize core technology advantages like the 3D vision scanning system and flexible intelligent central control system to achieve smart production operations, changing traditional production methods fundamentally.



Tailor Multiple Solutions Based on User Needs



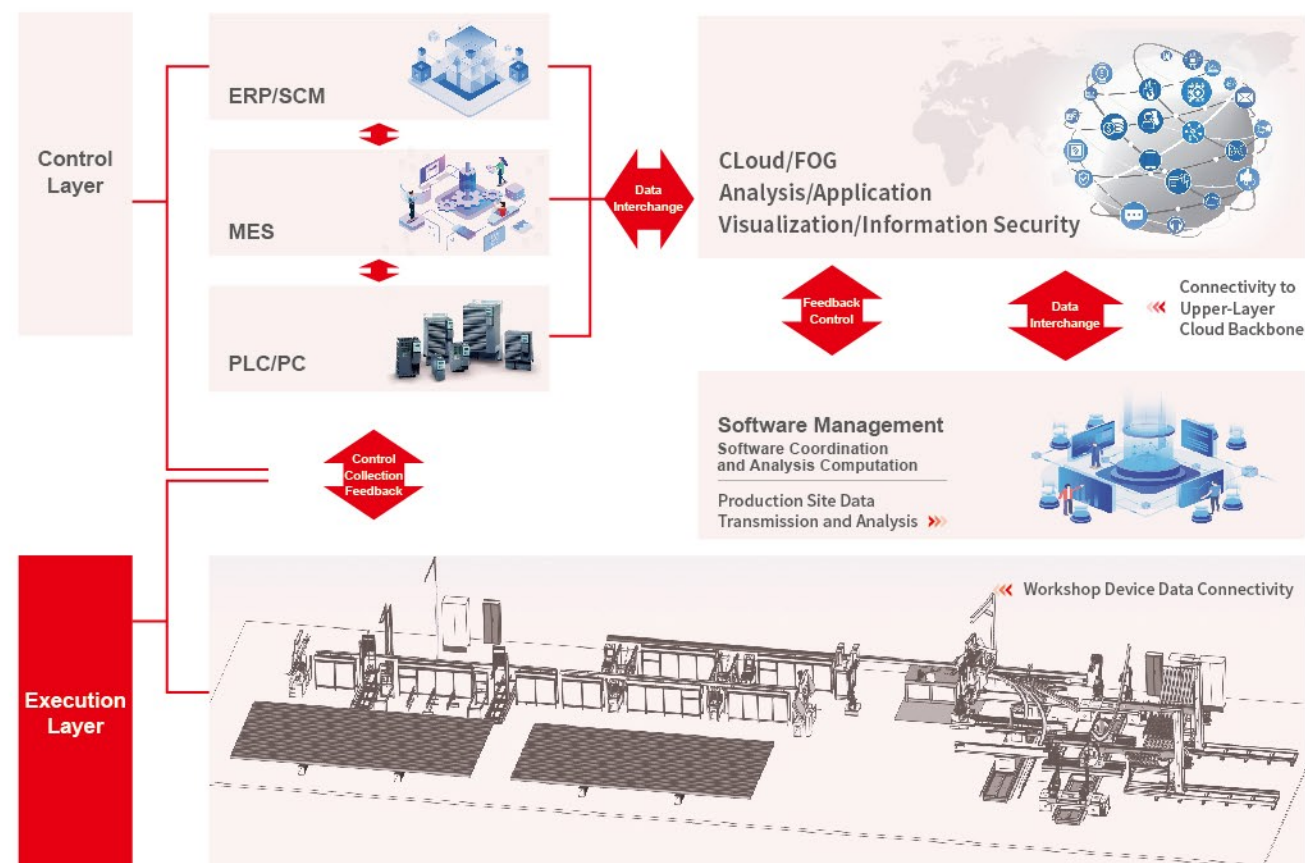
Shorten Production Cycles and Support Safe Production



Reduce Workpiece Inventory and Increase Product Turnover Rate



Visualize Production and Management



### Project Features

- Capable of collecting and analyzing operational data through various applications to assist in quality management.
- Customizable by users to add additional functions necessary for their production sites.
- Capable of real-time monitoring, task completion display, remote control, and other functions.



LE ROBOTICS

Core Software Systems





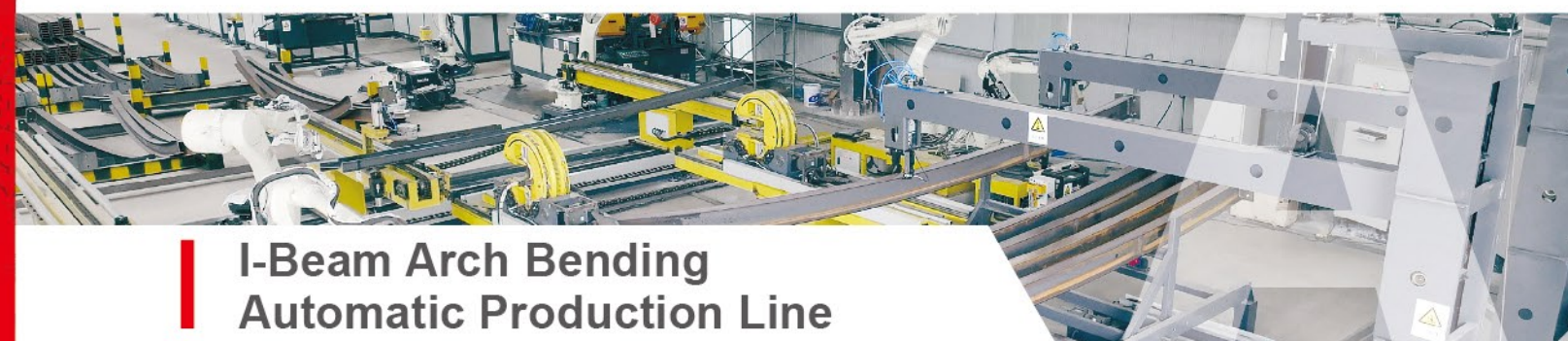
# Robotic Tunnel Rebar Intelligent Production Line



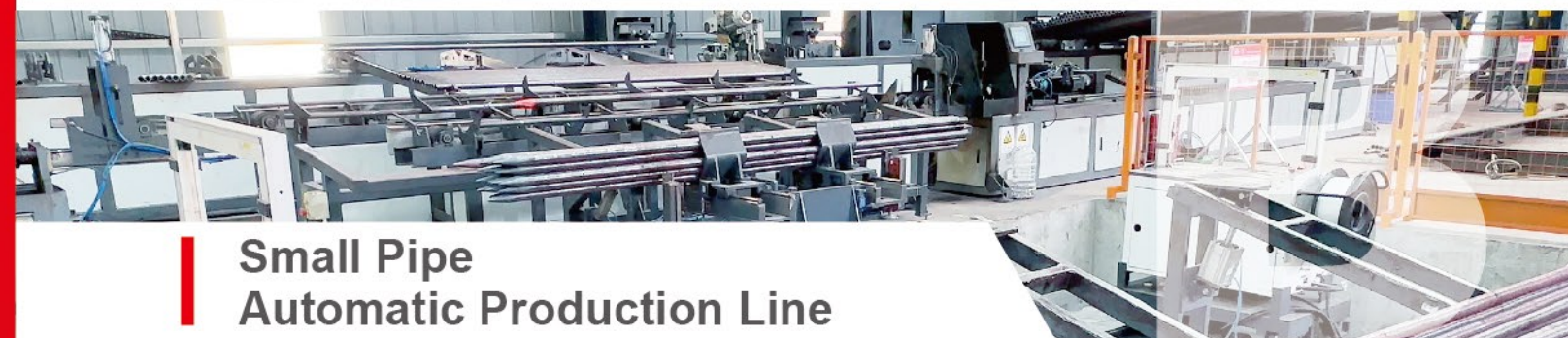
LE Robotic Welder, with its globally leading industrial automation and intelligent solutions, has successfully designed and manufactured an intelligent production line specifically for the production of tunnel rebar. This production line adheres to automated and intelligent production throughout the entire process, from raw material processing to final welding.

