

Program Summary



Governor's Office of Business & Economic Development (GO-Biz)
Governor's Office of Planning & Research (OPR)

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State of California Office of the Governor
Sacramento, California

California Advanced Supply Chain Analysis and Diversification Effort (CASCADE)

EXECUTIVE SUMMARY

In July 2017 the State of California announced that it had received a \$2.9 million grant from the United States Department of Defense-Office of Economic Adjustment (OEA) to bolster California's defense supply chain cybersecurity resilience, innovation capacity and diversification strategies, and to support the growth and sustainment of California's Cybersecurity workforce through cybersecurity-related education curricula, training and apprenticeship programs. The project, called the California Advanced Supply Chain Analysis and Diversification Effort (CASCADE), is being led by the California Governor's Office of Business and Economic Development (GO-Biz) and the California Governor's Office of Planning and Research (OPR).

The CASCADE program includes 15 funded projects featuring a variety of cybersecurity resilience work, over a two-year period in partnership with a coalition of state agencies, and community, industry and educational institutions. Activities will include: supply chain mapping, labor market and skills gap analysis, cybersecurity provider surveys, cyber physical security workshops and assessments, supply chain outreach and resilience workshops, and workforce development projects designed to help communities respond to changes in federal defense spending, build economic resiliency, and augment regional defense diversification plans.

Award Partners

- California Community Colleges, San Francisco Bay Center of Excellence for Labor Market Research at City College of San Francisco
- California Community Colleges, Small Business Sector Navigator
- California Manufacturing Technology Consulting (CMTC)
- California State University, San Bernardino, Inland Empire Center for Entrepreneurship
- California State University, San Bernardino, Institute of Applied Research
- East San Diego County Economic Development Council
- State of California Governor's Office of Business and Economic Development (GO-Biz)
- Nehemiah Community Foundation
- Santa Clara University, Leavey School of Business

Collaborative Partners

- U.S. Department of Commerce, National Institute of Standards and Technology, National Initiative for Cybersecurity Education (NICE)
- U.S. Department of Homeland Security, National Initiative for Cybersecurity Careers and Studies (NICCS)
- U.S. Department of Defense, Defense Acquisition University (DAU)
- U.S. Small Business Administration (SBA)
- State of California Governor's Office of Emergency Services (CalOES)
- State of California Cybersecurity Integration Center (Cal-CSIC)
- State of California Employment Training Panel (ETP)
- California Small Business Development Center (SBDC)
- Cal Poly University San Luis Obispo, Cybersecurity Center (CCC)
- San Diego Cyber Center of Excellence (SDCCOE)



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BACKGROUND & INTRODUCTION

The Governor's Office of Business and Economic Development (GO-Biz) and Governor's Office of Planning and Research (OPR) submitted in 2016 an application for grant funds from the Department of Defense Office of Economic Adjustment (OEA). OEA works to support communities, businesses and workers that are negatively affected by changes in defense spending. The submitted application plan, entitled the California Advanced Supply Chain Analysis and Diversification Effort (CASCADE), detailed the development of a comprehensive set of projects designed to bolster the cyber defense supply chain resilience, address immediate supply chain needs for Californian firms affected by changes in defense spending, and expand the long-term innovation capacity of California's supply chains. The California Governor's Office of Planning and Research (OPR) is the fiscal agent for the grant, while the California Governor's Office of Business and Economic Development (GO-Biz) serves as the programmatic manager.

On June 13, 2017 the United States Department of Defense-Office of Economic Adjustment (DoD/OEA) awarded the State of California Governor's Office of Planning and Research for CASCADE a total of \$2,962,464. The State of California's non-federal match is \$502,654.

