

2016 THROUGH 2019



**MISSISSIPPI DEFENSE
INITIATIVE SUMMARY REPORT**

OUR MISSION IS TO PROMOTE INNOVATION, DIVERSIFICATION, AND COOPERATION IN THE MISSISSIPPI DEFENSE COMMUNITY.

OVERVIEW

The Mississippi Defense Initiative (MDI) generates impacts in areas of building awareness of and support for the defense industrial base in Mississippi; strengthening the supply chain opportunities for defense suppliers; enhancing educational opportunities for talent interested in defense-sector employment; and promoting innovation of new dual-use technologies for both civilian and military use. MDI is expanding the state's defense business ecosystem. This report is a summary of results and accomplishments of MDI through 2019, as it provides leadership in implementing the 2019-23 Mississippi Defense Initiative Strategic Plan (herein known as the State Plan).

MDI has become an expansive group of partnering organizations led by The University of Southern Mississippi's (USM) Trent Lott National Center. The results have better positioned the state of Mississippi to support defense, increase the state's competitiveness, and enable stakeholders and partners to work in a more coordinated and collaborative way using a shared strategy.

Research and development activities support technology acceleration and innovation. Mississippi's research universities and two federal defense labs—U.S. Army Engineer Research and Development Center (ERDC) and U.S. Naval Research Laboratory (NRL) Stennis—are identifying new partnerships for innovation and commercialization.

A defense focus has been incorporated into the state's existing business assistance networks. Academic curriculums, including USM's Master of Science in Economic Development program and a unique U.S. Navy Unmanned Certification program, are now available to civilian and military students.

Mississippi's economy has a large defense presence, contributing almost five percent to the state's GDP due to the presence of large manufacturing employers like Ingalls Shipbuilding. Its defense industry, coupled with robust physical infrastructure assets, serve as the foundational underpinnings for MDI's collaborative partnerships.

BACKGROUND

The University of Southern Mississippi received two consecutive grants from the U.S. Department of Defense Office of Economic Adjustment (DoD OEA). During the Phase I grant, USM accomplished efforts to incorporate defense diversification assistance into the business development ecosystem; created a defense industry network in Mississippi; created new avenues for defense technologies moving into commercial applications; and incorporated defense diversification in academic curriculum. These efforts centered around three broad economic sectors: National Security, Aerospace, and the Blue Economy (a wide range of economic activity based on oceans, seas, harbors, ports, and coastal zones).

USM initially created an inventory of defense and military assets and then began offering technical assistance to communities and companies by helping create diversification strategies and identify new market opportunities. Early stages of grant implementation identified that Mississippi lacked a cohesive network of partners, as existed in other states.

The Phase II grant focused on building the defense business ecosystem and defense industry networks into a statewide network called the Mississippi Defense Initiative, developing the statewide strategic plan, incorporating diversification into academic curriculum, and building cybersecurity assessment services.



RESILIENCY OUTCOMES

INCREASING AWARENESS OF THE DEFENSE INDUSTRIAL BASE

MDI has focused on community and company resilience through a number of services. Initially, the team determined that no central coordinating body existed to bring stakeholders together. So, MDI built a statewide repository of resource tools and information describing the substantial presence of defense in Mississippi. This repository was made public through the development of a website: msdefense.net. MDI promotes awareness of the importance of defense contractors and the defense economy in Mississippi. The website includes supply chain and asset mapping, defense contractor lists, and mission support. In addition to the website, MDI created two social media accounts: Facebook and LinkedIn. MDI continues to make business-to-business connections to encourage companies to diversify into new market opportunities.

MDI worked at the highest levels of state government in creating a Defense Task Force to take a holistic look at Mississippi's ability to compete in and provide support for the defense economy. The Mississippi Defense Initiative Task Force was created in May 2018 to grow the defense industry's presence in Mississippi and to ensure Mississippi is fulfilling its role in leveraging military assets to alignment with the National Defense Strategy. The Task Force of over 70 executive-level leaders developed the 2019-23 Mississippi Defense Initiative Strategic Plan to inform the state's decision makers and leaders how to support and grow the defense industry within Mississippi. Members of the Task Force included small and large businesses, research labs, universities, military installation commanders, the Adjutant General of Mississippi, and non-profit entities. These combined efforts are focused on sustaining the long-term resilience of defense-dependent communities and defense companies.

