

## EHS Impact

Reducing risk through  
robotic inspections

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### Reducing facility environmental, health, and safety risks through robotic inspections.

Inspecting fixed equipment can be hazardous and result in incidents that negatively impact operations. Conventional methods expose plant personnel to fall risks from working at heights with access equipment and confined space entry. Limited data coverage leaves large portions of assets susceptible to damage and potential failure, impacting personnel and exposing the environment to chemical spills and carbon emissions.

While no technology can completely eliminate EHS risks, robot-enabled inspections can mitigate it by reducing personnel on site, limiting access requirements, and providing high quality data to make well informed asset maintenance and operation decisions.

Siemens Energy partners with Gecko Robotics to provide robot-enabled ultrasonic inspections of industrial equipment to help facilities accomplish their EHS goals.



**Smaller Inspection Footprint.** Robotic inspection solutions reduce the on site inspection footprint by 75% compared to other providers. Typically, manual inspections require a team of 10-12 technicians and dedicated company resources. Siemens Energy's solution will complete the same inspection scope using 2 technicians and 1 robot.

**No scaffolding.** Falls account for more than one third of all deaths in the industry. Robots adhere to asset surfaces through permanent rare earth magnets and are tethered to a base station which allows them to crawl 23m. Therefore, technicians can safely operate the robots from the ground without the need for scaffolding or other access requirements.

**No confined space entry.** Confined space entry presents many hazards for personnel including exposure to low oxygen environments, harmful chemical vapors, reduced mobility, and the risk of trips and falls while wearing required PPE.

Robotic-enabled ultrasonic inspections significantly reduces the risk associated by confined space entry due to the technician's ability to deploy the robot outside their line of sight.

**Faster inspections.** Robots efficiently inspect the entirety of in-service assets. When compared to conventional automated ultrasonic methods, robots are up to 10x faster covering 5465 sq.m in one shift. This reduces the time personnel are on site 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' 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.



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