CASCADE aims to support opportunities to build cybersecurity resilience as one method of enhancing overall defense supply chain resilience. GO-Biz will coordinate a variety of cybersecurity resilience activities for businesses, including:

- Cybersecurity labor market analysis
- Cybersecurity provider mapping
- Supply chain mapping
- Cyber physical security workshops and assessments
- Innovation vouchers

CASCADE will also support more general business resilience activities, including:

- Commercialization
- Diversification
- Supply chain outreach
- Workforce development
- Entrepreneurial skills development

PROGRAM PHASES AND PROJECTS

Phase 1: Project planning and management process development

The primary goal of phase 1 is to develop, organize and plan the CASCADE project management processes. In addition, this phase aims to support the gathering of foundational data related to the cybersecurity resilience projects in Phases 2-4. w

Phase 1 includes the following projects:

- Project 1: Strategic alignment with other OEA plans (facilitated by GO-Biz)
- Project 2: Cybersecurity labor market analysis and skills gap analysis (conducted by California Community Colleges, San Francisco Bay Center of Excellence for Labor Market Research at City College of San Francisco)



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Phase 2: Identify and analyze defense supply chain

The purpose of Phase 2 is to develop more specific data on the defense supply chain in California. This data aim to help to identify the communities, businesses, and workers that will be eligible for the subsequent Phase 3 and Phase 4 diversification, adjustment, and modernization activities.

Phase 2 includes the following projects:

- Project 3: Cyber provider survey (conducted by California Manufacturing Technology Consulting)
- Project 4: Supply chain mapping (conducted by California State University San Bernardino).

Phase 3: Build awareness of supply chain resilience resources

Phase 3 activities aims to raise awareness of available resilience resources and programs for communities, businesses, and workers at risk of being negatively affected by changes in spending. In addition, Phase 3 activities aim to help strategic partners identify the workers and businesses that will be eligible for the diversification and adjustment programs provided in Phase 4.

While the Project Award Partners responsible for Projects 6-10 submitted individual proposals, these supply chain resilience efforts will be combined into multiple-partner resource fairs. Each resource fair aim to offer a robust set of resilience programs and educational opportunities for attendees. As one potential example, a resource fair may include a supply chain resilience seminar (Project 6), a business diversification workshop (Project 7), and a cyber-physical security awareness workshop (Project 8).

Phase 3 includes the following projects:

- Project 5: Cybersecurity industry convenings [conducted by the Governor's Office of Business and Economic Development (GO-Biz)]
- Project 6: Supply chain resilience seminars (hosted by East San Diego County Economic Development Council)
- Project 7: Regional supply chain workshops (hosted by California Community Colleges Small Business Sector Navigator)
- Project 8: Cyber physical security workshops (hosted by California Manufacturing Technology Consulting)
- Project 9: Cyber physical security assessments (conducted by California Manufacturing Technology Consulting)
- Project 10: Supply chain outreach (hosted by the Nehemiah Emerging Leaders Program)

Phase 4: Develop business and worker resilience programs to bolster supply chain

During Phase 4, strategic partners will deliver programs that aim to help the communities, businesses, and workers affected by changes in defense spending. These activities aim to support the development of modernization and diversification assistance programs for businesses. Eligible recipients for these assistance programs will be identified through the Phase 2 data analysis and the Phase 3 resource fairs. Phase 4 includes the following projects:

- Project 11: Business assistance programs for affected suppliers (conducted by GO-Biz)
- Project 12: Contract diversification program (conducted by California Community Colleges Small Business Sector Navigator)
- Project 13: Commercialization pilot analysis (conducted by Santa Clara University)
- Project 14: Innovation Hub competitive grant proposal/innovation voucher program (conducted by GO- Biz)
- Project 15: Entrepreneurial and business skills development program (conducted by California State University San Bernardino)



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Summary of CASCADE Phases, Projects and Project Lead