ACCOMPLISHMENT // Formation of the Mississippi Defense Initiative Task Force and development of the State Plan: nine strategic goals were established as key drivers to set priorities for the state. Collectively, the goals and objectives provide a holistic plan to strengthen Mississippi's competitiveness.

Implementation of the State Plan has been partially funded by the Mississippi Development Authority and has begun to support implementation activities, such as conducting analysis of spouse licensure opportunities and barriers; formalizing the relationship of MDI to Military Installation Commander's Council and the Mississippi Military Communities Council; and addressing workforce needs.



MDI is helping build the defense business ecosystem along the Gulf Coast to expand economic activity through businesses-to-businesses and business-to-government networking. New public-private partnerships are forming as a result of purposeful strategy planning and benchmarking of other best practices. The Marine Research Center, which opened in 2018 at the Port of Gulfport, is generating interest from private-sector contractors interested in partnering with USM, U.S. Navy, and National Oceanic and Atmospheric Administration (NOAA). For example, MDI partnered with USM's Gulf Coast operations and the City of Gulfport to hire Boston-based SeaAhead, LLC to create an operational plan whereby defense and other contractors could engage in research and development, prototyping, engineering, and testing new innovations. SeaAhead facilitated discussions and advanced decisions through a stakeholder engagement process to create the operational plan among USM, Port of Gulfport, U.S. Navy, and NOAA. The interconnectedness of this partnership is helping fulfill the intent of the federal 2018 CENOTE Act, championed by U.S. Congressman Roger Wicker, focused on strengthening unmanned maritime systems (UMS) ocean technology testing and development. In 2019, two significant announcements occurred: construction of the second research-focused building, Roger F. Wicker Center for Ocean Enterprise, scheduled for completion in 2023; and construction of a new \$50 million research vessel to be home ported in Gulfport.

MDI also partnered with Naval Air Systems Command (NAVAIR) International Programs Logistics, the Defense Logistics Agency (DLA), and the Strategic Port of Gulfport to increase efficiency and lower costs for storing, staging, handling, and shipping assets through foreign military sales. MDI hosted meetings, provided research, coordinated tours, and marketed the opportunities for moving more defense products through the Gulf Coast. Numerous foreign defense sales are now going through Mississippi.

ACCOMPLISHMENT // Since 2016, MDI has co-hosted five (5) events with NAVAIR to showcase Mississippi's infrastructure assets. At the NAVAIR and the MDI Facility Innovation Workshop and Industry Day in September 2019, 81 attendees representing small, medium and large defense contractors, economic development and military personnel learned about upcoming NAVAIR international program requirements and defense companies' needs for bidding on government contracts. Keynote speakers, such as Senior Executive Officer, Ken Watson, raised awareness of DoD's needs. Results from the events include increased business activity and new training missions now locating to Mississippi.



COMMERCIAL DIVERSIFICATION OF DEFENSE COMPANIES TO SUSTAIN THE INDUSTRIAL BASE

MDI focuses on services and technical assistance designed to sustain businesses and retain workers, as a means of strengthening the nation's defense industrial base. A 2016 asset inventory audit that included defense companies discovered 3,140 Mississippi contractors were cited on USAspending.com as having received direct defense contracts dating back to 2000. These were classified as prime contract awardees but did not distinguish service-sector companies from manufacturing or research-based firms. The initial list of 3,140 companies was filtered to 220 companies producing manufactured goods, dual-use (military and civilian) technologies or services, or providing technical support services (such as research and development services).

After investigating the status and other pertinent information about the companies, the list was filtered to a starting point of 98 targeted companies. MDI has reached out to each one, inviting them to engage in the network. Since then, MDI has doubled the number of companies in its network through business-to-business connections.

EXAMPLES OF COMPANY RELATIONSHIPS BUILT THROUGH MDI



Seven (7) companies were invited to participate in a Naval Air Systems Command pilot program. This program is an effort to reduce costs by making more efficient use of defense assets, including a Defense Logistics Agency warehouse and the Port of Gulfport, which received designation as a strategic military port in 2014. The pilot program targets warehousing and transportation services for defense contractors.



A defense manufacturing company was introduced with two (2) MDI companies specifically for the purpose of helping solve a manufacturing-related issue.



A drone detection and mitigation company sought assistance to pilot its drone detection technology developed as part of an Air Force SBIR grant. MDI connected the company with Keesler Air Force Base, NASA Stennis Space Center, and Combat Readiness Training Center at Gulfport-Biloxi International Airport to participate in the pilot project.



