



UNIVERSITY *of* WEST FLORIDA

INNOVATION NETWORK

FULL PROPOSAL TO
TRIUMPH GULF COAST INC.

The University of West Florida Innovation Network

Application for Funds

March 7, 2018

Update: June 5, 2018

Update: August 24, 2018

Triumph Gulf Coast, Inc. Trust Fund Application for Funds

Applicant Information

Name of Individual (if applying in individual capacity): N/A

Name of Entity/Organization: University of West Florida

Background of Applicant Individual/Entity/Organization: Based in Pensacola with additional locations in the region, UWF is home to five academic colleges, offering a variety of bachelor's and master's degree programs, as well as specialist degrees and a doctorate in education. With a student population of nearly 13,000, UWF is committed to a close-knit academic experience and is consistently named a top "military friendly" University, this year as number five in the nation. UWF is a driver of economic impact and supports 11,592 jobs in the region that are directly or indirectly related to the university with local incomes and wages at nearly \$1.2 billion annually across the regional economy.

Federal Employer Identification Number: 59-2976783

Contact Information:

Primary Contact Information: Dr. Martha Saunders

Title: President

Mailing Address: 11000 University Parkway

Pensacola, FL 32514

Phone: 850-474-2200

Email: msaunders@uwf.edu

Website: <http://uwf.edu>

Identify any co-applicants, partners, or other entities or organizations that will have a role in the proposed project or program and such partners proposed roles.

The Following Organizations have provided written letters in support of the UWF Innovation Network:

Air Force Research Laboratory (AFRL) Munitions Directorate * American Elite Molding (AEM)
* AppRiver * Baptist Health Care Corporation * Blavatnik Interdisciplinary Cyber Research Center, Tel Aviv University (ICRC TAU) * Boeing Global Services * CareerSource

ESCAROSA * CareerSource Okaloosa/Walton * City of Fort Walton Beach * City of Pensacola * Cognitive Big Data Systems * Defense Information Systems Agency (DISA) * Department of Energy Consolidated Nuclear Security * Economic Development Council of Okaloosa County * Escambia County Board of County Commissioners * Escambia County School District * Florida Small Business Development Center (SBDC) Network * Florida's Great Northwest * FloridaMakes * FloridaWest * Fort Walton Machining * Greater Pensacola Chamber of Commerce * Hixardt Technologies * HSU Family Educational Foundation * IMS Expert Services * Innovation Coast * Institute for Human & Machine Cognition (IHMC) * International Institute for Counter-Terrorism * Kontakt Intelligence * Metova CyberCENTS * Mission Secure, Inc. (MSI) * National Association of Veterans Program Administrators (NAVPA) * Northwest Florida Manufacturers Council (NWFMC) * Pensacola-Escambia Promotion & Development Commission (PEDC) * Regions * Ridge Global * Saltmarsh, Cleaveland & Gund * Santa Rosa County School District * Studer Community Institute * Synovus * Technology Coast Manufacturing and Engineering Network (TeCMEN) * The First: A National Banking Association * West Florida Healthcare *

Verbal support has been received from the following companies:

Armed Forces Communications and Electronics Association (AFCEA) * Avalex Technologies * Cyber Safe Workforce * Global Business Solutions Inc. * IBM * Maritech Machine, Inc. * National Security Agency (NSA) * Santa Rosa Economic Development * Space Florida * TechFarms * Technical Software Services (TECHSOFT).

Total amount of funding requested from Triumph Gulf Coast: \$14,500,000.

Total Cost Per Program Participant

A cost of **\$3,073.33 per program participant** to be funded by Triumph Gulf Coast funding is calculated based on a total of **4,718 participants** utilizing the proposed request during a three-year project period. *The total request for funding at \$14,500,000 from Triumph Gulf Coast, Inc. represents 38% of the total project costs.*

*This calculation does not include the three-year training and events or the Sea3D Laboratory 4th Grade Experience. Although training and events are critical for the creation of transformational ecosystem for cybersecurity and advanced manufacturing trained professionals, the primary focus of the Triumph Gulf Coast application is on students participating and completing degree programs, gaining add on certificates, industry certifications and “micromasters” certificates. If including this calculation of 52,849 additional participants, the **per participant** cost would drop to **\$255.04 per participant**.

Participants per component are as follows:

Innovation Network Components	Participants	
	*3-year Training and Events	3-year Degrees and Certs
Career Ready Experiences		
1. <u>Freshman Immersion Experience</u> <i>Students will have exposure to career opportunities and will be encouraged to participate in add-on industry certs, micromasters and industry certifications,</i>	2,500*	
2. <u>Innovation Living and Learning Experience</u> <i>Students will join degree programs in Cyber and Advanced Manufacturing, participate in add-on certificates and industry certifications. Totals calculated below.</i>	200*	
3. Undergraduate Research	1,176*	
Cybersecurity		
Cybersecurity/IT Degrees		684
1. Cybersecurity/IT Add-on Certificates		400
2. JCAC Program Certificates		50
3. Cybersecurity/IT Industry Certifications		600
4. Cybersecurity/IT MicroMasters Certificate		600
5. Cybersecurity/IT Industry Training <i>Industry trainings are an opportunity to bring in high impact industry certifications and MicroMasters.</i>	2,325*	
6. Cybersecurity/IT Partnership Events	1,500*	
Advanced Manufacturing		
1. Advanced Manufacturing/Engineering/Logistics Degrees		740
2. Advanced Manufacturing Industry Certifications		1,600
3. Advanced Manufacturing Industry Training	1,648*	
4. <i>Industry trainings are an opportunity to bring in high impact industry certifications and MicroMasters.</i>		
5. Advanced Manufacturing Partnership Events	1,500*	
6. MicroMasters Certificates		780
7. <i>Sea3D Lab 4th Grade Experience (Field Trips)</i>	42,000*	
Total Participants	52,849*	4,718

*not included in the total benefit/cost calculation but important to the development of the hub for educating tomorrow's workforce.

Has the applicant in the past requested or applied for funds for all or part of the proposed project/program?

Yes No

If yes, please provide detailed information concerning the prior request for funding, including:

- the date the request/application for funding was made;
- the source to which the request/application for funding was made,
- the results of the request/application for funding, and
- projected or realized results and/or outcomes from prior funding.

UWF has NOT submitted or received grant or contract funding specifically for this project and phases of the Innovation Network. However, in order to be transparent, on an annual basis UWF submits over 100 grant applications to federal, state and other entities and reports each submission and award across a spectrum of research other funded activity. In our categories of awards for Cybersecurity, Advanced Manufacturing and Intelligent Systems/Robotics, our researchers have submitted grants in their areas of study. UWF has also received some legislative funding as listed below. The cluster areas proposed through UWF are strengths of the university and areas of high impact to the university. In UWF’s ongoing grant activity, \$1,530,344 has been received to support foundational activity of UWF’s Center for Cybersecurity and Advanced Manufacturing initiatives. Here are examples of recent grants in these three areas:

Examples of Grants Funded to Advanced Manufacturing, Cybersecurity and Robotics

Amount	Action Date	Title	Source	Funding Status
\$438,679	10/28/16	FloridaMakes Manufacturing Extension Partnership	Federal flow through from NIST	Funded
\$62,106	8/25/16	Northwest Florida Manufacturing Council Master Host Agreement	Private from Northwest Florida Manufacturing Council	Funded
\$44,000	4/14/16	NETC Educational Services Agreement Delivery Order R001 CompTIA+ Boot Camp	Naval Education Training Command, U.S. Navy	Funded
\$89,149	6/8/17	Pathway to Cyber Camps - University of West Florida (UWF) 2017	National Security Agency	Funded
\$196,829.00	4/6/17	University of West Florida Proposal for the NSA CAE Regional Resource Center for the Southeast USA	National Security Agency	Funded
\$195,071.00	9/8/17	NSA Cybersecurity for All	National Security Agency	Funded
\$10,000	7/14/16	2016 Pathways to Cyber Program	State Funding: USF	Funded
\$131,711.00	9/22/17	University of West Florida Proposal for the NSA CAE Regional Resource Center for the Southeast	National Security Agency	Funded
\$176,905	8/28/17	NSA Cybersecurity Core Curricula Development	National Security Agency	Funded

\$93,127.00	8/17/17	Florida Cyber Pathways: Expanding Florida's Cybersecurity Workforce Through High School	USF Florida Center for Cybersecurity	Funded
\$100,000.00	7/27/17	Cybersecurity Awareness Training and Outreach Program for Florida Small Businesses	USF Florida Center for Cybersecurity	Funded
\$75,212	8/17/17	A Novel Framework to Teach Hands-on Laboratory Exercises in Cybersecurity	USF Florida Center for Cybersecurity	Funded
\$351,000	2017-18 budget	Advanced Manufacturing (Sea3D Laboratory) This funding was used to establish the Sea3D lab in downtown Pensacola. The Sea3D lab as an additive manufacturing laboratory establishes Phase 1 of the Innovation Network in one of the UWF Historic Trust facilities in downtown Pensacola	Florida Legislature	Funded
\$4.4 M	Submitted Fall 2017	Funding has not been received from the Governor's Job Growth Grant. The funding request submitted by UWF to the Governor's Jobs Growth Grant differs from UWF's Triumph request in several key ways. The UWF Jobs Growth proposal as 65 percent of the total award goes directly to six (6) sub-contractors including the Emerald Coast Technical College, Northwest Florida State College, Chipola College, Gulf Coast College, the Northwest Florida Manufacturers Council, and CareerSource Okaloosa Walton to train new manufacturing	Governor's Job Growth Grant Fund	Not funded

		professionals at a variety of education venues between Pensacola and Marianna, Florida.		
	Filed Florida House of Representatives on March 3, 2017	Cybersecurity: Programs of Distinction	Florida Legislature	Not funded
\$850,000	Filed as a bill in the House on October 17, 2017. Florida Senate on November 15, 2017.	Cybersecurity: Programs of Distinction	Florida Legislature 2018-19 Budget	Pending Outcome of 2018 Session
\$1,000,000	Filed March 3, 2017	PhD Program in Intelligent Systems and Robotics The UWF Innovation Network is NOT requesting Triumph funding to support the Ph.D. in Robotics and Intelligent Systems. However, the laboratories that will be used by Ph.D. students will provide opportunities for graduate students, industry and other researchers to engage in opportunities for innovation, invention and research.	Project was funded by Legislature but vetoed by Governor due to extraneous circumstances related to K-12 education legislation and funding needs.	Not funded
\$500,000	Filed House of Representatives on December 11, 2017 Florida Senate on November 15, 2017	PhD Program in Intelligent Systems and Robotics The UWF Innovation Network is NOT requesting Triumph funding to support the Ph.D. in Robotics and Intelligent Systems. However, the laboratories that will be used by Ph.D. students will provide opportunities for graduate students, industry and other researchers to	Florida Legislature 2018-19 Budget.	Pending Outcome of 2018 Session

		engage in opportunities for innovation, invention and research		
--	--	--	--	--

Describe the financial status of the applicant and any co-applicants or partners:

Established in 1967, the University of West Florida (UWF) is a separate public instrumentality that is part of the State university system of public universities. UWF has a sound financial base and the financial stability to support its vision and mission and the scope of its programs and services.

Today, UWF has an enrollment of approximately 13,000 students, faculty and staff of 1,910 and an annual budget of \$209 million. UWF is a demonstrated economic driver for the eight counties that comprise Northwest Florida, including Escambia, Santa Rosa, Okaloosa, Walton, Holmes, Washington, Bay and Gulf by generating an annual economic impact to region of \$1.1 billion. The University’s economic condition is closely tied to that of the State of Florida, with State noncapital appropriations accounting for approximately 50% of the university’s operating and non-operating revenues for the fiscal year ended June 30, 2017. Due to the University’s ranking as one of the top three performers on performance metrics established by the Florida Board of Governors for the Florida State University System, UWF’s State noncapital appropriations increased significantly for the 2017-18 fiscal year.

In a separate attachment, please provide financial statements or information that details the financial status of the applicant and any co-applicants or partners.

Attached are the University of West Florida 2017 Income Statement and the 2015-16 Audited Financial Statements.

Has the applicant or any co-applicants, partners or any associated or affiliated entities or individuals filed for bankruptcy in the last ten (10) years?

Yes No

If yes, please identify the entity or individual that filed for bankruptcy and the date of filing.

N/A

Eligibility

Pursuant to Section 288.8017, Triumph Gulf Coast, Inc. was created to make awards from available funds to projects or programs that meet the priorities for economic recovery, diversification, and enhancement of the disproportionately affected counties. The disproportionately affected counties are: Bay County, Escambia County, Franklin County, Gulf County, Okaloosa County, Santa Rosa County, Walton County, or Wakulla County. *See*, Section 288.08012.

1. From the choices below, please check the box that describes the purpose of the proposed project or program (check all that apply):

- Ad valorem tax rate reduction within disproportionately affected counties;
- Local match requirements of s. 288.0655 for projects in the disproportionately affected counties;
- Public infrastructure projects for construction, expansion, or maintenance which are shown to enhance economic recovery, diversification, and enhancement of the disproportionately affected counties;
- Grants to local governments in the disproportionately affected counties to establish and maintain equipment and trained personnel for local action plans of response to respond to disasters, such as plans created for the Coastal Impacts Assistance Program;
- Grants to support programs that prepare students for future occupations and careers at K-20 institutions that have campuses in the disproportionately affected counties. Eligible programs include those that increase students' technology skills and knowledge; encourage industry certifications; provide rigorous, alternative pathways for students to meet high school graduation requirements; strengthen career readiness initiatives; fund high-demand programs of emphasis at the bachelor's and master's level designated by the Board of Governors; and, similar to or the same as talent retention programs created by the Chancellor of the State University System and the Commission of Education, encourage students with interest or aptitude for science, technology, engineering, mathematics, and medical disciplines to pursue postsecondary education at a state university or a Florida College System institution within the disproportionately affected counties; Grants to support programs that provide participants in the disproportionately affected counties with transferable, sustainable workforce skills that are not confined to a single employer; and**
- Grants to the tourism entity created under s. 288.1226 for the purpose of advertising and promoting tourism and Fresh From Florida, and grants to promote workforce and infrastructure, on behalf of all of the disproportionately affected counties.

