U.S. Department of Defense
Office of Economic Adjustment

Project Profile: Southern California

Impact Statement

AMP SoCal addressed key challenges, including business operations, cyber-threat, and workforce skills gaps, that limited the ability of Southern California defense suppliers to enter new markets. Industry Resilience funds connected 66 qualified defense suppliers with city and USC-provided business services to increase firms' ability to compete for DoD contracts and in commercial markets. AMP SoCal and its partners conducted technical assessments of 110 defense suppliers impacted by changes in defense spending and directly provided business-support services to 27. AMP SoCal developed growth-plans and delivered technical assistance resulted in over 300 retained and 130 created jobs, over $80 million in estimated new sales and investment, and saved firms $2.5 million in consulting fees. Partnerships with OEMs facilitated connections with key defense suppliers helping AMP SoCal deliver cybersecurity preparedness training centered around the NIST 800-171 controls to 78 defense suppliers. Additionally, AMP SoCal workforce development programs addressed critical skills gaps in the defense supply chain.

Key Project Takeaways

With support from the OEA Industry Resilience (IR) program, AMP SoCal increased the resiliency, readiness, and cybersecurity preparedness of the Southern California defense industrial base through workshops and the delivery of direct services to businesses. Partnerships with OEMs developed through participation in the Investing in Manufacturing Communities Partnership (IMCP) program helped AMP SoCal reach lower-tier suppliers. AMP SoCal leveraged these relationships with OEMs and small-and medium-sized (SMM) defense suppliers to host industry conferences, facilitate B2B matchmaking, and ultimately deliver services to SMMs addressing their challenges to growth. Training in several areas significantly impacted firms' competitiveness in the defense and commercial sectors, including quality management certification, marketing development, succession planning, agile management, and access to capital. Helping defense suppliers diversify to sell in commercial increases the resiliency of the defense industrial base by reducing dependency on the DoD. Further, diversification assistance received under this project helps defense suppliers support a broader range of DoD missions because of enhanced capabilities. Partnerships by AMP SoCal with local community colleges resulted in workforce training programs addressing key skills gaps in the defense supply chain, with the Aero-Flex apprenticeship becoming a national model. CED used its relationships with the USC School of Engineering to deliver cybersecurity preparedness training to satisfy the NIST SP 800-171 controls, with partnerships with OEMs proving critical to attract defense suppliers.

Project Description

Rationale

Southern California is home to one of the largest concentrations of defense spending in the United States. According to the FY 2018 Defense Spending by State Report, California receives 11.5% of all defense spending, of which roughly 65% is concentrated in Southern California,[1] or roughly 7.5% of all defense spending. The region is home to 22 active military installations under the Navy, Army, Marine

[1] https://priceusc.maps.arcgis.com/apps/MapSeries/index.html?appid=e60bd02f4a1d4e5ca985666ed4b85eb0

Corps and Air Force. A 2015 report by the California Centers of Excellence[2] identified over 4,224 firms in the region's defense supply chain, of which 2,886 or 68% employed less than 10 people, and 3,907 or 92% employed less than 50 people. These small defense suppliers are most vulnerable to fluctuations in defense spending and are most at risk to closure due to the loss of a DoD contract.

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). Between 2010 and 2015, defense spending decreased by an average of 7% in the region. 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. Despite recent increases in defense spending that favor the aerospace supply chains located in Southern California, many defense suppliers remain vulnerable to fluctuations in defense spending and require support to develop the business and workforce capacity to support new or evolving DoD programs. With an aging manufacturing workforce, it is paramount these critical defense suppliers develop the talent pipelines necessary to produce the high-precision machine parts utilized in next-generation aircraft such as the F-35. Additionally, these critical, small suppliers risk closure due to immature financial and succession planning processes that threaten their viability to operate.

Program Activities

The University of Southern California's Center for Economic Development (USC CED) is the lead entity working with the Governor's Office of Planning and Research (the awardee) on the AMP SoCal initiative. AMP SoCal was formed several years earlier to apply for recognition as a federally designated "Investing in Manufacturing Communities Partnership (IMCP)" and collaborate for mutual benefit. The application for OEA IR funds built on that partnership to support the aerospace and defense sectors across southern California.

