

Space for development

Turkish Air Force lieutenants lend hand to Boeing's ISS effort

By ELLEN WHITFORD

Earlier this year, Eyyup Celik and Mustafa Kaya packed their bags, left friends and family 6,000 miles (10,000 kilometers) behind, enrolled in the University of Houston and joined the engineering team on the largest space venture Boeing has ever undertaken.

Celik and Kaya, lieutenants in the Turkish Air Force, are participants in a new endeavor: the first professional program Boeing has ever made available to the Turkish military. Under Boeing's sponsorship, each of the men will earn a master's degree from the University of Houston

while modeling solar array electrical systems for the International Space Station.

The new program builds on the relationship between Boeing and the Turkish government and is part of the company's industrial participation obligation required by Turkey's purchase of the 737 Airborne Early Warning & Control Peace Eagle.

"We reviewed and discussed nearly a dozen high-level projects before we found one that was a win-win," said Greg Pepin, Boeing Turkey president. "The Turkish aerospace industry and air force are eager to become involved in space exploration in the future, and welcomed the opportunity for two of their pilots to acquire space-based education and training on a prestigious project."

"It's a good model of what international industrial participation is all about," said Gwen Kopsie, director of Industrial Participation and Alliances for Integrated Defense

Systems. "We're adding value for Boeing, improving our customers' products and helping build the aerospace industry of the future."

The space station is the biggest and most complex scientific project in history. When completed in 2010, it will serve as an orbital laboratory for research to foster human exploration of space. As the prime contractor, Boeing built all the major elements of the station, directed an international team that includes almost all major U.S. aerospace companies and hundreds of smaller contractors and integrated the work of participants from 15 countries. Boeing also assists NASA in operating the orbital outpost and provides ongoing engineering support.

Working on such a large and significant project will give Celik and Kaya an opportunity to develop professional relationships with scientists and engineers from around the world, as well as with faculty at the University of Houston.

The ISS engineering team developed activities specially designed to provide the lieutenants with on-the-job training in key space disciplines and exposure to different techniques. Their work includes training in program management, software tool design and systems engineering. As part of the systems engineering team, they are modeling solar power systems.

"This gives us two additional resources for our program that we didn't have before, and it provides the lieutenants with invaluable experience and contacts," said Joy Bryant, ISS program manager. "What they gain from their courses at the University of Houston and from hands-on experience with ISS will give them background and knowledge that will be essential to working with global technology." ■

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As part of their assignment at Boeing, Lt. Mustafa Kaya (seated) and Lt. Eyyup Celik of the Turkish Air Force discuss a problem in modeling solar array electrical systems on the International Space Station.