



NATIONAL SECURITY
INNOVATION NETWORK



NSIN Overview

Our Organization



Office of the Secretary of Defense

MISSION: The Department of Defense's enduring mission is to provide combat-credible military forces needed to deter war and protect the security of our nation.



Defense Innovation Unit (DIU)

MISSION: Strengthen our national security by accelerating the adoption of leading commercial technology throughout the military and growing the national security innovation base.



National Security Innovation Network (NSIN)

MISSION: Build networks of innovators that generate new solutions to national security problems.



NSIN

Mission

We build networks of innovators to generate new solutions to national security problems.



- The Department of Defense's (DoD) current model for problem-solving is expensive and inefficient.
- The complexity of problems the DoD faces and the speed at which solutions are required means new problem solvers are critical.
- Adding intellectual diversity from non-traditional solution providers (e.g. the academic and early-stage venture communities) is necessary to solve problems more economically, faster, and better.
- A networked approach enables the consistent problem-solving capability for the DoD that helps bridge the civil-military divide and improves outcomes for service members.

A New Model for National Security Innovation

NSIN delivers on its mission through three lines of effort.



Network Building

Innovation ambassadors engage academic and venture communities to build a network of DoD problem-solvers.



Programs

Talent and Venture programming activates the Network to develop innovative solutions.



Transition

Supports mission partners and program participants to navigate the valley of death.



NSIN



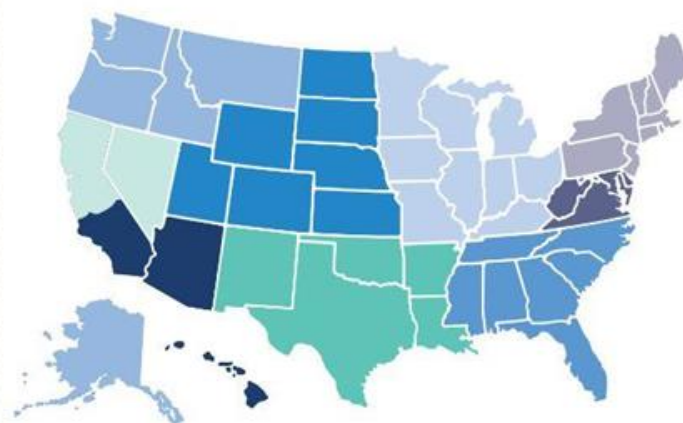
Who

- › DoD program office reporting to the Office of the Secretary of Defense
- › Program of Record FY20
- › All programming provided by NSIN



What

- › Competitive and Diverse Talent
- › Partnerships
 - › Universities
 - › Venture Community
 - › DoD/Warfighters
- › Dual-Use Solutions
- › Expand the National Security Innovation Base



