

## **PROBLEM STATEMENT**

### **RWP-CC-24-01**

**Requirement Title:** Alternative Market Analytics and Investment Planning

**Critical Sectors:** Strategic and critical materials, kinetic capabilities, energy storage and batteries, castings & forgings, microelectronics, workforce development, and emerging manufacturing technology.

**Background:** The National Defense Industrial Strategy (NDIS) offers a strategic vision to coordinate and prioritize actions to build a modern defense industrial ecosystem that is fully aligned with the National Defense Strategy (NDS). The NDIS recognizes that America's military strength depends in part on our overall economic strength. The Department of Defense (DoD) endeavors to develop and empower a modern defense industrial ecosystem which is key to integrated deterrence and building enduring advantages and depends on a whole-of-nation approach to strengthen domestic industry's robustness and resilience.

Three key stakeholder organizations are collaborating on the Alternative Market Analytics and Investment Planning Proofs of Concept.

- The Manufacturing Capability Expansion and Investment Prioritization (MCEIP) Directorate
- The Joint Production Acceleration Cell (JPAC)
- The Policy, Analysis and Transition (PA&T) Directorate

These government stakeholders are seeking responses to one or more of the technical topic areas described under the desired objective section below.

**Desired Objective:** The objective of this requirement is to invest in several prototype projects across key strategic areas that deliver advanced market analytics and investment planning proofs of concept, in alignment with the whole-of-nation approach to building a robust and resilient domestic industrial ecosystem described in the NDIS. White Papers (WPs) must fit within one or more of the following technical topic areas:

- **CC-24-001:** Industry sector capability for cross-sector supply chain gaps
- **CC-24-002:** Private capital co-investment models
- **CC-24-003:** Production line flexibility
- **CC-24-004:** Alternative manufacturing for ball bearings
- **CC-24-005:** Microelectronics sector gap fillers
- **CC-24-006:** Surge production models

These technical topic areas are explained in further detail as follows:

- I. **Industry sector capability for cross-sector supply chain gaps (CC-24-001):** Research, analyze, and prototype a proof of concept for the capability and capacity of one industry sector to fill supply chain gaps across other industry sectors. For example, a proof of concept might demonstrate how the capability and capacity of the oil and gas industry could be used to fill supply chain gaps in the energy storage and castings and forgings industries. Solutions should model optimization of cross-sector partnerships and incorporate approaches to stimulate multiple sources of capital to maximize buying power.
- II. **Private capital co-investment models (CC-24-002):** Research, analyze, and prototype a proof of concept for information sharing and collaboration across public and private funding organizations that will identify investment strategies to maximize impact through the alignment of public and private capital applications. Solutions should innovatively navigate public and private sector fiscal laws and regulations, to create mechanisms that align mutual interests from public and private

sector stakeholders. Prototypes should address at least one DIBC critical sector(s), with a goal of designing and prototyping synergies across DIBC critical sectors.

- III. **Production line flexibility (CC-24-003):** Design, model, and prototype a proof of concept for flexible manufacturing production lines, building in modern manufacturing tools and techniques. Fluctuations in demand for individual products cause volatility for production lines dedicated to a single product; industrial base resilience would be enhanced through a flexible production line that can adapt to changing market demand signals and supply chain conditions. Models and prototypes should consider real world data and ensure alignment with defense supply chain gaps identified in Executive Order (EO) 14017.
- IV. **Alternative manufacturing for ball bearings (CC-24-004):** Design, model, and prototype a proof of concept for alternative manufacturing approaches to alleviate supply chain gaps for domestic ball bearings production.
- V. **Microelectronics sector gap fillers (CC-24-005):** Design, model, and prototype a proof of concept to address capability and/or capacity gaps in all areas of the microelectronics sector that are not being addressed by other current investments, such as the CHIPS and Science Act.
- VI. **Surge production models (CC-24-006):** Design, model, and prototype a proof of concept for surge production (i.e., an increased rate of production necessary to meet the demands for critical defense items because of a wartime or mobilization situation). Models and prototypes should:
  - incorporate shared interests across public and private markets
  - address multiple DIBC critical sectors, and
  - identify and incorporate mechanisms (i.e., leverage points) to expand sub-tier supplier production capacity across adjacent markets to drive growth.

**Anticipated Funding:** The government anticipates approximately seven awards. Funding over the next two years is anticipated to be approximately \$1.5 million, subject to future Government availability of funding. Proposed solutions are subject to negotiation, if selected for award.

**Anticipated Security Level:** Unclassified, however, Controlled Technical Information and/or Controlled Unclassified Information may be required.

**Estimated Period of Performance:** Up to two (2) years

**Anticipated Data Rights:** Government Purpose Rights (as appropriate for any data developed using government funding).

**Technical POC(s):** To be provided based on the focus areas for any proposed solutions selected for award.