Manufacturing Capability Expansion & Investment Prioritization (MCEIP) Overview

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Director, MCEIP

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Manufacturing Capability Expansion and Investment Prioritization

- Incentivizes the creation, expansion and/or preservation of domestic industrial manufacturing capabilities and materials needed to meet national and homeland security requirements

- Manufacturing Capability Expansion and Investment Prioritization (MCEIP) is comprised of two portfolios: Innovation Capability and Modernization (ICAM) and Defense Production Act Investments (DPAI)
  - Together these portfolios provide **complementary** flexible authorities to incentivize and strengthen the Defense Industrial Base

- The ICAM portfolio oversees the execution of the Industrial Base Analysis and Sustainment (IBAS) authorities
  - IBAS authorities are leveraged to improve the readiness and competitiveness of the domestic industrial base by establishing high-priority domestic capabilities for new supply chains needed for national security and mitigating exposure to global supply chain risks

- The DPAI portfolio oversees the execution of Defense Production Act (DPA) Title I and Title III authorities
  - The purpose of DPA Title I is to ensure the timely availability of industrial resources to meet national defense and emergency preparedness requirements through the Defense Priorities and Allocations System (DPAS)
  - DPA Title III is an investment authority committed to ensuring resilient, robust domestic supply chains in order to reduce reliance on foreign manufacturing and correct domestic shortfalls in the defense industrial base
Executive Order (E.O.) 14017, America’s Supply Chains

- Executive Order 14017 required a **whole-of-government effort** to assess risk, identify impacts, and propose recommendations in support of a healthy manufacturing and defense industrial base – a critical aspect of economic and national security.

- **Select Kinetic Capabilities**
  - On-shore or secure US source for DoD critical chemicals
  - Improve industrial base to support the building and deployment of strategic and quick strike weapons

- **Energy Storage and Batteries/Strategic and Critical Materials**
  - Re-establishing domestic mine-to-magnet production
  - Onshore critical minerals for DOD

- **Microelectronics (ME)**
  - Maintain U.S. share of global semiconductor production to strengthen and secure DIB
  - Develop and sustain domestic capabilities for radiation-hardened manufacturing and testing

- **Castings and Forgings**
  - Expansion of sole source supplier for aerospace grade magnesium and aluminum
  - Rebuild the industrial base to support shipbuilding activities
Defense Production Act
(40 U.S.C. 4501 et seq.)

- The Defense Production Act (DPA) authorizes the President to ensure the availability of U.S. and Canadian industry for U.S. defense, essential civilian, and homeland security requirements.
- The House Committee on Financial Services and the Senate Committee on Banking, Housing, and Urban Affairs have jurisdiction over DPA.

<table>
<thead>
<tr>
<th>DPA Authorities</th>
<th>Title I</th>
<th>Title III</th>
<th>Title VII</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priorities and Allocations</td>
<td>Expansion of Productive Capacity and Supply</td>
<td>General Provisions</td>
<td></td>
</tr>
</tbody>
</table>

- Prioritize Federal contracts over all other orders
- Control distribution of scarce materials within the civilian economy
- Allocate scarce materials against Federal or private contracts
- Prevent hoarding of scarce materials

- Incentives to develop, maintain, modernize, and expand production capacity or critical technologies:
  - Loans/ loan guarantees
  - Purchases/ purchase commitments
  - Grants and subsidies

- Mandatory survey authority of any U.S.-registered business entity
- Anti-trust immunity for industry, to develop and implement national emergency preparedness plans
- Committee on Foreign Investment in the U.S. (CFIUS)
- Civilian Executive Reserve, called into Federal service during a national emergency

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Title I provides a powerful set of authorities to influence & shape the Defense Industrial Base

The Defense Priorities and Allocations System (DPAS)

- **Ensures** the timely availability of industrial resources to meet national defense and emergency preparedness requirements
- **Prioritizes** defense orders in support of programs of the highest national urgency that have demonstrated a need within the Industrial Base, ensuring programs experiencing disruption receive the appropriate prioritization to meet their program objectives during day-to-day operations, and in national emergencies

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Priority Rating Within the DoD

- DoD priority rates ~350,000 prime contracts every year; the majority are DO rated
- DoD and its delegate agencies have 14 DX rated programs

The Defense Priorities and Allocations System (DPAS) is administered by the Department of Commerce. The DPAS establishes two levels of priority rating – “DO” and “DX”. When there are competing requirements at one or more vendors for a limited industrial resource, Special Priorities Assistance (SPA) is a more appropriate mechanism than a “DX” rating.

