Accelerating Business Value for Aerospace Engine Manufacturers with IoT Analytics–based Service

INDUSTRY PROFILE

The airline industry is known for its ups and downs. There is margin and price pressure for both engine manufacturing and the spare parts. It is easy to see why companies such as Rolls Royce are turning to IoT technology and Analytics to manage product performance and create value with new services.

BUSINESS CHALLENGES

Engine manufacturing itself is not always very profitable. The spare parts for these engines are actually the source of most of the profits. Many certified third party suppliers make these parts and so profitability becomes very challenging.

Customer loyalty is also a major concern. Airlines will often choose to work with engine manufacturers with the lowest pricing on certified spare parts.

Predictable revenue streams are also a concern. It is difficult to forecast airline industry activity as many outside factors, such as fuel prices and weather, can create unforeseen downturns. Creating predictable revenue streams that can avoid such fluctuations is essential.

VALUE-ADDED SERVICES – ENABLED BY IoT ANALYTICS

The customers' productivity and profitability is what ultimately drives success for both the manufacturer and the customer. In the aerospace engine industry, this means maximizing engine uptime.

One way to add value is to sell engine hours instead of selling the engines themselves. Delivering that service depends on analytics. This requires an understanding of how equipment is operating, predicting what may happen, and executing preventative maintenance to maximize performance, safety and uptime.

This services-based model is made possible with the use of a robust IoT Analytics Platform that can handle a large volume of data to make predictions and recommend services.

BUSINESS BENEFITS

The complexity and typically heavy usage of aerospace engines make them ideal for the use of sensors and an IoT Analytics platform to analyze the high volume of data. IoT Analytics delivers a wide range of benefits:

- Significant reduction in customer breakdowns and downtime – avoidable via analytics that flag unusual operating behavior
- New revenue via information services that monitor equipment and recommend maintenance services for engine lifecycle management
- Enhanced financial flexibility for airlines by eliminating unexpected major capital expenses
- Provides a complete audit trail for the customer and safety or regulatory entities

IoT Analytics and engine manufacturers are a good match. The rich data collected by sensors helps to prolong the life of this complex machinery. The new and enhanced services enabled by IoT Analytics leads to better long term – and profitable – customer relationships. These service opportunities are made possible by leveraging new technology and concepts such as Vitria's Analytics Value Chain and IoT Analytics platform.