2. Provide the title and a detailed description of the proposed project or program, including the location of the proposed project or program, a detailed description of, and quantitative evidence demonstrating how the proposed project or program will promote economic recovery, diversification, and enhancement of the disproportionately affected counties, a proposed timeline for the proposed project or program, and the disproportionately affected counties that will be impacted by the proposed project or program.

UWF Innovation Network Program Summary Updated: August 24, 2018

With a visionary investment from Triumph Gulf Coast, the University of West Florida will establish the **UWF Innovation Network**. UWF will generate some of the nation's most talented and elite professionals educated and trained in downtown Pensacola, at a networked location in Fort Walton Beach and through world-class synchronous online learning. This initiative is a solid investment in the foundation of Northwest Florida's economy. *The total request for funding at \$14,500,000 from Triumph Gulf Coast, Inc. represents 38% of the total project costs.*

The purpose of this initiative is to educate tomorrow's **workforce-ready college graduates** and **industry trained professionals** creating a next generation cyber workforce and highly skilled mechanical engineers, electrical engineers, supply chain logistics experts, computer scientists and information technologists for Northwest Florida. Graduates fill documented workforce needs aligned to *Northwest Florida Forward: A Regional Strategy for Economic Transformation* (2016) and the *Northwest Florida Economic Development Alliance's "Live Coastal. Work Cyber."* *Cybersecurity Strategic Plan Report* (2017). UWF will focus on key initiatives for college students (freshmen, transfer students, adult learners and graduate students) and industry training by transforming the curriculum and student experience in the areas of cybersecurity, advanced manufacturing, intelligent systems and robotics. As a hub for educating tomorrow's workforce ready graduates, UWF will also reach out to K12 to support industry certification needs and offer opportunities for events and activities to inspire and engage students toward degrees in cybersecurity and advanced manufacturing. This initiative will enable UWF to add instructional personnel dedicated specifically to educating and training, bring in world-class innovators in residence, add industry certified staff, expand laboratories and support students through mentoring, living-learning opportunities, undergraduate and graduate research and scholarships to support degree attainment. Students participating in this initiative will have access to scholarship and industry certification test funding.

Graduates of UWF degree programs will make **salaries above the average wage** based on salaries graduates will make in the cybersecurity and advanced manufacturing areas. As a result of this initiative, UWF will add **738 college graduates** ready to enter jobs adding to the 11,592 jobs in the region that are directly or indirectly related to the University. In addition to graduates, many employees already in the workforce will be tooled with industry certifications, additional add-on certificates and extensive training to build workforce readiness for the future.

In ten years, this project will continue to support the sustained development of a workforce appropriate for the 21st century knowledge economy. As more students graduate from degrees, certificates and certification programs offered through this initiative, the region on the whole will experience a much higher degree of competitiveness that will lead to new economic opportunities for Northwest Florida residents. The transformative energy created by this project will produce:

- 738 graduates ready to work,
- Over 50 industry partners ready to assist,

- 2,200 industry certifications,
- 1,830 credentials through MicroMasters and add-on degree certificates
- 3,973 industry training engagements to expand the impact of highly skilled sector employment across the region and
- 3,000 participants in partnership events with the community.

It will also build a foundation for future graduates focused on the cybersecurity and advanced manufacturing industry cluster with:

- 2,700 freshmen completing highly engaging industry mentoring, innovation living and learning experiences and will attain an industry certification.
- 1,176 undergraduate research projects will focus on cybersecurity, advanced manufacturing and intelligent systems/robotics in the next three years.

Programming

Many high tech positions require graduates to possess experiences beyond a university degree to gain employment. UWF's initiative will provide experiences to accelerate students to employment. Work experiences may be in the form of industry sponsored laboratories, internships, cooperative programming agreements and documented through experiential transcripts and industry certifications. This initiative will connect to careers through degree programs emphasizing the linkages between industry, skilled knowledge and hands-on experience providing **access** and **acceleration** to educate tomorrow's workforce-ready college graduates and industry trained professionals. In areas such as cybersecurity, having a security clearance in process will **accelerate** opportunities for graduates to move into available positions. Through partnerships, UWF will provide the accelerated pathway to begin the clearance process for eligible students. Students will have unprecedented access to industry partners including industry innovators-in-residence and embedded internships creating a magnet for growth and distinguishing this initiative as a best-in-the-world student accelerator creating a next gen workforce.

Ready to Lead – Ready to Innovate Freshman and Undergraduate Initiative

Many universities offer experiences for college freshmen to become more engaged in college, build relationships and work collaboratively with a group of like-minded students with the ultimate goal of retaining students to completion of a degree. With the demand for high tech jobs in cybersecurity, advanced manufacturing and intelligent systems/robotics, higher education institutions across the United States must attract and retain more students in these specific areas in order to increase the number of graduates ready to work. To do so, it is critical to implement models that effectively recruit, retain and graduate an increasing number of students in specific high tech disciplines. The Florida Board of Governors measure the number of STEM graduates as part of the overall performance funding model and identifies program areas of strategic emphasis.

To focus on recruitment, retention, graduation and ultimately preparation for a career, UWF is launching a *Ready to Lead - Ready to Innovate Freshman Initiative* around two primary strategies:

1. The development of a **freshman immersion experience** will be provided for all UWF **freshmen** participating in a course on innovation and career opportunity in cybersecurity, advanced manufacturing and intelligent systems/robotics as part of the overall Freshman Experience. All freshmen will have experiential learning opportunities in the UWF Innovation Network facilities and laboratories in downtown Pensacola (CyberRange, Advanced Manufacturing Laboratories and Robotics Laboratories).
2. The development of an **Innovation Living Learning Community** focused on Cybersecurity, Advanced Manufacturing and Intelligent Systems/Robotics. The initiative will:
 - accelerate credit where possible,
 - complete an industry certification,
 - participate in a career mentoring program with industry partners in the UWF Innovation Network,
 - participate in industry problem solving in an industry/government program called “**Hacking for Defense**” (<https://www.h4di.org/about.html>), and
 - participate in activities in the Center for Cybersecurity’s CyberRange and in Advanced Manufacturing laboratories in Pensacola and Fort Walton Beach.

Cybersecurity Initiative

UWF’s designation as the NSA/DHS Cybersecurity Regional Hub for the Southeast through the Center for Cybersecurity has already created strong synergy with key partners to include **federal assets** like the U.S. Navy Center for Information Warfare Training and the Department of Homeland Security’s National Cybersecurity and Communications Integration Center and **private-sector companies** such as Raytheon, Northrop Grumman and Navy Federal Credit Union. The vision behind this initial investment provides a world-class cyber range, a training and educational facility focused on developing the next generation cyber workforce through real-world practice, education, public-private collaboration and multidisciplinary research. The rental location in downtown Pensacola at the Studer Community Institute (prior SunTrust Building) situates the UWF Innovation Network, Center for Cybersecurity, the University’s faculty and key embedded cyber leaders from around the world to produce some of the nation’s most talented and elite cyber professionals educated and trained in downtown Pensacola. The local community will benefit tremendously from increased graduates ready to lead and work across Northwest Florida. Threats to the cybersecurity of businesses, individuals and the local, state and national government persist, while the number of professionals qualified to deal with cyberattacks is not keeping pace with demand. Nationally, **there will be 3.5 million unfilled cybersecurity positions**. Employers may need to provide additional workforce training. According to the *Northwest Florida Forward: A Regional Strategy for Economic Transformation (2016)* and *Cyberseek.org*, there are over 1,300 jobs available in cybersecurity Northwest Florida alone. Northwest Florida Economic Development Alliance’s *Live Coastal. Work Cyber. Cybersecurity Strategic Plan Report (2017)* focuses heavily on building a

cybersecurity workforce as its primary goal. **Cybersecurity** professionals' annual earnings will be above the average wage as follows: IT security specialist: \$113,701; IT security manager: \$131,600; network security engineer: \$107,868; computer network architect: \$100,240; information security analyst: \$90,120 and security engineer: \$81,078. The 2016 median pay for information security analysts is \$92,600.

UWF will offer the following programming to support the talent gap in this area:

Launch focused degree programs in Cybersecurity

1. **Cybersecurity, B.S.** (NSA/DHS Recognized Program). This program is approved to launch in Fall 2018 as a new degree program. The program will be offered primarily face-to-face with students having the distinct opportunity to participate in the Center for Cybersecurity's CyberRange, engage with experts from across the defense sector and major corporate partners across the region, participate in internships and connect to jobs. Students can join this program through multiple channels entering as a freshman, as a transfer student, a returning adult learner or as a military student.

UWF is a new partner with the National Security Agency's National Cryptologic School on their *Joint Cyber Analysis Course*. This partnership will **accelerate** completion of the undergraduate cybersecurity degree program for Joint Cyber Analysis Course graduates. Last year, more than 4,000 military students completed this complex cyber course. For JCAC graduates, the University will apply up to 30 credit hours toward a bachelor's degree in cybersecurity or 15 credit hours toward an associate's degree in general education. Once enrolled at UWF, students may be awarded up to three additional semester credit hours based on credit-by-proficiency evaluation.

2. **Other IT bachelor's degree programs** at UWF supporting cybersecurity include Computer Information Systems, Software Engineering, Information Technology, Computer Science Database Design. Capstone, certificate and certification opportunities are available to these students. Students in these programs have full access to the Florida CyberRange, industry partnerships and industry certifications.
3. **UWF MicroMasters Program, Cybersecurity.** A new acceleration model will be introduced as a series of graduate level courses designed to advance careers. The UWF MicroMasters will provide deep learning opportunities in specific cybersecurity career fields as relevant to employers. UWF MicroMasters are offered at the cost of \$1000 per certificate. The UWF MicroMasters alone can serve as a recognized credential. If students decide to complete a full master's degree, successful student completers can count this as degree credit, **accelerate** their time to degree and complete at a less expensive rate replacing six hours of graduate instruction.
4. **IT/Cybersecurity, M.S.** This new fully online master's program launching in Fall 2018 is partnering with the Israeli International Institute for Counter-Terrorism to offer a global perspective of cybersecurity. The program will focus on mid-career professionals

in agencies and across the military. Nationally, there are only a few graduate programs in cybersecurity and the opportunity to meet the need is strong.

5. **Funded student internships** will be available through this funding for students to work in companies for semester long experiences. Experiences may be longer based on partnerships that will create highly sought after next generation cyber talent.

Industry Certifications and Certificates

1. **Industry Certifications** will be offered in the areas of Comp TIA Security +, Comp TIA Security Analyst (CSA+) and EC Council Certified Ethical Hacker (CEH). Industry certifications will be awarded to UWF students participating in the Innovation Living and Learning Community for Cybersecurity and through degree programs related to Cybersecurity.
2. **Add-on multidisciplinary online bachelors level certificates** are available across multiple disciplines at UWF as add on certificates giving students in business, computing, IT, political science, government, criminal justice and other disciplines opportunities to gain expertise in cybersecurity. Certificates are available in Cybersecurity, Intelligence Analysis and Information Security Management.

Industry Training Programs

Through the UWF Center for Cybersecurity, governmental, corporate and academic partnerships that are critical to enhancing the nation's cybersecurity will participate in training through the CyberRange facility and online learning in training courses. Participants will attend strategic training programs to include Cybersecurity for All, Cybersecurity Incident Management, Cybersecurity Operations Center management and many more through the Center for Cybersecurity's world-class CyberRange and training facility developing the workforce and infrastructure needed to protect our nation from cyber threats.

Advanced Manufacturing Initiative

Northwest Florida manufacturers face significant out-of-state competition for skilled professionals. Nationally, **over 3.5 million professionals are needed to fill vacancies in manufacturing by 2020. Of that number, 2 million manufacturing jobs may remain vacant.** As manufacturing floors are increasingly operated with more emerging technologies, tools and processes, requirements for ongoing training continue to rise. Specifically, qualified professionals in artificial intelligence, robotics, autonomy and intelligent systems will be key elements of the global and local economies in the future. Nearly every facet of the economy is being transformed by these technologies and the pace is expected to accelerate. According to *Northwest Florida Forward: A Regional Strategy for Economic Transformation (2016)*, manufacturing is a key target industry for our region due to the large number of jobs with a full spectrum at every level that serves as a multiplier to create additional jobs. With manufacturing becoming more high tech, additional workforce training is needed as well as launching more college graduates in the areas of engineering, supply chain logistics, robotics and intelligent

systems. **Advanced manufacturing** professionals include: Mechanical Engineering: \$95,270; Scientific Research and Development: \$99,180; Aerospace Product and Parts Manufacturing: \$98,230.

The UWF Sea3D Additive Manufacturing Laboratory serves as a hub for multidisciplinary research, invention and discovery in the high-demand field of additive manufacturing, providing a space for real-world problems to be transformed into creative solutions. With this funding, the Sea3D Lab will expand as much as possible in its existing location with additional staffing and equipment in the UWF-owned Museum of Commerce and will renovate a space on the Joint Campus of NWFSC-UWF creating a Sea3D Lab in Fort Walton Beach. UWF has strong engineering programs and industry partners in Fort Walton Beach and the lab will support student projects with industry. The Sea3D Additive Manufacturing Laboratory is a dynamic platform for both students and the public to interact in the design, build and invent process leading to creation of talent to meet the growing need for the high technology manufacturing workforce of the future.

