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# FY2022–2026 ODNI S&T STRATEGIC PLAN

■ Positioning the Intelligence Community for Future Technical Advantage



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## About the Cover

*The cover graphic portrays the convergence of disparate science and technology disciplines as central to the intelligence profession. Stretching vertically down the image, a double helix strand of deoxyribonucleic acid (DNA) appears as a futuristic rendering surrounded by fragments of information, suggesting the prospect of breakthrough at the confluence of biology and data analytics. This illustration represents but a single example of the Intelligence Community's wide-ranging interest in possible scientific and technological convergence, from which innovation and disruption often arise. In the near term, perhaps no technology will have greater influence on accelerating such innovation and disruption than artificial intelligence, which is represented in the graphic by grid patterns converging into a single, luminous, curved line. The silhouette of Earth conveys the international scope of the intelligence enterprise, the global nature of scientific knowledge and technological advancement, and the capacity to carry out worldwide operations as interlinked and integrated pillars of mission success.*



## FROM THE DIRECTOR OF NATIONAL INTELLIGENCE AND THE PRINCIPAL DEPUTY DIRECTOR OF NATIONAL INTELLIGENCE:

As President Biden noted in the White House's *Interim National Security Strategic Guidance*, our nation will only succeed in advancing our interests and upholding our universal values by working in common cause with our closest allies and global partners in industry and academia, and by renewing our own enduring sources of strength. Although the Intelligence Community's (IC) technological edge has long been one of these sources of strength, maintaining and increasing this advantage require us to look beyond the immediate horizon to ensure that we are postured to address developing threats and take on new opportunities as they arise.

The Office of the Director of National Intelligence's (ODNI) Science and Technology (S&T) Investment Planning Guidance—composed of the *FY2022–2026 ODNI S&T Investment Landscape*, the *FY2022–FY2026 ODNI S&T Strategic Plan*, and the *FY2022–2026 ODNI S&T Strategic Investment Framework*—collectively lays the foundation for better positioning the IC to advance our nation's interests by anticipating and preparing for the demands of the future. These documents serve as a roadmap for advancing and sustaining a diverse and talented technical workforce, championing and advocating for S&T that is not only effective but will provide the IC with a competitive advantage, enhancing and creating enduring and purposeful partnerships with a range of non-traditional public and private partners, managing risk, and integrating expertise across a range of technical and mission-oriented disciplines. Additionally, 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.

Despite its unparalleled strengths, the IC cannot address these challenges alone. We look forward to the Community and its partners using these documents as a common basis for advancing our nation's intelligence advantage.

A handwritten signature in black ink, appearing to read "Avril D. Haines", is positioned above the name of the Director of National Intelligence.

The Honorable Avril D. Haines  
Director of National Intelligence

A handwritten signature in black ink, appearing to read "Stacey A. Dixon", is positioned above the name of the Principal Deputy Director of National Intelligence.

The Honorable Stacey A. Dixon  
Principal Deputy Director of National Intelligence

**From the Deputy Director of National Intelligence for Policy and Capabilities:**

Investment in science and technology (S&T) is foundational to the work of the U.S. Intelligence Community (IC) and its role in protecting our nation and its allies. This document, the *FY2022–2026 ODNI S&T Strategic Plan*, along with its companion *FY2022–2026 ODNI S&T Investment Landscape* and *FY2022–2026 ODNI S&T Strategic Investment Framework*, enables an integrated and flexible approach for the IC to meet challenges and threats on and over the horizon through coordinated, prioritized, and deliberate investment in future capabilities and the requisite technical skills of a workforce that best reflects the nation we serve.

**Mr. Dustin J. Gard-Weiss**

*Deputy Director of National Intelligence for Policy and Capabilities*  
Office of the Director of National Intelligence

**From the Director of Science and Technology:**

The role of science and technology is critical for ensuring that the Community can provide our nation with a future advantage over its adversaries. This *Strategic Plan* serves as a foundation for codifying S&T-related collaboration and integration throughout the national security enterprise, and will play a key role in my office's efforts to generate meaningful, clearly articulated technical initiatives in areas critical for aligning IC S&T enterprise and partners' pursuits with future intelligence and national security needs.

