



SpaceTEC® Talk

August 2015

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A Message from the SpaceTEC® PI...

Colleagues,

The concept of credentialing as a qualifier for employment seems to be catching on as companies seek strategies to increase competitiveness in the global economy. With today's technology, resumes are weak decision points when it comes to technical skills due to the ability to download a template and embellish it, thereby creating a glowing record of accomplishments whether accurate or not. For companies, managing risk in the hiring process starts with ensuring those selected have the "right stuff". Whether seeking gains in productivity and/or lower operating costs, more employers are turning to credentialing as a means of validating technician capabilities. As a result, SpaceTEC® and sister division CertTEC® continue to see increasing interest in performance-based credentialing as a means of making informed decisions in the hiring process.

Over the past months, the SpaceTEC® National Resource Center for Aerospace Technical Education has continued its focus on areas we think align with the most compelling issues confronting us today. In this edition of SpaceTEC Talk, we're describing the initiatives, programs and strategies we're employing on many fronts. Thanks to continuing support from the National Science Foundation, strong technician training programs at partner colleges, military training

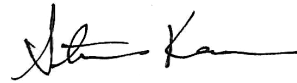
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organizations and industry partners in key economic sectors across the country who recognize the value of credentials, we see a bright future. With a strong network of industry, academia, and government advisors we strive to provide relevant programs and quality services throughout the sectors we support.

Sincerely,



Steve Kane
SpaceTEC PI and Managing Director

Program Activities of Note



SpaceTEC® K-12 Schools-to Space Initiative

From the enviable position of being the only NSF ATE National Resource Center for Aerospace, in the coming year SpaceTEC® is launching

a K-12 Schools-to-Space program created specifically with the goal of providing primary and secondary STEM educators with tools to excite young learners about space and encourage them to pursue STEM careers. The students of today are the workforce of tomorrow and STEM education is key in many areas, including in our economic security."

Joint Aerospace Electronics and Space Tech Expo

SpaceTEC® PI Steve Kane and Andy Gold, President of Aircraft Technical Book Co. traveled to the Long Beach Convention Center to attend the West Coast's premier space event for three days of knowledge sharing and networking at the largest supply chain exhibition of its kind. The exhibit space offered an opportunity to set up an exhibit booth to introduce the CertTEC Avionics certification to West Coast aviation and aerospace industry established and newer market representatives including: NASA, DARPA, SMC, Boeing, ATK, Raytheon, Lockheed Martin, Northrop Grumman, ULA, SpaceX, SSL, Made in Space, Virgin Galactic, SNC, Ball Aerospace among others. The 2015 conference

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focused on the challenges and opportunities facing the military, commercial, and government space sectors; exploring the business models and technologies that will help stakeholders deliver successful missions at lower cost.

43rd Space Congress

SpaceTEC® was proud to be a platinum sponsor at the 43rd Space Congress, held at the Radisson at the Port Resort in Cape Canaveral this past April. Started in the Apollo era, the Space Congress once drew more than 1,000 aerospace industry professionals from around the country and even internationally to Cocoa Beach and Cape Canaveral for panel discussions and exchanges of technical papers. This year's congress was hosted by the [Canaveral Council of Technical Societies](#) in partnership with Career Source Brevard and the Economic Development Commission of Florida's Space Coast. SpaceTEC® set up an exhibit booth and took advantage of the many networking opportunities that were available.

AeroTEK Opportunity



SpaceTEC® and CertTEC® certified technicians have demonstrated the knowledge and skills identified by industry leaders. Employers can look at the standards industry demands and have confidence that certified technician's knowledge and skills meet or exceed those standards. And now, in recognition of SpaceTEC® and CertTEC®'s credibility within the aerospace industry, AeroTEK has partnered with both to promote employment of certified technicians to employers nationwide. The first step is to grow a pool of certified technicians that AeroTEK can promote and employers can hire. To learn how you can participate, go to this [link](#).

VetTEC®

VetTEC® seeks to implement a comprehensive information source for Veterans by creating a portal containing links to funding sources and information on certifications which may provide pathways into living-wage jobs and ultimately accelerate Veterans through degree programs based on their military knowledge and skill. To check out the new website click [here](#).

Who will do the Technical Jobs Needed to fuel a Commercial Spacecraft Industry?

SpaceTEC® was featured in a May 13, 2015 article by the National Science Foundation. The article mentions that with NSF funding, SpaceTEC® is preparing the next generation of spacecraft technicians. Educating a qualified workforce is part of keeping the U.S. globally competitive in this industry, according to Celeste Carter, lead program director for the ATE Program. Read [more](#).

