Korean Airlines

Joint PTC and Oracle® Solution Facilitates Aircraft Fleet Maintenance and Engineering

Summary

Korean Airlines is one of Asia’s largest airlines and the world’s largest commercial airline cargo carrier with a fleet of about 150 aircraft (and more than 60 on order), operating almost 400 passenger flights per day to 115 cities in 37 countries. Korean Airlines now uses a joint solution from Oracle and PTC that increases efficiency and productivity across the engineering, planning, technical publications, and maintenance departments. More than 3,000 field service technicians, maintenance engineers, maintenance planners, and technical writers rely on the PTC-Oracle solution as the single source for all maintenance information.
**Challenge**

Korean Airlines needed an IT solution that would create a single source for all information related to airframe, engine and component maintenance, including over 120 OEM maintenance manuals and parts catalogs, and all Korean Air maintenance supplements, service bulletins and schematics. The airline manages a mixed fleet of aircraft and engine models, including Airbus A300-600, A330 and A380; Boeing B737, B747-400, B747-8 and B777; Bombardier BD-700; Cessna CE525 and CE560; Gulfstream G-IV; Sikorsky S76; Pratt & Whitney PW4000 series and JT9D, GEAE GE90 and CFMI CFM56. Korean Airlines also needed to manage service and parts documentation for components and auxiliary power unit (APU) maintenance activities, and plans to support the Boeing 787 when that aircraft is added to its fleet.

**Solution**

Korean Airlines implemented PTC Servigistics InService for MRO software including the Job Card Generator (JCG) and Revision Manager modules with the Oracle E-Business Suite and Oracle Complex Maintenance, Repair, and Overhaul (cMRO) to facilitate the maintenance of its entire fleet of aircraft. To begin, Korean Air implemented PTC Servigistics InService for MRO integrated with Oracle Universal Content Management for document workflows. This included processing of OEM data, analysis/bursting, editing, reviewing, approving, distribution, and viewing by technicians. Later, Korean Airlines implemented the Job Card Generator module with Oracle cMRO to automate the production of thousands of task cards each day, which are used by technicians and inspectors to guide maintenance practices and document regulatory compliance.

Oracle cMRO delivers the functionality to manage maintenance operations, from configuration management to scheduling, inventory resource allocation, and compliance. The PTC software turns work orders into job cards, provides service, parts and troubleshooting information, captures operational expertise, and connects back to Oracle cMRO, which manages and optimizes service execution. By providing engineers, planners, and technicians with complete, accurate, and timely information, the PTC-Oracle solution reduces operating costs, accelerates repairs, and improves compliance for aviation maintenance and engineering (M&E) operations.
The integration between Oracle E-Business Suite and PTC software replaces multiple legacy systems and introduces a fully-integrated, modern IT environment that meets the specific needs of Korean Airlines’ maintenance and engineering department and maintenance shops. At every phase of the maintenance process, both scheduled and unscheduled, the joint solution retains up-to-date aircraft configurations, provides detailed planning and scheduling capabilities, serves as the system of record for all maintenance activities, and automates key processes such as job card generation, non-routine maintenance requirements, and parts procurement.

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Benefits

• Increases aircraft uptime
• Accelerates repairs
• Reduces operating costs
• Accelerates the production of job cards
• Automates the review and approval process for maintenance updates and revisions
• Enables dynamic (partial) updates of service and parts information
• Ensures mechanics and engineers have the most current technical documentation
• Improves regulatory compliance