



NEW ENGLAND REGIONAL DEFENSE INDUSTRY COLLABORATION

REVIEW OF PLANNING EFFORTS FROM OEA FUNDED REGIONAL EFFORTS

10 June 2019

This report is a review of existing planning efforts and accomplishments from Office of Economic Adjustment (OEA) funded regional efforts. This report has been produced as part of the wider New England Regional Defense Industry Collaboration initiative, funded by the OEA.

This report was prepared under contract with the State of Vermont, as fiscal agent for the New England Collaborative, with financial support from the Office of Economic Adjustment, Department of Defense. The content reflects the views of the New England Collaborative and does not necessarily reflect the views of the Office of Economic Adjustment, the U.S. Department of Defense, or the participating states.



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1.0 INTRODUCTION

The states of Vermont, Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island have been awarded a joint grant from the U.S. Department of Defense's Office of Economic Adjustment (OEA) to create The New England Regional Defense Industry Collaboration. The New England Regional Defense Industry Collaboration will co-ordinate the growth of defense-related businesses across the six-state New England region. The primary goals will be to aid small and midsize businesses in meeting new cybersecurity requirements for businesses participating in the defense industry supply chain, as well as to create a trusted supplier network that will make it easier for large defense contractors to locate smaller suppliers that are able to meet their production, certification and process requirements.

The six New England states' economic development leaders, as well as private and public leaders representing the New England Region have formed a steering committee to manage the New England Regional Defense Industry Collaboration.

In order for the six states to work together efficiently, it is necessary for a high degree of collaboration both within each state and between the six states. This is the first time that an OEA funded project has required such an extensive form of collaboration between a large number of states.

This report has been designed to address the notion of collaboration and identify a number of OEA funded case studies that have collaborated successfully. These case studies include four regional level projects and four multi-state projects. The intention is to explore the outcomes and accomplishments achieved by the projects, followed by the challenges faced by the projects with regard to collaboration.

For a project to be successful, there has to be identification of the sustainability of efforts since the OEA funds to that project concluded. Furthermore, it is important to address the difference that collaboration has made to the region, after the conclusion of the OEA funding. Finally, project managers of each of the projects, which have been cited as case studies, have been asked about the lessons that they have learnt during the process of collaboration prior to the conclusion of the OEA funding.

These are all issues that are beneficial to identify as the New England Regional Defense Industry Collaboration process commences.

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2.0 DEFINITION OF COLLABORATION

Within a general context, collaboration can be defined as any relationship between two or more people. It is a more formal relationship than co-operation, which can also imply agreement between individuals not to work with each other. Individuals in a collaborative structure may or may not have formal relationships but are defined merely by their working towards some common goal.¹

Collaborating is defined in relationship to three other strategies for working together: networking, coordinating, and cooperating that build upon each other along a developmental continuum. It is important to emphasize that each of the four strategies can be appropriate for particular circumstances depending on the degree to which the three most common barriers to working together -- time, trust, and turf -- can be overcome. These strategies are most effective when there is a common vision and purpose, meaningful power-sharing, mutual learning, and mutual accountability for results. The definitions of terms are offered to assist decision-making about appropriate working together relationships as well as in assessing organizational readiness to make internal changes that support external multi-organizational relationships.²

The three strategies along the continuum to collaboration are:

Networking: This is defined as exchanging information for mutual benefit. "Networking is the most informal of the inter-organizational linkages and often reflects an initial level of trust, limited time availability, and a reluctance to share turf."³

Coordinating: This is defined as exchanging information and altering activities for mutual benefit and to achieve a common purpose. "Coordinating requires more organizational involvement than networking and is a very crucial change strategy. Coordinated services are "user- friendly" and eliminate or reduce barriers for those seeking access to them. Compared to networking, coordinating involves more time, higher levels of trust yet little or no access to each other's turf."⁴

Cooperating: This is defined as exchanging information, altering activities, and sharing resources for mutual benefit and to achieve a common purpose. "Cooperating requires greater organizational commitments than networking or coordinating and, in some cases, may involve written (perhaps, even legal) agreements. Shared resources can encompass a variety of human, financial, and technical contributions, including knowledge, staffing, physical property, access to people, money, and others. Cooperating can require a substantial amount of time, high levels of trust, and significant access to each other's turf."

The difference between collaborating and cooperating in this definition is the willingness of organizations (or individuals) to enhance each other's capacity for mutual benefit and a common purpose. This definition also assumes that when organizations collaborate, they share risks, responsibilities, and rewards, each of which contributes to enhancing each other's capacity to achieve a common purpose. Collaborating is usually characterized by substantial time commitments, very high levels of trust, and extensive areas of common turf. A summary definition of organizational collaboration is a process in which organizations exchange information, alter activities, share resources, and enhance each other's capacity for mutual benefit and a common purpose by sharing risks, responsibilities, and rewards.⁵

Within the context of the New England Regional Defense Industry Collaboration project, understanding collaboration is essential. Networking, coordinating and cooperating are more natural and customary methods of working together. True collaboration is essential to this ambitious project and will require the enhancement of each state's capacity for mutual benefit and a common purpose by sharing risks, responsibilities, and rewards.



3.0 REGIONAL LEVEL CASE STUDIES

3.1 MIDDLE GEORGIA CHARRETTE AND REGIONAL PLANNING INITIATIVE, GEORGIA (2018)

3.1.1 BACKGROUND

The Georgia Department of Economic Development (GDEcD) Workforce Division and Center of Innovation for Aerospace obtained a grant award from the Department of Defense's Office of Economic Adjustment in order to study current Department of Defense contract work that is being conducted in Georgia. One of the projects that resulted from this grant was The Middle Georgia Charrette and Regional Planning initiative. This initiative included the 11 counties and 21 cities within Middle Georgia, over an area covering over 3,600 square miles with a population of 488,399 as of the 2010 Census. The Middle Georgia region contains the Macon and Warner Robins urbanized areas, which covers much of the central part of the region; however, the outlying areas are significantly more rural.

Among the crucial industries in the region is Robins Air Force Base (RAFB), located in Warner Robins, GA. It is the largest single-site industrial complex within the State of Georgia, and as of 2016, the base employs total personnel of 21,864, including 5,953 active duty military personnel or non-active duty military reserves. In total, Robins Air Force base has an annual impact of approximately \$2.75 billion on the State of Georgia. As this base is a large driver of economic activity in the region, this planning initiative was important to ensure that the continued success of the region would be robust to changes in defense spending. The initiative aimed to build on the existing defense industrial base and explore opportunities to diversify the regional economy away from a dependence on Department of Defense contracts. The intention of this initiative was to assess Middle Georgia's strengths, and determine opportunities to develop business in alternative markets.

3.1.2 APPROACH

This effort was coordinated, developed and executed with the support of multiple agencies in the Middle Georgia area. This included representatives from the Houston County Economic Development Authority, Macon Economic Development Commission (MEDC), Georgia Power, 21st Century Partnership, Robins Air Force Base (RAFB), Middle Georgia Regional Commission (MGRC) and other local stakeholders referred to as the Middle Georgia Economic Alliance (MGEA). This region wide collaboration was intentional in order to include all 11 counties into the planning process.

The Middle Georgia Charrette and Regional Planning initiative used a wide and deep stakeholder engagement process to engage with stakeholders, and to gather as much local input as possible. The methodology used throughout the initiative was collaborative by nature, resulting in the Regional Action Plan with strategic actions for the region to take. The Regional Action Plan was the culmination of several months of detailed stakeholder engagement. The methodology included Asset Mapping, Stakeholder surveys, Think-Tank Charrette and Reconvened Think-Tank workshop, Engagement Sessions and Network Mapping. The Regional Action Plan brought together the insights gained through these approaches to produce a locally driven objective roadmap for the future, that identifies five key initial strategic action steps.⁶



3.1.3 OUTCOMES AND ACCOMPLISHMENTS

The project aimed to produce outcomes at two main levels:

- **Strategic and tactical action plan:** The planning process was designed to produce agreed and defined strategic and tactical steps to activate asset opportunities in the region.
- **Ecosystem development:** The project was designed as a collaboration building and planning process. This included a focus on network and shared vision development, including innovation ecosystems; workforce and education systems; and leadership collaboration.