AMP SoCal carried out the work discussed in this Profile in two phases. The first phase occurred from 2014 through 2019; Phase II started concurrently in 2017 and overlapped as the grantee finished Phase I activities. The focus in Phase II, scheduled to run through September 30, 2020, shifted more toward activities promoting firm resiliency, including compliance with cybersecurity requirements. Over the course of the Phase I and II awards, AMP SoCal worked on the following six projects:

1. AMP SoCal Red Carpet – outreach and connecting manufacturers to free services including problem mitigation and advocacy, permit and plan check assistance, site searches, incentive and financing matching, workforce development facilitation, job placement assistance, cost containment and lean manufacturing programs
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

[2] http://priceusc.maps.arcgis.com/apps/MapSeries/index.html?appid=a7f41839fd0f4490bae3bd467d2b4672

5. External Evaluation – program evaluation of each project
6. Defense Firm Resiliency Assistance – technical assistance or training for manufacturers on marketing and messaging for sales, access to capital, ownership transition/succession planning, and cybersecurity assistance

Resiliency Impacts

Increasing Awareness of the Defense Industrial Base

CED and AMP SoCal staff and partners regularly attend local trade shows and conferences directed at organizing and benefitting the region's manufacturing clusters. Staff and volunteers engage with attendees by informing them about AMP SoCal and assessing whether they are a member of the defense supply chain. Staff use these events to form relationships with OEMs, partnering with OEM Small Business Liaison Officers to find new opportunities for lower tier suppliers. These relationships prove critical, as OEMs often refer SMMs to AMP SoCal's services. AMP SoCal regularly shares best practices with A&D suppliers through expositions, webinars, innovation forums, and summits, all of which are recorded and posted on AMP SoCal's website and shared via social media and email marketing channels.[3] AMP SoCal events address issues facing the region's A&D suppliers, with the topics covered increasing the ability of suppliers to support a wider variety of DoD missions and maintain operations throughout fluctuations in defense spending.

AMP SoCal provides a variety of programming targeted at A&D suppliers and industry assets. Half-hour monthly webinars[4] cover topics pertinent to the region's defense suppliers, including succession planning, social media for A&D suppliers, financing opportunities, and exporting to Mexico, which has a rapidly growing aerospace sector. Innovation Forums, hosted at partner universities across the region, connect small-and medium-manufacturing (SMM) companies with federal/state funding opportunities for research and development. Recent issues covered by Innovation Forums include cybersecurity awareness, UAV manufacturing, the SBIR/STTR process, and technology transfer opportunities. The Bi-Annual AMP SoCal Summit involves a series of presentations to defense suppliers, followed by a series of business to business matchmaking appointments between OEMs and suppliers. AMP SoCal staff regularly follow up with attendees after these events to share business development opportunities and the suite of CED/AMP SoCal business services.

The Red-Carpet Service Program facilitated access by Southern California A&D suppliers to Los Angeles EDC and AMP SoCal business services. Available services include succession planning, export business development, process improvement, and access to capital.[5] 150 businesses and 66 qualified defense suppliers requested Red Carpet resources through questionnaires distributed via email with follow-up calls Services offered by the Red Carpet program address issues limiting the growth of regional A&D suppliers and their ability to support a wider range of DoD missions and service commercial opportunities.

[3] https://ampsocal.usc.edu/resources/
[4] https://ampsocal.usc.edu/resources/webinars/
[5] https://ampsocal.usc.edu/how-we-help/red-carpet-service/

Commercial Diversification of Defense Companies to Sustain the Defense Industrial Base

The AMP SoCal Team instituted the SMM Growth Acceleration project to provide business support services to small and medium-sized manufacturers lacking the capacity to re-tool and expand to support new DoD contracts and commercial markets. The project specifically focused on supporting SMMs adversely affected by the loss or reduction of a DoD contract. AMP SoCal partnered with the California MEP Center, California Manufacturing Technology Consulting (CMTC), and El Camino College to provide services to contractors. Marketing development services helped defense suppliers access new commercial opportunities in defense-tangent sectors, enabling firms to grow their capacity to serve both defense and commercial customers. Process and quality management improvements helped firm's ability to supply defense and commercial markets simultaneously. The work addressed key challenges facing defense suppliers that impede their ability to support a wider range of commercial and defense opportunities. This benefits the DoD by maintaining the defense industrial base and helping advanced technology manufacturers support a new range of DoD missions.

