



Airbus Vows Computers Will Speak Same Language After A380 Delay

By Andrea Rothman

Sept. 29 (Bloomberg) -- Airbus SAS employees have a common language at work: English. The planemaker's computers, spread across Europe, don't.

Software used to manage the design and manufacture of the 555-seat A380 at Airbus's Hamburg engineering center isn't fully compatible with that used at company headquarters in Toulouse, France, say current and former Airbus executives, including Charles Champion, who headed the A380 program until September.

That's why hundreds of small changes to electrical wiring in the A380 snowballed into at least a year's delay in delivering the world's biggest passenger aircraft and \$2.5 billion in lost profit. Airbus Chief Executive Officer Christian Streiff may announce additional costs or longer delays for the A380 in coming days. The board of Airbus parent European Aeronautic, Defence & Space Co. meets today in Amsterdam.

"` They didn't have uniform design tools throughout the system and that's biting them badly," says Hans Weber, CEO of Tecop International Inc., a San Diego-based aviation consulting firm. "` These problems go to the very heart of Airbus being able to perform technically, and also financially."

The lack of uniform software to develop what Airbus has billed as the greatest achievement of its 36-year history suggests that former CEO Noel Forgeard failed to integrate the planemaker's national units into a single team to compete with Boeing Co., Weber says.

` Stop Arguing'

Airbus was established in 1970, when the national champions of France, Germany, Spain and the U.K. teamed up to challenge the U.S.'s dominance in the commercial aircraft industry. Today the company is controlled by EADS, whose biggest shareholders are Stuttgart, Germany-based DaimlerChrysler AG, the French state and Paris-based media company Lagardere SCA.

The company has been plagued by infighting among its partners since its inception, says Ian Massey, who was financial controller of Airbus SAS's predecessor, Airbus Industrie, from 1991 to 2001. Now Streiff must end the finger pointing between the French and Germans, he says.

"` Streiff needs to say: ` Stop arguing, this is how we are going to do it,'" Massey says.

EADS shares have plunged 28 percent this year to 23.00 euros as some investors questioned the viability of the A380 and Airbus was forced to redesign its long-haul A350, delaying that aircraft as well. EADS said Sept. 21 that the A380 delays may be even greater and that it would provide more information soon.

The stock of Chicago-based Boeing, which has won more than twice as many orders as Airbus this year, has risen 13 percent this year to \$79.41. Airbus has beaten Boeing in orders in each of the past five years, and has delivered more planes than Boeing each year since 2003.

Streiff Memo

Streiff, a Frenchman who speaks fluent German, was made CEO at Airbus on July 7 after Gustav Humbert was pushed out because of the delays. Forgeard, who had been co-CEO at EADS after leaving

Airbus, was ousted the same day.

In a two-page memo to Airbus employees dated Sept. 11, Streiff, 52, highlighted software as a key challenge in fixing wiring problems that were ``even more complex than the company envisaged earlier."

Airbus has begun putting in place ``electrical engineering IT tools" common to the French and German teams and training the Hamburg engineers on them, he wrote in the memo obtained by Bloomberg News. ``Together, as `one Airbus,' we will overcome these challenges," he wrote.

It may take a full year to get engineers up to speed on the new software, says Phil Ness, who was manager of computer-aided- design and computer-aided-manufacturing technologies, known as CAD-CAM, at Boeing's military aerospace unit from 1980 to 1985, and a military program manager there until 1992.

Training Needed

Boeing's 777, the world's best-selling twin-aisle airplane, was the first jetliner built entirely from a computerized design without a physical mockup.

``The biggest problem you have with any of this is training," says Ness, who's now retired. ``If you get people who have done things one way and it worked, they really don't want to change. You have to spend thousands of hours on training to get the guys equally comfortable on a new system."

Airbus has no comment on software design issues or anything else until Streiff speaks to the press, spokeswoman Barbara Kraft says. The company doesn't comment on internal memos, she says.

Airbus shocked investors June 13 when it said difficulties in installing the wiring would cut deliveries of the A380 to nine planes in 2007 from the 25 it had projected. EADS also said the delays would cut earnings before interest and taxes by 2 billion euros (\$2.54 billion) from 2007 to 2010.

More Delays?

Olivier Esnou, a Paris-based analyst at Exane BNP Paribas who rates EADS stock ``underperform," estimates new delays may cost Airbus another 1 billion euros in penalties to airline customers and postponed revenue.

Airbus has used English as the common working language from its creation. The failure to fully integrate the company's CAD- CAM tools is one that goes back more than 10 years.

For three decades, Airbus was structured as a risk-sharing entity that was a loose marketing vehicle for planes made by the four partners. They acted as subcontractors, building parts independently without sharing assets or information about costs.