The planning process was successful in helping the stakeholders align around a preferred regional vision which was characterized by strong regional collaboration with a diversified economy. Key assets and actions were identified through the planning process that would help lay out the road map to the preferred regional future.⁷

In designing the regional Action Plan, consideration was given to the key initial steps required. In addition, consideration was also given to other initiatives and work being undertaken in the region. It was identified that there were four areas that need to be targeted for immediate action as part of the Regional Action Plan.

These target areas were:

- Build a strong, connected and informed public leadership network
- Leverage the region's natural, technological and intellectual assets
- Create a regional innovation eco-system
- Promote a business and industry desirable location

Since the project was completed in late 2018, one of the outcomes was the exceptional collaboration from the University system, which had never been experienced until the planning initiative. 'Future iQ was able to bring the right people to the table ...with decision-making power and generated interest and excitement around the potential of working together on ground breaking projects ultimately positioning this area as a Center of Excellence'⁸, reported Angie Gheesling Executive Director for the lead organization, Development Authority of Houston County, in the Collaboration.

She continued, "due to Future iQ's experience working with communities who have a large military presence, many doors were opened to allow for collaboration with our large economic installation. Frequent conversations with Base leadership have taken place since this project was initiated yielding a partnership with our University System and additional expertise in the field of technology and innovation".

3.1.4 CHALLENGES

The key challenge centered around garnering participation from such a large geographic area of 11 counties of whom have very diverse assets and needs. Due to the interest generated over the course of the planning effort, there was participation from all 11 counties.

The region did not designate an entity to shepherd the effort moving forward which may also affect continued success.

3.1.5 SUSTAINABILITY OF EFFORT

The Asset Mapping work and the reconvening of the Think Tank helped to identify key strategic actions. These actions were ones that could be implemented quickly and would continue the work that was started in the regional planning initiative. The five immediate were identified as:

- Convene Mayors and other leaders from the region – initially to focus on key infrastructure projects (Mega-site / RAFB needs)
- Form a cluster of Higher Education Institutions to drive innovation
- Establish a working group to catalyze innovation and commercialization across RAFB membrane
- Reconvene the asset mapping team to morph into ‘Innovation Eco-system’
- Build technology cluster around Mega-site concept

The critical next steps included:

- Middle Georgia Economic Alliance (MGEA) to be acknowledged as the lead entity to execute and coordinate the actions identified in this report.
- Define detailed scope and terms of reference for each of the working groups and action areas.
- Convene each group and begin work.

“The action plan that accompanied the regional planning process allowed for a road map to continued collaboration and success. The organizers who secured Future iQ had participated in many strategic planning sessions and realized that most of those plans go on to sit on a shelf and collect dust. It became very obvious to all attendees that Future iQ’s desire is to work with communities that will continue with the good work long after they are gone. Future iQ assembled a plan that will not go stale and continue to stay relevant for years to come”, reported Angie Gheesling.⁹



3.1.6 DIFFERENCE COLLABORATION HAS MADE TO THE REGION

The collaboration strengthened relationships and provided opportunities for regional partners to work across county lines. The process was seen as refreshing in that the negative attributes were not accentuated as in many traditional planning exercises. The process also allowed the regional partners and elected officials to take a collective look at the assets in the region which generated excitement regarding the opportunities available when county lines are ignored.

3.1.7 LESSONS LEARNED

- There is significant potential to see economic diversification from a major industrial defense facility; building the conduit and partnerships to foster such diversification is critical.
- Gathering key local actors helps to identify untapped local assets and build critical mass.
- It was key to designate a person /entity to carry the effort forward after Future iQ completed their work on the project.

3.1.8 FOR MORE INFORMATION ON THIS PROJECT

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3.2 CITY OF SAN DIEGO, CALIFORNIA (2016-2019)

3.2.1 BACKGROUND

San Diego has long served as a significant player in Pacific military operations, international trade, and technology transfer across a variety of industry clusters. The military accounts for 20 percent of the metro's GRP, with large Navy and Marine Corps operations in the region, and more than 5,600 defense contractors with 62,000 employees. A major defense presence means fluctuations and uncertainty in defense spending can create shockwaves to the economy. In response to this uncertainty, the city launched the Propel San Diego project. Propel San Diego is a grant initiative that was awarded to the City of San Diego by the U.S. Department of Defense's Office of Economic Adjustment (OEA) to increase the strength and resilience of defense firms operating in San Diego County. Through the collaboration of six key partner organizations, customized programs are being designed to assist businesses who sell products and services to the Department of Defense.

3.2.2 APPROACH

The San Diego region has a history of collaboration and engagement and there are many key stakeholders who have been engaged for decades in regional economic development, including as they changed employers. In the context of OEA funding, the San Diego region has an established history of addressing Defense Supply Chain resiliency in the wake of fluctuating DoD budgets are far back as the end of the Cold War and subsequent major cuts in DoD spending in the early/mid 1990s. The collaborations have continued in the ensuing years. In the context of the most recent OEA grants, two key stakeholders were advised by the OEA that the region should apply for funding. Those two stakeholders brought in other San Diego organization representatives, including the City of San Diego. These representatives became the Regional Leadership Group (RLG) and were made up of:

- City of San Diego
- San Diego Regional Economic Development Corporation
- South County Economic Development Council
- East County Economic Development Council
- San Diego Military Advisory Council
- San Diego Workforce Partnership

The approach included the development and implementation of the grants. This was followed by monthly meetings of the RLG, whether in person or by phone. These meetings helped with the ongoing engagement and understanding of the status of projects and challenges. The meetings also aided the understanding that there is was a need for ongoing collaboration and engagement in order to sustain these initiatives. This helped maintain such collaboration. Additionally, Propel San Diego partners conducted a variety of events, bus tours and forums to educate, inform and encourage business connections within the region and to address opportunities and challenges for businesses.



3.2.3 OUTCOMES AND ACCOMPLISHMENTS

Outcomes and Accomplishments included ¹⁰:

- Teaming Agreements: A 10 to 20-page agreement between sub-recipients and other team members identifying roles, responsibilities, and standards for grant implementation for each grant.
- Social Network Map – this map identified key regional partners and their core competencies.
- Communications Plan - Multi-page document identifying outreach strategies and use of various media to communicate grant activities and facilitate community engagement.
- Asset Map (Short Term) - A 2 to 5-page summary of existing resources and tools to assist companies and workers as encountered during the grant activities for short term interventions – “Business Incentives Matrix”
- Survey - Multi-page document with survey template and results from survey of local defense-related businesses.
- Cluster Analysis and Supplier Asset Map - Based on defense contract analysis and survey work; Multi-page document summarizing the direct (company) and indirect (supply chain) impact of defense spending fluctuations or downturn within the San Diego region and list of suppliers.
- Regional Asset Map - Report listing regional assets including information gathered through survey work and cluster analysis.
- Upgraded Connectory - A 1-page outreach document with Connectory URL outlining upgraded functionality.
- Connectory Training Materials - Document of training information on using the upgraded Connectory and schedule of seminars for companies and EDOs to learn how to utilize the Connectory.
- Strategic Plan (Long Term) - Report identifying long-term strategies for achieving economic resilience which are innovative and adaptable for both the community and the individual companies.
- Connectory Survey - Report summarizing survey responses after training seminars identifying potential improvements from user feedback.
- Workforce Report (Still in draft format) - Report on Workforce need, timing, target populations, existing trainings and curriculum, and needed trainings/curriculum for specific careers/trades (build on findings from OEA 2016 Grant to complete more comprehensive report)

The deliverables enabled¹¹:

- Ongoing communications to keep the community engaged and reach targeted audiences to utilize deliverables of the OEA grant.
- Enhanced attention and understanding of the role and functioning of defense sector businesses in the San Diego economy; and the development or implementation of projects designed to create a more resilient local economy, enabling environment, and supply chain for defense needs:
- Enhanced business diversity and competitiveness through a voucher for services program
- Standardize DBIDS approvals across all naval installations in San Diego, base access to piers via open turn styles, and the use of general forms of ID when entering naval installations vs. a specific DBIDS pass card.
- Facilitation of business collaboration with near sourcing for supply chains through the Connectory Collaboration Space/Collaboration Tool Set (Virtual).
- Better understanding of the workforce needs of defense businesses and development of tools for training and recruitment
- Development of learning labs for enhancing defense business cybersecurity compliance

3.2.4 CHALLENGES

The challenges experienced by this project include that roles and tasks were required to be completed concurrently by RLG members which sometimes diverted or diluted overall efforts. Furthermore, the RLG members were accountable to different constituencies. Another challenge has been when planned projects have already been addressed through other entities and the time and resources in brainstorming new projects to undertake.