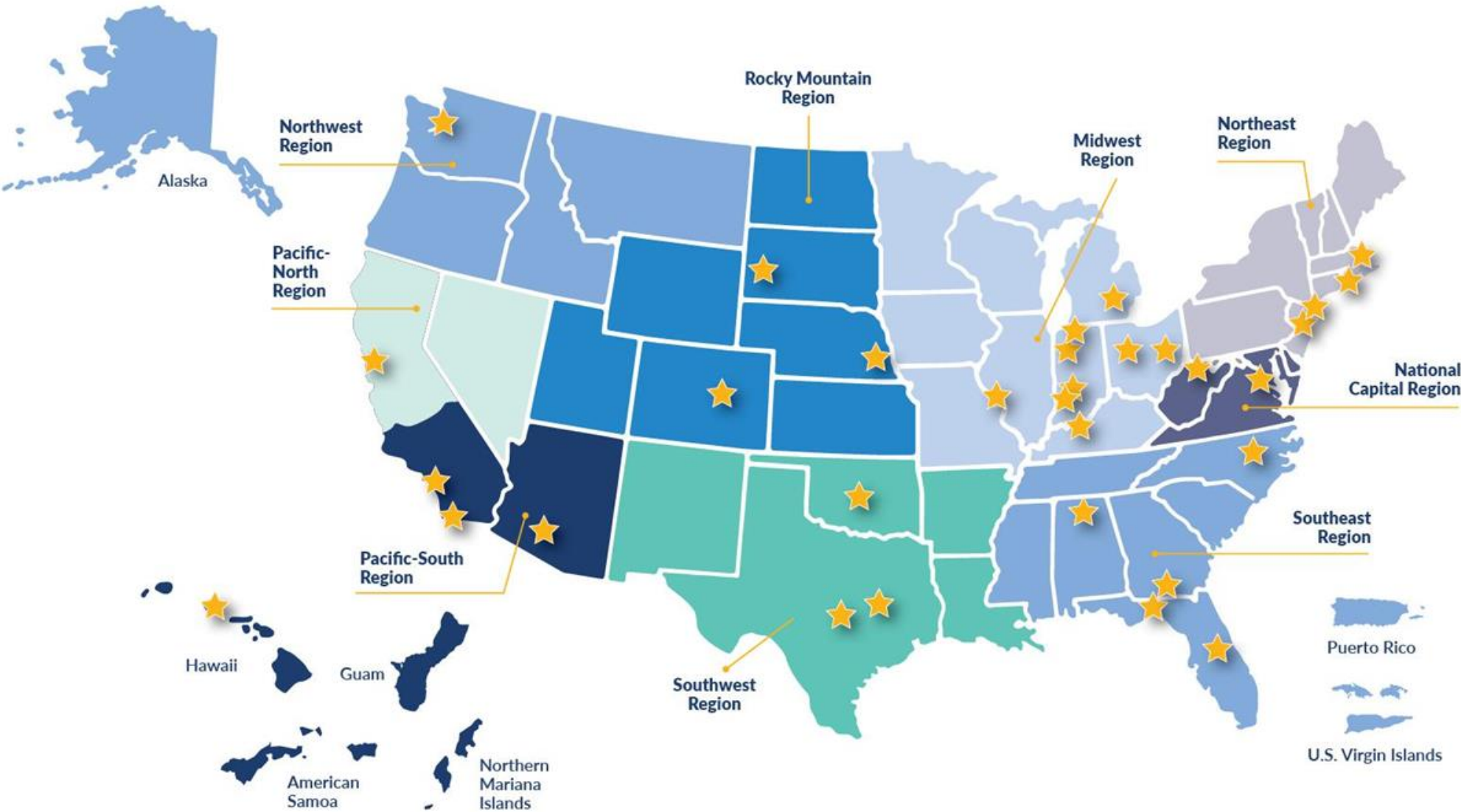
Where

- › HQ in Arlington, VA
- › 37 regional positions across 26 states



NSIN

NSIN Regional Presence



Programs of Record

TALENT PORTFOLIO

Bringing in new talent to solve hard, national security challenges.

BOOTCAMP

Teaches service members how to use Human Centered Design to develop minimum viable product (MVP) solution concepts for problems that directly affect their command.

CAPSTONE

Pairs student teams with DoD to solve challenges as a part of an independent study or practicum course.

FOUNDRY

Commercializing breakthrough defense technologies to solve national security problems.

AZIMUTH

A unique semester-long, mission-driven, service-learning course during which NSIN partners with universities and DoD Mission Partners to address real-time DoD problems using hands-on innovation methodologies.

MAKER

Prototyping solutions for accepted novel solutions from NSIN programming, allowing customers to turn ideas from the abstract and theoretical into practical and real prototypes.

X-FORCE FELLOWSHIP

During the summer, pairs recent graduates and current students with a DoD organization to solve problems ranging in complexity and across disciplines.



NSIN

Programs of Record

VENTURE PORTFOLIO

Driving access to early-stage ventures to address national security problems.

CHALLENGES

Bring collaborators from the defense, academic, and venture communities together to work on the most challenging technical problems in national security.

EMERGE

Connects DoD mission partners (e.g., operational units, program offices, etc.) with emerging technology teams and startups at our nation's top research universities.

FORGE

Matching cutting-edge U.S. Department of Defense (DoD) technologies with early-stage ventures during intensive, twelve-week cohorts.

PROPEL

Partners with commercial startup accelerators to lower barriers to entry for dual use ventures and lowers risk for DoD end users in discovering novel solutions.

VECTOR

Opportunity for early-stage ventures to further develop their leading-edge technology solutions with the support of NSIN subject matter experts.



NSIN

► NSIN BY THE NUMBERS

FY 2019–2022

NSIN FUNDING



NSIN HELPED

983

DoD organizations
SOLVE



1,511

PROBLEMS
by generating

1,786

unique solutions.



ENGAGED

8,555

NEW PEOPLE
in the National Security
Innovation Base.

SUPPORTED

1,326

NEW COMPANIES
to enter the National
Security Innovation
Base and spun out
48 of DoD-funded
technologies.



Since 2016, companies in
NSIN programs **RAISED**

\$9.6B

IN PRIVATE CAPITAL
FUNDING

and

\$2.9B

IN DoD FUNDING.



NSIN

Challenges

NSIN Challenges bring collaborators from the defense, academic, and venture communities to work on the most challenging technical problems in national security.

- Solving complex problems requires a combination of diverse technologies and talent.
- Work on problem sets from the DoD that are sources of opportunity for non-traditional problem-solvers.
- Participate in innovation challenges that help DoD problem owners confront obstacles that affect their readiness and resilience.
- Collaborate and learn from other innovators tackling the DoD's problems.

In Action



Sponsor: Air Force Research Laboratory

Grand Challenges:

- *Metallic Scrap and Waste Powders* - Demonstrate production of powder from scrap materials and rejuvenation of used or out-of-spec titanium powder for additive manufacturing.
- *Quantum Networks* - Develop high-rate entangled-photon sources to enable global quantum networks, networked quantum sensors, and distributed quantum computing.
- *AI Planners for Optimization* - Identify and build a machine learning-artificial intelligence system that can efficiently help researchers find appropriate conditions for optimization and discovery of new synthetic compounds using multi-system approaches.
- *Quantum Information* - Extraction of images beyond the Rayleigh limit pitched high-resolution space imaging solutions.

Learn more about Challenges: nsin.mil/portfolios/venture

Propel

Supports the DoD's effort to maintain its competitive edge by collaborating with innovative and non-traditional partners and influencing the development of solutions delivered by early-stage ventures and accelerates their transition readiness.

- Three-to-four month accelerator program for the DoD and 10-12 dual-use ventures to work together to shape solutions that solve DoD customer problems.
- Includes targeted services and DoD-specific mentorship and education to prepare early-stage ventures for DoD adoption.
- Early-stage dual-use ventures are better prepared to successfully transition solutions to the DoD.
- Can lead to multiple adoption opportunities including SBIR Phase I, direct to Phase II, OTAs, BAAs, etc.

In Action



Sponsor: PEO Digital

Project: Human-Machine Teaming

Solution: A wearable device intended to assist Parkinson's patients and also serve defense needs:

- Pison contracted with several DoD organizations, securing more than \$7 million in research and development funding.
- Pison's first product that enables gesture control with autonomous systems and software, such as ATAK, is being sold to the DoD.

Learn more about Propel: nsin.mil/propel



**NATIONAL SECURITY
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Connect With Us

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