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Airbus Unit Leverages New Tools, Processes to Strengthen Market Leadership Position

The globally renowned aerospace manufacturer created its Airbus Flight Hour Services division to deliver innovative maintenance solutions to customers. In the process, Airbus transformed its operations through new software and industry-leading business practices.

At the beginning of this decade, the global aerospace and defense manufacturer Airbus began to hear something new from the airlines that purchased its planes: They wanted service contracts that guaranteed the availability of their airplanes and the spare parts that kept them in the sky.

Thus began a transformation that would cascade through Airbus in the ensuing years, as the renowned manufacturer transformed itself into a world-class service manager as well.

Beginning a New Era

To address this new customer demand, Airbus created its Flight Hour Services (FHS) unit, which delivers solutions ranging from guaranteed parts availability to full airframe maintenance. The organization's guiding principle is that users of the product—in this case airplane operators—pay by the flight hour for access to a pool of spare parts and repair management.

In its early days, Airbus FHS provided standard commitments to service A330s, A380s, and other Airbus planes at a smattering of customer sites around the world. The pool of spare parts was a focal point—the company's ability to manage it efficiently would go a long way toward ensuring that it could honor its customer commitments and run a profitable operation.

"Each time an Airbus customer needs a component to fix an issue on an aircraft, we have to make the component available in a given timeframe, because we've made commitments to those customers," explains Airbus' Louis-Dominique Bouclier, Head of Airbus FHS pool management. "Airbus FHS must position stock so that when a customer in any location needs a part, they will get it right away."

Bouclier oversees pool management for Airbus FHS, managing the unit's inventory and optimizing the movement of spare parts to ensure that customer commitments are met. He joined Airbus in 2011 with many years' experience in the maintenance, repair, and overhaul (MRO) industry. During those early days of FHS, Bouclier and the pool-management team tracked inventory the way many young businesses track assets: through spreadsheets that were manually updated.

But as customers warmed to the idea of guaranteed aircraft availability, the FHS unit began to grow. In three years, the number of part numbers under its purview increased by a factor of six, while the value of its pool grew twelve-fold. So too did its management challenges. The number of planes covered by the spare parts pool ballooned to more than 170, in locations throughout Europe and Asia. For company executives, the message was clear: It was time for Airbus FHS to undertake its own transformation—to more sophisticated management of the spare parts pool at the heart of its operations. Processes would change, as would the technology that overlaid them.

After a long selection process, FHS decided to opt for PTC's Service Parts Management software. Bouclier says the system stood out as one of the best tools for multi-echelon inventory optimization—just the kind of activity FHS hoped to perfect. Bouclier and his team enlisted the consultants at PTC Global Services as a partner in the transformation.

For Airbus FHS, as for any company that strives to transform its business model with the help of technology, several factors determine the success of the business enhancement:

- Business alignment around the planned change

- Process transformation that creates a more efficient and profitable business

- Accelerated deployment of the technology to ensure the quickest time to value

- A program of enterprise learning and adoption to ensure that key users grasp the benefits of the changes

Bouclier and the team at Airbus Flight Hour Services paid close attention to each factor, laying the groundwork for success.

Business Alignment

At FHS, the process of business alignment began with an exercise that many companies overlook: The team sat with the consultants at PTC Global Services and outlined the business outcomes they expected from the transformation. The ultimate goal for FHS is to become a market leader in the aerospace MRO industry within 10 years. One contributing element was to reach 8%–12% total optimization on their stock, in 5%–8% annual increments.

Pierre Reville, who runs the FHS division as vice president of Services Solutions at Airbus Customer Services, served as the project's executive sponsor. His involvement was key, according to Stéphane Rouille, PTC Global Services' project manager.

"His support was one of the biggest success factors in rolling out the new software and processes," Rouille explains. "He has deep experience in airline MRO, and knows it can be challenging to deploy such software. He was there for the software selection and the major milestones, and he was always available for feedback. On some projects, the sponsor walks away and the team forgets all its objectives. He didn't let that happen."

Reville mustered a steering committee to oversee the daily progress of the business transformation and technology rollout. Committee members included representatives from the FHS Pool Management business and the Airbus IT team, plus a person focused on additional business opportunities enabled by the Service Parts Management software.

The steering committee was vital to business alignment and, ultimately, the project's success, says Louis Marquis-Sébie, FHS Pool Management's Special Projects Leader.

"This was just a seven-month project, and you cannot afford to lose time to make decisions. So any time we had [sticking] points, we leaned on the steering committee to ensure that we could solve them easily and quickly."

The committee held monthly meetings with the PTC Global Services team to ensure that the project stayed on track to meet the company's goals. "The project management was efficient, with the right level of anticipation to complete the project on time and with high-quality results," Marquis-Sébie explains. "There was a lot of trust and transparency. If there were any issues, we could raise them."

Another element of success was the involvement of key users in deciding which of the company's processes would change, and how they could utilize the software to improve the business.

"You really need to involve them at the beginning of the project, because they are the ones that will be using the software," Marquis-Sébie says. This helped FHS secure adoption of the technology across the organization, a success factor covered in more depth below.