3.2.5 SUSTAINABILITY OF EFFORT

The OEA grant helped Propel San Diego partners/RLG members focus more on defense sector businesses and not just the prominent bases in the region. Defense-related spending contributes \$25.2 billion to the regional economy. More than \$9 billion comes from defense contracts procured by private firms, making San Diego the second largest recipient of defense procurement dollars nationwide. Today, there are more than 5,600 defense contractors connected to the region's defense cluster. The overwhelming majority are small businesses in the manufacturing and professional, scientific, and technical service sectors which, together, account for 81 percent of all defense-specific contractor employment.

Each partner incorporated the investigation of sustainability strategies into their Propel San Diego Statements of Work and the effort is ongoing to identify and/or implement these strategies and engage funding partners and champions.

A potential challenge to find funding is that funders will want to see that programs have a track record of success. Initial OEA funding was utilized in part for a Business Incentives Matrix, Aerospace forum, Maritime forum, enhanced Connector, and a research and defense industry mapping project that was able to identify companies most vulnerable to defense spending fluctuations. The most recent grant was used to provide assistance through programs like the DIV program, DBIDS process enhancements, and next level enhancement of Connector. Now that there is a network of companies the lessons learned to date, can be used.

It has been noted that it would be beneficial to have one more year of OEA funding to build a reputation of success that would attract necessary more sustainable funding. Losing a funding source while the momentum is building makes it harder to attract sustainable funding. The private sector wishes to see the success metrics, and at this point of implementing programs, the project is starting to collect those.¹²

3.2.6 DIFFERENCE COLLABORATION HAS MADE TO THE REGION

While entities in San Diego had already partnered on multiple issues and projects, this funding enabled key economic development organizations (RLG) and other non-profits to collaborate and focus exclusively on the defense sector within the context of the OEA grant activities and to increase awareness of the role and function of defense sector businesses. This also allowed for the sharing of issues, information and resources by and between RLG members and stakeholders and defense businesses that were not otherwise widely known or shared. Collectively, this has allowed for a stronger voice on key defense industry issues than if one organization had tried to address the issue independently.



3.2.7 LESSONS LEARNED

Even though the defense sector is a huge part of the San Diego economy, there was not a universal appreciation or understanding of the needs of the businesses and how changes in defense spending might cause real economic turmoil. Having key stakeholders knowing and understanding this helps prioritize efforts around ongoing vigilance to the state of the defense sector and the need for programs to support business resilience and workforce readiness. This means being aware of defense strategy, priority, and spending changes and continuing with efforts to connect with defense sector businesses as businesses enter and leave the sector and as points of contact when those businesses change employers. Seeking new connections, maintaining points of contacts should be an ongoing process, and a high priority to economic development organizations.¹³

In addition,¹⁴ sustainability as programs are developed and implemented and doing so in conjunction with key stakeholders /potential funders would assist with attracting other funding. This other funding can support the match requirements of OEA grants (if utilized in accordance with federal regulations) and become sustaining once OEA funding concludes, if the funders see the success and are ready to continue with their support. Also, it will be critical, to maintain the momentum the Propel San Diego and the RLG engendered to ensure that the next economic challenge (or opportunity) does not diminish the awareness of the defense sector's contribution to the San Diego region's economy. The Propel SD RLG understands, perhaps as well as any region of the U.S, that regional efforts to support the defense supply chain's resiliency translate, first and foremost, to increased readiness, flexibility, and innovation in the U.S. Defense Industrial Base.

3.2.8 FOR MORE INFORMATION ON THIS PROJECT

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3.3 ALLEN COUNTY, OHIO (2015-2017)

3.3.1 BACKGROUND

The Joint Systems Manufacturing Center (JSMC), located in Allen County, Ohio is the only Government-Owned production facility in the US Department of Defense. The plant provides heavy combat vehicle lines to the military, including the Abrams combat tank. The JSMC is one of the top 10 industrial employers in Allen County employing 600 people (figure in 2017), and is of vital economic importance to the region. The Allen County Ohio Board of Commissioners received a planning grant from the Department of Defense's Office of Economic Adjustment in 2015 to support economic/ workforce planning, industry realignment and supply chain development. This was Phase One of the project, in response to the economic impacts from defense industry cuts.

In 2016, Allen County Ohio Board of Commissioners were awarded a second OEA grant. This second phase involved developing an executable Collaborative Growth plan, in order to strengthen the existing eco system related to the JSMC, the supply chain and other aspects of the Greater Lima Regional Economy.



3.3.2 APPROACH

In phase 1 of the project a 2-day Scenario planning process was held with 30 key stakeholders. Detailed network mapping of 350 stakeholders involved in the economic eco-system was carried out in order to map patterns of collaboration, information flows and partnerships. A Regional Asset Inventory was produced, identifying and aligning strategic community resources to identify the key needs facing the JSMC and the regions other major employers. Finally, a Regional Collaboration Action Plan was developed.

In Phase 2 of the project, the local Allen County Economic Development group (AEDG) led the community wide communications and partnership, staying focused on the positive and negative impacts on job creation and loss.¹⁵ The deliverables for the grant were organized into the following service areas:¹⁶

- Local and Regional Collaboration
 - **Create an Allen County Plan for Collaborative Growth.** This plan was created and includes; a background, vision, goals, regional challenges, key strategic pillars, a roadmap, action plans and implementation. The Roadmap (page 18 of the plan) being the most significant document whereas it encompasses the areas of Leadership, Workforce Development, Economic Development, Community Development and Communications.
 - **Develop a community action response team, to be administered by the Allen Economic Development Group or other entity to promote innovation and entrepreneurship activities in the region.** The community action response teams began with Focus Groups in the areas of; Business/Industry, Economic Development, Local Government, Education, Not-for-Profit, Young Professionals and Task Force Lima. Over time, a more specific and focused response team (Link Lima Workforce Executive Committee) was created under the Allen Economic Development Group made up of key regional businesses, economic and workforce development and chamber of commerce. In addition to the Executive Committee, over a hundred regional stakeholders meet every six months for an update on regional goals and objectives as defined in the Greater Lima Region Collaborative Growth Plan.
- Economic Development Structure and Alignment
 - **Conduct a comprehensive gap analysis of the region and Perform an analysis of local process and product innovation opportunities and needs.** Deliverables for these items were accomplished via Network Mapping and a Comprehensive Gap Analysis presented as a 3-Part Gap Analysis in the areas of Workforce, Supply Chain and Innovation.
 - **Coordinate the sharing of information with small-to-mid-size businesses regarding opportunities for growth.** A rapid response team was established within the Allen Economic Development Group (AEDG) through the Business, Retention & Expansion (BR&E) and supply chain development efforts. A BR & E Outreach Framework was created and is being used as a proposed method of all efforts associated with gathering, analyzing and sharing information among the small-to-medium businesses including the purchase of various data sources (EMSI) and a cloud-based management tool (Growth Zone)
 - **Create a coordinated regional economic development communications plan for internal and external media markets.** AEDG deployed and executed a coordinated local and regional economic development communications plan in accordance to the Communications Strategy Framework for the Greater Lima Region during the grant and identified the Lima/Allen County Chamber for the on-going efforts
- Workforce Development Structure and Alignment
 - **Promote the development of a pilot Adult Apprenticeship Program, possibly in conjunction with Ohio Means Jobs or the Ohio Commission on Jobs and Families.** AEDG developed a regional strategy for addressing an “employer driven” workforce development structure through enhancing the existing Link Lima framework of programs and partnering with the Ohio Means Jobs/Allen County addressing the barriers to employment and job readiness.
 - A Greater Lima Workforce & Skills Gap Modeling Tool (an interactive Excel Spreadsheet) was produced

