

# **Stevens Impact 2032**

## **Research and Innovation Strategic Plan**

**2026-2032**



# Stevens Impact 2032

## Research & Innovation Impact Strategic Plan 2026 - 2032

<b>Table of Contents</b>	<b>Page</b>
Letter from the Vice Provost for Research and Innovation (R&I) .....	2
Executive Summary .....	3
Current State of Affairs .....	3-5
R&I Vision and Alignment with Stevens Strategic Plan .....	5-6
Vision Framework: Grand Challenges, Opportunities, and Discovery .....	6-9
Strategic Priorities: Overview and Motivations.....	9-10
Priority 1: Assessment, Goals, Strategies & Metrics .....	10-12
Priority 2: Assessment, Goals, Strategies & Metrics .....	13-15
Priority 3: Assessment, Goals, Strategies & Metrics .....	15-17
Priority 4: Assessment, Goals, Strategies & Metrics .....	18-20
Priority 5: Assessment, Goals, Strategies & Metrics .....	20-23
Summary: Grand Challenges and Opportunities Supported by Priorities.....	23
Execution Overview.....	24
Acknowledgements.....	25
Appendix: Stevens 2032 and RETCOM Research Goals , Actions, and Metrics.....	26-27

## From the Vice Provost for Research and Innovation

The tagline of the Stevens Institute of Technology, “Inspired by Technology, Powered By Technology,” captures a sensibility that is shared by its faculty, staff, students, and leadership. The drive to make a difference in today’s world is shared by all here. Stevens research is indeed inspired by real-world needs, some of them urgent, some of them demanding attention from myriad disciplines that demand a way of working together that challenges traditional academic structures. This research often leads to innovation, some planned but often surprising, that not only can have an impact in the marketplace, but it can also have an impact on the health of our friends, family, and fellow citizens, as well as on our security.

Today's complexity and disruptivity yields a clarion call for Stevens to take full advantage of the creative powers of its faculty, the inventiveness of its students, the extraordinary nature of this region, and the shared outlook and talents of everyone on this campus to ensure that research and innovation of the highest quality and impact remain at the core of who we are. Central to creating this impact are the technological advances that emerge from our research and innovation. Another central component is augmenting the educational experience in a research-intensive environment where discovery and innovation are prized. Participation in such an environment can cultivate in students their understanding that they can thrive and lead in a complex, disruptive age. In these times, there can be no greater educational outcome.

But the times also call for Stevens to assert itself in a national dialogue regarding the societal implications of this extraordinary age of societal disruption driven by technological advancement. Indeed, we may look back on this moment regarding artificial intelligence as a transformative power changing how we relate to the world and understand the role of human agency in it. This is a question of technological revolution for the ages, and Stevens has the obligation to be part of this conversation if we have the capacity. This plan is designed to help cultivate that capacity.

This plan, "Stevens Impact 2032," is aimed at making advances on these fronts through its embrace of five high-level goals in classes of research in exceedingly tough challenges of regional, national, and global importance, but whose pursuit will yield impactful developments that impact lives as well as fundamental discoveries. These are goals whose solutions are far from obvious but which are critically important to our well-being, demanding attention from many disciplines across the campus and through institutional partnerships.

I am inspired every day on this campus. The discoveries of our faculty, staff, and students are at the center of an outlook and culture where striving to make an impact is pervasive. This is reflected in the words and actions at every station at Stevens, including the Board of Trustees, President, Provost, my other administration colleagues, faculty and students, and the staff who support everyone. Together, you have all made Stevens a gem on the Hudson, one increasingly in the view and front of mind of leaders and citizens of the region, nation, and globe. This plan aims to support making this gem brilliant.

Sincerely,



Edmund Synakowski  
Vice Provost for Research and Innovation

## Executive Summary

This plan, “Stevens Impact 2032,” supports the university's Strategic Plan, “Stevens 2032.” This plan describes how Stevens research and innovation can best be framed, opportunities identified and stimulated, and research and innovation efforts organized and robustly supported to maximize societal impact and energize and inform the educational experience.

