

TEACHING-FREE WELDING SYSTEM

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About us

Beijing Minyue Technology Co., Ltd. (hereinafter referred to as "Minyue Technology") was established in 2016. It is a high-tech innovative company focused on intelligent applications for industrial robots. The company integrates the research and development, production, and sales of laser vision welding seam tracking systems, intelligent binocular vision systems, and industrial robot intelligent decision-making systems. The company's headquarters and R&D center are located in Beijing and Wuhan, with the manufacturing and solution center in Anhui, and the office and after-sales center in Xuzhou.

The core R&D members of the company are graduates of renowned universities such as Tsinghua University, Huazhong University of Science and Technology, and Beihang University. They have deep understanding and experience in robotics, image processing algorithms, 3D vision algorithms, sensor design, CAM/CAD, and artificial intelligence. The company continuously refines and iterates its hardware and software products through application scenarios, accumulating a rich industry process database. It is committed to empowering and serving system integrators in the fields of automatic welding and cutting, providing intelligent and easy-to-use vision products, and achieving "driverless" solutions for industrial robots to reduce manpower, increase efficiency, and lower costs.



Mission

To make intelligent robots ubiquitous in factories worldwide

Vision

To become a world-class company in intelligent industrial application products

24H

Service Response

100%

PhD and master's degree holders in the development team

500+

Partners

Minyue welding systems, SmartWeld, are equipped with large-scale integrated 3D sensors, intelligent decision-making systems-RobotSmart, and high-precision laser seam tracking system, smarteye. Minyue welding systems have been successfully applied in industries such as construction machinery, nuclear power, and shipbuilding.

■ Teaching-free welding system

The Teaching-free welding system supports major robot brands, including KUKA, FANUC, ABB, and Yaskawa, as well as domestic brands like Siasun, Estun, and Efort. By integrating the self-developed SmartEye laser vision tracking system with the RobotSmart intelligent decision-making system, it realizes "teaching-free" automated welding operations. It helps manufacturers overcome the challenges of high programming complexity and low levels of automation, while also meeting the welding production requirements for small batches and different types of workpieces, thereby improving processing efficiency and product yield.



