

# ROBOTIC\_ CRAWLER

Revolutionizing boiler inspections  
with cutting-edge robotics for  
enhanced safety and efficiency.



Prototype Design Render



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# Abstract

Manual inspection remains a **common practice** for various industries, including boiler inspections. **Human inspectors physically enter the inspection areas and visually examine the equipment or systems.** They rely on their expertise and experience to identify potential issues, defects, or abnormalities.

- It is **Time consuming**, Leading to operational downtime.
- It has **High Risk factor**, as inspectors are exposed to hazardous environment.
- Human entry is limited due to **confined spaces**.
- **Variations** in Inspection result due to human error.
- Manual documentation and reporting can lead to **delayed analysis and decision making**.



# Solution

- Maximize safety, efficiency, and accuracy in boiler inspections with our autonomous inspection robot. By eliminating human entry into hazardous environments, our innovative solution reduces risks, minimizes downtime, and provides comprehensive data-driven insights for proactive maintenance, ensuring optimized boiler performance.
- Therefore, We can say, in the era of Industry 5.0, co-bots (robots in coordination with humans) are enhancing work efficiency across industries. Our robotic crawler embodies this transformation, offering game-changing benefits. It not only boosts inspection efficiency but also minimizes machine downtime, a critical Key Performance Indicator (KPI) for any industry, all while ensuring human safety—a top priority.





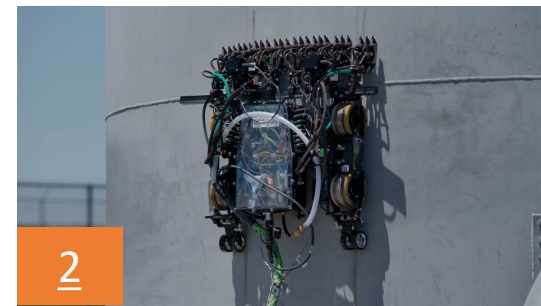
## ➤ Uses



**1. Cleaning:** Our robotic solution offers precise high-pressure water jet cleaning for tank exteriors, drastically reducing water wastage. Its robotic application eliminates the need for manual intervention, enhancing safety and efficiency.



**2. Inspection:** With a high payload capacity and exceptional manoeuvrability, our robot can be equipped with inspection sensors and advanced technology. Its precise movements optimize inspection efficiency and minimize machine downtime, ensuring thorough and efficient assessments.



Click the box on Image numbers, to see reference videos



# ➤ Project Cost Estimation

(Proof of Concept Development)