As early as 1995, Airbus set out to streamline aircraft construction. The goal was to cut costs, reduce the amount of time between the conception of a new plane and its entry into service and better manage increasingly complex designs. It didn't manage to bring together the different computer technology.

``Attempts to have common tools failed for various reasons," Champion says. ``It's all about legacy: When you start to use a tool, changing tools is an enormous investment. The question is always, what is the business case to change tools?"

Forgeard's Role

The decision would have been easier if any of the software was obsolete, but each partner considered its piece of the puzzle to be working well, Champion says. He was speaking in an interview at the Farnborough International Airshow in July, before Streiff demoted him on Sept. 4.

The software hurdle still wasn't dealt with when the French, German and Spanish partners merged their plane-making assets with those of London-based BAE Systems in 2001 to form a single corporate entity, Airbus SAS.

Forgeard, 59, who led Airbus from 1998 until 2005, never really followed through, says Yan Derocles, an

analyst at Oddo Securities in Paris who rates EADS stock ``add."

``The integration was never fully achieved," Derocles says. ``When they merged the separate companies, they should have merged all their processes, but they didn't."

Forgeard declined to be interviewed for this story.

The move to a single company was driven by the need to adapt Airbus's design and manufacturing processes to handle the complexity of the A380, a two-story aircraft with an 80-meter (261-foot) wingspan that cost at least \$13.5 billion to develop.

Tight Schedule

EADS's board in December 2000 gave the green light to proceed with production, with the goal of getting the first A380 to customers in 2006.

On such a tight schedule, there was little time to overhaul design tools and methods, says Massey, the former Airbus financial controller who is now executive vice president at Republic Financial Corp., which is based in Aurora, Colorado. EADS's initial public offering in July 2000 also increased pressure to cut costs.

On top of that, Airbus managers were in a confident mood. The European planemaker was poised to wrest dominance of the commercial aircraft market from Boeing.

``Airbus believed they had reached their rightful position of being No. 1 in the industry and that it was theirs to keep," says Doug McVitie, managing director of Arran Aerospace, a consulting company in Dinan, France.

Manual Changes

Against that backdrop, engineers in Germany and Spain stuck with an earlier version of Paris-based Dassault Systemes SA's Catia design software, even though the French and British offices had upgraded to Catia 5.

That meant the German teams couldn't add their design changes for the electrical wiring back into the common three-dimensional digital mockup being produced in Toulouse, Champion says. Efforts to fiddle with the software to make it compatible failed, meaning that changes to the designs in the two offices couldn't be managed and integrated in real time, he says.

The situation worsened when construction and tests of the first A380s generated demands for structural changes that would affect the wiring. The changes in configuration had to be made manually because the software tools couldn't talk to each other.

'Disastrous'

``What happened, apparently, is that there were several different design versions in use simultaneously," says Tecop's Weber, who says he was informed of the difficulties by contacts within Airbus's German design bureau. ``That was disastrous."

When changes were required, they translated into headaches for workers assembling the planes and customizing wiring.

Some harnesses, the bundles of wires that spread throughout an airplane, had to be extended or replaced because they were too short, Andreas Fehring, vice president of A380 program management, said in June during a tour of one of the A380s in Toulouse. Others had to be modified because of changes to the aircraft structure itself.

The harnesses form the plane's nervous system, connecting electrical systems including links between the cockpit and actuators, or moveable plane surfaces, as well as supplying power for lights and in-flight entertainment.

300 Miles

The A380 has 300 miles of wiring because of the extensive customization sought by airline customers for the cabin, including sophisticated entertainment systems. That compares with 170 miles for a Boeing 747.

``This is an extremely complicated airplane," says John Hansman, professor of aeronautics and astronautics at the Massachusetts Institute of Technology and director of the MIT International Center for Air Transportation. He says the problems are surmountable. ``They're making it a crisis because they set goals and they're not meeting those goals."

Streiff will need to show he has a plan to get Airbus back on schedule. Airbus has 159 orders for the A380 from 16 airlines including Singapore Airlines Ltd., Emirates and Deutsche Lufthansa AG. Some customers are losing patience.

``We'll have to wait and see if Airbus can overcome all these problems," says Virgin Atlantic Airways Chairman Richard Branson. ``It has been frustrating."

To contact the reporter on this story: Andrea Rothman in Toulouse, France at aerothman@bloomberg.net.

Last Updated: September 28, 2006 19:01 EDT



©2006 BLOOMBERG L.P. ALL RIGHTS RESERVED. [Terms of Service](#) | [Privacy Policy](#) | [Trademarks](#)