- Industry Innovation and Entrepreneurship & The High Strain Rate Metal Forming Commercialization
 - **Establish a Regional Center for Innovation Excellence. This center, to be housed at the Ohio Energy and Advanced Manufacturing Center (OEAMC).** The Regional Center was established as part of the OEAMC where a strategy for implementation was created which included a detailed plan, schedule of activities, identification of a steering committee including private industry, higher education and local government, and the hiring of a technical director.
 - **Create a regional innovation and entrepreneurship website. This would leverage information from a variety of sources including economic development and education institutions to provide a comprehensive resource for innovation companies and entrepreneurs.** The OEAMC created a website providing resources and technical assistance in advanced manufacturing technologies (HSRMF) leveraging the expertise of many public-private partners. <https://oeamc.org/>
 - **Phase II High Strain Rate Metal Forming (HSRMF) Commercialization Center. This funding would build upon existing investments by the State of Ohio to create a world-class facility focused on developing innovations in this critical area of Manufacturing and Job Skill Retention.** The HSRMF Commercialization Center was formed as part of the Regional Center where technical literature and data was gathered from academia, commercial and other sources addressing the needs and barriers of local and regional metal forming companies. A Technical director identified, assembled, installed, tested and calibrated machinery and equipment to provide HSRMF part testing and analysis. A HSRMF roadmap and training materials, providing equipment, space and technical assistance to companies

3.3.3 OUTCOMES AND ACCOMPLISHMENTS

The following organizations significantly advanced awareness of the core driver issues facing the region and played vital roles in ensuring the resiliency of the regional economy. They collaborated together on both phases of the project.

- Allen Economic Development Group
- Automotive Supplier Task Force
- LINK Lima
- Ohio Energy and Advanced Manufacturing Center
- Task Force LIMA
- West Central Ohio Manufacturing Consortium

A community wide structure around the players that directly impacted job creation and retention was seen as one of the accomplishments from the project. A new organization was created, 'Greater Lima Region, Inc. from the recommendation that came from the final reports and the community stakeholder meetings and outreach.¹⁷

3.3.4 CHALLENGES

The need for strong regional collaborative partnerships and a capacity for change were identified throughout the planning process. The network mapping analysis identified strong lines of collaboration and connectedness in the community, but that a greater sense of connectivity could be fostered between business and community leaders. The asset inventory also suggested that a number of organizations, such as LINK Lima and the West Central Ohio Manufacturing Consortium have missions that could potentially overlap in the future, leading to confusion and duplication of services. The future success of regions such as Allen County will increasingly be decided by leaders who are proactive and collaborative. This includes the need to expand existing partnerships beyond the boundaries of Allen County and local neighboring communities.



Several of the community-based organizations viewed a negative impact regarding funding for their organizations. They did not see the greater good for the community, but saw new collaborative efforts as decreased funding for their organizations¹⁸.

Another challenging aspect was keeping the stakeholders focused on the results and implementing initiatives that would support the model and the findings.¹⁹

3.3.5 SUSTAINABILITY OF EFFORT

The region is in the second year of the new model and continues to push forward. The Greater Lima Region Inc. and partners are slowly gaining buy in and cooperation. The sustainability of the effort have largely been due to the formation of the Great Lima Region Inc. supported by a Board of Directors and a CEO working toward the mission and objectives following the Collaborative Growth Plan.²⁰

3.3.6 DIFFERENCE COLLABORATION HAS MADE TO THE REGION

The Greater Lima region continues to experience decreases in population and wishes to reverse this trend. However, in certain areas such as workforce development, they are seeing much better partnership and collaboration led by the business community. Another difference is that Allen County, the recipient of the OEA grant funds, is the center of a larger 8-county region identified as the Greater Lima Region. Through the collaboration of regional stakeholders, the region collectively has a larger footprint with combined population and workforce numbers and is particularly beneficial when competing with larger metropolitan areas such as Toledo, Columbus, Dayton and Indianapolis.

3.3.7 LESSONS LEARNED

The experiences from this project suggest that a regional collaboration or organization should 'never take anything for granted'.²¹ Just because the Chamber (or other community-based organizations) say that they are on board, often they are not and are working from a self-focused approach. It is necessary to make sure that there is a strong business community base that can drive change.

Another lesson learned is that the efforts associated with the collaboration project should be routinely referencing the documented body of work, implementation plans and results. A regular review of economic development indicators as measurables to determine if initiatives are working is beneficial. If initiatives or programs are not working according to the results, efforts to revisit them using the organize, analyze, plan and implement method will keep efforts relevant, current and focused.²²

3.3.8 FOR MORE INFORMATION ON THIS PROJECT

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3.4 FOX VALLEY, WISCONSIN (2014-2015)

3.4.1 BACKGROUND

The Fox River Valley is a 5-County region in Wisconsin. This region is a renowned quality-manufacturing center, with some 25% of the workforce directly engaged in the manufacturing sector. The region is home to Oshkosh Corporation, one of the largest suppliers of military and specialty civilian heavy trucks in the USA. The East Central Wisconsin Regional Planning Commission (ECWRPC) received grant funding from the Department of Defense's Office of Economic Adjustment to compete a Regional Collaboration Charrette process. The grant was to support economic planning, realignment and supply chain support, in response to local economic impacts as a result of defense industry cuts. Future iQ was contracted to lead the regional planning efforts, examining ways to improve collaboration, develop industry diversification strategies and craft future response plans.

3.4.2 APPROACH

A portion of the OEA grant was dedicated to building a better, more collaborative economic development ecosystem amongst entities along the I-41 corridor. The Regional Collaboration Charrette process was conducted between September 2014 and January 2015 and involved the participation of more than 250 regional stakeholders, including economic and workforce development professionals, educators, elected officials, and business leaders. Efforts were made to ensure that a robust set of perspectives and opinions were considered. Numerous opportunities to provide input into the process were offered, both in the form of a series of surveys, as well as a number of group sessions, including the Regional Collaboration Think Tank.

Detailed network mapping of stakeholders involved in the regional economic ecosystem was carried out in order to map patterns of collaboration and information flows. An Industry Diversification Strategy and final Regional Collaboration Action plan was produced.

3.4.3 OUTCOMES AND ACCOMPLISHMENTS

A formal I-41 Corridor Strategy was developed (<https://bit.ly/2LUgGKm>) as well as the creation of an ESRI Story map www.bit.ly/ecwrpc_assetmap which better illustrates "who is involved" in economic development via a resource portal.²³

3.4.4 CHALLENGES

The transition of key Economic Development staff and leadership throughout the region/corridor during and after the process was seen as a challenge, according to Eric Fowle of EWRPC²⁴. In addition, this region has many organizations, municipalities and groups that have historically competed for resources. Bringing the elected leaders to the table proved to be a key challenge.



3.4.5 SUSTAINABILITY OF EFFORT

The sustainability of the effort is to be determined. The grant ended in December 2018 and the 'waters are being tested' regarding how the stakeholders can keep things together. Now that the grant has ended, EWRPC are aware of some improved, more regular relationships that will continue. East Central Wisconsin is also trying to position itself, from a budget/capacity standpoint to continue to lead the Initiative 41 effort.

