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Board of Trustees

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August 7, 2017

Cissy Proctor
Executive Director
Florida Department of Economic Opportunity
107 East Madison Street
Caldwell Building
Tallahassee, FL 32399-4120

Re: Florida Job Growth Grant - Mechatronics & Electromechanical Workforce Training

Dear Ms. Proctor:

On behalf of **St. Petersburg College (SPC)**, I am excited to present the enclosed ***Mechatronics & Electromechanical Technician Training (METT)*** proposal for the Florida Job Growth Grant Fund-Workforce Training. SPC will lead this industry-driven project to implement and sustain an accelerated and innovative technician workforce program that meets the skill requirements for advanced manufacturing employers across the state.

We have engaged with a dynamic, core group of manufacturing industry, economic and postsecondary partners for this proposal, demonstrating SPC's commitment for collaborative, high-impact education and workforce training programs that drive our local and state economies and strengthen our communities. The proposed modularized, hybrid online lecture/in-person lab curriculum will teach new students, veterans and incumbent workers, the technical and critical-thinking skills required to succeed as a maintenance technician in advanced manufacturing environments, leading to opportunities for a high-wage, high-demand career.

SPC has a proven record of transformative workforce training programs, allowing participants to quickly gain credentials to enter or re-enter the workforce. We have led numerous grant-funded projects where we engage with state and national industry leaders to build curriculum in high-demand fields including advanced manufacturing, IT and more. These projects include: a U.S. Department of Labor (DOL) grant-funded project to boost apprenticeships and on-the-job-training across the state; multiple Quick Response Training (QRT) grants through CareerSource Florida to help area businesses create new, full-time, high-quality jobs as well as train current employees, and multiple DOL Trade Adjustment Assistance Community College Training grant programs for expanded bioscience, orthotics and prosthetics and advanced manufacturing training.

Multiple businesses and organizations will play a vital role in the implementation of this program, and whose commitment is noted in the attached letters. This truly is a high-impact, collaborative project, and we are partnering with Pinellas Technical College in order to serve a high number of participants. Industry leaders have advised SPC that there is a critical shortage for skilled labor in mechatronics and manufacturing, and this training program would help address this challenge - getting people with the sought after skills and on-the-job quickly.

The College prides itself on having excellent partnerships with leading entities in the Tampa Bay region and beyond, and our continued engagement and collaboration with key community partners will be an asset in making a positive impact with this project.

Thank you for your attentive review of our proposal. The College leadership is dedicated to the enhancement of SPC's mission through the implementation of the *Mechatronics & Electromechanical Technician Training* program, pledging the resources and the time needed to achieve its outcomes. We are committed to making an impact on our community with this significant Florida Job Growth initiative.

Sincerely,

A handwritten signature in cursive script that reads "Tonjua Williams".

Tonjua Williams, Ph.D.
President



Florida Job Growth Grant Fund Workforce Training Grant Proposal

Proposal Instructions: The Florida Job Growth Grant Fund Proposal (this document) must be completed and signed by an authorized representative of the entity applying for the grant. Please read the proposal carefully as some questions may require a separate narrative to be completed.

Entity Information

Name of Entity: Board of Trustees of St. Petersburg College (SPC)

Federal Employer Identification Number: XXXXXXXXXX

Contact Information:

Primary Contact Name: Jacqueline Skryd
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Workforce Training Grant Eligibility

Pursuant to 288.101, F.S., The Florida Job Growth Grant Fund was created to promote economic opportunity by improving public infrastructure and enhancing workforce training. This includes workforce training grants to support programs offered at state colleges and state technical centers.

Eligible entities must submit proposals that:

- Support programs and associated equipment at state colleges and state technical centers.
- Provide participants with transferable and sustainable workforce skills applicable to more than a single employer.
- Are offered to the public.
- Are based on criteria established by the state colleges and state technical centers.
- Prohibit the exclusion of applicants who are unemployed or underemployed.



1. Program Requirements:

Each proposal must include the following information describing how the program satisfies the eligibility requirements listed on page 1.

A. Provide the title and a detailed description of the proposed workforce training.

Title: Mechatronics & Electromechanical Technician Training (METT)

State of Workforce:

“Over the next decade, nearly 3.5 million manufacturing jobs likely need to be filled and the skills gap is expected to result in 2 million of those jobs going unfilled.”¹ In their third study over the last decade to help understand the growing skills gap in manufacturing, the Manufacturing Institute and Deloitte report two primary contributing factors to the widening gap: 1) baby boomer retirements; and 2) economic expansion. “An estimated 2.7 million jobs are likely to be needed as a result of retirements of the existing workforce, while 700,000 jobs are likely to be created due to natural business growth.”²

The local manufacturing workforce in Tampa Bay mirrors the national landscape. A **Tampa Bay Manufacturing Workforce Analysis** was commissioned by the local CareerSource boards in 2016 to understand the lingering local needs for skilled manufacturing employees and quantify difficult to fill manufacturing skill sets. Results showed that out of the 100 manufacturers responding to the survey, nearly 2,000 jobs needed to be filled over the next 12 months and more than 5,000 over the next 36 months. The majority of new hires are expected to be replacement hires (57%) and company growth (43%). “Respondents indicated that in the past six months, the companies had collectively interviewed almost 4,000 potential hires, of which 47% were qualified. The most cited reason the interviewees were not qualified was lack of necessary technical skills.”³

The long-term effects of such a shortage are wide-spread and can have a significant impact on the industry’s growth and profitability. For example, 82% of executives responding to the Manufacturing Institute/Deloitte Skills gap survey indicate they believe the skills gap will impact their ability to meet customer demand, and 78% believe it will impact their ability to implement new technologies and increase productivity.

The problem becomes more acute when recognizing that the changing nature of manufacturing work is becoming more technical. According to the same 2015 Manufacturing Institute/Deloitte report, manufacturing executives state the areas of skilled production (machinists, operators, and technicians) will be the hardest hit. This is evidenced as manufacturers redesign and streamline their production lines to become more automated. “Considering skilled production occupations account for over 50% of the total manufacturing workforce, worker shortages in this category will present a significant challenge to companies.”

At the same time, the national landscape in higher education is undergoing a sea of change, as several new processes seek to reform the traditional Carnegie credit-hour framework of learning to a more flexible

¹ Giffi, C., et al. 2015. *The skills gap in U.S. manufacturing: 2015 and beyond*. Washington, D.C.: Deloitte Development LLC and The Manufacturing Institute.

² Ibid

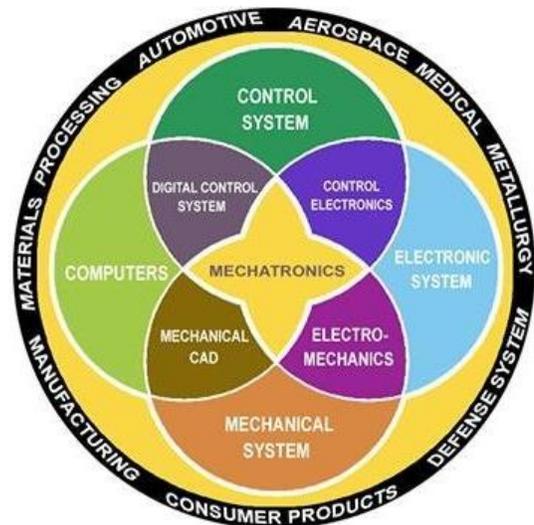
³ Tampa Bay Manufacturing Workforce: Analysis Report. (2016). Tampa, FL: Tampa Bay Gap Analysis. Retrieved from <http://tampabaygapanalysis.com/build/files/TampaBayManufacturingWorkforceAnalysisReport-2016.pdf>

model allowing for ease of entry and exit throughout a student's educational pathway.⁴ While a number of issues have led to this reform, one primary instigator has been the changing face of the modern college student. Today's average post-secondary student does not fit the preconceived profile of a recent high school graduate living on campus and supported by parents. Currently, approximately 85% of post-secondary students can be classified as post-traditional: older, already employed in an industry, or returning from military service.^{5 6} Post-traditional students desire degree programs that are affordable, offer flexibility, integrate skills already learned through prior employment or military service, and have clearly defined pathways into workforce sectors with a high chance of employability.⁷

Proposed Workforce Training Program Description:

In response to this need, St. Petersburg College, Pinellas Technical College, along with a core group economic and manufacturing industry partners, including Lockheed Martin, Monin, Valpak, MI Metals and manufacturing associations have come together to propose the **Mechatronics & Electromechanical Technician Training (METT) program**. The program is based on a year's worth of needs assessment, planning and feedback through advisory and regional industry meetings. The goal of METT is to **implement and sustain an accelerated, innovative, responsive, and competency based technician workforce program that meets the advanced manufacturing industry's skill requirements.**

The METT program will hone in on a blending of technical and manufacturing skills to support the world of automation. While mechatronics and electromechanical training is often linked to traditional manufacturing, there are a vast number of career paths available to those holding various electromechanical/mechatronic certifications. Mechatronics is a multi-skilled field that combines electronics and mechanical components with modern controls and microprocessors. Mechatronics has applications for a wide range of industries like manufacturing, aerospace, automotive, medical, material processing, consumer products, defense systems, and any other industry that relies on automation. Figure 1 (inset) is a graphic from Rensselaer Polytechnic Institute (RPI) illustrating the breadth of industries using mechatronics at its core. The technology-filled world relies on mechatronics systems, from the autofocus in a cell phone's camera to altitude measurement and air speed in aviation, to home and auto climate controls and robotics in manufacturing.



