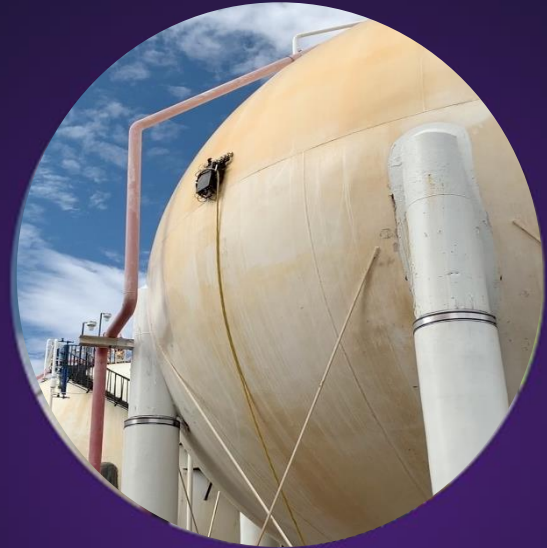


EHS Impact

Reducing Risk Through Robotic Inspections



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Improving Inspection Service by Reducing Environmental, Health, and Safety Risks Onsite.

Routine inspections of stationary equipment can be hazardous work environments and lead to incidents which impact operations. While no technology can eliminate risk, robot enabled ultrasonic inspections are one service which can mitigate the risk.

Whether the metric is reducing the number of people onsite, reducing falls and working from heights, minimizing confined space entries, or limiting the potential for accidental spills and emissions robot enabled ultrasonic inspections can be a valuable tool.

Smaller Inspection Footprint. On average Siemens Energy's use of Gecko Robotics robot-enabled ultrasonic inspection solution reduces onsite inspection footprint by 75% compared to other providers. Where manual inspections require 10 to 12 inspectors and support personnel Siemens

Energy will complete the same scope with an inspection team of 2 inspectors and 1 robot.

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

No Scaffolding. Falls account for more than a third of all deaths in the industry. Through the use of permanent magnets for wheels and tethers which allow for remote operation by operators up to 75 ft (23 m) below the robot. Inspectors can work from the ground or existing platforms without the need for scaffolding.

No Confined Space Entry. Working in confined spaces presents many hazards. Whether it is the potential for low oxygen environments, the presence harmful chemical vapors, or simply the risk of trips and falls while wearing the necessary PPE the risk to personnel is ever present. Robot-enabled ultrasonic inspection significantly reduces or completely eliminates the risk associated with confined space entry.

Faster Inspections. By combining the proven service capabilities of **Siemens Energy** with the industry leading robot-enabled ultrasonic inspection solutions of **Gecko Robotics** inspections can be accomplished **5 to 10 times faster** than manual inspection methods thus reducing the time additional personnel are onsite and exposed to the unique hazards of industrial operations.

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.



Figure 1 Remotely operated TOKA™ inspects tank floor.

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