Good governance was vital to FHS' pool management transformation. The FHS and PTC teams continually verified that each stage was proceeding as planned—and was aligned to the program's ultimate goals.

Core Elements of Business Alignment

- Secure executive sponsorship and commitment
- Identify business outcomes and value
- Create cross-departmental/key stakeholder alignment
  - All stakeholders agree/align on the vision of what the company wants to achieve
- Enact strong program governance
  - The outcomes identified in step two become a governance mechanism; i.e., when the project begins to veer, good program governance steers it back to desired outcomes

Process Transformation

Companies that plan a major change effort tend to expect that the technology, such as PTC Service Parts Management, will accomplish the bulk of the work. But the team at Airbus FHS knew they needed a combination of technology change and process change to accomplish the company's goals.

When FHS executives hired PTC to consult on the project, they expected to leverage the consultants' software expertise. "But just as important," Marquis-Sébie says, "we wanted PTC Global Services' experience from the field, their view of previous industry experience."

Indeed, FHS' selection of PTC Service Parts Management was due in part to the fact that PTC could provide consultants experienced in the aerospace and defense industry, and that experience included advice on process improvements.

"We needed to update our internal processes to maximize the usage of the software," Marquis-Sébie explains.

Data management was the first process due for an upgrade. In order for the PTC software to deliver parts forecasts and recommend stock movements, it needed accurate information on parts availability. The FHS team created a full project stream for data management and dedicated a person to manage it. In parallel, they instituted a more rigorous process for cleaning and loading the data, ensuring that the right information entered the system.

"To get the best forecasting and optimization recommendations, the system needs precise information on your aircraft configurations, your parts characteristics, and your supply chain," Marquis-Sébie says. "That's why we needed to tighten our data-management processes—so we could be confident in the data."

Another process update involved FHS' response to system alerts. Since the parts management software delivers alerts with suggested actions—for example, ordering parts in a certain location and decreasing the same parts in another—FHS created workflows to disseminate that insight throughout the organization, from repair, to delivery, to execution teams.

"We are looking at the business from a different angle, because the tool gave us visibility into [areas] of our business that we were not necessarily looking at before," Bouclier says. "We're really interested to discover the other capabilities of the tool and to change, literally, how we are looking at the business, what we were working on."

Core Elements of Process Transformation

- Identify key processes that have the most significant impact on driving desired business outcomes

- Prioritize processes that, with enabling technology, can be improved to deliver the most significant business impact

- Align process improvements to industry best practices via out-of-the-box/configured technology

- Ensure adoption of enhanced processes by stakeholders

Photo courtesy of Airbus

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Thus FHS did what most successful companies do—prioritized the processes it needed to change to achieve its business goals, and, where appropriate, adopted the best practices of the new software to help it toward that goal.

Accelerated Deployment

In the spare-parts management business, companies like Airbus Flight Hour Services purchase parts on the assumption that customers will need them within a certain timeframe. Poor assumptions can be costly—particularly when they involve aircraft components that cost hundreds of thousands of dollars, which is increasingly the case with technically sophisticated new aircraft like the A350. Updated processes and a more accurate forecasting tool can save a company like FHS substantial amounts of capital.

Against that backdrop, FHS and PTC Global Services knew that the sooner they could deploy the new technology and processes, the sooner FHS would achieve the business case savings. The pressure was on for a quick delivery—so both teams slowed down.

It sounds counterintuitive, but careful, deliberate planning is one of the keys to an accelerated deployment of enterprise software, including service lifecycle management tools such as PTC's Service Parts Management solution.

"We took our time to prepare the steering committee and the roll-out," Bouclier explains. "In the end, it saved us from wasting time on ad hoc discussions during the project."

That dedication to the core tenants of business alignment helped keep the rollout to seven months, a timeline FHS executives describe as "really fast."

Another key to the accelerated deployment was the allocation of resources to the project. Pierre Reville, the project's executive sponsor, knew that FHS would accelerate the deployment—and achieve quicker time to value—if it devoted a group of FHS staff to it. He assigned Marquis-Sébie the role of full-time project manager, while also arranging for strong involvement from expert users at FHS.

Confident in that executive support, all members of the FHS project team invested the time needed to prepare for the new system and processes and ensure a speedy rollout.

Core Elements of Accelerated Deployment

- Ensure strong project governance and open communication throughout implementation

- Leverage standardized practices and pre-packaged configurations
  - Identify functional tradeoffs to ensure quick time to value

- Commit qualified resources to the technology and process change
  - Dedicate employees to the deployment and enlist outside subject matter experts

- Accelerate procurement, provisioning of IT infrastructure
  - Look to deployment experts for best practices, consider cloud-hosted options

Photo courtesy of Airbus

Enterprise Adoption

Bouclier and Marquis-Sébie call up an old adage when they discuss the transformation of FHS pool management activities: It's no use to have good software and effective processes if no one uses them. And they knew that users wouldn't accept the changes unless they understood how those changes would benefit them and the larger business.

