



## Robotic crawler: accurate UT measurements in challenging situations

Using our unique robot platforms to take UT measurements on a range of different assets - both internal and external - without having to enter confined spaces or work at height.

Ultrasound wall thickness measurements are important data to help determine the condition of assets. Reason why, Invert Robotics has integrated Olympus state-of-the-art UT equipment onto our robot crawlers.

A buggy with encoder wheels at the front of the robot makes it possible to perform both B scans and spot measurements, without human entry into confined spaces or working at heights being required.

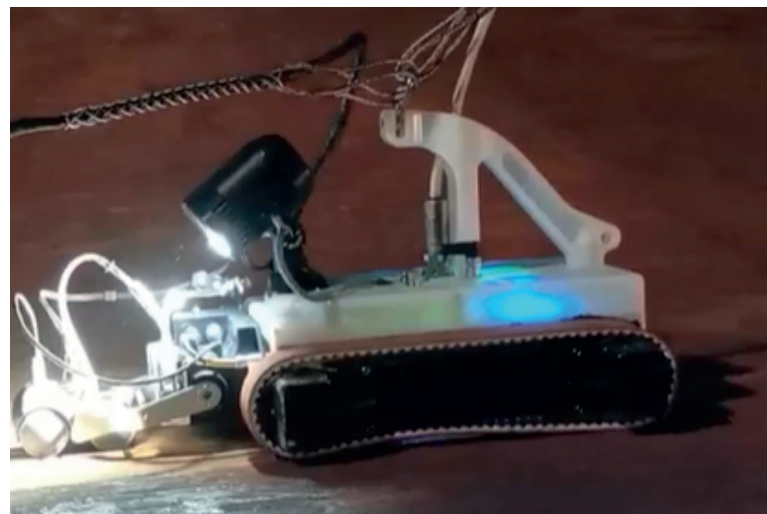
### Spot measurement in carbon-steel tank

This state-of-the-art technology was successfully deployed to take UT spot measurements and measure wall thickness in a crowded carbon-steel slurry tank.

The interior of the tank – used by a producer of synthetic zeolites – proved a serious challenge with an agitator and baffles running from the top to the bottom. As did the less than pristine condition of the walls. However, thanks to our H2200 hybrid robot's manoeuvrability, it was possible to make 60 spot measurements of sufficient quality, without the need for human entry into the vessel.

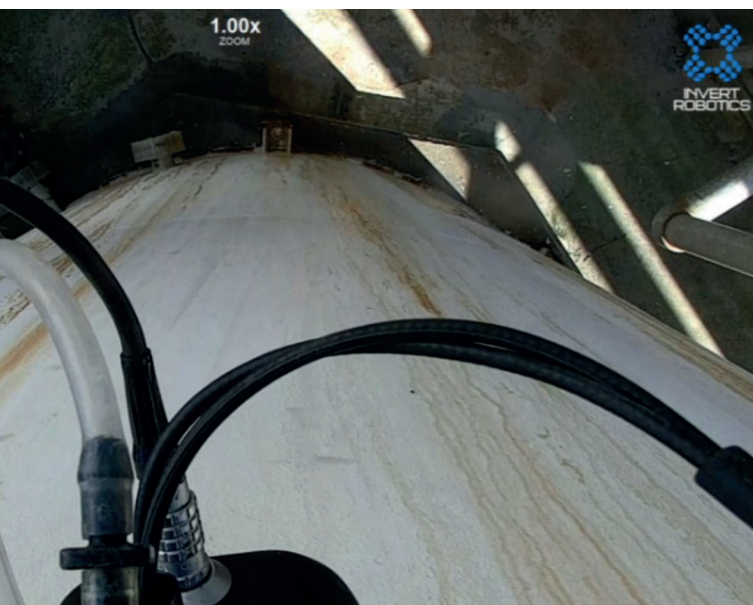
### Wall thickness inspection

For another client, we successfully used the hybrid crawler to conduct a wall thickness inspection on a coated carbon-steel storage tank containing sulfuric acid. The hybrid crawler – which uses both magnets and a vacuum for adhesion – has the right measure of adhesion for it to drive smoothly over the outside of this tank while taking the required UT measurements.



### Unique UT measurements

Performing UT scans inside a non-ferrous tank is a truly unique service enabled by our robotic crawler. For a client, we carried out UT measurements in all 4 wind directions on the cylinder and bottom of a stainless steel Hastelloy tank using our vacuum V1800 robot with a UT setup.



Last, but not least, for a major energy and waste company in Amsterdam, we inspected two carbon steel gas absorbers using our hybrid robot crawler. The challenge here was the relatively high levels of surface corrosion caused by chalk powder. Such powder is often sprayed through the gas absorbers to reduce the acidity of the exiting gas. Despite the corroded surface, we managed to successfully carry out sixteen B scans on the assets.

With our range of unique robot crawlers, we offer a solution for your UT inspection needs both on magnetic as well as non-magnetic surfaces without the need for confined space entry.

**Interested to learn how we can help you using our unique robotic crawler? Contact our nearest sales representative!**



## Technical Information

Vessel type	Reactor vessels, pump vessels, storage tanks, dryers & gas absorbers
Vessel size	0.5 m <sup>3</sup> - 850 m <sup>3</sup>
Vessel material	Carbon steel & various stainless-steel types
Robotic platform	V1800 & H2200
NDT method	UT
Probe type	Dual element 5 MHz D790
Gauge type	Olympus 38 DL Plus