Path Robotics

Physical AI Welding for Naval Shipbuilding

PROBLEM STATEMENT

- The Navy's shipbuilding budget has doubled in 20 years, but the fleet has no more ships than it did in 2003.[1]
- **Welders are the constraint.** The submarine industrial base alone needs 250,000 skilled workers over the next decade.[2]
- New shipyard workers take 3 to 5 years to reach proficiency.[3]
- Only 14% of naval shipbuilders report moderate or extensive use of robotic welding.[4] Fixed-path automation needs identical parts and tight fit-up, and ship structure rarely has either.

[1]Navy PB27 30-Year Shipbuilding Plan (2026) [2]Navy SIB Program Office (2026)
[3]GAO-25-106286 [4]NDIA ETI (2025)

BENEFITS

- **Adds welding capacity without adding headcount**, and frees certified welders for the joints only they can make.
- Automates the welds that were never possible to automate before.
- **4x** the productivity of manual welding on average.
- Production data from every cell improves Obsidian, so deployed cells keep getting better.
- HII and Saronic already work with Path on naval and unmanned vessels.

[5]Manual baseline: Miller Electric. Path figures from production data.

TECHNOLOGY SOLUTION

Path's Intelligent Welding Cell runs on **Obsidian**, Path's foundational AI model for welding.

- Path's vision system scans every seam and plans each weld from the real geometry, not the drawing.
- Adjusts in real time to poor fit-up, gaps and heat distortion.
- Runs heavy multipass MIG and flux-core welds on steel.
- No teach pendant. Setting up a new part means marking the seams and the welds you want.
- Path is working with NAVSEA to qualify under Tech Pub 248, including HSS, HY-80, and HY-100 steels.

GRAPHIC

