

Monterey Bay DART Advanced Manufacturing STEM Challenge Proposal

Executive Summary

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Drones, automation and robotics technologies are revolutionizing industries across many sectors including mobility, security, agriculture and environmental management. Monterey Bay DART (DART) is a 501 c 3 public benefit corporation working with industry, academia, public agencies and community based organizations, supporting workforce development and advancement across these future-oriented, innovation driven domains. Monterey Bay DART seeks to expand its impact in collaboration with aligned partners and community based organizations through the EDA STEM Challenge, creating increased opportunities and pathways for underserved community members, while supporting continued growth and expansion of cutting edge technology companies within our region.

Our proposed grant funded program would build on momentum established by DART working in partnership with Joby Aviation, CSU Monterey Bay, UC Santa Cruz, regional community colleges, and community based organizations in the Salinas and Pajaro Valleys of California. The DART-Joby Advanced Manufacturing Apprenticeship Pilot Program (AMAPP) has already created 17 new jobs for community members with no prior aerospace manufacturing experience, within a rapidly growing advanced air mobility industry-leading company (Joby Aviation). The 6-month earn and learn apprenticeship program has yielded new internal recruitment and training processes, established healthy and growing cross-sector partnerships, and supported transition of individuals from agriculture, hospitality and other lower wage career paths into future relevant, innovation driven industries.

The proposed grant funded scope of work builds on this established momentum in several ways including:

- Increasing the pipeline to upskill workers for advanced manufacturing positions at Joby, which has a projected 1800 worker growth trajectory;
- Establishing new advanced manufacturing apprenticeships with regional DART-related growth companies such as Farm N-G (agtech);
- Creating new advanced manufacturing oriented curriculum for incorporation into regional community-colleges and regional workforce training centers;
- Supporting apprentice success through soft-skills education and wrap-around services (transportation, child-care) through healthy community based organization partners.

Background

The Monterey Bay DART Initiative grew out of the Fort Ord Reuse Authority (FORA) economic development program. FORA was charged with overseeing the largest military-base reuse project in the United States, following the 1994 closure of the US Army Training Center at Fort Ord. Following the 2020 completion of the FORA mission, DART emerged to carry on the base reuse plan vision of realizing 5000 new jobs to replace those lost with base closure. The emergence of a growing DART industry cluster in the region offers the most tangible, innovation driven, high-wage job creating opportunity since the Army left.

Monterey Bay DART continues to curate an innovation ecosystem in the region working closely with cross-sector partners in academia, industry, public agencies, and community based organizations. With a focus on regionally relevant economic sectors, the domains of mobility, security and environmental management (including agriculture) are yielding the most momentum in terms of new venture formation and jobs growth. The proposed grant funded program seeks to support continued growth of emerging market leaders through upskilling local workforce to engage in advanced manufacturing in demand from these growing companies.

Joby Aviation is an electric vertical take-off and landing (eVTOL) manufacturer, scaling production at the former Fort Ord airbase, now known as the Marina Municipal Airport. The company is on track to deliver its first company complying aircraft off its prototype manufacturing line in the summer 2023. It has City and Federal Aviation Administration (FAA) approved development plans for a 580,000 sf advanced manufacturing facility at the Marina Airport, with a planned development timeline beginning in 2024. The company will need to create an 1800-person skilled workforce over the coming 3-5 years to meet production targets.

Monterey Bay DART and Joby Aviation are currently implementing an advanced manufacturing apprenticeship program (AMAP), providing earn and learn opportunities for Salinas and Pajaro Valley area residents. The AMAP pilot is supported with funding from the James Irvine Foundation, and is being implemented in collaboration with area community based organizations also supported by the Irvine Foundation, including the Salinas Inclusive Economic Development Initiative (SIEDI).

Goals of the DART-Joby AMAP include establishing trusted partnerships between industry and local workforce, developing effective recruitment and training processes, and yielding real, family-sustaining wage job outcomes. Since initiation in the fall of 2022, the DART-Joby AMAP has resulted in 21 apprentices enrolling in the program (from a field of over 200 applicants), with 10 already converted to full time employment at Joby, and 7 more on track for transitioning to full-time employees by the end of September 2023. The pilot effort is proving highly effective, and the proposed STEM Challenge program would seek to increase the pipeline of apprentices to meet growing demand for skilled workers.

In addition to Joby Aviation, the Monterey Bay DART ecosystem includes a number of agricultural technology-oriented growth firms. Farm N-G is one such company that has developed an electric powered, artificial intelligence informed, modifiable tractors for use across small to large agricultural operations. It is currently selling tractors and scaling its manufacturing workforce at its Watsonville headquarters. The proposed grant program includes initiating an AMAP with Farm N-G modeled after the successful DART-Joby AMAP.

Along with implementing the AMAP pilot, Monterey Bay DART is currently undertaking a regional workforce training center (RWTC) feasibility study, to evaluate the need for a modern facility to meet regional DART-related workforce training needs. In this process, DART and our industry partners are exploring sustainable workforce development and training options in collaboration with regional community colleges and universities. The proposed grant program would seek to formalize advanced manufacturing relevant curriculum for integration into these educational institutions.

Finally, the Monterey Bay DART STEM Challenge proposed scope of work, includes expanding our existing collaborations with the SIEDI to improve apprentice success in the AMAP. Experience in the initial AMAP pilot suggests preparation prior to enrollment and support throughout the apprenticeship process could increase program success. Working in collaboration with SIEDI as a service provider for such key actions as soft-skills training, digital literacy and transportation support would enable apprentices with no advanced manufacturing experience to successfully complete the AMAP and move into permanent, full-time employment.

Monterey Bay DART, through its established position curating a DART-related innovation ecosystem involving industry, academia, public agencies and community based organizations, is ideally positioned to facilitate the proposed future-oriented workforce development program. The established DART-Joby AMAP is ready to scale and meet the imminent 1800-skilled worker demand. This program will facilitate the transition of workers from agriculture, hospitality, and retail oriented careers, into innovation driven industries including aerospace and agricultural technology. The proposed work program will also yield a sustainable curriculum for integration into regional institutions, and work closely with community-based organizations to support apprentice success.

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