The entire process is completed by high-precision robots, utilizing advanced industrial robots and intelligent monitoring systems. This project has achieved continuous production 24/7, greatly enhancing production efficiency and capacity. It also significantly reduces the possibility of human operation errors, effectively reducing the labor intensity and safety risks for workers. It has successfully broken through traditional production bottlenecks, achieving true intelligent manufacturing.

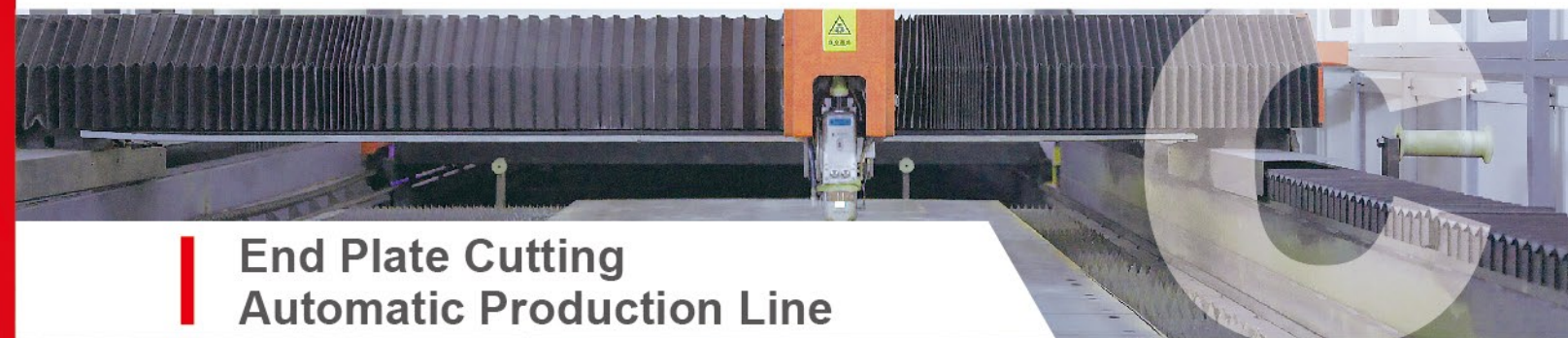
Currently, the Robotic Tunnel Rebar Intelligent Production Line has been successfully applied in many Global Top 500 enterprises. It not only helps them maintain competitiveness in the global market but also sets a new benchmark for global intelligent manufacturing.



