Allied Prototyping Initiative (API)

Office Of The Under Secretary of Defense (Research & Engineering)

Col Corey "Lite'nin" Beaverson, USAF
Director, Global Capability Programs (GCP)

Allied Prototyping Initiative (API)

Overview

API identifies, develops and executes a <u>small number</u> of <u>high impact</u> operational prototyping projects in which the US and Partner Nations (PN) provide Research and Development (R&D) funding, <u>share</u> technology and industry participation to co-develop <u>leap-ahead</u> operational capabilities

Allied Prototyping Initiative (API)

- **Identifies shared operational challenges, each countries core technical competencies, and transition paths to an operational capability**

- **Supports SECDEF's National Defense Strategy (NDS) to maintain a military competitive advantage in all three Lines of Effort:**

  - ✓ *Build a more lethal force* **through rapid prototyping in modernization technology areas**

  - ✓ *Strengthen alliances and attract new partners* **through cooperative development of equipment to inherently deepen interoperability with participating allies & partners**

  - ✓ *Reform the department for greater performance and affordability* **through leveraging and coordinating allied R&D funding towards shared defense capability needs**

Delivers leap-ahead operational capability to US and PN warfighters

Allied Prototyping Initiative (API)

- US and PN orienting toward near-peer competitors in contested environments

- Government to Government collaboration executed via International Agreements

- Co-development efforts, providing leap-ahead capabilities in the 5-7 year period, focused on DoD Modernization Priorities, to counter mutual threats

Leading to….

- Co-production capabilities that aims to boost each nation's industrial base – API lays the foundation for future decisions, aiding capacity and resilience

✓ **Shares:**
   ➢ Funding
   ➢ Technology/Subject Matter Expertise
   ➢ Our Respective Countries' Industrial Strengths

✓ **Results In:**
   ➢ Maximizing Modernization - together we have better ideas
   ➢ Increasing Interoperability – we build it from the same specification
   ➢ Reducing Vulnerabilities – tackles shared challenges and boosts supply chain flexibility
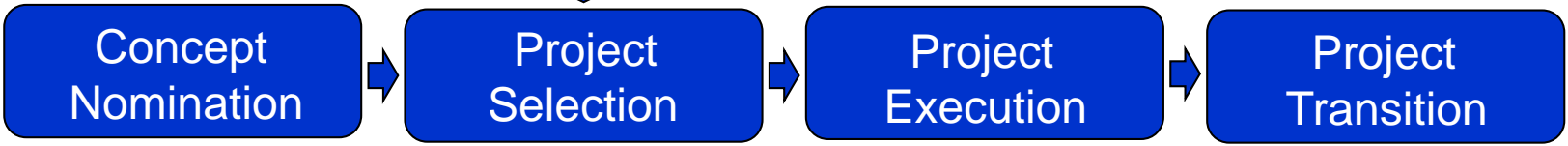
Focus Areas for FY20

- **DoD Modernization Priorities – aligned to the NDS**
  - ✓ **Artificial Intelligence and Machine Learning**
  - ✓ **Autonomy**
  - ✓ **Biotechnology**
  - ✓ **Cyber – Offense and Defense**
  - ✓ **Directed Energy**
  - ✓ **Fully Networked Command Control and Communications**
  - ✓ **Hypersonics – Offense and Defense**
  - ✓ **Microelectronics**
  - ✓ **Quantum Science**
  - ✓ **Space**
  - ✓ **5G**

