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Aerospace Manufacturing in the Dallas-Fort Worth Metroplex

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"Everyone sees airplanes flying in the sky, but they don't think of the complexity behind what goes into manufacturing those machines!" That's what Daisy Pardo thinks and—as a quality engineer at Texas-based Beacon Industries, an aerospace/aviation manufacturer—she should know.

Beacon, North Lake College, and the Dallas County Community College District—led by Pardo and Tim Samuels, executive dean of workforce, business, and technology at North Lake—are creating a partnership designed to build a pipeline of much-needed talent for the growing Dallas-Fort Worth aerospace industry.

The Dallas-Fort Worth metroplex has 88 aerospace manufacturing companies among its employers; indirect involvement in that sector increases that number to approximately 900. Those companies, combined, employ almost 450,000 aerospace manufacturing technicians and engineers—that's one in every six North Texas workers. Those numbers are expected to climb dramatically by 2025. Additionally, aerospace manufacturing technicians earn approximately \$20 to \$25 per hour, and that industry accounts for more than \$8.2 billion dollars of DFW's economy.

Officials project that the region needs to add approximately 6,300 new employees to the current market in order to meet demand, keeping in mind that five to 10 companies move to or open in DFW during a typical five-year period. As a result, thousands of additional employees will be needed.

With those figures in mind, representatives from North Lake College, DCCCD, and 180 Skills met to talk about the need to add critical aerospace manufacturing courses to the college's curriculum. Dr. Christa Slejko, president of North Lake College; Dr. Joe May, DCCCD's chancellor; and leadership of 180 Skills agreed that the need was clear. As a result, the district sent a group of representatives to tour Boeing facilities in Wichita, Kansas, and learn more about the career programs housed at 180 Skills.

Based on findings from the tour and details from 180 Skills, the North Lake College team decided to offer initial programs in five career fields that have been credentialed by SpaceTEC (www.spacetec.us):

1. Advanced Manufacturing Technician
2. Aerospace Electrical Assembly Technician
3. Aerospace Quality Technician
4. Aerospace Structures Technician
5. Composites Manufacturing and Repair Technician

North Lake expects to begin offering the courses in 2018, according to Samuels, who added, "The next critical step in this process is to obtain support from industry." That process involves scheduling convening meetings with various companies so that the curriculum, learning outcomes, competencies, and skills which students achieve will align with hiring needs of aerospace manufacturing companies in the North Texas region.

Samuels said, "These classes will be fast-track, boot-camp, accelerated courses which will cross over to other advanced manufacturing, construction, and perhaps some automotive careers. We will correlate skills that lead to successful career paths." He added that an online, prerequisite skills assessment will help ease the transition for students.

An important part of the plan features internships, externships, and apprenticeships.

Pardo said, "This model, which introduces new people to the industry who are willing to learn and whose brains are like 'sponges,' will enable us to hire them for the future." She added that machinists are a "dying breed"—not based on lack of interest but because there's a lack of exposure to the field. "If you have a CNC machine, there's nothing you can't make."

Pardo said that North Lake students who are hired after they complete the courses will be eligible for jobs in inspection, planning, receiving, and logistics.

Samuels said the bottom line is that they have received buy-in from the community and support from employers. "It's about evolving and emerging technologies," he added. "Job-ready skills are credentials. We must customize our curriculum to meet that demand. And we need to ask what are industries requiring today that they weren't yesterday? We must keep up with needs and trends." ♦