**“DO” Priority Ratings**

A “DO” rating gives the DoD priority over all unrated (commercial) orders. DO rated orders have equal priority to each other.

Because of DoD’s mission, all procurement contracts should contain a “DO” rating.

There is no approval process for a “DO” rating – THIS SHOULD BE DONE AUTOMATICALLY.

Can be used for orders of production and construction equipment (DD Form 691).

**Education & Negotiation**

If a supplier cannot meet a requested delivery date, there should be education and negotiation between the supplier and customer to attempt to resolve without USG intervention.

If the issue cannot be resolved by the supplier/customer, DoD and DOC will attempt to coordinate further education and negotiation before an SPA is pursued.

**Special Priorities Assistance (SPA)**

- Expedite delivery at any level of the supply chain to meet a specific need
- Accelerate delivery of a rated order due to change in military urgency
- Resolve delivery conflicts between multiple rated orders and request rating authority for items not automatically ratable using the Priority Allocation of Industrial Resources (PAIR) taskforce
- Expedite procurement of manufacturing equipment and prioritization at test facilities and ranges

OASD(IBP) is the approval authority.

*When an SPA is issued, the order may be placed in front of a DX rated order.*

**“DX” Priority Ratings**

Preference over “DO” and unrated orders with identical delivery dates.

WILL NOT move orders ahead of orders with earlier delivery dates, unless the DX order cannot be fulfilled in time.

ONLY SECDEF and DEPSECDEF may grant a “DX” rating designation.

Only used for programs of the highest national defense urgency that are experiencing major production delays.
SOSAs are bilateral, voluntary agreements which allow DoD to request priority delivery for DoD contracts, subcontracts, or orders from companies in these countries.

SOSAs also allow signatory nations to request priority delivery for contracts and orders with U.S. firms.

DoD has entered into 13 SOSAs, with four SOSAs signed in the last six months, and is in the process of negotiating additional arrangements.

Reciprocal industrial priority arrangements encourage partner nations to acquire defense goods from each other, promote interoperability, and provide assurance of timely delivery.

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## DPA Title III Authorities and Priority Areas

### Authorities

<table>
<thead>
<tr>
<th>Loan Guarantees</th>
</tr>
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<tbody>
<tr>
<td>§301 (50 U.S.C. 4531)</td>
</tr>
<tr>
<td>- May be extended when credit is not available to the loan applicant under reasonable terms and conditions sufficient to finance the activity</td>
</tr>
<tr>
<td>- Prospective earning power of the loan applicant and the character and value of the security pledged provide a reasonable assurance of repayment of the loan to be guaranteed</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>§302 (50 U.S.C. 4532)</td>
</tr>
<tr>
<td>- May be extended when private financing is beyond the risk of the commercial market</td>
</tr>
<tr>
<td>- Projected earnings following the loan are sufficient to cover repayment costs</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Purchase Commitments</th>
</tr>
</thead>
<tbody>
<tr>
<td>§303 (50 U.S.C. 4533)</td>
</tr>
<tr>
<td>- Create a guaranteed demand to reduce risks for industry to make their own investments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Purchases</th>
</tr>
</thead>
<tbody>
<tr>
<td>§303 (50 U.S.C. 4533)</td>
</tr>
<tr>
<td>- Provide direct subsidies to companies to assist in establishing production capabilities including:</td>
</tr>
<tr>
<td>- Purchase and installation of production equipment in privately owned or Government owned facilities</td>
</tr>
<tr>
<td>- Engineering support to improve quality and yield of production facilities</td>
</tr>
<tr>
<td>- Sample quantities for process validation and customer qualification testing</td>
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</tbody>
</table>

