



**DEFENSE
INNOVATION UNIT**



**NATIONAL SECURITY
INNOVATION CAPITAL**



**NATIONAL
SECURITY
INNOVATION
NETWORK**

POST Panel
March 7, 2023

Michael Madsen
Cheryl Ingstad

Acting Director, DIU
Managing Director, NSIN

MAKE THE RIGHT
TECHNOLOGY INVESTMENTS

“[The United States] will be a **fast-follower** where market forces are driving the commercialization of militarily-relevant capabilities... and [DoD] will speed their delivery to the warfighter.”

2022 National Defense Strategy



Photo credit: Rocket Lab

EXPANDING LATE SEC. CARTER'S VISION

From scouting test-bed to scaling program outcomes

DIU is focused exclusively on commercial companies to solve national security problems.

NSIN: Expand the NSIB with new talent and startups

NSIC: Accelerate product dev of critical hardware tech

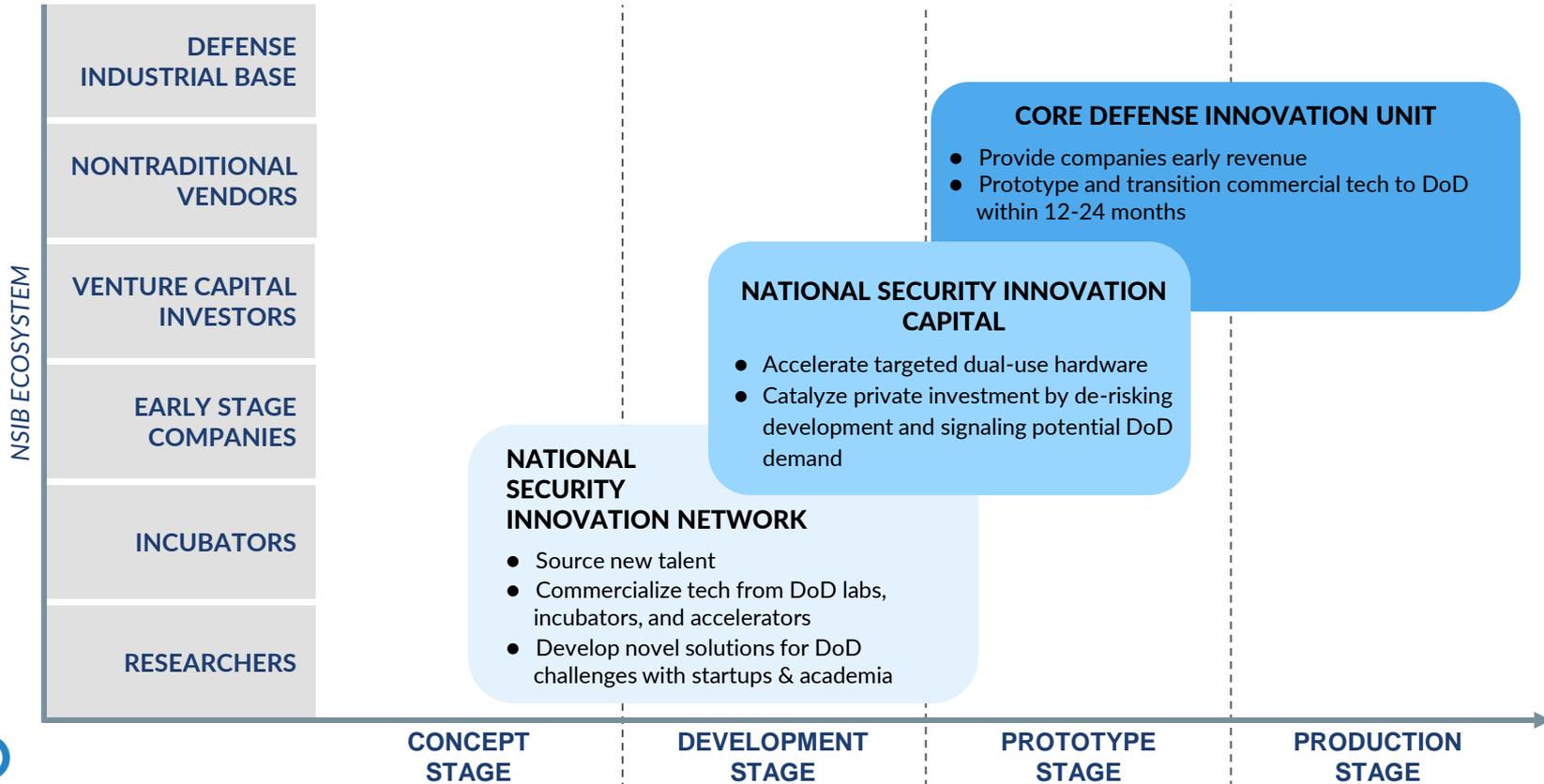
Core DIU: Rapidly scale DoD adoption of commercial tech

"Success no longer goes to the country that develops a new technology first, but rather to the one that better integrates it and adapts its way of fighting."



