

## MICRO HABITAT

**The Micro-Habitat is able to provide all of the benefits of a hyperbaric welding but at a fraction of the size and cost. Moreover, is well suited for carrying out permanent subsea repairs of localized cracks in subsea structures, pipelines and ships hulls.**

The Micro-Habitat system represents an exciting new technology that can be utilized for the life extension of offshore assets. The Micro-Habitat is far superior to existing technologies in that it can minimize the costs, risks and production downtime associated with subsea structural repairs. Moreover, a proactive repair strategy is now available to operators. As large habitats are often prohibitively expensive, operators wait as long as possible before performing a repair.

With the advent of the Micro-Habitat, operators do not have to wait. They can respond to repairs quickly, safely and cost effectively. Repairs can be addressed while defects are small and well before they reach critical sizes.

## Advantages Micro-Habitat

### HSE

- The diver/welder remains outside of the habitat with only his hands and forearms inside the glove interface. He does not have to remove his diving helmet as he would do inside a conventional habitat.
- Added diver safety compared to 'wet' welding as all welding is performed in a dry environment.

### Environment

- The Micro-Habitat environment does not need to sustain life support as a large habitat does. Therefore, it is possible to flood the Micro-Habitat with warm, dry and inert gas which can be beneficial for the weld quality.
- 100% inert atmosphere possible (i.e. 100% Argon).
- Provides a localized dry environment for welding.

### Quality

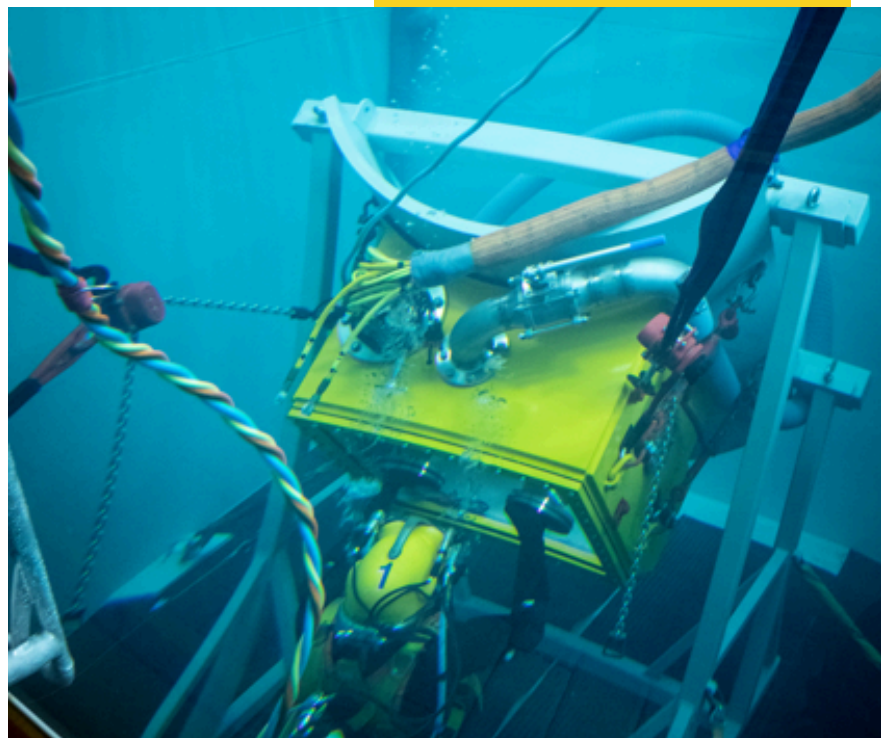
- It is possible to produce a surface quality weld subsea using the Micro-Habitat.
- PAMS units can be connected inside the Micro-Habitat in order to record and monitor the welding parameters real-time to ensure adherence to the WPS.

### Time Saving

- The time required to mobilize and install the Micro-Habitat is significantly less than the time required for the modular habitats.

### Cost

- The reduction in time and minimal topside support required for the Micro-Habitat leads directly to a substantial cost savings.



## Responsiveness (emergencies)

- The Micro-Habitat can be mobilized in a matter of days rather than weeks or months.

## Access

- Due to the size and reduced footprint, the Micro-Habitat can reach and access previously inaccessible welds. Therefore, the Micro-Habitat can be used in confined or restricted areas within a subsea structure.
- Configured for circumferential or longitudinal welds on members in the horizontal, vertical or diagonal position.

## Depth

- Theoretically there are no depth limitations for the Micro-Habitat. It could be used at any depth a diver is able to reach.

## Installation

- The installation of the Micro-Habitat is far easier for the diver and less complicated compared to a modular habitat i.e. simplified installation and removal subsea.

## Other benefits

- Reduced waste
- Low profile design is not affected by current and can be used in the splash zone
- Pre-heat and post-heating can be applied
- In process grinding is possible
- Multiple welding processes i.e. GTAW, SMAW or GMAW/FCAW are all possible

