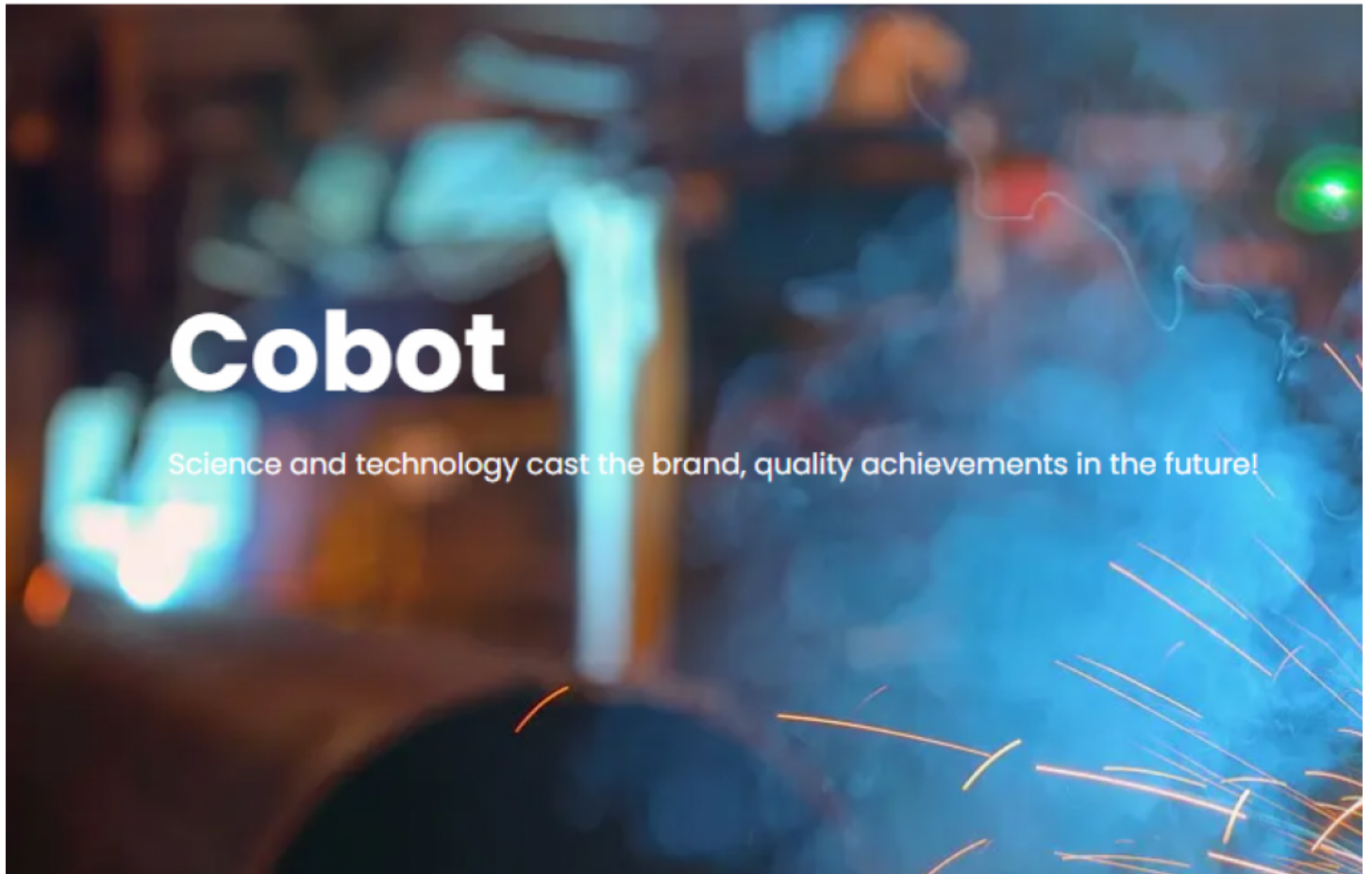


Collaborative Robot Laser Welding System + 6kW Laser Source – Engineered for 6mm Plate Welding

KeyGree



Wenzhou, Zhejiang Apr 3, 2026 (Issuewire.com) - KEYGREE GROUP CO., LTD. – Your 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
- **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
- **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 **4x** compared to TIG
- HAZ reduced to **<0.1mm** – 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
- **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
- **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
- **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 **3x** without adding floor space
- Welding speed: **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
- **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 3x**
- 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
- **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 **5x** 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
- **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
- **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

±0.02mm 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)

≤6mm carbon steel / stainless steel (thicker with multi-pass)

Robot axes

6-axis collaborative robot

Repeatability

±0.02mm

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 2.5m × 2.5m (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

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