**I-Beam Arch Bending  
Automatic Production Line**



**Small Pipe  
Automatic Production Line**

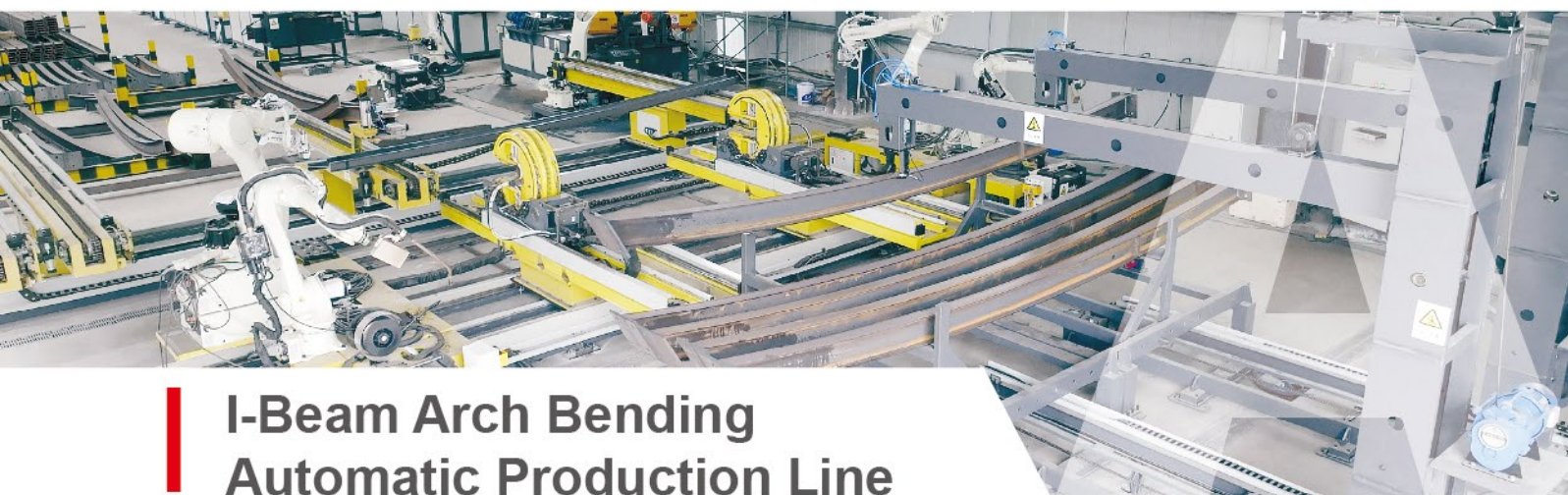


**End Plate Cutting  
Automatic Production Line**



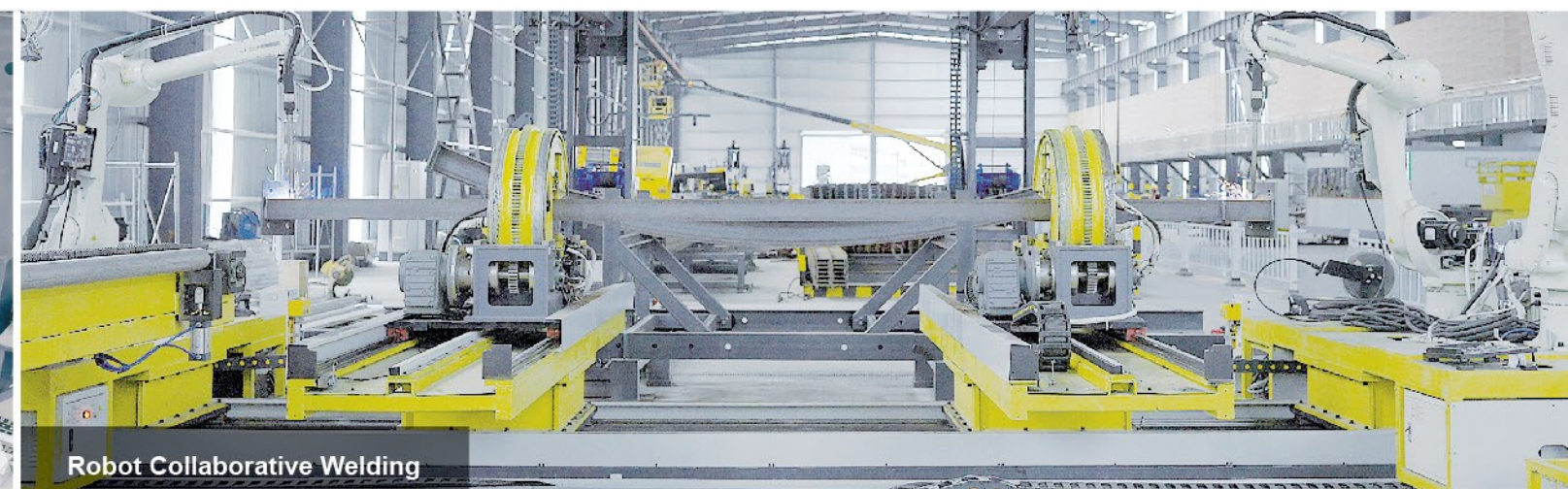
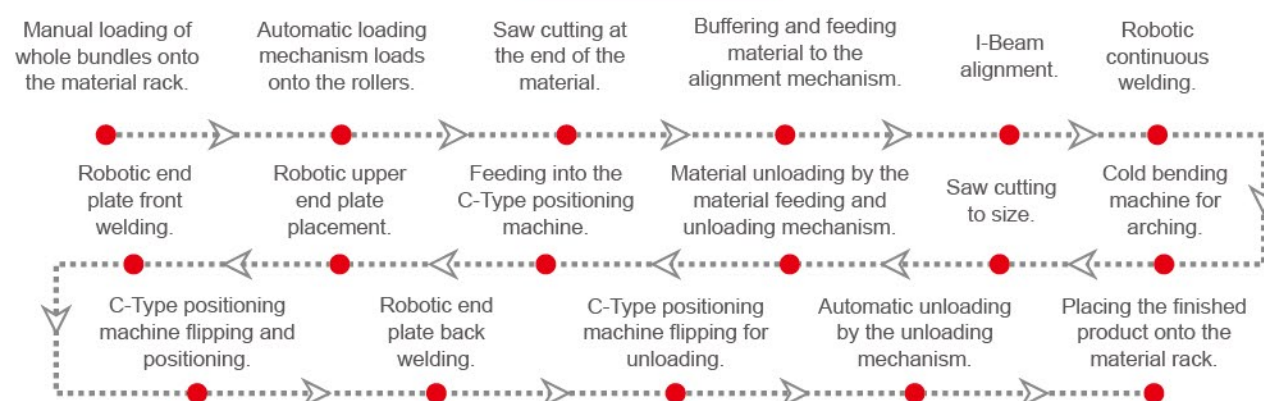
**Mesh Panel  
Automatic Production Line**





## I-Beam Arch Bending Automatic Production Line

### Production Process Flowchart



Robot Collaborative Welding



C-Type Positioning Machine



Automatic Unloading of Finished Products



End Plate Grasping



End Plate Welding

## Core Technology Advantages

### 3D Vision End Plate Assembly Welding System

- Robots automatically grasp end plates for efficient assembly and welding.
- Spatial 3D seam recognition technology ensures stable welding quality.
- Multi-robot collaborative operation technology.
- Multi-variety self-adaptive process, with free switching between different sizes and models, and between perpendicular and oblique cutting.
- Environmental self-adaptation, unaffected by weather, time of day, or seasons.

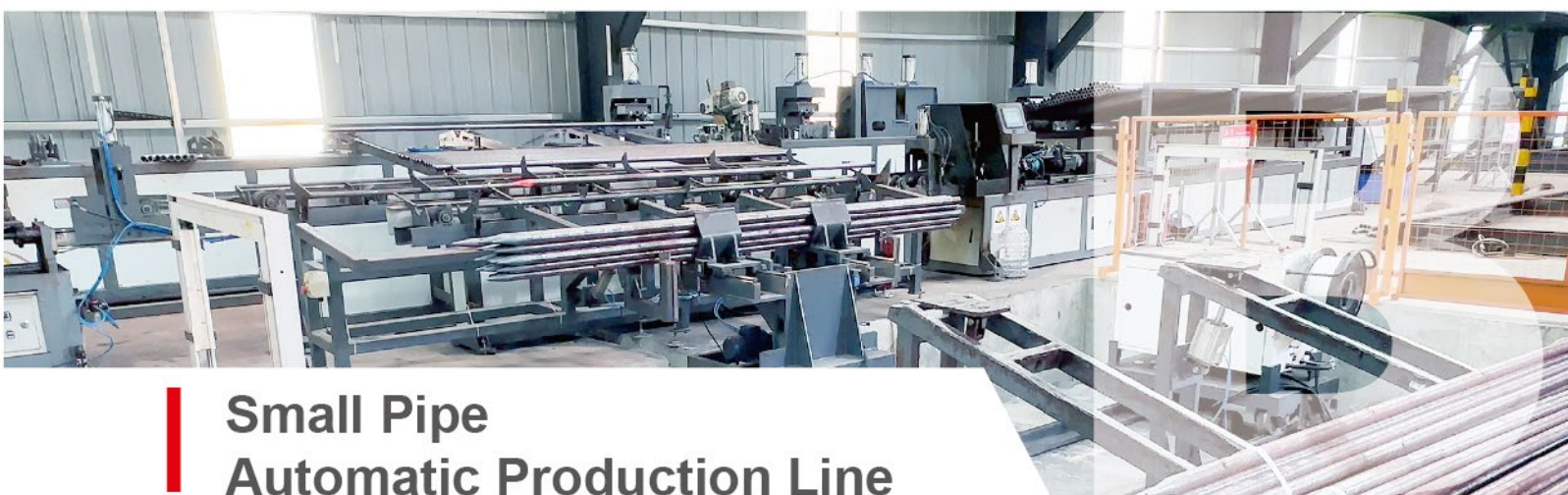
### Intelligent Arch Frame Production Line Technical Features

- Fully automatic manufacturing process, including automatic material loading, automatic cutting of heads, automatic jointing, arc control, fixed-length cutting, automatic flipping, and automatic stacking.
- Industrial network control to achieve multi-machine linkage and multi-robot collaboration for high efficiency and quality.
- Information management with graphical display, making production status clear at a glance and providing deep insights.
- Modular combination with highly reliable design to meet on-site construction needs.
- Five-axis CNC cold bending machine with features and advantages such as multi-arc segment forming and one-click type change.