INCREASING ADOPTION OF COMMERCIAL TECH & GROWING THE NSIB

The 3 components of DIU



DIU BY THE NUMBERS

Generating outsized impact

CORE DIU (FY17-FY22)

\$4.9B

follow-on contract ceiling across 52 solution transitions (47% rate)

321

Unique companies won **>\$1B** in prototype contracts (49 states + DC).

>\$90B

In total private investment leveraged

NSIC (Mar 2021-Sep 2022)

\$20M

Funds awarded and **96%** total obligated.

12

Total companies funded (across 8 states); adversarial capital removed from 3 companies.

3

companies raised Seed/Series A rounds at 3x NSIC's funding.

NSIN (FY19-FY22)

8,555

Individuals integrated into NSIB.

1,326

Early-stage ventures integrated into the NSIB and **48** technologies commercialized from federal labs.

\$9.6B & \$2.9B

Private capital funding and DoD funding, respectively.



DIU'S MISSION

DIU is a fast-moving, cross-DoD organization focused exclusively on commercial companies to solve national security problems.

Elements of our Mission

Accelerate DoD adoption of commercial technology

Transform Military capacity and capabilities

Strengthen the national security innovation base (NSIB)

Key Differentiators

Unique project lifecycle from curation to transition

Joint force & mandate to scale value across DoD

Broad and deep **integration** into key tech ecosystems



TECHNOLOGY FOCUS AREAS

Key technology domains where the commercial sector is in the lead



AI/ML



Autonomy



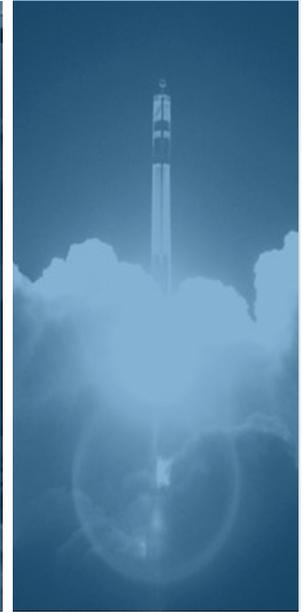
Cyber &
Telecommunications



Energy



Human Systems



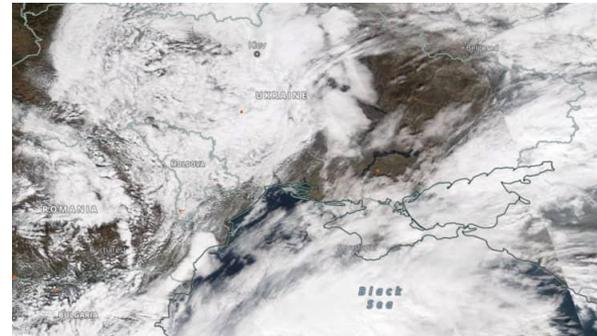
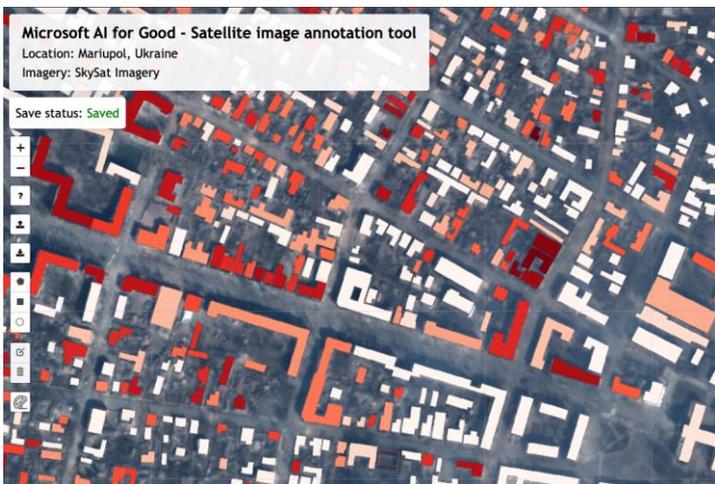
Space





COMMERCIAL TECH IN COMBAT

Delivering immediate tactical value to the Ukrainian military



NOAA satellite imagery show most of Ukraine obscured by cloud cover on 24 Feb 2022.

Commercial Remote Sensing

VS



Planet Labs Satellite imagery of the Chuhuiv Air Base outside of Kharkiv, Ukraine on 21 Feb 2022 (Before / After)

xVIEW CHALLENGE SERIES

Developing ML algorithms using open-source data (overhead imagery) that advances computer vision capabilities to address global challenges