Degree Programs and Engagement

UWF will offer the following initiatives to support the talent gap in this area accelerating business partnerships, capstone experiences and overall increases in enrollment in both undergraduate and graduate.

1. **Undergraduate degrees** include: (1) Electrical Engineering, Bachelors, (2) Mechanical Engineering, Bachelors, (3) Supply Chain Logistics, Bachelors. In each of these programming areas, UWF will offer capstone experiences at the UWF Sea3D Additive Manufacturing laboratory enabling students to work collaboratively with governmental, corporate and academic partnerships that are critical to enhancing the overall student experience educate tomorrow's **workforce-ready college graduates** to move into positions, meeting a key target industry need.
2. **Undergraduate and Graduate Research Robotics and Intelligent Systems.** To support both undergraduate and graduate research in robotics and intelligent systems, UWF is launching a PhD program in Intelligent Systems and Robotics in Fall 2019 in partnership with the Institute for Human and Machine Cognition (pending Florida Board of Trustees approval). The launch of this program will enable UWF undergraduate and graduate students participating in significant undergraduate education and research to work collaboratively with PhD students and IHMC scientists.
3. **Funded student internships** will be available through this funding for students to work in companies for semester long experiences. Experiences may be longer based on partnerships that will create highly sought after talent.

Industry Certifications

Participants from industry and current UWF students will gain industry certifications through the Advanced Manufacturing Initiative. Industry Certifications include: 3D Design Solid Works, Project Management Professional (PMP), Systems Engineering Certificate, Corrective and

Preventive Action for Aerospace Industry, Geometric Dimensioning and Tolerancing, NFPA 70E Arc Flash Compliance, 3D Scanning and File Prep, AutoCAD, AS91000 Internal Auditor, Fundamentals of Technical Writing, Certified Information Systems Auditor (CISA).

Industry Training Programs

Through the UWF Sea3D Additive Manufacturing Laboratory in Pensacola and in Fort Walton Beach, several industry training programs will be offered as a collaborative approach to increase credentialed employs in the region. Additional industry training programs to include Certified Lean Practitioner, Lean Six Sigma Green Belt and Process Mapping will be offered. Additionally, executive seminars focused on commercial aircraft design and manufacturing will also be offered through this initiative.

Project Location

This proposal extends the collaborative regional work with the *FloridaWest Economic Development Alliance Regional Cybersecurity Strategic Plan*, the *Northwest Florida FORWARD Plan* and the ongoing work of *The Northwest Florida Advanced Manufacturing Council*, *FloridaMakes* and *TecMEN*. UWF's proposal establishes an anchor for the establishment of an innovation district enabling institutions and companies to cluster and connect. Direct economic impacts will be fostered through talent development and partnerships.

Developing an Innovation District in Downtown Pensacola. UWF will accelerate all things related to cybersecurity, advanced manufacturing and intelligent systems/robotics while establishing an atmosphere for thought leading innovation. Current facilities located throughout downtown Pensacola and on campus in Fort Walton Beach allow us to move the vision forward as follows:

- **The UWF Center for Cybersecurity to be located in the Studer Community Institute (formerly the SunTrust Building).** The Center will feature the Florida CyberRange establishing the region as a leader in cutting-edge skills-based cyber training and operations to detect and defend against cyber threats and attacks. It will provide a state-of-the-art, powerful, realistic training environment to support cyber warfare exercises, operations and competitions for government, military, industry, K12 and higher education, while also facilitating the development and testing of innovative cyber threat detection, defense and response solutions. The Center will provide regional access to a network of existing key partners and stakeholders across the Southeastern United States through the UWF Center for Cybersecurity's designation as a National Center of Academic Excellence and Southeastern United States Regional Hub designated by the National Security Agency and Department of Homeland Security.
- **The UWF Sea3D Additive Manufacturing Laboratories located in the Museum of Commerce in Pensacola and on the NWFSC-UWF Joint Campus** will feature tools for rapid prototyping and innovation. A regional synchronous network of advanced manufacturing resources and laboratories will link existing key partners and stakeholders through the Northwest Florida Manufacturers Council, TecMEN and FloridaMakes to UWF. Key partners and stakeholders will further support Manufacturing Career

Academies across the region, engage regional manufacturers and provide significant research opportunities for students and researchers.

- The Intelligent Systems and Robotics Warehouse a UWF-owned property housing **Intelligent Systems and Robotics** situated adjacent to IHMC property in downtown Pensacola will provide access to equipment, expertise and research. The pending UWF-IHMC joint PhD program in Intelligent Systems and Robotics will be a centerpiece of research for students, faculty researchers, scientists and entrepreneurs.

The timeline for this project includes the launch of workforce training programs, the minor renovations of the Intelligent Systems and Robotics teaching/research space in downtown Pensacola, the launch of the downtown Center for Cybersecurity and renovations in Ft. Walton Beach.

Date	Location	Activity
Within 6 months of award	Sea3D Additive Manufacturing Industry Training & Research	<ul style="list-style-type: none"> • Industry Certifications, Industry Training and collaborative research projects will commence immediately upon receipt of funds. • Staff will be hired to support the initiative.
	Manufacturing Degree Programs	<ul style="list-style-type: none"> • Degree programs in Engineering and Supply Chain Logistics will begin focused expansion • Initiate search for instructional personnel • The first industry innovator in residence will be hired to participate in research, instruction and guidance. • Scholarships will be available for students. Undergraduate Research will begin.
	Cybersecurity Degree Programs	<ul style="list-style-type: none"> • Degree programs in Engineering and Cybersecurity will begin focused expansion. • Initiate search for instructional personnel. • The second industry innovator in residence will be hired to participate in research, instruction and guidance. • Scholarships will be available for students. Undergraduate Research will begin.

	Cybersecurity Industry Training	<ul style="list-style-type: none"> • The Center for Cybersecurity Initiative will launch in a temporary location in downtown Pensacola late 2018 • Industry Training and Industry Certifications will begin. • Staff will be hired to support the initiative.
Within 12 months of award	Sea3D Additive Manufacturing: Fort Walton Beach	<ul style="list-style-type: none"> • The renovated laboratory will launch creating opportunities for industry collaboration, UWF engineering student growth and community engagement. • Staff will be hired to support the initiative.
	Intelligent Systems and Robotics Research	<ul style="list-style-type: none"> • The Intelligent Systems and Robotics warehouse teaching facility will launch in a UWF-owned space downtown. • Industry innovators in residence hired to participate in research, instruction and guidance. • Scholarships will be available for students. • Research will commence.
	Freshman Foundation for Career Preparation	<ul style="list-style-type: none"> • The Ready to Lead – Ready to Innovate Freshman Experience Initiative will launch Fall 2019 semester with living learning communities + industry certifications • freshmen participating in a course focused on innovation in cybersecurity, advanced manufacturing and intelligent systems/robotics. • Scholarships will be available to student participants.
24-36 months of award		<p>All initiatives will continue and accelerate toward meeting the goals of the proposal with graduates, industry certifications.</p> <ul style="list-style-type: none"> • 738 graduates ready to work, • 2,200 industry certifications,

		<ul style="list-style-type: none"> • 1,830 credentials through MicroMasters and add-on degree certificates
--	--	---

As each temporary location launches, events, community activities will commence reaching large numbers of K-12 students and the community focused on building talent in Northwest Florida for our future.

3. Explain how the proposed project or program is considered transformational and how it will affect the disproportionately affected counties in the next ten (10) years.

The UWF Innovation Network will be an innovation engine for Northwest Florida producing talent for high demand jobs in our region and regional innovation for the future. The Innovation Network will accelerate all things related to **Cybersecurity, Advanced Manufacturing and Intelligent Systems/Robotics** establishing an atmosphere for thought leading innovation producing graduates and industry trained professionals for the region. The workforce need is strong in our region and will continue to accelerate. Threats to cybersecurity of businesses, individuals and the local, state and national government persist, while the number of professionals qualified to deal with cyberattacks is not keeping pace with demand. Nationally, **there will be 3.5 million unfilled cybersecurity jobs by 2021 and as many as 86% of employers may need to provide additional workforce training.**

More than 3.5 million professionals are needed to fill vacancies in manufacturing by 2020. Of that number, 2 million manufacturing jobs may remain vacant. Northwest Florida manufacturers face significant out of state competition for skilled professionals. As manufacturing floors are increasingly operated with more emerging technologies, tools and processes, requirements for ongoing training continue to rise. Specifically, qualified professionals in artificial intelligence, robotics, autonomy and intelligent systems will be key elements of the global economy and local economies in the future. Nearly every facet of the economy is being transformed by these technologies and we anticipate the pace will only accelerate. Graduates of the UWF partnership Ph.D. program with the Institute for Human and Machine Cognition will be equipped to play leading roles in these transformations.

UWF will have a transformational effect on the region producing more graduates ready to fill documented workforce needs. In ten years, this project will continue to pay dividends through the continued development of a workforce that is appropriate for the 21st century knowledge economy. As more students graduate from the degree, certificate and certification programs offered through UWF, the region on the whole will experience a much higher degree of competitiveness that will lead to new economic opportunities for Northwest Florida residents. The transformative energy created by this project will encourage business owners and entrepreneurs to locate their new and existing enterprises to this area. Overall, the significant increase in economic activity resulting from this project will contribute to higher standards of living and greater economic security for generations to come.

The entire project is aligned to the goals of *Northwest Florida Forward: A Regional Strategy for Economic Transformation (2016)* as guiding principles that reflect the values of

the region promoting a sustainable and enduring economic base; diversified industries and high wage employment growth; greater alignment of partner resources through regional collaboration; improvement of the vitality of all areas and populations of the region; and strengthening beyond traditional economic engines. Together, these goals and guiding principles represent how the broader community of Northwest Florida defines economic development with the overarching goal of economic vitality for the future.

4. Describe data or information available to demonstrate the viability of the proposed project or program.

UWF has created significant economic impact and continues to have a strong presence in the region. The value proposition for UWF is also strong with the long term need for UWF's product of creating qualified talent for current and future demand as well as additional workforce training to support emerging technology needs of the region in cybersecurity and advanced manufacturing. The assumptions to demonstrate viability of the proposed project are as follows:

- Given the **selection of industry clusters for active talent development and regional innovation**, it is predicted that the ability to grow and expand exists. 3.5 million unfilled cybersecurity jobs by 2021 and as many as 86% of employers may need to provide additional workforce training. More than 3.5 million professionals are needed to fill vacancies in manufacturing by 2020. Of that number, 2 million manufacturing jobs may remain vacant.
- Given the **current supply of qualified talent** and the gap predicted for the future in the areas of cybersecurity and advanced manufacturing there is a strong market opportunity. 1,300 cybersecurity positions currently remain unfilled in the region, the number may grow, Advanced Manufacturing is an important target for growth as it impacts many other clusters and offers high-wage employment growth for all areas of the region.
- Even though the median **household income for the region** (\$48,567) is currently above the state average (\$47,212), we strive to achieve the national median household income (\$53,482).
- **Average earnings for the region** in 2016 (\$47,943) are lower than state average earnings (\$53,376).
- **National average earnings** in 2016 (\$61,389) are higher than the state average earnings (\$53,376).
- Graduates of UWF programs will make **salaries above the average wage** to include:
cybersecurity professionals: IT security specialist: \$113,701; IT security manager: \$131,600; network security engineer: \$107,868; computer network architect: \$100,240; information security analyst: \$90,120 and security engineer: \$81,078. The 2016 median pay for information security analysts is \$92,600. **Advanced manufacturing** professionals include: Mechanical Engineering: \$95,270; Scientific Research and Development: \$99,180; Aerospace Product and Parts Manufacturing: \$98,230.

To test these assumptions, UWF will employ an econometric simulation model to demonstrate the viability of the proposed project. Using the REMI PI+ model, we will combine sector and geography detail to provide functioning economic linkages over time. REMI incorporates basic input-output linkages but also uses a number of econometrically estimated parameters such as

inter-regional migration in response to changes in economic opportunities over time. This will support any changes in spending in the region that typically affects conditions across markets.

5. Describe how the impacts to the disproportionately affected counties will be measured long term.

The long term impacts to the disproportionately affected counties will be measured in multiple ways as follows:

- The impacts of the project will be measured against the results of the econometric simulation model so as to determine (over time or in any given year) whether or not the forecasted impacts have been met by actual impacts.
- The long term impacts of the project will be measured against the actual contribution of the UWF Initiative to UWF's overall 2017-2022 Strategic Plan and the metrics employed in the State University System of Florida Board of Governors Performance Funding model that fundamentally will produce more STEM graduates at undergraduate and graduate for the region as well as the number of students moving into careers in Northwest Florida.
- Long term impact will be measured against the supply and demand ratio of direct and indirect employment opportunities in targeted industry sectors within the disproportionately affected counties.

The UWF initiative will contribute directly to the supply of qualified potential employees to meet existing and prospective future employer demands. At the same time, UWF will provide support to workforce growth and demand both through direct engagement with private-sector entities in the areas of applied research and product/service development and through the commercialization of research through technology transfer, entrepreneurship and small business development.

6. Describe how the proposed project or program is sustainable. (Note: Sustainable means how the proposed project or program will remain financially viable and continue to perform in the long-term after Triumph Gulf Coast, Inc. funding.)

As a university that is financially stable and has produced significant economic impact for Northwest Florida for 50 years, the assurance of remaining financially viable is strong. The Innovation Network will remain viable and will continue to perform in the long term after Triumph Gulf Coast, Inc. funding. The sustainability model (included) reflects how the project will be sustainable with a description following each aspect of the model.