My office and I are committed to help posture the IC, through forceful advocacy on behalf of the Community, to address future challenges with adaptability and resilience.

**Dr. John R. Beielor**

*Director of Science and Technology*  
Office of the Director of National Intelligence

**From the Deputy Director of Science and Technology:**

By emphasizing alignment and purposeful engagement, this *Strategic Plan* serves to advance key IC S&T enterprise goals of driving inclusiveness, usefulness, and adaptability within the Community and its partners. Moreover, the *Strategic Plan* outlines how our office will address the IC's strategic priorities, support and leverage external partners' efforts, and ensure that prospective technical advances and newly developed capabilities are shared with the appropriate stakeholders. Your feedback on this document and its goals is most welcome, and can be provided to [S&TInvestment@dni.gov](mailto:S&TInvestment@dni.gov). ODNI's Science and Technology Group looks forward to hearing from you.

**Dr. David M. Isaacson**

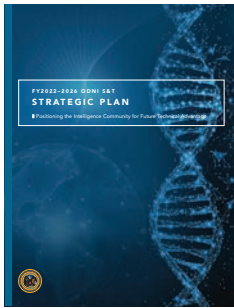
*Deputy Director of Science and Technology*  
Office of the Director of National Intelligence



## ■ ODNI SCIENCE AND TECHNOLOGY GROUP PUBLICATIONS

The below documents collectively capture and relay how the Office of the Director of National Intelligence (ODNI) Science and Technology Group (STG) substantively develops—in a transparent, repeatable, and inclusive fashion—its statutory requirement for investment recommendations to the Director of National Intelligence (DNI).

These documents broadly outline STG’s roles and activities to a range of internal (ODNI) and external (IC, U.S. Government, private sector) stakeholders.



### ***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.





## ■ MISSION

Lead an integrated IC to solve intelligence problems through the rigorous application of science and technology.

## ■ VISION

An Intelligence Community enabled and empowered by peerless operational capabilities.

## ■ VALUES

Collaboration, Innovation, Integrity, and Effectiveness.

## ■ GUIDING PRINCIPLES FOR IC S&T ENTERPRISE INVESTMENTS

### **Protect innovation at the edge.**

Make S&T investment choices at the “bench” level, where technical expertise is deepest.

### **Develop R&D plans that are rational, traceable, and defensible.**

Fully address Heilmeyer Questions with milestones and metrics.

### **Acquire and develop talented technical professionals and leaders.**

Staff the IC S&T enterprise with able researchers, managers, and leaders.

### **Ensure all work is subject to scrutiny.**

Require conflict of interest-free peer review for all programs, projects, and strategies.

### **Leverage collaboration and enable integration.**

Realize transparency through information sharing and develop mutually beneficial partnerships across the IC, broader U.S. Government, the private sector, and foreign allies.

### **Challenge assumptions regarding the best performer or solution.**

Pursue open competition—avoid sole source awards of research grants and contracts.

### **Deny adversaries access to our hard-earned advantages.**

Build counterintelligence efforts and safeguards into every program.

### **Meet requirements efficiently.**

Influence “build or buy” (lead, influence, adapt, adopt) decisions that conserve funding and meet mission requirements.





## ■ INTRODUCTION

The threat environment facing the U.S. national security enterprise is increasingly dynamic, and the Office of the Director of National Intelligence (ODNI) and the Intelligence Community (IC) can ill-afford to remain static. Accordingly, expertise, flexibility, adaptability, innovation, and broad coalitions are key to maintaining decisive and enduring intelligence advantage for our nation and its allies. Given this reality, the Community must develop approaches and partnerships for actively signaling to the public and private sectors alike those research challenges that the IC anticipates facing.

To identify and catalyze future mission impact, the IC must be able to access and develop talent and ideas—wherever they reside. To address future problems, challenges, and threats faced by the IC science and technology (S&T) enterprise, an enduring mechanism to inform research and acquisition decisions that further integrates and aligns the IC S&T enterprise is required. As the basis for meaningful engagement with a broad range of stakeholders, the IC S&T enterprise must clearly articulate its principal challenges, such as those captured in the *FY2022–2026 ODNI S&T Investment Landscape*, and provide a variety of means for prospective solvers to market their capabilities. The *FY2022–2026 ODNI S&T Strategic Plan* supports this vision by focusing on four goals.