CMTC conducted technical assessments of 45 companies and developed 26 growth plans, of which 23 were implemented. Growth plans resulted in 319 retained and 130 created jobs, $22.6 million in retained and $54.4 million in new sales, and saved companies nearly $2.5 million in consulting fees. A number of these companies had long term relationships with CMTC prior to the grant, vetting them as reliable partners invested in developing their business. The team source other participating companies from outreach to defense suppliers, and at least one outside referral. Company growth plans addressed operational and technical barriers to growth of defense manufacturers. Plans included identifying opportunities to invest in growth-enabling technologies, adoption of management best practices, workforce skills training, and process and operations improvements. Business support activities both enabled the assisted defense suppliers to diversify into new commercial opportunities and support an expanded number of DoD missions through increased and improved capabilities. Below are several case studies describing these impacts qualitatively.

CMTC consultants selected American Lithium Energy[6] as a prime candidate to receive SMM Growth Acceleration services due to its promising energy technologies and dependency on DoD contracts. The company previously received marketing support from CMTC and received cybersecurity consulting services from CMTC as part of the CASCADE grant. American Lithium Energy supplies lightweight, high energy-density batteries used in wearable telecommunications, primarily for the Army and Navy. The firm previously received an Air Force Phase 3 SBIR[7] to develop a battery that can operate in a wide range of temperatures and altitudes for 5th generation fighter jets and produces a high-powered, long-lasting satellite battery for the Missile Defense Agency. With support from the SMM Growth Acceleration program, CMTC helped American Lithium Energy obtain an AS9100 certification, a set of quality management requirements for the aerospace, defense, and space industries. With rapid expansion prior to support from OEA, the company lacked the time and resources to develop quality control processes. Support from IR funds helped the firm create 12 retained and 6 new jobs, retain $1.3 million in sales and

[6] https://www.sandiegouniontribune.com/business/sd-fi-lithium-batteries-20170313-story.html
[7] https://www.sbir.gov/sbirsearch/detail/711757

increase expected sales by $2 million, and save $55,000 in consulting fees. The AS9100 certification directly resulted in a new contract with the Detroit Army Base to develop high-energy density batteries for tanks. Support from CMTC also facilitated American Lithium Energy's effort to obtain an ISO Certification to enter the medical device market.

Sidus manufactures robotic positioners, illumination systems, inspection systems, and camera systems for industrial and hazardous locations and continues to support DoD contracts after 12 years. CMTC engaged the firm for SMM Growth Acceleration support after identifying it for the San Diego MetroConnect program. Sidus primarily supports General Dynamics NASSCO, a military sealift command and a Leidos contract with the Naval Warfare Information Center (NWIC) to produce a specialized camera that can withstand 6000 m deep water pressure. Support from the IR grant enabled Sidus to hire new marketing personnel capable of communicating technical information to commercial clients. This improved marketing capacity resulted in a new contract with NASA to produce optical communications systems and improved relationships with Northrop Grumman, Raytheon Marine Systems, Leidos, and Aerotec Laboratories. The firm attributes this to its improved ability to communicate technical information. This support resulted in 3 new and 12 retained jobs, $1.2 million in retained and $2.1 million in new sales, and $80,000 in cost savings for Sidus. The team continues to invest funds in marketing, engage in business development opportunities with MetroConnect, and is expanding opportunities with the DoD Advanced Robotics Manufacturing Institute. The firm also recently received services from CMTC to implement NIST 800-171 cybersecurity controls.

Vortex Engineering provides medical fabrication and welding solutions sub-contractor services to OEMs fabricating and repairing ships and submarines. The company supports missions to modernize several vessels. Vortex relies on Navy vessel experience to design products and collaborates with OEMs early in the design cycle to provide more accurate cost and time estimates to the DoD. CMTC provided marketing development services to Vortex to improve the firm's ability to pursue commercial opportunities in the water filtration market, which requires similar metal-fabrication requirements as ship components. CMTC helped Vortex diversify its portfolio by developing its brand and growing its customer base through more qualified leads. Vortex developed improved business cards, implemented search engine optimization design on its website, and made additional marketing materials to differentiate themselves as a brand. Vortex worked with a marketing and branding expert to draw out their experience specific to underwater vehicles and received lessons in "inside sales." These activities helped Vortex deepen their linkages with water filtration manufacturers, and Vortex continues to support the defense industrial base and is an active member of the NDIA chapter in San Diego.

Cost Savings to DoD through Business Diversification or New Products/Customers

AMP SoCal SMM Growth Acceleration Services can also result in cost savings for the DoD because of process improvements and economies of scale realized through increased commercial sales facilitated by IR-grant-funded services. Projects supported by the SMM Growth Acceleration Services program reported increased abilities to supply both commercial and defense markets, through an increased ability to identify and attract new customers and support those customers through increased productivity or improved quality management processes. This ultimately benefits the DoD by ensuring a

more profitable defense industrial base, with those profits resulting in more competitive contract prices for DoD procurement.