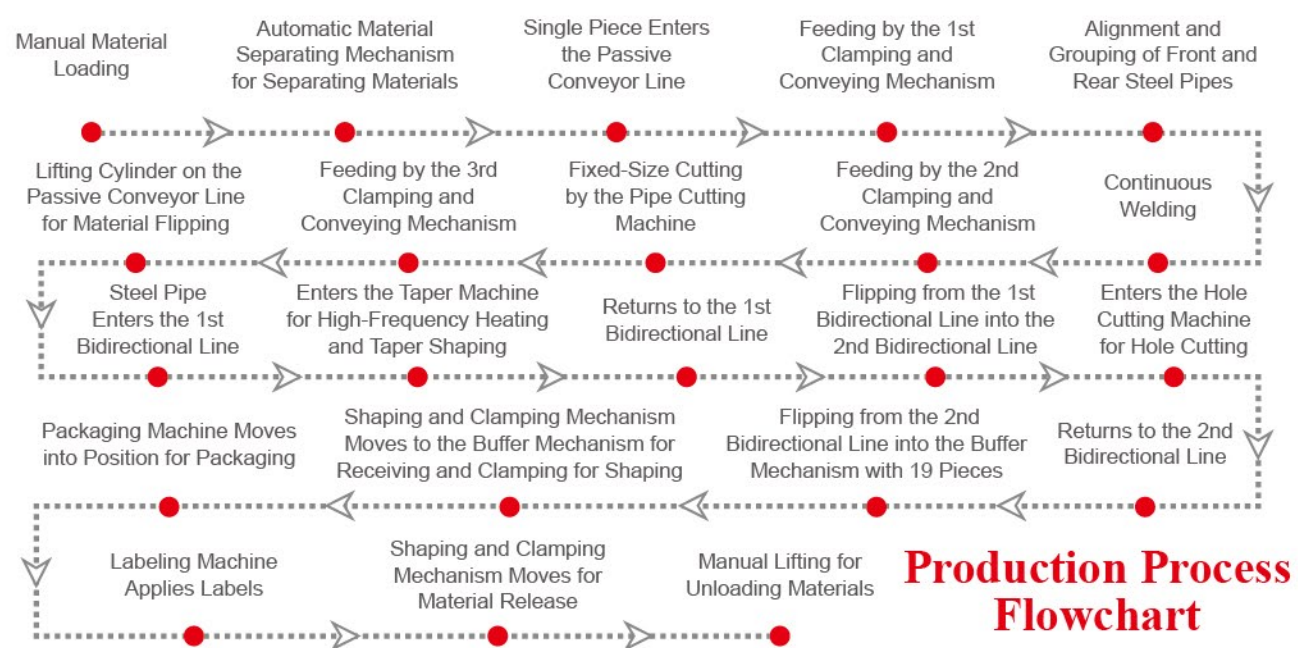
## Core Competitiveness

- Flexible Production Line Layout:** Tailored to construction sites, highly adaptable, offering various configurations such as single-line, dual-machine parallel lines, and multi-machine shared lines, to meet a range of production scales and needs.
- Economic and Social Benefits:** Highly automated and informational design significantly enhances construction management standards, ensures stable quality, and delivers clear comprehensive benefits.
- Advanced Technology Application and Competitive Advantage:** Deep industry process cultivation, independently developed 3D vision technology, robot control technology, and unmanned production models, with iterative improvements to maintain industry-leading status.





## Small Pipe Automatic Production Line



## Advantages of the Small Pipe Automated Production Line ↴

- **Intelligent:** Fully digital control technology eliminates the need for manual intervention, significantly improving efficiency.
- **Automated:** From material loading to finished product bundling, fully automatic operation with no human participation, ensuring stable product quality.
- **Digitalized:** Industrial network control with real-time status display for comprehensive monitoring.
- **Easy to Operate:** Foolproof design with one-touch start, fully automated operation throughout the process.
- **Efficiency Improvement:** Chain-type production line conveyance is highly efficient and fast, increasing efficiency by over 50%.
- **Versatile Adaptability:** Quick product model switching to accommodate various steel pipe diameters.
- **Plasma Hole Cutting:** Utilizes digital plasma power sources in conjunction with CNC clamps for precise hole piercing.
- **Automatic Bundling:** Automatic counting and bundling without the need for human participation.
- **Continuous Innovation:** Applied in multiple projects with ongoing improvements and refinements to maintain industry leadership.

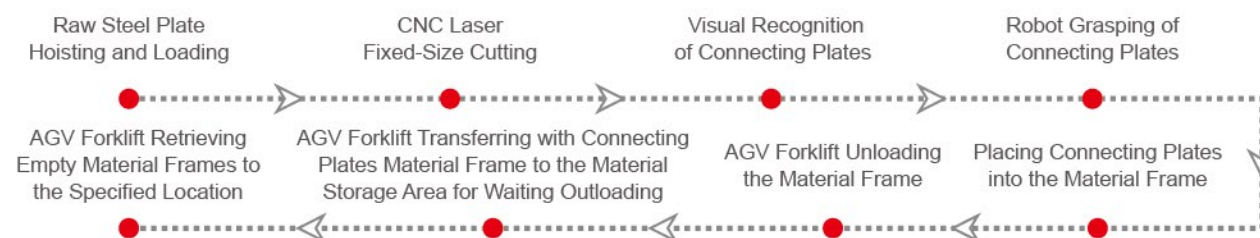






## End Plate Cutting Automatic Production Line

### Production Process Flowchart



#### Automated Material Offloading

- Utilizing robots with fiber laser power sources to achieve automatic offloading of various end plates;
- 3D vision guidance allows for the absence of precise positioning and placement of the sheet metal, with the robot automatically completing workpiece calibration;
- Fully automatic nesting design, mixing and arranging large and small plates to maximize the utilization rate of the sheet metal;
- Capable of processing the maximum thickness of end plates up to 40mm.

#### Automated Plate Picking

- 3D vision guidance enables the handling robot to automatically pick up end plates and sort them;
- Adhesion detection between end plates, automatically picking up the next end plate;
- Collaborative operation, with a full box command for AGV to automatically transfer and switch to an empty box.

#### Material Management & AGV Distribution

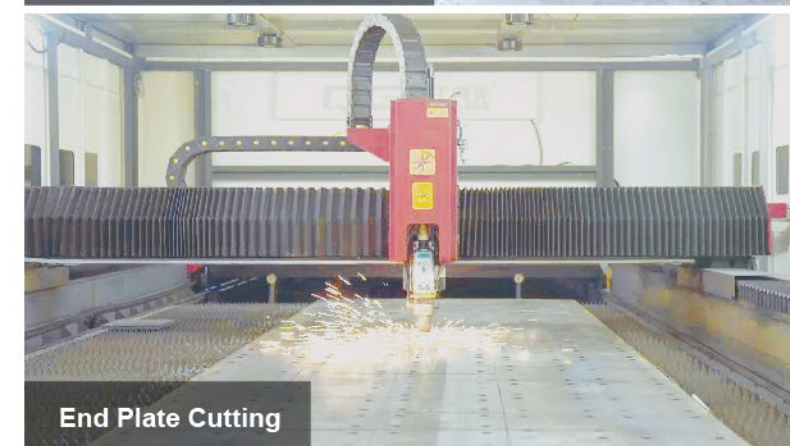
- The system is equipped with a temporary storage for end plates, connected to the ERP system for unified supervision of product specifications and models;
- Equipped with fully automatic material transfer vehicles (AGVs), which automatically deliver end plates to the designated line and return empty boxes to the warehouse.