Phase 1: Project planning and management process development		
Project		Project Lead Organization
1	Strategic Alignment	Governor's Office of Business and Economic Development (GO-Biz) & Governor's Office of Planning and Research (OPR)
2	Cybersecurity Labor Market Analysis	California Community Colleges, San Francisco Bay Center of Excellence for Labor Market Research at City College of San Francisco
Phase 2: Identify and analyze defense supply chain		
Project		Project Lead Organization
3	Defense Prime Cybersecurity Provider Mapping	California Manufacturing Technology Consulting (CMT C)
4	Supply Chain Mapping and Analysis Components	California State University, San Bernardino, Institute of Applied Research
5	Cybersecurity Industry Convenings and Report	Governor's Office of Business and Economic Development (GO-Biz)
Phase 3: Build awareness of supply chain resilience resources		
Project		Project Lead Organization
6	Supply Chain Resiliency Seminar Series	East San Diego County Economic Development Council
7	Regional Supply Chain Workshops	California Community Colleges, Small Business Sector Navigator
8	Cyber Physical Security (CPS) Awareness Workshops	California Manufacturing Technology Consulting (CMT C)
9	Cyber Physical Security (CPS) Assessments	California Manufacturing Technology Consulting (CMT C)
10	Supply Chain Outreach	Nehemiah Community Foundation
Phase 4: Develop business and worker resilience programs to bolster supply chain		
Project		Project Lead Organization
11	Business Assistance Programs	Governor's Office of Business and Economic Development (GO-Biz)
12	Contract Diversification Program	California Community Colleges, Small Business Sector Navigator
13	Commercialization Pilot Analysis	Santa Clara University
14	Innovation Vouchers	Governor's Office of Business and Economic Development (GO-Biz)
15	Entrepreneurial and Business Skills Development	California State University, San Bernardino, Inland Empire Center for Entrepreneurship



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SUMMARY OF EACH CASCADE PROJECT

Project 1: Strategic Alignment

The Governor's Office of Business and Economic Development (GO-Biz) will lead a strategic alignment process for the California Advanced Supply Chain Analysis and Diversification Effort (CASCADE). This strategic alignment process will include program planning, management processes, program structure and the development of criteria to determine eligibility for the direct business assistance services provided through the different projects within CASCADE. A key component will be to strategically aligning the 15 CASCADE projects throughout the State of California, identify synergies and possible areas of collaboration between the projects and partners, as well as ensuring greater alignment with existing regional plans and establishing collaborative partners.

Project 2: Cybersecurity Labor Market Analysis

The California Community Colleges Centers of Excellence for Labor Market Research (COE) is conducting a California cybersecurity labor market analysis. This labor market analysis will include both a workforce demand analysis and a workforce supply analysis. The COE workforce demand analysis will include the cybersecurity workforce needs of defense supply chain businesses. This demand study will help identify cybersecurity skills gaps, serve as a resource for changes in community college curriculum, and build capacity in cybersecurity workforce development. This study will also help potentially displaced defense workers identify cybersecurity job openings and training programs applicable to a variety of advanced technology industries.

Project 3: Defense Prime Cyber Provider Mapping Project

California Manufacturing Technology Consulting (CMTTC) will undertake a cybersecurity provider mapping process that will help to identify firms capable of supplying critical cyber products and services to small and medium-sized manufacturers (SMMs). Many SMMs have neither the in-depth knowledge of advanced Cyber Physical Security (CPS) threats nor resources to address CPS deficiencies and risks. This mapping will advance the CPS maturity of California's defense supply base, which will in turn support the goal of providing defense contractors and subcontractors with modernization assistance that can also facilitate economic diversification.

Project 4: Supply Chain Mapping and Analysis Component

The Institute of Applied Research (IAR) at California State University San Bernardino will lead a supply chain mapping project that will help to identify the communities, businesses and workers that may be affected by changes in defense spending. Mapping of California's overall defense supply chain is the major focus of the project. However, a key minor focus is gaining an understanding of the capacity of California's cyber firms and mapping California's cyber supply chain, in order to assist with defense contractor modernization and diversification. The mapping process will identify firms (including large defense contractors as well as small and medium-sized manufacturers in the supply chain) that may be at risk due to reduced defense contracting and procurement. These firms are integral to the economic health of the state as a whole. Further, the specific workforce development needs to be addressed by other project partners (i.e. capacity building for cybersecurity skills development) can best be determined with a clear understanding of which industries and firms are at risk (which is one outcome of the mapping process). Identifying and mapping the supply chain is a necessary first step towards helping companies mitigate the negative effects of defense cutbacks by successfully transitioning to new opportunities. IAR will be involved in developing the methodology for the data gathering process and for helping to coordinate a statewide strategy to accomplish the study tasks in cooperation with other project partners. This strategic alignment will be accomplished at the beginning of the grant. The methodology and strategy developed in this study will provide a template which can be used across sectors.