## ■ STG GOALS

- **Develop the Technical Workforce of the Future.** Lead and support Community efforts to recruit and develop an increasingly agile, effective, and diverse IC S&T workforce; retain and grow talented technical professionals and leaders.
- **Build Enduring Partnerships.** Develop and sustain collaborative relationships with traditional and non-traditional partners to close intelligence gaps and improve IC capabilities and capacity.
- **Manage and Advocate for IC S&T Resources.** Champion IC S&T resources to enable effective and efficient execution of the IC S&T mission.
- **Create the Future Operational Landscape.** Find, create, and deploy scientific discoveries and new technologies, nurturing innovative thought, advancing tradecraft, and improving mission and business processes.

## ■ DEVELOP THE TECHNICAL WORKFORCE OF THE FUTURE

*Lead and support Community efforts to recruit and develop an increasingly agile, effective, and diverse IC S&T workforce; retain and grow talented technical professionals and leaders.*

The IC requires a highly skilled and diverse talent pool to provide the capabilities required to support its myriad technical missions. Although it is understood that each IC element recruits and draws its S&T talent from identified and vetted pipeline sources in alignment with its established requirements, ODNI-led initiatives illustrate how organizational practices and Community programs can strengthen and broaden IC S&T officers' career development. Such practices and programs provide an IC showcase for demonstrating the value and recognition of S&T talent; ensuring retention of technical experts, as well as their mobility both within the IC and to and from the private sector; and augmenting and expanding workforce capabilities as necessary to meet critical mission needs through collaborative academic and industry partnering.

To meet this goal, STG will:

- Promote and nurture a productive work environment—in collaboration with the Community’s broader human capital efforts and partnerships within the private sector and academia—to encourage initiative, ingenuity, professional growth, and retention by facilitating training, education, and experiential opportunities in the IC S&T community.
- Use the STG-led IC Postdoctoral Research Fellowship program<sup>1</sup> to expose recent graduates to the IC’s mission-focused research and create a pipeline for attracting technical talent to the Community.
- Recognize excellence within the IC S&T enterprise through participation in the White House’s Presidential Early Career Award in Science and Engineering program as well as annual STG-led awards programs such as the DNI S&T Fellows program, the STG Professional Team Award, and the STG Professional Individual Award.

## ■ BUILD ENDURING PARTNERSHIPS

*Develop and sustain collaborative relationships with traditional and non-traditional partners to close intelligence gaps, and improve IC capabilities and capacity.*

The Director of Science & Technology (DS&T) will drive an increasingly open dialogue with a wide array of relevant partners to inform, provide context, and to champion efforts with the potential to address IC needs. Similarly, the DS&T will lead the Community in developing approaches and partnerships for actively signaling to the public and private sectors alike those research challenges that the IC anticipates facing.

To accomplish this goal, STG will:

- Clearly articulate—through its Intelligence Science and Technology Partnership (In-STeP)—research challenges facing the IC with stakeholders across the IC, broader U.S. Government, and allied partners to enable a constructive, ongoing dialogue for focusing research activities on IC-relevant issues.
- Continuously engage with the private sector, external advisory boards, non-governmental organizations, and academia through In-STeP, public-private talent exchanges, and other mechanisms to access technical expertise and stay apprised of new or emerging capabilities that can benefit the Community’s mission.
- Improve cooperation in research planning activities with allied partners as well as less traditional partners—such as the National Science Foundation, the National Aeronautics and Space Administration, and the Department of Health and Human Services—to build a broader S&T community.
- Facilitate information sharing, such as through the STG-led Journal of Intelligence Community Research and Development, to enable awareness of IC S&T research activities.
- Engage proactively with oversight institutions and our partners to enhance internal IC and public understanding of IC S&T policies and processes.

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<sup>1</sup> For more information, please see <https://orise.ornl.gov/icpostdoc/>.

## ■ MANAGE AND ADVOCATE FOR IC S&T RESOURCES

*Champion IC S&T resources to enable effective and efficient execution of the IC S&T mission.*

The DS&T and the Director of National Intelligence Science and Technology Committee (NISTC)<sup>2</sup> will make informed investment recommendations to IC leadership, and to the White House's National Security Council (NSC), Office of Science and Technology Policy (OSTP), and Office of Management and Budget (OMB) regarding resource allocation to manage risk more effectively across the IC, a task that the Community is challenged to accomplish in a rational and defensible way with the tools and practices currently available.

