

Tele-welding

Tele-welding is a disruptive technology that enables a skilled technician to conduct live welding operations from a remote location. The welder controls the tele-welding system from a desktop screen-and-tool set up with a haptic stylus device. While the actual welding might be taking place thousands of miles away, the operator receives environmental feedback in real time via welding sensors, 3D scanners, arc-view cameras, and a livestream of the entire process.

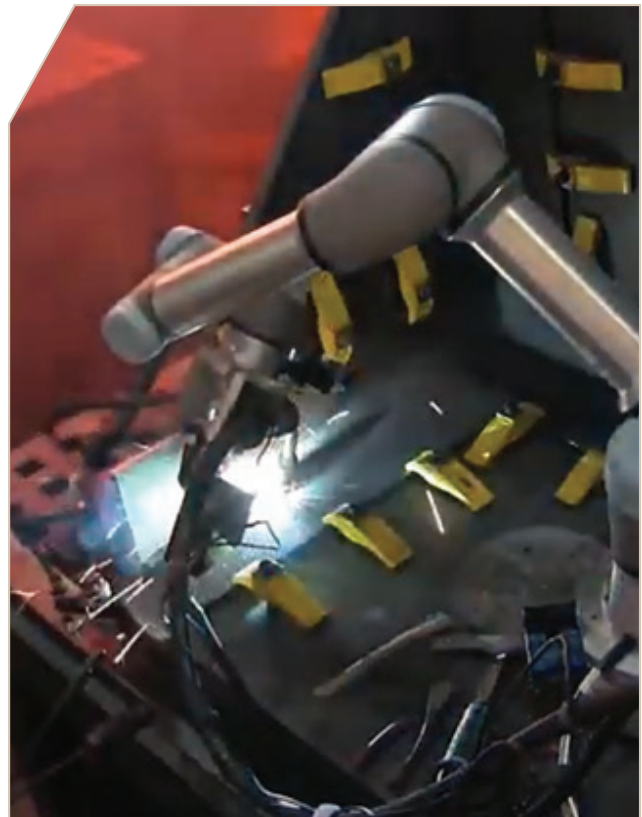
Tele-welding technology has the potential to expand the labor pool, retain skilled workers, enhance safety, and expand opportunities in manufacturing to literally anyone, anywhere.

Workforce Benefits

Tele-welding helps manufacturers address today's labor market challenges by widening the potential pool of skilled workers. Experienced older or disabled welders who can no longer perform physical work under weld site conditions are able to continue doing their jobs in a more stable, secure environment. Younger workers who have been opting out because they do not want to work onsite at distant, potentially hazardous locations can engage in the trade through innovative, exciting technology.

Access and Safety Benefits

Many construction and repair sites – ships in service and deep-sea construction, for example – are not just difficult to work in but also dangerous to reach. Robotic tele-welding equipment can access welding places and spaces that are tight, cold, dark, wet, isolated, and hazardous for people. Tele-welding technology can remove people from unsafe and untenable work environments.



The project to develop tele-welding technology was led by EWI, sponsored by the U.S. Navy, and funded through the National Shipbuilding Research Program (NSRP).

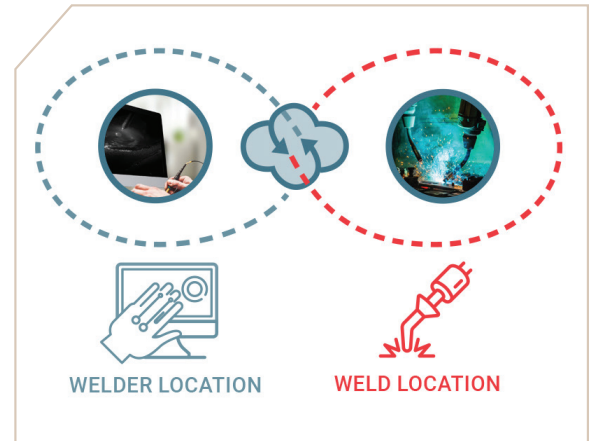
Tele-manufacturing – Advanced Technology Applications

EWI is actively adapting tele-welding principles to other manufacturing processes to create a broad set of functional technology that accurately transfers manual skills to remote, robotic systems. Projects are underway to investigate tele-inspection using typically manual NDE techniques, tele-gouging, and implementation of the newest livestreaming protocol to decrease further latency. In addition, existing shipyard tele-welding systems will soon be merged onto a mobile device with a small robot arm which will increase portability and functionality.

To learn more about EWI's work in tele-welding and other applications for tele-manufacturing processes, contact EWI Principal Engineer Connie Reichert LaMorte at clamorte@ewi.org.

About EWI

EWI empowers industry leaders to overcome complex manufacturing challenges and integrate new processes to bring products to market more quickly and efficiently. Since 1984, EWI's comprehensive engineering services have helped companies identify, develop, and implement the best options for their specific applications. Backed by unmatched professional expertise, state-of-the-art lab facilities, and technology resources, we offer customized solutions that deliver game-changing results.



Get Started

To find out how EWI can help you with **tele-welding**, contact us today.

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