



Process optimization in MRO ensures success for the future

Systems integration is, and will continue to be, a key factor for business success. It is important for companies in all business sectors to be able to exchange information seamlessly across departmental and company boundaries. Once entered, data can often be applied to many business processes. Systems integration is an important element of the Lufthansa Systems product and service portfolio. Our highly experienced consultants assist customers from the aviation and finance sectors in developing new software solutions and in implementing and integrating these solutions with existing applications. These new solutions can increase the efficiency and speed of business processes and thus deliver or secure a competitive advantage and ultimately also save costs. There is also a demand for modular designs that can grow as a company becomes more successful. It should be easy to integrate features at a later stage that are not needed now. An important aspect of the Lufthansa Systems approach is to discover what impact the customers' corporate strategy will have on their future IT requirements.

Complete familiarity with aviation-specific business processes

The airline and aviation industry in particular can benefit from Lufthansa Systems' expertise as systems integrator. Lufthansa Systems has proven experience of the highly complex maintenance and repair procedures employed within the industry. Maintenance, repair and overhaul (MRO) demands extremely high standards of quality, safety and accountability. Routine maintenance, repair of rotatable parts in the workshop, or the scheduled overhaul as part of a D-check -- all of these procedures make great demands of the available technology.

An IT solution must integrate these complex processes with the considerable amount of information directly related to them. This includes maintenance schedules, rostering lists and information on materials that have to be directed to the right place at the right time. Each individual step involved in servicing an aircraft must be carefully documented, which is a complex task that cannot be handled with only a pencil and a notebook. Rather, the individual steps must be mapped in one solution and can thus be optimized. As a result, a reliable record of the smallest detail is

available -- such as which screws have been removed and where. Lufthansa Systems goes the extra mile to satisfy these stringent quality and safety requirements by managing its applications in its own data center, which is one of the most modern and most secure of its kind in Europe.

The IT specialists from Lufthansa Systems not only know the MRO processes in detail but also know which IT applications provide the best value in different situations. High costs have called for efficient, lean business processes in the aviation industry. During the next few years, the industry will have to meet the challenge of fully optimizing these processes. To avoid possible interface problems, a solution must ensure that IT applications are optimally integrated with the processes they support. What used to be nice to have has now become a 'must have'.

SAP R/3 Aerospace & Defense as an industry solution

The SAP R/3 Aerospace & Defense solution is an innovative system that allows customers to continually expand IT processes in MRO. It is capable of mapping all important business processes in an integrated IT system, from maintenance and repair to pilot deployment planning right through to administrative processes. Working with a variety of individual solutions within a company is not very efficient. The SAP industry-specific component is able to focus a company's MRO business in a way that makes it more efficient and more cost-effective. Thanks to our many years of experience as a certified Customer Competence Center for SAP R/3, Lufthansa Systems is one of the leading SAP suppliers in the field of airline maintenance. We have already proven our capabilities on numerous occasions, particularly in the past three years, in the successful consulting and planning of major international SAP R/3 Aerospace & Defense (A&D) projects.

Our efforts have been appreciated not only by our customers; SAP itself has been talking to us about possible forms of further cooperation. Lufthansa Systems' specialists assisted SAP software engineers in the development of the A&D solution, which was completed two years ago.



Customer references

Some of the customers who have already optimized their MRO business with the SAP solution include Lufthansa Technik, CityLine, Asiana Airlines and VEM, the engineering subsidiary of the Brazilian airline Varig. In mid 2005, Lufthansa Systems signed an agreement with Thai Airways International Public Company Limited for the implementation of the SAP solution.

The MRO (Maintenance, Repair & Overhaul) solution will enable *THAI* to optimize its business processes and to achieve sustainable cost savings. A team made up of experts from THAI and Lufthansa Systems set up the project in May 2005, which is scheduled to run over a period of 24 months.

Lufthansa Technik decided to migrate its entire SAP system even before the SAP R/3 Aerospace & Defense had been officially released. As up to 4,500 specialist Lufthansa Technik personnel use this high availability R/3 system every day, the project planning had to be meticulous. Lufthansa Systems won the business in a competitive tender. A joint core team of around 100 employees was then involved in implementing the project.

"The partnership between CityLine and Lufthansa Systems is a model for the whole aviation industry," said Peter Goebbels, head of development for Aerospace & Defense at SAP, following the successful implementation of the system at *Lufthansa CityLine* in the summer of 2003. The project with CityLine began in November 2001. Those involved with the project were aware that they had to consider matters of future strategic development as well as providing process coverage with the SAP software. For the first time ever, everyone involved in the process was linked in one single system - from pilots to engineers, from mechanics to accountants. With the SAP R/3 Aerospace & Defense solution safely in place, the company can now expand its IT processes - particularly those for MRO - as and when required. Under an 18-month agreement signed by the partners, Lufthansa Systems will also be supplying SAP-related consulting and development services.

Asiana Airlines is also optimizing its business processes with the Aerospace & Defense industry solution. Since end of 2003, Lufthansa Systems is providing

consulting services for this first major SAP project of Asiana Airlines' IT subsidiary Asiana IDT (Information Decision Technology). The project in Seoul, South Korea is scheduled to take 17 months. Upon the successful completion of the SAP implementation, Lufthansa Systems aims to collaborate further with Asiana Airline's parent company, the Kumho Group, on further projects.

Our latest successful implementation of SAP R/3 Aerospace & Defense was for VEM *VARIG Engineering & Maintenance* in Porto Alegre Salgado, Brazil. One of the world's ten largest MRO suppliers, this subsidiary of the Brazilian airline Varig is currently expanding its services. Varig and Lufthansa Systems have a long history of cooperation. Lufthansa Systems had previously installed and implemented SAP modules for Varig in Rio de Janeiro and Sao Paulo. Initial analyses and discussions showed that processes at VARIG Engineering & Maintenance could also be revised, standardized and streamlined with the aid of an SAP R/3 solution. The project at VEM, in which 117 employees from both companies were involved, covered a complete SAP R/3 Aerospace & Defense implementation with all modules. Lufthansa Systems assembled a team in Porto Alegre for the duration of the project. After nearly two years' work, the system became operational in February 2004. Today, there are approximately 1,500 VEM employees using the new SAP solution.

MTU Aero Engines GmbH selected the SAP A&D solution and commissioned Lufthansa Systems to develop a prototype to meet its special requirements. The global rollout for all the company's civil and military factories took place end of 2004. The customer was particularly impressed with the fact that our IT specialists have specific experience of the aviation industry.

Process optimization is, and will remain, a recurring topic and one that can make the difference between business success and failure in the future.