



FROM VIDEO GAMES TO LUNAR ROBOTS: SAN ANTONIO EDUCATIONAL PROGRAMS TAKE CENTER STAGE AT GLOBAL AEROSPACE SHOWCASE

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BY TRACY IDELL HAMILTON

ATLANTA, GEORGIA — State-of-the-art gaming stations and animations explaining how habitats can be built on the moon using robots operated remotely by humans on earth were big draws at Port San Antonio’s recent showcase during one of the world’s largest aerospace conferences — Aviation Week’s MRO Americas.

Port representatives invited educational partners to highlight the growing community on the Tech Port innovation campus and the hands-on learning experiences sparking awareness among thousands of area K-12 students of potential future careers in aerospace, space exploration, cybersecurity, AI and other advanced technologies.

The Port is home to two of the world’s largest aircraft sustainment operations, led by Boeing and StandardAero, and is attracting array of locally headquartered enterprises on the leading edge of aerospace and multiple applied technologies.

“There is a tremendous need for new young talent supporting the ongoing maintenance and modernization of an array of aircraft across the world,” said Marcel Johnson, senior vice president of talent, technology scouting and identification, who led the Port’s delegation to MRO Americas in Atlanta, Georgia. “We use gaming to attract young people to our campus, where they are then exposed to the many career opportunities that exist in their proverbial backyard.”



To underscore the strategic use of video gaming to attract the next generation of talent, Josh Martinez, the director of e-sports for the San Antonio Museum of Science and

Technology (SAMSAT), set up three gaming rigs at the Tech Port booth, which proved a popular draw, especially among the young maintenance teams competing at the event.

“E-sports is STEM,” said Martinez. Young gamers “are developing workforce skills without even realizing it.”



Martinez oversees the R20 Premier League, one of the largest scholastic e-sports communities in the country, which is hosting its championship tournament May 10-11 at the Boeing Center at Tech Port.

Two young employees of Astroport Space Technologies, another innovative company headquartered at the Port, also joined the delegation, highlighting the work they're undertaking to create infrastructure on the moon, in partnership with NASA's Artemis program.



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moon dust, together to be used to build lunar infrastructure — a process made more challenging in a lunar environment and vacuum.



Contreras also volunteers with the WEX Foundation, a nonprofit affiliated with Astroport that offers San Antonio students the chance to undertake similar space infrastructure research. Supported by the Kelly Heritage Foundation, Port San Antonio's nonprofit arm, WEX recently took more than

two dozen students and the rovers they built into a Central Texas cave to map its terrain.

"They're using LiDAR sensors and lots of robotics technology, as if they're in a lunar lava cave," she said. Lunar caves are considered the safest place to build human habitation on the moon.

As humankind looks to the space domain, including using the moon as a manufacturing site for the deployment of space-based power generating satellites or as a hub for missions to Mars, it will take humans in multiple disciplines to turn that vision into reality: aerospace engineers, designers, IT and cybersecurity experts, roboticists and more.

The Tech Port exhibit also highlighted the work of the Dee Howard Foundation which, thanks to a recent grant from the Kelly Heritage Foundation, has connected hundreds of San Antonio students with programming centered around advanced air mobility and drone technology. Upon completion, many students received their drone operator licenses, meaning they can seek employment in sectors that increasingly rely on commercial drone flights.

And while the need for talent is growing in new fields like drones, robotics and space architecture, it remains strong in aviation's maintenance, repair and overhaul (MRO) as well — especially as the sector faces an aging workforce.



While an aircraft can only be built once, during the decades it remains in service it is continually maintained and modernized. This creates multiple career opportunities resulting from innovations such as the integration of enhanced on-board

cybersecurity systems, the increased use of robotics as part of sustainment and the application of AI and large data analytics as part of predictive maintenance.

As the Tech Port campus community continues to grow, its educational partnerships with SAMSAT, the WEX Foundation and others through the support of the Kelly Heritage Foundation are exposing students across the community to the advanced technologies that are growing in their proverbial back yard and, most importantly, illustrating how they can take part in that future.

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