Environmental Support

UWF receives strong internal and external support for the project. Support from UWF includes the President setting this as a strategic priority of the institution, the UWF Board of Trustees providing insights and a core leadership team that has been working on the development of the Innovation Network since its inception. External support includes the Escambia County Commission, the Pensacola-Escambia Development Council, the Greater Pensacola Chamber of Commerce, Florida West, the Office of the Mayor in

Fort Walton Beach and Northwest Florida Forward. Education is a great supporter with Escambia County and Santa Rosa County School Districts. The military is also a strong supporter with the Air Force Research Laboratory strongly supporting Advanced Manufacturing and national supporters with the National Security Agency (NSA) and the Department of Homeland Security (DHS) supporting through the UWF Center for Cybersecurity's designation as a Center for Academic Excellence and a regional hub by NSA and DHS.

Funding Strategy

The initial investment in regional transformation from Triumph Gulf Coast, Inc. will provide the support needed to increase production of talent. To sustain, the following is planned:

- Degree programs will produce revenue at the state level fully funded FTE.
- The Florida Cyber Range will produce significant external trainings and generate market rate revenue per month.
- The Cyber for All program will be conducted in ongoing workforce training at market rate.
- The Advanced Manufacturing Laboratory will contract with business, industry and the community for fee-based services.
- Workforce training will be conducted at market rate over time.
- All industry certifications will be conducted at market rate over time.
- Research will be conducted in partnership with industry and the military.
- Technology Transfer and Commercialization opportunities are planned.

Partnerships

The UWF Innovation Network has over 50 partners currently endorsing the initiative. These partners range from large global companies such as The Boeing Company to military and regional partners.

Organizational Capacity

UWF has organizational capacity to manage growth over time. UWF continues to hire talented research faculty and staff to support growing program areas. This initiative will enable UWF to add instructional personnel, bring in innovators in residence, add industry certified staff, expand laboratories and support students through mentoring, living-learning opportunities, undergraduate and graduate research and scholarships to support degree attainment. In the areas of Cybersecurity, Advanced Manufacturing and Intelligent Systems/Robotics, UWF supports program development and delivery and research aligning to the UWF strategic goals for 2017-22.

Program Evaluation

For purposes of sustainability, UWF has ongoing program evaluations that are standard to the operation of a regionally accredited institution. Our evaluation of the UWF Innovation Network will filter through the ongoing data collection and assessment processes of existing program evaluation at UWF. Additionally, evaluation across the Innovation Network will be measured against the goals of the project that include the following:

- Launch rental facilities in downtown Pensacola and expand UWF-owned facilities in Pensacola and Fort Walton Beach for the UWF Innovation Network to connect communities, locations, labs and curriculum.
- Become a hub for talent development in key industry clusters ensuring a future workforce for Northwest Florida.
- Develop innovative knowledge clusters and programming in Cybersecurity, Advanced Manufacturing and Intelligent Systems/Robotics aligned to the Florida Board of Governors programs of strategic emphasis and regional targeted growth industries.
- Expand the entrepreneurship and innovation ecosystem to support talent development, regional innovation and future growth across the region.

UWF systematic evaluation for programs, centers and initiatives is ongoing and is as follows:

- UWF is **regionally accredited through SACSCOC**. SACSCOC requires that UWF maintain institutional effectiveness, educational programming, educational support services and administrative processes across the entire university, programming, resources and finance across all of its locations (<http://www.sacscoc.org/pdf/1998%20Criteria.pdf>).
- UWF's **2017-2022 Strategic Plan** emphasizes several areas that include growth in downtown Pensacola specifically focusing on community and economic engagement. Several of the goals with teaching and research also align to the Innovation Network <https://uwf.edu/about/at-a-glance/strategic-plan/>.
- The **Florida Board of Governor's Performance Funding metrics** supports ongoing evaluation of UWF toward specific and common metrics to include three that will be directly relevant to this project: (1) Percent of bachelor's graduates employed and/or continuing their education one year after graduation, (2) Median wages of bachelor's graduates employed one year after graduation (6) Bachelor's degrees awarded in areas of strategic emphasis.
- **Center and Institute reviews** are also required by the Florida Board of Governors on an annual basis and follow criteria set forth in Statute. Center and Institute program reviews

occur on a five-year cycle to ensure compliance with stated purpose and specific criteria for successful operations.

Program Adaptation

Based on the review cycles and compliance with University of West Florida policies, Board of Governors regulations and Florida Statutes, The UWF Innovation Network will have ongoing review cycles of program effectiveness and continue to adapt to meet the needs of the market.

Communications

As a final measure for ongoing sustainability, UWF will focus on communicating the success, impact, partnerships, courses, industry certifications, programming and research across all facilities of the Innovation Network. UWF maintains a university communications team as well as divisional Communications liaison teams that will manage the day-to-day activities to support the project and to fully engage the community.

7. Describe how the deliverables for the proposed project or program will be measured.

The table below provides deliverables and measure for the UWF Innovation Network based on a set of goals aligned to Northwest Florida Forward, measures to promote maximum economic impact and deliverables aligned to common reporting models. UWF focuses on Workforce Development in setting its deliverables and program measures.

WORKFORCE DEVELOPMENT		
Goal	Measure	Deliverable
<p>Talent Development</p> <p>The Innovation Network will become a hub for talent development in key industry clusters ensuring a future workforce for Northwest Florida.</p>	Increase number of students participating in degree programs, certificates and industry certifications to provide talent supply needs.	Reports for degree programs submitted to the BOG. Industry certification reports
	Increase graduates of degree programs, certificates and industry certifications.	BOG graduation data
	Increase the number of industry certifications in the region	Reporting on successful completers and tests
	Increase the average regional wage/household income	Economic Modeling Specialists, Inc. (EMSI) Department of Labor (DoL)Wage
	Increase the average national wage/household income	Economic Modeling Specialists, Inc. (EMSI) Department of Labor (DoL)Wage
	Increase diversification of the regional economy based on the REMI model	REMI modeling
	Achieve industry cluster impact	REMI modeling

	Increase the number of STEM graduates	BOG reports
	Create targeted industry talent in cybersecurity, advanced manufacturing and intelligent systems/robotics.	BOG reports Accountability Report
<p>Programming aligned to Industry Cluster Needs.</p> <p>Develop innovative knowledge clusters and programming in Cybersecurity, Advanced Manufacturing and Intelligent Systems/Robotics aligned to the Florida Board of Governors programs of strategic emphasis and regional targeted growth industries.</p>	Implement high demand programs of strategic emphasis	Semester to semester enrollments
	Increase technology and skills in all students participating in UWF Innovation Network	Technology assessments, Industry Certifications
	Encourage students with an interest or aptitude in STEM to pursue postsecondary education in the region	K12, Career Academy, Competitions and Events
	Strengthen career exploration in the region.	K12, Career Academy, Competitions and Events
<p>Partnerships: Innovation & Entrepreneurship</p> <p>Expand the entrepreneurship and innovation ecosystem to support talent development, regional innovation and future growth across the region.</p>	Leverage and enhance education, research and the military regional assets	Number of partnerships connected to research
	Create a sense of place that is appealing to a new generation of talented and creative people	Surveys, attendance and participation
	Partner with K20 educational institutions	Signed partnership agreements
	Increase research award and expenditures	Annual increase using the National Science Foundation's HERD Survey BOG Research Scorecard
	Establish partnerships with counties.	Signed partnership agreements

Priorities

1. Please check the box if the proposed project or program will meet any of the following priorities (check all that apply):

- Generate maximum estimated economic benefits, based on tools and models not generally employed by economic input-output analyses, including cost-benefit, return-on-investment, or dynamic scoring techniques to determine how the long- term

economic growth potential of the disproportionately affected counties may be enhanced by the investment.

Increase household income in the disproportionately affected counties above national average household income.

- Leverage or further enhance key regional assets, including educational institutions, research facilities, and military bases.
- Partner with local governments to provide funds, infrastructure, land, or other assistance for the project.
- Benefit the environment, in addition to the economy.
- Provide outcome measures.
- Partner with K-20 educational institutions or school districts located within the disproportionately affected counties as of January 1, 2017.
- Are recommended by the board of county commissioners of the county in which the project or program will be located.
- Partner with convention and visitor bureaus, tourist development councils, or chambers of commerce located within the disproportionately affected counties.

2. Please explain how the proposed project meets the priorities identified above.

Generate maximum estimated economic benefits, based on tools and models not generally employed by economic input-output analyses, including cost-benefit, return-on-investment, or dynamic scoring techniques to determine how the long-term economic growth potential of the disproportionately affected counties may be enhanced by the investment. UWF employed an econometric simulation model to demonstrate the viability of the proposed project. Econometric simulation models combine the sector detail and geography detail of input/output models but provide for functioning economic linkages between sectors and regions over time. Information on the UWF proposal was entered into REMI PI+ Version 2.1.1 (Regional Economic Models Inc.). REMI incorporates the basic input/output linkages, but also uses a number of econometrically estimated parameters, for example, interregional migration in response to changes in economic opportunities, in generating impact results. Because of these between-sector linkages, the model incorporates general equilibrium tendencies as the economy responds to shocks over time. Changes in spending in a region affect not just conditions in that market, but also in other markets within the region (economists term this a “general equilibrium”) and outside the region (via trade and also via migration in response to changes in economic opportunities). This contrasts with traditional input-output models that are both static (all effects are assumed to occur simultaneously, so there is no adjustment path over time) and partial equilibrium (e.g. changes in employment do not change wage rates) in nature.

A specific example is as follows: A manufacturing facility opens in a region and pays wages higher than the area’s average wage. Because of the increased demand for workers with that skill set, the region’s manufacturers and possibly construction industry may have to increase their wages or benefits to retain existing workers or attract new workers. A traditional input-output model simulation of the economic impact holds everything else fixed (including manufacturing wages across the county) and simply documented the employment and job creation effects resulting directly at the new manufacturing facility and indirectly via

businesses in its supply chain, as well as household spending induced by the new income flows.

A simulation model such as REMI captures not only the spending effects flowing from the manufacturing facility and its local suppliers and employees and owners, but also the spillover effects into other markets as wages and prices change due to competition for the same employees and other resources. These are the general equilibrium (equilibrium across all markets simultaneously) tendencies of the model. It also simulates the adjustment path over time of these market responses, using historical parameters estimated specifically for that county (the dynamic component). In an input-output model, impacts are usually measured as gross impacts, or additions to the area's economy without consideration of the extent to which, for example, a project's use of labor force may make labor more expensive to other businesses, or require additional infrastructure investment. The use of REMI attenuates this problem and so comes closer to an estimate of net, rather than gross, economic impacts because of the feedback effects present in this simulation model.

Increase household income in the disproportionately affected counties above national average household income.

- Even though the median **household income for the region** (\$48,567) is currently above the state average (\$47,212), we strive to achieve the national median household income (\$53,482).
- **Average earnings for the region** in 2016 (\$47,943) are lower than state average earnings (\$53,376).
- **National average earnings** in 2016 (\$61,389) are higher than the state average earnings (\$53,376).
- Graduates of UWF programs will make **salaries above the average wage** to include: **cybersecurity** professionals: IT security specialist: \$113,701; IT security manager: \$131,600; network security engineer: \$107,868; computer network architect: \$100,240; information security analyst: \$90,120 and security engineer: \$81,078. The 2016 median pay for information security analysts is \$92,600. **Advanced manufacturing** professionals include: Mechanical Engineering: \$95,270; Scientific Research and Development: \$99,180; Aerospace Product and Parts Manufacturing: \$98,230.

Leverage or further enhance key regional assets, including educational institutions, research facilities, and military bases. This proposal has over 50 organizations providing support for activity to enhance key regional assets. The letters of support are available in the Appendix of this document and are also listed beginning on page 3 of the full proposal.

Partner with local governments to provide funds, infrastructure, land, or other assistance for the project. This project was approved by the Escambia County Commission on November 30, 2017 as a top shovel ready priority. The Office of Mayor in Okaloosa County provided his letter of support as well as many other organizations in support of the Sea3D Laboratory to be located in an existing facility on the UWF-NWFSC Joint Campus.

Partner with K-20 educational institutions or school districts located within the disproportionately affected counties as of January 1, 2017. UWF is a strong partner with both

Escambia and Santa Rosa County School District and has been for many years. We collaborate on teacher preparation, STEM education, STEAM education, Career Education, Career Academies, competitions and events. Events such as the BEST Robotics Competition, CyberPatriot program and others represent a long time impact with educators in the region. UWF will partner with school districts in the specific areas of Cybersecurity, Advanced Manufacturing and Intelligent Systems/Robotics. In the partnership we will offer opportunities for students and teachers to connect and learn through the Innovation Network, attend field trips and participate in collaborative activities to inspire and engage students in specific career fields aligned to the Innovation Network.

Are recommended by the board of county commissioners of the county in which the project or program will be located. This project was approved by the Escambia County Commission on November 30, 2017 as a top shovel ready priority. (Letter attached.)

Partner with convention and visitor bureaus, tourist development councils, or chambers of commerce located within the disproportionately affected counties. UWF is a partner with Visit Pensacola, The Greater Pensacola Chamber of Commerce and Florida West. The UWF presence downtown in rental and UWF-owned spaces will provide additional energy to downtown Pensacola. We will encourage the community, tourists and partners to engage in events, activities and events at Innovation Network locations throughout the downtown area.