### Priority Areas

<table>
<thead>
<tr>
<th>§303 (50 U.S.C. 4533)</th>
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</thead>
<tbody>
<tr>
<td>Sustain Critical Production</td>
</tr>
<tr>
<td>“To create, maintain, protect, expand, or restore domestic industrial capabilities essential for National Defense”</td>
</tr>
</tbody>
</table>

| Commercialize Research and Development Efforts |
| “From Government sponsored research and development to commercial applications” and “from commercial research and development to National Defense” |

| Scale Emerging Technologies |
| “For the increased use of emerging technologies in security program applications and the rapid transition of emerging technologies” |
The execution of Section 303 (50 U.S.C. § 4533) authorities requires the President, on a non-delegable basis, to identify a domestic industrial base shortfall as meeting three specific criteria:

— The industrial resource, material, or critical technology item is essential to national defense;

— Without Presidential action under [50 U.S.C. § 4533], United States industry cannot reasonably be expected to provide the capability for the needed industrial resource, material, or critical technology item in a timely manner; and

— Purchases, purchase commitments, or other action pursuant to [50 U.S.C. § 4533] are the most cost effective, expedient, and practical alternative method for meeting the need.

Presidential Determinations (PDs) are:

— Non-expiring and able to be leveraged for different projects addressing the same shortfalls

— Varying in breadth and scope depending upon the shortfall/challenge addressed

PDs are not:

— An appropriation or funding mechanism

— A mandate to address a specific shortfall or pursue a specific course of action
• Under peacetime conditions, the DPA statute imposes constraints on the exercise of Section 303 authorities:
  — All investments require a PD
  — All actions >$50M require Congressional notification and a 30-day waiting period before action can be taken
  — All actions >$50M require Congressional authorization

• The law currently allows for the **waiver of statutory criteria** in two specific instances:
  — During a period of **national emergency** declared by the Congress or the President
  — Upon a determination by the President, on a nondelegable basis, that action is **necessary to avert an industrial resource or critical technology item shortfall** that would severely impair national defense capability. (50 U.S.C. § 4533).
# History of Presidential Determinations and Waivers

<table>
<thead>
<tr>
<th>Presidential Determination/Waiver</th>
<th>Signature Date</th>
<th>Authorization Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energetic Materials Production for DoD Munitions</td>
<td>16 January 2019</td>
<td>$50M</td>
</tr>
<tr>
<td>Precursors Production for DoD Munitions</td>
<td>16 January 2019</td>
<td>$50M</td>
</tr>
<tr>
<td>Inert Materials Production for DoD Munitions</td>
<td>16 January 2019</td>
<td>$50M</td>
</tr>
<tr>
<td>Advanced Manufacturing Techniques for DoD Munitions</td>
<td>16 January 2019</td>
<td>$50M</td>
</tr>
<tr>
<td>Sonobuoys Production</td>
<td>12 March 2019</td>
<td>$50M</td>
</tr>
<tr>
<td>Small Unmanned Aerial Systems</td>
<td>12 June 2019</td>
<td>$50M</td>
</tr>
<tr>
<td>Rare Earth Permanent Magnets Production (2x PDs)</td>
<td>22 July 2019</td>
<td>$100M</td>
</tr>
<tr>
<td>Rare Earth Separation and Processing Capability (2x PDs)</td>
<td>22 July 2019</td>
<td>$100M</td>
</tr>
<tr>
<td>Rare Earth Metal and Alloy Processing Capability</td>
<td>22 July 2019</td>
<td>$50M</td>
</tr>
<tr>
<td>Domestic Capacity Expansion for F135 Integrally Bladed Rotors</td>
<td>22 July 2019</td>
<td>$50M</td>
</tr>
<tr>
<td>COVID-19 Response (Waiver)</td>
<td>27 March 2020</td>
<td>No Limit</td>
</tr>
<tr>
<td>High/Ultra High Temperature Composite for Hypersonics</td>
<td>24 June 2020</td>
<td>$50M</td>
</tr>
<tr>
<td>Submarine Industrial Base Production Capacity Essential to the VCS Program (3x PDs)</td>
<td>21 December 2021</td>
<td>No Limit</td>
</tr>
<tr>
<td>Radiation-Hardened and Strategic Radiation-Hardened Microelectronics</td>
<td>21 December 2021</td>
<td>No Limit</td>
</tr>
<tr>
<td>Critical Materials in Large-Capacity Batteries</td>
<td>31 March 2022</td>
<td>No Limit</td>
</tr>
<tr>
<td>Material Critical to Support the Defense Against Adversarial Aggression (Waiver)</td>
<td>3 October 2022</td>
<td>No Limit</td>
</tr>
<tr>
<td>Supply Chain Resilience (Waiver)</td>
<td>27 February 2023</td>
<td>No Limit</td>
</tr>
<tr>
<td>Printed Circuit Boards and Advanced Packaging</td>
<td>27 March 2023</td>
<td>No Limit</td>
</tr>
</tbody>
</table>
• **Issue Identification**
  - Industry- Open Funding Opportunity Announcement
    o [https://sam.gov/opp/f373370cf504a0c9ac0ad41dccee52e/view](https://sam.gov/opp/f373370cf504a0c9ac0ad41dccee52e/view)
  - Industry Mailbox –
    o [osd.pentagon.ousd-a-s.mbx.dpa-title-iii-industry-inquiries@mail.mil](mailto:osd.pentagon.ousd-a-s.mbx.dpa-title-iii-industry-inquiries@mail.mil)