A mechatronics technician, also known as electromechanical technician, is the synergistic application of mechanical, electrical, and automation skills. It emphasizes troubleshooting automated machinery with a systems point of view. The program is designed to equip maintenance and technical professionals with the skills and knowledge to evaluate and troubleshoot plant floor issues in a synergistic manner.

⁴ Weise, M. (2014, November 10). Got skills? Why online competency-based education is the disruptive innovation for higher education. *Educause Review*. 49(6). Retrieved from <http://er.educause.edu/articles/2014/11/got-skills-why-online-competencybased-education-is-the-disruptive-innovation-for-higher-education>

⁵ Baker, R.B. (2015). The student experience: How competency-based education providers serve students. AEI Series on Competency-Based Higher Education Reform. Washington, D.C.: American Enterprise Institute.

⁶ Roe, E. A., & Bartelt, T. (2015, June), Converting a Traditional Engineering Technology Program to a Competency-based, Self-paced, Open-entry/Open-exit Format Paper presented at 2015 ASEE Annual Conference & Exposition, Seattle, Washington. 10.18260/p.23747

⁷ Kelchen, R. (2015). The landscape of competency-based education: Enrollments, demographics, and affordability. AEI Series on Competency-Based Higher Education Reform. Washington, D.C.: American Enterprise Institute.



Existing Curriculum To accelerate training and fast-track implementation, SPC will model its curriculum and equipment after a successful National Science Foundation (NSF) Advanced Technical Education Center (ATE), **AMTEC** (Automotive Manufacturing Training Education Collaborative). AMTEC is a leader in delivering truly competency based, nationally standardized modularized curriculum in manufacturing automation. Developed by industry, Toyota, Ford, BMW, Honda, Aisin, Denso and GM (to name a few) set aside their differences to come together from multiple sites across the US to help research and develop core competencies that are presented within all of AMTEC’s content, online learning modules, and certification and diagnostic assessments.

More recently, however, AMTEC has been working with other industries who recognize that the multi-skilled technical competencies that AMTEC covers also meet the needs of the industries they work within, including Boeing and Amazon. As a result, AMTEC has ventured beyond the Automotive Manufacturing Industry into Aerospace, Chemical, Food, Distribution and Logistics, Tool Manufacturing and those highlighted by the Rensselaer Polytechnic Institute. The **National Governors Association (NGA)** also chose AMTEC as a model of National Best Practice. In a recent case study, NGA stated that “the AMTEC story shows that it is possible for governors to work collaboratively with industry, community colleges, and with each other to provide people with the opportunity to build their technical skills and ensure both America’s future prosperity and their own Economic Security.”

Competency-Based Education At the request of national industry partners to accelerate the instructional process, the AMTEC curriculum is broken down as a **Competency-Based Education (CBE)** model into **modularized, hybrid online lecture/in-person lab curriculum** designed to teach both unemployed and incumbent workers the technical and critical-thinking skills required to succeed as a maintenance technician in advanced manufacturing environments. Each of the modules begins with a pre-assessment that allows a student to earn credit for prior knowledge if they can demonstrate mastery. This may shorten the time required for a student to complete assigned coursework, a particular benefit for veterans whose military experience will be able to be assessed and recognized.

CBE has been one of the most prominent models employed in modern educational reform.⁸ CBE is structured to evaluate a student’s understanding of a topic not on the number of credit hours earned, but through demonstrated mastery of the specific skills or learning outcomes related to the topic.⁹ This model allows for flexibility in knowledge acquisition as students complete courses at their own pace, and are often allowed multiple methods to demonstrate mastery, including skills learned in prior settings, or *Prior Learning Assessment*. CBE incorporates technological advances in education, such as computerized simulation labs and online coursework,¹⁰ speaking to online education’s designation as the fastest growing sector of higher education.^{11 12} Despite the demand and wide-spread adoption of alternative educational pathways in post-secondary institutions, **few of these programs have tackled CBE in the advanced technological sciences.**

Statement of Work:

Start Up Proposed as a two-year program, METT will accelerate start up by using existing curriculum and assessments and other resources provided by partners. Any equipment and supply purchases will take place in year one to ensure all programming is in place and offered early on in the grant. Minimal staffing

⁸ Kelchen, R. (2015). The landscape of competency-based education.

⁹ Krause, J., Portolese Dias, L., & Schedler, C. (2015). Competency Based Education: A Framework for measuring quality. *Online Journal of Distance Learning Administration*. Spring 2015, 18(1).

¹⁰ Baker, R.B. (2015). The student experience.

¹¹ Krause, J., Portolese Dias, L., & Schedler, C. (2015). Competency Based Education.

¹² U.S. Department of Education, Office of Planning, Evaluation, and Policy Development. (2010). Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies, Washington, D.C.



will be required, with the exception of a program coordinator responsible for aligning regional resources and faculty to support lab-based training who will be hired within two months of program start date.

Outreach & Enrollment A rigorous outreach campaign will be a collaborative effort, led by educational partners SPC, Pinellas Technical College (PTC) and the American Manufacturing Skills Initiative (AmSkills), as well as local industry associations including the Bay Area Manufacturing Association (BAMA) and the Florida Suncoast Manufacturing Association (FSMA), who together represent over 500 manufacturers in the Tampa Bay region. An emphasis will be made to target unemployed workers with transferrable skills in manufacturing; including underrepresented minorities and women; veterans; and incumbent workers who have an opportunity to move up the career ladder. By doing so, the partnership will maximize the number of students that can be trained and placed on the job quickly. METT will also leverage partnerships developed under past programs, including US Department of Labor funded *Florida Apprenticeship* and *Florida TRADE* grants, as well as the marketing materials developed by AMTEC and other available AMTEC resources to maximize outreach.

Career Pathway Development Over the course of two years, SPC will work to cross-walk and articulate modules for appropriate credit to the A.S. degree in Engineering Technology. Doing so will help accelerate the path to completion and align with state frameworks for credit. SPC will also work with AmSkills and PTC to articulate related pre-apprenticeships and apprenticeships as part of the pathway.

Training The move to a competency-based curriculum model allows for SPC, PTC and AmSkills to offer classes in an **open entry/open exit format** (OEOE) – offering a non-term self-paced program, where students choose when to begin each module/course (open entry), and how long to stay in each module/course before demonstrating mastery or completing assessment (open exit).

Using modules, a course is broken down by specific skill or knowledge area, taking anywhere from three weeks to complete for individual modules, or nine months to complete a full set of modules. These modules include digital lessons, hands-on labs, and assessments, created by industry and college subject matter experts, to teach the specific skills that are fundamental for performing advanced manufacturing maintenance work and to assess a student's mastery of these skills. Modules give students increased flexibility where they're free to pick and choose the modules that meet that educational goals. Modules can function as a standalone class or be combined with other modules to build courses and earn degrees, certificates, and diplomas.

During the training period, a student will have access to **simulation and manual equipment for hands-on experiences** via METT labs at two sites designated as industry testing centers and strategically located in central and south Pinellas County – SPC Collaborative Center of Emerging Technologies at the Clearwater Campus and Pinellas Technical College in St. Petersburg. Dedicated faculty will be available during day and evening hours to accommodate student schedules. A virtual simulator for students to practice advanced maintenance troubleshooting will also be available as a supplemental learning tool for students in between their scheduled lab time. Further, the partnership will work with industry partners to identify additional labs onsite at industry partner locations to expand accessibility and industry mentorship, as well as through educational expansion locations like AmSkills labs to increase hands-on training access at sites throughout Tampa Bay, supporting program growth and sustainability.

Upon competency mastery, students will have the opportunity to sit for a range of industry recognized certifications available through credential bodies including the **National Institute for Metalworking Skills (NIMS)**, **Packaging Machinery Manufacturers Institute (NIMS)**, **International Society of Automation (ISA)**, **Society for Maintenance & Reliability Professionals (SMRP)**, and the **Manufacturing Skill Standards Council (MSSC)**.



