intel Saffron™

CASE STUDY

OPTIMIZING INVENTORY AND REDUCING MAINTENANCE COSTS

BACKGROUND

Building and maintaining planes can be a complex task as commercial aircraft tend to be in service only 25 to 30 years. It becomes even more challenging when aircraft go out of production but are in operation beyond their expected lifetime. Manufacturers dealing with out-of-production aircraft often experience challenges providing their customers with spare parts.

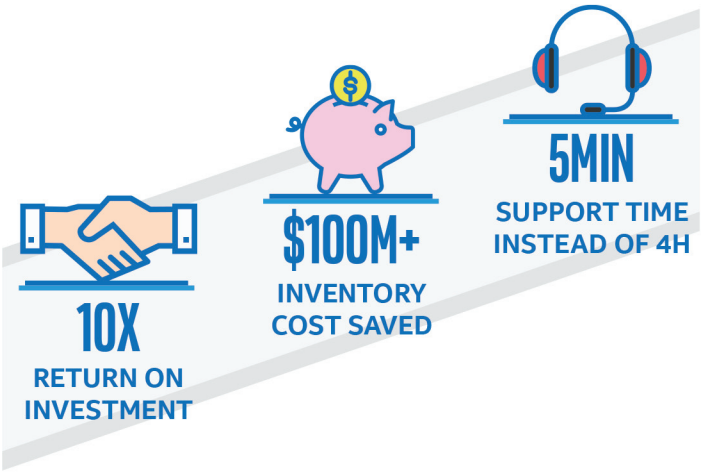
CHALLENGE

An aircraft manufacturer wanted to improve its spare part inventory management for 15,000 out-of-production aircraft. Customers needed stock parts that couldn't be sourced since they were never required to be repaired or replaced on the aircraft. The parts would need to be produced on demand and have a long lead time for production—typically up to six months—resulting in airlines grounding their aircraft at an average loss of $1 million per day. As a result, the manufacturer's goal was to anticipate which spare parts would fail before an issue was communicated, leading to better inventory planning, supply chain decision making and a total reduction in operating costs.

Additionally, the company wanted to know whether to purchase more than one spare part in advance at a given time when a problem had been reported, and whether they could reduce the number of service engineer man hours spent answering customer questions about the stock parts by having better access to information. Stocking decisions were also made difficult because of limited communication between the spares management employees and the service engineers, resulting in high levels of "dead" stock for the manufacturer. The goal was to reduce maintenance costs and increase customer satisfaction and retention, without compromising aircraft production quality, safety and lives.

SOLUTION

The Intel® Saffron™ Cognitive Solutions Group unified 15 disparate data sources—both structured and unstructured. First, the Saffron Cognitive Solution ingested all the data to create an enduring knowledge store of all the data. Model-free similarity based reasoning was then applied to the Intel® Saffron Memory Base™ to identify similarity patterns in the data to answer the questions "Have we seen this part before? If so, what did we do about it? Were the outcomes good or bad? Can I use this experience of the past to apply to this problem?" For example, using similarity analysis, the Saffron Cognitive Solution revealed how "dead" stock parts, which were already written off, could be used to repair out-of-production aircraft even though the parts belonged to different aircraft models, which would not have been detected otherwise. The Saffron Cognitive Solution quickly identified parts requiring repair or replacement,



helping the customer anticipate future inventory needs.

RESULT

The manufacturer was able to identify, manage and anticipate spare part problems more accurately and efficiently than ever before. The Saffron Memory Base reduced the time spent by services engineers answering questions about stock parts, bringing the average request time down from 4 hours to 5 minutes to resolve. The manufacturer was also able to sell "dead" inventory that was originally written off and drive additional revenue to their bottom line.

The Saffron Cognitive Solutions Group helped the aircraft manufacturer eliminate hundreds of millions of dollars wasted through operational inefficiencies and customer satisfaction. Also, new revenue streams generated more than 10 times return on the initial Saffron Cognitive solution investment.

WHY SAFFRON COGNITIVE SOLUTIONS

Unprecedented Accuracy
Provides customers with the highest degree of data accuracy—the proof is in our results.

Full Transparency
Gives customers the explanation and reasoning behind the results of their data.

Learns on Sparse Data
Learns on sparse data so customers don't need volumes of data to get started.

Time-to-value
Customers can rapidly unlock value in their data (i.e., weeks rather than months).

Speed-to-insight
Provides customers faster speed-to-insight to quickly see the actionable knowledge in their data.

Model-free and rule-free
Dynamic and not constrained by rules and models—incrementally learns and adapts in real-time from incoming data and human

High ROI
Proven track record of high ROI for leading enterprises across industries and use cases.

LEARN MORE

To find more information about Intel Saffron Cognitive Solutions, go to www.saffrontech.com.