Building on a broad research base of discovery, particular challenges and opportunities to be emphasized are presented as part of this plan's Vision. Within it, five broad, interdisciplinary domains in areas of high societal importance are emphasized. These are

- Health and Well-Being
- Urban and Coastal Sustainability and Resilience
- National and Cyber Security
- Economic Prosperity and Stability
- Societal Transformation from AI and Quantum Technologies

These "Grand Challenges and Opportunities (GCO's)" will promote engagement from all sectors of campus by encouraging a focus on great, enduring, complex societal problems. These areas require perspectives and efforts from all, which is only possible through transdisciplinary participation. While these areas do not capture all that Stevens research is or should be about, maintaining these as foci will ensure the continued and increasing impact of a societally relevant research-based educational experience that Stevens strives to promote.

Supporting the Vision are five cross-cutting Priorities that require investment and stewardship. These are

- Digitally transform research
- Synergize research and education
- Engage the entire campus
- Leverage the region
- Develop robust resources

Each Priority has two or more Goals associated with it, and Strategies aimed at accomplishing those goals. Progress in executing the Strategies will be tracked via Metrics to ensure progress and to inform changes that may be required as the plan's period of execution unfolds.

## Current State of Affairs

The Stevens research enterprise's rise in intensity, capacity, and impact is undeniable. As one measure of this, research expenditures have risen by 225% between FY 2019 and 2025, and their rate of rise in the last three years is the fastest ever. Faculty recently hired have been recognized and supported for their research excellence with a growing number of young investigator awards from many federal agencies including the National Institutes of Health (NIH), the National Science Foundation (NSF), the U.S. Department of Defense (DOD) through its armed services branches, and the U.S. Department of Energy (DOE). One faculty member recently received the nation's highest honor bestowed on early-career scientists, the Presidential Early Career Award for Scientists and Engineers (PECASE), and another was recently recognized for a lifetime of

research achievement with the National Medal of Technology and Innovation, awarded by President Biden. Girding all of this is a culture whose outlook is captured by the Stevens tagline, "Inspired by humanity. Powered by technology." Indeed, the Stevens research culture is imbued with optimism about its impact, which is shared at all levels.

Stevens' strengths include the breadth and depth of its interdisciplinary Centers. If properly governed and incentivized, they promise to amplify their impact beyond what any one Center or Institute could hope to accomplish. This plan presents a framework aimed at promoting such engagement. For example, the Stevens Institute for Artificial Intelligence engages well over one hundred faculty from all corners of the campus. The Stevens Center for Sustainability, supported by PSEG, is at the leading edge of addressing questions directly impacting the quality of life of many. The Semcer Center for Healthcare Innovation (CHI) creates solutions in areas ranging from biomaterials to drug discovery. Consider, then, the possibility of identifying a class of problems whose solutions require the talents and attention of all three. Also, even the most successful Centers on campus have the potential to have impact beyond their presently exercised domains. Stevens is host to a University Affiliated Research Center (UARC) in the Systems Engineering Research Center (SERC) and its partner organization, the Acquisition Innovation Research Center (AIRC). While focused on meeting defense industry needs, the skill set represented in SERC can be applied to other areas. For example, this expertise can also be directed towards large-scale economic change by working with other universities, companies, and policy makers to help jumpstart a photonics industry in this region, or to transform the efficiency of the mid-Atlantic's pharmaceutical industry. Finding and cultivating this class of opportunity is the kind of outcome that following this plan can help enable.

The outlook for research at Stevens is strong, but with important qualifiers that demand that this plan emphasize administrative resourcefulness and faculty inventiveness, and that we pay close attention to changes in federal priorities. Shocks were felt when the White House this past year that forced a termination of about 10% of the total workforce at both NIH and NSF while proposing reductions in funding of over 40% and 50%, respectively. Also, an Executive Order dictated that indirect cost recovery rates negotiated between the government and universities be capped at 15%, a deep reduction from the federally negotiated rate of over 50%. Finally, the White House articulated a shift in emphasis towards research that yields application with practical impact, with emphases including quantum computing, AI, and biotechnology.

