



Global Supply Chain Value From a National Defense Perspective

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The nature of the global environment in which DoD operates has changed drastically in the last 20 years

- 1) The rise of global value chains and supply networks**
“Globalization is a market characteristic, not a policy choice”
- 2) The pace of technology change has increased**
- 3) The role of U.S. defense in the global innovation market has diminished**
- 4) Defense-relevant commercial innovation continues to rise**



DoD's internal processes for dealing with this new environment has not changed as much

For decades, DoD's industrial model has lagged behind the evolutions in global commerce and remains comparatively slow, inefficient, and impervious to external innovation

Reform is becoming even more important as budgets decline under a statutory cap that extends to FY 2023.

The potential impacts of inaction are tangible:

- costs and cycle times increase,
- innovation suffers,
- technological advantage is diminished, and
- interoperability (including standards) becomes harder



These conditions drive two sets of issues for DoD

1) Knowledge Gap

**2) Barriers to Innovation
Incorporation**

Knowledge Gap

Most DoD technology and innovation activities are primarily focused on ‘inside innovation’ – concepts, technologies, and programs which DoD has bought and paid for or which the defense industrial base is developing for the defense market.

“Outside innovation” activities are primarily focused on the global commercial market, funded from standard global financial sources.

Innovation continues to increase worldwide, but DoD processes to access networks are less robust when operating outside traditional nodes of defense innovation.



Barriers to Innovation Incorporation

Even if DoD were able to overcome knowledge gaps and access outside innovation, there remain significant barriers to incorporating innovation from outside traditional sources/processes:

- Requirements processes
- Intellectual property rights
- Cost accounting standards
- TINA and FAR compliance
- Profit policy
- Export licenses
- COTS purchasing (e.g., FAR Part 12)
- Competition vs. sole source
- Managing security of supply

Case Studies: Illustrating the Issue Sets

	Knowledge Gap	Incorporation Barriers
Unmanned Aerial Systems	↑ HIGH	TBD
Microelectronics	↓ LOW	↑ HIGH

Initial Conclusions:

Under these conditions, DoD's ability to deliver capabilities suffers, both in an absolute sense and relative to competitors

- Can't afford to go it alone
- Underutilizing global innovation
- Growing gaps in knowledge and technology
- Underutilizing knowledge of partners and allies
- Costs will steadily increase

What can we do to mitigate these problems?

Moving DoD Supply Chains to Global Value Chains - in the Context of Federated Defense

A federated approach to defense can shrink knowledge gaps and lower barriers to incorporating innovation

- Industrial cooperation to reach new innovation networks
- Building partnerships and enhancing interoperability
- Driving cost efficiency
- Increased base for competition and innovation