Placement Industry partners involved in the program design indicate that demand for skilled workers in the METT field is so high that there is ‘guaranteed’ employment upon completion. Lockheed Martin in particular will be looking to fill 100 positions in the program target occupations every 18-24 months. SPC and PTC will working closely with BAMA and FSMA and its employer partners to support job matching throughout the program and into the long-term. SPC will also work with students for internship or apprenticeship placements depending on appropriateness of placement for the student. SPC will be able to leverage its involvement in the USDOL **Florida Apprenticeship** grant, as well as **AmSkills**, to expand opportunities in manufacturing-based apprenticeships and job placements. Funded by the Florida Department of Economic Opportunity, AmSkills is a part of a national “German Skills Initiative” campaign that has been officially endorsed by the German Embassy and the US Department of Commerce.

B. Describe how this proposal supports programs at state colleges or state technical centers.

With St. Petersburg College and Pinellas Technical College as lead partners on the project, METT directly impacts students and communities of both a state college and technical center. Moreover, the METT program will support and impact technological education statewide by: 1) establishing a replicable model for implementing CBE and self-paced educational strategies in a technological discipline that is accessible to working learners and is learner-centered rather than faculty-centered; 2) building collaborative relationships between the secondary system (technical schools) and state colleges that embeds certification-based articulation resources and pathways into the program; 3) adding to the library of statewide articulations for adoption by other institutions; and 4) providing pathways to degrees. Moreover, outreach initiatives will create partnership linkages with industry at the national, state and local levels who may need to connect with a broader group of state college and secondary career and technical education programs to expand their reach.

Founded in 1927, St. Petersburg College (SPC) was the first two-year institution of higher education in the state of Florida and was the first community college to become a baccalaureate degree-granting institution in 2001. SPC now serves approximately 65,000 credit and non-credit students, and offers more than 100 degree and certificate programs. Students represent a broad base of individuals--from those unemployed seeking quick training in order to enter the job market, to those who are pursuing an undergraduate degree prior to moving into a career, to those needed continuing education to maintain credentials or seek promotion. By offering multi-level options in a variety of fields, students are provided the flexibility to achieve their goals within their own self-paced timeframe, anywhere from a few weeks in an online environment to a two-year degree based in the classroom. Regardless of the track or delivery model, SPC and the METT partnership will be focused on training that addresses the immediate needs of employers in the region.

Moreover, AMTEC has made great strides expanding its community college and industry partnerships around the United States. With over 55 college partners, high school consortiums, universities, and over 53 industry partners existing in 18 states, they’ve expanded from the Automotive Manufacturing industry into Aerospace, Chemical, Food, Distribution-Logistics, and Tool Manufacturing industries. AMTEC students have graduated and been hired into Tier 1 companies such as Nissan North America, Toyota Motor Manufacturing, Ford, GM, and Hitachi. Specifically, Amazon has unofficially approached AMTEC to establish training in Florida. This model will support many regions across the state to help meet the needs of dynamic and global corporations like Amazon, beyond Pinellas County and Tampa Bay and drive further economic impact for other companies looking to do the same.

C. Describe how this proposal provides participants transferable, sustainable workforce skills applicable to more than a single employer.

Portable & Stacked Credentials: Aligned with the **National Association of Manufacturer’s (NAM) Endorsed Manufacturing Skills Certification System**, the proposed framework for METT is intended to



provide an articulated, accelerated pathway of training that acknowledges and awards credit for previous learning and allows students to build a portfolio of portable, standardized, industry-recognized credentials applicable to key sectors in the advanced manufacturing industry. By concentrating on industry-based competencies and credentials, students will have the opportunity to cross certifications in side-by-side fashion or stacked as they advance their training. These nationally recognized credentials are endorsed by industry to validate one's skills and competencies needed to be productive and successful in entry and mid-level positions at any manufacturing employer environment, that can be learned and earned through secondary and postsecondary education, and are transferrable between employers. The industry-recognized certifications that can be obtained by students are detailed later in this application.

D. Does this proposal support a program(s) that is offered to the public?

Yes No

E. Describe how this proposal is based on criteria established by the state colleges and state technical centers.

As with all SPC programs, it is important that this proposed program meet SPC's quality academic standards and requirements while providing maximum access for adult working professionals. The program will be aligned with Florida Department of Education frameworks and industry certification requirements, as well as expectations from the manufacturing community and advisory boards.

METT will focus on providing training that leads to certifications that are part of the NAM-Endorsed Manufacturing Skills Certification System. By focusing on NAM-endorsed credentials, the initiative will expand articulation options for participants. The utilization of a national industry certification alignment with curricular frameworks has enabled the creation of statewide articulation pathways from the secondary system, technical schools and incumbent worker training programs into college credit. This statewide articulation pathway was first accomplished by crafting a statewide articulation agreement that grants college credit for attainment of the MSSC CPT certification (irrespective of whether it was obtained at the secondary level, corporate training, or self-study).

The program has been branded as "Gold Standard Career Pathways" within the Florida Department of Education (FLDOE). Related to advanced manufacturing, two other degree programs (Manufacturing Technology & Electronics Engineering Technology) have subsequently had written agreements for the MSSC CPT Certification approved and are included in the list on the FLDOE website.

Other areas that were considered as a basic for program design include:

- Conducted feasibility assessment using a focus group made up of members of SPC Advisory Councils, faculty, administration and subject-matter experts from the manufacturing/mechatronics community
- Based on research, the focus group input, and industry-standards for certification program requirements, SPC administration and faculty worked with industry to design a certification delivery model that meets SPC's academic quality standards and support students seeking short-term training, and certifications leading to employment.
- Review of Florida Department of Education Curriculum Framework
- Review of Department of Labor Targeted Occupation List and Occupational Outlook projections
- Review of certification agencies and requirements for certification
- Review of local (Central Florida) manufacturing companies websites to investigate position openings and salary ranges
- Development of program cost analysis for sustainability planning
- Working with SPC administration and faculty, foundational requirements for articulation were considered for future articulation into other AS degrees.



F. Does this proposal support a program(s) that will not exclude unemployed or underemployed individuals?

Yes No

G. Describe how this proposal will promote economic opportunity by enhancing workforce training. Please include the number of jobs anticipated to be created from the proposed training. Further, please include the economic impact on the community, region, or state and the associated metrics used to measure the success of the proposed training.

According to the National Association of Manufacturers (NAM), every dollar spent in manufacturing adds \$1.37 to the U.S. economy.¹³ Locally, the impact is substantial, where manufacturing comprises nearly one third of the region's jobs and tax base.¹⁴

As reported by the Florida Chamber of Commerce, manufacturing contributes more than \$40 billion to Florida's economy, where for every 10 jobs created in Florida's export-oriented manufacturing, 12 more jobs are created in transportation, warehousing and retail.¹⁵ Wages earned by manufacturing employees in Tampa Bay reached over \$71,000, far more than the state's manufacturing average wage of \$54,000, meaning workers have more purchasing power to invest back into the economy.

Tampa Bay is currently home to over 5,000 businesses representing more than 61,000 employees, whose income contribution adds nearly \$9 billion to the local economy and each manufacturing job created results in an additional 2.65 jobs.¹⁶ It is anticipated that the METT program will help businesses address their workforce shortage and support industry growth enough so that at least **150 new jobs will be created** over the two years of the program. Using the multiplier effect, that's nearly 400 additional jobs for a total of **550 jobs in two years**.

In addition to the economic impact of emphasizing training in manufacturing in general, the use of the AMTEC curriculum has great value of its own. As part of a 2013 AMTEC National Case Study of Career Pathways that Work,¹⁷ Alamo Community College reported an **annual return on investment of \$700,000** for its mechatronics program. Beyond the financial impact, Alamo Community College reports making contributions to the region's economy by helping to recruit qualified employees in the Aerospace, Advanced Technology and Manufacturing, and Information Technology and Security Assurance sectors. As part of the study, one CEO from a local manufacturing and engineering firm indicated that the program **saves the company between \$7,000 and \$15,000 in recruitment costs for each technician** they hire through the program. At the same time, the college benefits from students who decide to further their education, where 62% of graduates pursue associate's degrees. In the Tampa Bay area, only Polk State College offers related mechatronics training, offering few options for companies to train workers, often at a great distance. Beyond a cost savings for staff recruitment, METT will help employers not local to Polk County to offset travel expenses for employee commuting to training. Travel time is also production time lost. Basing an advanced manufacturing program in Pinellas County will decrease travel costs for employers and increase productivity and revenues.

¹³ National Association of Manufacturers. (n.d.) Top 20 Facts About Manufacturing. [Online]. Retrieved from nam.org/Statistics-And-Data/Facts-About-Manufacturing/Landing.aspx

¹⁴ Upper Tampa Bay Chamber of Commerce. (n.d.). Support Manufacturing. [Web page]. Retrieved from utbchamber.com/manufacturers-association/support-manufacturing/

¹⁵ Florida Chamber of Commerce. (n.d.) Advocacy – Issues – Manufacturing. [Web page]. Retrieved from flchamber.com/advocacy/issues/manufacturing/

¹⁶ Tampa Bay Manufacturing Workforce: Analysis Report. (2016). Tampa, FL: Tampa Bay Gap Analysis.

