

MACTECH

CASE STUDY

PROJECT: CUSTOM DWS FOR REEF

A deepwater fixed structure (platform) in the Gulf of Mexico needed to be decommissioned and left in place for an artificial reef. To accomplish this, the topside deck needed to be removed to prepare the platform for toppling. The topside deck was originally assembled from multiple modules set in place and welded together.

MACTECH'S ROLE:

The client sought a cold cutting solution to cut welded tabs connecting the topside modules. Mactech was contacted to propose a solution to cut through the welds without producing sparks, flames, or hot slag. The welded tabs were approximately 15 feet (~4.5 M) off the deck elevation, contained multiple geometries, had very limited clearance for cutting tools, and required ability to move the cutting tool across the platform with limited lifting and mobility assistance.

EQUIPMENT USED:

Custom Diamond Wire Saw
Noteworthy modifications:

- Integrated water spray system to reduce risk of sparks. (While diamond wire is not a true cold-cutting method, with ample water spray/flooding, the risk of sparking is minimized)
- Minimal cutting clearance



MACTECH'S VALUE ADDED TO THE PROJECT:

Mactech applied its knowledge of cutting tools and experience to produce a Diamond Wire cutting tool concept that fit client requirements through a simple and easy-to-use derivative of an existing product.



Custom Diamond Wire Saw

ALTERNATIVE METHODS:

Alternative methods would have used cutting torches or arc air gouging tools. While these methods are quicker and less expensive, they produce flames, sparks, and hot slag. After weighing risks against expenses, time to develop tooling, and the project's timeline, Mactech was awarded the project.

STEPS TAKEN TO COMPLETE JOB:

Mactech's proven processes helped to define the project scope and identify key requirements. Mactech Operations and Product Management visualized a tool concept with the necessary capabilities and presented our findings to the client. Upon concept approval, Mactech Engineering and Manufacturing was able to make the concept a reality.

CHALLENGES AND ADVANTAGES:

- Limited workspace
- Low clearance in which to make cuts
- Portability and weight saving measures to overcome lack of overhead lift assistance
- Lightweight enough for overhead work
- Minimal development budget

IMPORTANT STATISTICS:

- 20 cuts completed
- 5.5in (~14cm) between I-beams for cut access



RESULTS:

All 20 cuts were completed within the budgeted cost and timeline. The customer was pleased with the results and all objectives were completed.

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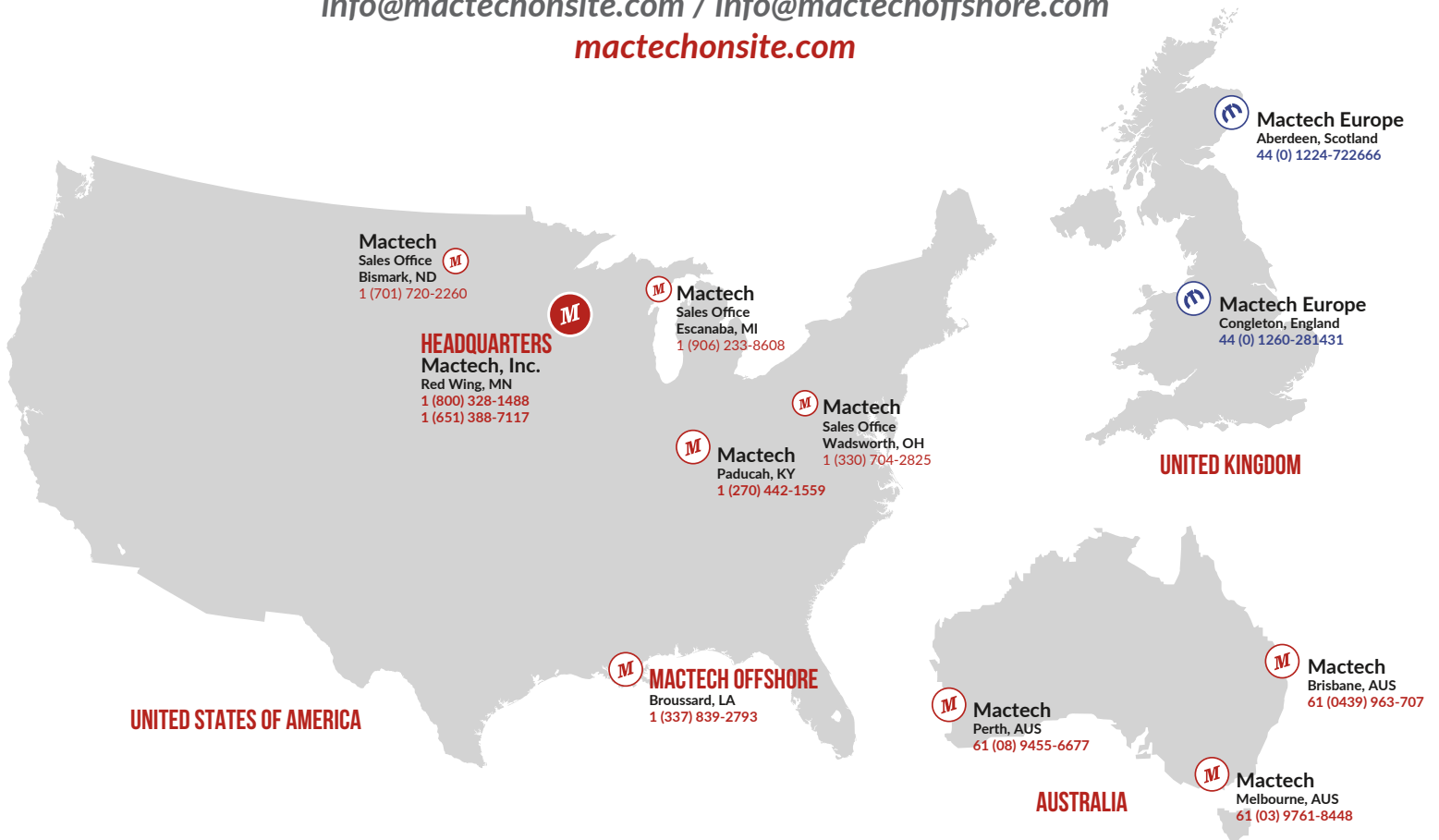
- ▶ 200+ Clamshell pipe cutting machines 2"-110"
- ▶ 40+ Diamond Wire Saws
- ▶ 100+ Portable Drills - up to morse #5 taper
- ▶ 25+ Flange facing machines 1" - 240"
- ▶ 10 Shaft lathes 1"-24"
- ▶ 30+ Line boring machines 3/4" - 10" diameter
- ▶ 50+ Portable milling machines - XYZ, gantry, boring

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MACTECH LOCATIONS

For more information on contacting you nearest sales or rental agent, contact us at:
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