Airbus Creates a ‘Greenhouse’ for Digital Transformation

To say that business is booming at Airbus would be an understatement. The global aircraft maker, which supplies half the world’s commercial aircraft, currently has bookings for new jet airplanes in its commercial division that total more than one trillion Euro, pushing out new orders to a 10-year waiting period. As a result, Airbus is focusing considerable effort to devise innovative, new ways to streamline engineering, test, manufacturing and quality to build planes faster and more effectively.

From an IT perspective, making the business faster means undertaking a digital transformation so that teams across the enterprise can access and share product data more quickly and easily than ever before. It’s the only way to clear out the order backlog quickly while ensuring superior product quality. What’s fascinating about the digital transformation story at Airbus is not so much what they are doing, but how they are doing it. The story highlights how innovative thinking in IT can revolutionize a business, even one as established and global as Airbus.

Airbus relies on more than 1,000 point systems to keep engineering, test, manufacturing and quality running smoothly. It’s these applications that Airbus IT recognized needed to be modernized, upgraded, and integrated to streamline the business. “The question was how can IT enable modernization of so many systems without writing code from scratch and taking years to do it,” said Henrik Weimer.
who oversees PLM architecture and innovation at Airbus. “We recognized early on that how we approached digital transformation was going to be as important as what we modernized.”

Welcome to the Greenhouse

Rather than using a traditional “top down” method—forcing new systems on the business—the Airbus IT team inverted the traditional IT approach by inviting people from the business to modernize and enhance their applications in an IT supported environment they called their “Greenhouse.”

They then introduced the Greenhouse concept to application owners and developers across the business through an extremely friendly and welcoming promotional campaign. In it, users are invited to come to the Greenhouse, which is positioned as a means for doing real-time prototyping and rapid development for application modernization. Moreover, rather than getting traditional warnings of what they cannot do, users are told that IT will help them “grow” their applications rapidly for use across the extended enterprise.

“We created the greenhouse capability and invite people to voluntarily come and bring their old and unsupported systems, and we use new platform technology to quickly modernize and port their solutions to what we call a “PDM light” backbone,” explained Weimer. “That’s a 180 degree turn from the traditional IT model in large enterprises, in which IT makes decisions, customizes the systems, and forces them onto business users.”

To ensure users from the business would benefit from the greenhouse approach, Airbus IT needed a flexible technology platform that included functionality traditionally found in systems for product lifecycle management (PLM), product data management (PDM), content management (CMS), project management and other areas.

After an evaluation of multiple PLM, PDM, and CMS products, Airbus selected Aras as the enabling technology for the Greenhouse. Because the Aras platform is flexible, scalable, and upgradable it supports the Agile implementation process used and provides predictable ownership costs because custom applications can be upgraded easily. Easy and open integration to other systems within the company was also important because the IT team would maintain their use of some of the existing systems for PLM outside the Greenhouse initiative, treating PDM light as a complimentary environment.

In just a single year since beginning their Greenhouse approach, IT at Airbus has launched the Greenhouse, drawn business users to participate, and incubated and delivered a number of projects. Today, anyone from engineering, manufacturing, quality and test can come to the Greenhouse with any idea to modernize or develop an application. Projects come to the Greenhouse from across the company. Once a project gains maturity, it can then enter a more classical IT support orientation.

“Users love it because it has a sandbox feel, yet it supplements their efforts with light governance and walks them through project coordination, funding of their application and next steps,” said Vincent Soumier, who leads the Greenhouse initiative at Airbus. “Then, they’re even more pleasantly surprised to find the IT team providing guidance and support into the future.”

Greenhouse Grows its First Project

The first system brought to the Greenhouse was an aging application for Test Information Management. It was a good initial project because of the sophistication and scope. “Our success with the deployment of Test Information Management for aircraft end-to-end across the structural test pyramid in multi-site operation, including our extended enterprise, proved the viability of the Greenhouse and Aras for complex engineering business processes,” said Weimer. By completing the project quickly, the Greenhouse concept and the PDM light backbone were validated for other business areas. Not only was it developed quickly and accepted by users, Airbus successfully upgraded it just five months after the initial development.

As word began to spread about the Greenhouse success, others began to ask about updating their systems. Several new projects started and then a line began to form.
Engineers like the collaborative prototyping in the Greenhouse, and are impressed when they get a fully supported application completed within a few months. Once they experience the fast and smooth turnaround, they look to IT for more. “They told us, ‘OK, we will use your product and not develop our own tools’ which was a major breakthrough for us [IT],” said Vincent Sounier.

Today, more and more users across the organization are using the Greenhouse. IT is adding greater capacity and the process continues to scale. Momentum is building as new applications come in every month, and the Greenhouse is becoming something of a viral phenomenon.

**A Productivity Boon for IT**

The Greenhouse has proven a tremendous success within Airbus. Today, it is enabling rapid prototyping and attracting increasing demand. In fact, it now has its own project pipeline.

Henrik Weimer of Airbus said the Greenhouse is delivering three strategic benefits. The first is that it is bringing greater productivity to engineering, manufacturing, test and quality so that aircraft delivery can happen sooner than expected. Second, Airbus has gained the most cost-efficient way to modernize systems for production in the fastest, most agile manner available. Third, organizational changes are taking place as a result of the ability to quickly bring innovative applications online.

“People are thinking they can now institutionalize great new ideas and processes without having to jump through too many hoops,” Weimer said. “That type of innovative thinking will lead us forward in a more agile manner as we push even greater transformation.”

In the end, this is Airbus IT proving that how they approach a problem is as important as what they use to solve it. Their innovative Greenhouse approach is trusting the digital transformation forward by rethinking processes and modernizing IT applications for manufacturing, engineering, test, and quality across the factories and extended enterprise.

*This story was edited by Advanced Manufacturing Media from information provided by Aras Corp. (Andover, MA).*