¹⁷ AMTEC's National Case Study of Career Pathways that Work: Executive Summary. (2013). Versailles, KY.



Another key element contributing to economic impact is the use of AMTEC through the open entry/open exit (OEOE) curriculum delivery model. The OEOE format will help maximize training dollars by providing the flexibility of modularized, self-paced, skills based training. The workforce will be better prepared to meet employer needs in a more responsive and timely manner.

Success Metrics:

The overarching goal of the program is to implement and sustain an accelerated, innovative, responsive, and standards based technician workforce program that meets the advanced manufacturing industry’s skill requirements. In order to determine program efficacy and success of the proposed training, the following metrics will be tracked and analyzed:

Objective 1: Increase the number of individuals with mechatronics and electromechanical workforce competencies and credentials through METT

- Total number enrolled in METT modules – tracked by demographics including target populations (veterans, minorities, women, unemployed)
- Total number of modules completed per student
- Total number of lab hours logged
- Student success rates of pre and post-assessments
- Retention rates of students in METT programming
- Certification earned
- Percent of students receiving college credit
- Number of students continuing their education at St. Petersburg College or Pinellas Technical College

Objective 2: Improve industry engagement in college and technical center manufacturing program delivery and student employment region-wide

- Number of students receiving internships
- Number of students receiving jobs/apprenticeships
- Wage at placement
- Types of employer contributions (staff time, equipment, supplies, other)
- Employment retention rates of students (6 months post-program completion and job placement)
- Number of new jobs created

SPC will use its own PULSE Business Intelligence system and will conduct student and employer surveys to capture the metrics listed above, as well as employer and students satisfaction levels. Collectively, the data will help to inform the return on investment of the program and overall program success.

2. Additional Information:

A. Is this an expansion of an existing training program?

- Yes No

If yes, provide an explanation for how the funds from this grant will be used to enhance the existing program.

Not applicable

B. Does the proposal align with Florida’s Targeted Industries? (View Florida’s Targeted Industries here.)

- Yes No



If yes, please indicate the targeted industries with which the proposal aligns. If no, with which industries does this proposal align?

The METT program aligns directly with the **manufacturing industry**, but is a training program that **supports all industries** targeted by Enterprise Florida on the list of Qualified Targeted Industries:

- Manufacturing
- Clean Tech
- Life Sciences
- Info Tech
- Aviation/Aerospace
- Homeland Security/Defense
- Financial/Profession Services – Engineering

C. Does the proposal align with an occupation(s) on the Statewide Demand Occupations List and/or the Regional Demand Occupations List? (View Florida’s Demand Occupation Lists here.)

Yes No

If yes, please indicate the occupation(s) with which the proposal aligns. If no, with which occupation does the proposal align?

The following table demonstrates the targeted occupations on the Statewide Demand Occupations and Regional Demand Occupations Lists that will be served through the METT program, including projected demand over the next six years. Those with an asterisk highlight occupations on one or both of the lists. Other related occupations beyond those listed may also be targeted in order to be flexible and responsive to regional demand and emerging sectors. **Nearly 2,000 openings are projected in Pinellas County over the next six years in these occupations alone.**

METT Target Industries Occupations; Current and Future Demand		Total Job Openings 2016-2024		% Growth 2016-2024	
		Pinellas	State	Pinellas	State
SOC Code	SOC Occupational Title				
11	Management Occupations	6,224	106,491	13.2%	9.9%
11-3051	Industrial Production Managers	104	1,216	2.9%	3.6%
17	Architecture and Engineering Occupations	1,553	30,742	6.5%	9.8%
17-2141	Mechanical Engineers	156	2,753	7.6%	12.7%
17-3023	Electrical and Electronics Engineering Technicians	94	1,498	-0.4%	5.8%
17-3024	Electro-Mechanical Technicians	13		-1.5%	
17-3027	Mechanical Engineering Technicians		232		14.0%
49	Installation, Maintenance, and Repair Occupations	6,126	111,262	11.8%	10.8%
49-1011	First-Line Supervisors of Mechanics, Installers and Repairers*	415	7,743	11.3%	10.6%
49-9041	Industrial Machinery Mechanics*	262	5,104	18.6%	20.8%
51	Production Occupations	5,133	75,705	3.0%	5.0%
51-1011	First-Line Supervisors of Production and Operating Workers*	308	4,295	3.7%	4.4%
51-4012	Computer-Controlled Machine Tool Programmers	26	187	20.3%	19.3%
51-4041	Machinists*	403	3,317	10.6%	11.5%
51-4121	Welders, Solderers, Brazers*	199	4,220	4.2%	8.4%

Source: Florida Department of Economic Opportunity Employment Projections Data - Statewide and WDA 14 Pinellas

* Denotes a Florida DEO 2017-2018 Regional Demand Occupation - Statewide and/or WDA 14 Pinellas County



D. Indicate how the training will be delivered (e.g., classroom-based, computer-based, other).

If in-person, identify the location(s) (e.g., city, campus, etc.) where the training will be available.

If computer-based, identify the targeted location(s) (e.g., city, county, statewide) where the training will be available.

Classes will be offered online in an open entry/open exit format that includes a **blended format** of **online content modules** with **hands-on lab** activities onsite either at the SPC Clearwater Campus Collaborative Center for Emerging Technologies or the Pinellas Technical Center St. Petersburg location. At the completion of a collection of appropriate modules, based on individual assessments, students will be able to sit for a range of industry certifications.

E. Indicate the number of anticipated enrolled students and completers

Number Enrolled: 300 over 2 years

Completers: 240 over two years

The total numbers are based on the estimated number of students who enroll and complete the full program (estimating 36 modules), understanding that more students may choose to take one or more modules through the open entry/open exit model, which will be tracked and reported throughout the program. The METT partnership is estimating an 80% completion rate based on similar programs nationally – or 240 students over two years.

F. Indicate the length of program (e.g., quarters, semesters, weeks, etc.), including anticipated beginning and ending dates.

Begin Date: September 1, 2017

End Date: August 31, 2019

It is anticipated that the full program period, including start up, will be two years from September 1, 2017 through August 31, 2019. Training will be offered on an open entry/open exit basis throughout and beyond the program period.

G. Describe the plan to support the sustainability of the proposal.

As part of program design, many sustainability considerations were made including institutional capability and capacity, resource availability (including access to quality trainers), technology, changes to curriculum and competencies, as well as available facilities and equipment over time. Manufacturing is a core industry of focus for SPC. As attested in the proposal cover letter, SPC president, Tonjua Williams, and administrators college-wide, recognize the value of this program, have been at the table for its design, and have committed to seeing that the program is sustained and grows beyond the initial funding period.

As with all SPC workforce programs, a cost analysis is a key component of consideration in the decisions regarding adoption and launch of new programs. SPC completed a **cost analysis** and **program feasibility assessment** as a baseline for planning and assessing start up and sustainability costs to help SPC evaluate the financial impact of the proposed program. It is anticipated that the investment of the METT program will provide the **start-up funding** necessary to accelerate program implementation and establish critical lab space. The **flexibility and affordability** provided by the program, by design, will **drive enrollments** and therefore **tuition and revenues**. The nature of an open entry/open exit model creates multiple educational on and off ramps for students, including the recognition of prior learning and offering of degree credit through articulations. Furthermore, the modularized curriculum will allow students to hone



in particular competencies, rather than go through a longer-term time based program. The model is also attractive to companies who want to send employees through continuing education for specialization training. The projected demand for training and a comprehensive outreach plan will drive increased enrollments over time, helping to offset expenses by the end of the grant period.

Equipment was a main consideration for sustainability. SPC has explored opportunities to partner with local manufacturers to share/donate equipment and provide trained instructors, several of whom have already made commitments. SPC, PTC and AmSkills will also continue to engage the corporate community through participation on **advisory** committees. One key industry partnership is with **Lockheed Martin**. Lockheed has expressed a commitment to working with SPC and PTC long-term to help fill their workforce needs. They recognize this partnership requires close industry involvement. The company has shared interest in allowing students to access their facilities for hands-on lab training, internships and apprenticeships, as well as interest in donating surplus equipment and supplies in an effort to sustain METT lab technology. Over the METT program period, SPC and PTC will work with administrators from Lockheed sites in Clearwater, FL and Houston, TX to determine future needs and how to grow the partnership.

The outcomes of Competency-Based Education (CBE) under METT will have **broader and long-lasting impacts** on the statewide manufacturing landscape by providing change leadership for technological CBE. As noted previously, CBE is at the forefront of educational policy conversation and implementation. The METT program will offer concrete resources—including best practices, regulatory and accreditation requirements, strategies for faculty engagement and compensation, program design and course modules, policy implications, and industry engagement that will sustain support for learner-centered CBE in the advanced technological sciences. It will also strive to address those issues in CBE, such as financial aid and the integration of student information systems, learning management systems, and financial systems, that have long-burdened institutions and have acted as a barrier to implementing change. These resources will serve as a guidepost for institutions looking to implement these types of programs, in whole or in part.

