

CASE STUDY



Pipeline Integrity Solution Using Computer Vision @Edge

Client

Leading American electric motors & controls manufacturer with operations across four continents



Business Challenge

The client was looking for a pipeline monitoring solution to detect leak in a timely manner with required accuracy and meeting regulatory standards. The existing As-Is scenario posed the below given challenges:

- ➔ Lack of cost-effective solution to monitor pipeline leakage in oil field in a timely manner
- ➔ Higher turnaround time in case of breakdown leading to environmental hazard and not able to meet compliance requirements & regulatory standards
- ➔ Manual inspection and detection of pipeline leak resulted in increased operational cost and prone to error
- ➔ Non-addressal of pipeline leak in a timely manner resulted in cascading impact to pipeline asset and operational efficiency
- ➔ The workforce safety was compromised due to human intervention during pipeline inspection



ITC Infotech Solution

A comprehensive Industry 4.0 solution powered by computer vision @Edge were to analyze video feeds from onsite cameras to perform analytics locally and facilitate real-time operational decision making. The solution thus resulted in saving in operational cost and timely intervention during downtime.

- ➔ A multistage solution deployment with first stage as identifying the leak using image analytics and second stage as accurate localization of the leakage
- ➔ Cameras were installed at the oil well location to capture the images of the oil pump and these images were analyzed using image analytics algorithms and alerts were generated in case any leak was detected
- ➔ Leakage detection analysis at various angles around the pipeline is done to increase the accuracy of leak detection
- ➔ Faster analysis of image data by utilizing analytics closer to the source camera

Business Benefits

Automated monitoring led to improved workforce safety and productivity



Reduction in manpower cost by half

Near **real-time monitoring** of the leakages led to reduced number of breakdowns and reduction in the operating expenses by **15%**

About ITC Infotech

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