3. Please explain how the proposed project or program meets the discretionary priorities identified by the Board.

- **Are considered transformational for the future of the Northwest Florida region.** The UWF Innovation Network will be an innovation engine for Northwest Florida producing talent for high demand jobs in our region and regional innovation for the future. The Innovation Network will accelerate all things related to **Cybersecurity, Advanced Manufacturing and Intelligent Systems/Robotics** establishing an atmosphere for thought leading innovation in downtown Pensacola and the Joint Campus of Northwest Florida State College and UWF. The workforce need is strong in our region and will continue to accelerate. UWF will have a transformational effect on the region producing more graduates ready to fill documented workforce needs. This project will continue the development of a workforce appropriate for the 21st century knowledge economy. As more students graduate from the degree, certificate and certification programs offered through UWF, the region on the whole will experience a much higher degree of competitiveness that will lead to new economic opportunities for Northwest Florida residents.
- **May be consummated quickly and efficiently.** The university invested in moving forward talent development and regional innovation by establishing the Sea 3D Lab (Advanced Manufacturing focused) and the Center for Cybersecurity in downtown Pensacola through other sources of funds. Both will be operational in 2018 offering programming as well as expanding partnerships and K12 collaboration. Within three years, this project and will increase the number of students ready to accept positions in the region as well as accelerate existing employers' workforce development needs in areas that produce immediate workforce impact. These numbers will accelerate significantly once programming and opportunities for world-class technologies are available and permanent facility is in place.

- **Promote net-new jobs in the private sector with an income above regional average household income.** With its focus on the targeted industry sectors of cybersecurity and advanced manufacturing, coupled with its relationship with new and existing companies aligned to this industry sector, this project will produce more talent for existing and projected jobs in the region. UWF will support new jobs for instructional personnel and staff and for the operation of the Innovation Network. However, as a university, the focus of this project is to produce talent for critical industry needs our region where salaries are above the regional and national household income. This focus aligns to the preparation of students for future occupations and careers.
- **Align with Northwest Florida FORWARD, the regional strategic initiative for Northwest Florida economic transformation.** This project aligns directly with Northwest Florida FORWARD, the regional strategic initiative for Northwest Florida economic transformation. Specifically, this project aligns with and directly supports all five goals established in the Northwest Florida FORWARD Strategic Action Plan: (1) Talent (2) Business Vitality (3) Infrastructure (4) Entrepreneurship and Innovation and (5) Quality of Place. There is a vital role to be played by UWF.
- **Create net-new jobs in targeted industries to include: aerospace and defense, financial services/shared services, water transportation, artificial intelligence, cybersecurity, information technology, manufacturing, and robotics.**
For this initiative, UWF is projected to produce 738 new graduates with degrees, 1175 industry certifications, and 3,973 training completers that that are qualified to fill a large number of existing employment opportunities over the initial three-year period of operation. Given the stated job demand in the region for cybersecurity and advanced manufacturing, this effort will contribute to employment in targeted industries. Each existing employment position that is filled with a qualified employee results in additional economic activity that, in turn, contributes to the creation of net-new, indirect and induced employment opportunities within the regional economy. The average wage of positions in these fields **exceed** the current average wages at both the regional and national levels. At the same time, each new student enrollment represents net-new revenue to the university and, by extension, net-new expenditures throughout the regional economy. New instructional personnel, innovators in residence and staff will be hired as well as supporting students through scholarships to achieve degrees and industry certifications. This results in economic activity that then leads to the creation of net-new, indirect and induced jobs in the region.
- **Promote industry cluster impact for unique targeted industries.** Cybersecurity, advanced manufacturing, robotics and intelligent systems have strong industry cluster support in Northwest Florida. Focused education and training fuels innovation, investment, economic diversification and competitiveness. With the portfolio of education and training supported through UWF, innovation will be fueled and create industry cluster impact. Another aspect of the Innovation Network focused on innovation and entrepreneurship activities will increase corporate presence and build a bridge to career opportunities for students and regional innovation, technology transfer and commercialization.
- **Create net-new jobs with wages above national average wage (e.g., similar to EFI QTI program, measured on graduated scale).**
 - Even though the median household income for the region (\$48,567) is currently above the state average (\$47,212), we strive to achieve the national median household income (\$53,482).

- Average earnings for the region in 2016 (\$47,943) are lower than state average earnings (\$53,376).
- National average earnings in 2016 (\$61,389) are higher than the state average earnings (\$53,376).
- Graduates of UWF programs will make salaries above the average wage to include: cybersecurity professionals: IT security specialist: \$113,701; IT security manager: \$131,600; network security engineer: \$107,868; computer network architect: \$100,240; information security analyst: \$90,120 and security engineer: \$81,078. The 2016 median pay for information security analysts is \$92,600. Advanced manufacturing professionals include: Mechanical Engineering: \$95,270; Scientific Research and Development: \$99,180; Aerospace Product and Parts Manufacturing: \$98,230.
- **Are located in Rural Area of Opportunity as defined by the State of Florida (DEO).** For the initial operation of the UWF Innovation Network, there will be no specific locations in Rural Area of Opportunities. However, UWF serves students across Northwest Florida and welcomes opportunities to network into rural areas in the future.
- **Provide a wider regional impact versus solely local impact.** This project will have an impact in Escambia and Okaloosa counties initially. A wider regional impact is planned in the Innovation Network master plan.
- **Align with other similar programs across the regions for greater regional impact, and not be duplicative of other existing projects or programs.** As a network, UWF is intended to connect and align with similar opportunities. Through our planning in Cybersecurity and the creation of the FloridaWest Economic Development Alliance Regional Cybersecurity Strategic Plan, much of the connections have already been established. Similar is true with the Northwest Florida Manufacturers Council and TecMEN that works closely together in collaboration with advanced manufacturing programming.
- **Enhance research and innovative technologies in the region.** As a university, it is in our mission to conduct research. We currently have over \$35M in research expenditures at UWF and are focused on enhancing research and innovation through the partnerships, facilities and focus on the Innovation Network. As a means to support student engagement, UWF is considered distinctive in its offerings of undergraduate research. Each year, UWF hosts an undergraduate research symposium focusing on the research of the university. This project will expand the undergraduate research efforts in the areas of cybersecurity, advanced manufacturing and intelligent systems/robotics.

In addition to the Cybersecurity and Advanced Manufacturing initiatives, the partnership with IHMC for Intelligent Systems and Robotics will establish robust opportunities for research. Specific examples of research and innovative technologies include a collaborative endeavor between UWF and IHMC. IHMC, a not-for-profit research institute of the State University System (SUS), is a pioneer of technologies aimed at leveraging and extending human capabilities through a unique interdisciplinary approach combining computer science, cognitive psychology, neuroscience, engineering, medical science, and other related science disciplines. Adding a new doctoral program follows UWF's strategic vision for research and scholarly activities and will strengthen its impact on Northwest Florida's economic development and high technology enterprise. This degree and specific research will not only serve a significant need in Florida and the U.S., but will also allow UWF graduates to be

nationally and internationally recognized leaders and innovators in intelligent systems and robotics. Producing graduates with doctoral degrees in this fields will ensure that Florida trains and retains a workforce ideally suited to today's many challenges, and the graduates will provide leadership, expertise, and innovation to keep Florida at the forefront of these advances. The first research project in the UWF lab will focus on efficient interfaces for human-robot teams performing surveillance and maintenance tasks from the ground, air, or under water. For example, monitoring fertilizer run-off and algae bloom, the finding infestations of cogon grass in cattle grazing lands and treating them with minimal targeted herbicides, monitoring public utility construction sites to ensure compliance with construction plans, and monitoring bridge vibrations to understand their structural integrity. Also, there are many NASA and DoD applications of this work. The second project will focus on understanding how humans grasp objects and dexterously manipulate them. Applications will include the development of robot and prosthetic hands that are more compliant and more capable than existing hands. As part of this work, the project will study human motor control and brain activity during manipulation to develop new theories and methods applicable to robotic and prosthetic hands. To support the first research project, the UWF lab will have several flying robots and ground-based mobile robots in a netted-off safe flying area. People and robots in the area will be accurately tracked by a Vicon camera system. The second project will be supported by three Universal Robots arms, a UR3, a UR5, and a UR10, a Barrett hand BH8-282, and an i-limb ultra-hand. The lab will also house a 3D printer to design and build a new hand covered entirely in a sensitive tactile skin. PhD programs with their corresponding doctoral students, post-doctoral scientists along with undergraduate and graduate students in other degree programs that will partner across this network are essential for academic institutions to developing cutting-edge research that generates intellectual property, technology transfer opportunities, and potential start-up businesses.

- **Enhance a targeted industry cluster or create a Center of Excellence unique to Northwest Florida.** The entire proposal reflects enhancing a targeted industry cluster. The significant impact of the Center for Cybersecurity's CyberRange, Sea3D Additive Manufacturing and the Intelligent Systems and Robotics Laboratories will be unique to Northwest Florida and will serve as a Center of Excellence through the network of partners that will support students completing degrees at UWF to have a competitive edge for employment.
- **Create a unique asset in the region that can be leveraged for regional growth of targeted industries.** The project will produce regional innovation and talent for the region with a fully functional Laboratories networked across the region with over 50 partners. As an aspirant example for the project, in January 2017 Georgia Governor Nathan Deal invested \$50M to create a "Georgia Cyber Innovation and Training Center" adjacent to the Augusta University Riverfront Campus. Once announcing the state investment, project funding increased to over \$100M based on partnerships with the private sector and the military. This investment is intended to create a world-class cyber range and training facility focused on developing the next generation cyber workforce through training, real-world practice, education, public-private collaboration and interdisciplinary research in the fields of healthcare, computer science, electrical engineering, mathematics and robotics. UWF is proposing to create a similar unique asset in our region that provides an investment in Cybersecurity for Northwest Florida similar to the Augusta University's Riverfront Campus.

UWF's Innovation Network has great parallels. From federal assets like the U.S. Navy's Center for Information Warfare Training and the Department of Homeland Security's National Cybersecurity and Communications Integration Training Center to many private-sector partners such as Raytheon, Northrop Grumman and Navy Federal Credit Union, this is a solid investment in the foundation of Northwest Florida's economy similar to the investment the Augusta model will provide for the community in Georgia.

- **Demonstrate long-term financial sustainability following Triumph Gulf Coast, Inc. funding.** The complete answer located in question #6 presents a full sustainability model. The model used includes a focus on environmental support, a funding strategy, partnerships, organizational capacity and program evaluation aligned to the operation of a university. Long term, UWF is financially stable.
- **Leverage funding from other government and private entity sources.** Match funds come from the following sources: private, state and federal agencies (cybersecurity, advanced manufacturing, innovation) and university programming and salaries connected directly to activities of the UWF Innovation Network.
- **Provide local investment and spending.** Local investment and spending are fundamental to this project. Situating temporary facilities in downtown Pensacola will establish a hub for NEW student and industry engagement.
- **Are supported by more than one governmental entity and/or private sector companies, in particular proposed projects or programs supported by more than one county in the region.** This project has over 50 partners supporting the project. Full letters of support are found in the Appendix and listed beginning on page 3 of the full proposal.
- **Provide clear performance metrics over duration of project or program.** The table references clear performance metrics, goals and deliverables over the duration of the project. Using the detailed Workforce Training metrics earlier in the document, the following will be outcomes that can be measured using data collected by the Florida Board of Governors. Industry certifications and industry trainings can be collected from registration and enrollment data. The following information measures the key points of the proposal.
 - Number of freshmen participating in three years – 2,700.
 - Participants engaged in undergraduate research in the key areas of workforce interest – 1,175 researchers.
 - Graduates with degrees awarded in three years – 738 bachelors and masters students.
 - Number of industry certifications awarded in three years – 2,200.
 - Number of credentials through MicroMasters and add-on degree certificates – 1,830.
 - Number of industry trainings completed in three years – 3,973.
 - Number of partnership events with K-12, industry and the community – 3,000.
- **Include deliverables-based payment system dependent upon achievement of interim performance metrics.** Payment timelines included in full budget.

Included is a proposed Three-Year funding allocation chart for a successful grant.

Project Costs	Year One Initiate spending within 3 months of Grant approval	Year Two Initiate spending within 12 months from Grant approval	Year Three Initiate spending 24 months from Grant Approval
Salaries & Programming Support	\$2,500,000.00 <ul style="list-style-type: none"> • Network Administration • Instructional Personnel • Innovators in Residence • Student Scholarships • Sea3D Programming • Center for Cybersecurity Programming • Undergraduate Research Programming 	\$3,525,000.00 <ul style="list-style-type: none"> • Network Administration • Instructional Personnel • Innovators in Residence • Student Scholarships • Sea3D Programming • Center for Cybersecurity Programming • Intelligent Systems Programming • Housing Programming • Undergraduate Research Programming 	\$3,525,000.00 <ul style="list-style-type: none"> • Network Administration • Instructional Personnel • Student Scholarships • Sea3D Programming • Center for Cybersecurity Programming • Intelligent Systems Programming • Housing Programming • Undergraduate Research Programming
Equipment	\$4,000,000.00 <ul style="list-style-type: none"> • Cybersecurity • Advanced Manufacturing • Robotics 	\$500,000.00 <ul style="list-style-type: none"> • Cybersecurity • Advanced Manufacturing • Robotics 	
Supplies	\$150,000.00	\$150,000.00	\$150,000.00
Total: \$14,500,000.00	\$6,650,000.00	\$4,175,000.00	\$3,675,000.00

- **Provide capacity building support for regional economic growth.** UWF will build capacity that will support regional economic growth by producing talent for the region, expanding significant and focused workforce training and promoting regional innovation through research, technology transfer and commercialization.
- **Include Applicant and selected partners/vendors located in Northwest Florida.** The full list of partners is located beginning on page 3 of the full proposal. Letters of support are listed in the appendix of this proposal.

4. In which of the eight disproportionately affected county/counties is the proposed project or program located? (Circle all that apply)

Escambia Santa Rosa **Okaloosa** Walton Bay Gulf Franklin Wakulla

5. Was this proposed project or program on a list of proposed projects and programs submitted to Triumph Gulf Coast, Inc., by one (or more) of the eight disproportionately affected Counties as a project and program located within its county?

Yes No

If yes, list all Counties that apply: ESCAMBIA

6. Does the Board of County Commissioners for each County listed in response to question 5, above, recommend this project or program to Triumph?

Yes No

Attached in letters of support.

