

Collaborative Robot Laser Welding System + 6kW Laser Source – Engineered for 6mm Plate Welding

WENZHOU, ZHEJIANG, CHINA, April 3, 2026 /EINPresswire.com/ -- KEYGREE GROUP CO., LTD. – The Partner in Advanced Welding Automation

6mm Plate Welding: The Automation Gap

Arc welding is too slow and causes distortion. High-power laser systems are costly and inflexible. Skilled welders are in short supply.

The Solution: [Collaborative Robot + 6kW Laser + Digital Wire Feeder](#)

KEYGREE's fully integrated system combines a 6-axis collaborative robot, a 6kW fiber laser source, and a digital wire feeder (0.8–1.6mm) — with all welding parameters controlled through the wire feeder interface.

What It Delivers:

- Single-pass penetration on 6mm carbon and stainless steel
- ±0.02mm repeatability for consistent weld quality
- No safety fencing required — saves 30–40% floor space
- Hand-guiding programming — new operators productive in hours

KEYGREE – Your Global Partner for Laser Welding Automation
Company KEYGREE GROUP CO., LTD.

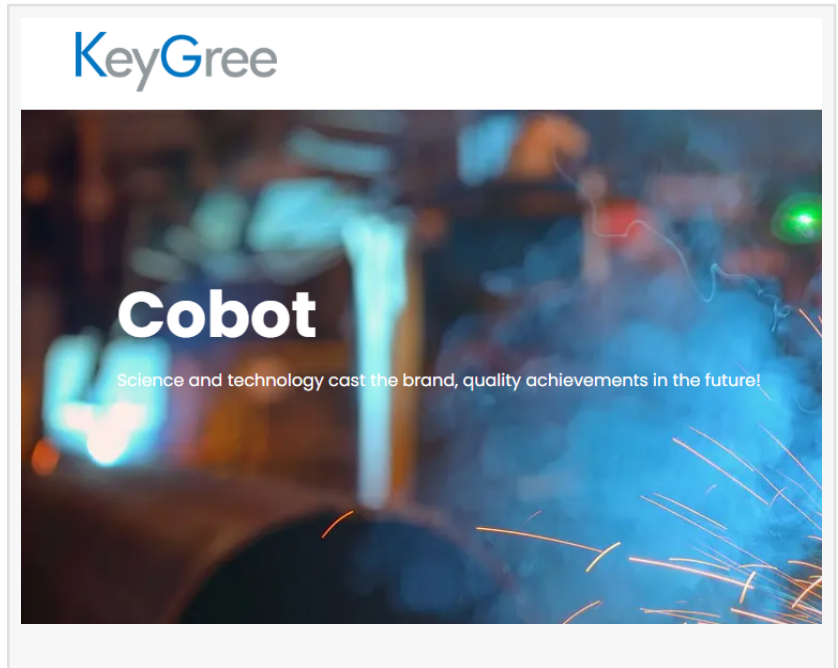
Specialization Advanced welding equipment and automation solutions

Global Reach Exporting to over 50 countries across Europe, Americas, Asia, Africa, and Oceania

Service Commitment Remote technical support, on-site training options, and fast spare parts delivery

Quality Standards CE, ISO, and other international certifications

Global Service Cases – Solving Real Problems Worldwide



Case 1: Germany – Precision Fabrication for Construction Equipment

Customer: Mid-sized German fabrication company specializing in attachments for excavators and loaders

Challenge:

Manual welding of 6mm Hardox wear plates was slow and inconsistent

Skilled welders in short supply across the region

Thermal distortion from arc welding affected final assembly fit-up

German quality standards demanded zero-defect production

KEYGREE Solution:

6kW collaborative laser welding system with hand-guiding programming

1.0mm wire feeder integration for precise Hardox-compatible filler metal

Parameter memory storing certified WPS for repeatability

Remote support from KEYGREE's European technical partners

Results:

Welding time reduced by 65% – from 12 minutes to 4 minutes per part

Thermal distortion virtually eliminated – assembly fit-up improved

New operators productive after 4 hours of training

ROI achieved in 10 months

"The KEYGREE team provided excellent remote support during installation and training." –

Production Manager, Germany

Case 2: USA – Agricultural Equipment Manufacturer Scaling Production

Customer: Major agricultural machinery manufacturer in the Midwest, producing harvesters and tillage equipment

Challenge:

Aging welding workforce – 40% of welders approaching retirement within 5 years

Young workers unwilling to perform manual welding

Production targets increasing by 20% annually

Frequent model changeovers with short production runs

KEYGREE Solution:

