

TRIUMPH GULF COAST, INC. PRE-APPLICATION FORM

Triumph Gulf Coast, Inc. ("Triumph Gulf Coast") has created a pre-application process to provide initial consideration of eligibility for potential ideas of projects or programs that may seek an award of funding. Applicants are required to participate in the pre-application process.

Notwithstanding the response from Triumph Gulf Coast on the pre-application form, an Applicant may still elect to submit an Application.

APPLICANT INFORMATION

Name of Individual/Entity/Organization: Florida State University Panama City

Proposal Title: FSUPC Engineering, Science, Technology and Advanced Workforce Center

Amount of Triumph Funds Requested: Total: \$14,700,000

Estimated Project Cost: \$24,700,000

Brief Description of Individual/Entity/Organization: Florida State University Panama City is a regional campus of Florida State University. Created in 1983, FSUPC's primary purpose is to serve students from Northwest Florida.

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Names of co-applicants, partners or other entities, organizations that will have a role in the proposed project or program: Florida State University, FAMU-FSU College of Engineering; local state colleges, state and federal agencies and military bases.

REQUIRED EXECUTIVE SUMMARY

In a maximum of two (2) pages, please describe the proposed project or program and anticipated outcomes including (i) the amount of funds being sought from Triumph Gulf Coast; (ii) the amount and identity of other sources of funds for the proposed project or program; (iii) the location of the project or program; (iv) summary description of the proposed program, including how the program will be transformational and promote economic recovery, diversification, and enhancement of the disproportionately affected counties, and (v) a summary timeline for the proposed project or program.

IMPORTANT NOTICE

This pre-application process will not result in an award of funding by Triumph Gulf Coast. Rather, this process is designed to facilitate submission of ideas for potential projects or programs before the Applicant expends time and/or resources to complete a full Application. All Applicants for funding are required to complete an Application, which will be reviewed and then considered for award at the discretion of Triumph Gulf Coast Board.

Please Select the Proposal's Eligibility Category(s)

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.

Please Select the Priorities this Proposal's Outcomes will Achieve

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

- X 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.
- X 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.
- X Provide outcome measures.
- X 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.

FSUPC Engineering, Science, Technology and Advanced Workforce Center

We propose to transform and expand advanced workforce-focused opportunities for students in the area between Tallahassee and Pensacola. The proposed Center will provide access to advanced technical training and higher education options (bachelor, masters and industry certifications) through an updated engineering, science, technology and diverse curricula. These new offerings will meet both current and future needs for high paying, technical jobs in a competitive market in the area. After Hurricane Michael, the addition of advanced training, education, technology and research capabilities has become even more critical as we work to provide opportunities to expand and diversify the economic landscape in the area. A skilled workforce is an employer's greatest challenge and investment. The Center will be charged with preparing a technical workforce that is highly capable at a range of skill levels, for current and future industries in the area. Working together with local school districts and the state colleges in the eight-county region, FSUPC has an opportunity to help significantly reduce the poverty rate in northwest Florida and to meet both the workforce and research needs of the growing business sector in the area. FSU is asking for \$14,700,000 in funding over five years and will provide the \$10,000,000 match from a variety of sources, including potential private contributions.

Expansion of Program Offerings at FSUPC Providing Degrees and Certificates Leading to Jobs

FSUPC will expand programming to meet the needs of the Center and associated needs by:

- (i) Expand the offerings of the Systems Engineering degree (master's level); growing the number of engineering students receiving master's and bachelor degrees; increasing cybersecurity offerings to engineering students; and provide industry certifications for students in engineering programs at FSUPC.
- (ii) Developing cybersecurity degrees, including industry certifications, to be offered at FSUPC.
- (iii) Creating an interdisciplinary degree that explores the intersection of technology, cybersecurity, entrepreneurship and other disciplines in the FSUPC College of Applied Studies. This is a degree will be that will lead to direct placement in the workforce while providing appropriate industry certifications.
- (iv) Initiating a program in public health to allow students a path to work in advanced area of sciences and health care.
- (v) Creating an affiliated program in financial planning that supports workforce empowerment.
- (vi) Developing a coding academy and other programs to serve middle, high school and college students, and adult learners in the area.