Approvals and Authority

1. If the Applicant is awarded grant funds based on this proposal, what approvals must be obtained before Applicant can execute an agreement with Triumph Gulf Coast, Inc.?

The President of the University of West Florida has full authority to negotiate an agreement with Triumph Gulf Coast, Inc.

The following approvals will commence within 7 – 10 days upon the agreement becoming available for execution.

- For UWF programming, salary and equipment expenses the Board of Trustees will be notified by the President of the successful Triumph grant, but approval from the Board of Trustees is not required.
- The UWF programming including degree programming, field studies, industry certifications, capstone courses, key discussions of career opportunities, internships, cooperative experiences, mentorships, shadowing and key industry partner engagements will be established. UWF will provide courtesy notification to SACS to make them aware of the programming locations.

2. If approval of a board, commission, council or other group is needed prior to execution of an agreement between the entity and Triumph Gulf Coast:

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

The UWF Board of Trustees calendar for the remainder of 2018 is as follows:

- June 5, 2018
- August 13, 2018
- September 27, 2018
- November 1, 2018
- December 5, 2018

B. **State whether that group can hold special meetings, and if so, upon how many days’ notice.** The UWF Board of Trustees can hold a special meeting with a proper 7-day notice at any time.

3. **Describe the timeline for the proposed project or program if an award of funding is approved, including milestones that will be achieved following an award through completion of the proposed project or program.**

Date	Location	Activity
Within 6 months of award	Sea3D Additive Manufacturing Industry Training & Research	<ul style="list-style-type: none"> • Industry Certifications, Industry Training and collaborative research projects will commence immediately upon receipt of funds. • Staff will be hired to support the initiative.
	Manufacturing Degree Programs	<ul style="list-style-type: none"> • Degree programs in Engineering and Supply Chain Logistics will begin focused expansion • Initiate search for instructional personnel • The first industry innovator in residence will be hired to participate in research, instruction and guidance. • Scholarships will be available for students. Undergraduate Research will begin.
	Cybersecurity Degree Programs	<ul style="list-style-type: none"> • Degree programs in Cybersecurity will begin focused expansion • Initiate search for instructional personnel. • The second industry innovator in residence will be hired to participate in research, instruction and guidance. • Scholarships will be available for students. Undergraduate Research

		will begin.
	Cybersecurity Industry Training	<ul style="list-style-type: none"> • The Center for Cybersecurity Initiative will launch in a temporary location in downtown Pensacola late 2018 • Industry Training and Industry Certifications will begin. • Staff will be hired to support the initiative.
Within 12 months of award	Sea3D Additive Manufacturing: Fort Walton Beach	<ul style="list-style-type: none"> • The renovated laboratory will launch creating opportunities for industry collaboration, UWF engineering student growth and community engagement. • Staff will be hired to support the initiative.
	Intelligent Systems and Robotics Research	<ul style="list-style-type: none"> • The Intelligent Systems and Robotics warehouse teaching facility will launch in a UWF-owned space downtown. • Industry innovators in residence hired to participate in research, instruction and guidance. • Scholarships will be available for students. • Research will commence.
	Freshman Foundation for Career Preparation	<ul style="list-style-type: none"> • The Ready to Lead – Ready to Innovate Freshman Experience Initiative will launch Fall 2019 semester with living learning communities + industry certifications • freshmen participating in a course focused on innovation in cybersecurity, advanced manufacturing and intelligent systems/robotics. • Scholarships will be available to student participants.
24-36 months of award		<p>All initiatives will continue and accelerate toward meeting the goals of the proposal with graduates, industry certifications.</p> <ul style="list-style-type: none"> • 738 graduates ready to work, • 2,200 industry certifications,

		<ul style="list-style-type: none"> • 1,830 credentials through MicroMasters and add-on degree certificates
--	--	---

- 4. Attach evidence that the undersigned has all necessary authority to execute this proposal on behalf of the entity applying for funding. This evidence may take a variety of forms, including but not limited to: a delegation of authority, citation to relevant laws or codes, policy documents, etc. In addition, please attach any support letters from partners.**

Pursuant to Article IX, section 7(c), Florida Constitution, the Florida Board of Governors establishes the powers and duties of the board of trustees for the state of Florida University System. Florida Board of Governors’ Regulation 1.001 delegates powers and duties to the university boards of trustees so that the university boards have all of the powers and duties necessary and appropriate for the direction, operation, management, and accountability of each state university. The University of West Florida Board of Trustees is a public body corporate with all the powers of a body corporate, including the power to contract. Fla. BOG Reg 1.001(g). A Florida university president serves as the chief executive officer of the board of trustees. Fla. BOG Reg. 1.001(d). The University of West Florida Board of Trustees’ Bylaws (hereinafter “Bylaws”) designate the university president as executive officer of the board of trustees. The Bylaws also delegate to the university president all such powers as are appropriate to his/her position in promoting, supporting and protecting the interests of the university and managing and directing its affairs. Additionally, the Bylaws give the university president the authority for all educational, financial, business and administrative functions of the university. On November 16, 2017, the UWF Board of Trustees granted very broad and specific delegations of authority to the university president to operate and administer the university, including the authority to enter into and sign contracts. Finally, University of West Florida Policy-04.04-01/17 authorizes the university president to approve and execute all contracts, agreements, letters of understanding, memoranda of understanding, and other documents regarding legal assurance, commitments, and obligations on behalf of the University and its constituent units.

The following items are attached as evidence:

- Article IX, section 7(c), Florida Constitution
- Florida Board of Governors Regulation 1.001
- UWF Board of Trustees Bylaws
- UWF Board of Trustees Resolution passed in November 2017
- University Policy P-04.04-01/17

Find attached Letters from the following partners:

We have received 54 letters from partners and local government.

Funding and Budget:

Pursuant to Section 288.8017, awards may not be used to finance 100 percent of any project or program. An awardee may not receive all of the funds available in any given year.

1. Identify the amount of funding sought from Triumph Gulf Coast, Inc. and the time period over which funding is requested.

The University of West Florida Innovation Network is seeking \$14,500,000 in funding over three years from the start of the project.

2. What percentage of total program or project costs does the requested award from Triumph Gulf Coast, Inc. represent? (Please note that an award of funding will be for a defined monetary amount and will not be based on percentage of projected project costs.)

The requested award from Triumph Gulf Coast equals **39 percent** of the total project.

3. Please describe the types and number of jobs expected from the proposed project or program and the expected average wage.

UWF will create talent for regional employers in the areas listed below:
 Graduates of UWF programs will make salaries above the average wage to include:
cybersecurity professionals: IT security specialist: \$113,701; IT security manager: \$131,600; network security engineer: \$107,868; computer network architect: \$100,240; information security analyst: \$90,120 and security engineer: \$81,078. The 2016 median pay for information security analysts is \$92,600. **Advanced manufacturing** professionals include: Mechanical Engineering: \$95,270; Scientific Research and Development: \$99,180; Aerospace Product and Parts Manufacturing: \$98,230.

4. Does the potential award supplement but not supplant existing funding sources? If yes, describe how the potential award supplements existing funding sources.

Yes No

Existing programming currently occurs on UWF main campus, Emerald Coast Campus and online. Those programs will not be replaced by this funding. This funding will allow the addition of enhanced opportunities throughout the Innovation Network.

5. Please provide a Project/Program Budget. Include all applicable costs and other funding sources available to support the proposal.

Triumph Total Project Budget	Project Total	Project Match	Triumph Grant
Equipment	\$ 9,500,000.00	\$ 5,000,000.00	\$ 4,500,000.00
Program Supplies	\$ 450,000.00		\$ 450,000.00
University Programming & Salaries	\$ 27,450,000.00	\$ 17,950,000.00	\$ 9,550,000.00
	\$ 37,400,000.00	\$ 22,950,000.00	\$ 14,500,000.00

A. **Project/Program Costs: See Chart Above.** Note the request for Triumph Gulf Coast is \$14,500,000 with the remaining funds coming from other sources of funding serving as a match for this project.

Total Project Costs: \$ 37,400,000

B. Other Project Funding Sources:

Private Sources	<u>\$ 3,000,000</u>
University Programming	<u>\$ 16,950,000</u>
University Salaries	<u>\$ 3,000,000</u>
Total Other Funding	<u>\$ 22,950,000</u>
Total Amount Requested:	<u>\$ 14,500,000</u>

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

C. Provide a detailed budget narrative, including the timing and steps necessary to obtain the funding and any other pertinent budget-related information.

Throughout the duration of the project, funds will be spent on instructional personnel, staff, 3 innovators in residence, student scholarships, equipment and supplies. UWF is funding rent for these facilities. Equipment and staffing will be funded through the Triumph Gulf Coast proposal to support degree programs, industry certifications, certificates, industry training and events. Temporary locations launch in downtown Pensacola to include:

- Rental property for The Center for Cybersecurity at the Studer Community Institute (formerly SunTrust building, 2nd floor). Spring 2018.
- UWF-owned property for Sea3D Laboratory Pensacola in the UWF Historic Trust Museum of Commerce. Launched earlier in the year, small expansion.
- UWF-owned property for Intelligent Systems and Robotics Warehouse on Romano Street situated adjacent to IHMC in Pensacola. Launch Fall 2019
- Existing classroom renovation for Sea3D Fort Walton Beach will occur on the Joint Campus with UWF and NWFSC to support engineering and the community. Launch Summer 2019.

Equipment costs will include funding to support:

- Florida’s Cyber Range in the Center for Cybersecurity,
- Sea3D Additive Manufacturing for Fort Walton Beach,
- Sea3D Pensacola additional equipment, and
- Intelligent Systems and Robotics equipment.

University Programming and Salaries will be used to fund the operation/administration of the Innovation Network, new world-class innovators-in-residence and staff to support all of the initiatives of the Innovation Network. Funding will also be used for student scholarships to

support industry certifications, industry internships and opportunities for students to participate in highly engaging industry partnership experiences.

- **Freshman Experience** through the freshman immersion course and innovation living learning community activity.
- **Undergraduate Research** supporting cybersecurity, advanced manufacturing and intelligent systems/robotics
- **Cybersecurity Initiatives** (degrees, certificates, industry certifications, industry training and events)
- **Advanced Manufacturing Initiatives** (degrees, certificates, industry certifications, industry training and events)

Supplies. A small supplies budget is included to support materials for 3D printing and other various needs for the project.

All funding sources in Section B. above have already been obtained for the project.

Future Fundraising from private sources are a PRIORITY of the university and private entities for increased support of the UWF Innovation Network and the programs of cybersecurity, advanced manufacturing, intelligent systems and robotics.

Applicant understands that the Triumph Gulf Coast, Inc. statute requires that the award contract must include provisions requiring a performance report on the contracted activities, must account for the proper use of funds provided under the contract, and must include provisions for recovery of awards in the event the award was based upon fraudulent information or the awardee is not meeting the performance requirements of the award.

Yes No

Applicant understands that awardees must regularly report to Triumph Gulf Coast, Inc. the expenditure of funds and the status of the project or program on a schedule determined by Triumph Gulf Coast, Inc.

Yes No

Applicant acknowledges that Applicant and any co-Applicants will make books and records and other financial data available to Triumph Gulf Coast, Inc. as necessary to measure and confirm performance metrics and deliverables.

Yes No

Applicant acknowledges that Triumph Gulf Coast, Inc. reserves the right to request additional information from Applicant concerning the proposed project or program.

Yes No

ADDENDUM FOR WORKFORCE TRAINING PROPOSALS

1. Program Requirements

A. Will this proposal support programs that prepare students for future occupations and careers at K-20 institutions that have campuses in the disproportionately affected counties? If yes, please identify where the campuses are located and provide details on how the proposed programs that programs will be provided.

Yes No

Each of the UWF focus areas (cybersecurity, advanced manufacturing, intelligent systems/robotics) will serve as an innovation platform to bring the right people together to innovate, conduct research, create graduates and workforce training completers. The cluster-based model used to design the Innovation Network promotes significant partnerships to achieve world-class preparation of students for future occupations and careers. Over 50 business partners will support the UWF Innovation Network providing key insights, guidance, research opportunities, student internships and cooperative experiences for students to build student experiences and prepare them for employment in their business or others throughout the region,

UWF will achieve high-impact economic engagement throughout the region by supporting UWF academic degrees, courses, certificates and certifications and workforce training emphasized across the entire Innovation Network. All academic programming will align to the Board of Governors' programs of strategic emphasis, the BOG *2025 System Strategic Plan* and UWF's *2017-2022 Strategic Plan*, *Northwest Florida Forward: A Regional Strategy for Economic Transformation* (2016) and the *Northwest Florida Economic Development Alliance's "Live Coastal. Work Cyber." Cybersecurity Strategic Plan Report* (2017). This synergy contributes to the enhancement and diversification of the Northwest Florida economy.

The transformative energy created by this project will produce:

- 738 graduates ready to work,
- Over 50 industry partners ready to assist,
- 2,200 industry certifications,
- 1,830 credentials through MicroMasters and add-on degree certificates,
- 3,973 industry training engagements to expand the impact of highly skilled sector employment across the region, and
- 3,000 participants in partnership events with the community.

It will also build a foundation for future graduates focused on the cybersecurity and advanced manufacturing industry cluster with:

- 2,700 freshmen completing highly engaging industry mentoring, innovation living and learning experiences and will attain an industry certification.
- 1,176 undergraduate research projects will focus on cybersecurity, advanced manufacturing and intelligent systems/robotics in the next three years.

Ready to Lead – Ready to Innovate Freshman Experience Initiative

Location: Innovation Living and Learning Community will be located on the UWF main campus.

Location: Freshman Immersion Experience. Downtown Pensacola rental and owned properties to include the Sea3D Additive Manufacturing Laboratory, Center for Cybersecurity and the Intelligent Systems and Robotics Warehouse.