But a combination of factors create a circumstance that, while unsettled, yield an outlook for Stevens research that can be strong, but only if we execute smartly on informed planning and situational awareness. In our favor, many of the priorities articulated by the White House are in fact aligned with Stevens strengths and its own point of view regarding research with impact. Regarding funding, the national community rallied in response to the White House proposals, and early in 2026 Congress passed a bipartisan spending bill wherein the budgets of the research-intensive agencies were largely restored compared to the White House proposal or even increased. Also, the implementation of an indirect cost recovery cap has been held up in federal courts, and the bipartisan spending bill states that the rates used in the near future shall be the negotiated rates now in place.

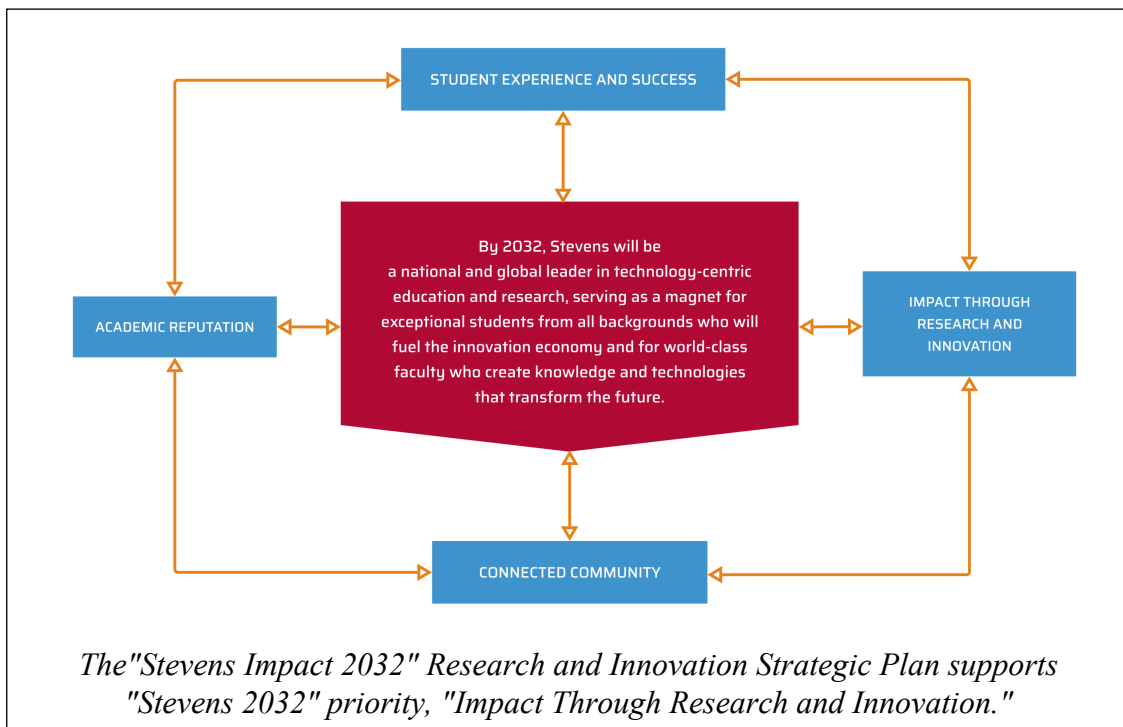
This complex set of conditions informs the planning presented here. Stevens needs to focus on actionable problems demanding research with impact. Research universities that endure and thrive amidst turmoil will be those that diversify funding streams, up their game in identifying research opportunities, and increase efficiencies in research administration. Leading universities will focus on research that is impact oriented. The faculty are already exercising their

ingenuity by hustling to find alternative funding sources, and this has already paid off in newly secured awards. Stevens must raise its game in identifying new opportunities to support the faculty, just as individual faculty members have done for themselves. An outline for approaches for keeping our research support robust is outlined in this plan, elements of which range from dramatically increasing corporate engagement and building out an efficient, effective research administration organization that is faculty-focused, ensuring that everyone is working in a federally compliant manner, and managing the increasing intensity and complexity of research administration that comes with record proposal rates and a broadening base of research sponsorship. As daunting as these challenges are, there is great untapped potential for Stevens to respond affirmatively.