• **Authorization and Appropriation**
  - Development of new/increase spending limit on Presidential Determinations

• **Acquisition**
  - Develop DoD requirements
  - Select T3 investment requirements
  - Develop statement of objectives
Why is everyone talking about DPA?

- While the DPA was enacted in 1950, the past few years have seen an increased interest in the authorities from the Executive and Legislative Branches, Government agencies, and the public.

- In March 2020, Congress appropriated $1B to the DPA Purchases account via the CARES Act “to prevent, prepare for, and respond to coronavirus”.
  - Greatly reduced acquisition timelines resulting in the obligation of $800M in ~10 months

- In FY2022, the DPA was appropriated $600 million by the Additional Ukraine Supplemental Appropriations Act to mitigate industrial base constraints for faster missile production and expanded domestic capacity for strategic and critical minerals.
  - A further $146 million was added into the DPA Fund for increased production of solid rocket motors

- Also in FY2022, the Inflation Reduction Act appropriated $500 million for enhanced use of the DPA.
  - The funds were split equally between Department of Energy and the DoD
  - The $250 million provided to the DoD will be applied to expanding capabilities for domestic mining, mineral processing, and related industrial sectors for large-capacity batteries.

- The Executive and Legislative branches are increasingly viewing DPA authorities as valuable tools to be leveraged against urgent, critical issues.
Defense Production Act Title III

• **IS:**
  — Efficient and effective way to improve the industrial base
    o Modernize, expand, transform
  — **One method** for creating and sustaining market demand
  — Final stop (sometimes) on the way to production
  — **Cross-cutting investment vehicle** to solve root causes, not symptoms
  — Able to **engage** tactically with industry and strategically with policy and legislation
  — **Planned over a five year period to address challenges and shortfalls in priority order**

• **IS NOT:**
  — Title I
  — A magic bullet
  — The **solution to all industrial base problems**
  — Appropriate for **service specific** challenges
    o Single platform/service
    o A solution for service specific challenges

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Building the “Next Generation of the Arsenal of Democracy” through execution of the IBAS Program

**Mission:** Strengthen the competitive posture of the U.S. Defense Industrial Base (DIB) in the era of great powers and global competition

**Vision:** A modern industrial base that *fortifies* traditional DIB capabilities and *forges* emerging sectors to respond *at will* to national security requirements