- The DS&T will also pursue a new mechanism for managing risk within the IC's S&T investment portfolio. Specifically, the DS&T will work with NISTC representatives to identify U.S. Government subject matters experts (SMEs) who can tackle technical projects to address identified mission gaps. In doing so, these SMEs will act as the conduits to help potential solvers in both the public and private sectors to better understand the requirements needed to resolve the technical challenges associated with select IC needs.

To accomplish this goal, STG will:

- Develop—in concert with IC research components—IC S&T investment recommendations to better align the broader national security S&T enterprise and ensure intelligence advantage while avoiding technological surprise.
- Conduct targeted, Community-wide periodic portfolio reviews to enable the DS&T and NISTC to assess progress in funded areas and ensure that such research results are disseminated across the national security enterprise to advance work in these areas.

## ■ CREATE THE FUTURE OPERATIONAL LANDSCAPE

*Find, create, and deploy scientific discoveries and new technologies, nurturing innovative thought, advancing tradecraft, and improving mission and business processes.*

To better enable IC agility in a rapidly changing landscape, the DS&T will look to serve as the principal champion of creative, collaborative, IC-wide R&D efforts, recognizing the value of bottom-up, grassroots innovation across the Community and beyond. STG's inputs for capturing and anticipating the Community's current and future technical requirements are derived from a wide variety of source documents at all levels of the IC, including the Unifying Intelligence Strategies from the National Intelligence Managers (NIMs), inputs from ODNI's IC Net Assessments, and technical challenges from the IC components.

- Such an approach provides an opportunity for IC leaders and stakeholders, such as the NIMs, to directly affect the allocation of IC S&T resources and industry's independent R&D efforts, and allows STG and the NISTC to champion Community-wide needs which lie beyond the scope of individual IC elements' functional responsibilities.

<sup>2</sup> The NISTC is the senior forum for the coordination and communication of S&T priorities and R&D investments across the IC. The NISTC is chaired by the DS&T and its members include the principal science advisors of the elements of the National Intelligence Program (NIP). The Intelligence Reform and Terrorism Prevention Act of 2004 established and broadly describes the duties and functions of the DS&T and the NISTC.

To accomplish this goal, STG will:

- Administer a comprehensive, transparent, traceable, and repeatable process for aggregating research requirements across the IC to better inform R&D investments.
- Align and reduce unnecessary duplication of effort in public- and private-sector research—and more efficiently apply resources—against these same challenges.
- Institutionalize an STG-led research project selection framework that aligns with appropriate Community roles, resources, processes and policies to ensure an increasingly agile and effective IC S&T capability.

## ■ CONCLUSION

Given the budgetary and operational challenges the IC is likely to continue facing in the coming years, the conditions are now right for the IC to focus on enhancing its utility with policymakers, warfighters, and other IC stakeholders using the same or fewer resources. Using the methods described, the DS&T and the NISTC will provide IC stakeholders with sufficient insight and transparency to ensure that the most promising means of generating intelligence advantage are pursued. Of course, all of these efforts will be enabled and enhanced by the IC S&T enterprise's greatest asset—its peerless technical workforce.

Leveraging and catalyzing emerging technologies and scientific breakthroughs, STG will use this *Strategic Plan* to usher in a new era of engagement to address future research challenges, as identified by subject matter experts from across the U.S. Government, industry and academia. This informed collaboration will result in resource recommendations based on research challenges within partner-developed roadmaps to meet IC challenges for which existing or planned research efforts throughout industry and the U.S. Government are insufficient or cannot be otherwise leveraged.

Realizing this vision for the IC S&T enterprise and broader U.S. Government to collaborate this way with academia and industry will achieve a truly unprecedented set of outcomes: an investment landscape of current and projected intelligence challenges as well as a basic research investment portfolio aligned to this same set of challenges. Going forward, the continued adoption and implementation of these strategic planning methodologies—underpinned by strong and transparent partnerships with the private sector, the Congress, and across the Executive branch—will ensure our national security advantage.



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