Robotic Ultrasonic Inspections

Rapid Ultrasonic Gridding (RUG) & advanced ultrasonic inspections

siemens-energy.com

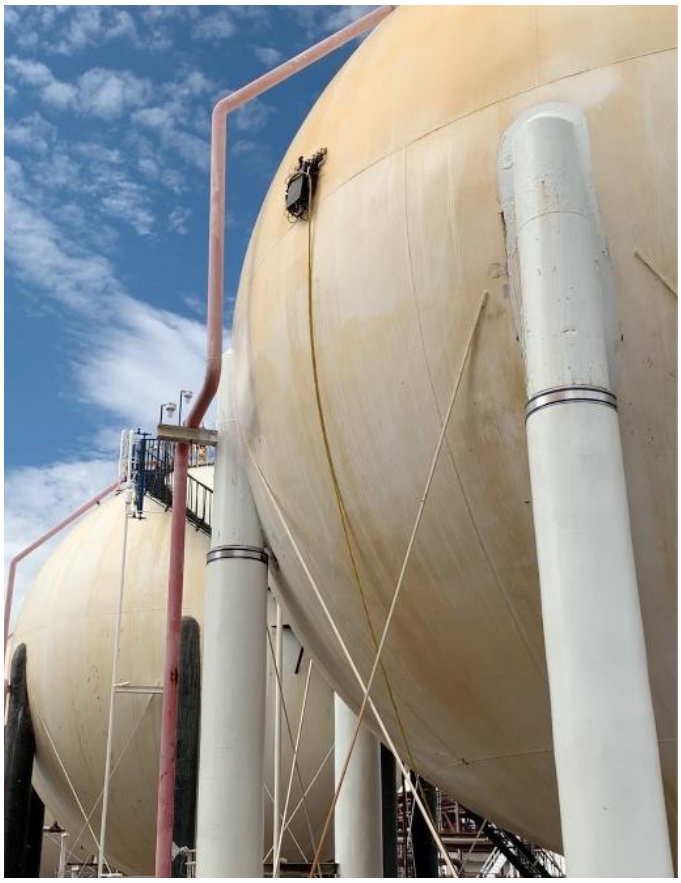
Fast inspections. Small footprint.

Routine manual inspections of fixed equipment require large crews and dedicated company resources but deliver minimal outcomes. While no technology can eliminate the need for inspections, robotic 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 Rapid Ultrasonic Gridding (RUG) and phased array technologies provides 100% surface coverage of carbon steel equipment.

Faster than traditional inspections.
Maximize the efficiency of turnaround planning and execution and reduce contractor time on site by 10x over manual UT or conventional automated AUT inspections.

Smaller footprint than manual inspections.
Reduce on site personnel, scaffolding or other access requirements, and dedicated company resources for turnarounds by 4x over conventional inspection methods.



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

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

Online inspections with limited support.
In-service inspections with limited support. Inspect in-service assets with little to no dedicated company resources, scaffolding, or other access equipment.

Inspection considerations:

- Assets operating below 121°C
- Assets from piping 10 cm in diameter to a flat surface
- Access to potable or non-potable water for couplant
- Electrical power (110V/220V) or generator power

Better Detection, Better Protection. With 99.6% more coverage than manual inspections, Siemens Energy and Gecko Robotics' robotic-enabled ultrasonic solutions detect corrosion, cracking, and other damage that could lead to chemical releases, fires, explosions, human exposure, and environmental damage. Early detection allows for tracking corrosion rates and monitor damage progression, reduced the frequency and severity of potential asset failure, and protect personnel and the environment from hazardous substances.

Siemens Energy Global GmbH & Co. KG
Transformation of Industry
Siemens promenade 9
91058 Erlangen, Germany

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Siemens Energy, Inc.
Transformation of Industry
4400 N Alafaya Trail
Orlando, FL 32826, USA

Customer Support Center:
Phone: +31 71 579 2444
(Charges depending on provider)
E-mail: herman.smit@siemens-energy.com