Small, rare, fine grained, and multi-type objects with bounding box annotation

1.0: Detect Objects

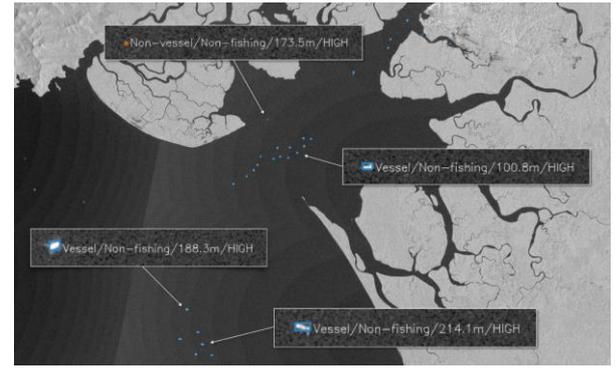


2022 California wildfires

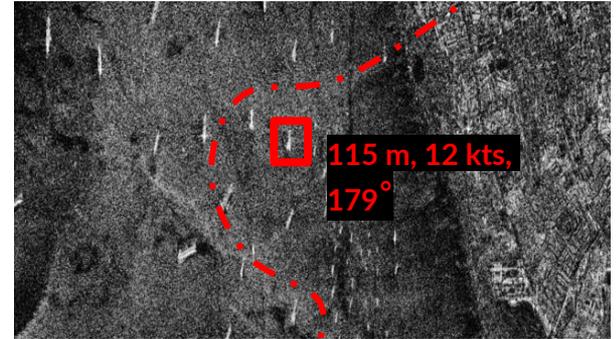


2023 Kahramanmaras Earthquake in Turkey

2.0: Assess Building Damage



Synthetic Aperture Radar Imagery

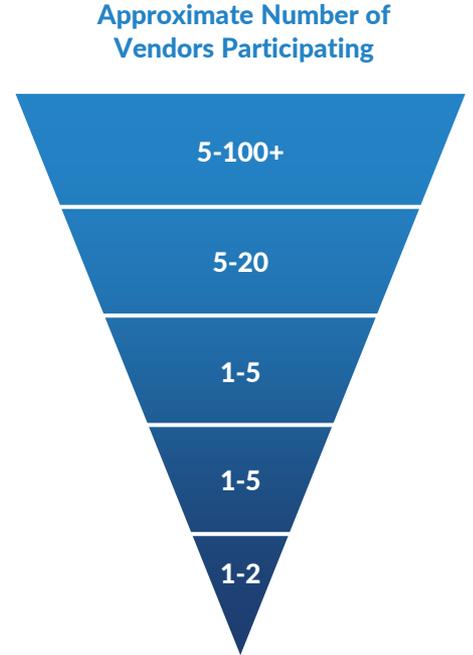


3.0: Detect Illegal, Unreported, and Unregulated (IUU) Fishing Vessels



UNIQUE PROJECT LIFECYCLE - FAST & COMPETITIVE

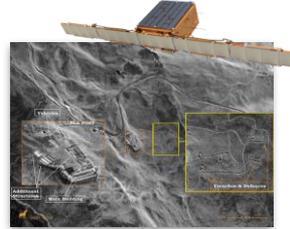
Problem Curation & Diligence	<ul style="list-style-type: none"> ● Receive, understand, and evaluate DoD partner problem ● Confirm commercial market exists to address problem 	No Requirements	
Commercial Solutions Opening (CSO)	Phase 1	<ul style="list-style-type: none"> ● Solicit digital proposals in response to a problem statement 	~10 business days
	Phase 2	<ul style="list-style-type: none"> ● Evaluate proposals and invite a short list of bidders to pitch 	60-90 days to contract award (goal)
	Phase 3	<ul style="list-style-type: none"> ● Select contract awardee/s and negotiate agreement 	
Prototyping	<ul style="list-style-type: none"> ● Execute prototype project 		12-24 months
Transition	<ul style="list-style-type: none"> ● Award non-competitive agreement to successful performers ● Deliver & scale solution to transition partner/s 	No Re compete FAR Not Req'd	



FUNDAMENTAL CHALLENGE: DELIVERING MEANINGFUL DEMAND

DoD remains a challenging customer with high barriers, even for proven tech

- Current PPBE process is not aligned with commercial timelines and yields an opaque, unattractive DoD demand signal
- Rigid and inflexible assessment, contracting, & integration processes in program execution phase
- Winnable, recurring contracts are largely inaccessible and costly to acquire



Typical venture scale returns are challenging, limiting private capital flow and de-incentivizing technologists to build for DoD and national security.



DOD NEEDS TO UNLOCK MEANINGFUL DEMAND TO ACCELERATE MARKETS

MINDSET CHANGES

- ⇒ Capabilities not requirements
- ⇒ Fast Follower: more buy, less build

ACQUISITION CHANGES

- ⇒ Broader use of “new” tools (OTA)
- ⇒ Incentives, training and rewards

PPBE CHANGES

- ⇒ Capability Program Executive Offices (PEOs)
- ⇒ Fewer Program Elements (PEs)
- ⇒ Reprogramming flexibility

INNOVATION ORG CHANGES

- ⇒ DoD capital applied at the right time



WORK WITH US

www.diu.mil

OPEN SOLICITATIONS

diu.mil/work-with-us/open-solicitations

SIGN UP FOR UPDATES

<https://www.diu.mil/newsletter-sign-up>

FOLLOW US