3.4.6 DIFFERENCE COLLABORATION HAS MADE TO THE REGION

It seems to be too early to tell, but ECRPC expect that it will ultimately draw more attention to the collective assets along the I-41 corridor in terms of both business and talent attraction as well as building resiliency in our manufacturing base.

3.4.7 LESSONS LEARNED

There is a need for dedicated resources/funding to keep regional collaboration happening. There is a need to continually educate new stakeholders, and also a need for stakeholders to carve out time to do "regional work".

3.4.8 FOR MORE INFORMATION ON THIS PROJECT

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4.0 MULTI-STATE CASE STUDIES

4.1 DEFENSE MANUFACTURING ASSISTANCE PROGRAM (MI, IN, OH)

4.1.1 BACKGROUND

The Defense Manufacturing Assistance Project (DMAP) was a collaborative effort of the states of Indiana, Ohio, and Michigan to support local communities and businesses reliant on defense spending. Operating from 2014 to 2018, the project was administered through a major university in each state, including Purdue University, Ohio State University, and University of Michigan, respectively. These partners are now collaborating on a new follow-on initiative known as the Defense Cybersecurity Assurance Program (DCAP).

The Midwest is renowned for its manufacturing base, especially in the automotive sector. The “Big 3” automakers based in Southeastern Michigan, Ford, GM, and Chrysler, support hundreds of thousands of jobs in the region. Many of these firms also serve defense markets. The DMAP region is also home to numerous defense manufacturers, including original equipment manufacturers (OEMs) such as Rolls Royce, Lockheed Martin, AM General, Ford, and General Dynamics.

Furthermore, there are a number of military installations including NSWC Crane Division and Grissom Joint Air Reserve Base in Indiana, the Detroit-based US Army Tank Automotive Research, Development, and Engineering Center (TARDEC), and Wright-Patterson Air Force Base in Ohio. These bases play a major role in regional economies, serving as major employers and sources of demand for manufacturers and service providers in their communities. For example, Crane is the third largest navy installation in the world, and with 3,000 Navy and nearly 6,800 workers, it is Indiana’s third largest employer.

OEA Industry Resilience funds were originally deployed to help local companies deal with the effects of the 2013 budget sequestration, which hit the region hard. DCAP programs worked with both communities and businesses affected by defense contract cutbacks. More recently, DCAP programs have targeted critical defense suppliers, helping them to retool and to develop new technologies and new business opportunities. Funds have been used to help businesses diversify their product lines, streamline processes, acquire certifications, and identify new market opportunities. The new DCAP project will assist small firms in improving their cybersecurity awareness and programs.

The DMAP partners all operate independently, but each state partner delivers a similar set of community and company-focused programs.²⁵

4.1.2 APPROACH

The DMAP process included ²⁶:

- Identification and contacting of potential DMAP company or community
- Admission of company or community into program based on eligibility criteria
- Signing of non-disclosure agreement or memorandum of understanding with company or community
- Creation of company or community advisory plan
- Collaboration with company or community to develop and potentially fund project(s)
- Management of projects completely, including developing requests for proposals, preparing bid lists, selecting project vendors, monitoring projects, and tracking impacts.



4.1.3 OUTCOMES AND ACCOMPLISHMENTS

This work by DMAP has produced impressive outcomes to date, as assisted companies have reported that they have been able to create or retain 14,000 jobs and generate new sales revenues exceeding \$183 million. As a group, the three state programs created assessments for 133 communities, and completed 34 major community projects. Examples include a workforce assessment for Martin County Indiana and an economic diversification strategy for Battle Creek Michigan.

DMAP also led numerous engagements with local defense suppliers. 305 companies were assessed, 212 company projects were completed, and 662 new jobs were created.

80 companies gained compliance to NIST SP 800-171

DMAP strengthened 30 congressional districts throughout the tri-state area

Additional outcomes have included:

Increasing awareness of the defense industrial base

The three Midwest states are all home to major manufacturing operations, including some of America's best-known corporations. Because these manufacturers are so prominent, the critical role of defense suppliers is sometimes hidden. The DMAP project helped raise the profile of this important segment of the Midwest's industrial base.

Examples of commercial diversification to help maintain a resilient defense industrial base

Companies receiving DMAP assistance are thriving in new markets. As a group, they report that they have introduced 139 new commercial products and technologies thanks to DMAP support.

Training and People Support

Collectively, the three DMAP project teams have engaged with 11,000 contacts over the course of these projects. These contacts have occurred via workshops, trainings, community events, and other activities.

Improved Capabilities and/or Production Adjustments

This area has been a primary focus for the DMAP program which has helped thirty-five companies to obtain new industry certifications. An additional 30 companies have received training and coaching to obtain new cybersecurity certifications.

4.1.4 CHALLENGES

A challenge noted was that support arrived as the companies were struggling and the companies not had not foreseen difficulties. It was a challenge to focus the SME's to work on their business and not in their business. Businesses are dynamic and so are the company's needs. Finally outreach and engagement was seen to be a challenge.²⁷

4.1.5 SUSTAINABILITY OF EFFORT

While operating DMAP, the University of Michigan and its partners recognized the resource challenges companies were facing in their quest toward becoming compliant with the newly required NIST 800-171 guidelines. The program identified that with the appropriate connection to funding and expert cyber security consultants the path toward compliance had a much higher success rate. These partners are now collaborating on a new follow-on initiative known as the Defense Cybersecurity Assurance Program (DCAP).



4.1.6 DIFFERENCE COLLABORATION HAS MADE TO THE REGION

DMAP's community engagements have provided critical support to community leaders, especially in rural areas across the region. These engagements have helped local communities develop strategies to address pressing defense industry related challenges, such as talent shortages and a need for more affordable housing options, that will also help these communities improve their overall competitiveness and abilities to attract new workers and new residents.

4.1.7 LESSONS LEARNED

- Trusted advisors were needed to take a deep dive into companies
- Do what is right for the company's performance
 - Find the high leverage points
 - Search out the best resources to address the company's issues
 - What will move the company farthest with least effort?
- Need Great Partners
 - Universities
 - Consultants²⁸

4.1.8 FOR MORE INFORMATION ON THIS PROJECT

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4.2 REGIONAL ADVANCED MANUFACTURING PARTNERSHIP (RAMP), ST LOUIS (MO, IL)

4.2.1 BACKGROUND

DoD is a major contributor to the St. Louis, MO-IL economy. The St. Louis region supports among the largest concentrations of aerospace employment in the U.S. – led by Boeing's Defense, Space & Security Division, which is headquartered in the region. The presence of Boeing has for many years provided a solid regional base for defense sector spending and aerospace manufacturing jobs. It also means that much of the success of St. Louis' aerospace manufacturing is closely linked to very specific defense contracts for final assembly of F/A-18, F-15, and C-17 aircraft, which are expected to reach the end of production in coming years. Recognizing this fact, the St. Louis Economic Development Partnership (SLEDP) turned to DoD's Office of Economic Adjustment (OEA) to develop an adjustment plan to diversify and strengthen the regional economy beyond DoD aerospace dependence.

St. Louis has received four grants and one supplement; thus the work has been comprehensive.

The regional aspects were:

- A. A. Grant 1 was an initial Defense Industry Adjustment grant, anticipated by an expected end to Boeing contracts for F-15 and F/A-18 Aircraft. This initial grant was awarded in September 2014.
- B. B. Supplement to Grant #1 was to produce a Defense Supply Chain map for the State of Missouri.
- C. C. Grant 2 was to perform planning to create an Innovation Center for Advanced Manufacturing for the St. Louis region. The idea was for something similar to a Manufacturing USA Institute.
- D. D. Grant 3 was to provide Cybersecurity Compliance programming for the State of Missouri.
- E. E. Grant 4 was for a second effort of Cybersecurity Compliance programming, which was focused on the St. Louis Region. This grant was awarded May 1, 2019.