Many universities offer experiences for college freshmen to become more engaged in college, build relationships and work collaboratively with a group of like-minded students with the ultimate goal of retaining students to completion of a degree. With the demand for high tech jobs in cybersecurity, advanced manufacturing and intelligent systems/robotics, higher education institutions across the United States must attract and retain more students in these specific areas in order to increase the number of graduates ready to work. To do so, it is critical to implement models that effectively recruit, retain and graduate an increasing number of students in specific high tech disciplines. The Florida Board of Governors measure the number of STEM graduates and UWF continues to maintain focus on STEM graduates.

To focus on recruitment, retention, graduation and ultimately preparation for a career, UWF is launching a *Ready to Lead - Ready to Innovate Freshman Initiative* around two primary strategies:

1. The development of a **freshman immersion experience** will be provided **for all UWF freshmen** participating in a course on innovation and career opportunity in cybersecurity, advanced manufacturing and intelligent systems/robotics as part of the overall Freshmen Experience. All freshmen will have experiential learning opportunities in the UWF Innovation Network facilities and laboratories in downtown Pensacola (CyberRange, Advanced Manufacturing Laboratories and Robotics Laboratories).
2. The development of an **Innovation Living Learning Community** focused on Cybersecurity, Advanced Manufacturing and Intelligent Systems/Robotics. The following will be presented in the Innovation Living Learning Community focusing on cybersecurity, advanced manufacturing and intelligent systems/robotics:
 - accelerate credit where possible,
 - complete an industry certification,
 - participate in a career mentoring program with industry partners in the UWF Innovation Network,
 - participate in industry problem solving in an industry/government program called “**Hacking for Defense**” (<https://www.h4di.org/about.html>), and
 - participate in activities in the Center for Cybersecurity’s CyberRange and in Advanced Manufacturing laboratories in Pensacola and Fort Walton Beach.

Cybersecurity Initiative

Location: The Center for Cybersecurity will be located in a leased property in the Studer Community Institute (formerly SunTrust building) in downtown Pensacola in rental property that will house the Florida CyberRange and classroom space. The Florida CyberRange will be connected back to the UWF main campus. Industry training, degree programming and industry certifications will be offered at this location.

Nationally, **there will be 3.5 million unfilled cybersecurity positions.** Employers may need to provide additional workforce training. According to the *Northwest Florida Forward: A Regional Strategy for Economic Transformation (2016)* and *Cyberseek.org*, there are over 1,300 jobs available in cybersecurity Northwest Florida alone. UWF will offer the following programming to support the talent gap in this area:

Launch focused degree programs in Cybersecurity

1. **Cybersecurity, B.S. (NSA/DHS Recognized Program).** This program is approved to launch in Fall 2018 as a new degree program. The program will be offered primarily face-to-face with students having the distinct opportunity to participate in the Center for Cybersecurity's CyberRange, engage with experts from across the defense sector and major corporate partners across the region, participate in internships and connect to jobs. Students can join this program through multiple channels entering as a freshman, as a transfer student, a returning adult learner or as a military student.

UWF is a new partner with the National Security Agency's National Cryptologic School on their *Joint Cyber Analysis Course*. This partnership will **accelerate** completion of the undergraduate cybersecurity degree program for Joint Cyber Analysis Course graduates. Last year, more than 4,000 military students completed this complex cyber course. For JCAC graduates, the University will apply up to 30 credit hours toward a bachelor's degree in cybersecurity or 15 credit hours toward an associate's degree in general education. Once enrolled at UWF, students may be awarded up to three additional semester credit hours based on credit-by-proficiency evaluation.

2. **Other IT bachelor's degree programs** at UWF supporting cybersecurity include Computer Information Systems, Software Engineering, Information Technology, Computer Science Database Design. Capstone, certificate and certification opportunities are available to these students. Students in these programs have full access to the Cyber Range, industry partnerships and industry certifications.
3. **UWF MicroMasters Program, Cybersecurity.** A new acceleration model will be introduced as a series of graduate level courses designed to advance careers. The UWF MicroMasters will provide deep learning opportunities in specific cybersecurity career fields as relevant to employers. UWF MicroMasters are offered at the cost of \$1000 per certificate. The UWF MicroMasters alone can serve as a recognized credential. If students decide to complete a full master's degree, successful student completers can

count this as degree credit, **accelerate** their time to degree and complete at a less expensive rate replacing six hours of graduate instruction.

- 4. IT/Cybersecurity, M.S.** This new fully online master's program launching in Fall 2018 is partnering with the Israeli International Institute for Counter-Terrorism to offer a global perspective of cybersecurity. The program will focus on mid-career professionals in agencies and across the military. Nationally, there are only a few graduate programs in cybersecurity and the opportunity to meet the need is strong.
- 5. Funded student internships** will be available through this funding for students to work in companies for semester long experiences. Experiences may be longer based on partnerships that will create highly sought after next generation cyber talent.

Industry Certifications and Certificates

- 3. Industry Certifications** will be offered in the areas of Comp TIA Security +, Comp TIA Security Analyst (CSA+) and EC Council Certified Ethical Hacker (CEH). Certifications will be awarded to UWF students participating in the Innovation Living-Learning Community and through degree programs related to Cybersecurity.
- 4. Add-on multidisciplinary online bachelors level certificates** are available across multiple disciplines at UWF as add on certificates giving students in business, computing, IT, political science, government, criminal justice and other disciplines opportunities to gain expertise in cybersecurity. Certificates are available in Cybersecurity, Intelligence Analysis, Information Security Management.

Industry Training Programs

Through the UWF Center for Cybersecurity, governmental, corporate and academic partnerships that are critical to enhancing the nation's cybersecurity will participate in training through the CyberRange facility and online learning in training courses. Participants will attend strategic training programs to include Cybersecurity for All, Cybersecurity Incident Management, Cybersecurity Operations Center management and many more through the Center for Cybersecurity's world-class CyberRange and training facility developing the workforce and infrastructure needed to protect our nation from cyber threats.

Advanced Manufacturing Initiative

Each location will be networked together to provide synchronous communications among the locations as well as to the main UWF campus.

Location in Pensacola: Sea3D Additive Manufacturing Laboratory is located in a UWF-owned facility within the Museum of Commerce in downtown Pensacola to partner with all degree program offerings and serve as an intersection with industry and the community. Some classes will be offered at this location. Industry training and industry certifications will be offered at this location.

Location in Pensacola: The Intelligent Systems and Robotics Warehouse will be located at a UWF-owned property situated adjacent to the Institute for Human and Machine Cognition for purposes of undergraduate and graduate level research and some course instruction.

Location in Fort Walton Beach: Sea3D Additive Manufacturing Laboratory will be located on the joint campus of NWFSC and UWF to partner with the UWF engineering degree program offerings and serve as an intersection with industry and the community. Classes will be offered at this location. Industry training and industry certifications will be offered at this location.

According to *Northwest Florida Forward: A Regional Strategy for Economic Transformation (2016)*, manufacturing is a key target industry for our region due to the large number of jobs with a full spectrum at every level that serves as a multiplier to create additional jobs. With manufacturing becoming more high tech, additional workforce training is needed as well as launching more college graduates in the areas of engineering, supply chain logistics, robotics and intelligent systems. The Sea3D Additive Manufacturing Laboratory is a dynamic platform for both students and the public to interact in the design, build and invent process leading to creation of talent to meet the growing need for the high technology manufacturing workforce of the future.

Degree Programs and Engagement

UWF will offer the following initiatives to support the talent gap in this area accelerating business partnerships, capstone experiences and overall increases in enrollment in both undergraduate and graduate.

4. **Undergraduate degrees** include: (1) Electrical Engineering, Bachelors, (2) Mechanical Engineering, Bachelors, (3) Supply Chain Logistics, Bachelors. In each of these programming areas, UWF will offer capstone experiences at the UWF Sea3D Additive Manufacturing laboratory enabling students to work collaboratively with governmental, corporate and academic partnerships that are critical to enhancing the overall student experience educate tomorrow's **workforce-ready college graduates** to move into positions, meeting a key target industry need. Participants will work in Advanced Manufacturing disciplines will work on laboratory experiences and with industry from this location.
5. **Undergraduate and Graduate Research Robotics and Intelligent Systems.** To support both undergraduate and graduate research in robotics and intelligent systems, Pending Florida Board of Trustees approval, UWF is launching a PhD program, in Intelligent Systems and Robotics in Fall 2019 in partnership with the Institute for Human and Machine Cognition. The launch of this program will enable UWF undergraduate and graduate students participating in significant undergraduate education and research to work collaboratively with PhD students and IHMC scientists. The location is a UWF-owned warehouse adjacent.
6. **Funded student internships** will be available through this funding for students to work in companies for semester long experiences. Experiences may be longer based on partnerships that will create highly sought after talent.

Industry Certifications

Participants will gain industry certifications through the Advanced Manufacturing Initiative. Industry Certifications include: 3D Design Solid Works, Project Management Professional (PMP), Systems Engineering Certificate, Corrective and Preventive Action for Aerospace Industry, Geometric Dimensioning and Tolerancing, NFPA 70E Arc Flash Compliance, 3D Scanning and File Prep, AutoCAD, AS91000 Internal Auditor, Fundamentals of Technical Writing, Certified Information Systems Auditor (CISA).

Industry Training Programs

Through the UWF Sea3D Additive Manufacturing Laboratory in Pensacola and in Fort Walton Beach, several industry training programs will be offered as a collaborative approach to increase credentialed employs in the region. To include Certified Lean Practitioner, Lean Six Sigma Green Belt and Process Mapping. Executive seminars will also be offered in Commercial Aircraft Design and Manufacturing to include, Political, Economic & Technical Issues, Logistics & Quality Assurance Considerations, Market Drivers that Establish and Safety Regulations for Commercial Aerospace.

B. Will the proposed program (check all that apply):

- Increase students' technology skills and knowledge
- Encourage industry certifications
- Provide rigorous, alternative pathways for students to meet high school graduation requirements
- Strengthen career readiness initiatives
- Fund high-demand programs of emphasis at the bachelor's and master's level designated by the Board of Governors
- Encourage students with interest or aptitude for science, technology, engineering, mathematics, and medical disciplines to pursue postsecondary education at a state university or a Florida College System institution within the disproportionately affected counties (similar to or the same as talent retention programs created by the Chancellor of the State University System and the Commission on Education)

For each item checked above, describe how the proposed program will achieve these goals:

- **Increase students' technology skills and knowledge.** All students participating in the Innovation Network will be heavily engaged with technology.
- **Encourage Industry Certifications.** Industry certifications will be offered in cybersecurity and advanced manufacturing through UWF and through partnerships across the region. UWF will partner with career academies to support their needs, promote teacher training/support and offer intensive experiences onsite at the Innovation Network locations.
- **Strengthen Career Readiness.** Career readiness is a keystone of the UWF initiative. At each opportunity, focused discussions on career opportunities w through internships, cooperative experiences, mentorships, shadowing and key industry partner engagements will be

established. In addition, UWF is responsible for the statewide career education and planning tool, MyCareerShines <https://www.floridashines.org/find-a-career/plan-your-future>. Almost a million *assessments* have been completed to date in Florida with this tool. As part of the Florida Virtual Campus, this tool incorporates key career education opportunities and assessments into the tool for the elementary, middle and secondary version as well as the college, university and adult version to support Northwest Florida's needs in Cybersecurity, Advanced Manufacturing, Intelligent Systems and Robotics.

- **Fund high demand programs of strategic emphasis (PSE) at bachelors and masters level.** Programming selected for the UWF initiative will align to the PSE list at bachelors and master's levels. UWF is not requesting funds to develop NEW degree programs but to expand existing PSE programs with business, military and K20 partnerships developing a stronger pipeline from K20 to the workforce. This includes cooperative experiences for students, internships, mentoring, job shadowing, experiences in solving current industry problems, entrepreneurship, innovation and more. For college graduates, many job applications require graduates to have experience beyond the degree to get jobs. UWF intends to provide experiences that will accelerate students to employment. In addition to graduates of degree programs in PSE, industry certifications and specific credentials also support employment acceleration for graduates as well as those already in the workforce seeking next step opportunities. UWF has developed an experiential transcript that can be provided to employers in addition to a regular academic transcript.
- **Encourage students with interest or aptitude for science, technology, engineering, mathematics, and medical disciplines to pursue postsecondary education.** Through strong partnerships with area school districts, business, industry and the military, UWF will continue to encourage, inspire and engage K12 students to choose STEM disciplines. Competitions including Cyberthon, Hacking for Defense, BEST Robotics competitions, CyberPatriot and innovation competitions will expand with funding. Summer camp activities will include CoderDojo, NextGen Cyber camps, engineering camps, robotics camps, innovation and entrepreneurship and more. Focused field trips and activities across the Innovation Network will yield additional student experiences. For example, the Sea3D lab will serve 14,000 fourth graders annually to learn additive manufacturing processes and 3D printing. Cybersecurity will offer opportunities for field trips experiencing the Florida Cyber Range and learn 'cyber hygiene.' UWF will accelerate experiences for K12 as a hub for inspiring, engaging and encouraging kids to enter STEM disciplines through focused activities, events and educational opportunities.

C. Will this proposal provide participants in the disproportionately affected counties with transferable, sustainable workforce skills but not confined to a single employer? If yes, please provide details.

Yes No

Building transferable, sustainable workforce skills requires:

- broad availability of high quality K12,
- college and university educational programs aligned to areas of workforce need,
- alignment of labor supply to labor demand to fill existing gaps, and

- ongoing workforce training and education to support changes in the market and in emerging technologies in the future.