H. Identify any certifications, degrees, etc. that will result from the completion of the program. Please include the Classification of Instructional Program (CIP) code if applicable.

The following **certificates, PSAVs and degree credentials** will be offered through METT:

CIP	College Credential	Name
161500001	A.S. Degree	Engineering Technology
064805030	PSAV	Machining Technologies
0615040601	Certificate	Automation
0615061302	Certificate	Lean Manufacturing
0615000013	Certificate	Mechatronics
0615061303	Certificate	Pneumatics, Hydraulics & Motors for Manufacturing

The following **industry certification credentials** will be offered through through METT competency:

Industry Sponsor	Industry Certification	Description
	Industrial Technology Maintenance Certification	Designed to meet skills for the industrial maintenance and mechatronics workforce
	Machining Level 1	Designed to meet entry-level requirements for on-the-job skills for machinists

	Mechatronics Certification Test – Fluid Power 1	Covers the function, operation, and application of common components used in fluid power circuits and systems
	Mechatronics Certification Test – Industrial Electricity 1	Covers basic safety practices for voltages up to 600 volts and knowledge of voltage, current and power in AC and DC circuits, circuit analysis of series and parallel loads, and basic understanding of resistors, capacitors, and inductors.
	Mechatronics Certification Test – Mechanical Components 1	Covers the principles and applications of the most commonly found mechanical drive components as used in packaging machinery and systems.
	Mechatronics Certification Test – Motor and Motor Controls	Evaluates the candidate’s mastery of the principles, application, troubleshooting and maintenance of rotating electrical motors and electronic motor drives as used in packaging, processing and other manufacturing environments
	Mechatronics Certification Test – Programmable Logic Controllers (PLCs) 1	Covers the principles and applications of different types of logic and programming used to control packaging machinery and systems
	Certified Automation Professional	Covers process and manufacturing automation in support of systems, software, and equipment used in control systems, manufacturing information systems, systems integration, and operational consulting
	Certified Control Systems Technician	Calibrates, documents, troubleshoots, and repairs/replaces instrumentation for systems that measure and control level, temperature, pressure, flow, and other process variables.
	Certified Maintenance & Reliability Technician (CMRT)	Credentialing program for the knowledge, skills and abilities of maintenance and reliability technicians covering Maintenance Practices, Preventative and Predictive Maintenance, Troubleshooting and Analysis, and Corrective Maintenance
	Certified Maintenance & Reliability Professional (CMRP)	Credentialing program for certifying the knowledge, skills and abilities of maintenance and reliability professionals covering Maintenance and Reliability Body of Knowledge: Business Mgmt., Equipment Reliability, Manufacturing Process Reliability, Organization and Leadership, and Work Mgmt.



	MSSC – Certified Production Technician (CPT)	Demonstrates mastery of the core competencies of manufacturing production at the front-line (entry-level through front-line supervisor), covering safety; quality practices & measurement; manufacturing processes & production; maintenance awareness and green production.
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I. Does this program have a local match amount? Yes No

If yes, please describe the entity providing the match and the amount.

As detailed in the budget narrative below, SPC and partners have contributed an estimated, non-audited amount of **\$317,856** to the total cost of the program through equipment, supplies, staff time for advisory and student mentorship, and uncharged indirect costs. Additionally, the College will demonstrate a commitment to the execution of the programming through various levels of support, including contributing resources such as staff time not funded through the program, office supplies and space.

J. Provide any additional information or attachments to be considered for the proposal.

The **Letters of Commitment** provided in Attachment A demonstrate the broad base of support from industry, industry associations, government and other educational partners, including:

- AMTEC
- Lockheed Martin
- Monin
- MI Metals
- TSE Industries
- ValPak
- Florida Suncoast Manufacturing Association
- Bay Area Manufacturing Association
- Pinellas County Economic Development
- Pinellas Technical College
- AmSkills

3. Program Budget

Estimated Costs and Sources of Funding: Include all applicable workforce training costs and other funding sources available to support the proposal.

A. Workforce Training Project Costs:

Equipment	\$694,000	
Personnel	\$295,643	
Facilities	\$300,600	
Tuition	\$ 36,000	
Training Materials	\$144,000	
Other	\$444,471	Please Specify: Inclusive of test fees, contractual trainers, travel, outreach and indirect costs. See detailed budget narrative below.
Total Project Costs	\$1,914,714	

B. Other Workforce Training Project Funding Sources:

City/County	\$0	
Private Sources	\$110,000	
Other (grants, etc.)	\$207,856	Please Specify: Remainder of SPC Modified Indirect Cost Rate, Educational contributions (equipment and renovations), Industry contributions (equipment, supplies, staff time and effort and paid training)



Total Other Funding \$317,856
Total Amount Requested \$1,596,858

Note: The total amount requested must equal the difference between the workforce training project costs in 3.A. and the other workforce training project funding sources in 3.B.

C. Provide a detailed budget narrative, including the timing and steps necessary to obtain the funding, how equipment purchases will be associated with the training program, if applicable, and any other pertinent budget-related information.

St. Petersburg College is requesting funds to support the following budget items, which will facilitate the implementation of the *Mechatronics & Electromechanical Technician Training (METT)* program. Budgeted funds are based on an estimated timeline of two years. SPC's grants accounting department has reviewed and approved the projected expenditures, which will expedite grant start-up. The timeline for hiring, equipment purchases, renovations and other items are highlighted within the budget narrative. The proper institutional procurement procedures and approvals, including a quote or bid process and review, will take place prior to the purchase/lease of all equipment.

St. Petersburg College - Mechatronics & Electromechanical Technician Training (METT)

Grant Period: September 1, 2017 - August 31, 2019

Grant Budget	2017-18	2018-19	
	YEAR 1	YEAR 2	TOTAL
EQUIPMENT - \$5,000+ unit cost			
The purchase of two automation simulators is proposed to support all mechatronics module competency lab training. The automation simulator includes the exact AMTEC designed and specified Advanced Manufacturing System Simulator, fixtures, robot, custom end of arm tooling, peripheral equipment design and build, project engineering, software, basic integration and runoff, standard documentation and system engineering and support services. The proposed simulator was designed and built with flexibility and variety in mind. This machine can be used to provide a platform for troubleshooting and safety training as well as reinforcing basic principles learned in a classroom environment. It was specifically designed to support AMTEC curriculum and supports Allen Bradley and Siemens Programmable Logic Controls (PLCs) and is a viable platform for Lean Manufacturing training. Estimated price is \$197,000 per simulator (2) - including warranty, shipping/handling and installation. In support of machining training , SPC proposes to purchase two mills and two lathes to establish a new lab, estimated at \$75,000 per machine including tooling, shipping and installation. Mills and lathes are Computer Numerical Control (CNC) systems that contribute to different parts of the manufacturing process, and will support different levels of training (entry to more advanced), but that result in a trained student who can multi-task on the shop floor. The proposed equipment will support automotive, defense, energy and medical manufacturing. It is projected that this equipment will be purchased and delivered within 6 months of grant start date for hands-on lab exercises, each supporting small group training up to five students at a time.	\$694,000	\$0	\$694,000
TOTAL EQUIPMENT	\$694,000	\$0	\$694,000



Grant Budget	2017-18	2018-19	
	YEAR 1	YEAR 2	TOTAL
PERSONNEL			
Salaries/Deliverables			
Program Manager - Mechatronics A&P Grade IV (Grant Project Manager) - Full-time Y1-Y2 to direct program, ensure deliverables and coordinate activities between business partners, Engineering Technology program and institutional departments. This role will be responsible for overall grant management and reporting to state, as well as business development and institutional program growth. It is projected that this position will be hired within two months of grant start date. Y2 salary includes a cost of living increase of 2%.	\$53,707	\$54,781	\$108,489
Full-time Faculty Estimating 1 full-time faculty in Y1-Y2 at rate of \$50,508 (Master's +30 Level 4 for 36 Equated Credit Hours) to instruct students completing hands-on training at lab sites for increased access. It is projected that this position will be hired with two months of grant start date to support immediate start-up overseeing certification offerings and additional certifications over time as equipment is installed. Will work with the Engineering Technology (ET) Program Director on articulation of modules into the ET AS Degree.	\$50,508	\$51,518	\$102,026
Faculty Deliverables Estimating a total of 3 deliverables per year totaling \$1306 per deliverable for staff/faculty to work on career pathway, articulation and curriculum development.	\$3,918	\$3,918	\$7,836
Fringe Benefits			
Faculty Stipends at estimated 16% covering retirement and FICA/SS	\$627	\$627	\$1,254
Full-time positions at 36.12% for health insurance, retirement, FICA/SSA	\$37,643	\$38,395	\$76,038
TOTAL PERSONNEL	\$146,403	\$149,240	\$295,643
FACILITIES			
Estimated SPC facility renovation costs are include to outfit the Clearwater Campus Collaborative Center for Emerging Technologies in to accommodate the newly purchased equipment without changing the facility's use - est. \$188/Gross Square Feet for an estimated 1,200 sq ft. Renovations will take place over the first six months to accommodate install and may take place as a phased project as needed. Renovation costs contributed by Pinellas Technical College in Y1 to upgrade the electrical, water, compressed air and any needed renovations to accommodate new equipment, estimating 1,200 sq. at \$62.50 per GSF.	\$300,600	\$0	\$300,600
TOTAL FACILITIES	\$300,600	\$0	\$300,600



