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CASE STUDY

Microland Leveraged Gen AI in Aircraft Phase-in & Phase-out Processes to Boost Productivity, Optimize Aircraft Utilization and Costs for a European Aviation Services Company

Case Study Overview

Aircraft phase-in and phase-out processes are complex, document-intensive, and time-consuming. It involves having multiple teams to ensure all past maintenance records and associated checks with the aircraft are available before the phasing-in and phasing-out of the aircraft. A single aircraft can have more than 10,000 documents and it takes a lot of manual effort to search for the right data from the document repository with valid proofs or citations. The client aims to leverage our GenAI solution built and hosted by Microland on its platform to help induct aircraft faster ensure better productivity of its staff, including the Asset Management and Airline CAMO team, and reduce fixed costs on the aircraft.

About Client

The client is a prominent global Aviation Services Holding Company, which operates eight airline companies across Europe, South Africa, Asia, and Australia. They are renowned for ACMI (Aircraft, Crew, Maintenance, Insurance) airline operations, scheduled and charter cargo, and passenger services, aircraft leasing, maintenance, and parts support. With a diverse team of 3,000 members representing 50+ nations, they boast an impressive fleet of 160 aircraft. Last year, they successfully served over 8.4 million passengers and transported over 800,000 tons of cargo through over 110,000 flights, all driven by a shared commitment to delivering exceptional customer service worldwide.

Business Challenges

The client was facing the below-mentioned challenges with its aircraft phase-in and phase-out processes which were impacting the productivity of the Aircraft Fleet and Asset Management teams and required increased efforts to ensure compliance with stringent global and regional aviation regulations and increasing fixed costs per aircraft.

- Aircraft phase-in and phase-out processes are complex, document-intensive, and time-consuming involving multiple teams to be engaged to ensure all records are made available before the phasing-in and phasing-out of the aircraft
- Past maintenance records and associated checks can go back up to 20 years and a single aircraft can have 10,000+ maintenance documents across its service history.
- Requires immense manual effort to search for the 'accomplishment' of the task from the document repository with valid citations or Dirty Finger Print (DFP).
- Mandatory to ensure compliance with global and regional aviation regulations

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Our Solution

The client and Microland have signed a multi-year GenAI DevOps contract. Microland built an Azure-based GenAI solution leveraging services including Azure OpenAI, Azure AI Search, and Form Recognizer, among others, to ensure the right information across different maintenance event categories is found and provided as an output in the right format that can be consumed by users.

There is also built-in automation functionality which involves Excel spreadsheet automation which can ingest an aviation event template and required details about the aircraft are auto-populated based on the GenAI query responses received. The tool also helps the client provide the Lessor with the information in a fast and efficient manner, which reduces the aircraft handing back cycle time.

The project was carried out in 3 steps followed by continuous ongoing support as described below:

- **Requirement Deep-Dive:** A workshop was conducted as part of the consulting and assessment exercise to analyze the manual processes and identify areas where the AI solution can bring about the most significant improvements. Further, detailed requirement-gathering sessions were conducted to enable the design of the tool's interface and process workflows in the AI tool.
- **Deploying the AI Solution:** Implementing the AI Solution on Microland's AI Jumpstart platform, which has a base set of pre-built features to ensure faster deployment and robust architecture.
- **Customizing the AI Solution:** Tailoring the AI solution and customizing Microland's AI Jumpstart platform to fit the client's unique requirements for Phase-In and Phase-Out processes. This customization in Phase 1 will focus on building specific functionalities, such as aircraft records upload, AI query responses for different maintenance event categories, and streamlining the aircraft phase-in and phase-out processes.
- **Ongoing Support & DevOps:** Offering continuous support for the AI solution, which encompasses both DevOps and the fine-tuning of the AI solution. This support is critical to ensure the AI solution evolves with the client's needs, maintaining optimal performance and accuracy.

Value Delivered

Below are the outcomes and value we have delivered to the client through the GenAI-based tool,

- **Reduced over $100K fixed costs per aircraft per month,** which in a year is estimated to be more than $2 Million of savings for the client
- **Up to 60% improvement in productivity of Aircraft Fleet and Asset management teams** by accelerating the document upload and retrieval processes
- **Improved compliance with stringent aviation guidelines** during the phase-in and phase-out process by reducing manual errors

Microland is a pioneering IT Infrastructure services and consulting company headquartered in Bengaluru, India, with a proven track record of delivering tangible business outcomes for 35 years. Today, as enterprises recognize that networks underpin the functionality and efficiency of modern digital systems and support innovation, we provide next-generation technologies such as AI, automated operations, and platform-driven solutions – which drive operational excellence, agility, and productivity for organizations worldwide. Our team of over 4,600 experts delivers services in over 100 countries across Asia, Australia, Europe, the Middle East, and North America, offering cutting-edge solutions in networks, cloud, data centers, cybersecurity, services management, applications, and automation. Recognized by leading industry analysts for our innovative strategies, Microland is committed to strong governance, environmental sustainability, and fostering an inclusive workplace where diverse talent thrives. When businesses work with Microland, they connect with the best talent, technologies, and solutions to create unparalleled value. For more information, visit www.microland.com

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