A global commerce space company conducted a site selection search for potentially opening a manufacturing operation in Mississippi. MDI coordinated introductory meetings with NASA Stennis Space Center, Mississippi Development Authority, and Hancock County Port and Harbor Commission.



A technology-based company sought assistance in diversifying their patented defense technology into commercialization opportunities.



MDI partnered with Mississippi State University (MSU) CAVS-Extension and the MSU Center for Cyber Innovation, to develop a five-module course to assist defense contractors in assessing cyber risks required to satisfy the federal DFARS Cybersecurity Requirement. Five (5) companies participated in the pilot, and an estimated 60 companies have attended cybersecurity information-sharing events.



MDI and Mississippi Coast Aerospace Alliance connected a manufacturer of parachutes and safety systems to Airbus in Mobile.



MDI organized a visit with a defense technology company seeking assistance in improved materials and rapid prototyping for a new product design and researchers at The University of Southern Mississippi in order for the company to seek assistance in improved materials and to receive rapid prototyping assistance for a new product design.



MDI initiated discussions with Mississippi Band of Choctaw Indians regarding potential business opportunities associated with Native American 8(a) Contracting status.



Seven (7) companies have been introduced to Mississippi's largest defense contractor, Ingalls Shipbuilding, to receive information about becoming an Ingalls supplier.

MDI supported industry resilience by establishing a GAP Fund Pilot Program to further the commercial potential of early-stage dual-use technologies and innovations. Technologies and innovations were submitted to the USM Office of Technology Development through a competitive review process whereby awardees received innovation vouchers to further advance their ideas, products, or services through the stages of development. Services included rapid-prototyping, design modification, scale-up production, and other technical assistance. More than a dozen startup businesses scored well enough during the competition to receive services, many of which were available through USM's Mississippi Polymer Institute.

MDI created a pilot GAP Fund Initiative and sponsored two rounds of competition, which awarded innovation vouchers and provided mentorship and technical assistance to advance the development of dual-use technologies. Seven (7) proposals of the 12 were selected in Round 1, and eight (8) of 16 proposals were selected in Round 2.

EXAMPLES OF COMPANY RELATIONSHIPS BUILT THROUGH MDI



MDI partners with the Manufacturing Extension Partnership to refer defense contractors to existing business assistance services in the state. The Mississippi Polymer Institute, housed at USM, specializes in polymer and high-performance materials.



Center for Advanced Vehicular Systems (CAVS) is one important contributor to direct services. CAVS meets the needs of Mississippi's manufacturers by providing technical expertise in the areas of product and process improvement, education, and advanced engineering tools.

MDI is an active partner with the Marine Technology Society's Oceans in Action annual conference in Gulfport, Miss. The Society provides members of academia, government, and industry a forum to exchange information and ideas and to discuss the latest advancements and applications of marine technology. MDI showcased defense contractors and GAP Fund recipients during the conference to help with matchmaking.



MDI coordinated with Mississippi Development Authority's Procurement Technical Assistance Center (PTAC) and International Trade Bureau (ITB) to introduce businesses to federal innovation grant programs to strengthen the existing economic ecosystem. To encourage technology transfer, innovation, commercialization, and entrepreneurship, MDI provided workshops to connect business to federal programs, such as Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs.

MDI contracted with Martlet Strategies, LLC to create and host three (3) workshops, *Harvesting Intangible Assets*, as a strategy for innovation and growth within companies.

MDI routinely collaborates with Camp Shelby, National Center for Spectator Sports Safety and Security (NCS⁴), and Department of Homeland Security (DHS) for the purposes of training exercises testing new dual-use technologies. The partnership creates opportunities between Mississippi aerospace/UAV/sensor companies to expand beyond defense into national security work. MDI assists Camp Shelby in marketing available land and facilities to government entities and private businesses associated with the DHS UAV program.

NCS⁴



MDI has produced technical reports focused on commercial diversification. For example, *Defense Technologies for the Safety and Security of Commercial*

Sports and Entertainment Facilities detailed that safety and security for commercial sports and entertainment facilities is a large and growing global industry. Technologies developed to meet the needs of defense often can be directly applied to needs of sporting event security. NCS⁴ used the report to receive a DoD contract to identify gaps in security, develop innovative security and safety technologies, and commercialize the technologies for use at venues across the U.S.

