

# Attachment C



Ideas + Action for a Thriving Central Coast

## VAFB MASTER PLAN STATEMENT OF WORK

The Statement of Work for the Master Plan changes and expands, in partnership with project participants and as conditions, needs, and resourcing evolves.

### PROJECT PARTICIPANTS

On March 16, 2020, the Governor's Office of Business and Economic Development, Cal Poly, REACH, 30th Space Wing, and Deloitte, signed a Memorandum of Understanding (MOU), committing to partnership in achieving objectives in support of a plan for commercial space industry and enterprises at Vandenberg Air Force Base (VAFB) and the surrounding regional economy; facilitating regional economic growth through the addition of high-quality commercial space industry employment; providing for national security strategic interests through the increased resilience of VAFB assured access to space mission architecture.

The following are partners identified and committed participants on this project:

- 1. Governor's Office of Business and Economic Development (GO-Biz).**

In recognition of California's long history as a leader in the aerospace and defense industries, GO-Biz has a deep commitment to support this effort. GO-Biz, in its charge to lead California's economic development activities, continues to focus on expanding and improving critical infrastructure, promoting job creation, and growing workforce development opportunities to meet the needs of this vital and impactful industry. GO-Biz has committed to identifying and including additional state support, including public financing opportunities and new partnerships. GO-Biz intends to continue seeking alignment of objectives in developing this industry over the course of this proposal as well as many others.

- 2. California Polytechnic State University (Cal Poly).**

Cal Poly is the closest California State University campus to the Airforce base. Cal Poly has long been a leader in training engineers for the state of California. Cal Poly's College of Engineering has top-ranked programs in Electrical Engineering, Computer Science, Software Engineering, Computer Engineering, Aerospace Engineering, Mechanical Engineering, Industrial and Manufacturing Engineering. Cal Poly founded the CubeSat program in 1999 and has been a leader in student-focused microsatellite

development and education for over 20 years. The following Cal Poly entities will be involved (The Office of the President, Cal Poly office of research and economic development, the institute for Advanced Technology and Public Policy, Orfalea College of Business and the College of Engineering).

**3. 30th Space Wing, Vandenberg Air Force Base.**

Key strategic partner and the organization that owns and operates the Vandenberg Spaceport and Range. The 30th Space Wing (30 SW) is a United States Space Force space launch wing. 30 SW is assigned to Space Operations Command and headquartered at Vandenberg Air Force Base, California. The 30th Space Wing is responsible for all space launch operations from the west coast, which includes all polar launches. It manages the Western Range and launch activities for the Space Force, Department of Defense, NASA, and other private space corporations. The 30th Space Wing also supports test and evaluation launches of the U.S. Air Force's intercontinental ballistic missile force.

**4. Deloitte Consulting LLP (Deloitte).**

With nearly 300,000 professionals and over \$40b in FY19 global revenue, Deloitte is the largest professional services firm in the world. We provide global competitive perspectives and actionable insights for industrial and economic development, including through our Space Practice. Deloitte is 175 years old and serves 80% of the world's Fortune 500, with specific innovation capabilities focused on Future of Work, Future of Mobility, and Smart Cities. Deloitte has partnered with REACH to drive economic transformation in the Central Coast. Building on the Master Plan Phase 0 and supporting analyses, Deloitte will undertake detailed technical analysis of commercialization opportunities with respect to specific space systems for the global marketplace, as located at VAFB.

## **PROJECT TEAM**

REACH is a Regional Economic Action Coalition focused on high-impact projects that will unlock economic opportunity for all. REACH staff will manage overall project activities and community partner engagement described in Phase 1.

The core Project Delivery Team for Phase 1 consists of the following members:

- **Steve Hamilton:** Senior Manager, Deloitte Consulting LLC.
- **Jeff Matthews:** Senior Subject Matter Expert, Deloitte Consulting LLC.

- **Kaina Pereira**: Senior Advisor for Business Development and International Trade, Governor Gavin Newsom’s Office, Office of Business and Economic Development (GO-Biz). Designee for the Director to the Governor’s Office of Business and Economic Development to the California Governor’s Military Council.
- **Dr. Cyrus Ramezani**, Professor of Finance, Cal Poly
- **Andrew Hackleman**, REACH COO
- **Melissa James**, REACH CEO

The project team is augmented by a support team that consists of:

- **Ron Cortapassi**, Executive Director, 30th Space Wing
- **Bill Prenot**, Director, Plans and Programs, 30th Space Wing
- **Derek Kirk**, Business Specialist, Governor’s Office of Business and Economic Development
- **Nancy Alatorre**, Business Development Program Analyst, Governor’s Office of Business and Economic Development
- **Bob Linscheid**, Senior Advisor for Economic Development, Office of the President, Cal Poly
- **Foad Khosmood**, Research Director, Institute for Advanced Technology and Public Policy, Cal Poly
- **Renee Reijo Pera**, Vice President of Research and Economic Development, Cal Poly

## **VAFB COMMERCIAL SPACE EXPANSION MASTER PLAN**

### **OBJECTIVE**

Our objective is to understand how to align Federal, State, Local, commercial, and academic entities on a future vision for VAFB’s commercial space activities that drives new economic growth, partnership opportunities, and social value for the Central Coast and state of California.

### **PURPOSE**

To develop an integrated master plan for commercial space opportunities that will help identify important priorities and requirements at Vandenberg Air Force Base to spur the growth of the commercial space industry on the Central Coast and across California.