Baja Designs cooperated with CMTC consultants for several years prior to IR support, and supports a portfolio of DoD contracts and commercial customers. The firm produces high-quality LEDs used in both DoD and commercial ground mobility vehicles. Baja Designs received support through the SMM Growth Acceleration program to increase their firm's capacity to meet customer-demand after it faced production disruptions. CMTC helped Baja Designs implement lean methodologies to meet the quality and quantity demanded by automotive and defense clients. The introduction of lean methodologies solved production bottlenecks and introduced a one-piece flow, doubling production without a single new employee. Baja Designs implemented lean processes across marketing, production, sales, and the machine shop to meet the increased demands of customers. Lean methodologies resulted in contracts to supply LEDs for the Polaris MRZR and contracts with Australian Special Forces to produce customized power cords. Integrated design-production processes enabled by lean allowed Baja to produce at the scale necessary for these opportunities. Since 2016, the company experienced 35% to 50% growth year over year, and the company grew from 45 to 68 employees. Baja Designs also retained $1.3 million in sales, created $2 million in sales, and saved $650,000 in consulting fees because of the IR grant. Baja Designs is an example of SMM Growth Acceleration services facilitating a business' capacity to support commercial and defense markets more cost-effectively through company-wide process improvements.

Readiness Impacts

Training and People Support

The manufacturing workforce represents a traditional strength of California, with the state employing more workers in the sector than Ohio, Wisconsin, and Illinois combined and an average salary of $105,000. However, the sector faces the looming threat of grey-drain, with an aging workforce and cohort of owners. As a result of an aging workforce, A&D manufacturers in Southern California face threats including a loss of institutional knowledge, an inability to fill skills gaps, and ultimately the inability to meet production schedules. A depleted manufacturing workforce represents a critical threat to the DoD's ability to continue to procure high-precision parts utilized in aerospace missions.

To address these workforce challenges, AMP SoCal deployed the Managed Career Pipeline strategy to identify technician training needs and provide skills training to increase workers' competitiveness. The program's goal is to create a steady stream of skilled workers to fill apprenticeships and job vacancies in defense supplier manufacturing firms facing worker shortages. AMP SoCal invited community colleges and workforce development boards (WDB) from across Los Angeles, Orange, San Diego, and Ventura counties to apply.

In April 2016, CED selected proposals submitted by the Cerritos College Foundation in Norwalk, MiraCosta College in Oceanside, and West Los Angeles College in Culver City to receive a combined $336,000 in funding as part of the AMP SoCal Managed Career Pipeline strategy to build workforce training initiatives. Each college partnered with its local workforce development board to develop

curriculum and provide training to unemployed and other WDB eligible candidates for entry level positions in addition to upgrading skills of incumbent workers.

The Cerritos College Foundation Advanced Manufacturing Partnership Employment Support program provided training to 22 students in Fall 2016, 11 of whom were employed by September 2016 in advanced manufacturing jobs. In 2017, the program became formalized as a Certificate of Achievement in Industrial Technology – Automated Manufacturing. The MiraCosta College welding program trained 21 students in its first three cohorts and leveraged additional funding to continue to offer the course for free. In 2019, MiraCosta College received additional funds from AMP SoCal to increase the value of the program to employers and the employability of students. These improvements include increased emphasis on metal fabrication techniques utilized by machinists supporting the A&D supply chain.

The IR award additionally funded the development of the program design and curriculum for the West Los Angeles College Aero-Flex Pre-Apprenticeship Model. West Los Angeles College (WLAC) partnered with the South Bay Workforce Investment Board (SBWIB) to develop an employer-driven pre-apprenticeship program that teaches skills used in A&D manufacturing. The team worked closely with Northrop Grumman to graduate its first cohort of 19 high-school students, but the model now provides adult-students structured OJT and related instruction and technical education at community colleges, technical schools, and apprenticeship training schools. The model is entirely employer-led and scalable to meet the needs of national and global corporations. SBWIB acts as the apprenticeship sponsor, manages paperwork, and mentors participating employers. The curriculum includes a core program that satisfies the DoL apprenticeship requirements, combined with competency-based skills training that employers can "flex" to meet the needs of their company. The Unilateral Apprenticeship Committee, composed of participating employers and partners, develops program curriculum, identifies in-demand occupations, and sets minimum standards for training. The Committee also works with employers to coordinate the program and to allow flexible schedules for students. Flex officials developed free guides, including "Blueprint for Workplace Success – 1 & 2," to provide further soft skills training, and "Aerospace 101" for students interested in learning more about aerospace careers in general. The pre-/apprenticeship program results in a "Certificate of Completion," stackable academic certificates, and certificates for OJT from each employer.