The St. Louis Economic Development Partnership is the economic development organization for St. Louis City and for St. Louis County. They have a position of prominence in the region and started the regional collaboration by inviting other economic development organizations, other workforce development organizations, other City and County agencies, and others from academia to the table with a meeting to announce the grant, lay out the reason for the grant, to describe the grant scope of work, and to invite their participation. This would form the Regional Advanced Manufacturing Partnership (RAMP). From 40 individuals at the start of the process, RAMP now has a roster of about 300, and includes manufacturers, prime DoD contractors, subcontractors, suppliers, and people from entrepreneurship, innovation, and capital ecosystems.²⁹

4.2.2 APPROACH

With the OEA funds, St. Louis advanced defense supplier resiliency. The RAMP group has nearly 300 members and meets quarterly. RAMP acts as an oversight body for the OEA funded activities, being comprised of organizations with substantial interest in addressing the needs of impacted defense businesses and workers. These organizations consist of government officials (state, county, municipal) as well as other key public, private, academic and non-profit organizations. A critical element to the success of RAMP has been the active participation of Boeing, along with other major defense firms in the region.

Formal work products and presentations supported the RAMP network activities, including Action Planning, International Trade Development, Business Transition, Entrepreneurial Programming and Defense Supply Chain Analysis. Key recommendations from these work products related to the categories of Connecting, Enabling, Coaching and Programming for defense businesses, including:

- Partner with regional organizations to expand defense industry associations
- Connect with existing military assets on tech-based solutions
- Connect private sector and higher education researchers around enabling technologies
- Find non-defense markets for suppliers
- Educate state economic development organizations on best practices
- Develop a training program to assist companies with DoD contracting
- Provide contractors and potential contractors more clarity on DoD budgeting
- Use and maintain the supply chain map
- Provide international export assistance
- Create programs aimed at helping veterans get jobs
- Develop a university-housed innovation center

On this last recommendation, a master plan and financial sustainability study focused on the establishment of an Advanced Manufacturing Innovation Center (AMIC) for the St. Louis region. The AMIC is the next logical step for sustaining the OEA grant efforts and securing a solid future of manufacturing growth and vitality for the region.

“We have always tried to make our relationships personal, using face-to-face to invite participation, and relying on electronic means (email and social media) to maintain contact. We host quarterly meetings, which attract 40 to 70 people. A few of the attendees participate in nearly every meeting, but all of the roster participates at some point. We follow-up with the entire roster after meeting, providing any presentation materials. We also provide a monthly newsletter, and frequent email announcements and social media posts”³⁰

4.2.3 OUTCOMES AND ACCOMPLISHMENTS

Increasing awareness of the defense industrial base

Achieving sustainability for the effective efforts resulting from federal grant activities is important and creating long-term relationships and potential business opportunities helps stakeholders see reasons for continued participation and cooperation. When RAMP began, it was discovered that gaps existed in the awareness of the regional importance of military aerospace & advanced manufacturing. Community organizations did not yet appreciate their role to play in supporting advanced manufacturing, and there were disconnects between advanced manufacturers and the public workforce system. The OEA funds offered both an opportunity and reason for stakeholders to convene. Having prominent industry partners at the table further enhanced the credibility and interest in RAMP. The RAMP group has also grown through the purposeful effort being made by the SLEDP to connect the OEA defense project work with other regional efforts underway (e.g., Global Cities Initiative, Promise Zones, Regional Freightways, High-Speed Rail and Lambert Airport expansion initiatives). In this way, more resources and staff capacity were leveraged to maximize outcomes.

One of the main benefits to DoD from the OEA funding has been leaders and organizations working together on a more regional basis, including across the Missouri and Illinois state lines. Looking at the aerospace and defense (A&D) sector from the region-wide perspective was not taking place systematically prior to the grant. Each state had its own efforts going on and very little coordination existed. Now, a group meets regularly to talk about regional A&D efforts. SLEDP feels the RAMP group provides the foundation for an on-going and intentional formation of a regional advanced manufacturing “ecosystem” – with connections across manufacturers, workforce intermediaries, freight providers, economic development, and community organizations – sustaining the region’s leadership in advanced manufacturing and enhancing support for DoD efforts with an expansive set of community intermediaries ready and able to support the nation’s defense industrial base.

Commercial Diversification of Defense Companies to Sustain the Industrial Base

The Government and large Prime contractors have encountered difficulties in being assured that small and medium size subcontractors and suppliers have met the requirements of DFARS 252.204-7012 for Cybersecurity Compliance. A RAMP priority item, supported by the OEA grant, is help suppliers in the St. Louis region to comply with the DFARS requirements. The St. Louis DIA team is in the process of competitively selecting a professional contractor with the expertise to provide this service. Relying on the RAMP roster to raise awareness among area manufacturers, the goal is to engage at least 50 small and medium size defense contractors, subcontractors, and suppliers in Cybersecurity Compliance workshops. From those workshop participants, the goal is to complete at least 10 NIST Cybersecurity risk



assessments for those businesses which most match the desired selection criteria. These criteria include: first, most defense dependent (based on the percentage of revenue derived from defense spending), second, proximity to the St. Louis region, and third, the number of employees. When completed, this RAMP-driven effort will enhance the overall cybersecurity resilience of the region's defense industrial supply base, which will in turn ensure a deeper DoD supply chain, as well as support modernization and diversification efforts of the businesses themselves.

Additionally, the AIMC proposal provides the St. Louis region with the potential to sustain the important momentum generated from the OEA grant activities already accomplished in the region. The AIMC offers area companies continued opportunities for collaboration, innovation, and empowerment. This leads to improved readiness for DoD and the nation's defense industrial base through both increased capabilities and production potential. For companies, the ability to collaborate within a network of other individuals and entities with similar objectives can provide value that would not otherwise be available. Companies can maximize the results of their own R&D efforts through pooled resources, industry-wide research projects, and through the creation of new open-source data and information which leads to new innovations. Companies also benefit through licensed technologies, access to an upgraded talent pool, and general industry progress through professional and trade associations.³¹

"Fortunately, the F-15 and F/A 18 lines are still going strong. We have stimulated the defense and advanced manufacturing sectors and seem to be a clearinghouse for people looking for unique vendors, for connecting more companies to our MEP, and for introductions for any number of particular interests. Our sense is that we have created a more connected ecosystem that blends advanced manufacturing sectors and technologies with our already robust defense sector."³²



4.2.4 CHALLENGES

Like most OEA grantees, a key challenge was attracting and then retaining the active interest of collaboration partners. If you are asking my opinion (as compared to a thought), my opinion is that we have focused on staying close to the defense contractors and manufacturers. By keeping the contractors and manufacturers engaged, the agency, academic, and other constituents have remained engaged so as to maintain their own relationships with the manufacturers and defense contractors. Our success in keeping the contractors and manufacturers engaged has been because our team is made up of people from those sectors.³³

4.2.5 SUSTAINABILITY OF EFFORT

There is a continued intention and success in attracting new people to the RAMP roster. They continue to attract about 50 people to the quarterly RAMP meetings. They continue to receive requests from around the region to help connect people and interests. They continue to receive requests from other agencies and from academics to weigh in on other topics of regional conversations. This initiative has managed to sustain interest. The goal of the initiative is to begin a momentum that would continue beyond the St Louis Economic Development Partnership

4.2.6 DIFFERENCE COLLABORATION HAS MADE TO THE REGION

- 16 new businesses were started through the entrepreneurship program
- 9 defense dependent businesses launched efforts to transition their business away from defense dependence, some through modernizing their business, some through international trade opportunities, and some through both paths

- The State of Missouri and others are using the Missouri-wide Defense Supply Chain Analysis to attract new business to the State and to expand or improve existing business operations
- 22 defense dependent businesses have intentionally transitioned their business toward Cybersecurity Compliance
- Elected officials and community leaders from throughout the region are more aware of the region's defense dependence, and the intersection between that and St Louis' advanced manufacturing ecosystem.

