OFFICE OF THE DIRECTOR OF NATIONAL INTELLIGENCE

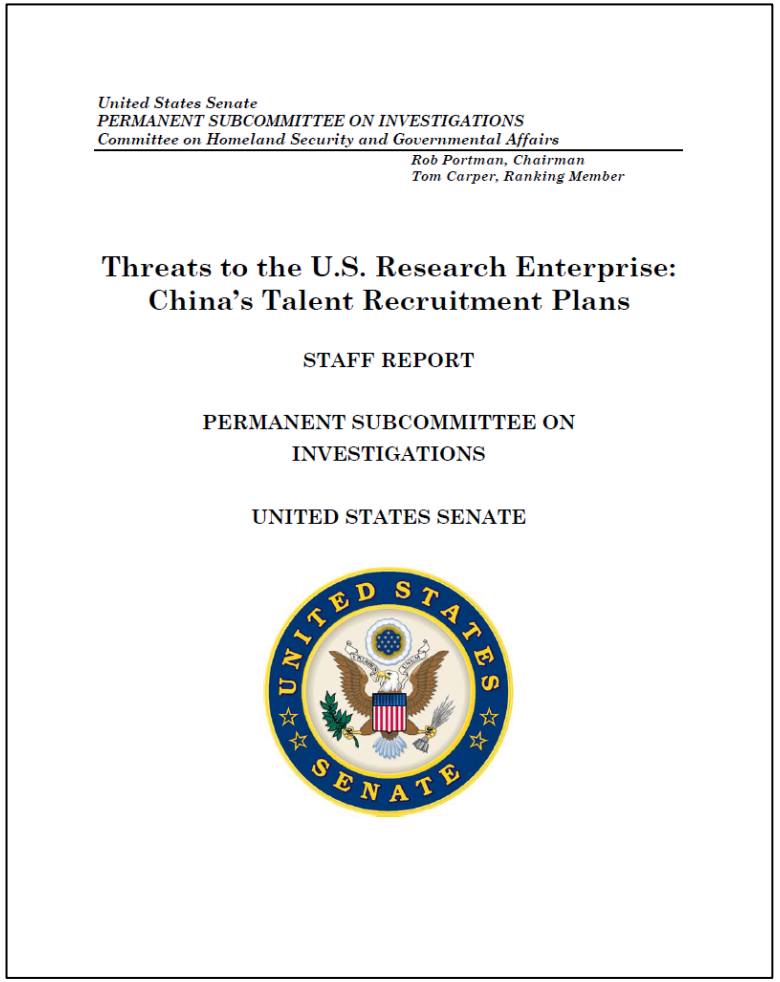
Foreign Interference: National Security and Open Science

David Isaacson, *Ph.D.*

Deputy Director, Science and Technology Group (STG)
Policy and Capabilities Directorate (P&C)

The Threat Is Real…

"Some countries, however, seek to exploit America's openness to advance their own national interests. The most aggressive of them has been China. China primarily does this through its more than 200 talent recruitment plans—the most prominent of which is the Thousand Talents Plan. Launched in 2008, the Thousand Talents Plan incentivizes individuals engaged in research and development in the United States to transmit the knowledge and research they gain here to China in exchange for salaries, research funding, lab space, and other incentives. China unfairly uses the American research and expertise it obtains for its own economic and military gain. ***In recent years, federal agencies have discovered talent recruitment plan members who downloaded sensitive electronic research files before leaving to return to China, submitted false information when applying for grant funds, and willfully failed to disclose receiving money from the Chinese government on U.S. grant applications."***



United States Senate
PERMANENT SUBCOMMITTEE ON INVESTIGATIONS
Committee on Homeland Security and Governmental Affairs