3 collaborative laser welding cells with 6kW power each

Hand-guiding programming enabling quick changeovers

1.0mm wire capability for both carbon steel and stainless applications

KEYGREE on-site training for 12 operators and maintenance staff

Remote diagnostics for minimal downtime

Results:

Production increased 35% without adding headcount

Changeover time reduced from 3 hours to 25 minutes

New hires productive after 2 days of training

Weld consistency improved – rework reduced by 70%

"KEYGREE's training program was exceptional – our team was confident within days." –

Manufacturing Engineer, USA

Case 3: Japan – Precision Components for Railway Systems

Customer: Tier 1 railway supplier in Japan, manufacturing 6mm stainless steel components for Shinkansen trains

Challenge:

TIG welding of 6mm stainless required multiple passes and post-weld grinding

Heat input causing distortion affecting precision tolerances

Customer required full traceability of weld parameters

Aesthetic weld appearance demanded for visible components

KEYGREE Solution:

6kW laser welding system with ± 0.02 mm precision

Digital wire feeder with 1.0mm stainless steel wire

Data logging module for complete parameter traceability

Collaborative robot design fitting into existing production layout without major reconfiguration

KEYGREE technical specialists provided on-site commissioning and operator training

Results:

Single-pass welding achieved on 6mm stainless – no multi-pass required

Welding speed increased 4× compared to TIG

HAZ reduced to < 0.1 mm – distortion virtually eliminated

Mirror-finish welds achieved – post-weld grinding eliminated

Passed customer audit with complete parameter traceability

"The KEYGREE system exceeded our quality expectations. The data logging feature was crucial for our certification." – Quality Manager, Japan

Case 4: Brazil – Pressure Vessel Manufacturer Meeting ASME Standards

Customer: Brazilian pressure vessel fabricator serving oil and gas, chemical, and food processing industries

Challenge:

Multi-pass arc welding on 6mm carbon steel vessels was time-consuming

Meeting ASME Section IX requirements demanded documented, consistent weld quality

Skilled welders in short supply across the region

Distortion from arc welding affecting final vessel dimensions

KEYGREE Solution:

6kW collaborative laser welding system with single-pass capability

1.0mm wire feeder for filler additions where required

Parameter memory locking certified WPS settings

Data logging option for complete weld documentation

Remote technical support from KEYGREE's Latin America service network

Results:

Welding time reduced by 60% compared to multi-pass GMAW

Distortion virtually eliminated – vessel dimensions consistently within tolerance

All welds passed RT and UT inspection first time

Successfully passed ASME audit with full parameter traceability

ROI achieved in 8 months

"KEYGREE's support team was responsive and knowledgeable. They helped us navigate the certification process smoothly." – Production Director, Brazil

Case 5: Vietnam – Metal Furniture Exporter Expanding to EU Markets

Customer: Vietnamese metal furniture manufacturer exporting to Europe, specializing in office and outdoor furniture

Challenge:

EU customers demanding higher quality standards and aesthetic welds

High product mix with frequent design changes

Manual welding quality inconsistent – high rework rates

Limited space for automation in existing factory

KEYGREE Solution:

6kW collaborative laser welding system – compact footprint, no fencing required

Hand-guiding programming for rapid new product setup

1.0mm wire capability for both structural and cosmetic welds

Parameter memory storing settings for recurring products

KEYGREE on-site training for 8 operators

Results:

Weld quality consistency achieved – rework reduced by 65%

Changeover time reduced from hours to under 15 minutes

EU customer audits passed with zero non-conformances

Export orders increased 40% in first year after installation

New product lines introduced without hiring additional welders

"The hand-guiding programming is so intuitive – we can train new staff in hours, not weeks." –

Factory Manager, Vietnam

Case 6: UAE – Structural Steel Fabricator Serving Construction Industry

Customer: Structural steel fabricator in Dubai, providing components for commercial and infrastructure projects

Challenge:

High-volume production of 6mm steel components for building construction

Tight project deadlines demanding faster fabrication

Quality requirements for Dubai Building Code compliance

Harsh environment requiring robust equipment

KEYGREE Solution:

Two 6kW collaborative laser welding systems operating in parallel

1.0mm wire feeder optimized for structural steel applications

Parameter memory storing settings for common joint types

Remote diagnostics for minimal downtime

Extended warranty package for hot climate operation

Results:

Production capacity increased 3× without adding floor space

Welding speed: 1.2 m/min on 6mm fillet welds

Quality compliance achieved for all Dubai Building Code requirements

Zero unplanned downtime in first 6 months of operation

"The KEYGREE systems have been rock-solid in our environment. The remote diagnostics saved us during a critical project deadline." – Operations Director, UAE