4.2.7 LESSONS LEARNED

According to John Hixson, Vice President Defense Initiatives, St Louis Economic Development Partnership, "For the most part, we have learned what we already knew. Regionalism and parochialism within the region, are pervasive and powerful factors. Acknowledge it, and plan your work accordingly so as to not allow it to stymie your progress" ³⁴

He continued, "We learned that business people are busy, and that they struggle with the inherent conflict between a sense of urgency and the availability of resources. When their book of business is full, they have no sense of urgency to direct the resources toward future opportunities. When their book of business is reduced, their sense of urgency to do something different is great, but they have no resources to do anything about it. It is up to us to be sure they recognize the urgency while they have the resources."

"We learned that effective leadership is a rare thing. People, even people who appear to be successful and accomplished, are generally reluctant to take on risk, even if the potential for good is significant. Recruit the best champions you can find and do all you can to support them.

We learned that it is hard to hold people's interest for any length of time. Our attention spans are short and growing shorter. Be thoughtful about your promotion strategies, understand clearly your target audiences, and work for continuity of message.

We learned that there are a few centers of innovation around the globe which are doing amazing work and who deserve our encouragement and support. Some are doing amazing work in applied research with new materials, new processes, new applications of old products and old processes. Keep these examples in front of your audience so as to always show what is possible.

We learned that our national security welfare offers to each community an opportunity to contribute to the work of global stability and national prosperity.

Mostly, we learned that the financial and intellectual resources of the OEA and OEA grantees are important and that they can help guide communities toward more resilience in the face of uncertainty." ³⁵

4.2.8 FOR MORE INFORMATION ON THIS PROJECT

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4.3 AMP SoCal

4.3.1 BACKGROUND

The State of California applied for an OEA grant in response to aerospace and defense industry job losses in the Southern California region – Los Angeles, Ventura, San Diego, and Orange County in partnership with the USC Center for Economic Development (CED). From 2012 to 2015 there was a documented loss of 3,558 jobs in Southern California's aerospace and defense (A&D) industry as a result of reductions in the procurement of Department of Defense (DOD) contracts which does not include any job losses in the supply chain.

At the University of Southern California (USC), the CED was the lead co-applicant for the Advanced Manufacturing Partnership for Southern California (AMP SoCal), a federally designated Manufacturing community focused on the aerospace and defense industry. Based on the plan developed for the U.S. Department of Commerce, they proposed a series of efforts aimed at diversifying the strengthening the manufacturing supply chain for DoD. This plan has evolved to include six projects:

1. AMP SoCal Red Carpet – outreach and connecting manufacturers to services
2. SMM Growth Acceleration – assistance with growth plans for manufacturers
3. Executive Level Additive Manufacturing/3D Printing Certificate – 8-hour online training for owners and managers to aid in the additive manufacturing investment decision
4. Managed Career Pipeline – three workforce projects
5. External Evaluation – program evaluation of each project
6. Defense Firm Resiliency Assistance – technical assistance or training for manufacturers on marketing, access to capital, succession planning, and cybersecurity³⁶

In summary³⁷, AMP SoCal is a collaboration of government, academia and industry united in the common goal of strengthening the industrial ecosystem for aerospace and defense (A&D) manufacturers throughout the 10-county Southern California region – an A&D industry cluster and a federally designated manufacturing community since 2014. The USC Center for Economic Development (CED), an applied research center of the USC Sol Price School of Public Policy, leads the AMP SoCal effort in partnership with the City of Los Angeles and more than 135 companies and organizations from both public and private sectors.

The AMP SoCal network leverages the combined knowledge, innovation and political support of its members to accomplish its goal of supporting the A&D industry. AMP SoCal initiatives address needs in workforce and training, advanced technology adoption, research and development and business assistance.

4.3.2 APPROACH

The University of Southern California CED had 7-8 committed partners at the start of the initiative. This included a local EDC, MEP, another university, a local non-profit A & D and some community colleges.³⁸

CED and AMP SoCal partners regularly attend local trade shows and conferences directed at reaching and benefitting the region's manufacturing base. Staff and volunteers engage with attendees by informing them about AMP SoCal and assessing whether or not they are part of the defense supply chain. AMP SoCal has also assisted some of the conference organizers by facilitating industry-focused panel discussions. The repeated and growing profile of AMP SoCal at these events has helped raise awareness of the collaborative and its related support.



4.3.3 OUTCOMES AND ACCOMPLISHMENTS

AMP SoCal³⁹ has been involved with numerous initiatives that have helped bring more than \$135M in federal funding to Southern California's efforts in improving infrastructure, advancing manufacturing processes, increasing technology adoption and building a trained workforce through technical education. The partnership has supported 23 companies with successful applications for the California Competes Tax Credit program. Collectively the companies committed to invest more than \$1.35B in growing their presence in Southern California and will receive almost \$32M in tax credits.

AMP SoCal has more than 35 educational institutions within its partnership. They reported that more than 2,435 students were trained in A&D skills and 350+ were placed as workers in local manufacturing businesses.

4.3.4 CHALLENGES

The key challenge experienced during this initiative was to maintain a high level of participation and activities in order to engage the partners.⁴⁰

4.3.5 SUSTAINABILITY OF EFFORT

It was seen that a funded organizer is necessary for a collaborative project, because the participants are more willing as long as someone is leading and creating a goal to be involved to accomplish. The project also needs a goal, something that needs doing that which aligns with the interests of the participants. Ideally, it is necessary to embed what is generated into the participating organizations. For example, if one creates a presence at the local annual industry event to let companies know about one's efforts on their behalf and to engage them or learn from them, it is necessary to keep that going past the conclusion of the grant if a healthy relationship with the industry is to be maintained.

Activities and efforts should be weighed against the size of the issue and whether the activities and efforts need to be a long-term effort or not. If the MEP doesn't get many companies annually from the target industry despite an obvious need, one may want to encourage them to take on the role of maintaining a presence to ensure they are known by the industry.⁴¹

4.3.6 DIFFERENCE COLLABORATION HAS MADE TO THE REGION

There has been increased awareness about the A&D industry to WIBs, MEP and some cities within Southern California. Companies have achieved their metrics. AMP SoCal has developed programs that will have a lasting benefit on the region such as the Aero-Flex Pre-Apprenticeship Program and the Uniquely Abled Academy.

4.3.7 LESSONS LEARNED

4.3.8 FOR MORE INFORMATION ON THIS PROJECT

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4.4 ILLINOIS DIA PROGRAM

4.4.1 BACKGROUND

Illinois is not traditionally regarded as a major center for defense contracting activity, but the state is home to sizable levels of defense spending. In FY 2015, Department of Defense spending in Illinois totaled \$7.0 billion in contracts, an increase from \$5.6 billion the year before. Overall, the state ranks 19th nationally for total defense spending. Illinois is home to three active military installations at Rock Island Arsenal, Scott Air Force Base, and Naval Station Great Lakes, and has National Guard installations in other communities including Peoria, Springfield and North Riverside.

Despite recent declines, manufacturing continues to be an essential pillar of the state's overall economy, which is among the most highly diversified in the nation. While Illinois is home to major manufacturers like John Deere and Caterpillar, a large proportion of the state's manufacturing output can be attributed to small- and medium-sized firms, many of whom are critical to the state's defense supply chain.

In late 2015, the University of Illinois System was awarded a grant from the U.S. Department of Defense Office of Economic Adjustment. These funds were used to create the Illinois Defense Industry Adjustment ("DIA") Program, which supports the state's defense and manufacturing industries through delivering resources and providing new insights that help companies and communities grow, diversify, and become more resilient.

The Illinois DIA Program seeks to answer two fundamental questions:

1. How do decisions at the Department of Defense impact the state's economy?
2. What investments and activities are needed to sustain impacted companies and communities?

