Smart TIG Welding Automation
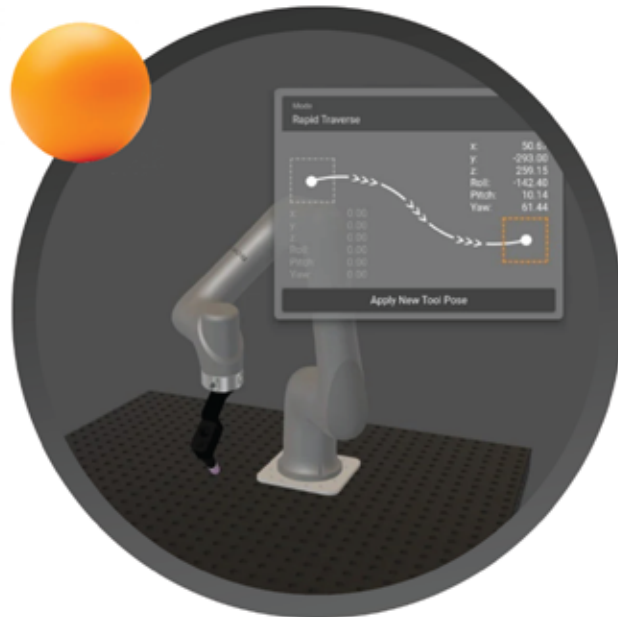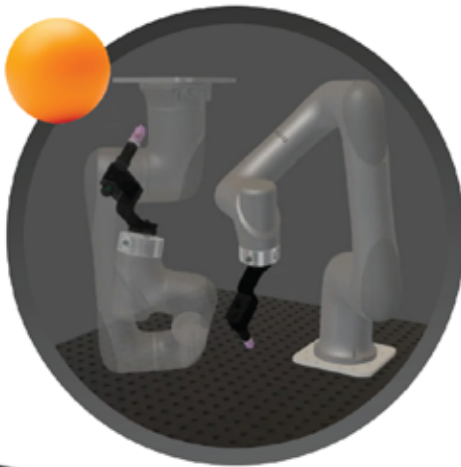
Weld Like an Expert

Why Choose Our Robotic Welding System?

Intuitive Setup – Create your first weld program in just 30 minutes

- One System, Multiple Processes – TIG with cold wire and MIG-MAG in the same setup
- Real-Time Control – Adjust welding parameters live via a 24" touchscreen interface
- Smart Automation – CAD-based path planning, AI seam tracking, joystick fine-tuning
- Direct Welding Integration – No converter boxes; real-time CAN protocol with standard sources (e.g., Lorch)
- All-in-One System – Robot arm, cabinet, PC, touchscreen, welding table/cell in one hardware-software solution

ORBITALSERVICE®
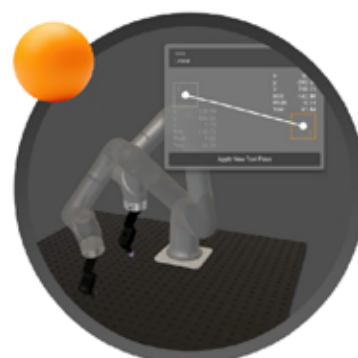THE FUTURE OF ORBITAL WELDING, TODAY AND TOMORROW

What Makes It Different?

Traditional robots are designed like CNC machines: powerful, but difficult to use. Our approach flips the script:

- No G-codes needed—welders can program easily with an intuitive UI
- Cold wire and pulse TIG support built-in
- Live adjustment of parameters during operation (no reprogramming required)
- Single interface controls the full cell, with real-time process display and documentation
- Joystick remote (coming Q3 2025) enables fine-tuning with haptic feedback and encoder control
- Welding parameter database suggests values based on material, geometry, and thickness

User-Friendly Interface

- Main Menu: 4 intuitive tiles: Settings, Setup, New Program, Manual Weld
- Setup Mode: Robot calibration on welding tables, walls, or ceilings
- Digital Twin Visualization: Real-time collision prevention and path preview
- New Program Wizard: Enter weld geometry, material, process type, torch size, and more
- Live Program Editing: Modify trajectories and parameters during welding
- Graphical Welding Dashboard: Real-time data on current, speed, wire feed, and gas flow
- Manual Move Mode: Perfect for teaching positions with torch angle precision

ORBITALSERVICE®
THE FUTURE OF ORBITAL WELDING, TODAY AND TOMORROW

Advanced Features

- Seam Tracking + AI Camera – Integrated weld seam sensor and point cloud scanner (no external PC required)
- CAD-Based Welding – Select weld edges from CAD files or scanned point clouds
- Auto Trajectory Calculation – Touch-to-weld edge selection with visualized paths (Q4 2025)
- Precise Angle Control – Input torch angles and wire feed directions via keyboard
- Integrated Force Sensors – Enable real-time component measurement and easy teaching
- Custom TIG Torch – 300A water-cooled with 2-axis cold wire holder (adjustable during weld)

What's Coming Next (2025)

- Q2 2025: AI-driven seam tracking and self-learning from recorded seam types
- Q3 2025: Launch of handheld joystick remote with encoder display
- Q4 2025: Automatic CAD-to-weld-path translation for fast programming

ORBITALSERVICE®
THE FUTURE OF ORBITAL WELDING, TODAY AND TOMORROW