Grant Budget	2017-18	2018-19	
	YEAR 1	YEAR 2	TOTAL
TUITION			
Tuition-Curriculum Fees: Estimated costs to cover access to curriculum package including assessments, set up fee, curriculum, technical assistance, virtual simulator and trainer training - estimated average cost of \$180 per year per student (estimating 100 students per year). These fees are proposed to be covered in the first two years of program to support high enrollment for maximum numbers to training and fill job vacancies. Curriculum fees are nominal in support of affordability for students after the grant ends as a sustainability measure.	\$18,000	\$18,000	\$36,000
TOTAL TUITION	\$18,000	\$18,000	\$36,000
TRAINING MATERIALS			
Training Materials-Supplies: Est. amount for training material supplies to serve 300 students over two years for mechatronics and machining courses and labs - including lab consumables (estimating \$2500 per year) and minor equipment under \$5,000 - including: tool sets, estimating \$100 per set for 20 sets; motors and controls; hydraulic units; volt meters; oscilloscopes; soldering equipment; drafting supplies; sensors (optical/mechanical/electrical/chemical/ thermal); DC power supplies; and other necessary minor equipment/supplies. It is projected that the bulk of supplies will be purchased in Y1 that include one-time costs (\$89,500), while a smaller amount is budgeted for consumables and other supplies in Y2 (\$9,500). Costs also include leveraged contributions from industry and SPC in support of training activities, estimating \$32,000 in Y1 and \$13,000 in Y2	\$121,500	\$22,500	\$144,000
TOTAL TRAINING MATERIALS	\$121,500	\$22,500	\$144,000
OTHER DIRECT COSTS			
Other-Contractual Trainer(s): Contracted instructor(s), not personnel, will be hired to lead training for labs and training where faculty are unable to be hired, such as evening hours; estimating all-inclusive rate of no more than \$50/hour, estimating 750 hours in both Y1-Y2. Contracted trainers typically represent industry experts who have strong experience in the field, applying real-world cases to student learning.	\$37,500	\$37,500	\$75,000
Training Materials-Student Exam Fees: Est. an average industry certification exam fee of \$150 for an estimated 100 students to complete industry credential exams per year totaling 200 students, recognizing that students often cannot afford certification fees, particularly multiple certifications. Other resources for paid training will be targeted for the remainder of students served who qualify (100).	\$15,000	\$15,000	\$30,000



Grant Budget	2017-18	2018-19	
	YEAR 1	YEAR 2	TOTAL
Other-Outreach: Estimated funds for a comprehensive outreach campaign in close partnership with industry associations across Tampa Bay to support awareness of manufacturing jobs as quality careers and about the program. Costs include webpage development, print materials, advertising, publications and other outreach fees. Costs are estimated to be higher in Y1 for start up (\$25,000 in Y1 and \$5,000 in Y2). Costs also include employer contributions for staff time to support outreach, training and placement activities-totaling an estimated \$40,000 in Y1 and \$30,000 in Y2.	\$65,000	\$35,000	\$100,000
Other-Travel: Local and in state travel for as been budgeted for the Project Manager to travel between campuses, institutions and other program related locations @ \$.445 per mile, estimating 100 miles pp per month per year; Estimating \$2000 per year for travel for partnership opportunities, knowledge growth for technology and curriculum advancements and dissemination of best practices, including conferences, meetings and visits to AMTEC/AMTEC partners.	\$2,534	\$2,534	\$5,068
Other-Indirect Costs: Requesting 15% of Modified Total Direct Costs for onsite direct costs (less equipment, tuition, contributions and contracts over \$25,000) for indirect and administrative costs associated with the grant (\$106,547). The full rate negotiated with U.S. Health and Human Services is 33% (\$247,903). Balance of the indirect costs are contributed to the project as <i>Other Funding Sources (Other)</i> .	\$174,583	\$59,820	\$234,403
TOTAL OTHER	\$294,617	\$149,854	\$444,471
TOTAL PROJECT COSTS	\$1,575,120	\$339,594	\$1,914,714
OTHER WORKFORCE TRAINING PROJECT FUNDING SOURCES			
Other-18% Indirect Costs not charged to grant contributed by SPC	\$95,227	\$32,629	\$127,856
Other-NEW PLC equipment contributed by SPC that will support mechatronics training, but will not be needed for purchase	\$5,000	\$0	\$5,000
Other-Renovation costs contributed by Pinellas Technical College to upgrade the electrical, water, compressed air and any needed renovations to accommodate new equipment	\$75,000	\$0	\$75,000
Private- Lockheed Martin - estimated non-audited value of planned contributions made up of surplus equipment, supplies, paid training, staff time for advisory and mentorship and site experiences, as attested by the employer in their Letter of Commitment attached to the proposal.	\$35,000	\$15,000	\$50,000
Private- Monin - estimated non-audited value of planned contributions made up of surplus equipment, supplies, staff time for advisory and mentorship and site experiences, as attested by the employer in their Letter of Commitment attached to the proposal.	\$28,000	\$28,000	\$56,000
Private- Unitronics -donated PLC equipment for lab demonstration	\$4,000	\$0	\$4,000
TOTAL OTHER FUNDING SOURCES	\$242,227	\$75,629	\$317,856



Grant Budget	2017-18	2018-19	TOTAL
	YEAR 1	YEAR 2	
A. TOTAL WORKFORCE TRAINING PROGRAM COSTS	\$1,575,120	\$339,594	\$1,914,714
B. TOTAL OTHER WORKFORCE TRAINING PROJECT FUNDING SOURCES	\$ 242,227	\$ 75,629	\$ 317,856
TOTAL AMOUNT REQUESTED	\$1,332,893	\$263,965	\$1,596,858

4. Approvals and Authority

A. If entity is awarded grant funds based on this proposal, what approvals must be obtained before it can execute a grant agreement with the Florida Department of Economic Opportunity (e.g., approval of a board, commission or council)?

All grant funds St. Petersburg College applies for are submitted for pre-approval by the President and the Board of Trustees (BOT). Therefore, they are pre-approved even before the College receives notification of an award or rejection. This approval affords the College to accept the funding, enter into any amendments, extensions or agreements as necessary, within the original intent and purpose of the grant. Applications also are reviewed by the College's General Counsel Office. A second or follow-up approval by the BOT is not needed if and when an award is made. These measures, part of the College's grant policy, will be followed for a Florida Department of Economic Opportunity agreement, should the agency fund the College's proposal.

B. If approval of a board, commission, council or other group is needed prior to execution of an agreement between the entity and the Florida Department of Economic Opportunity:

i. Provide the schedule of upcoming meetings for the group for a period of at least six months

The Board of Trustees meets every third Tuesday of the month. Upcoming meetings will be: August 15, 2017; September 19, 2017; October 17, 2017; November 21, 2017; January 21, 2018; February 20, 2018

ii. State whether that group can hold special meetings, and if so, upon how many days' notice.

The Board of Trustees of St. Petersburg College can hold special meetings, but they are approved at the board's annual Organizational Meeting, held in August. All meetings require a seven-day notice.

C. Attach evidence that the undersigned has all necessary authority to execute this proposal on behalf of the entity. This evidence may take a variety of forms, including but not limited to: delegation of authority, citation to relevant laws or codes, policy documents, etc.

Evidence that the undersigned has the authority to executive this proposal is provided in Attachment B: Evidence of Authority to Execute Proposal.



I, the undersigned, do hereby certify that I have express authority to sign this proposal on behalf of the above-described entity.

