

IMPROVING MACHINE AVAILABILITY

and lowering
maintenance cost
for a Textile
Equipment
Manufacturer



PROJECT HIGHLIGHTS

- ▶ Industry: Manufacturing
- ▶ Revenue: >\$500M
- ▶ Technologies: IoT, Sensors, Analytics, Predictive Algorithms, Open Source
- ▶ Geographic Location: Europe
- ▶ Employee Strength: 5,000



BUSINESS SITUATION

A world leader in manufacturing fiber spinning machines needed to guard against unexpected component failures. Complex machines have multiple components such as inverters, gear boxes and motors. A single textile mill can have 100-200 of such machines. Unexpected component failures can result in unplanned downtimes and cause loss of revenue as well as customer trust. Our customer needed a solution that would not only help overcome these issues but predict failures much before they occurred, to initiate corrective measures.

SOLUTION

KPIT developed and implemented an innovative, predictive modeling solution based on an advanced machine learning platform utilizing sensors to collect machine data and machine behavioral patterns. This solution includes installing a 'black box' containing sensors, on each machine, that records data and syncs with the backend system. This collected data is analyzed in real time using KPIT's predictive algorithms to enhance failure prediction with improved diagnostic capabilities.

Some key challenges that this solution addresses include:

- ▶ Improved job scheduling leading to better customer service
- ▶ Reduced downtime by avoiding emergency maintenance tasks

OUTCOME

With the ability to integrate sensor data from the application as well as integration of maintenance, work orders, and operations information with the backend ERP, the solution offers plant operators a complete view of the current conditions and emergent maintenance requirements, weeks ahead.

Some key benefits include:

- ▶ Predictive model prevents unplanned outage of machines
- ▶ Higher customer satisfaction due to lesser downtime
- ▶ Higher revenue due to increased machine utilization

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