The most impactful universities will also lean into complexity and interdisciplinary partnership, as real-world problems demand attention from across across the disciplines. Such universities will be go-to partners to governments as well as industry in meeting the demands of their complex missions. Stevens will serve itself well by framing broad classes of complex, interdisciplinary problems of high societal importance for pursuit over the long run while adopting practices to be nimble while embracing its culture and pursuing research with impact. To this end, the GCOs capture enduring societal imperatives that will continue to be the objects of keen interest of federal and state agencies, corporate sponsors, and philanthropists. As such, they are robust guideposts for Stevens and its research and innovation enterprise.

## Research & Innovation Vision and Alignment with Stevens Strategic Plan

In Stevens 2032, the university's overall vision is supported by four Priorities. This plan most clearly supports "Impact Through Research and Innovation" (below), although the four are interconnected.



The Stevens Vision as a research and innovation enterprise follows:

Stevens Institute of Technology's research and innovation enterprise will be an internationally recognized Carnegie R1 leader known for discovery and technology development that improves lives and inspires students as it leverages the economic, societal, and regional resources of this extraordinary setting.

Our mission statement articulates the higher purpose of the research and innovation enterprise:

The Stevens research and innovation enterprise generates discovery and transformative impact in technologies addressing critical societal needs while empowering students to recognize and cultivate their capacity to thrive and lead in a complex, dynamic world.

The Vision Framework is described below, as are the five Priorities that support this Vision.

## **Vision Framework: Grand Challenges, Opportunities, and Discovery**

### **Tackling Grand Challenges and Opportunities (GCOs)**

The Vision is comprised of domains of deep research interest that are of regional, national, and global importance and impact. Termed "Grand Challenges and Opportunities," or "GCOs," their pursuit is embedded in a broader research enterprise that includes other areas and also embraces discovery research.

GCOs are complex, large-scale challenges and opportunities of enduring societal, scientific, or technological importance that require interdisciplinary partnership, sustainment of effort, and innovation in research approach. The concept of framing university research with such challenges is increasingly embraced by universities and agencies nationally. Hallmarks of each GCO include the potential for great impact by Stevens faculty; complexity that demands attention from multiple disciplines; the requirement of a great ambition to make progress for each; potential for engaging both students with this research as well as the public; and a compelling nature that when properly developed, executed, and communicated, can serve as attractors for government, corporate, and philanthropic support.

Some aspects of the Grand Challenges and Opportunities identified in this planning, and Stevens resources for addressing them, are given here. There is an overlap between these areas:

- ***Health and Well-Being*** - Resources for embracing this GCO include a vibrant Department of Biomedical Engineering and the Semcer Center for Healthcare Innovation, an emergent School of Computing, mechanical engineering, the Stevens Institute for Artificial Intelligence, and strength in systems science and engineering. The potential for partnership with a regional health center is also a promising resource. The School of Humanities, Arts, and Social Sciences (HASS) can drive the framing of the "why" for such research, as well as the impact and consequences of particular courses of action. The combination of the promise of technical advances and the societal impact, as well as the opportunity of using this region

as a platform for conducting this research, assessing its impact, and partnering with other institutions, makes this GCO compelling.