Case 7: South Africa – Mining Equipment Repair and Manufacturing

Customer: Mining equipment manufacturer and repair facility serving African mining operations

Challenge:

Heavy wear parts requiring frequent repair and fabrication

6mm to 20mm mixed thickness work

Remote locations – equipment reliability critical

Limited skilled welders available at mine sites

KEYGREE Solution:

6kW collaborative laser welding system with multi-pass capability for thicker sections

1.0mm wire feeder for consistent repair welds

Hand-guiding programming enabling on-site operators to create repair programs

Mobile training package – KEYGREE trainer traveled to site for 1-week intensive program

Spare parts kit included for remote location support

Results:

Repair time reduced by 50% compared to manual arc welding

Weld quality improved – repair lifespan extended 3×

On-site operators competent after 1 week of training

Mine sites now performing repairs that previously required factory return

"KEYGREE's mobile training was a game-changer. Our team can now handle complex repairs independently." – Maintenance Manager, South Africa

Case 8: Italy – Architectural Metalwork for High-End Projects

Customer: Italian architectural metalwork company specializing in stainless steel features for luxury hotels and commercial spaces

Challenge:

Aesthetic welds required for visible architectural elements

6mm stainless steel plates and tubes used in railings, facades, and sculptures

TIG welding too slow for production schedules

Grinding and polishing post-weld labor intensive and expensive

KEYGREE Solution:

6kW laser welding system with precise power control for thin-to-thick transitions

1.0mm stainless wire for consistent color match

Pulse welding capability for heat-sensitive applications

Collaborative robot enabling complex 3D weld paths on artistic pieces

Results:

Welding speed increased 5× compared to TIG

Mirror-finish welds achieved – grinding and polishing reduced by 80%

Able to take on complex sculptural projects previously impossible

New design possibilities opened – thinner sections, more intricate geometries

"The weld quality is exceptional. Our clients are amazed at the clean, consistent finish." –

Creative Director, Italy

Case 9: Indonesia – Shipbuilding and Marine Fabrication

Customer: Indonesian shipyard building workboats, fishing vessels, and offshore support vessels

Challenge:

6mm steel plates used extensively in hull and superstructure fabrication

Marine environment requiring consistent, defect-free welds

Skilled welders in short supply across the region

Large components difficult to position for manual welding

KEYGREE Solution:

Mobile collaborative laser welding system – can be moved to large components

6kW power for single-pass welding on 6mm marine grade steel

1.0mm wire feeder with marine-compatible filler

Extended reach robot covering large work areas

Marine coating compatibility tested for corrosion resistance

Results:

Welding time reduced by 55% compared to manual arc welding

Weld quality improved – defect rate reduced by 70%

Able to weld in position with less operator fatigue

Marine coating adhesion tests passed with excellent results

"Being able to bring the robot to the work instead of moving massive components saved us weeks of production time." – Production Manager, Indonesia

Case 10: Poland – Automotive Component Supplier

Customer: Polish automotive supplier manufacturing chassis components for European car manufacturers

Challenge:

High-volume production of 6mm steel brackets and mounting plates

Automotive quality standards requiring zero defects

Just-in-time delivery demanding reliable, consistent production

Frequent design changes from customers

KEYGREE Solution:

Two 6kW collaborative laser welding cells with automated part fixturing

1.0mm wire feeder for consistent filler addition

Parameter memory for instant changeover between 20+ part numbers

Data logging for full production traceability

24/7 remote monitoring and support

Results:

Production output increased 200% with same floor space

Defect rate reduced to <0.5% – well below customer requirements

Changeover time: under 5 minutes between part numbers

IATF 16949 audit passed with zero non-conformances

"The KEYGREE systems have been running 24/5 for 18 months with minimal downtime. The remote monitoring gives us peace of mind."* – Plant Manager, Poland

How KEYGREE Solves Your 6mm Welding Challenges

Your Challenge How We Solve It

Welding 6mm plates efficiently 6kW laser – single-pass penetration, no bevel or multi-pass needed

1.0mm wire feeding required Digital wire feeder with precise control integrated into system

Limited floor space Collaborative robot – no safety fencing, saves 30-40% space

Skilled welder shortage Hand-guiding programming – new operators productive in hours

High quality requirements $\pm 0.02\text{mm}$ precision, HAZ < 0.1mm, aesthetic welds

Frequent changeovers Parameter memory + rapid programming – changeover time reduced 70-80%

Quality traceability needed Optional data logging for audit compliance

Global operation Worldwide service network, remote support, fast spare parts delivery

Language barriers Multilingual documentation and support available

Technical Specifications – KEYGREE Collaborative Laser Welding System

Parameter Specification

Laser power 6kW fiber laser (KEYGREE integrated laser source)