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Project 5: Cybersecurity Industry Convenings and Report

The Governor's Office of Business and Economic Development (GO-Biz) will conduct employer outreach to develop a holistic report on strengthening cybersecurity ecosystems in California in order to diversify defense cyber companies into non-defense markets/commercialization. GO-Biz will host industry meetings throughout the State with a variety of business stakeholders, from cybersecurity startups to large companies. Upon conclusion of these industry meetings, GO-Biz will develop a report that synthesizes the take-aways and provides recommendations on how the CASCADE Project can strengthen California cybersecurity ecosystems.

Project 6: Supply Chain Resiliency Seminar Series

The San Diego East County Economic Development Council (ECEDC) will design and present a series of seminars to foster Supply Chain Resiliency, with a focus on those industry verticals with ties to defense spending. One seminar will be presented in each of California's 10 Economic Regions. ECEDC is the founder/developer of the Connectory.com Network, an award winning asset platform, being upgraded to create/refresh asset data automatically, mine data for analyses and assessments, and maintain relationships with supply chain assets. ECEDC will design seminar content, identify the appropriate supply chain focus (and defense dependency) in each region, and recruit an economic development partner to handle each region's seminar logistics and outreach. ECEDC will coordinate outcomes with GO-Biz and produce a final report on seminar series results, lessons learned, and next steps.

Project 7: Regional Supply Chain Workshops

The California Community Colleges Small Business Sector under the "Doing What Matters for Jobs and the Economy" program of the Economic and Workforce Development (EWD) Division will organize and deliver ten Regional Supply Chain Workshops for small businesses impacted by reductions in defense contracting and procurement. These educational workshops will be one component of the multi-partner resource fairs. The workshops will convene California Community College education resource providers and small businesses to identify the workforce and business development related needs of these businesses and provide potential solutions to those needs. The regional workshops will be organized by the regional Deputy Sector Navigators for the Small Business Sector in the seven macro regions for the California Community College system which comprise the network of 113 Community Colleges. The Deputy Sector Navigators will work with their Regional Consortia to organize these workshops and bring the appropriate resource partners to the table.

Project 8: Cyber Physical Security (CPS) Awareness Workshops

California Manufacturing Technology Consulting (CMTC) will host workshops designed to increase awareness about Cyber Physical Security (CPS) threats for Small and Medium-sized Manufacturers (SMMs). These workshops will also identify opportunities for SMMs to access resources that can increase resilience to CPS threats. Collectively, these workshops will provide business planning and market exploration to enhance the overall cybersecurity resilience of California's defense supply base, which will in turn support modernization and diversification efforts. These one-day workshops will be held in such areas as San Francisco, Sacramento, San Joaquin Valley, Los Angeles, San Diego, Orange, and the Inland Empire. These workshops will be organized in consideration with the other supply chain assistance and education activities described in Projects 6-10.

Project 9: Cyber Physical Security Assessments

California Manufacturing Technology Consulting (CMTC) will work with partners to conduct Cyber Physical Security (CPS) assessments for SMMs in the defense supply chain. The CPS awareness workshops described in Project 8 will provide firms with the opportunity to sign up for Cyber Physical



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Security (CPS) assessments. A key outcome of the workshops is a schedule of CPS assessments at SMM sites. Assessments will identify CPS risk points along with potential solutions. These assessments, combined with the CPS awareness workshops and the other cybersecurity educational opportunities made available at the supply chain resource fairs, will support the goal of increasing overall cybersecurity resilience throughout the defense supply chain as a means of supporting modernization and diversification efforts.

Project 10: Supply Chain Outreach

The Nehemiah Community Foundation will host supply chain resource fairs that feature a series of supply chain outreach workshops. These workshops will support the development of business planning, modernization, and market exploration services for underrepresented businesses. Upon conclusion of these industry meetings, the Nehemiah Community Foundation will develop a strategy paper that synthesizes the lessons and provides recommendations for connecting business outreach activities to the modernization and supply chain resilience goals of the CASCADE Project.