#### Information Management

- Implementing a networked management system, with a graphical interface to intuitively display data and processes, ensuring that all key information is presented in real-time in a clear and intuitive manner, making decisions faster and more accurate, and improving work efficiency.



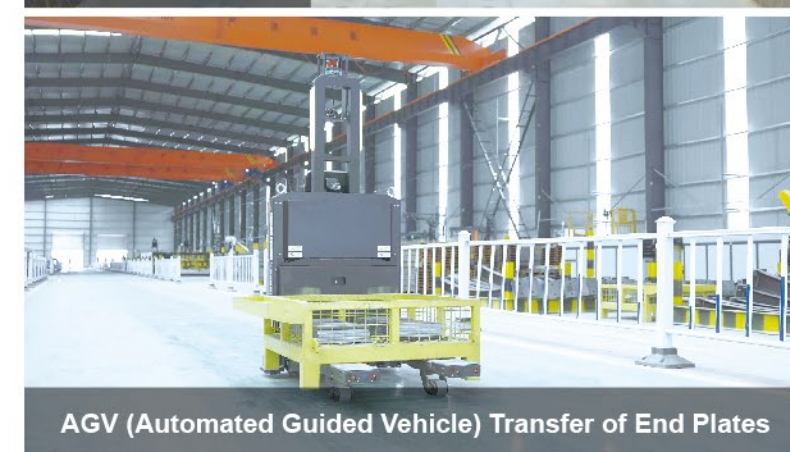
End Plate Cutting Machine



End Plate Cutting



Automated Plate Picking



AGV (Automated Guided Vehicle) Transfer of End Plates



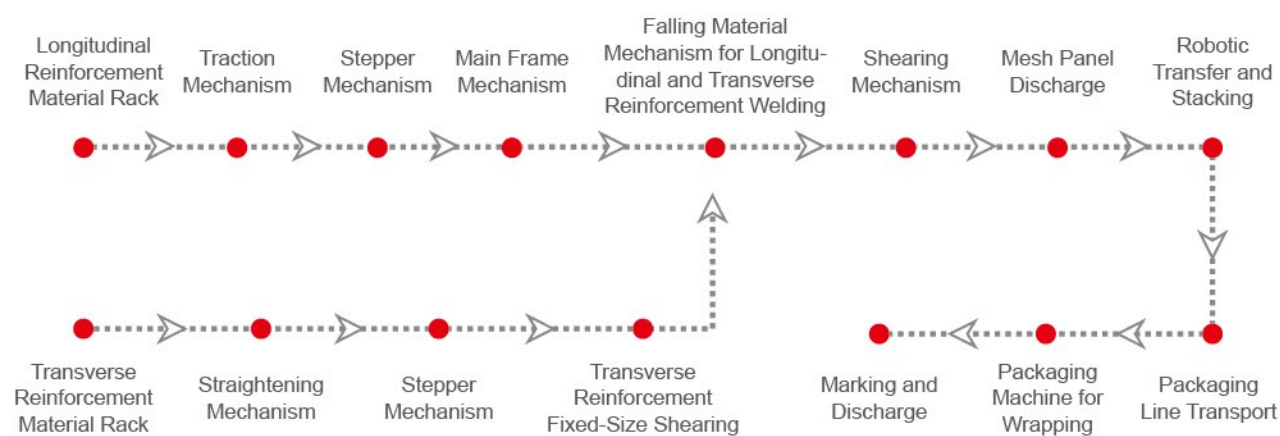
End Plate Cutting System





## Mesh Panel Automatic Production Line

### Production Process Flowchart

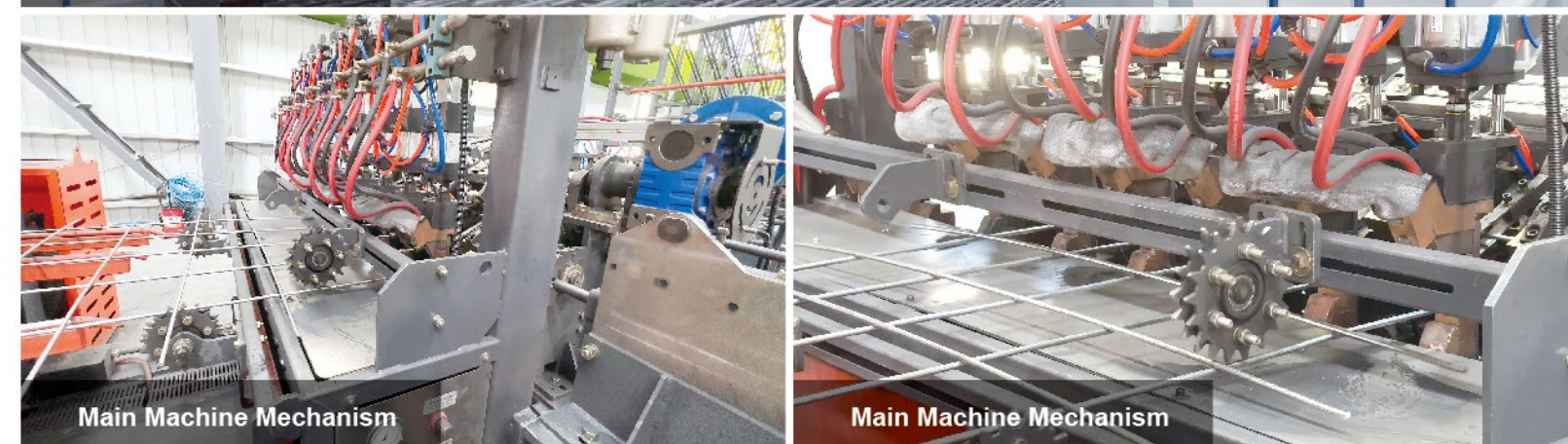


### Production Line Features

- Both longitudinal and transverse reinforcements are fed from coil, eliminating the need for pre-cutting;
- Parameterized settings for rapid programming of new specifications;
- Resistance welding process is used, which is fast (40-50 transverse reinforcements per minute);
- The mesh panel is highly adaptable, suitable for both wide and narrow applications, offering multi-functionality in one machine;
- Fully automatic design integrates processes such as straightening, traction, material storage, stepping, falling material, shearing, group welding, stacking, counting, and packaging into a continuous operation.



Mesh Panel Grasping



Main Machine Mechanism

Main Machine Mechanism

### Core Advantages

Fully automatic design, equipped with robotic material picking and stacking operations, significantly enhancing production efficiency.



## Intelligent and Efficient Collaborative and Win-Win

LE Robotics Forges Success Stories with Industry Giants.

## Service Commitment



7x24 Online  
Support



Professional  
Technical Support



Full-Service  
Tracking





## GLOBAL TOP 500

### Electrical Equipment Manufacturer's Robotic 3D Flexible Cutting Innovation

A leading company within the Global Top 500, this electrical equipment manufacturing giant specializes in the R&D, design, manufacturing, and sale of power generation equipment. The enterprise adeptly addresses the complex cutting needs of various components, including hydro turbine-generating units, steam turbines, wind turbine units, nuclear power units, and auxiliary equipment.