Robot Body – Various brands available

①



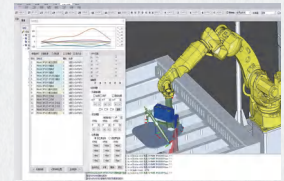
Wide-Range Vision System

②



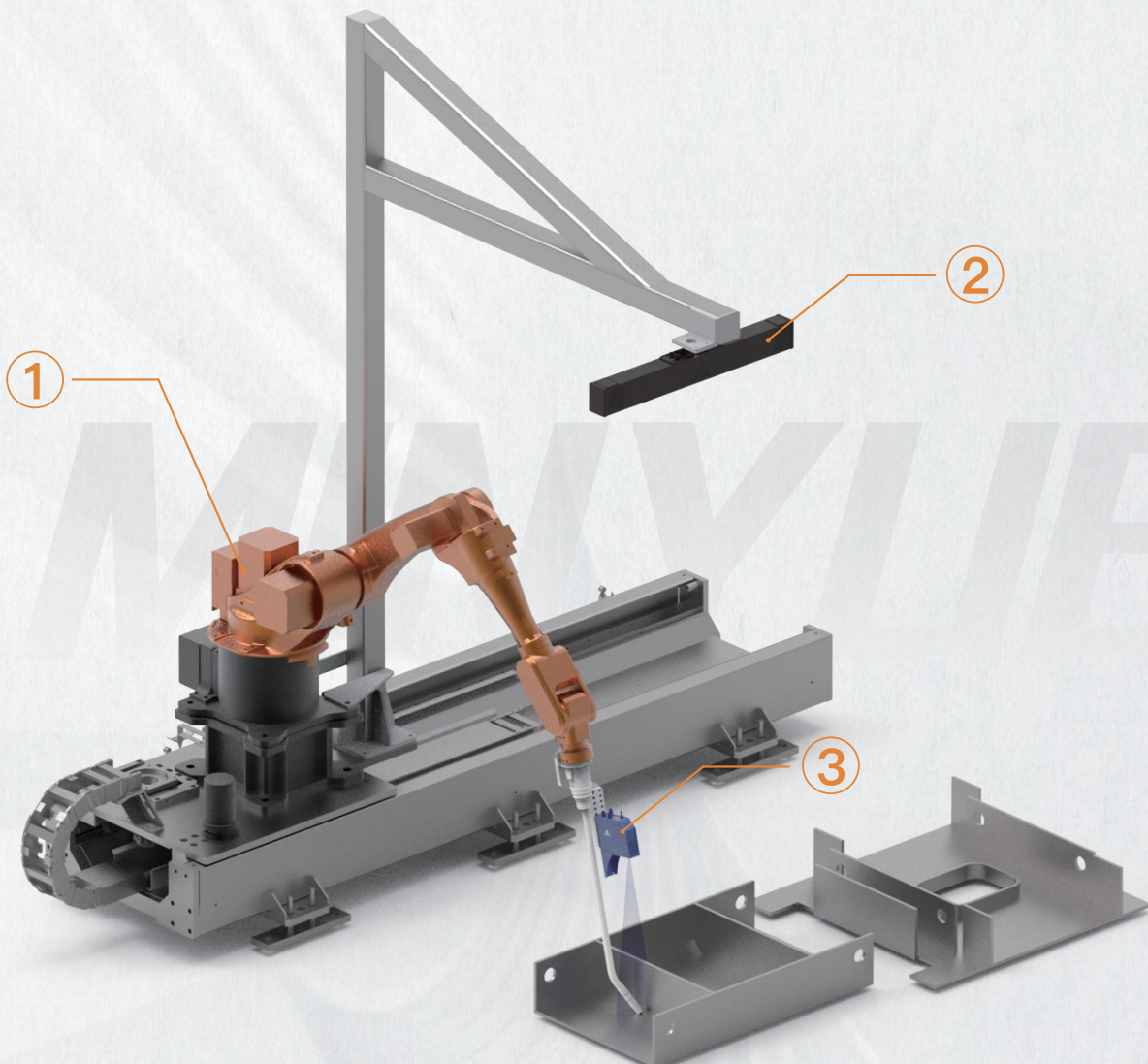
Laser Vision Sensor for tracking

③



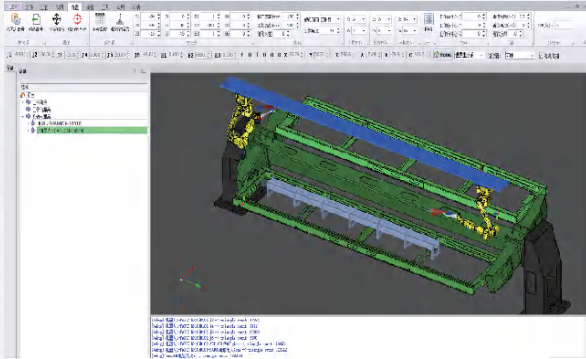
Intelligent Decision-Making Platform

④

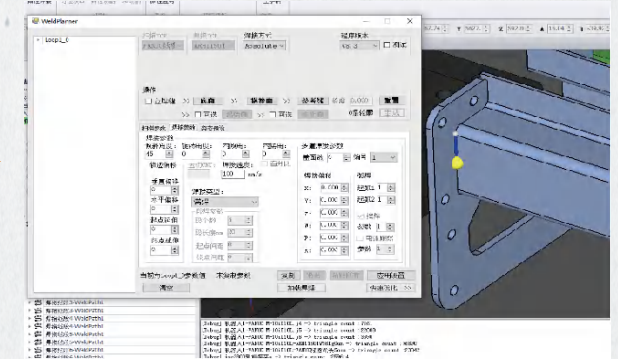


Teaching-free welding process(model-based)

