

Tactics to Strengthen the US Defense Industrial Base With Private Capital

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Sam Moyer, Research Fellow
NDIA Emerging Technologies Institute

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FEATURED PANEL
Designing the Future: Tackling Challenges in 3D Heterogenous Integrated (3DHI) Microelectronics for Aerospace, Government, and Defense Systems

PANEL

intel. **DARPA** **SYNOPSYS**

Dr. Joshua Fryman Dr. Carl McCants Dr. Rob Aitken

Moderated by Ian Land, Synopsys

Thursday, November 9, 2023 | 10 a.m. PST | 1 p.m. ET

Microelectronics Webinar



Conference: HON. William "Mac" Thornberry & HON. Kathleen Hicks

Tech 101: High Energy Lasers

Directed Energy uses electromagnetic energy fired at the speed of light resulting in deterrent, to damaging, to destructive effects

High Energy Lasers (HEL) High Power Radio Frequency (RF) High Power Microwaves (HPM)

0.0001 nm 0.01 nm 10 nm 1000 nm 0.01 cm 1 cm 1 m 100 m

Gamma rays X-rays Ultra-violet Infrared Radio waves Radar TV FM AM

Visible light 400 nm 500 nm 600 nm 700 nm

Deny Degrade/Damage Destroy

Deny is safe from damage but degraded Risk of some damage

Escalation of force

Source: GAO | GAO-23-108717

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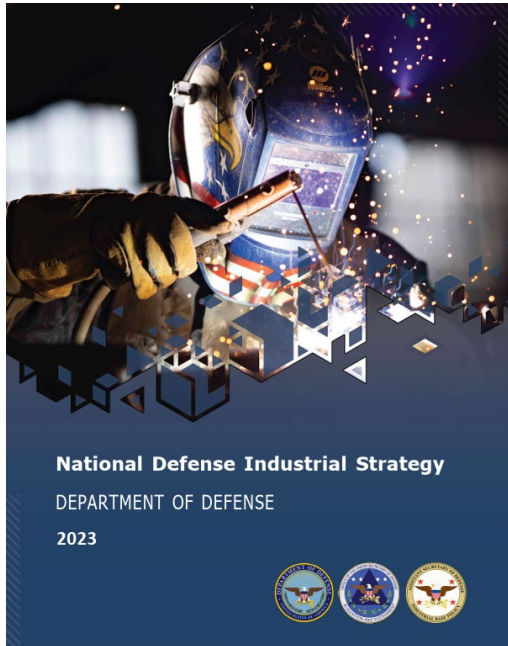
Tech 101: High Energy Lasers

Structured overview of well-established, as well as emerging tactics that the DoD uses to engage private capital.



- Interviews with 30+ individuals:
 - Private equity, venture capital, commercial banking, and others
 - Investor-backed companies in multiple defense sub-sectors
 - Government personnel with experience engaging private capital

