



# Robot-Enabled Ultrasonic Inspections

Rapid Ultrasonic Gridding (RUG) & Advanced Ultrasonic Inspections

## Fast inspections. Small footprint.

Routine inspections of stationary equipment take large crews and lots of support but deliver minimal outcomes. While no technology can eliminate the need for inspections, robot-enabled ultrasonic inspections provided by **Siemens Energy** and powered by **Gecko Robotics** technology will reduce the inspection footprint and duration while increasing the density and quality of data.

**Industry leading inspection coverage.** Robot-enabled ultrasonic inspections using the TOKA™ and PAUT crawlers provides 100% inspection coverage of carbon steel assets surface.

**Faster than traditional inspections.** Speed up your turn around and reduce contractor time on site **by up to 10X** over manual UT and AUT inspections

**Smaller footprint than manual inspections.** Reduce the personnel requirements and related support for turnarounds **by 4X** over manual UT and AUT inspections.

Two inspectors, one robot, no scaffolding, and no confined space entry.

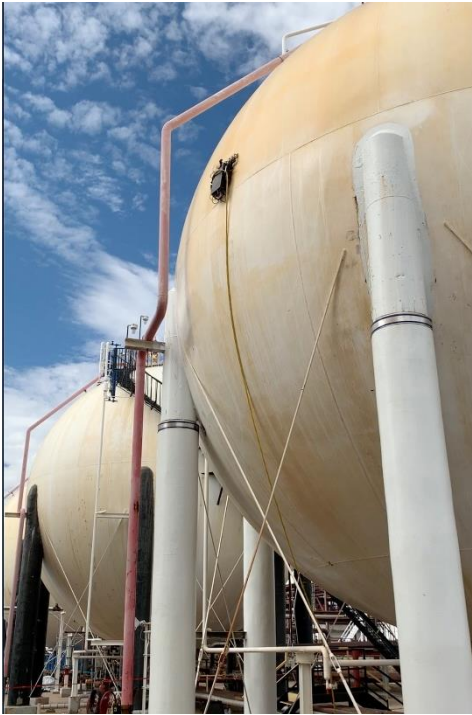


Figure 1 Remotely operated TOKA™ inspects a sphere.

	Manual Inspections	Robot-Enabled Inspections
<b>Footprint</b>	10-12 personnel, scaffolding, cranes, and or rigging	2 personnel and 1 robot
<b>Coverage</b>	Spot checks approx. 5-10% of surface	100% of unobstructed surface
<b>Speed</b>	8-10 days	1-3 days
<b>Reactive vs Proactive</b>	Tracking changes in specific areas is difficult.	Accurately track changes in specific areas over time.

**Online inspections with limited support.** Inspecting in-service assets operating below 250°F (121°C) with diameters larger than 12 in (30.5 cm) can be achieved with access to potable or non-potable water via a number of coupling adapters and 110V/220V 50Hz or 60Hz line or generator power.

**Better Detection, Better Protection.** With 99.6% more coverage than manual inspections, **Siemens Energy** and **Gecko Robotics** robot-enabled ultrasonic solutions detect corrosion and defects that could lead to chemical releases, human exposure, fires, explosions, and environmental damage. Early detection allows for the tracking of corrosion rates over time, reduces the frequency and severity of potential leaks, and protects personnel and the environment from hazardous substances.

## Published by

Siemens Energy  
Global GmbH & Co. KG  
Industrial Applications  
Freyeslebenstraße 1  
91058 Erlangen  
Germany

For the U.S. published by  
Siemens Energy, Inc.  
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