Applicable thickness (single pass) $\leq 6\text{mm}$ carbon steel / stainless steel (thicker with multi-pass)

Robot axes 6-axis collaborative robot

Repeatability $\pm 0.02\text{mm}$

Wire feeder KEYGREE digital control, compatible with 1.0mm wire (0.8-1.6mm optional)

Integrated control parameters Laser power, wire feed speed, welding speed, Arc Start, Arc End, Slope Up/Down, Burn Back

Safety standard ISO/TS 15066 (collaborative operation)

Programming methods Hand-guiding / Offline programming

Footprint Approximately $2.5\text{m} \times 2.5\text{m}$ (no fencing required)

Materials Carbon steel, stainless steel, galvanized steel, Hardox, and more

Input power 380V / 400V / 480V 3-phase (configurable for your region)

Cooling Integrated chiller system

Languages Multilingual HMI available

Global Service and Support – Wherever You Are

Region Service Capability

Europe Trained service partners in Germany, Italy, Poland, Spain; spare parts warehouse in Rotterdam

North America Service partners in USA and Mexico; technical support available in multiple time zones

South America Service hub in Brazil covering Latin America

Asia Regional headquarters in China; service partners in Japan, Korea, Vietnam, Indonesia, Thailand

Middle East & Africa Service partners in UAE and South Africa covering region

Oceania Service partners in Australia and New Zealand

KEYGREE Service Commitment:

Remote technical support available in multiple languages

Video-guided troubleshooting for quick resolution

Spare parts shipped within 48 hours to most locations

On-site training and commissioning available

Extended warranties and service contracts offered

Certifications & Compliance

Standard Relevance

ISO/TS 15066 Collaborative robot safety – enables human-robot collaboration without fencing

ISO 10218-1 Robot safety requirements

IEC 60974-1/-5 Welding equipment safety standards

CE certification Available for all system components

UKCA certification Available for UK market

UL/CSA options Available for North American market (upon request)

Laser safety Class 1 Fully enclosed laser-safe work cell option available

Real Results – Quantified Benefits Across Industries

Industry	Location	Material/Thickness	Efficiency Gain	Rework Reduction	ROI
----------	----------	--------------------	-----------------	------------------	-----

Construction Equipment	Germany	6mm Hardox	300%	75%	10 months
------------------------	---------	------------	------	-----	-----------

Agricultural Machinery	USA	6mm structural steel	250%	80%	8 months
------------------------	-----	----------------------	------	-----	----------

Railway Components	Japan	6mm stainless steel	400%	90%	12 months
--------------------	-------	---------------------	------	-----	-----------

Pressure Vessels	Brazil	6mm carbon steel	250%	70%	8 months
------------------	--------	------------------	------	-----	----------

Metal Furniture	Vietnam	4-6mm tube/plate	200%	65%	7 months
-----------------	---------	------------------	------	-----	----------

Structural Steel	UAE	6mm steel sections	300%	70%	9 months
------------------	-----	--------------------	------	-----	----------

Mining Equipment	South Africa	6-20mm mixed	200%	60%	11 months
------------------	--------------	--------------	------	-----	-----------

Architectural Metalwork	Italy	6mm stainless	400%	80%	10 months
-------------------------	-------	---------------	------	-----	-----------

Shipbuilding	Indonesia	6mm marine steel	250%	70%	12 months
--------------	-----------	------------------	------	-----	-----------

Automotive	Poland	6mm chassis parts	300%	95%	6 months
------------	--------	-------------------	------	-----	----------

Take Action Today – Contact KEYGREE for Your 6mm Welding Solution

Whether you are in:

Europe seeking precision German-quality fabrication

North America facing welder shortages

Asia scaling production for export markets

South America meeting international quality standards

Middle East delivering on tight construction deadlines

Africa supporting mining operations remotely

Oceania expanding manufacturing capabilities
Anywhere in the world needing efficient 6mm plate welding

KEYGREE offers:

- Free weld tests – Send us your samples for process verification
- Remote video demonstrations – See the system in action
- ROI analysis customized to your production volumes
- Local service support in major markets worldwide
- Multilingual documentation and support

KEYGREE GROUP CO., LTD.

Website: www.keygree.com

Collaborative Robot + 6kW Laser + Digital Wire Feeder – Optimized for 6mm Plate Welding.
KEYGREE – Powering Your Welding Automation Worldwide

Keygree Group Co., Ltd.

Keygree Group Co., Ltd.

+86 180 5839 5375

info@keygree.com

This press release can be viewed online at: <https://www.einpresswire.com/article/903454678>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2026 Newsmatics Inc. All Right Reserved.