SpaceTEC® Hosts STEM Educator Workshop

On August 6, 2015, educators were invited to attend a workshop entitled "Classroom Laboratory at the Edge of Space: Introducing the Mini-Cube Program." It was designed



to better aid teachers and education professionals to impart the importance of STEM (Science Technology and Engineering) fields to students. The class was taught by author Gregory N. Cecil, M.A.S., the nation's only Florida State Certified Educator, and Nationally Certified Aerospace Technician®. The workshop was focused on grades K-12 and was hosted by SpaceTEC® at their Cape Canaveral headquarters.

HI-TEC 2015

SpaceTEC® provided a booth during the technology showcase at the HI-TEC conference in July, which was held in Chicago, IL. As always SpaceTEC® provided some of the best give-aways. The biggest hit is Astronaut Ice Cream from the Kennedy Space Center. HI-TEC is a national conference on advanced technological education where secondary and post-secondary educators, counselors, industry professionals, trade organizations, and technicians can update their knowledge and skills. Charged with Educating America's Technical Workforce, the event focuses on the preparation needed by the existing and future workforce for companies in the high-tech sectors that drive our nation's economy.

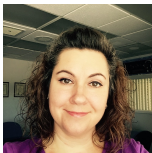


SpaceTEC® will be Participating USA Today's 2015 NASA Special Edition

SpaceTEC® has been offered an opportunity to participate in USA Today's 2015 NASA Special Edition, due out in Nov. 2015. This publication (print and digital) provides exposure to influential NASA officials & contractors, as well as distribution to hundreds of thousands interested in achievements and history in space exploration. Additionally, and what was of great interest to the National Resource Center is an electronic version of the publication that will be sent to Science, Technology, Engineering & Mathematics departments **at over 10,000 technical high schools throughout the U.S.** We've just launched our K-12 workshop series, which includes the Mini-Cube program, Introduction to Human Space Flight and viewings of the movie "I want to be an Astronaut", which was first screened on the International Space Station and to complement these we've agreed to sponsor a half-page ad highlighting our College partner Aerospace Technology or similarly related programs.

Major Changes/Developments of Interest

SpaceTEC® Welcomes a New Employee



SpaceTEC® is pleased to announce the addition to its staff with the hiring of Heather Kogut. Heather has been hired full time as Office Coordinator and will support all facets of office administration. She previously worked for St. Jude Children's Research Hospital as an Administrative Coordinator. Please join us in welcoming Heather to SpaceTEC®.

Website Enhancements

Spaceflight Insider, a space industry video journalism support company, reports on events taking place within the aerospace industry. Their team of writers and photographers provide an "insider's" view of all aspects of space exploration efforts. With decades of experience covering the space program, they are focused on providing the absolute latest on all things space.

SpaceFlight Insider is comprised of individuals located in the United States, Europe, South America and Canada. Almost all volunteer, hard-working space enthusiasts, they freely give their time to share the thrill of space exploration with the world. Through a joint services contract, Spaceflight Insider shares their world-wide launch calendar and streaming video of Cape Canaveral launches through the SpaceTEC® website at www.spacetec.org.

SpaceTEC's VetTEC® Portal has Gone Live!

VetTEC® (www.vet-tec.us) was created for active duty and transitioning service members and Veterans interested in translating their technical skills from military occupational specialties into civilian jobs by gaining industry-recognized SpaceTEC® and CertTEC® credentials capable of landing them living-wage jobs or accelerating them through STEM education programs through credit for prior learning.

We've compiled many of the resources provided by several agencies, including Veterans Affairs, Department of Defense, and Department of Labor, to provide a one-stop, user-friendly site. SpaceTEC® and CertTEC® certifications are approved through the State of Florida Department of Veterans' Affairs and are listed on the VA WEAMS License and Certification page. These credentials are funded for active duty military and included on the Army, Navy, Marine, and Air Force Credentialing Opportunities On-Line (COOL) websites. Read [more](#).

ACE CREDIT® Program Update

SpaceTEC® recently proposed a Supplemental Funding Request to the National Science Foundation for American Council on Education (ACE) College Credit Recommendation Service (CREDIT®) review of SpaceTEC® and CertTEC® Credentials. SpaceTEC® received notification from ACE in July the existing credentials approved for college credit were up for review and in preliminary discussions it was requested we consider CertTEC credentials. A supplemental funding request was prepared and submitted in early Aug. and we were recently informed it is at the Division Director concur step. It will then go to the Division of Grants and Agreements for awarding sometime before the end of September. Read [more](#).

National Aviation, Aerospace & Defense Workforce Summit

SpaceTEC® PI Steve Kane has made plans to attend the National Aviation, Aerospace & Defense Workforce Summit in Washington DC Sept 16th 2015 to provide the Manufacturing Institute, the National Aviation Consortium, the Aerospace Industries Association, and the General Aviation Manufacturers Association with information on credentialing services which can assist employers with identifying qualified candidates for employment. The summit was organized to bring industry leaders together in a half-day forum to publicize the challenges faced by the aerospace and defense industry in finding and training the 21st century skilled technical workforce and identifying best practices to address the need.