- ***Urban and Coastal Sustainability and Resilience*** - A core resource in this area is the Davidson Laboratory and its research girding the Stevens Flood Advisory System and the New York City metro area itself. Also, urban-relevant sustainability research is growing with the PSEG-supported Stevens Center for Sustainability. Research on harvesting energy from our oceans complements world-leading battery research and contributes to energy storage solutions. When combined with strength in systems engineering, it promises to advance the development of sustainable energy sources. Finally, Stevens research in quantum photonics provides a promising route to scalable quantum computing. A breakthrough would be a game-changer for sustainably powering our computer-driven society.
- ***National and Cyber Security*** - Needs in this arena are broad and deep. The resources available to advance this GCO are also formidable and wide-ranging and include the Systems Engineering Research Center (SERC) and affiliated Acquisition Innovation Research Center (AIRC), cybersecurity research, SIAI, advanced manufacturing expertise, naval ship design testing capability with the Davidson Laboratory, hypersonics research of high-speed and reacting flows, and quantum photonics. Stevens has recently been redesignated as a National Center of Academic Excellence in Cyber Defense by the National Security Agency. Also, the Stevens Center for Environmental Systems is a highly sought partner by the Department of Defense regarding efficiently managing the material byproducts of industrial processes.
- ***Economic Prosperity and Stability*** - The resources in this domain are vast. Rare strengths reside in the domain of financial technology. The NSF-funded Center for Research Advancing towards Financial Technology (CRAFT), as well as the NJ FAST Fintech Accelerator are resources immediately available. This is an area ripe for growth in entrepreneurship. Also, spin-out companies, which themselves can have a large economic impact on the region, are increasingly at the heart of research-and-innovation ecosystems, as they are being used by companies to de-risk technologies they would otherwise not invest in. A Stevens commitment to grow research-and-innovation ecosystems by strengthening the spawning of spin-out companies can lead both to deep economic impact as well as strengthened support for the Stevens research enterprise itself through licensing and forging of corporate relationships. Finally, as previously noted, Stevens' systems engineering expertise has untapped potential for being brought to bear on regional and national manufacturing organizational transformation in several different sectors.
- ***Societal Transformation from AI and Quantum Technologies*** — Stevens has an opportunity to be among national leaders in driving AI research forward. But opportunity is accompanied by risk: the pace, opacity, and scale of AI-driven transformation create profound challenges for how knowledge is created, validated, governed, and applied, making a leadership role—one that advances innovation while remaining at the leading edge of understanding AI's implications as a societally transformative force—a responsibility of the university community. Resources for pursuing this AI component of this Grand Opportunity and Challenge include the Stevens Institute for Artificial Intelligence whose participation spans the campus, the emergence of the School of Computing slated for fall AY 2026–2027, and the technology-infused School of Humanities, Arts, and Social Sciences. In parallel with AI's evolution, advances in photonics at the Center for Quantum Science and Engineering may be disruptive in many domains, including healthcare, finance, and security, and the photonics-based approach to quantum computing holds the promise of widely scalable

availability across society. While even partial successes in quantum technologies would be revolutionary, they are paired with AI in this GCO because the potential union of a mature photonics-based quantum computing technology with AI will be profound, fundamentally reshaping how we engage with information and complexity and our relationship with technology.

That great societal challenges demand attention from multiple disciplines is well understood by scholars and agencies, both domestic and overseas. But beyond that, successful pursuit of solutions to such problems requires fluid engagement between those close to the foundations of a discipline as well as those closest to application. Stevens' small physical footprint and small-to-midsize faculty body, with fluent engagement between faculty in the sciences, engineering, business, and humanities, support an enterprise where not only does idea exchange *across* disciplines take place, but engagement and cross-fertilization *within disciplines* takes place. Indeed, Stevens researcher practices readily span the often arbitrary divide between the fundamental and the applied within a discipline, including between science and engineering, in the name of getting the job done.

Importantly, every academic unit can contribute to the transdisciplinary pursuit of challenges within a GCO. An analysis, informed by AI based on departmental activity, of the potential for a department or school to either anchor or provide secondary support of a GCO reveals that the entire campus has opportunity to participate and even lead in developing responses to calls to action issued by sponsors. Thus, the potential for broad campus-wide engagement, and thus being among regional and national leaders in these domains, is considerable.