Rob Portman, Chairman
Tom Carper, Ranking Member

Threats to the U.S. Research Enterprise: China's Talent Recruitment Plans

STAFF REPORT

PERMANENT SUBCOMMITTEE ON INVESTIGATIONS

UNITED STATES SENATE

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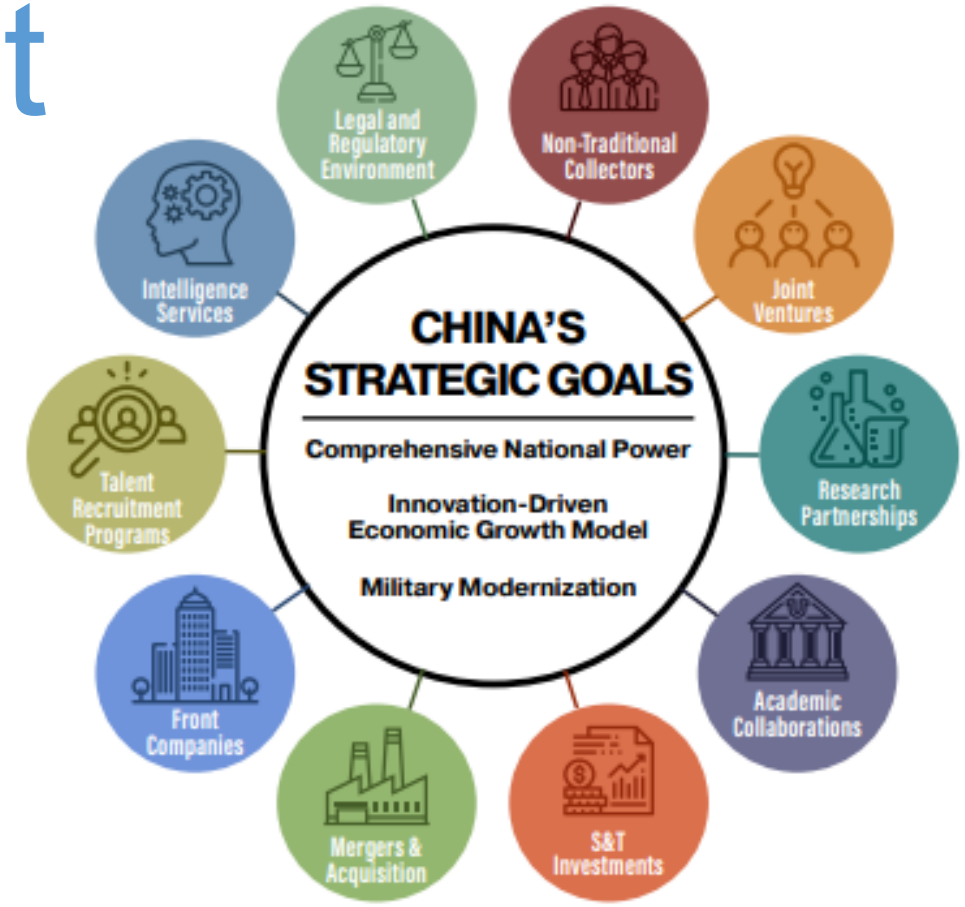
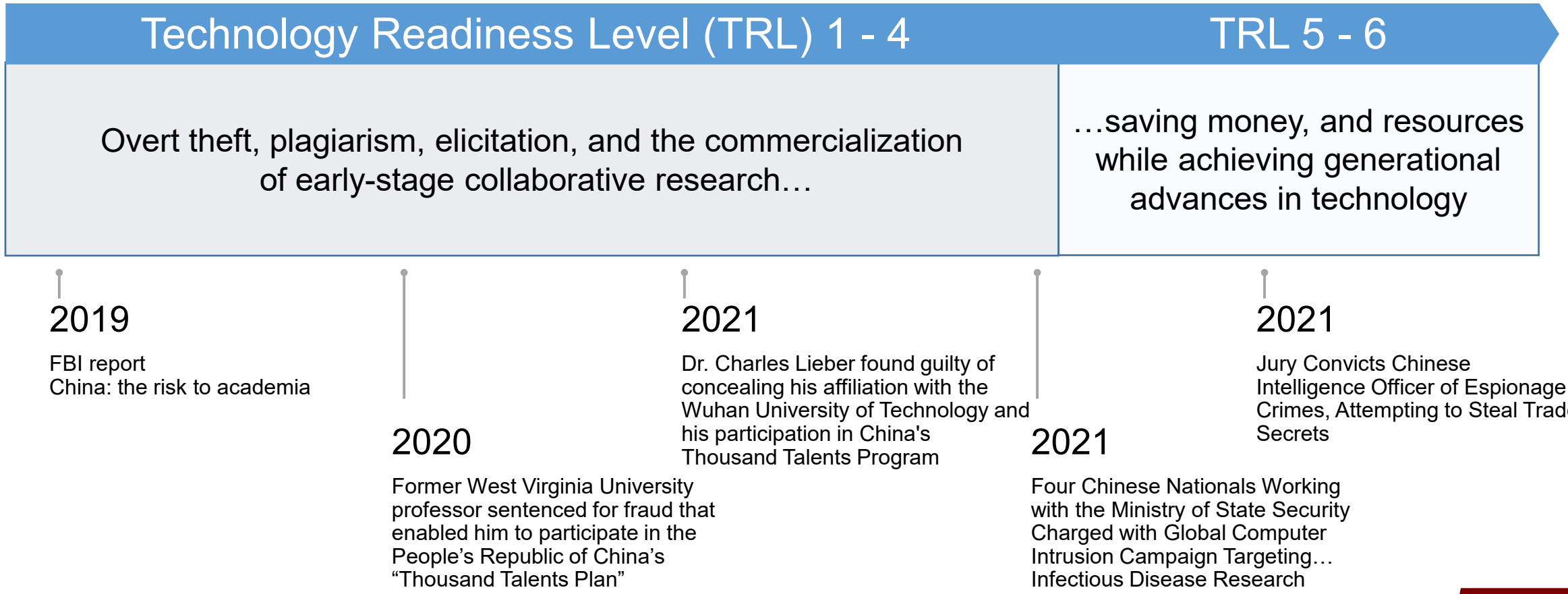
The Threat Is Real… (cont.)