**Priorities:**
- Prepare the defense industrial workforce – Promote, elevate, and accelerate industrial talent pipelines
- Ready the modern DIB – Advance and sustain traditional defense manufacturing sectors
- Prepare for the future – Identify, attract, and cultivate emerging defense sectors
- Assess and shape the risk – Mitigate supply chain vulnerabilities within the global DIB
- Build and strengthen partnerships – across the global DIB

**Statutorily Based**

10 U.S. Code § 4817. Industrial Base Fund – IBAS Authorities

1. to support the monitoring and assessment of the industrial base
2. to address critical issues in the industrial base relating to urgent operational needs;
3. to support efforts to expand the industrial base; and
4. to address supply chain vulnerabilities.

These authorities can be used to enhance domestic and allied supply chains.
How We Execute “Federated” Approach

IBAS Program with Military Service and Defense Agency teams

- Navy
  - NSWC Crane
  - PEO SSBN
- AF
  - AFRL
- Army
  - DEVCOM
  - PEO STRI
- DLA
  - Stockpile
- Others
  - As required or prudent

Contract vehicles

Federated approach to requirements development and access to contracting opportunities for project execution

Industrial Base Sectors and Communities of Interest

- Other
- Ground Vehicles
- Solider Systems
- Space
- Materials
- Cyber for IB
- C4
- Workforce Skills
- Trusted Capital
- Machine Tools
- Optics
- Aircraft
- Ship Building
- Radar & Electronic Warfare
- Electronics
- Missiles & Munitions
- SOF Operational Requirements

* Blue shaded boxes represent those sectors currently receiving IBAS funding

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In 2020, DoD established a national testbed for ACE for research, technology advancement, training and workforce development.

- Combines scientific expertise of Oak Ridge National Laboratory, the research and teaching expertise of The University of Tennessee, Knoxville, and the workforce development leadership of IACMI.

Conducts research to:
- Increase efficiency of existing machine tools
- Develop skills & training for next generation machine tools for composites and metals
- Establish tools to rapidly train the next generation of machine tool designers and operators.
National Imperative for Industrial Skills (NIIS)
A Call to Action!

Over $150M invested across 18 projects that stress-test different approaches to meeting training requirements, delivering measurable outcomes in the initiative’s third year

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**Aspirational Goals**
- **Promote** the prestige of manufacturing and industrial careers
- **Accelerate** training development pipelines
- **Elevate** U.S. manufacturing to world-leading status

**Objectives**
- **Recruit** - Reinvigorated recruiting for CTE
- **Train** - Responsive training pipelines for manufacturing and industry
- **Place** - Hire and retain world-class national industrial workforce

**Lines of Effort—Invest and Integrate**
- **Focus and spirally develop** a data-driven, program approach
- **Expand recruitment** to increase diversity, equity, and inclusion
- **Establish/Evolve training** curricula, processes, and capacity
- **Engage** local, state, and USG authorities, activities, and resources
- **Build partnerships** beyond DoD and traditional training community—integrate multiple stakeholders across government, industry, associations, and academia

**Multi-year IBAS—Cornerstone acquisition approach launched in March 2020 to manage prototype projects for workforce development**

**Designed to-scale across Military Departments and organic industrial base activities, agencies, industry, academia**

**Leverages “WFD ecosystem model”**
- Common touch point to target multiple WFD segments
- Two interrelated, post-secondary tracks:
  - University—engineering and design
  - Career and technical—industrial trades

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To date, over 175 schools/teams representing 29 states and 6 allied nations, featuring students from various community colleges with advanced manufacturing/technical programs, universities, and multiple high school and international technical trade programs, have participated in Project MFG competitions, totaling over 783 individual competitors.

Since its inception, Project MFG has awarded student scholarships and grants totaling almost $596,000 and tools/tooling prize awards totaling an additional $368,000+ for schools and competitors as of its May 2022 National Championship.

Making an immediate impact
- Changing what and how we teach and train advanced manufacturing
- Driving new engagement, partnerships, and investment at multiple levels
- Changing mindsets and perceptions through new narratives