Italian Company Seeks Partners to Pilot and Validate AI-Driven Robotic Welding (PoC)

Summary

Profile type	Company's country	POD reference
Technology offer	**Italy**	**TOIT20260109015**
Profile status	**Type of partnership**	**Targeted countries**
PUBLISHED	**Commercial agreement with technical assistance** **Research and development cooperation agreement**	**• World**
Contact Person	**Term of validity**	**Last update**
Luca PICARIELLO	**9 Jan 2026** **9 Jan 2027**	**9 Jan 2026**

General Information

Short summary

Italian company has developed a revolutionary AI-based robotic welding operator enabling automated weld path generation through vision and natural interaction. The solution is designed for metal fabrication SMEs facing skilled labour shortages. The company is looking for industrial pilot partners and EU welding automation specialists to validate, refine, and scale the product through technical and commercial cooperation.

Full description

The company develops an AI-based robotic welding operator designed to reduce complexity and dependency on highly skilled welding personnel in metal fabrication environments. The solution combines robotic welding hardware with proprietary software enabling vision-based understanding of welded parts and automatic generation of welding paths.

The system is designed to interact with in a natural way, allowing operators to communicate intent while the robot, through vision systems and AI algorithms, detects the components to be welded and autonomously generates the welding trajectory. This approach aims to significantly reduce programming time and increase flexibility in high-mix, low-standardization production contexts.

The technology is currently field tested: multiple welding robots are operating continuously (24/7) in a real production environment, although not yet fully autonomous. Automatic path generation is already implemented, while certain steps still require operator supervision and validation. A dedicated demo welding cell is currently under construction to enable broader demonstrations and structured pilot projects with external partners.

From an intellectual property perspective, the company is planning to file patents and currently protects its competitive advantage through proprietary algorithms, datasets, and know-how developed through real-world welding operations.

The objective is to collaborate with industrial partners to run pilot projects in real production settings, further validate technical performance, and refine the product according to operational needs. In parallel, the company is seeking cooperation with EU-based welding automation specialists to shape the go-to-market strategy and prepare for scalable commercial deployment.

The ideal partners are metal carpentry and fabrication companies using MIG/MAG welding with more than 30 employees, as well as specialized welding automation distributors who can provide technical feedback, market access, and long-term commercial collaboration.

Advantages and innovations

The solution introduces an AI-driven approach to robotic welding by combining vision-based understanding of parts with automatic welding path generation. Unlike traditional robotic welding systems that require extensive manual programming and expert setup, the system reduces setup time and lowers the skill barrier for operators.

Main advantages:
- No skilled welder needed (cost reduction)
- Quick/instant setup time (seconds vs hours)
- Does not require repeatable production for ROI

Innovations proposed are automatic path generation based on visual perception, natural interaction with the operator, and adaptability to high-mix production scenarios. The solution is particularly suited for SMEs where flexibility, rapid changeover, and workforce availability are critical constraints. The competitive advantage lies in the proprietary software stack, real production data, and the ability to deploy the system in non-fully standardized welding environments.

Technical specification or expertise sought

Stage of development

Lab tested

Sustainable Development goals

• Goal 9: Industry, Innovation and Infrastructure

IPR Status

IPR applied but not yet granted

IPR Notes

The solution is currently protected through proprietary algorithms, datasets, and industrial know-how developed in real production environments. Patent filing is planned as the technology matures through pilot projects.

Partner Sought

Expected role of the partner

The company is seeking industrial pilot partners in metal carpentry and fabrication using MIG/MAG welding to validate the solution in real production conditions and jointly refine technical features. In parallel, EU-based welding automation specialists are sought to support product shaping, system integration, and preparation for commercial rollout. Pure research-only collaborations without industrial application are not of interest.

Type of partnership

Type and size of the partner

Commercial agreement with technical assistance
Research and development cooperation agreement

- **SME 50 - 249**
- **Big company**

Dissemination

Technology keywords

- **02002008 - Jointing (soldering, welding, sticking)**
- **01001001 - Automation, Robotics Control Systems**

Market keywords

- **08002004 - Robotics**
- **08002005 - Machine vision software and systems**
- **08002007 - Other industrial automation**

Targeted countries

- **World**

Sector groups involved

- **Digital**
- **Energy-Intensive Industries**