FBI Assessment

Foreign adversaries exploit America's deeply held and vital culture of collaboration and openness on university campuses, with the Chinese government posing a particular threat to U.S. academia for a variety of reasons. First, it **does not play by the same rules of academic integrity** that U.S. educational institutions observe… Second, **China is the world's principal infringer of intellectual property**… Lastly, the **Chinese government uses some Chinese students… and professors to operate as non-traditional collectors of intellectual property.**

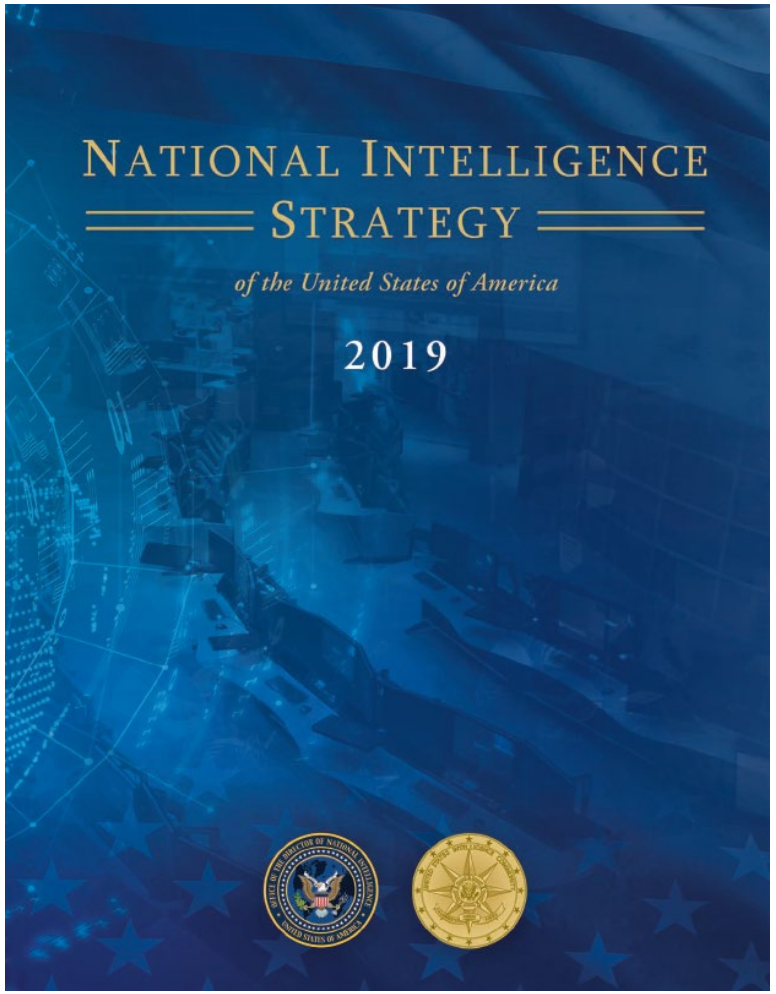


The Threat Is Real… (cont.)