Florida State Avionics Technology Frameworks

In July, SpaceTEC PI Steve Kane participated in an Avionics Technology revision and review workshop at Southwestern State College in Punta Gorda, FL. The workshop was sponsored by the State of Florida Dept. of Education and was requested partly due to a scheduled three-year update, but also because recent events within the aviation and aerospace industries and at educational institutions in Florida created an opportunity to revisit, update, and revise the Avionics Technology (Secondary and PSAV) curriculum. Read [more](#).

Certifications

Recertification of SpaceTEC® and CertTEC® Certifications

SpaceTEC® and CertTEC® certifications are valid for three years from issuance. Additionally as part of the ISO 17024 Accreditation, SpaceTEC® and CertTEC® must demonstrate the ability to locate and verify the status of each certification holder so contact information updates are also requested at recertification. The recertification requirement is on a time scale and involves three methods to recertify. A link has been posted to the [SpaceTEC®](#) and [CertTEC®](#) websites.

Got Certs?

SpaceTEC® and CertTEC® are pleased to announce that 568 technicians have been certified year-to-date.

SpaceTEC® Certifications

Eight participants have been certified in the SpaceTEC® Core in 2015; 427 have been certified since its inception in 2005. An active duty Navy sailor in Jacksonville has successfully passed the written, oral and practical exam. Additionally, an active duty Air Force airman in Alaska is in the prep course preparing for the written exam.

CertTEC® Certifications and Activities of Note

Please note: *Beginning October 1, 2015, the cost of the Basic Electricity and Electronics certification will increase to \$75 per exam for Military, Veterans, and Partner colleges. And to \$85 for all other groups.*

We have administered 682 **CertTEC® Basic Electricity and Electronics** exams so far this year, and of those 454 have been certified. In total, 1,332 certifications have been issued since its inception in 2011. Just last month we certified 60 Army soldiers at Ft Gordon, Ft Lee, and Fort Sill.

This year 9 participants have been certified in the **CertTEC® Basic Composites** certification. There have been 38 individuals certified since its inception in November 2011. Yulista Aviation requested certification for 5 more of their technicians, and all of them passed - including the oral and practical exam. Edmonds Community College had 3 students from the Material Science program interning at Boeing Everett that passed their written exams and are scheduled for the oral and practical exam.

There have been 79 participants that have passed the **CertTEC® Aviation Structures** certification this year; 152 participants have been certified since inception April 2014. Francis Tuttle, WATC, and Tulsa Tech continue to offer this certification.

The **CertTEC® Aviation Mechanical Assembly** certification was implemented at the National Center for Aviation Training ([NCAT](#)) located at Wichita Area Technical College in December 2014. Students completing the 12-week NCAT curriculum are then eligible to sit for the three part exam. Additional locations are in work at the Tulsa Technology Center in Tulsa, OK and Ivy Tech in Indianapolis, IN. So far this year, 18 participants have been certified; 32 have been certified since inception Dec. 2014.

CertTEC® Avionics Update

CertTEC® joined forces with Nida Corporation, a leading supplier of student electronics training equipment including online training content and Aircraft Technical Book Co. who publishes complete sets of FAA Part 147, FCC and EASA B1.1 and B2 training publications supporting aviation training programs worldwide, to introduce development of the **CertTEC® Avionics certification** at the Aviation Technical Education Committee ([ATEC](#)) annual meeting in Orlando, FL this past April. As the only performance-based Avionics credential on the horizon available worldwide to validate the knowledge and

skills of technicians who troubleshoot, repair, modify and maintain avionics systems, much interest was seen. Aligned with the European Aviation Safety Agency (EASA) B2 standard, the only standard addressing Avionics technician performance-based training and licensing in the world today, work continues developing question banks and a practical examination process. Release is currently set for spring 2016. In conjunction with CertTEC® Avionics, SpaceTEC® Partners Inc. has joined forces with Aircraft Technical Book Co. in developing question banks for the delivery of EASA B1.1 and B2 licensing exams. Redstone College in Broomfield, CO is underway with EASA licensing approvals and when completed, will be the first EASA-licensed testing site in the U.S.

Credentialing Process Continuing Improvement

In an effort to ensure SpaceTEC® and CertTEC® certifications are fair and unbiased, an effort is underway to ensure any bias (ethnicity, gender, ADA) is identified and mitigated. The review is currently underway for the Aviation Structures Technician certification. The review will move to Aviation Mechanical Assembly and Basic Electricity and Electronics once Aviation Structures is complete. CertTEC Basic Composites bias review was completed in Dec. 2014 with suggestions/changes incorporate into the question banks in early 2015. Dr. Nancie Payne of Payne and Associates, Olympia, WA has been engaged to perform the reviews. Payne and Associates has extensive bias review experience, having performed similar work on state assessment exams. Payne and Associates is affiliated with CARF International - Comprehensive Vocational Evaluation Services, a member of the Commission on Adult Basic Education (COABE), Comprehensive Adult Student Assessment Consortium (CASAS) and the Society for Human Resource Management.

