The Road Ahead for Transportation with Predictive Maintenance

LOGISTICS

17 FEB, 2023 . 3 MINUTES READ

There are a few buzzwords that form the world of automation & transformation in the supply chain industry. IIoT (Industrial Internet of Things), autonomous, connected big data etc. While a lot of people focus more on the autonomous aspect of digitalization & transformation towards latest technology, it's the "connected part" that forms the crux of this movement. Let's see how. IIoT is the current trend of automation & data integration in different sectors. The Supply chain industry being one of the largest markets from that perspective. Logistics companies are looking to move up the value chain with advanced communication and monitoring systems, enabled by IIoT as it opens up plenty of opportunities in automation, optimization, asset performance management & maintenance to gain efficiencies. The core focus in most organizations & IIoT deployment is operational efficiency, along with cost optimization. At the center of it all is the ability to connect and aggregate data from assets and machines and transform this big data into knowledge, intelligence, action & value. Data, turned into actionable intelligence and ultimately (autonomous, semi-autonomous and human) actions is key to predictive maintenance.

Predictive maintenance :

Predictive maintenance is the perfect case for IIoT in industries where uptime of specific assets is critical and

breakdowns can have consequences related to operational efficiency and cost. Actionable data on pre-defined factors is gathered from in vehicle smart sensors and predictive analytics algorithms are applied to predict when something might occur – and thus predictive maintenance is applied.

Benefits of a predictive maintenance program

Reduced operating costs with fuel savings

Improved vehicle reliability and reduced breakdowns

Just In time ordering

Increased resale value of vehicles

Enhanced driver safety and satisfaction

The future for the transportation industry is in creating fuel economy and reducing emissions via vehicle maintenance.

A predictive maintenance program allows you to work on fuel economy as:

Knowing the status of filters and fluids in the fleet optimizes maintenance intervals. It monitors engine and oil filter health through telematics.

If electrical systems like battery, starter motor, alternator or even air compressors are not functioning properly, they can negatively affect fuel economy. Regular preventative maintenance helps identify and resolve issues quickly, before they become expensive problems.

A proactive maintenance schedule can catch problems early with the help of IIoT. It can help identify the root problem for repairs ahead of the next scheduled service date. Thus, IIoT ensures realtime visibility, maintains vehicle health, improves fleet management, warehouse & yard management etc. IIoT solutions promise to make transportation organisations smarter and more successful at what they do. It is at the core of reshaping transportation to provide greater safety, more efficient travel & strategic fleet management.

We are fast moving towards a disruption in the supply chain industry. While we aren't fully in that stage yet, many organizations are exploring the possibilities of digitalisation, & others are taking the lead or being forced to move faster to meet market demands for their ecosystems. The road ahead is one of more autonomy across various logistics components such as supply chain logistics, warehouse management, logistics routing etc.

FAQ's

1. What is predictive maintenance in logistics?

2. What are some real-world examples of predictive analytics?