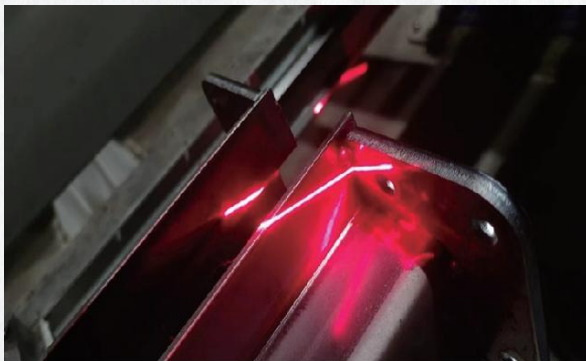
import 3D drawings



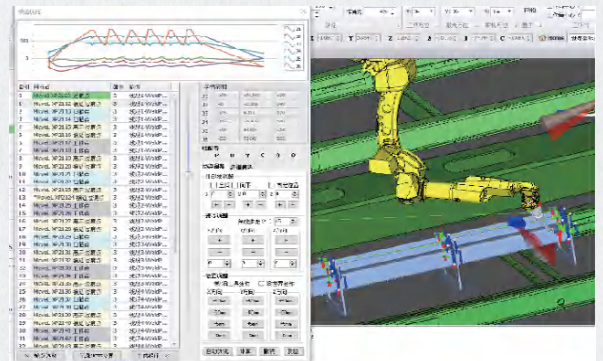
match process parameter automatically



sensor detecting



robot virtual simulating



Precise positioning

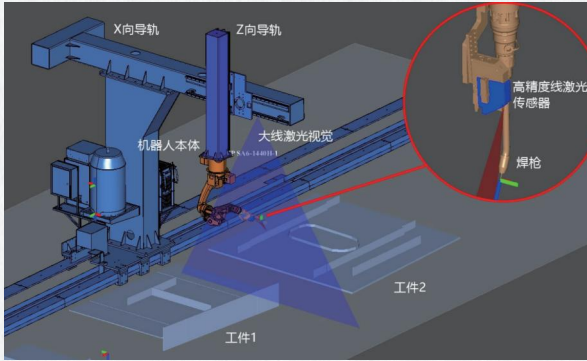


Perform welding

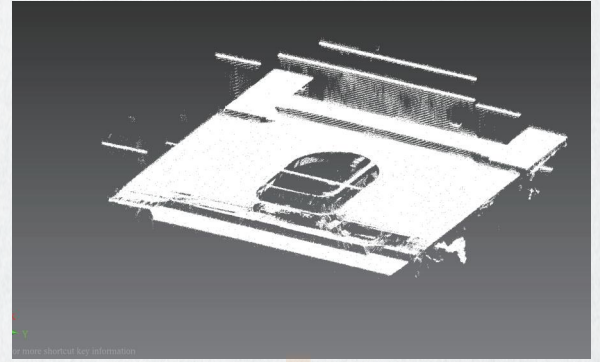


Teaching-free welding process(model-free based)