Grand Challenge & Opportunity → School / Department ↓	Health & Well-Being	Urban & Coastal Sustainability & Resilience	National & Cyber Security	Economic Prosperity & Stability	Societal Transformation from AI and Quantum Technologies	Grand Challenge & Opportunity → Center ↓	Health & Well-Being	Urban & Coastal Sustainability & Resilience	National & Cyber Security	Economic Prosperity & Stability	Societal Transformation from AI and Quantum Technologies
Biomedical Engineering	Primary	Secondary	Secondary	Secondary	Primary	Stevens Institute for Artificial Intelligence (SIAI)	Primary	Primary	Primary	Primary	Primary
Chemical Engineering & Materials Science	Primary	Secondary	Secondary	Secondary	Secondary	Center for Healthcare Innovation (CHI)	Primary	Secondary	Secondary	Secondary	Primary
Chemistry & Chemical Biology	Primary	Secondary	Secondary	Secondary	Secondary	Systems Engineering Research Center (SERC)	Secondary	Secondary	Primary	Secondary	Primary
Civil, Environmental & Ocean Engineering	Secondary	Primary	Secondary	Secondary	Primary	PSEG Center for Sustainability/Center for Environmental Systems (CES)	Secondary	Primary	Secondary	Secondary	Secondary
Mechanical Engineering	Secondary	Secondary	Primary	Primary	Secondary	Center for Quantum Science & Engineering (COSE)	Secondary	Secondary	Primary	Secondary	Primary
Electrical & Computer Engineering	Secondary	Secondary	Primary	Secondary	Secondary	Center for Research toward Advancing Financial Technologies (CRAFT)	Secondary	Secondary	Primary	Primary	Primary
Computer Science	Secondary	Secondary	Primary	Primary	Primary	Davidson Laboratory	—	Primary	Primary	Secondary	Primary
Systems & Enterprises	Secondary	Secondary	Primary	Secondary	Primary						
Physics	Secondary	Secondary	Primary	Secondary	Primary						
Mathematical Sciences	Secondary	Secondary	Secondary	Primary	Secondary						
School of Business	Secondary	Secondary	Primary	Primary	Primary						
HASS	Secondary	Secondary	Primary	Secondary	Primary						

*Mapping to Grand Challenges and Opportunities of (left) departments and schools, and (right) Centers. The potential of being a Primary or Secondary anchor to transdisciplinary activity within a GCO for a given entity are shown. Suitability for either type of role will depend on the nature of the research and scholarship activity being pursued. These mappings are intended to inform strategic alignment and opportunity development, not to prescribe or constrain the evolution of research directions.*

An additional element that will be at the core of growing impact is partnership. Promoting efficient and effective partnerships - on campus, with other universities, with companies, and with government agencies and foundations - is woven throughout this plan. Even the nation's and the world's premier research institutions need to partner effectively with others in addressing the most challenging problems. We partner not only to build out more complete teams, but also for

