LTIMindtree
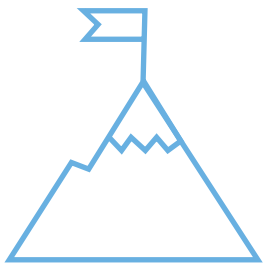
Predicting Component Failure for Shop Floor Equipment Using an Industry 4.0 Solution

Client

The client is a US-based multinational corporation that develops medical devices, pharmaceuticals, and consumer packaged goods.

Business Challenges

The challenges faced during autoclave operations included:

- ☑ Inconsistent performance patterns, variance in autoclave cycle time, and a failure of autoclave subcomponents, particularly vacuum pumps.

- ☑ Limited visibility into asset performance with zero visibility into operating parameters.

- ☑ Unscheduled downtimes due to an increase in equipment breakdown that led to low asset utilization and lower technician productivity.

LTIMindtree Solutions

Implemented a predictive maintenance model that used operational and health data from assets to help operationalize maintenance schedules.	Integrated with SAP and historian for process data trends that enabled visibility into maintenance schedules and inventory.	Developed and implemented an application suite to cleanse and analyze using various filters that helped enhance data quality, enriching it with asset parameters and time context.	Created real-time alerts by processing past events and signals connected to the failure of a component.	Provided actionable insights to maintenance engineers using handheld mobile devices that enabled them to take proactive corrective action.

Business Benefits

**12%
reduction**
in downtime with
better visibility of
asset parameters.

**8%
improvement**
in Overall Equipment
Effectiveness (OEE) with
better asset utilization.

**Improved
productivity**
with a reduction
in unscheduled
maintenance.

**Enabled
consistent**
performance patterns
through uniform cycle
time and reduced risk
of subcomponent
failure.