Name of Entity: Board of Trustees of St. Petersburg College (SPC)

Name and Title of Authorized Representative: Dr. Tonjua Williams, SPC President

Representative Signature: Tonjua Williams

Signature Date: 8/7/17



ATTACHMENT B: 4.C. Evidence of Authority to Execute Proposal

1. Board of Trustees of St. Petersburg College Rules and College Procedures: 6Hx23-1.06 – Responsibility and Authority of the President

RULE

SUBJECT	RESPONSIBILITY AND AUTHORITY OF THE PRESIDENT	PAGE
		1.06-1
LEGAL AUTHORITY	6Hx23-1.06	10/13/15 Revision #15-10

6Hx23-1.06 RESPONSIBILITY AND AUTHORITY OF THE PRESIDENT

- I. The Board of Trustees delegates to the President administrative authority over the College and holds the President responsible for the efficient direction and operation of the College pursuant to federal and state law, the rules of the State Board of Education, and the rules adopted by the Board of Trustees.
- II. The President may delegate authority to the staff to perform administrative functions necessary to the efficient operation of the College. The responsibility for the performance of these functions shall remain with the President.
- III. The President shall provide to the Board each year, for their review and approval, a legislative package with all attending materials and information in support of the College's written plan and requests for the upcoming Florida legislative session at least 120 days prior to the beginning of the session.
- IV. The President is hereby authorized to sign, on behalf of the Board, all contracts and other documents reflecting action previously approved or authorized by the Board. In addition, all contracts including those involving expenditures not exceeding the amount as specified in Section 287.017, Florida Statutes, for Category Five may be approved and signed by the President or designee. Contracts involving expenditures will be listed in an informational report to the Board quarterly.
- V. Alternatively, at the discretion of the President, a Request for Contract may be:
 - A. Considered by the President's Executive Committee prior to final approval; or
 - B. Considered by the President in consultation with the Board Chair prior to final approval; or
 - C. Presented to the Board for approval.

RULE

SUBJECT	RESPONSIBILITY AND AUTHORITY OF THE PRESIDENT	PAGE
LEGAL AUTHORITY	6Hx23-1.06	1.06-2 10/13/15 Revision #15-10

- VI. The President is hereby authorized to designate an individual to serve in place of the President during his or her temporary absence, incapacity or in emergencies when the President is unavailable. In the event that the President has not so designated, the chief academic officer, and if the chief academic officer is not available to serve, the chief administrative officer, shall temporarily serve in the President's place until such time as the Board can designate an acting president, if necessary.
- VII. It shall be the responsibility of the President or a committee appointed by the President, where he deems such to be necessary, to ensure that all elections held within the College, except those held pursuant to Chapter 447, Florida Statutes, which are supervised by the public employees relations commission, are carried out in a fair and equitable manner.

Specific Authority: 1001.64(2) & (4), F.S.

Law Implemented: 1001.64, 1001.65, F.S.; Rule 6A-14.026, F.A.C.

History: This history reflects changes to the rule and procedure which were formerly combined. Formerly - 6Hx23-2.201; Adopted - 7/2/68; Readopted - 7/15/71, 10/25/77; Amended - 9/25/73, 2/27/77, 5/17/79, 11/20/79, 9/17/81, 3/3/82, 8/19/82; Filed - 8/19/82; Effective - 10/1/82; 11/21/00. Filed – 11/21/00. Proposed Date To Become Effective – January 1, 2001; 8/16/11. Filed – 8/16/11. Effective – 8/16/11; 10/13/15. Filed – 10/13/15. Effective – 10/13/15.



ATTACHMENT A: LETTERS OF COMMITMENT

Mechatronics & Electromechanical Technician Training (METT) Proposed by: St. Petersburg College

1. Automotive Manufacturing Technical Education Collaborative (AMTEC)
2. Lockheed Martin
3. Monin
4. MI Metals
5. TSE Industries
6. Valpak
7. Florida Suncoast Manufacturing Association (FSMA)
8. Bay Area Manufacturers Association (BAMA)
9. Pinellas County Economic Development
10. Pinellas Technical College
11. American Manufacturing Skills Initiative (AmSkills)



c/o Kentucky Community and
Technical College System
300 North Main Street
Versailles, KY 40383
T: 859-256-3325
F: 859-256-3121
1-800-782-6823
autoworkforce.org

August 7, 2017

Cissy Proctor
Executive Director
Florida Department of Economic Opportunity
107 East Madison Street
Caldwell Building
Tallahassee, FL 32399-4120

Re: Letter of Commitment for Florida Job Growth Grant Fund Workforce Training Grant Proposal

Dear Ms. Proctor:

On behalf of the **Automotive Manufacturing Technical Education Collaborative (AMTEC)**, a National Center for Excellence in Advanced Automotive Manufacturing, I am pleased to offer our support to St. Petersburg College (SPC) and its *Mechatronics & Electromechanical Technician Training (METT)* proposal for the Florida Job Growth Grant Fund.

We understand that SPC will model the *METT* program after AMTEC's nationally standardized, competency-based, modularized curriculum. Funded with federal dollars by the National Science Foundation as an Advanced Technological Education Center, AMTEC has created a unique collaboration of industry and colleges that provides the effective education of workers prized by the industry. AMTEC is at the forefront of education because the future involves a very different kind of technical worker, a very different kind of partnership, and a very different kind of education. As a collaborative we are excited about the future as we ignite our students' interests, educate them to compete in a global economy, and accelerate them into the workplace to become competent, well-educated members of the automotive and advanced manufacturing industries with increasing career pathway possibilities.

What is unique about AMTEC's curriculum is the level of industry involvement in curriculum and assessment development. The AMTEC solution came from doing site visits, holding meetings, listening to employers, and looking at colleges that already had workable apprenticeship programs and co-ops. Companies like Toyota, Ford, BMW, Honda, Aisin, Denso and GM set aside their differences on the product side of the house and came together from multiple sites across the US to help research and develop core competencies that are presented within all of AMTEC's content, online learning modules, and certification and diagnostic assessments. The **multi-skilled technical competencies** that AMTEC covers meets all the needs of the industries we work within. As a result, we've grown beyond training service to the automotive industry and into Aerospace, Chemical, Food, Distribution and Logistics, and Tool Manufacturing, an ideal model for the Florida economy.

AMTEC's newest industry partner, Amazon, has researched the degree and credentials the state of Kentucky currently provides by way of graduate technicians and has identified a serious gap. Amazon, supports the entire AMTEC model of: nationally standardized competencies, e-curriculum, assessments and pathway development for all of its centers across the U.S. Amazon is working aggressively with AMTEC's Executive Team to implement and graduate more highly skilled technicians which are needed in automated manufacturing and distribution environments from coast to coast, including Florida.



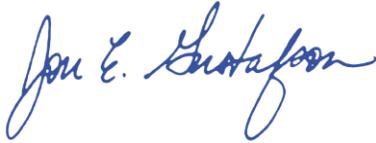
AMTEC is supported by a
National Science Foundation grant.



5) **Serving as a prospective employer** for qualified program participants.

We estimated these resources and services to be valued at \$50K to be considered as match for program success. Thank you for your thoughtful consideration of the *Mechatronics and Electromechanical Technician Training* application for the Florida Department of Economic Opportunity Florida Job Growth grant program. We look forward to working with SPC to help new and current workers gain the skills they need through this innovative job-driven training program.

Sincerely,

A handwritten signature in blue ink that reads "Jon E. Gustafson". The signature is fluid and cursive, with the first letters of each word being capitalized and prominent.

Jon E. Gustafson
Director Workforce and Economic Development
Lockheed Martin Corporation



August 4, 2017

Cissy Proctor, Executive Director
Florida Department of Economic Opportunity
107 East Madison Street, Caldwell Building
Tallahassee, FL 32399-4120

Re: Letter of Commitment for Florida Job Growth Grant Fund Workforce Training Grant Proposal

Dear Ms. Proctor:

On behalf of Monin, an international flavored syrup manufacturer and distributor, I extend my full support for St. Petersburg College (SPC) and its Florida Jobs Growth Grant Fund proposal to boost training and skill-building opportunities for job seekers in mechatronics. Monin recognizes the critical need to grow Florida's economy and bolster the growing demand for a skilled mechatronics workforce in the Tampa Bay region and beyond.

Founded in 1912, Monin has expanded across the globe; manufacturing and distributing gourmet flavored syrups, fruit purees and concentrated flavors in over 150 countries. Currently, we have five manufacturing facilities worldwide, including the corporate office and a plant in Clearwater, Florida which opened in 1996. The Clearwater manufacturing plant supplies North America, South America and the Caribbean. Monin works with leading restaurants and distributors in the food service industry. With high quality products available to be purchased and shipped across the country and globe to a rapidly growing customer base, Monin relies heavily on a trained workforce to meet its manufacturing and warehouse operating needs.

Without training programs like the Florida Jobs Growth program, Monin would have difficulty finding skilled workers to fill job openings. Over the next five years, we anticipate hiring 20-25 positions that require the education, training and/or credentials in mechatronics, manufacturing and production offered in SPC's proposal.

We are confident SPC can meet or even exceed its goals. Monin worked previously with the College to jump start mechatronics training through the Florida TRADE grant and serving as a proud employer partner in LINCS, a Department of Labor grant-funded program aimed to advance training and education related to supply chain management. We look forward to supporting this new important project by considering the following actions:

- 1) **Serving in an advisory capacity** to help define strategies and goals;
- 2) **Referring eligible individuals** to the program for training,
- 3) **Donating surplus equipment and supplies**
- 4) Encouraging staff to serve as **subject matter experts** and **instructors** to enhance programming
- 5) **Serving as a prospective employer** for qualified program participants.

