

ENGINEERED SOLUTIONS

CASE STUDY

Streamlining Tank Level Monitoring for a Leading Specialty Chemical Company



A FAMILY OF COMPANIES





INTRODUCTION

Safety concerns arose when an employee slipped on a ladder during a measurement, prompting the need for an automated tank level monitoring system.

A leading manufacturer of industrial lubricants faced challenges with manual tank level monitoring in their facility in New Jersey. With close to 100 finished goods tanks and multiple intermediate tanks, the company relied on periodic measurements using measurement sticks, which lacked accuracy and provided only a snapshot view. Safety concerns arose when an employee slipped on a ladder during a measurement, prompting the need for an automated tank level monitoring system. Additionally, they needed a way to ensure accurate product levels for truck deliveries as they would periodically send trucks to inadequately full tanks which resulted in significant filling inefficiencies. The tank farm sought an efficient and cost-effective solution to address these challenges.

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CHALLENGES & OBJECTIVES

1

Absence of Power and Wiring

2

Reliable and Real-Time Tank Level Monitoring Solution

3

Wireless System

4

Improve Operational Efficiency

01 ABSENCE OF POWER AND WIRING

The primary challenge was the absence of power and wiring to support an automated system for tank level monitoring, leading to inaccuracies and safety risks.

02 RELIABLE AND REAL-TIME TANK LEVEL MONITORING SOLUTION

The company aimed to implement a reliable and real-time tank level monitoring solution for the finished goods tanks.

03 WIRELESS SYSTEM

They required a wireless system due to the lack of power and control wiring infrastructure to the tanks.

04 IMPROVE OPERATIONAL EFFICIENCY

Another objective was to prevent truck deliveries to tanks without the required product, improving operational efficiency.



SOLUTION

1

Leverage Wireless Pressure Transmitters

2

Install Mechanical Bubbler System

3

Supplied 50 Wireless Differential Pressure Transmitters

The following steps were undertaken to achieve the desired outcomes:

01 LEVERAGE WIRELESS PRESSURE TRANSMITTERS

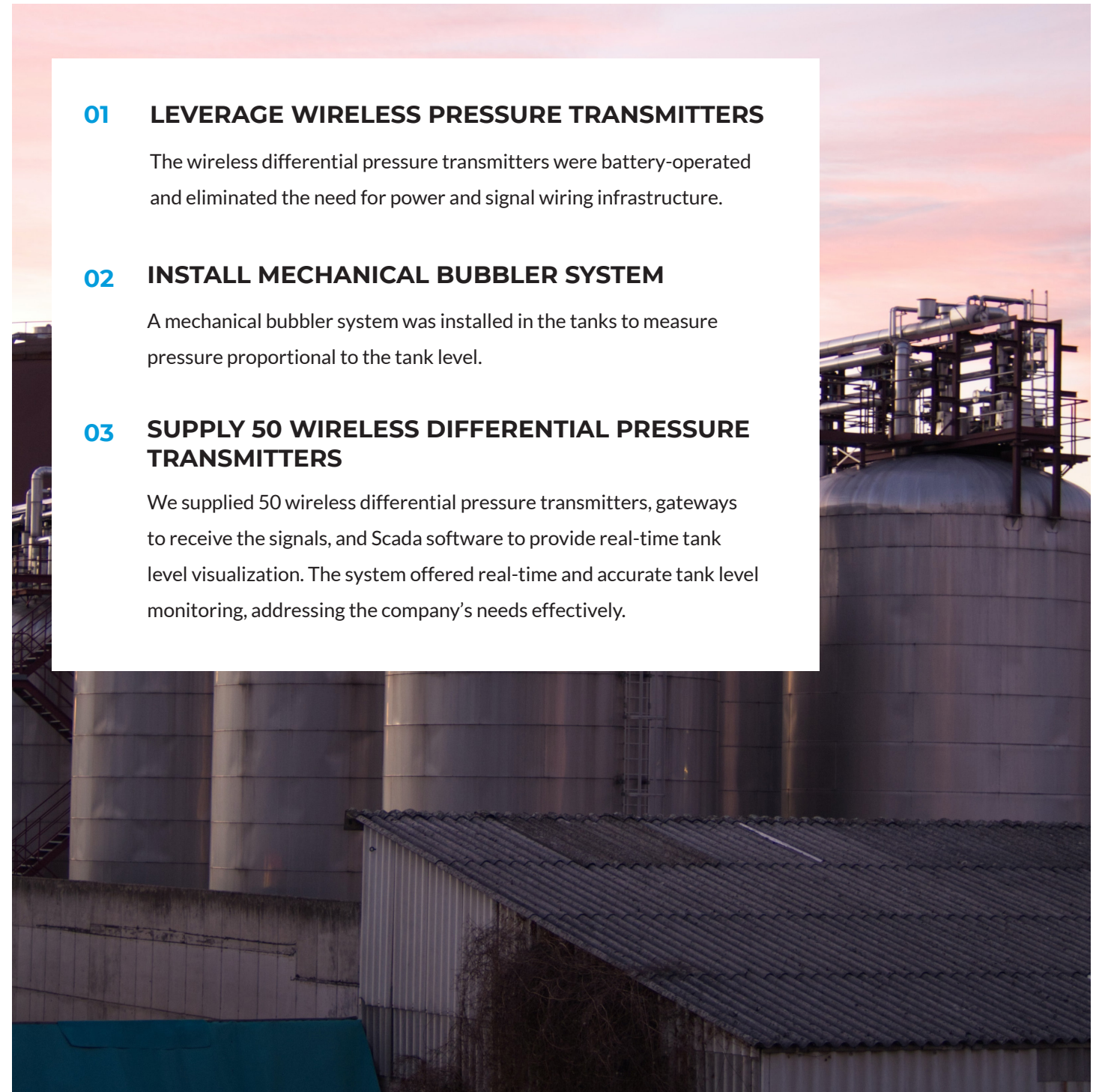
The wireless differential pressure transmitters were battery-operated and eliminated the need for power and signal wiring infrastructure.

02 INSTALL MECHANICAL BUBBLER SYSTEM

A mechanical bubbler system was installed in the tanks to measure pressure proportional to the tank level.

03 SUPPLY 50 WIRELESS DIFFERENTIAL PRESSURE TRANSMITTERS

We supplied 50 wireless differential pressure transmitters, gateways to receive the signals, and Scada software to provide real-time tank level visualization. The system offered real-time and accurate tank level monitoring, addressing the company's needs effectively.





RESULTS

1

System Provided Accurate and Real-Time Measurements

2

Prevention of Incorrect Truck Deliveries

3

Project Execution Cost Dramatically Reduced

The chemical company reported significant success after implementing these solutions:

01 SYSTEM PROVIDED ACCURATE AND REAL-TIME MEASUREMENTS

The system provided accurate and real-time tank level measurements, eliminating the need for manual measurements with measurement sticks. This improved operational efficiency, saved time, and reduced safety risks associated with manual measurements

02 PREVENTION OF INCORRECT TRUCK DELIVERIES

Additionally, the system prevented incorrect truck deliveries by enabling dispatchers to identify tanks with sufficient product levels.

02 PROJECT EXECUTION COST DRAMATICALLY REDUCED

The project execution cost was remarkably reduced compared to traditional wired systems, with a project savings estimate of over \$110,000 before including the operating and safety improvements.



CONCLUSION

By partnering with us and adopting a wireless tank level monitoring system, the chemical company successfully improved their operational efficiency, safety, and cost-effectiveness. The wireless differential pressure transmitters and interface with SCADA software provided accurate and real-time tank level measurements, eliminating manual measurements and preventing incorrect truck deliveries. Our expertise, commitment to customer satisfaction, and local support played a crucial role in delivering a reliable and cost-effective solution. The chemical company experienced the benefits of automation, demonstrating the significance of advanced wireless technologies in industrial processes.



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