#### »» Project Pain Points

- Traditional CNC cutting methods are challenged by spatially complex surfaces, often requiring manual intervention from skilled workers, leading to inefficiencies and inconsistent precision.
- Manual cutting is constrained by the operator's skill level and susceptible to environmental and emotional influences, heightening the risk of safety incidents.
- Existing cutting technologies fall behind in achieving refined, automated, and intelligent management, hindering further advancements in technical processes.

#### »» Project Achievements

The system excels in meeting the cutting requirements for a variety of uniquely-shaped workpieces, including circular, fan-shaped structures, conical tanks, and cylinders. This not only enhances cutting efficiency and accuracy but also significantly reduces labor intensity and operational costs. Moreover, the system incorporates automation and intelligence, fulfilling cutting needs in various scenarios.

#### »» Solution Highlights

- Integration of a six-axis robot, known for its high precision, speed, and reliability. This robot can flexibly adjust its posture and cutting paths, effectively handling the cutting of complex-shaped workpieces.
- Development of a dedicated thick-plate flame cutting system that enables digital management of cutting parameters, characterized by rapid cutting, high efficiency, and low cost.
- Implementation of a 3D vision system for quick acquisition of the workpiece's 3D model, removing the need for original blueprints and enabling full computerization from workpiece identification to robot cutting trajectory programming and parameter matching.
- Designing a cross-arm manipulator as an external axis for the robot, which expands the robot's working range, allowing it to perform extensive, continuous cutting of large workpieces.
- Developing an in-house software control system featuring an intuitive interface and an extensive expert process library. This system integrates control over the robot, flame cutting system, 3D vision system, and electrical system, achieving a fully automated and intelligent cutting process.

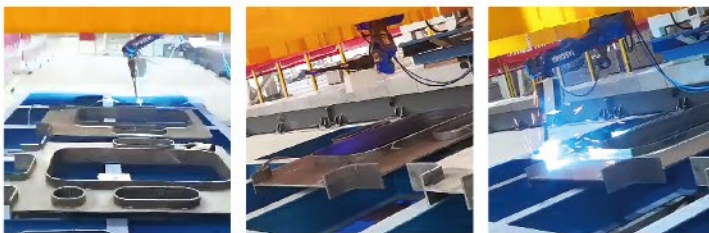


# GLOBAL TOP 500

## Heavy Equipment Manufacturing Enterprise

### LE Robotic Welding Workstation

A major company within the Global Top 500 specializing in heavy equipment manufacturing, with products ranging from lifting equipment, mining equipment, wind power equipment, marine equipment, rail transit, to construction machinery. This enterprise has integrated LE Robotics programming-free robotic welding stations in their production, significantly reducing labor intensity and operation difficulty for workers, and enhancing production management efficiency.



#### »» Project Pain Points

- The main beam rebar plate components of cranes are diverse, consisting of rebar plates, reinforcing rings, wire loops, etc. Traditional manual welding methods are inefficient, with long production cycles, demanding high skill levels from workers, prone to errors, and unable to guarantee consistent welding quality.
- In the client's existing production process, the welding of rebar plates was manually operated, posing safety risks and resulting in inconsistent welding quality, thus affecting the product quality.

#### »» Project Achievements

- The implementation of the LE Robotic Welding Workstation has realized intelligent production for the production line, greatly enhancing production efficiency and reducing production cycles.
- Reduced labor intensity and operational difficulty for workers, minimized safety hazards, and enhanced welding quality stability.
- Achieved equipment informatization and visualization, improving the efficiency and precision of production management.
- Met customer demands, enabling customized production of small batches of various products, enhancing market competitiveness.

#### »» Solution Highlights

- Utilize a rebar plate welding robot workstation: Comprising an inverted 6-axis welding robot system, a 2-axis mobile (X-axis walking and Z-axis lifting using an external robotic axis) inverted single-robot cantilever slide system, a horizontally fixed working platform (provided by the client, 200-400mm above ground), a 3D vision scanning system for robots, and a centralized welding smoke purification system.
- Adopt programming-free design, allowing users to simply place the workpiece in position. The system will automatically scan the workpiece, generate scanning trajectories, and automatically match welding processes for multi-station, multi-workpiece automated operation.
- The workstation features equipment informatization and visualization with MES interface, enabling inter-connection with production management systems to enhance efficiency and precision.
- Comprehensive service support is provided, including research, experimental validation, installation, debugging, and training, to assist clients in effectively utilizing and operating the product.



## GLOBAL TOP 500 Rail Transit Enterprise

### LE Robotic Welding Workstation

A leading enterprise within the Global Top 500, specializing in rail transit, has integrated the LE Robotics welding workstation for welding the side and end walls of various open-top rail freight cars. This integration has significantly advanced welding practices in terms of precision, efficiency, and automation, enhancing welding quality and efficiency, while reducing labor intensity and health hazards for workers.



#### »» Project Pain Points

In the maintenance of open railway freight cars, extensive repair welding work is required due to severe deformation of carriages. Traditional manual welding methods are inefficient and produce inconsistent quality, with the generation of harmful gases during welding posing health risks to workers.

#### »» Project Achievements

The project has successfully automated the welding of four different types of seams on the exteriors of freight carriages. This system features high precision, efficiency, and a high degree of automation, significantly improving welding quality and efficiency, reducing labor intensity, and minimizing the hazards involved in the welding process.

#### »» Solution Highlights

- The advanced LE Robotics Welding Robot, integrated with visual scanning technology and a robotic control system, has enabled efficient and precise automated welding.
- The robotic welder boasts full-range mobility, autonomous navigation, and precise positioning. Utilizing visual scanning technology, the robot accurately identifies the location and shape of the weld seams, autonomously generating the robot's posture and trajectory, and matching welding parameters to flawlessly execute the repair welding process for freight carriages.



## GLOBAL TOP 500

### Rail Transit Enterprise

#### LE Robotic Cutting Station

An influential company within the Global Top 500 specializing in rail transit, focuses on the repair and remanufacturing of vehicles, mechanical components, and structural constructions. To enhance efficiency, precision, and reduce costs, the company has integrated the LE Robotic Cutting Station, automating the robotic cutting of railway gondola side and end walls. It stands out for its efficiency, accuracy, and cost-saving benefits, ensuring longer service life, and enhanced performance and safety for vehicle components.



#### »» Project Pain Points

In traditional cutting and repair processes, workers manually operated cutting equipment, leading to inefficiencies, poor cutting accuracy, and high costs. For large vehicles or structures, multiple workers needed to collaborate, facing a significant workload and challenging working conditions. Improving the automation and precision of the cutting process became a pressing issue for the enterprise.

#### »» Project Achievements

The introduction of the LE Robotic Cutting Station led to significant achievements: Firstly, it innovatively applied robotic cutting across the industry, automating the cutting process for freight carriages and significantly enhancing technology equipment and production management levels. Secondly, the application of machine vision technology introduced new methods for enhancing traditional processes, laying the groundwork for the comprehensive implementation of robotic maintenance processes.

