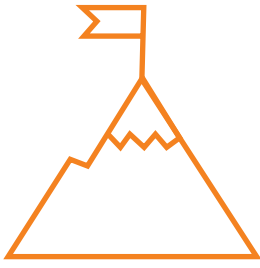




Case Study

LTI's Connected Port: Digital transformation of pit-to-port operations for a major mineral port operator

The client operates a mineral port, handling approximately 10 million tons of mineral per annum.



Business Challenges

A set of challenges identified based on a discussion with various business function stakeholders were:

- Low asset utilization due to lack of asset monitoring - locomotives, grabber, dumpers, barges, and other critical equipment.
- Lack of real-time information on material movement from mine to port and port operations due to which every stakeholder worked with estimations, lowering productivity.
- No visibility of work order execution through the supply chain.
- Non optimal use of mobile and fixed asset leading to poor fuel efficiency adding to high cost of operations.
- No correlation of driver behavior with asset condition and maintenance schedule.



LTI Solution

LTI leveraged IoT device sensorization and remote connectivity expertise to deliver radical digital transformation of the mineral port by collating multitude of loosely connected assets with Connected Ports Solution. With adoption of 4G network, the equipment spread across the mineral port were connected and real-time visibility led to optimized operations resulting in cost savings. The cloud-based solution is scalable capable of onboarding new devices, handling bulk data in real-time for analytics and forecast events. This equipped the management to make data-driven decisions.

The engagement commenced with a design thinking-based value discovery workshop.

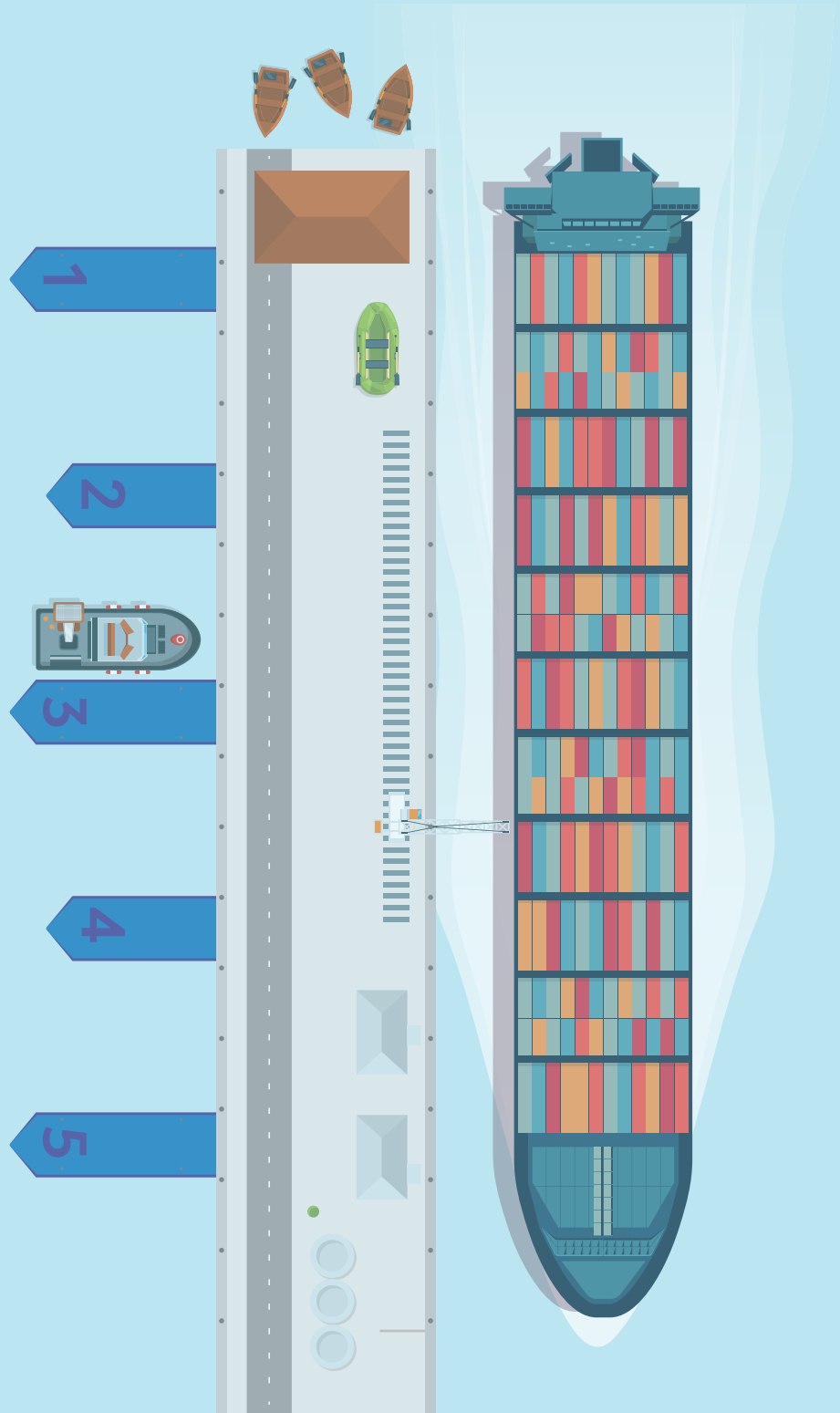
After a deep dive assessment, an IIoT playbook was created, providing a set of business use cases for Industry 4.0 Interventions and connectivity solution.

Mapped critical KPIs to port operations processes. Every asset on the port was connected to network infrastructure capturing real time equipment parameters and access its condition.

Connected machines with retrofitted sensors, gateway interface over cloud platform and automated task allocation based on availability and efficiency of asset.

With Integrated Command center, provided a real-time productivity analysis for better port management and data driven decision making with insights of port operations.

Implemented maintenance scheduler based on equipment data, prioritize critical equipment leading to overall reduction in downtime.



Business Benefits

The digital transformation and the new command centre provided:

5%
Improvement
in fuel efficiency

2%
Improvement
in operational
performance

**Improved
Equipment**
utilization and
reduced downtime

**Improved
rake visibility**
from mine
to port

LTI (NSE: LTI) is a global technology consulting and digital solutions company helping more than 400 clients succeed in a converging world. With operations in 31 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 in 1997 as a subsidiary of Larsen & Toubro Limited, our unique heritage gives us unrivalled real-world expertise to solve the most complex challenges of enterprises across all industries. Each day, our team of more than 33,000 LTIites 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 <http://www.Ltinfotech.com> or follow us at @LTI_Global.