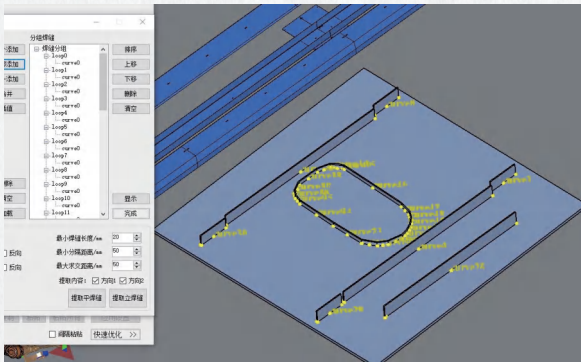
model-free welding workstation



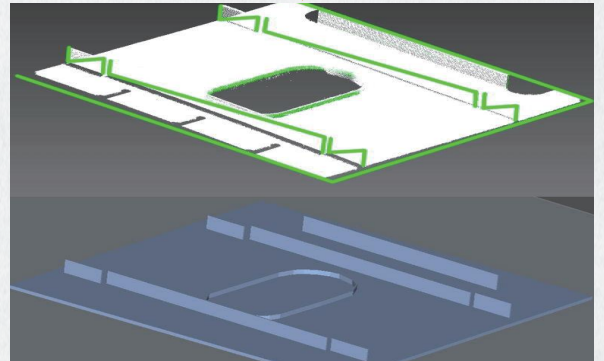
raw point cloud acquisition



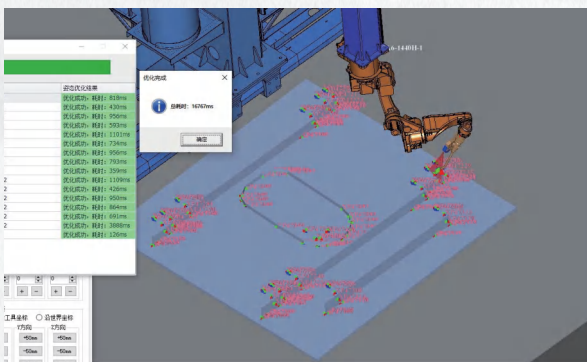
automatic weld seam extraction



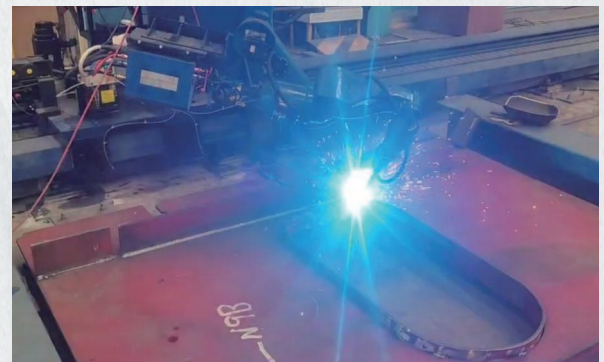
workpiece reverse modeling



rapid program generation



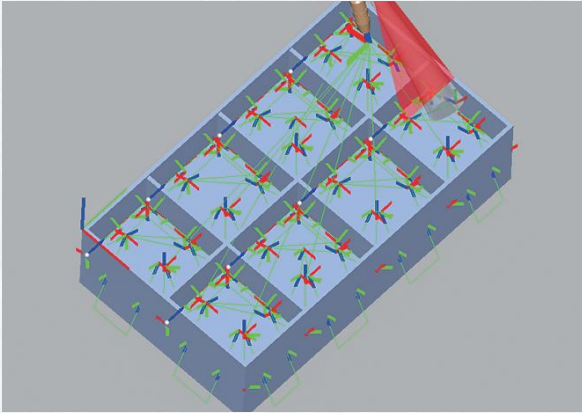
Perform welding



■ Advantages of free teaching welding solution

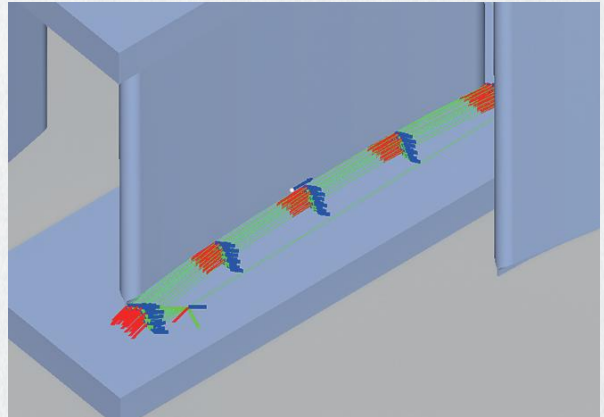
• Advantages of free teaching welding solution

In specific scenarios, the software can quickly generate welding programs using array, mirroring, and offset functions, thereby reducing repetitive programming

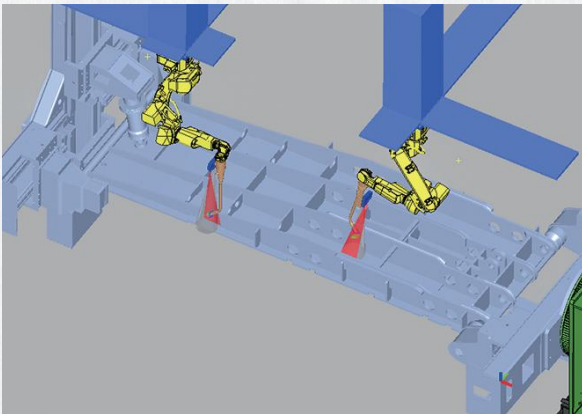


grid-pattern workpiece welding:
programming time: 2 hours →10 minutes

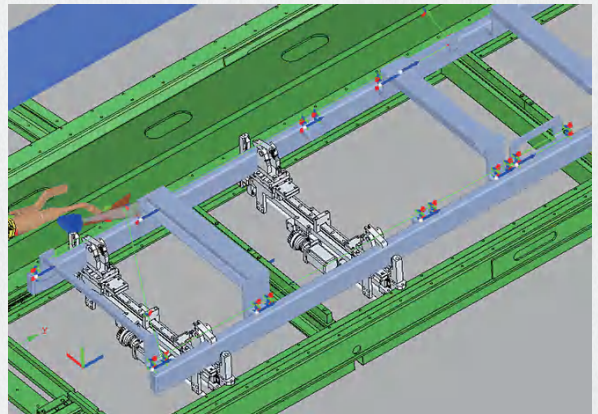
Complex parts can achieve automatic robot path planning, significantly reducing programming time