SBWIB leveraged IR support to expand its pre-apprenticeship program and model into registered apprenticeships. SBWIB and WLAC secured $240,000 from the California Workforce Development Board to continue to sponsor and develop the program. SBWIB and the Aero-Flex team of employers and stakeholders partnered with Tooling U-SME, an online manufacturing training provider, to develop and register the first degreed registered apprenticeship and first Aerospace Engineering Apprenticeship in the US. SBWIB and WLAC further leveraged this program to receive a $12 million grant from the DoL to train 5,000 apprentices in aerospace engineering and biosciences from across the country. The Flex team has so far partnered with workforce development boards in California, Arizona, Nevada, Florida, and South Carolina to deliver training. Employer commitments to train workers through the program were a key reason for the Flex team's award of the grant. SBWIB-WLAC Flex employers promised to train 1,500 workers and Lockheed Martin guaranteed to train 1,000 workers through the program. Recently

the SBWIB-WLAC Flex partnership signed a memorandum of understanding with the Los Angeles Air Force Base to provide training to transitioning service members through the Family Readiness Center and recruit transitioning members at job fairs. The partnership is exploring a similar opportunity with Naval Base Ventura County.

Improved Capability and/or Production Adjustments

Cost savings resulting from the re-scoping of the AMP SoCal project allowed the IR team to re-invest program funds in the Defense Firm Resilience Assistance program to break down barriers for SMMs. The program focused on supporting SMMs adversely affected by reductions in DoD spending improve their business capacity. CED supported firms facing challenges with ownership-transition, implementing DFARS 252.204-7012 cybersecurity controls, and competitiveness in the commercial and defense aerospace market. AMP SoCal certified 65 firms as defense-impacted – 41 firms received a NIST SP 800-171 cybersecurity assessment, and 24 completed a technical assistance assessment. During the outreach and certification process, AMP SoCal hosted workshops on access to capital and succession planning, two of the major challenges faced by SMM defense suppliers in the region. Activities such as succession planning help defense suppliers remain in operation across generations and often introduce business management improvements that result in savings. These support activities help the defense industrial base retool and implement process improvements that allow defense firms to continue to support current and evolving DoD missions with improved production capabilities.

Overall, the Defense Firm Resilience Assistance Program supported 50 defense suppliers. IR-funded support activities resulted in 50-59 new and 13 retained jobs, and $2.45 million in new sales and $3.43 million in new investment by participating companies. Companies received the following services:

- Access to Capital – 2 Firms
- Branding and Messaging – 2 Firms
- Cybersecurity Training – 41 firms
- Growth Strategy – 2 Firms
- Succession Planning – 3 Firms

As one example, CED officials developed a growth strategy for AMRO Fabrication Corporation, a manufacturer of precision machined and formed panels, structures, and assembly tooling for the A&D sector. AMRO supports both commercial and defense aerospace programs, including the NASA SLS, F-35 JSF, and Boeing Starline. AMRO is a third-generation, family-owned machine shop, and employs 200 workers and estimates $40 million in annual sales. AMRO faced a major decision whether to lease, purchase, or outsource a high-speed CNC machine to form large metal parts after the loss of a large contract to support the C-17 production in Long Beach and reduced revenues. Financial modeling tools provided by CED helped AMRO conduct scenario planning to identify the competitive advantage of these machines and the cost-benefit analysis presented by each option, including the decision to buy the machine, which would require reshaping the entire shop floor. As a result of CED services, AMRO decided to invest $3.2 million in the machinery, redesign its factory floor, and hire a total of 25 new workers to operate and support the machine. Ultimately, the investment paid off, with NASA awarding

AMRO a contract to produce window panels for the Orion Space Capsule that required the new CNC machines.

Talsco is a second-generation, family-owned machine shop that specializes in water jet cutting, machining, and sheet metal fabrication for aerospace components. Talsco employs 37 workers and estimates $5 million in annual sales. The firm manufacturers parts for military aircraft, including the F-35 and F-15, and manufactured several parts for the Mars Copter and Rover for the NASA Jet Propulsion Laboratory (JPL). After a divorce by the owner threated the financial solvency of the company, Talsco sought out succession planning services from CED. Succession planning activities resulted in recommendations to Talsco to prepare a full company valuation and buy/sell agreement; a successor-identification plan; guidelines for making strategic investments, increasing business income, and reducing business administration expenses; and the final step - execution of the buy/sell agreement. Without Talsco, the DoD would lose the sole source supplier and only owner of die tooling for several manufactured parts. Succession planning enabled Talsco to remain financially solvent and increase profits by 3.5%.

