



# Abu Dhabi Polytechnic

## Students' Graduation Project Abstract

<b>Department:</b>	EMET	<b>Semester:</b>	Spring-2022
<b>Project Title:</b>	Pipeline Scanning Robot		
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### Abstract:

Pipelines terminals include a lot of pipes that are narrow, and human can't enter it for inspection. Also, human can't detect any defect that may occur inside that part. Therefore, the aim of this project is to find suitable solutions for this kind of problems by designing and implementing a pipeline scanning robot. This robot can provide the inspection with a visual aid of the inner part of the pipeline, so it will be able to detect any defect in the pipeline and solve it. Pipelines must be regularly inspected and monitored for defects, Cracks and corrosion because of the interplay of the pipeline with liquid and the outside environmental conditions. Accurate and green pipeline inspection is essential to the oil and fueling industry. Pipeline inspections are commonly accomplished internally the use of robots, or externally with restricted inspection capabilities. Internal inspection has many limitations, however outside inspection remains primitive. However, the benefit of the outside inspection is that it proceeds with no setback inside the manufacturing process. This article gives a singular layout of a self-sufficient robotic for outside inspection of pipelines. Although the proposed layout is basically designed to comply with flux leak testing, the modular layout of the robotic will accommodate different check strategies and packages with minimum layout modifications. The proposed robotic is designed to put in a couple of Hall sensors, and the radial distance among the sensors and the pipe floor may be adjusted. In addition, the robotic can test pipes of various sizes and preserve a sure distance from the pipe floor.