

# Dreamliner rolls out (virtually)

## 787 team demonstrates virtual manufacturing's revolutionary aspects

By ADAM MORGAN

As airlines await the arrival of the 787 Dreamliner, 787 employees, customers, partners and media witnessed a first in airplane-development technology: the first virtual rollout of a commercial jetliner.

At the event, held in Everett, Wash., in December, the 787 program revealed how it's using the latest technology to prove its engineering designs and manufactur-

ing methods are sound. "Through the use of our new digital toolset, the team has proven the ability to manufacture 787 designs," said Mike Bair, 787 vice president and general manager.

The new toolset was made possible through the collaboration of Dassault Systemes and the 787 Systems Integration Processes and Tools team.

More than 40 partners at 135 sites around the world have a hand in designing and building the Dreamliner. The ability to ensure all the parts fit together before final assembly will ensure the 787 program is on target to deliver its first airplane in May 2008.

The technology introduced on the 787 uses detailed designs to create analysis and 3D-based simulations to replicate the pro-



On a 40-foot-tall-by-120-foot-wide screen, the super-efficient 787 Dreamliner virtually rolls into the Boeing factory in Everett, Wash., at a year-end celebration event in December.

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At a year-end celebration event that included the virtual rollout of the 787 Dreamliner, Mike Bair, 787 vice president and general manager, congratulates 787 team members for their hard work and many accomplishments in 2006.

GAIL HANUSA PHOTO

duction processes. This technology enables Boeing and its partners to optimize the Dreamliner production system and avoid costly late-stage errors that can occur with untested designs and production planning.

"We have found errors through simulation that would have been costly to find in production—and have been able to design corrections quickly to keep the program on track," Bair said.

The event included a look at the 787 team's accomplishments in 2006, a program update, the unveiling of a number of engineering-based 787 simulations ranging from part installations to the final-assembly factory flow in Everett, and the grand finale virtual rollout of the airplane—actually, a large-screen depiction of the airplane rolling back into the factory for the celebratory event.



Bair congratulated the team for a strong 2006 performance and reminded everyone that 2007 is when many of the program's major milestones must be completed.

"We open our Everett factory next year and start producing airplanes," Bair said. "We will have our rollout and first flight and will begin the flight-test program. Every year has been important as we move toward starting deliveries in 2008, but next year will be the most demanding experience for many of us.

"It's a challenge, no doubt about it," he added. "This is the team, all of us together—our customers, our partners and each of us—who will bring this airplane to life. It's an amazing journey from where we started just four years ago. But the best part is yet to come." ■

*adam.k.morgan@boeing.com*

### At the event: a larger-than-life production

Excitement grew as hundreds of employees stood in the middle of the Boeing factory in Everett, Wash., in December in anticipation of what was to come: the virtual rollout of the 787 Dreamliner. Using the latest in 3D technology, the 787 program was able to simulate what the actual 787 rollout event might look like.

The Production Network, the event-management company responsible for turning the 3-D technology simulations into a larger-than-life production, used a 40-foot-tall-by-120-foot-wide screen (12 meters by 37 meters) to project the image and simulate the 787 rolling into the factory for the rollout celebration.

As the event neared its end, lights dimmed and all eyes focused on the massive video screen. Music thundered to a climax as it showed giant factory doors beginning to open as sunlight peered through the widening gap. And then from the right side of the screen, the 787 came to life as it moved toward the crowd. The sheer size of the screen gave the appearance the real airplane was actually rolling into the factory.

"It was a great experience standing in the middle of the factory with hundreds of employees who've been working so hard on the 787 and watching the airplane almost come to life—it was very exciting!" said Barry Torgesen, project manager—Project, Planning & Control Interiors. "You could feel the excitement in the factory build as the 'doors' started opening, and then suddenly seeing the virtual airplane roll into the factory, it was something special. It seemed real. It helped give a visual of what we can expect when the actual plane rolls into the factory next year."

—Adam Morgan