Project 11: GO-Biz Business Assistance Programs

The Governor's Office of Business and Economic Development (GO-Biz) will develop and deliver a variety of business development activities for the firms that are affected by changes in defense spending. The data gathered through the Phase 2 supply chain analysis and from the Phase 3 supply chain resource fairs will help GO-Biz to identify the firms in need of support in the form of site selection, permit assistance, international trade development, innovation support, and more.

Project 12: Contract Diversification Program

The California Community Colleges Small Business Sector under the "Doing What Matters for Jobs and the Economy" program of the Economic and Workforce Development (EWD) Division will develop and deliver a Contract Diversification Program for small businesses affected by reduced defense contracting and procurement to assist these businesses in diversifying into non- defense related contracting opportunities. The Contract Diversification Program will consist of nine not-for-credit online training modules coupled with technical assistance through Small Business Development Centers (SBDCs)/Procurement Technical Assistance Centers (PTACs), and access to a bid matching service to identify contracting opportunities.

Project 13: Commercialization Pilot Analysis

Santa Clara University Leavey School of Business will develop a commercialization pilot program to assist defense-dependent businesses identify and develop commercial applications for their products and services. This program will also complement the CASCADE goal of enhancing innovation capacity and sustainability throughout the supply chain. Santa Clara University will conduct an analysis of prior commercialization programs in the United States and elsewhere, from both the public and private sectors, to identify pitfalls and best practices. Project leaders will distill elements of best practices from published sources and adapt them to the context of defense suppliers seeking to diversify their product and service portfolio. Santa Clara University will share its findings on commercialization opportunities at the Supply Chain Resource Fairs (Projects 6-10). These findings will also be used by GO-Biz as it develops an "innovation voucher" program (Project 14). The supply chain mapping and resource fairs will help identify the businesses that will be eligible for the future commercialization pilot program.



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Project 14: Innovation Vouchers

The Governor's Office of Business and Economic Development (GO-Biz) will administer a pilot innovation voucher program through the California Innovation Hub (iHub) network to bolster overall supply chain resilience by enhancing the innovation, commercialization, and technology transfer capabilities of the small and medium-size businesses affected by changes in defense spending and encourage them to partner with "public knowledge providers," including universities, national laboratories, and other business assistance organizations. The innovation vouchers will be distributed to regional coalitions of iHubs, public knowledge providers, and businesses through a competitive application process. GO-Biz administers the iHub program, which was codified in 2013 through California Assembly Bill 250. Each iHub includes local government institutions, academic partners, and industry groups. There are 15 state-designated iHubs to stimulate partnerships, economic development, and job creation around specific research clusters. The iHubs leverage assets such as research parks, technology incubators, universities, and federal laboratories to provide an innovation platform for startup companies, economic development organizations, business groups, and venture capitalists.

Project 15: Entrepreneurial and Business Skills Development

The Inland Empire Center for Entrepreneurship (IECE) at California State University San Bernardino (CSUSB) will provide intensive entrepreneurial training that will prepare current displaced defense industry workers for potential opportunities of self-employment as entrepreneurs. In addition, the proposed training will also prepare participants to be more innovative, business-oriented and entrepreneurial employees should they choose not to pursue self-employment options. Using a modular, experiential learning curriculum derived from CSUSB's nationally recognized entrepreneurship degree program, IECE will deliver a 10-week course (40 hours) that will prepare individuals to understand the basics of business ownership, what constitutes the entrepreneurial experience, the process of creating a new business venture, assessing the feasibility of business concepts, accessing critical resources, financial management and developing a business plan. Upon completion, each participant will have a better understanding of their entrepreneurial potential and the process of developing and launching a new venture. Depending on the targeted area, the curriculum can be adjusted to match the skills/background of the participants. As an example, for engineers and technology oriented professional positions, the curriculum includes additional elements such as technology commercialization and intellectual property. The California Workforce Development Board has certified that this project.

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