When implemented through successful partnerships, **this approach creates a system where more and better education and training fuels innovation, investment, economic diversification and competitiveness.** This model also prepares future generations, giving them core skills to continue learning. UWF will work closely with K12 school districts in the key focus areas of cybersecurity, advanced manufacturing, intelligent systems and robotics matching skill supply and need. High quality educational partnerships and programming with the award of certificates, certifications and degrees will provide the foundation for the future workforce training and advanced degrees.

Transferable skills will be developed in numerous ways. Foundational knowledge and skills learned in coursework will enable students to apply their existing knowledge to new situations through internships, cooperative agreements, mentoring and through engaged problem-solving. Additionally, foundational skills certified through industry certifications will enable students and those in workforce training to have recognized skills across different sectors and markets.

D. Identify the disproportionately affected counties where the proposed programs will operate or provide participants with workforce skills.

The Innovation Network will provide participants with workforce training, degree programming, certificates and industry certifications in Escambia and Okaloosa County.

E. Provide a detailed description of, and quantitative evidence demonstrating how the proposed project or program will promote:

- Economic recovery,
- Economic Diversification,
- Enhancement of the disproportionately affected counties,
- Enhancement of a Targeted Industry.

Aligned to *Northwest Florida Forward: A Regional Strategy for Economic Transformation* (2016) and the *Northwest Florida Economic Development Alliance's "Live Coastal. Work Cyber."* *Cybersecurity Strategic Plan Report* (2017), UWF will accelerate regional innovation through key industry partnerships producing highly qualified talent for jobs promoting economic recovery, diversification and enhancement of the economy in Northwest Florida. UWF will produce graduates ready to work that will increase the average wage in areas of high workforce demand.

To support degree programs, certificates, industry certifications and workforce training, the Center for Cybersecurity will feature the Florida Cyber Range. The Range will establish the region as a leader in cutting-edge skills-based cyber training and operations to detect and defend against cyber threats and attacks. It will provide a state-of-the-art, powerful, realistic training environment to support cyber warfare exercises, operations and competitions for government, military, industry, K12 and higher education, while also facilitating the development and testing of innovative cyber threat



detection, defense and response solutions. The Center will provide regional access to a network of existing key partners and stakeholders across the Southeastern United States through the UWF Center for Cybersecurity's designation as a National Center of Academic Excellence and Southeastern United States Regional Hub designated by the National Security Agency and Department of Homeland Security.

To support degree programs, certificates, industry certifications and workforce training, the Sea3D Additive Manufacturing Laboratories will feature tools for rapid prototyping and innovation including: carbon fiber 3D printers, metal 3D printer, 3D scanners, laser cutters, Kuka training robotic arm, PLC and industry automation training station, CNC machine, makerbot replicators, and form labs. A regional network of advanced manufacturing resources and laboratories from the new UWF Sea3D Lab located on UWF historic property to a Lab in Fort Walton Beach at the UWF-NWFSC Joint Campus and a UWF-IHMC Intelligent Systems and Robotics Warehouse in downtown Pensacola will provide access to equipment, expertise and research. The Sea3D Additive Manufacturing Laboratories will link existing key partners and stakeholders through the Northwest Florida Manufacturers Council and FloridaMakes to the UWF Innovation Network. Key partners and stakeholders will further support Manufacturing Career Academies across the region, engage regional manufacturers and provide significant research opportunities for students and researchers. The UWF-IHMC joint PhD program in Intelligent Systems and Robotics will be a centerpiece of research for students, faculty researchers, scientists and entrepreneurs.

This initiative will increase the number of students ready to accept positions in the region as well as accelerate existing employers' workforce development needs in areas that produce immediate workforce impact. It is estimated that **14,853** participants will be engaged in the activities of the UWF Innovation Network in a three-year period. Over **738** graduates with degrees and workforce ready experience will be prepared to enter the workforce along with workforce training that will prepare the existing workforce for the future.

Graduates of UWF programs will make salaries above the average wage to include: **cybersecurity** professionals: IT security specialist: \$113,701; IT security manager: \$131,600; network security engineer: \$107,868; computer network architect: \$100,240; information security analyst: \$90,120 and security engineer: \$81,078. The 2016 median pay for information

security analysts is \$92,600. **Advanced manufacturing** professionals include: Mechanical Engineering: \$95,270; Scientific Research and Development: \$99,180; Aerospace Product and Parts Manufacturing: \$98,230.

2. Additional Information

A. Is this an expansion of an existing training program? Is yes, describe how the proposed program will enhance or improve the existing program and how the proposal program will supplements but not supplant existing funding sources.

Yes No

The Innovation Network is a new initiative for the University of West Florida. It is an expansion to existing programs and initiatives at UWF to support the region. Recognizing the need to focus on distinctive opportunities for Northwest Florida in areas of tremendous need and potential job growth, UWF will expand its model of operation to **create talent** and **regional innovation** in the areas of Cybersecurity, Advanced Manufacturing, Intelligent Systems and Robotics. The expansion will be an innovation engine to support regional innovation using future technologies and tools that will change lives and create impact for generations to come.

The expanded locations are intentional and will serve as a significant strategy to incubate creativity, innovation and forward-looking concepts and practices for Northwest Florida while producing **talent** and **research for the future**.

The expanded experiences and engagement are intentional. Through the extensive laboratory innovation atmosphere, UWF will support the hands-on immersive research and experiential learning for undergraduate and graduate students at UWF, researchers and the community as a whole. The ability to use equipment to simulate experiences, to rapid prototype new ideas through a variety of 3D printing processes and to gain experiences working side-by-side with industry will create the workforce of the future. The Florida Cyber Range alone will serve as a major hub for virtual simulation and training across the entire country. Cyber ranges are virtual environments used to simulate real-world cyber warfare in a safe and protected setting. Creating the workforce and infrastructure needed to protect our nation from cyber threats is critical to our future.

The expanded programming is intentional. Key degree programs already exist at UWF in the areas being proposed. Additional immersive and experiential programming will be added. Access can be expanded to key degree programs by expanding opportunities for immersive activity and by expanding virtual, online programs to support expansion of graduates that may not be able to participate fully on campus. UWF has developed some of the certificates and aligns to industry certifications. UWF will develop additional workforce training, certificates and enhance existing degree programs for the future.

A focus on expanding degree programming experiences will be as follows:

- building immersive, hands-on experiential learning into the program,

- promoting a stronger connection to industry,
- supporting undergraduate and graduate level research and innovation, and
- engaging in an untapped opportunity to provide high end equipment and access to new locations for students to innovate, partner with industry, thrive and prepare for their futures.

The expanded focus links arms with K12, industry and the experiential preparation of students for careers. Funding will support the expansion to talent-development focused programming by developing additional curricula, workforce training, and undergraduate research, while focusing on innovation and entrepreneurship and career-focused experiences and job placement.

B. 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) where the training will be available.

Program Delivery in Escambia County

- **UWF Main Campus** that offers the full degree program that will be supplemented and accelerated by the experiences further connecting students to industry.
- **Sea3D Additive Manufacturing Laboratory** located at the UWF Historic Trust’s Museum of Commerce. *Face-to-face education*, workforce training and research will occur at this location. This facility is networked back to the UWF main campus and will be *networked* to the Ft. Walton Beach Advanced Manufacturing facilities to support collaboration, sharing of ideas and designs.
- **Center for Cybersecurity** located in downtown Pensacola. The Center for Cybersecurity will connect back to the campus for competitions but also will connect *virtually* across the region (state, nation and world) through its Cyber Range capabilities. *Face-to-face* degree programming experiences and workforce training will occur at this location.
- **Intelligent Systems and Robotics** located in a UWF owned warehouse adjacent to the Institute for Human and Machine Cognition. The majority of work at this location will be research and hands-on *face-to-face* graduate programming.

Locations in Okaloosa County

The Advanced Manufacturing Lab will be located in an existing building at the UWF Northwest Florida State College Joint Campus in Fort Walton Beach. UWF will administer programming. *Face-to-face education*, workforce training and research will occur at this location and will fully supplement the work of engineering in Fort Walton Beach. This facility is *networked* back to the UWF main campus, industry partners and the Sea3D Pensacola laboratory. This network will enable collaboration of design challenges, design programming and 3D printing.

Locations across the region

Virtual locations. Virtual programming, administered by UWF will include synchronous programming that can connect the locations together for competition, for idea exchange and for collaboration with innovators-in-residence. Several free and “open” online courses and modules,

workforce development modules, webinars and virtual events will also accelerate access across the region.

C. Identify the number of anticipated enrolled students and completers.

Program	Enrollment / Completion 18-19	Enrollment / Completion 19-20	Enrollment Completion 20-21	3 year totals
Freshmen + Undergrad Students				
Freshman Immersion Experience*	100/80	1200/900	1200/900	2500/1880
Innovation Living & Learning*	0	100/100	100/100	200/200
Undergraduate Research * (Robotics, Cyber and Advanced Manufacturing)	350/350	400/400	426/426	1176/1176
Cybersecurity Initiatives				
Cybersecurity, B.S.	160/0	175/50	190/65	190/115
JCAC Students	10/0	25/0	50/0	50/0
Cybersecurity Masters	35/0	50/20	100/30	100/50
Other Cyber/IT program Capstones (Computer Science, CIS, Software Engineering, Information Technology, CS Database Design)	375/70	394/73	394/75	394/218
Micro-Masters Cybersecurity	100/200	100/200	100/200	600/600
Industry Certifications	50/50	100/50	150/150	300/300
Add-on multidisciplinary certificates	100/100	150/150	150/150	400/400
Industry Training Center for Cybersecurity*	700/700	800/800	825/825	2,325/ 2,325
Partnership Events*	400/400	500/500	600/600	1,500/1,500
Advanced Manufacturing				
Electrical Engineering	280/50	300/55	320/60	320/165
Mechanical Engineering	270/20	300/30	320/40	320/90
Supply Chain Logistics	90/25	115/30	140/45	100/100
Industry Certifications	300/300	500/500	800/800	1600/1600
Industry Training Programs: Sea3D Additive Manufacturing*	400/400	424/424	424/424	1648/1648
Partnership Events*	400/400	500/500	600/000	1500/1500
4 th grade field trips*	14,000	14,000	14,000	42,000
Micro-Masters Programs				
Entrepreneurship	50/50	100/100	110/110	260/260
Business Foundations	50/50	100/100	110/110	260/260
Future of Manufacturing	50/50	100/100	110/110	260/260

*not counted in calculations although extremely relevant to the overall pipeline.

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

Programming will occur as follows:

- Regular college courses will be offered each academic semester as students' progress toward a degree. Degree plans are developed and academic advisors work closely with students to complete in a timely fashion.
- Certificates, workforce training and industry certifications will occur off of the regular academic calendar.
- Freshman Living and Learning will be a full year experience beginning in year 2.
- Freshman Experience course is most heavily attended in Fall semester, but offerings will also occur Spring of each year.
- Undergraduate research occurs through the Office of Undergraduate Research throughout each Academic Year, Fall and Spring with the annual Undergraduate Research Symposium happening each Spring.

E. Describe the plan to support the sustainability of the proposed program.

A complete sustainability plan is located in the main Triumph Gulf Coast, Inc. proposal. This description expands specifically on the actual programs. As a university, we have 50 years of program management and have accreditation guidelines, program reviews and policies supporting program quality and success. As stated in the full sustainability plan (in the main application), it will take all of the components working together to achieve success. Cogent to the workforce training section of this proposal, a focus on revenue in to support ongoing programming, faculty and staff engagement seems most appropriate. The funding strategy referenced from the body of the main proposal is as follows:

Funding Strategy

The initial investment in regional transformation from Triumph Gulf Coast, Inc. will provide the support needed to start-up new locations and increase production of talent. To sustain, the following is planned:

- Degree programs will produce revenue at the state level fully funded FTE.
- The Florida Cyber Range will produce significant external trainings and generate market rate revenue per month.
- The Cyber for All program will be conducted in ongoing workforce training at market rate.
- The Advanced Manufacturing Laboratory will offer subscription pricing to the community for ongoing usage
- Conduct ongoing workforce training at market rate.
- All industry certifications will be conducted at market rate.
- Technology Transfer and Commercialization opportunities are planned.

F. Identify any certifications, degrees, etc. that will result from the completion of the program.

- 738 graduates of bachelors and master's degree programs ready to work,
- 2,200 industry certifications,

- 1,830 credentials through MicroMasters and add-on degree certificates,
- 3,973 industry training engagements to expand the impact of highly skilled sector employment across the region, and
- 3,000 participants in partnership events with the community.

It will also build a foundation for future graduates focused on the cybersecurity and advanced manufacturing industry cluster with:

- 2,700 freshmen completing highly engaging industry mentoring, innovation living and learning experiences and will attain an industry certification.
- 1,176 undergraduate research projects will focus on cybersecurity, advanced manufacturing and intelligent systems/robotics in the next three years.

G. Does this project have a local match amount? If yes, please describe the entity providing the match and the amount.

Yes No

Project Match	Match Source	Match Amount
Equipment	Metova CyberCents	\$ 3,000,000.00
Salaries & University Programming	University of West Florida	\$ 19,950,000.00
		\$ 22,950,000.00

H. Provide any additional information or attachments to be considered for this proposal.

I, the undersigned, do hereby certify that I have express authority to sign this proposal on my behalf or on behalf of the above-described entity, organization, or governmental entity:

Name of Applicant:
University of West Florida

Name and Title of Authorized Representative:
Dr. Martha Saunders, President

Representative Signature:



Signature Date:

March 6, 2018

Application resubmission:

Representative Signature:

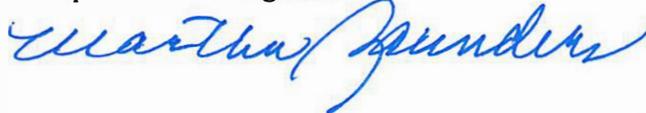


Signature Date:

June 5, 2018

Application resubmission:

Representative Signature:



Signature Date:

8.24.18