Research and Training Facilities Meeting Regional Needs

As part of the Center, FSUPC will establish interdisciplinary research and innovation facilities that provide education and develop innovative technology solutions that are driven by the regional workforce and technology needs. This effort would be, in conjunction with the other colleges at FSU, and the FAMU-FSU Colleges of Engineering (COE).

Center for Resilient Infrastructure and Emergency Response: A state-of-the-art research center of excellence facility will be developed in conjunction with the College of Engineering to help to ensure the eight Triumph counties are prepared for future hurricanes and weather events that may impact the area. The work will include (i) modeling, simulation and prediction; (ii) infrastructure planning and investment; (iii) emergency response planning; and (iv) high-end risk modeling using AI machine learning. The center will model and predict the impact of storm surge and wind on buildings and electric, telecommunications, and other utility grids to identify bottleneck and weak points with recommendations for investments to mitigate these risks.

It will collaborate with local, state and federal agencies. The Center will develop data-driven risk maps to be used by insurance companies for planning, mitigating and strengthening weak points, and assessing and monetizing risk. Through the collection of historical and real-time data from NOAA and local and national weather officials, it will improve emergency response by utilizing 'real time risk maps' and work with officials to provide information that will improve emergency response. Through the work of this Center, and collaboration with national insurance companies, state and local governments and emergency response agencies, the eight-county region will be better-prepared for significant weather events.

Big Data Enabled Science and Engineering Research Facilities: As the area continues to grow, it will be critical for local universities working with business and industry to analyze very large data sets for making objective, data driven decisions in many fields. These include weather simulation, prediction and tracking; emergency response and management; medical diagnosis and delivery of health services; logistics and traffic management; financial market tracking; defense and security threat assessments, to name a few. To address the most critical aspects in the realm of (Big) Data-Enabled Science and Engineering, faculty and students will focus on synthesis, analysis and fusion of extremely large data sets through the use of advanced algorithms and computational methods. We will conduct research to develop tools in data/computational engineering and sciences; train students and professionals in their use, including providing certifications; and work with the industry, community and other stakeholders to help address these needs.

FSUPC Center of Excellence Nodes: FSUPC, combined with the Office of Sponsored Research at FSU and the COE, will develop nodes of three centers of excellence where faculty and students will work directly with local industry and government, especially in the aerospace industry:

- (i) ***The Florida Center for Advanced Aero-Propulsion (FCAAP)*** works to meet the needs of a rapidly evolving and highly competitive aerospace industry. FCAPP objectives are to help train and sustain the much needed, highly skilled workforce; to design and develop new technologies and products required to help sustain the Aerospace industry; and to transition the technology to applications in a timely and efficient manner. Researchers in this node will play a critical role in the expansion of the aerospace manufacturing facilities in the area;
- (ii) ***The High Performance Materials Institute (HPMI)*** is involved in four primary technology areas: High- Performance Composite and Nanomaterials, Structural Health Monitoring, Multifunctional Nanomaterials Advanced Manufacturing and Process Modeling. The FSUPC Node will focus on advanced materials and multi-scale and additive manufacturing and will complement and not duplicate the AMI2 project proposed at Gulf Coast State College for which FSUPC is a partner; and
- (iii) ***The Center for Intelligent Systems, Control, and Robotics (CISCOR)*** uses state-of-the-art technology to develop practical solutions to problems in systems, control and robotics for applications in industry and government. Researchers at the FSUPC Node will research problems of interest in robotics and mechatronics. Researchers at the FSUPC Node are expected to work with the Naval Surface Warfare Center on (i) issues relating to autonomous vehicles and collective decision and control; (ii) surveillance and monitoring using single and swarm of Unmanned Aerial Systems, primarily in conjunction with the Department of Defense; (iii) research of search and rescue robots (also in conjunction with the Department of Defense); and (iv) research related to additive manufacturing using robotics.