AIRBUS

STOPOVER AT A PORSCHE PLANT

Airbus has been working closely with Porsche Consulting since 2008. Following the introduction of lean processes and a new quality strategy, the current focus is on raising production rates.

SARAH KAISER CHRISTOPH BAUER

Change processes often elicit skepticism and resistance. But not at Airbus. When lean principles from the automotive industry were about to be introduced to the company's Hamburg plant in Finkenwerder in 2008, nobody even noticed at first. The aircraft specialists' attention was directed at something completely different. "We were in the throes of launching operational production of the A380—right in the midst of the economic and financial crisis," recalls Alexander Dahm, who was the head of the Hamburg plant at the time and is now Vice President Final Assembly Lines and Integration A320 Family. "Our focus was not on lean or operational excellence." But that quickly changed when successes became evident within a very short period of time. Following a tough "5S" campaign in which whole truckloads of erroneous or obsolete materials were identified and carted off, clarity suddenly returned to the tight production spaces. "Those initial visible successes were what rekindled the team's enthusiasm for improvement," says Dahm, "and we started to look more closely at the opportunities provided by operational excellence."

Since then Airbus and Porsche Consulting have worked together on a wide range of projects concerning production, logistics, procurement, and quality as well as change management and employee qualification. In the beginning they focused on lean production processes. For example, the production processes for the A380 were stabilized such that complete sections of the plane are now shipped from Hamburg to Toulouse for final integration work. "In 2009 we were still sending 2,000 people from Hamburg to Toulouse for reworking, and now we're only sending 80," reports Dahm. Moreover, together with the Porsche consultants Airbus has now solved core problems in the coordination between development and production. Dahm notes by way of example that "design documents were often sent too late to production." These processes are now better attuned to one another following introduction of the takt and flow principle from Porsche sports car production.

Not only have the processes at the Airbus plant in Hamburg become more efficient, but production is now also leaner at the Nantes site. "The Porsche consultants didn't try to impose a set strategy, but instead first took the time to understand where our difficulties lay," says Jean-Claude Schoepf, who directs the plant in western France where the center wing box—the heart of the Airbus aircraft—is made. "They motivated our teams to make changes and gave us the key methods for doing so. And they also supported further qualification of our employees, so that we can now work with the new system on our own." Following its successes in production, the Nantes site then focused on improvements in quality. A pilot project led by the board member in charge of quality put a new quality management system called "Q6" into practice. "The strategy is based on what are called quality gates," says Joachim Kirsch, a partner at Porsche Consulting. "These inspection points enable errors to be prevented or at least to be identified and eliminated at an early stage. The strategy also prioritizes quality issues and addresses →

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them in structured form." Important roles are also played by indices, standards, employee qualification, and managing the quality processes on the "shop floor" (see adjacent diagram). Thanks to the new strategy, quality costs at the Nantes site were reduced by 15 percent a year. It was then rolled out at 26 additional plants in Europe, where costs decreased by an average of 32 percent a year. This quality method also works on a trans-sector basis, such as in airline catering at Lufthansa Sky Chefs (see "High-Flying Cuisine for High Flyers" on page 62).

Porsche consultants are currently still helping Airbus to increase production rates for the A320 family from 38 to 42 planes a month. "We used an audit-type approach to analyze all the processes in detail, and compared them to benchmark values to generate transparency about the feasibility of increasing the rates," says Patrick Härter, Principal at Porsche Consulting. For instance, the consultants identified the systems installation unit in Hangar 8 at the Hamburg plant as having a counterproductive bottle-neck effect. Here, sections of the rear fuselage are delivered from three production lines and equipped with electronic systems and cables at ten work stations. These parts are then sent to six production lines in Hamburg, Toulouse, and Tianjin for further processing. With seventeen shifts a week, capacity was pushing the limit—but the parts still piled up in the hangar. "To deal with these bottlenecks we restructured the content of the jobs and added an eleventh work station," explains Härter. "And we also reduced the takt from seven to six and a half hours."

A helpful step in putting all of these changes into practice consisted of an unusual company excursion, namely, a visit by 150 Airbus managers to Porsche's state-of-the-art plant in Leipzig, considered a model of efficiency worldwide. Practical first-hand lessons were to be had right at the production lines where the Cayenne and Panamera models are produced and where the new Macan will join them as of late 2013. "To really grasp that things can run differently than they do right now, we need the chance to actually see and feel it," says Dahm. "Following this visit, we all realized that we still have a long way to go and that we can adapt and use a lot of what is done in the automotive industry." Absolute transparency is an important principle in Porsche's work—and is also valuable for Airbus. "In essence, it's always a matter of examining a problem and breaking it down into pieces you can deal with," observes Dahm. "In particular, what we learned from Porsche was to work together in teams with as many different specialties as possible."

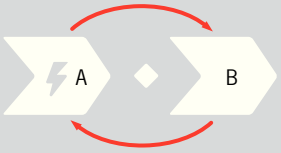
Industry expert Kirsch is convinced that aviation can learn much more from the automotive sector. "Performance levels in the entire industry could be raised significantly if manufacturers and operators worked more closely together," he says. "Our vision of a "new chain" is based on the idea that trans-company value streams can be optimized by having all the relevant players on the market work together. Major prerequisites here include shared aims, integrated processes, and openness and trust among the partners." This benefits everyone involved. For the manufacturers, new technologies become profitable sooner. Maintenance companies improve the processes in their service networks. And the airlines increase their productivity as well—despite their dynamic environment. "What all of this leads to," says Kirsch, "is an increase in the efficiency of the overall system." ←

"Q6" OPERATIONAL QUALITY MANAGEMENT
PROCEDURAL DIAGRAM

AIM: DISCOVERING DEVIATIONS FROM THE TARGET

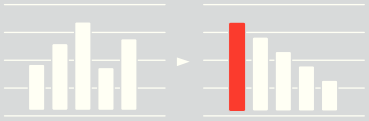
Q1 – Quality gates & control loops

Introduction of quality gates

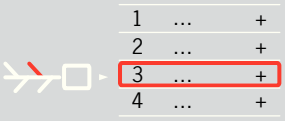


Feedback on sources of error

Q2 – Problem-solving process

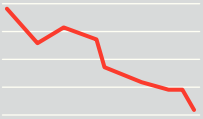


Error prioritization



Structured problem-solving

Q3 – Indices



Index monitoring

Q4 – Standardization

Standardization for sustainability

Q5 – Qualification

Employee qualification

Q6 – Shop floor management

Stabilization via shop floor management

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