…But So Is Our Need To Engage Transparently

"The IC must be accountable to the American people in carrying out its national security mission in a way that upholds the country's values. ***The core principles of protecting privacy and civil liberties in our work and of providing appropriate transparency about our work, both internally and to the public, must be integrated into the IC's programs and activities.*** *Doing so is necessary to earn and retain public trust in the IC, which directly impacts IC authorities, capabilities, and resources. Mission success depends on the IC's commitment to these core principles."*



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Overview of ODNI STG Programs

IC S&T
INTELLIGENCE COMMUNITY SCIENCE & TECHNOLOGY

AIM
AUGMENTING INTELLIGENCE USING MACHINES

In-STeP

IC Academic Research Symposium

Research Institutes · National Laboratories · Universities
IC Postdoctoral Research Fellowship Program

Science and Technology Fellows

Journal of Intelligence Community Research and Development
JIC R&D

r·space

NASEM

PRESIDENTIAL EARLY CAREER AWARDS FOR SCIENTISTS AND ENGINEERS

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STG's Defining Documents

ODNI/STG recently released a new set of documents—***ODNI's S&T Investment Planning Guidance***—which was recently transmitted to Congress and signed by both the DNI and PDDNI.

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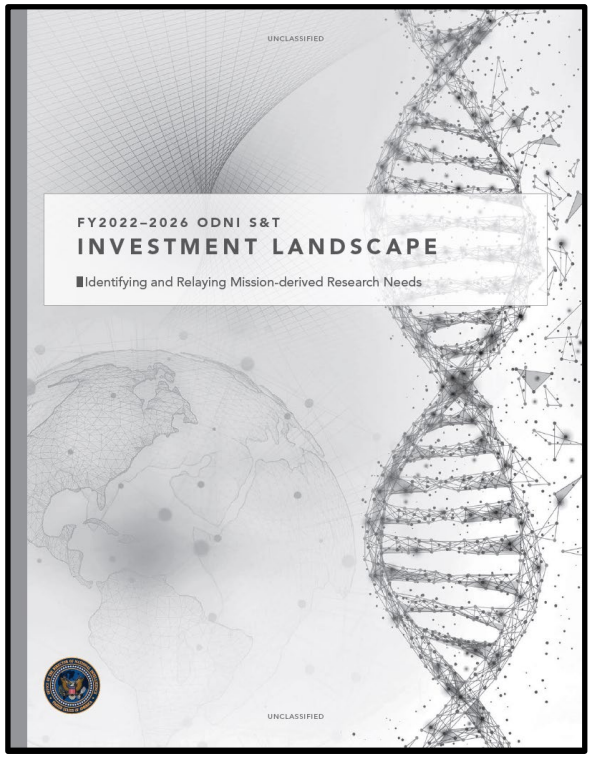
FY2022–2026 ODNI S&T Strategic Plan. This *Plan* identifies the guiding principles for IC S&T Enterprise Investment and articulates four key goals for the ODNI intended to set the landscape for the development of S&T throughout the IC to ensure our technical advantage and more effectively pursue the IC's mission.

FY2022–2026 ODNI S&T Investment Landscape. This report identifies the principal challenges facing the national security enterprise in order to focus S&T investment efforts on the IC's critical needs. It describes the process by which the STG generates recommendations to the DNI and the broader IC on the capabilities, associated technologies and research areas that will address the future needs of the community. This *Landscape* additionally serves as the basis for ODNI's longer-term investment strategy.

FY2022–2026 ODNI S&T Strategic Investment Framework. This publication explains how the STG will identify and manage risk within the IC's research portfolio, given that it is not fiscally or otherwise possible for the IC to anticipate and sufficiently address every potential challenge. The approach outlined in this Framework is intended to ensure that in managing risk, the needs of users and customers are closely coupled to decision-making informed by technology subject matter experts.

"…these documents clarify how we will work together within the IC and alongside our partners to identify, champion, and catalyze investments to ensure our continued technological advantage through a whole-of-nation approach to innovation." — DNI Haines and PDDNI Dixon

Communicating the IC's S&T Needs



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- The *Landscape* serves as the rational, traceable, and defensible basis for STG's investment recommendations.
- Captures needs derived from a comprehensive group of source documents at all levels of the IC, including mission owners, operators, and technical challenges from IC agencies.
  - National Intelligence Manager (NIM) Unified Intelligence Strategies
  - NIM Campaigns
  - PM Plans and others
  - National Security Strategy and other White House priorities
  - Unified Combatant Command (UCC) Integrated Priority Lists
- Documents ODNI STG-identified IC needs—in a clear and consistent format—as risks or opportunities.
- Provides the IC, U.S. government, and the private sector with a common understanding of the Community's challenges.
- **Available in Top Secret (TS), Secret, and Unclassified versions**

