



Let's Solve

Case Study

Reducing Costly
Unplanned Downtimes
Using IIoT for Global
Resources Company



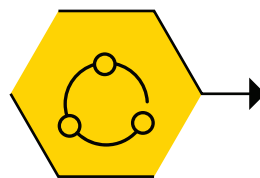
A Larsen & Toubro
Group Company

Client

A Multinational Resources Company with a high-quality resource base concentrated in the US & Australia, with core production operations of Conventional Assets in the US Gulf of Mexico, Australia, Trinidad & Tobago, and unconventional Onshore US assets. The client needed an effective real-time monitoring solution connecting disparate Operational Informational Systems.

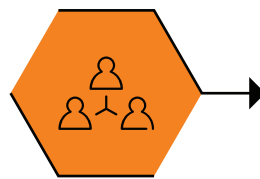
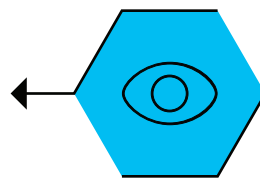
Challenges

Uptime is everything in the compression process critical to crude oil production. Further, with budget cuts, aging assets, and the loss of industry experience taking their toll; unplanned asset downtimes reflected substantial risk to the top & bottom lines for the Client. Absence of an effective Real-time, Digital, IoT Solution resulted in:



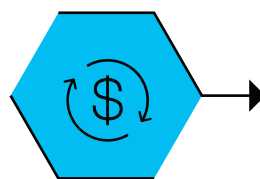
Legacy process control equipment, not integrated with other ancillary automation systems and critical business systems.

Guesswork in maintenance scheduling, due to lack of operational visibility & real-time equipment run parameters.



Lack of, with limited staff - rotating equipment engineers, compressor equipment condition monitoring driven by slow degradation due to accumulating hydrocarbons.

Unplanned downtime, causing non-compliance with permit, further resulting in stopping crude oil production until the compressor could be repaired or replaced



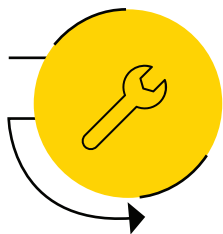
High revenue impact (USD 20 million in top-line impact) due to substantial production losses attributed to downtime and shutdown

LTI Solution

LTI employed an end-to-end IoT approach to handling this complicated challenge. Analytics were applied to data gathered from sensors mounted on remote offshore equipment to generate appropriate alerts before something bad occurs. Key elements comprised of:

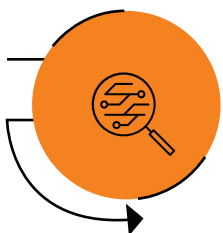
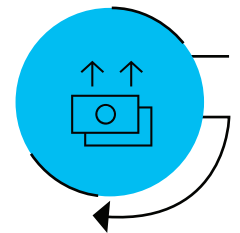
- Risk assessment to determine optimal technical & domain solution per business criticality of application & impact
- Research and engineering to understand the operating parameters and performance characteristics of the compressors
- Upstream Production Compressor Equipment domain knowledge + OSIsoft expertise
- Built on top of MOSAIC™ Platform leveraging LTI Proprietary Solutions / Accelerators: OPERA – Real-time Performance, and PRIME Plant
- Integrated enterprise systems to capture & analyse data
- Development and deployment of predictive analytics algorithms using PI for real-time aerodynamic performance model to drive compressor head (foot-pound force per pound mass), and efficiency (aerodynamics) calculations
- Processbook for Alerts & Notifications

Business Benefits Delivered



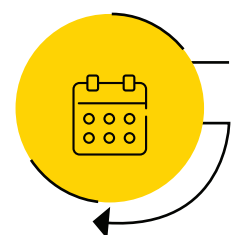
Needed repairs/replacements performed during scheduled maintenance outages, so no production lost due to downtime

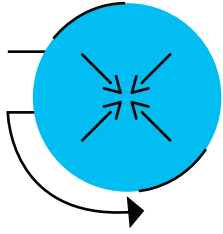
Brought \$20 million in Savings via Preventive Analytics



Accurately analysed 400,000 OSI PI Tags

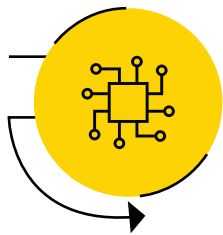
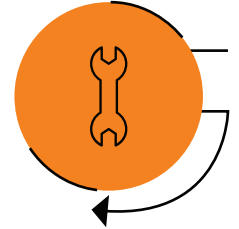
Processed 6 years' of historical data





Downtime Reduced by 10%

In-built recommendation engine to fix Equipment



Established a Centre of Excellence for OT & IT Best Practices to ensure Operational Excellence

LTI (NSE: LTI, BSE: 540005) is a global technology consulting and digital solutions Company helping more than 250 clients succeed in a converging world. With operations in 27 countries, we go the extra mile for our clients and accelerate their digital transformation with LTI's Mosaic platform enabling their mobile, social, analytics, IoT and cloud journeys. Founded 20 years ago as a subsidiary of Larsen & Toubro Limited, our unique heritage gives us unrivaled real-world expertise to solve the most complex challenges of enterprises across all industries. Each day, our team of more than 20,000 LTItes enable our clients to improve the effectiveness of their business and technology operations, and deliver value to their customers, employees and shareholders. Find more at www.Ltinfotech.com or follow us at @LTI_Global

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