We estimated these resources and services to be valued at approximately \$28,000 per year, based on previously completed mechatronics training at SPC, to be considered as match for program success. In closing, thank you for your thorough review of SPC's proposal for this important Florida Job Growth grant program. Monin is excited to support this worthy initiative to promote economic opportunity and enhance workforce training.

Sincerely,

A handwritten signature in black ink that reads "Michael D. Brewster".

Michael D. Brewster
Chief Production Officer

MONIN, Inc., 2100 Range Road, Clearwater, FL 33765



August 2, 2017

Cissy Proctor
Executive Director
Florida Department of Economic Opportunity
107 East Madison Street
Caldwell Building
Tallahassee, FL 32399-4120

Re: Letter of Commitment for Florida Job Growth Grant Fund Workforce Training Grant Proposal

Dear Ms. Proctor:

TSE Industries, Inc., a growing custom chemical manufacturer, is excited to offer its support to St. Petersburg College (SPC) for its *Mechatronics & Electromechanical Technician Training* proposal for the Florida Job Growth Grant Fund. We strongly believe this program will promote economic development by helping job seekers attain transferable and sustainable skills in mechatronics and manufacturing, two industry clusters that yield high wage jobs.

A talented and highly-skilled staff has allowed TSE Industries, a family-owned company, to realize its vision of becoming a global leader in innovation, service and development. Our 250-plus employees, including engineers, chemists, technicians and developers, provide innovative solutions to difficult design and material problems and apply new technologies to our quality products and processes.

In the coming years, we anticipate a need to fill positions centered on mechatronics and manufacturing, including engineers, machinists and skilled technicians. We are pleased that SPC has targeted skills and credentials in its *Mechatronics & Electromechanical Technician Training* proposal that employers like us search for in new hires.

We believe SPC will be successful with this training program because the College has excelled with similar initiatives. We have served in an advisory capacity with SPC's Engineering Technology program and also have been a supporter on its National Science Foundation STEM scholarship grant program.

SPC's proposal has statewide significance and will impact employers and job seekers. As a business partner, we anticipate supporting the project in the following ways:

- 1) **Serving in an advisory capacity** to help define strategies and goals;
- 2) **Referring eligible individuals** to the program for training, and,
- 3) **Serving as a prospective employer** for qualified program participants.

In closing, thank you for reviewing this letter and SPC's *Mechatronics & Electromechanical Technician Training* application for the Florida Department of Economic Opportunity Florida Job Growth grant program. TSE Industries proudly supports SPC's efforts to help new and current workers gain the skills they need through this innovative job-driven training program.

Sincerely,

A handwritten signature in blue ink, appearing to read 'M Hintz-Prange', written in a cursive style.

Michelle Hintz-Prange
Human Resources Manager



Open the Neighborhood!

1 Valpak Avenue North
St. Petersburg, Florida 33716

August 4, 2017

Cissy Proctor
Executive Director
Florida Department of Economic Opportunity
107 East Madison Street
Caldwell Building
Tallahassee, FL 32399-4120

Re: Letter of Commitment for Florida Job Growth Grant Fund Workforce Training Grant Proposal

Dear Ms. Proctor:

It is my pleasure, on behalf of **Valpak**, to express our support for the Florida Job Growth Grant Fund proposal by St. Petersburg College (SPC) to enhance workforce training opportunities in the critical industries of mechatronics, manufacturing and production. These industries play a vital role in growing the state's economy. There is a definite need for this project in order for employers like Valpak to fill job openings with individuals equipped with transferable mechatronics workforce skills.

Valpak is a growing digital and direct marketing firm based in St. Petersburg, Fla. From the mailbox to the Internet and mobile devices, Valpak finds innovative ways to connect businesses with consumers. Nearly 40 million homes receive our Blue Envelope of savings and visit valpak.com every month. In addition to our experienced IT and web-based employees, we rely on a skilled advanced manufacturing workforce to operate our large production center efficiently and effectively.

We understand that SPC's proposed Florida Job Growth program will give participants the education, training and/or credentials needed to start a career in mechatronics or advance in their career. We are pleased that SPC will include automation training in this project, as our job openings often require that skill.

Valpak has worked with SPC on innovative training initiatives, including a business integration experience for students that complemented traditional classroom curriculum known as the Tampa Bay Technology Forum Exploratory Labs. We believe SPC has the vision, personnel and resources to be successful with a Florida Job Growth Grant Fund program.

As a supporter of this proposal, Valpak will strongly consider the following actions:

- 1) **Serving in an advisory capacity** to help define strategies and goals;
- 2) **Referring eligible individuals** to the program for training, and,
- 3) **Serving as a prospective employer** for qualified program participants.

Thank you for your review of the Florida Job Growth proposal by SPC. Please note that Valpak and other companies look forward to collaborating on this effort and supporting the College to promote economic opportunity in the Tampa Bay region and beyond.

Sincerely,

LaToy Jones
Human Resources Director





PINELLAS
COUNTY

ECONOMIC DEVELOPMENT

August 2, 2017

Cissy Proctor
Executive Director
Florida Department of Economic Opportunity
107 East Madison Street
Caldwell Building
Tallahassee, FL 32399-4120

Re: Letter of Commitment for Florida Job Growth Grant Fund Workforce Training Grant Proposal

Dear Ms. Proctor:

Pinellas County Economic Development (PCED) is excited to join businesses and organizations across Tampa Bay in supporting St. Petersburg College's *Mechatronics & Electromechanical Technician Training* proposal for the Florida Job Growth Grant Fund. This program will have a positive impact on our local economy and help both job seekers and businesses in the high-demand industries of manufacturing and mechatronics.

At PCED, we work with existing businesses to encourage expansion and seek to attract new companies with high-wage careers to Central Florida's Gulf Coast. Through investment tools, professional courses and business counseling sessions, trade missions to open new markets, as well as local, regional and statewide partnerships, PCED fosters a pro-business climate that is ideal for companies to locate in Pinellas County.

We are pleased SPC is modeling the curriculum and equipment of its proposed program after the Automotive Manufacturing Training Education Collaborative (AMTEC), a successful National Science Foundation Advance Technical Education Center that is considered a leader of competency based, nationally standardized modularized curriculum. The College is ensuring participants receive quality training that will help them succeed in a number of advanced manufacturing positions that are in high demand by local, state and national employers. We know that this program has drawn industry to new regions to create economic development growth in those areas as a result.

The *Mechatronics & Electromechanical Technician Training* proposal truly is an accelerated, innovative, responsive and standards-based technician workforce program that will meet the advanced manufacturing industry's skill requirements. We strongly believe that the program will grow the regional skilled workforce, allowing employers to find the talent they need to expand their operations or consider relocating to Pinellas County.

PINELLAS COUNTY ECONOMIC DEVELOPMENT

13805 58th Street North, Suite 1-200 - Clearwater, FL 33760 • (727) 464-7332 • (888) 759-JOBS • FAX (727) 464-7053

www.PCED.org

PCED enjoys a strong relationship with SPC, partnering on multiple training and education initiatives. Our staff was engaged with SPC and its partners from the onset of the development of a Department of Labor grant-funded project to boost apprenticeships and on-the-job training in Tampa Bay and other key Florida regions. In commitment to this partnership, PCED will work with SPC to refer industry partners that are interested in offering onsite labs and simulation experiences for program participants and working with industry to inform them of the training program to help meet their hiring needs or consideration for expansion.

Thank you for considering SPC's *Mechatronics & Electromechanical Technician Training* application for the Florida Job Growth Grand Fund. We believe the College has developed a proposal that can make a real difference in our economy. Please know that PCED and other organizations and businesses look forward to collaborating on this effort and supporting the College to promote economic opportunity in the Tampa Bay region and beyond.

Sincerely,



Mike Meidel, CEcD
Director

ICTC Governing Board dba American Manufacturing Skills Initiative (AmSkills)
7825 Campus Drive, Building 6
New Port Richey, FL 34653
www.AmSkills.org
727.301.1282

Page 2 of 2

As a supporter of the *METT* program, AmSkills agrees to work with SPC and METT partners throughout the project period to:

- Leverage our work and relationships to help outreach efforts for the partnership to find employers partners with hands-on learning and job opportunities, including internships and apprenticeships;
- Strengthen participation in technician training programs through advocacy and collaboration with industry, college partners and legislators; and
- Contribute in a program advisory capacity to help align activities and resources regionally.

By signing this letter, we demonstrate a strong commitment to enhance the *Mechatronics & Electromechanical Technician Training* program and boost quality training programs in the high-demand industry of advanced manufacturing. Thank you for your consideration of this highly inclusive project.

Sincerely,

A handwritten signature in blue ink that reads "Tom Mudano".

Tom Mudano
Executive Director
AmSkills