## **PROJECT APPROACH**

Our approach to the objective is to produce a master plan that advances the region's competitiveness in the space technology ecosystem. To do this, we will examine multiple space technology ecosystem scenarios centered around Vandenberg Air Force Base (VAFB) and develop a master plan for growing the local and regional presence of ecosystem actors. Identified space technology ecosystems to be examined include those related to launch services, space situational awareness, range and network technologies, and satellite manufacturing and integration - all current focal or operational areas of VAFB.

The rationale for an ecosystem (e.g. launch services or space situational awareness) versus a traditional cluster development (e.g. all aerospace and defense or all satellite manufacturing) is based on the fact that the impact of space technologies is widely diffused throughout the larger national economy and the region has unique competitive advantages (e.g. an active national security launch range) and specific limiting factors (e.g. lack of a diverse manufacturing workforce).

Driving the formulation of the optimized ecosystem examined within the master plan are seven primary focus areas each with their own specific issues and questions. The seven focus areas are:

1. Full Regional Assessment of Space Activities and Supporting Infrastructure
2. Lessons from Other Clusters and Industries
3. Stakeholder Engagement
4. Implications for the United States Air Force and U.S. Department of Defense
5. Implications for the Region
6. Funding and Financing Models
7. Implementation Recommendations

We will approach the production of the master plan by dividing our activities into the following work streams, the outputs of which will be delivered to the Client within the specified deliverables outlined within this document.

### **Phase 0 - Project Initiation Work**

**Complete - Funded by REACH**

Initiate written document modeled after [Space Florida's 2017 Cape Canaveral Spaceport Master Plan](#), including, but not limited to:

a. Project Vision Development

i. Develop a clear vision of a commercialized region and base that addresses:

1. What capacities are needed at VAFB and regionally to compete for and meet forecasted demand?
2. What industry trends and operational areas should the region centralize around (launch, space domain awareness, etc.)?
3. What options or scenarios for commercial incentivization exist already within the region (fence-line move, lease terms, entitlement changes, talent and working locations, etc)?
4. Common infrastructure projects
5. Vision for regional development (10-year horizon) guided by industry trends, regional assets, other potential opportunities

b. Action Plan and Funding Assessment

- i. Identify possible additional funding sources (public, private, and government)
- ii. Create a plan for funding project workstreams via additional funding sources
- iii. Create pitch and briefing decks for identified stakeholder groups

**Phase1: Ecosystem, Stakeholder, and Industry Assessment**

Deliver a written document(s) on Phase 1 section of Master Plan.

c. Economic Impact Analysis

- i. Asses current and future economic impact of the direct, indirect and induced impacts of VAFB on Santa Barbara County and the region broadly
- ii. Analysis will serve as baseline for Phase 2 future state analysis, which will forecast various growth scenarios, based on our partners' vision for commercial space industry growth

d. Regional Capabilities Assessment

- i. What kinds of assets, facilities, and activities currently exist within the region and how do they currently support the commercial space industry? What potential gaps does the region have?
- ii. What kinds of assets, facilities, and activities currently exist within the region and how do they currently support space-related government contracts?

- iii. Who are the essential strategic partners within the region and what role do they play?
- iv. Who are the stakeholders within the region and what kind of linking mechanisms exist to service them?
- v. What is the anticipated space transport / launch market demand?
- e. Lessons from Other Clusters and Industries
  - i. What other aerospace cluster economic development initiatives exist within the United States?
  - ii. What other space ecosystem development initiatives exist within the United States?
  - iii. How do the region and Western Range activities compare to the identified existing clusters and ecosystems?
  - iv. What best practices from identified aerospace cluster development initiatives are relevant to the development of the region
- f. Space Industry Assessment
  - i. What current trends or needs could an expanded ecosystem centered around VAFB address?
- g. Stakeholder Identification
  - i. What are the potential partners required for ecosystem development?
  - ii. What are the integrated roles and responsibilities of ecosystem partners?
  - iii. How should identified stakeholders be engaged and what roles should they play advancing the ecosystem?
  - iv. What is required to charter and sustain a VAFB Spaceport Steering Committee?
- h. Needs and Interests of Stakeholders
  - i. What are the needs for a deliberate, organized, and expanded regional cluster within Central California to support the increased development of activities related to or supported by VAFB?
  - ii. Will additional offerings or capabilities created within the ecosystem or the region resonate with the commercial space industry?

## **Phase 2: Analysis and Recommendations for Consideration**

- i. Implications for the Region
  - i. What additional kinds of assets, facilities, and activities should the region pursue to attract additional commercial entities and government

- contracts?
  - ii. What additional strategic partners are required to increase the region's competitiveness?
  - iii. What are the geographical boundaries of a competitive commercial space region in Central California and what entities are included within those boundaries?
  - iv. What government facilities and operations exist within the identified boundaries and what role can they play in increasing the competitiveness of the proposed ecosystem?
  - v. What is the outcome for the region from the creation/expansion of space activities within the region?
- j. Implications for Government
- i. How are the interests of other mission-oriented, space-focused government agencies such as NASA, the Department of Commerce, and the DoD (beyond USAF), impacted by the modernization of the Western Range, increased supporting regional infrastructure and activities, and an improved national and commercial spaceport?
- k. Funding and Financing Model Considerations
- i. What opportunities exist for process improvement and permit acceleration?
  - ii. What potential federal and state tax incentives exist or should be considered?
  - iii. How can state and/or federal legislation related to policy/regulations/funding increase the investment and competitiveness of California's only spaceport?
  - iv. What existing investment plans for the range and region can be aligned, leverage, or aggregated to support master plan development?
  - v. What private sector funding partners are required to support master plan development?