- **API's are informed by Assistant & Technical Directors (AD/TD) and guided by Product Line Directors (PLD)**
  - **AD/TD: Unifies and advances investments in each technology area**
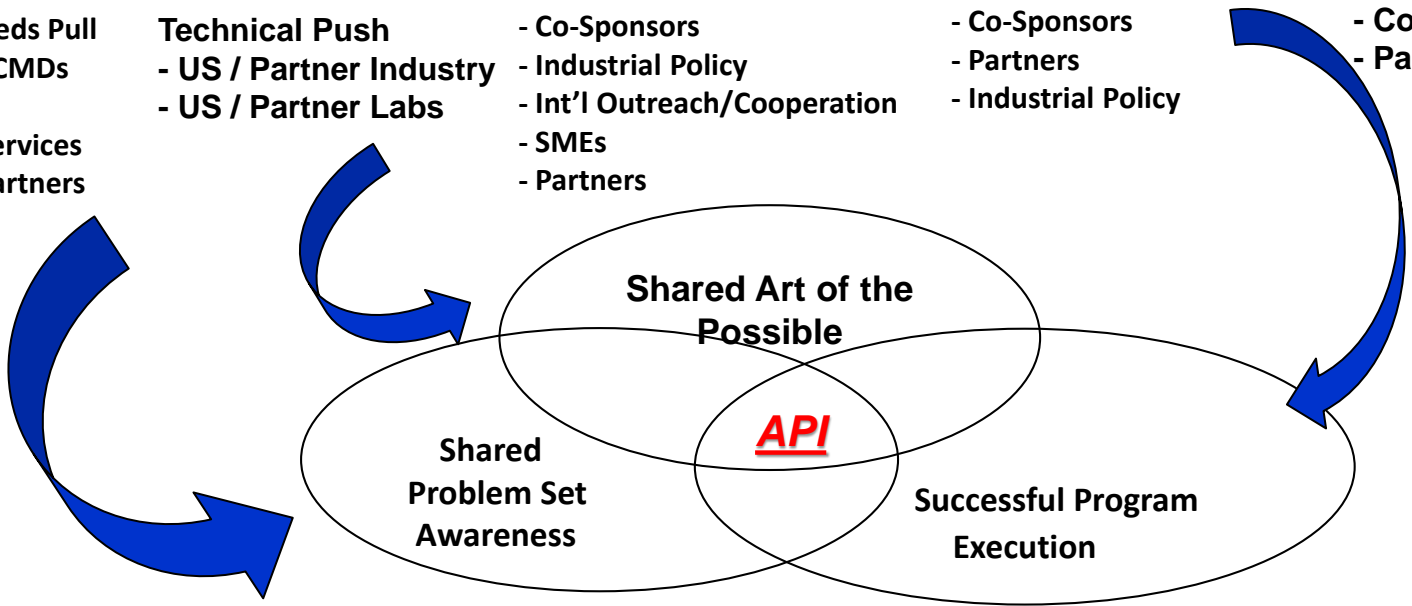 - **PLD: Steers capability produced by technologies onto systems**

API's Framework & Network of Partners

Heilmeier Criteria

Concept Nomination	→	Project Selection	→	Project Execution	→	Project Transition

OUSD R&E Assistant & Technical Directors / Product Line Directors

Needs Pull
- CCMDs
- JS
- Services
- Partners

Technical Push
- US / Partner Industry
- US / Partner Labs

- Co-Sponsors
- Industrial Policy
- Int'l Outreach/Cooperation
- SMEs
- Partners

- Co-Sponsors
- Partners
- Industrial Policy

- Co-Sponsors
- Partners

Shared Art of the Possible

API

Shared Problem Set Awareness

Successful Program Execution

API transforms US & PN needs and technical competencies into capabilities

Finding Projects

- **Partner proposes projects to U.S.**

- **Expand/build on previous cooperative work**

- **Propose planned U.S. Service and Combatant Command prototyping efforts to Partners**

- **New concepts initiated by OUSD (R&E) organizations and developed into projects in cooperation with Partners' counterpart organizations**
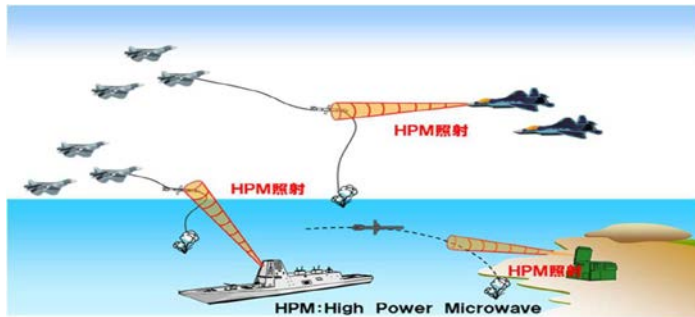

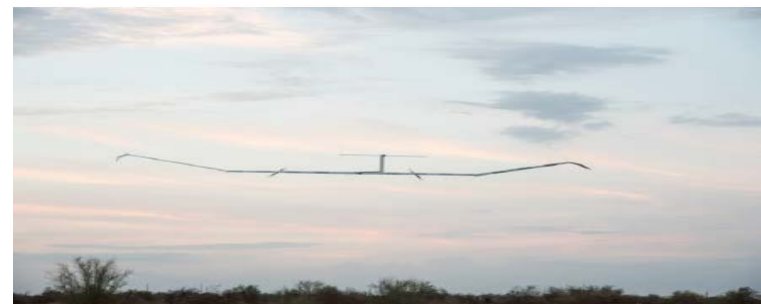**Hypersonics**

Fully Networked C3

SUMMARY

- **Achieves NDS intent in all three Lines of Effort**

- **Delivers cooperative prototyping projects to provide leap-ahead capabilities in the 5-7 year time horizon focused on the DoD Modernization Areas**

- **Secures U.S. funding and partner nation funding for selected projects, facilitates agreements, and staffs for approval**

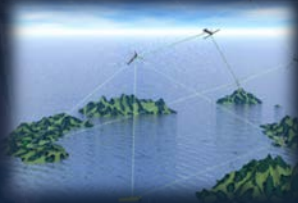- **Oversees project execution in conjunction with U.S. Service and PN**

Directed Energy

Stratosphere and Space

DoD Research and Engineering Enterprise

Creating the Technologies of the Future Fight

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