4.4.2 APPROACH

Working with a broad coalition of world-class researchers, economic development groups, the business community, and the public, the Illinois DIA Program team has made significant strides in the larger effort to build a more complete picture of the state's defense ecosystem.

Five communities in Illinois were targeted for "defense industry adjustment"—the Quad Cities, Rockford, Northeast Illinois (Chicago), Peoria, and Southwestern Illinois (Metro East). Their selection was based on earlier research conducted by the Voorhees Center for Neighborhood and Community Improvement at the University of Illinois at Chicago (UIC), which leads external engagement and data collection and analysis for the Illinois DIA Program. The project team made a strategic decision to focus on advanced manufacturing, in addition to defense, given the state's robust manufacturing industry and the close ties between the two sectors.

4.4.3 OUTCOMES AND ACCOMPLISHMENTS

The Quad Cities Manufacturing Innovation Hub had been set up 2 years prior to the OEA grant. The Quad Cities Manufacturing Innovation Hub was set up to help area manufacturers and others in the defense supply chain connect and collaborate as part of an ecosystem focused on growth, business diversification, and remaining competitive as market forces change. The OEA grant helped the Quad Cities Manufacturing Innovation Hub expand its services to become a fully operational division. Prior to the funding from OEA, the Quad Cities Manufacturing Innovation Hub operated as a smaller platform. Quad Cities Chamber of Commerce were asked to be the template builder for this successful model for the entire Illinois Defense Network so that there was a strong alliance developed for all 5 Defense



Regions in the State of Illinois and the 5 border counties for the State of Iowa.

A 2 day Stakeholder Workshop was held to ascertain job retention, job creation, dollar impacts and savings/efficiencies. The intention was to measure and then analyze the important targets and outcomes. Boards and taskforces have since been formed. Extensive network mapping and supply chain mapping was also conducted.

The Manufacturing Innovation Hub⁴² provides:

- Operational assessments
- Triage and project management to oversight solutions
- Free registry in regional supplier catalogue
- Seminars and B2B events
- Access to the Critical Talent Network
- Connections to the Quad City Manufacturing Lab (QCML) and national research
- Personalized support

It was noted that businesses had started to 'lose their edge' and business managers were recruited by the hub to help individual businesses.⁴³

4.4.4 CHALLENGES

The challenges faced in this project was building awareness within the manufacturing sector. It was key to focus on how the businesses marketed themselves and whether they were aware of their place in the eco system. Manufacturing companies were less inclined to connect to each other talk or talk to each other. The challenge was to enable people to work with each other as part of the eco system and work in a manner of 'co-competition' so that they would collaborate, but still be competitive.

4.4.5 SUSTAINABILITY OF EFFORT

A number of playbooks have been produced to assist manufacturing companies and to make the region less reliance on DoD funding after 2019. There are playbooks in the following areas:

- Additive Manufacturing
- AR/VR
- CAD/CAM
- Cybersecurity
- Data Analytics
- Digital B2B Platforms
- ERP Platforms
- Robotics and Automation

The playbooks are a teaching tool – developed with the help of industry leaders with expertise in emerging technologies. They aim to assist business owners understand emerging technologies, provide an overview of the current regional landscape, share best practices, identify opportunities for use, build the business case for, and outline steps toward implementation.



4.4.6 DIFFERENCE COLLABORATION HAS MADE TO THE REGION

Vicky Miller, from Quad Cities Chamber of Commerce, has noted that the bi state region's manufacturing sector is stronger when collaborating rather than the manufacturing companies working on their own. She also noted that there was expertise in the quad cities that was not known prior to the project.⁴⁴ The project enabled collaboration across states and defense regions.

4.4.7 LESSONS LEARNED

This project highlighted that It is necessary to focus on people who wish to engage, rather than spend time and resources on people who do not wish to collaborate.⁴⁵ It is important to expand focus beyond cybersecurity.

Innovation, Additive Manufacturing, AR/VR, CAD and Automation/Robotics are key areas to focus upon in order to ensure that a multi state region remains competitive and strong in the future and thus, less reliant on DoD funding.

4.4.8 FOR MORE INFORMATION ON THIS PROJECT

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5.0 CONCLUSION

For an OEA funded project to be successful, there has to be a clearly identified sustainability of efforts and a noted difference that the project has made to the region when the OEA funds to that project conclude. The key challenge for any OEA funded project is for the players in that project to collaborate successfully. This could be with regards to a project within a state or across multi-states. The next challenge is to make such a difference from the OEA funded grant, that the project/process becomes self-sustaining or may be awarded another round of funding. Ideally, the project will become self-sustaining.

Collaboration is a challenge. It is a challenge to achieve collaboration within an organization, but it is a much greater challenge to achieve collaboration across organizations across a region or across states.

The key challenges from the case studies exemplified in this report, show that the key challenges to a successful collaboration and a successful project are:

- The project needs a designated entity to lead during, throughout and, ideally, post OEA funding of the project. This requires a high level of commitment from the entity, but also continued support, trust and commitment from the collaborating parties
- The leading entity and all parties need to acknowledge that there are tasks to be completed, meetings to attend and individual output regarding effort and time, outside of their daily role within their organization. As the collaborative effort/project is running alongside the individual's daily work, it is essential that all of the parties enter into the collaboration with the same intention and continue with that intention and effort.
- To engage collaboration partners and maintain that engagement and participation is a challenge. To keep the stakeholders focused on the results to date, that supports the OEA funded project and deliverables is key to retain interest.
- Working closely to initiate and brainstorm, new and original projects was seen as a challenge, especially when planned projects had already been addressed through other entities. This was part of the ongoing task of engaging people and retaining their interest and participation.
- Network mapping on a number of projects cited in this report, highlighted potential and actual challenges. A lack of connectivity between key stakeholders on the network maps conveyed a weakly connected eco system. The asset inventory for one of the projects showed that two organizations had missions that could overlap in the future, leading to confusion and a duplication of services.
- All stakeholders need to be looking to achieve the larger, common good rather than focus on the interests of their own organization. Competing over resources and 'turf' is the anti-thesis of the collaboration needed in an OEA funded project.

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- Angie Gheesling, Executive Director of Development Authority of Houston County
- Meredith Dibden-Brown, Business Development Manager, The City of San Diego
- Jeff Sprague, CEO Allen County Economic Development Group (AEDG)
- Cynthia Leis, Director of Business Development, Allen County Economic Development Group (AEDG)
- Eric Fowle, Executive Director, East Wisconsin Regional Planning Commission
- Ashlee Breitner, Senior Project Manager, University of Michigan Economic Growth Institute
- John Hixson, Vice President Defense Initiatives, St Louis Economic Development Partnership
- Dion Jackson, Program Director, USC Center for Economic Development, University of Southern California
- Vicky Miller, Director of Defense Industry Economic Diversification Program, Quad Cities Chamber of Commerce

7.0 FOR MORE INFORMATION

The states of Vermont, Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island have been awarded a joint grant from the U.S. Department of Defense's Office of Economic Adjustment (OEA) to create The New England Regional Defense Industry Collaboration. The New England Regional Defense Industry Collaboration will coordinate the growth of defense-related businesses across the six-state New England region. The primary goals will be to aid small and midsize businesses in meeting new cybersecurity requirements for businesses participating in the defense industry supply chain, as well as to create a trusted supplier network that will make it easier for large defense contractors to locate smaller suppliers that are able to meet their production, certification and process requirements.

For more information on the New England Regional Defense Industry Collaboration initiative please contact:

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8.0 ABOUT FUTURE IQ

Future iQ specializes in applying innovative tools and approaches to assist municipalities, organizations, regions and industries shape their economic and community futures. With nearly two decades of experience, the company has a global clientele spanning three continents. To learn more about Future iQ, and our recent projects visit www.future-iq.com or by email at info@future-iq.com.

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