Honeywell | Power of Connected

CONNECTED AIRCRAFT – CATHAY PACIFIC USE CASE

Business Problem

Cathay Pacific Airways, an international airline offering services to more than 110 destinations around the world, and the largest consumer airline in China, recognized the need to improve on-time performance and cabin comfort in order to deliver a superior customer experience and improve bottom line results.

Last year alone, Cathay experienced 242 flight delays, many resulting from an issue of overheated cabins. Impacting a total of 1,783 flights, the delays not only affected Cathay's brand image and their ability to delight customers, but was also costing the airline $10K per hour of delay and hundreds of thousands of dollars in flight cancellations.

Persona Problem

Responsible for addressing issues related to flight delays due to an overheated cabin, Cathay Tech Service Manager Tomas Yao and his team of technicians identified the Auxiliary Power Unit as the most likely culprit. Though the team of technicians moved quickly to replace faulty parts once an issue was identified, these replacements would take place at the gate just prior to departure—inevitability causing significant flight delays.

Yao turned to Honeywell Maintenance Engineer Sharon Loke in search of a mechanism that could alert technicians to faulty APUs long before the plane rolled up to the gate, facilitating more proactive parts replacement protocols.

Honeywell Solution

Loke enlisted the help of Honeywell Connected Aircraft Software Engineering Leader Brett McMann to develop a customized solution to resolve the airline's challenge. Leveraging Loke's deep domain expertise and familiarity with the customer's pain points, McMann and his team of software developers tapped into Honeywell's IoT platform, Sentience, to collect and analyze massive amounts of data, including flight data records, temperature records, APU performance and shut-down reports, maintenance events, geo-location records and more.

- 88 route geo-locations
- 1.6M flight data records
- 570 APU auto shut down reports
- 3,000 ATA 49 – Maintenance events
- 16 months of operational data for analysis
- 13,000 APU performance reports
- 44,000 fault messages
- 151 Honeywell shop removal records
- 485 days' airport temperature records
- 90,000 flight sectors
- 327,000 maintenance tech log entries

The resulting GoDirect Connected Maintenance solution features **advanced analytics** capabilities that can **predict** possible parts failures **up to three days in advance** of the actual failure—allowing Yao and his team to act before the plane is declared ready for flight.

Business Results

Today, Honeywell's GoDirect Connected Maintenance solution is available in **61 of Cathay's aircrafts**. Since implementation of the solution in April 2016, the airline has realized the following notable results:

- **~30% reduction** in APU-related delays and cancelations.
- **~30% reduction** in APU replacement time, resulting in lower technician costs and fewer last minute, reactive aircraft repairs.