#### »» Solution Highlights

- LE Robotic Cutting Station employs advanced plasma cutting equipment, robotic control technology, 3D vision, and computer control technology, achieving a highly automated and intelligent cutting process.
- The workstation includes five automatic plasma cutting devices, a central control system, and a rail-mounted platform for movement. The central control system coordinates and controls the entire workstation, including the movements of cutting devices and robots. The robot system executes the central control system's commands, accurately completing the cutting trajectories.
- The system features high cutting precision, a wide working range, and advanced technology. The positioning accuracy for the vehicle body is  $\pm 30\text{mm}$ , with a maximum movement range of 6 meters. The maximum targeted cutting area is  $2000\text{mm} \times 2000\text{mm}$ . The system operates fully automatically, with the entire vehicle cutting process completed in less than 45 minutes.



## GLOBAL TOP 500

### Intelligent and Flexible Production of Energy Enterprises

In the production of drilling equipment for petroleum machinery, there are numerous types and complex structures of drilling rig frame components. The integration of the LE robotic welding machine has significantly enhanced production efficiency, making it a benchmark case for welding operations on drilling rig frame components.



#### »» Project Pain Points

In the production of drilling rig frames, the manufacturing process involves various welding methods, such as T-joint vertical welding seams, plate butt joint vertical welding interlayer seams, plate butt joint horizontal welding seams. These diverse and complex welding operations are constrained by the instability and inefficiency of manual operations, making it difficult to ensure welding quality and failing to meet the stringent efficiency and quality requirements of modern drilling projects.

#### »» Project Achievements

- Robotic welding technology has substantially improved welding accuracy and efficiency, far exceeding industry standards in welding reach rates.
- Significantly reduces the labor intensity of workers, optimizes welding quality, lowers operational risks, enhances productivity, and reduces production costs.
- Has profoundly impacted the production efficiency and welding operation quality in the entire petroleum machinery production industry.

#### »» Solution Highlights

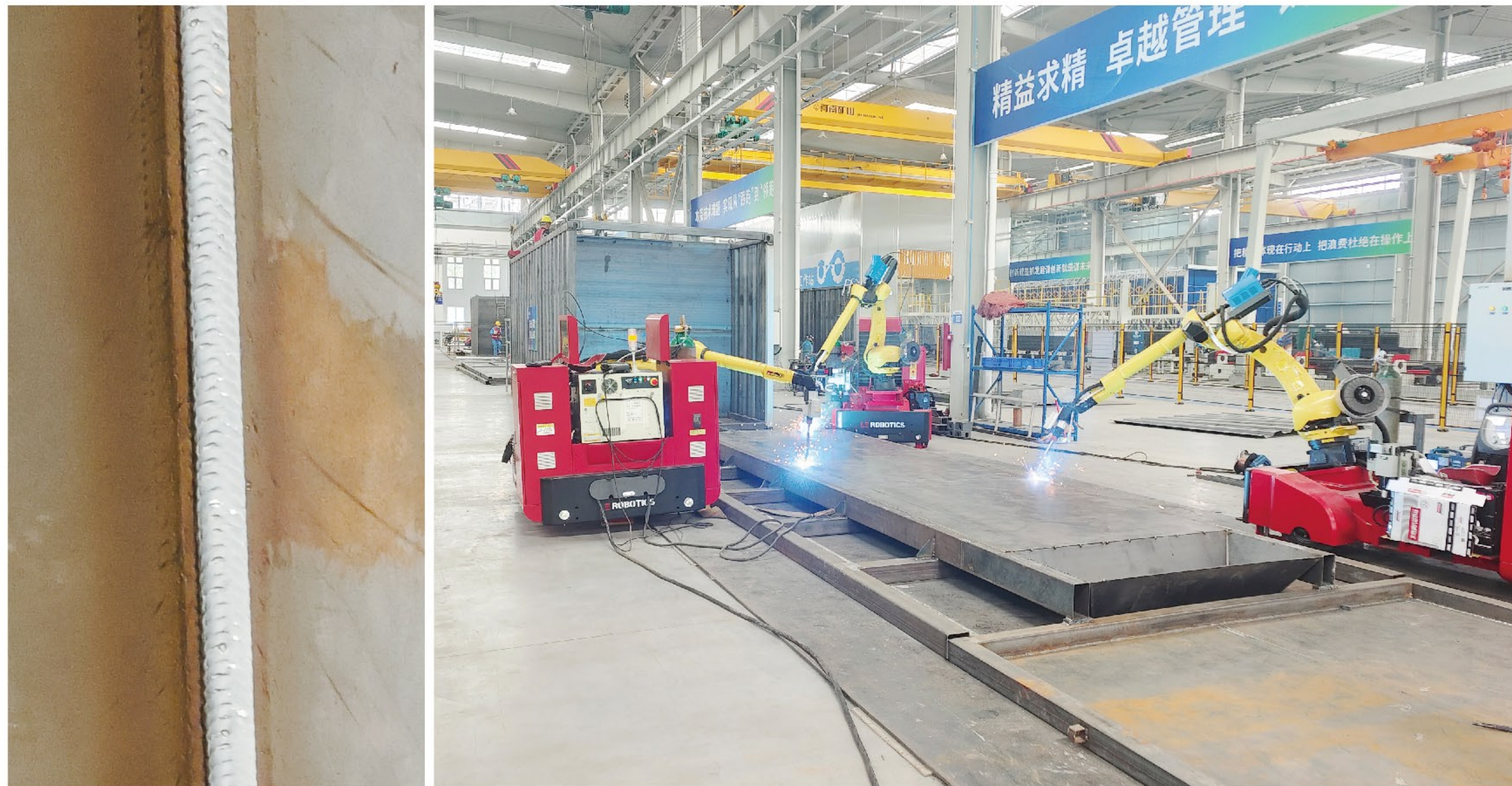
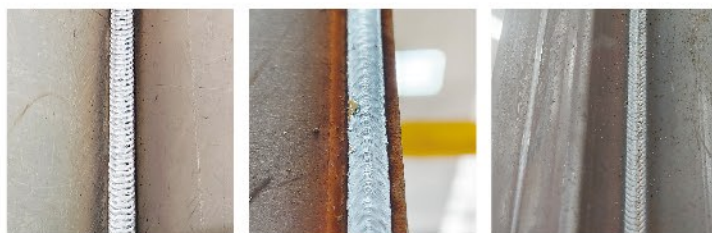
- Employing the LE "Navigator Welder" welding robot integrated with intelligent 3D vision and flexible welding technology.
- The robot is equipped with mecanum wheels, providing omnidirectional movement, intelligent walking, and autonomous navigation to meet flexible operational needs.
- The robot autonomously performs welding operations, with easy one-click start-up, eliminating the need for manual programming and welding process formulation.
- During operations, it can automatically adjust the welding gun's position and posture, achieving workpiece positioning, seam tracking, and precise seam tracking capability (less than 1mm accuracy).
- The "Navigator Welder" also enables remote monitoring and multi-device management, enhancing efficiency and reducing reliance on manual labor.



## A GIANT in the Environmental Protection Equipment Field

### Robotic Factory Construction

This client is a giant in the environmental protection field, possessing an advanced global production line of environmental protection equipment. To enhance production efficiency and product quality, the client wishes to collaborate deeply with LE Robotics to consolidate its leading position in the environmental industry.