Importance of Private Capital

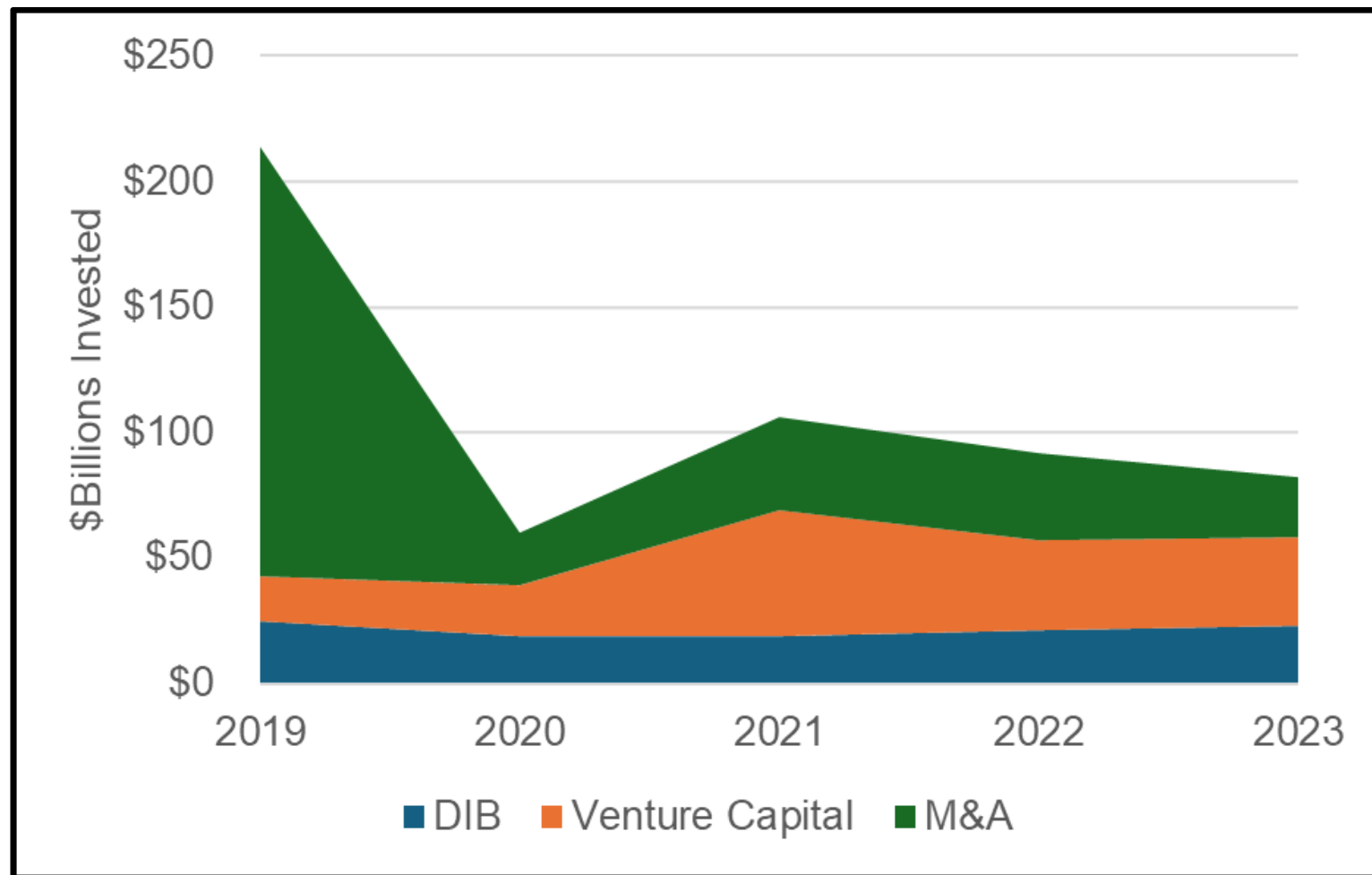


*“We need to build a modernized industrial ecosystem that includes... finance streams, especially **private equity and venture capital**.” – 2023 National Defense Industrial Strategy*

Benefits of private capital in the DIB

- China overall economic investment rate is 43%, USA is 20%
- Support US R&D and capital expenditures
- Provide exit markets to founders to stimulate upstream investment
- Reduce fragility of DoD supply chains with lower cost of capital
- Assist with commercialization & tech transition
- Diversify funding sources for companies & reduce CR risk