Special Events/Achievements

M-STEM 2015 Conference

SpaceTEC® is proud to be the host and a sponsor of this year's Materials in STEM ([M-STEM](#)) conference, which will be held at the [International Palms Resort](#) in Cocoa Beach, FL November 1-3, 2015. M-STEM brings together students, faculty and business to strengthen understanding of Science, Technology, Engineering and Math (STEM) principles, especially relating to materials science, and to enhance K-20 technology education integration. A unique feature of M-STEM is hands-on, interactive learning which presents information in a way that engages students and teachers. To learn more about the conference, go to this [link](#).

[M-STEM](#) offers:

- Focus on hands-on experiments, demonstrations and laboratories
- Poster and oral presentation opportunities
- Assistance to instructors in evaluation and course assessment methods
- Networking opportunities with industry, faculty and students
- Assistance with new materials technologies
- Road maps and methods for development of new materials courses
- Direct means for introducing materials concepts into existing courses
- Opportunity for peer-reviewed publication for current and future reference

National Visiting Committee Meeting

Our Annual National Visiting Committee (NVC) meeting is on November 16 & 17, 2015. It will be held at the International Palms Resort in Cocoa Beach, FL. The SpaceTEC® NVC Meeting is a 2 day event.

Monday, November 16, is dedicated to Partner College preparations for Tuesday's briefings to the NVC. The Partner College meeting convenes at the International Palms Resort on Monday at 8:00 a.m. A working lunch at the hotel will be provided. If you have any special dietary needs, please let the office know (321-730-1020).

An **industry tour** is planned for the afternoon of the 16th. All those in the SpaceTEC® consortium are invited to attend the tour. More information to follow.

The second day, **Tuesday, November 17**, is for the NVC, NATAC, and CITAC to meet with the Partner Colleges and SpaceTEC® staff. The SpaceTEC® NVC meeting convenes at the International Palms Resort on Tuesday at 8:00 a.m. A working lunch on Tuesday will be provided. If you have any special dietary needs, please let the office

know (321-730-1020).

Partner College Updates

New Partners

Gateway Technical College, Kenosha, WI has signed onto the consortium and is underway with preliminary preparations for delivering CertTEC® Basic Electricity and Electronics certifications in the fall.

Leeward Community College, Pearl City, HI has also joined the consortium and preparation are underway to deliver CertTEC® BEE certifications to Leeward students and recent graduates as well.

Additionally, agreements are under consideration at Del Mar College, Corpus Christi, TX; Green Valley College, Auburn, WA; Greenville Technical College, Greenville, SC and Trident Technical College, Charleston, SC.

Eastern Florida State College



Two of SpaceTEC®'s former college interns, Josh Capps and Miracel Vester, along with three other graduates from Eastern Florida State College's Aerospace Technology program, are helping take future astronauts to Mars as the first apprentices to work on NASA's new Orion spacecraft. Read [more](#).

Eastern Shore Community College



Eastern Shore Community College will develop and run two new college level classes to fully engage students in mission development and planning for a suborbital sounding rocket mission, RockSat-C, a student flight opportunity offered through the Colorado Space Grant Consortium and NASA. Read [more](#).

Three students in the RockOn workshop constructed a science payload that was launched on a suborbital flight. Read [more](#).

Virginia Space Grant Consortium (VSGC) in conjunction with NASA Goddard Space Flight Center's Wallops Flight Facility conducted a professional development opportunity for Community College STEM Faculty. Read [more](#).

ESCC recently created a new [video](#) called, "Who Says Girls Can't Weld?" This video is about female student in Electronics and Welding.

A "Women in Technology" expo and Career Night Out for students interested in learning more about exciting careers in science, technology, engineering, and math, was held at Eastern Shore Community College.

Francis Tuttle Technology Center



Aircraft manufacturer Airbus has donated an aircraft Elevator assembly to the Francis Tuttle Technology Center for use in its Aircraft Sheet Metal training classes. Aircraft Elevators are flight control surfaces, usually at the rear of an aircraft, which control the aircraft's pitch, and therefore the angle of attack and the lift of the wing. This equipment provides a unique real-world experience for their students to learn structural repair to aircraft control surfaces. Maintenance Repair and

Overhaul (MRO) facilities within the aerospace industry are important drivers of economic growth in and around Oklahoma. With this Airbus elevator, they are poised to

train an even more talented, competitive workforce for their local economy.

To learn more about SpaceTEC® activities or to begin your certification work, contact us:

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