Categorizing the IC's S&T Needs by Technology Domains

Code	Tier 1 Technology Domains	Tier 2 Technology Domains
1	Artificial Intelligence	Adversary Models, Autonomous Systems, Deep Learning, Human Language Technology, Human–Machine Teaming, Information Assurance, Machine Learning, Pattern Recognition, Recommender Systems, Summarization Engines
2	Behavioral Sciences	Cognition, Crowdsourcing, Deception (Research) Neuroscience, Psychology
3	Biological Sciences	Bioeconomy, Collection and Detection (e.g., Signatures), Computer and Information Services, Cyber Biosecurity, DNA Data Storage, Emerging Biotechnology, Genomic Manipulation/ Alteration Synthetic and Metabolic Engineering, Tests, Kits, and Services
4	Chemical Sciences	Collection and Detection (e.g., Signatures), Emerging Technology, Energetics, Sensors, Tests, Kits, and Services
5	Communications	Geolocation, Infrastructure, Satellite, Telecommunications, Telemetry, Underwater
6	Computing	Augmented/Virtual Reality, Biologically Inspired, Cloud, High Performance Computing, Modeling and Prediction Algorithms, Photonic, Quantum
7	Cyber	Blockchain, Cryptography, Cryptomathematics, Defensive, Internet of Things, Offensive, Supply Chain (Risk Management)
8	Data	Audio, Change Detection, Computational Analytics Digital Identity, Digital Media Extraction, Graph Analytics, Integration, Link Analysis, Metadata, Modeling and Prediction, Privacy, Storage, Video/Image, Visualization
9	Electronics	Communication, Embedded Systems, Electronics Integration, Electronic Materials, Hardened, Secure Microelectronics, Sensing, Size, Weight, and Power (SWaP), Transmission

Code	Tier 1 Technology Domains	Tier 2 Technology Domains
10	Energy and Power	Alternative Generation, Endurance, Harvesting, High Density, Size, Weight, and Power (SWaP), Storage
11	Forensics	Biological, Biometric, Chemical, Computer, Data, Document and Media Exploitation, Materials, Network, Nuclear, Reverse Engineering
12	Identity	Attribution, Biometrics, Counter-Detection, Manipulation Detection, Pattern of Life
13	Materials and Manufacturing	Additive Manufacturing, Bio-Inspired, Hardening, Metamaterials, Micro, Nano, Optics, Reverse Engineering, Robotics, Smart Manufacturing, Stealth
14	Nuclear Science	Characterization, Collection and Detection (e.g., Signatures), Forensics, Handling, Processing
15	Position, Navigation, and Timing (PNT)	Astronomy, Astrophysics, Geodesy, Geolocation, Navigation, Spatial, Temporal
16	Sensors	Acoustic/Seismic, Biological, Chemical, Data Processing, Electromagnetic, Gravity, Integration, Multi-Phenomenology, Optical, Persistence, Protection, Quantum, Radiation, Survivability
17	Space	Access, Characterization, Command and Control, Missiles, Operations, Resilience, Satellites
18	System of Systems	Acknowledged, Collaborative, Directed, Networks, Virtual
19	Other	Unconventional, Unexpected, Unwarned, Novel, Imaginative, Convergent, Opportune

Tables are UNCLASSIFIED

The *Landscape* categorizes captured IC Needs through a variety of means, to include 19 technologies domains (TDs). The TS version also directly links the Needs to their Mission source(s).

How You Can Participate: ODNI's Intelligence Science and Technology Partnership

The In-STeP program currently has RFIs posted on SAM.gov and the IC ARCs (JWICS) to capture potential solutions to the *Landscape's* S&T Needs. Requested information includes:

1. Applicable Need number(s)
2. Company/Organization Name
3. Company/Organization Headquarters Location
4. Optional self-identification of Company/Organization Affiliations
5. Respondent's point(s) of contact (POC(s))
6. Technology/Project Name
7. Non-proprietary description of the technology/project (up to 500 words)
8. Optional proprietary description of the technology/project (up to 500 words)
9. Non-proprietary description of how the technology/project relates to the applicable Need number(s) (up to 100 words)
10. Code for current, applicable IC technology capability estimate
11. Current sponsor(s) (internal, IRAD or external)
12. Codes for Technology Domain(s) relevant to the technology/project

In-STeP

Unclassified RFI currently posted on SAM.gov:
https://sam.gov/opp/15d5927d5c5345939830e882856d2fca/view

Questions?

S&TInvestment@dni.gov