fan impeller components
programming time: 4 hours→10 minutes

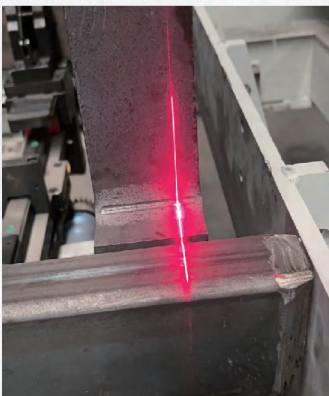


welding of large and complex workpieces
programming time: 20 hours→3 hours



automotive structural parts
programming time: 6 hours→1.5 hours

• Customized welding strategy



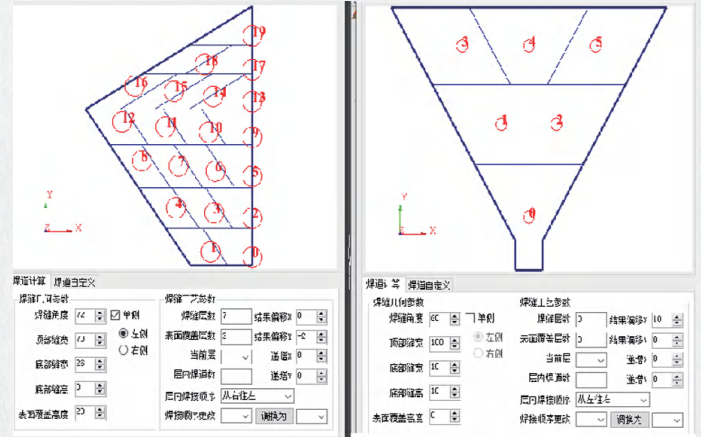
Visual rough positioning: automatic compensation for workpiece placement

Spot Search Welding: Fast Programming, Simple Operation, and Wide Applicability

Pre-Scan and Weld for Irregular Contours: Solving Complex Welding Path Challenges with Adaptive Workpiece Deformation

Intersection Welding: Precise Fillet Welding to Improve Weld Quality

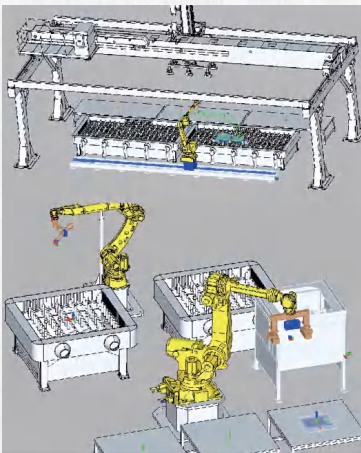
• Various Welding Techniques



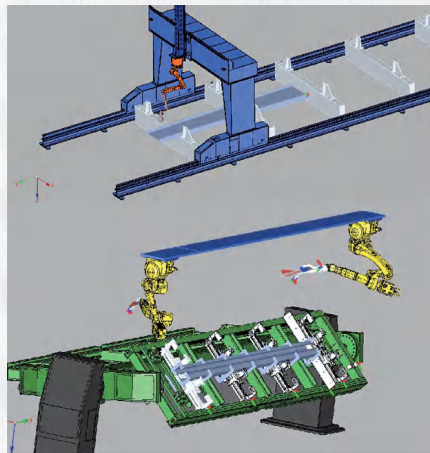
Full Welding, Segment Welding, Spot Welding, Weaving Welding, and Arc Tracking Parametric Configuration

Multi-layer multi-pass welding automatic path offset planning

• Supports a wide range of application scenarios



Flexible Setup of Various Simulation Scenarios



Supports Multiple Positioners and External Axes



Supports multiple positioners and multiple external axes

• Product Specifications

Models				
	LDWP-305	LDWEP-500	MY-Laser-1920-1600	MY-Laser-1920-2600
Detection distance(mm)	305	500	1600	2600
Dimension(mm)	175x107x34	175x137x34	390x89x64	690x89x64
Detection accuracy(mm)	0.07	0.06	0.24	0.88
optimum distance(mm)	80	90	1500	2500
Weight(g)	600	600	1800	2600



Contact Us:

Web site: <https://www.minyuetech.com>

Address: 1/F, Building B-2, Dongsheng Sci-tech Park, Haidian District, Beijing, China;
Building 6, Phase 1, Xiadian Industrial Park, Gulou District, Xuzhou City, Jiangsu Province, China;
Siasun Industrial Park, Yingquan District, Fuyang City, Anhui Province, China