Engineered for success

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From left: Karsten Overa, director, Commercial Airplanes Integration and Support Engineering, and Composite–Virtual Resource Center sponsor; Max Duarte, C–VRC project manager; and Randy Taylor, Engineering site leader for Frederickson, Wash., discuss 787 composite test parts at the Boeing Developmental Center in Seattle. An all-composite 787 barrel section looms in the background.

Composite–Virtual Resource Center takes next steps to boost skills

By Rocco Maccarrone and Mary Regimbal

Metal. Aluminum. Alloys. For most of its history, Boeing has relied on various forms of metal as the core material for building airplanes. Indeed, Boeing engineers continue to be among the best in the world at working with metal.

But perhaps more than its metalworking expertise, the key to Boeing's success throughout the years is the company's ability to change and adapt to customers' evolving requirements in a global environment. Today Boeing is flying into the future by demonstrating its ability to adapt in a huge way: changing the material used to build jetliners.

The future is with composite materials, as exemplified by the composite primary structure of the 787 Dreamliner, scheduled to roll out in 2007. Recognizing this shift, the 787 Program and other development projects teamed this year to address an emergent shortage of engineers with composite skills.

Headed by Karsten Overa, director, Integration and Support Engineering at Commercial Airplanes, this team of business managers and composite skills subject matter experts is creating the Composite–Virtual Resource Center within the Production Engineering community. The C-VRC will build a framework to help grow composite skills at Boeing through an accelerated rotation and training program. "The idea of a virtual organization is that we can manage the skill development regardless of where the people are, rather than from a central physical location," Overa said.

The team's primary skill-development focus is on meeting urgent headcount needs and delivering the right kinds of skills at the right time for any program. Currently, the program is open to BCA Tooling Engineering and Manufacturing Engineering employees, as well as Integrated Defense Systems Manufacturing Engineering employees in the Puget Sound area of Washington state.

Two subteams, a business-model team and a technical team, developed the training.

The business-model team, led by Beth Pang, surveyed the Production Engineering community to develop an inventory of composite resources, including potential composite-skilled employees and the relevance and timeliness of their experience. The technical team researched and evaluated existing sources of composite training and adopted the Renton Airframe organization's list of composite courses as a baseline. The team created a skills-inventory checklist and identified basic elements for a composite skills database. The C-VRC used the results from the survey to advertise the University of Washington Composite Certification program and classes offered through the Ed Wells Partnership.

The C-VRC also is implementing a composite skills rotation program, where engineers will gain hands-on experience in addition to classroom training. Already, requisitions have been posted for six-month rotation positions at the Developmental Center in Seattle.

"The key to the C-VRC program being successful down the road is getting support right now, across the board, from the business units. A successful C-VRC will benefit the workers, future programs and the company. Everyone benefits," said Max Duarte, C-VRC project manager.

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