#### »» Project Pain Points

In the manufacturing process of environmental protection equipment, customers often face multiple challenges, including low welding precision, limited production efficiency, and insufficient level of automation. Traditional welding techniques struggle to meet high standards, while manual operations restrict the improvement of production efficiency. Moreover, the current production processes lack sufficient automation, leading to high costs and difficulties in quality control.

#### »» Project Achievements

The client has achieved significant results in welding precision, production efficiency, cost control, and equipment maintenance, extending the service life of the equipment and becoming a model for intelligent production in the field of environmental protection equipment manufacturing.

#### »» Solution Highlights

LE Robotics offers a high-precision welding, automated operation, and intelligent upgrade solution. 3D vision technology ensures the accuracy of welding, while programming-free and teaching-free functions simplify operations. SLAM autonomous navigation and RX welding process library matching technology achieve intelligent welding, effectively solving the client's core issues.



## GLOBAL TOP 500

### Plasma 3D Flexible Cutting for a Listed Intelligent Manufacturing

The client has extensive experience in the field of industrial boilers and pressure vessels, with business scope covering design, manufacturing, and installation, serving industries such as petrochemical, power, and metallurgy. Faced with a large number of internal and external bevel cutting demands and the limitations of traditional cutting methods, the company is actively seeking technological innovation.



#### »» Project Pain Points

Client pain points: Particularly, the difficulty in dealing with internal and external bevel cutting workpieces, uneven quality of manual cutting, and low processing efficiency.

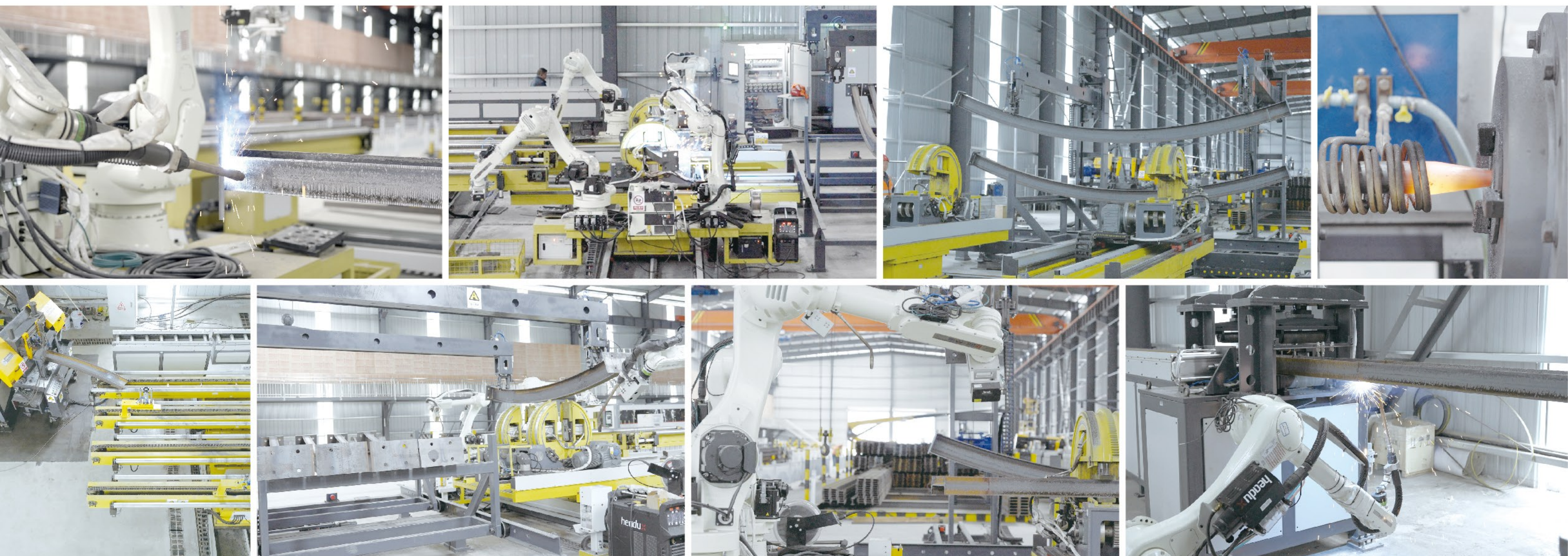
#### »» Project Achievements

By adopting 3D vision and plasma technology, this robotic welder has achieved a smoothness in internal and external bevel cutting that far exceeds industry standards. The stable and uniform quality meets high-precision requirements, while also improving processing efficiency, which has been highly recognized by the client.

#### »» Solution Highlights

Introduced LE Robotics WindRunner Cutter, which uses 3D vision technology to achieve operation without programming or teaching. It can automatically recognize workpieces, cut precisely, and combine plasma technology to efficiently and accurately process metal materials, achieving high-precision intelligent cutting.





## FORTUNE 500 COMPANY CLIENT

### Intelligent Rebar Production Line for Tunnels

#### »» Project Pain Points

Traditional steel processing and distribution centers rely on manual labor, resulting in low efficiency and safety hazards. Limited by the construction site, small-scale distribution centers fail to meet the demands of large projects, and the traditional processing methods cannot guarantee the welding quality of the products. Therefore, it is necessary to explore new processing methods to address these issues.

#### »» Solution Highlights

After introducing the LE Robotics Welder's Robotic Tunnel Rebar Intelligent Production Line, the center has achieved characteristics of automation, informatization, digitalization, and intelligence in the operation process. It has realized full-process robotic operation, reduced reliance on manual labor and human operation errors, and improved production efficiency and product quality. At the same time, the information management platform custom-developed by LE Robotics Welder also enables real-time ordering and distribution through mobile phones, meeting the personalized needs of on-site production.

#### »» Project Achievements

After transitioning to automated and intelligent production, the center employs robots for all key processing operations, reducing traditional workforce requirements by 85%. Only seven operators are now required on-site. Efficiency has increased by 81% for small pipe processing, 200% for tunnel mesh processing, and 50% for H-shaped steel arch production, resulting in an overall efficiency doubling. Welding quality has improved by 30%, and cost savings are estimated at 35 million RMB.





## GLOBAL TOP 500

### Tunnel Steel Arch Intelligent Production Line

LE Robotics has partnered with a Global Top 500 to successfully implement an intelligent production project for tunnel rebar. This project adheres to the principles of "factory-based, standardized, intelligent, and minimal-manned," achieving full automation in the production process through multi-robot collaborative work and cutting-edge technology, providing solid intelligent production support for the South-to-North Water Diversion Project.

#### »» Project Pain Points

- The traditional manufacturing model is inefficient, and the manual operation mode involves high labor intensity, making it difficult to ensure the consistency and reliability of product quality.
- There are bottlenecks in the traditional production process that limit the improvement of production efficiency and product quality.

#### »» Solution Highlights

The intelligent steel arch production line provided by LE Robotics has achieved full automation and unmanned production from material loading to product line-off. By using 3D vision technology and robot control technology, it has enhanced the precision of grasping, positioning, and control, ensuring the quality of assembly and welding.

#### »» Project Achievements

Achieved the capability of continuous 7\*24 hour production, significantly improving production efficiency. The automated production line ensures the consistency and reliability of the products. The project has become an industry-leading intelligent factory benchmark, promoting the transformation and upgrading of the enterprise's factory manufacturing.