



HARNESSING TECHNOLOGY for the **WARFIGHTER**

Printed Circuit Board Technology Executive Agent

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HARNESSING TECHNOLOGY FOR THE WARFIGHTER

Why DoD Established Executive Agents? (DODD 5101.1)



- **Accomplish DoD objectives**
- **Focus DoD resources**
- **Required by law, Executive order, or regulation**

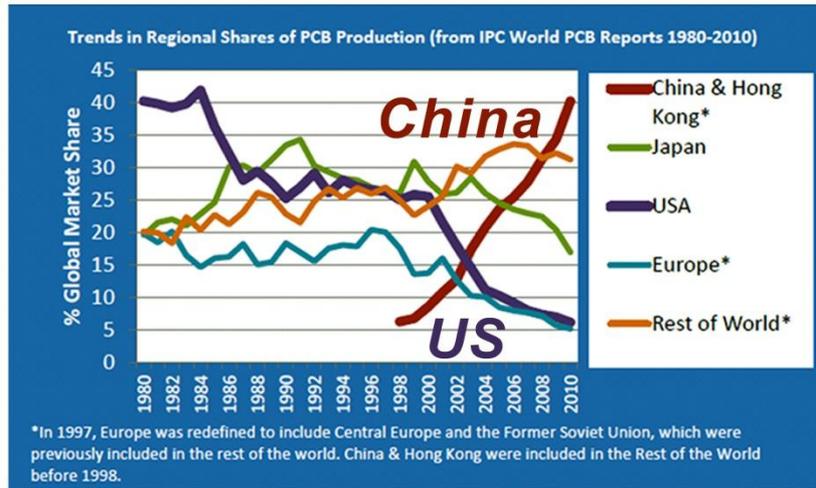


Why Printed Circuit Board (PrCB) Executive Agent?

- **Recommended by National Academies of Science**
- **Supported by DoD Principle Response Team**
- **Implemented by 2009 National Defense Authorization Act**
 - **Trust**
 - **Research and Development**
 - **DoD Knowledge and Capability Sustainment**
 - **Supply Chain Awareness**
- **Validated by 2012 Congressional Report**

DoD Concern Over Domestic Industrial Base

US PCB Manufacturing Base in Decline



Domestic PCB Industrial Base Health Indicators



Figure 2. Industrial Base Indicators



Deputy Secretary of Defense Designation

1. Development and maintenance of a printed circuit board and interconnect technology roadmap that ensures the Department of Defense has access to the manufacturing capabilities and technical expertise necessary to meet future military requirements regarding such technology.



DEPUTY SECRETARY OF DEFENSE
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2. Development of recommended funding strategies necessary to meet the requirements of the roadmap developed under subparagraph 1.

SUBJECT: Designation of the Secretary of the Navy as the DoD Executive Agent for
Printed Circuit Board Technology

3. Assessment of the vulnerabilities, trustworthiness, and diversity of the printed circuit board supply chain, including the development of trustworthiness requirements for printed circuit boards used in defense systems, and to develop strategies to address matters that are identified as a result of such assessment.



Why NSWC Crane Division?

- Leader in DoD Organic Printed Circuit Board Capability
- Organic “Trusted” Printed Circuit Board Capability
- DoD’s Largest Concentration of Interconnect Technology Expertise (One of Two DoD Facilities)
- Complete Capability – Concept to Product
- Classified Personnel and Facilities
- Active IPC Member





IPC Defense Unique Capability Requirements

- **High reliability applications**
- **Long product life cycles**
- **Wide variety of environments**
- **Sustainability requirements**
- **Environmental regulations / exemptions**





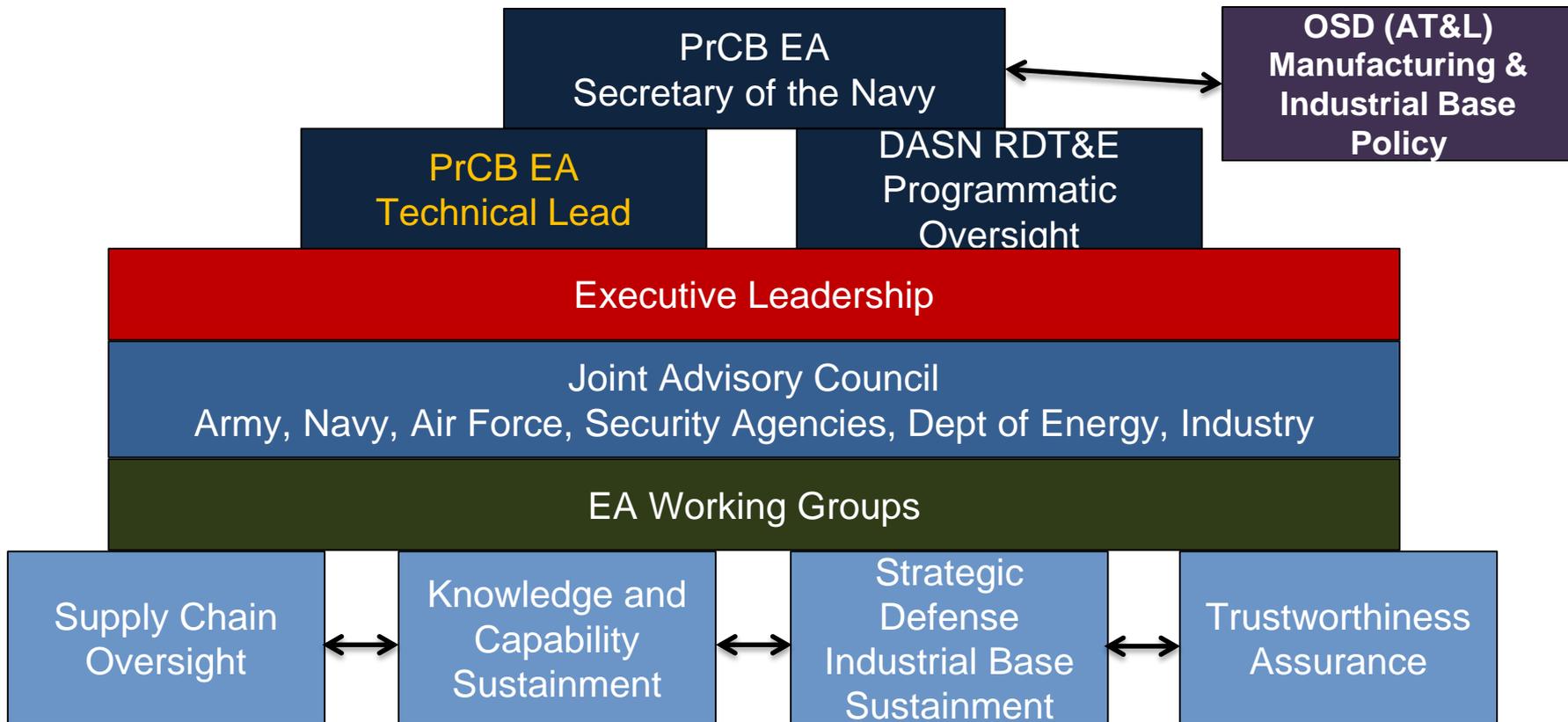
DoD Identified Unique Considerations

- **Availability in War Time**
- **Cost of Failure**
- **Certification**
- **Leading Edge - not Bleeding Edge**
- **Trust/ITAR/IP**





Executive Agent Approach





Summary

- **Ensure robust PrCB industrial base with capabilities necessary to meet current and future military requirements**
- **Collaboration between government and industry**