MDI researchers have presented their research and published numerous reports to better understand the defense economy.
Some of these reports include the following:



Office of Economic Assistance-supported research has been presented at the American Society of Public Administration (ASPA) and the National Academy of Sciences Transportation Research Board. Through dissemination of research and exposing students to the defense economy, OEA-sponsored research has helped develop the body of knowledge needed to build resilience and strong community connections for the DoD.

COST SAVINGS TO DOD THROUGH BUSINESS DIVERSIFICATION OR NEW PRODUCTS/CUSTOMERS

MDI has developed a partnership with the International Programs Office of the Naval Air Systems Command and the Defense Logistics Agency targeted at reducing transportation and logistics costs for defense. NAVAIR and DLA instituted a program beginning in Gulfport, Miss., where defense contractors can use DLA warehousing and shipping services. The team coordinated and scheduled a trip around the state with NAVAIR and DLA representatives to showcase the new DLA pilot program. According to NAVAIR estimates, the pilot program has saved defense contractors between 70% and 90% of the cost for logistical services. MDI also assisted NAVAIR and DLA in promoting the use of the Gulfport DLA warehouse for defense contractors involved in Foreign

Military Sales (FMS). The Gulfport DLA warehouse, located on the Seabee Base, is now referred to as the NAVAIR International Logistics Support Center (ILSC). This MDI partnership has resulted in realized and future potential cost savings for DoD. The savings to DoD came with the increased usage of DLA assets, leading to reduced logistical costs for DoD customer entities. Potential future savings are associated with having a centralized storage and shipping point located in a low-cost-of-business area (Gulf Coast region vs East or West Coast) with easy access to air, rail, road, and water for distribution. The MDI team also coordinated for Camp Shelby to act as a storage point for FMS-related equipment (arms and explosives) that could not be stored in the ILSC.



MDI also assisted NAVAIR in locating aircraft hangar facilities to perform aircraft modification, preservation, and storage in support of FMS case. NAVAIR, working with Boeing Aerospace Company, Tyonek Services Group, and the Hancock County Port and Harbor Commission, have begun modifying V-22s for international partners at Stennis International Airport in Hancock County, Miss.

Based on the success of this program, several other NAVAIR International Program Offices are looking to expand the Stennis International Airport operation. A recently signed FMS F/A-18 Super Hornet case will establish aircraft modification operations at Stennis the summer of 2020. Providing NAVAIR alternative aircraft maintenance options reduces the overburdened workload on U.S. Navy and Marine Corps facilities, while expanding employment opportunities and bringing much needed economic activity into the state.

Another example of efficiencies that lead to cost savings for defense is an effort that allows military installations to share information, common use facilities, and joint training resources. MDI facilitates local ad hoc discussions for installation commanders from Camp Shelby, Keesler Air Force Base, Combat Readiness Training Center-Gulfport, the 1108th Theater Aviation Sustainment Maintenance Group, Naval Construction Battalion Center-Gulfport, military entities at Stennis Space Center, and the U.S. Army Corps' Engineering Research and Development Center. MDI has invited local leaders and economic developers to be a part of these discussions to ensure community support and engage non-military assets.

ACCORDING TO NAVAIR ESTIMATES, THE DLA PILOT PROGRAM
SAVED THE DEFENSE CONTRACTORS BETWEEN
70% AND 90%
OF THE COST FOR LOGISTICAL SERVICES.

READINESS IMPACTS

INVESTMENTS IN TALENT

OEA grant funds supported the creation of a new course within the Master of Science in Economic Development program at The University of Southern Mississippi. The course, ED 711: Economic Development for Defense Communities, is a fully online 10-week summer course that can be taken for academic credit or for professional development. The course has been offered three times with more than 45 graduate-level students successfully completing the course. The new course uses data analytics (e.g., EMSI Labor Market Analytics Software) to understand the defense industry and how to diversify local economies. Course topics include military in the national economy; social, economic, and community impacts of the defense industry; defense contractors and the DoD procurement process; shifts in defense procurement; tools for measuring economic impact and supply chain mapping; and case studies of successful diversification.

Designing Solutions for Defense (DS4D), formerly titled Hacking for Defense, is another course taught at USM to provide students with hands-on experience working with the defense, homeland security, and intelligence community on real-world problems. The course has been offered three times, and student teams have worked on nine different current military problem sets.