Private Capital Trends in Defense Sector



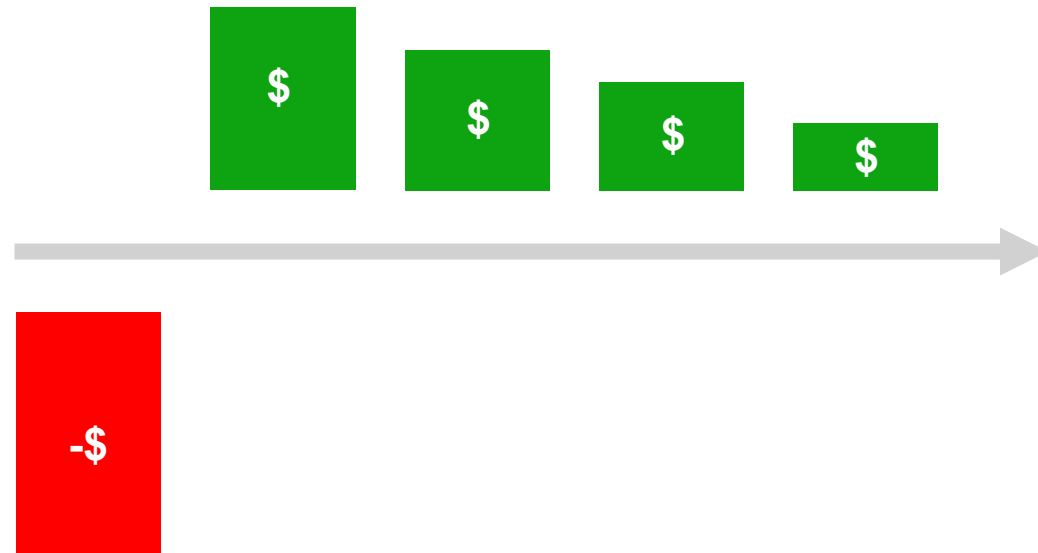
Findings Overview: Proposed Taxonomy of DoD Tactics for Engaging Private Capital

1. **Demand signal enhancement:** reduce uncertainty about the size, timing of future defense sales, to improve the financial case for private investment.
2. **Catalytic capital:** “crowd in” private capital by acting as a signal of confidence and reducing financial downside risk
3. **Dealmaking capabilities:** act as a more predictable and responsive customer.

Finance 101: How investors see demand signal

Investors purchase a series of cash flows, which are more valuable when:

- 1 ...they are less risky
- 2 ***...they arrive nearer in time – the "time value of money!"***



Tactic #1: Demand Signal Enhancement

- Reports & rhetoric
- Test and experimentation events
- Memoranda of understanding (MOUs and MOAs)
- Demand aggregation
- Fixed price contracts
- Prizes
- Multi-year appropriations authority
- Advance procurement
- Multi-year procurement
- Securitization of leases

Tactic #1: Demand Signal Enhancement:

Case Study: Demand Aggregation

- Office of Industrial Base Policy (IBP) Manufacturing Capability Expansion and Investment Prioritization (MCEIP) Directorate
- Leveraged \$177 million in private capital so far against \$7 million DoD dollars **(25:1)**
- Private investment dollars created onshore production facilities for 12 essential chemicals for DoD
- **DoD aggregated its demand signal with US commercial industry buyers, presenting a large combined demand signal at workshop events**

Tactic #2: Catalytic Capital

- Investment capital as pre-award criteria
- Federal, state and local credit programs
- Investment matching
- Government equity investing

Case Study of Catalytic Capital: X-Bow Strategic Financing (STRATFI)



X-Bow flight test, 2022

- Catalytic capital offered by Air Force SBIR (AF Ventures) and another Air Force end user
- Leveraged \$27 million in private capital against \$54+ million DoD dollars
- Private investment dollars to enable rapidly 3D printed, low-cost solid rocket motors (SRMs) and culminate in a flight test series
- **Matching dollars catalyzed investment into X-Bow**

Tactic #3: Dealmaking Capabilities

- Private capital ecosystem development programs
- M&A regulatory environment
- Data and information technology tools (e.g. market intelligence, supply chain risk analysis)
- Leadership
- Being a good customer (e.g. nontraditional contracting regimes)
- Training and culture

Next steps

- Please reach out if you have input
- smoyer@ndia.org