Cybersecurity Preparedness

The AMP SoCal Team partnered with Northrop Grumman to deliver cybersecurity training to SMMs to grow the cybersecurity preparedness of the DoD and defense industrial base. The CED developed a 2-day cybersecurity training and implementation workshop, composed of two 1-day sessions with a week of homework in-between. Both trainings focused on implementing the 17 control families and 110 controls listed in NIST SP 800-171 in an environment understandable for SMMs. AMP SoCal leveraged the USC faculty to have Dr. Clifford Neuman, a renowned cybersecurity expert and Director of USC's Center for Computer Systems Safety, lead the trainings. Northrop Grumman played a critical role in reaching out to Tier 1 and Hubzone-Certified manufacturers in its supply chain to attend the trainings and their presence helped encourage participating firms to become compliant with the DFARS cybersecurity regulations. Northrop Grumman also played a role in distributing AMP SoCal cybersecurity preparedness training materials throughout their supply chain, specifically for lower-tier suppliers.

Thirty-seven firms participated in two 2-day Cybersecurity Training Workshops in October, November, and December 2017 prior to the December 31, 2017 deadline for compliance. Although 92% had registered with Exostar, 71% of those found understanding the NIST controls challenging or hadn't started yet. Within 6 months, 23 firms self-certified as 100% compliant with DFARS 252.204-7012.

As the deadline passed, firms needed a new incentive to learn the cybersecurity regulations so Dr. Neuman condensed his 2-day workshop into a one-day format, which was offered on June 19 to 15 manufacturers and a variety of suppliers, lenders, and other consultants. Thirty people participated, nine online; event highlights are on YouTube. AMP SoCal provided cybersecurity preparedness training to an additional 41 defense suppliers through the Defense Firm Resiliency Assistance program.

The AMP SoCal team adapted the cybersecurity preparedness training developed with IR funds to support an Air Force Office of Small Business RFP to provide NIST SP 800-171 training to the Air Force supply chain. AMP SoCal again partnered with Northrop Grumman to deliver the training and market

this effort to businesses across OEMs' supply chains. Across 40 workshops, over 3,200 participants and 2,600 defense suppliers attended cybersecurity preparedness trainings, crafted with training materials developed with funds from the OEA IR grant. These sessions further trained 6 new cybersecurity preparedness trainers to further leverage and share the training developed with the IR grant.

Other Community Benefits

Alignment with State Programs

The Industry Resilience program provided opportunities for the fiscal manager of the AMP SoCal grant, the California Office of Planning and Resources (OPR), to engage with new partners similarly invested in addressing the challenges facing SMMs and the state's manufacturing workforce. OPR houses California's Military Affairs department and traditionally cooperated with OEA on compatible land-use studies. Opportunities to engage with IR grantees helped officials understand the potential for their roles to impact economic development. IR-funded investments in high-value-added manufacturing jobs and skills align with Governor Gavin Newsom's "Just Transition" and "High Road Jobs" strategic priorities for the state. As a result, the California Governor's Office of Business and Economic Development (GO-BIZ) lists A&D as one of the state's priority industries and invests in identifying commercial opportunities that defense suppliers can expand to support. Partnerships formed via AMP SoCal's roots in the IMCP initiative continue to generate impacts through IR-funded engagements, resulting in collaborations with Northrop Grumman around cybersecurity and matching aerospace OEMs with suppliers.

Lessons Learned

Sustainability

AMP SoCal successfully leveraged IR-funded program activities to obtain other financing and continue to support the Southern California defense industrial base. The South Bay Workforce Investment Board and West Los Angeles College Flex-Apprenticeship program leveraged at least $12 million in funds to continue sponsoring the apprenticeship program beyond IR support. AMP SoCal's outreach also played a critical role in obtaining outside support. After paying to attend the Aerodef and Space Tech Expo for the first two years of the program, both conferences invited AMP SoCal to host a workshop on the exposition floor for free. The Space Tech Expo asked AMP SoCal to host B2B OEM-supplier matchmaking and bring economic development partners to meet with A&D suppliers. This suggests that vendors value both the services and resources available through AMP SoCal and opportunities for continued engagement.