"That's why we dedicated quite some time to training and adoption," Bouclier explains. "It was very important to us that everyone was up to speed on the tool as quickly as possible."

The process was divided into phases. Phase one involved a series of introductory presentations to each of FHS' departments, from the parts-repair unit to the marketing team. In those one-hour meetings, Marquis-Sébie and his colleagues explained the PTC Service Parts Management tool and why the company had decided to deploy it. After each presentation, the department nominated a lead representative who would report bugs, train the users in his or her department, and validate new accounts.

Next came a series of two-hour training sessions that introduced users to the data inside the system and detailed each user's connection to FHS' overall business goals. Knowing that users would be more apt to adopt a tool they understood well, Marquis-Sébie and team used these sessions to walk users through the parts-planning technology and some of the new processes FHS employees would use.

Finally, FHS executives instituted the "training on demand" phase of adoption. Any FHS user who needed extra guidance could book a personal training session with one of four experts who provided dedicated coaching on the tool.

By approaching the adoption process in a phased approach, PTC's Rouille says, Airbus FHS successfully managed the changes for the company and for individual users, who realized the importance of the transformation and their role in it.

"We continue to conduct weekly reviews to ensure a successful deployment of the system," Bouclier says. "In parallel, we have organized monthly half-day workshops to work on roles and responsibilities and update processes whenever needed."

Core Elements of Enterprise Adoption

- Plan for the full impact of the coming change
- Drive acceptance of changes by end users
  - Ensure awareness and buy-in through communication strategy
- Drive acquisition of knowledge and skills to improve productivity
  - Leverage role-based programs to train business and end users
- Ensure end-user proficiency
  - Through multi-tiered support system, help users apply technology and process skills to their role

Photo courtesy of Airbus
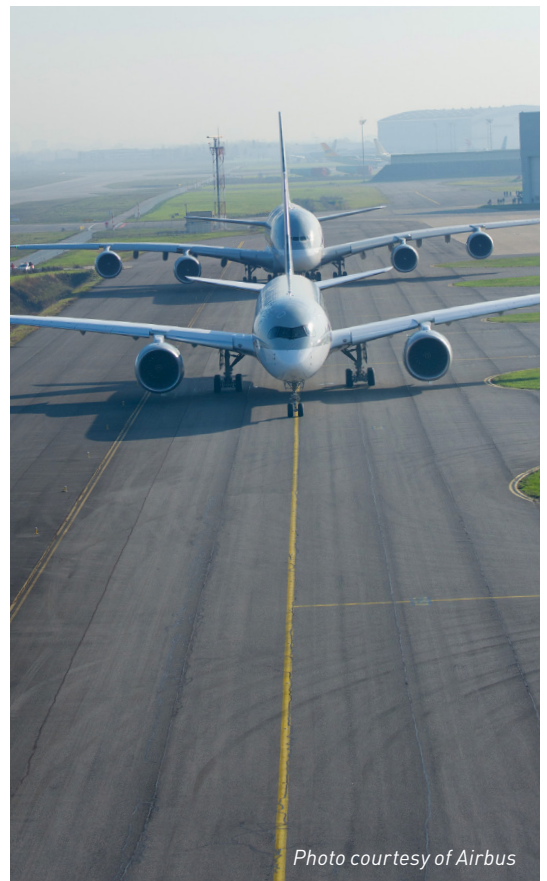
The Fruits of Alignment and Planning

Experts say that the transformation of Airbus FHS' pool activities succeeded in large part because the team focused on the success factors of business alignment, process transformation, accelerated deployment, and enterprise adoption.

At FHS, that success can be measured—at least in part—in cost savings. Reville, Bouclier, and Marquis-Sébie hoped to optimize spare-parts stock by 5% during the first calendar year of the new technology and processes.

"Once the technology was deployed and we were confident in the results, we evaluated what the system identified as surplus parts stock," Marquis-Sébie says. "Every week, we put a batch of recommendations through a validation loop. After three months of analysis, we tackled 40% of the recommendations and isolated roughly 3.3% of our pool value for sale and 2.8% for lease and standard exchange."

Midway through February, FHS was already a quarter of the way to its annual optimization goal, and reports show employees using the software extensively in their daily processes. Executives say the partnership between FHS and PTC Global Services helped inform that success.

"A good level of trust and communication of feedback, good or bad, determines the project success," Bouclier says. "Doing that on a regular basis to make sure that we stayed aligned throughout the project was really important."

Better forecasts for spare parts weren't just a boon to the bottom line. FHS could also provide a more accurate outlook to its parts suppliers, bringing more predictability to their business and engendering more collaborative relationships.

Overall, the program impacted the entire FHS organization, with new tools and new ways working. But the change began well before the technology rollout, as the business aligned around its goals, created a support system for the project, devoted resources to an accelerated deployment, and invested in an adoption program.

Marquis-Sébie offers advice to other companies undertaking a major software project. "When you start the project, make sure that everyone is aligned on the same goals and that the rules and requirements are clear."

Bouclier agrees, saying, "Our alignment was the major factor that guaranteed the success of the project."

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