Technical reports and data analysis, generated by MDI, targeted improved talent readiness impacts for the state. For example, researchers at the USM Trent Lott National Center for Excellence in Economic Development and Entrepreneurship prepared a report on unmanned maritime systems academic programs and unmanned aerial systems programs in Mississippi. The report identified existing academic programs offered to Mississippi students to determine opportunities. Gaps for community college transfer students were also explored.

USM partnered with the U.S. Navy to create the unique Unmanned Maritime Certification program available to both civilian and military students. It includes three courses: a semester-based civilian course and an intermediate and advanced course for the U.S. Navy.

MDI has funded graduate research assistants from the economic development master's program to conduct applied research and provide staff support. The experience these students gained on the OEA project will have lasting benefits for the defense communities in their professional careers.



The Center for Manufacturing Excellence at University of Mississippi (Ole Miss), through Mississippi Forge, is developing curriculum to enhance the versatility and flexibility of current and potential defense industry workers. Mississippi Forge is a holistic approach to addressing workforce needs specific to the defense contractor manufacturing sector in the state. Defense contractors will have the opportunity to identify gaps with employee education and training needs, which will drive the development of curriculum specifically designed to benefit the defense industry workforce and support the war fighter.

CYBERSECURITY PREPAREDNESS



USM, through CAVS-Extension and the Center for Cyber Innovation (CCI), developed a five-module course to help companies assess cyber risks and satisfy the DFARS Cybersecurity Requirement. The course complements the Department of Homeland Security's Cyber Security Evaluation Tool (CSET). During the development process, the MSU CAVS team piloted the tool with key information technology and cybersecurity leaders of five (5) companies in Mississippi: Vertex Aerospace, Raspet Flight Research Laboratory, Taylor Defense, Kopis Mobile, and Raytheon Aerospace. The pilot partners provided diverse perspectives on how NIST Controls Awareness Training (NCAT) could be improved. Positive feedback ranged from suggestions on content layout and flow, to granular details where additional background information was added to better explain controls.



**MEP • MANUFACTURING
EXTENSION PARTNERSHIP®**

MSU used the Mississippi Manufacturing Extension Partnership (MEP) network in the state to provide feedback during the process to build the tool. MSU CCI designed the NCAT to be used in conjunction with the Cybersecurity Evaluation Tool. CSET provides the capability to organize and perform a self-assessment. However, there was a need for those with non-cybersecurity backgrounds to understand some basic concepts before the tool could be used properly. NCAT was created to meet this need by providing basic background information to help users understand DFARS clause 252.204-7012. With this knowledge, users can make informed and cost-effective decisions, such as determining what tasks can be satisfied with internal staff and which will require external service providers to be DFARS 252.204-7012 compliant.

NCAT included five (5) learning modules plus links to key resources that provide a deeper understanding of DFARS clause 252.204-7012 and other NIST support documents to help with the compliance process.

MEP staff was trained to use NCAT to support manufacturing companies within the MEP network. Participating MEP centers are CAVS Extension, Itawamba Community College, Mississippi Polymer Institute, and community college representatives. Feedback from the MEP Center leaders was that cybersecurity assessments are cost-prohibitive, although the situation could change in the future, with stronger reinforcement of the regulations and additional DoD auditing resources. The current demand from DoD contractors and suppliers in Mississippi is not significant, and sufficient federal funding is not available to provide assistance at a reduced cost to potential clients. Referral to third-party companies that do provide this service would be the initial approach to client requests for cybersecurity assessment support, based on current funding. Cybersecurity awareness workshops are being held for companies in the MEP network in Mississippi at The University of Southern Mississippi (Central Mississippi), Itawamba Community College (Northeast Mississippi), and Stennis Space Center (Mississippi Gulf Coast). More than 40 companies have attended the workshops.

OTHER COMMUNITY BENEFITS

SUSTAINABILITY

MDI has created a statewide defense ecosystem that is now recognized as a positive economic force for the state largely due to the work accomplished under a Department of Defense-Office of Economic Assistance grant. The state defense strategic plan was designed to occur over five years and to provide continuity for state leadership. Additional financial support is being provided by the state in the amount of \$250,000 for implementation of the plan. A long-term sustainability plan for transitioning from federal grant funds to state-sponsored funding has been developed and presented by MDA and USM during the 2020 Mississippi Legislative Session.

LEVERAGING THE POWER
OF THE GULF COAST.

SECURING OUR NATION,
OUR BUSINESSES, AND
OUR CITIZENS.

HELPING MISSISSIPPI'S
ECONOMY TAKE FLIGHT.

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