IoT ONE

Asset Efficiency

Overview

Asset Efficiency refers to the process of analyzing the health of an asset. The health of an asset in itself relates to the asset's utility, its need to be replaced, and its need for maintenance.

It can be broken down into three key components:

1. Monitoring: Tracking the actual health and viability of the asset
2. Diagnostic Analysis: Comparing new, real-time data to relevant data from the past in order to detect any anomalies.
3. Prognostics: Given past data, algorithms are developed to determine the remaining useful life of an asset

Applicable Industries

- Aerospace
- Automotive
- Consumer Goods
- Rail & Metro
- Shipping

Applicable Functions

- Facility Maintenance

Maintenance

Production - Manufacturing

Case Studies

Crossing the Atlantic to Argentina

Between 2005 and 2010, Aluar went through a substantial growth phase where most of the production facilities were upgraded. As a result of this expansion, the number of PLCs increased from 100 to 300. ...

Market Size

Estimate A	$2.5 Trillion potentially in overall asset efficiency improvements (Source)

User Viewpoint

Business Value

How does this use case impact an organization's performance?

Improved asset efficiency enables a higher return on investments and lower production cost.

Through measurements taken to improve asset efficiency, various benefits like longer asset life, minimized downtime, heightened predictability of service, reduced OT CAPEX and OPEC, and improved customer service are possible.

Key Performance Indicators

How is the success of the system measured for users and for the business?

Asset turnover, inventory turns etc.

System Capabilities & Requirements

What are the typical capabilities in this use case?

Monitoring assets, gathering and analyzing data to improve processes.

Important data from all assets should be gathered and saved passively after initial setup. The data stream needs to be uninterrupted and consistent to create a comprehensive database to retrieve insights from.

Deployment Environment

Where is the ’edge’ of the solution deployed?

This use case is typically deployed on production sites.

Technology Viewpoint

Sensors

What sensors are typically used to provide data into the IoT system, and which factors define their deployment?

Sensors are fixed to the asset with a connection gateway to send data constantly to a cloud or edge storage solution.

Analytics

What types of analysis are typically used to transform data into actionable information?

Real-time remote monitoring of an asset's condition provides analytics such as deviations from average historical data, indicating developing problems, which enables predictive measures.

Cybersecurity

What factors define the trustworthiness of the solution?

Cloud & Edge Platforms

What factors define the cloud and edge platforms used to integrate the solution?

Real-time edge analytics are essential to system performance. Cloud storage enables accumulation of historical data.

User Interface

What factors define the interfaces available to the system users?

Multiple users with different competency levels must receive different alerts.

Data Viewpoint

Data Sources

How is data obtained by the system?

IoT sensors are attached to the assets for collecting data constantly.

Data Types

What data points are typically collected by the system?

Temperature, humidity, vibration, electrical parameters, images, etc.

IoT ONE Use Case

Accelerating the Industrial Internet of Things

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