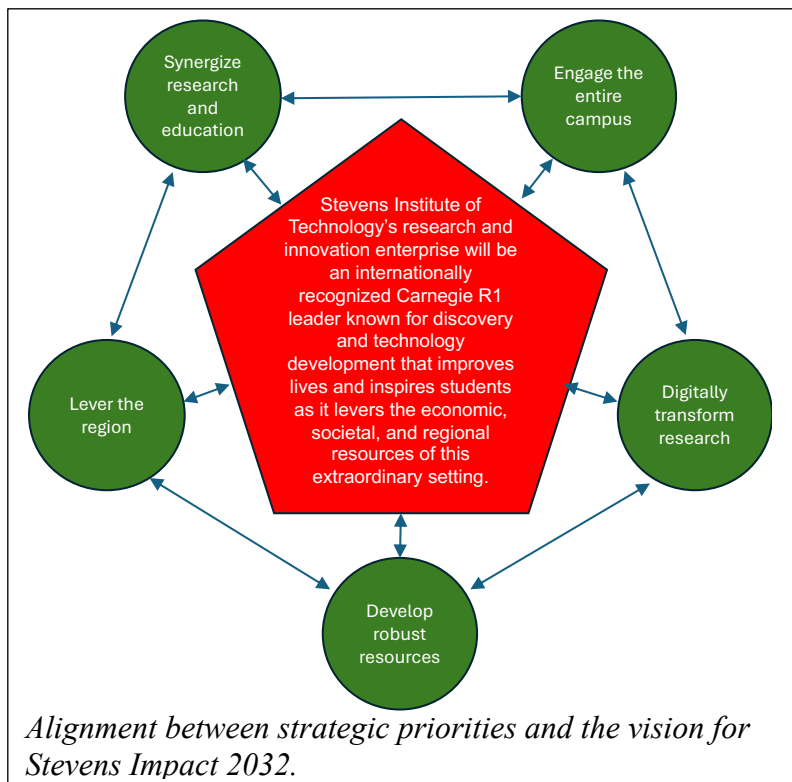
the stimulation of diverse perspectives that partnering brings. Working in strategic partnership can enable Stevens to establish relevance regionally, nationally, and globally, and to become an invaluable asset, one with a reputation of being an unquestioned leader in research and innovation that brings great value to the region's and nation's most ambitious research and innovation enterprises.

## Strategic Priorities: Overview and Motivations

Five Strategic Priorities will broadly support the Grand Challenges and Opportunities contained in the Vision. They will also be key to success more broadly for research and innovation at Stevens. In a manner analogous to what was displayed in Stevens 2032 (see figure on page 5 of this Plan), the relationship between these Priorities and the Stevens Impact 2032 Vision is shown here and described in what follows.

### Background and motivation for the Priorities

- While research has already been transformed since the advent of the computer age, further change and opportunity are increasing in pace and potential impact. By ***digitally transforming research***, Stevens will constantly monitor developments in mainframe and cloud computing and the evolution of artificial intelligence to optimize computing infrastructure investments ranging from hardware to directing resources for cloud-based applications, and for acquisition of AI-based resources to be used in areas ranging from data interpretation to application of commercially available AI tools to assist in development budgets for proposals. The development of AI-based tools here at Stevens for application in research will also be supported.
- By prioritizing that Stevens ***synergize research and education***, the institution commits to ensuring that students receive the maximal benefit of an education in this research-intensive university, exposing students to the pulse of the technological needs and opportunities most relevant to society's critical challenges as well as opportunities, and to the methods for how these problems are engaged. This synergy already takes the form of exciting research opportunities for undergraduates, senior design projects, internships



with regional companies, support for protecting their inventions, and for creating spinout companies. It also takes the form vibrant idea exchange across campus that shapes the students' environment.

- ***Engaging the entire campus*** by prioritizing great opportunities and challenges that demand attention from all of the Schools and many of the departments will be essential if Stevens is to assert regional, national, and global leadership in societally important and complex domains. The many corners of the campus will be asked to view Grand Challenges and Opportunities from their vantage point while being mindful of the big picture, creating a culture and developing practices that promote convergence in research. In so doing, Stevens will augment its practices to enable the disciplines to contribute maximally to societal problems defined by their complexity. It will also help cultivate a vibrant intellectual culture.
- There are great opportunities to ***leverage the region*** to make the most of being in this extraordinary area to drive the most impactful research and innovation. Examples include using the New York City metro area as a platform for conducting research important to urban areas around the nation and globe; growing our impact in the financial sector by strengthening engagement of the CRAFT center with New York companies as well as with the newly launched NJ FAST Fintech Center at Stevens; tapping into the potential for corporate sponsored research and partnership to stay at the leading edge of societal interests in technology; making the most of proximity to resources that can support entrepreneurial ventures to enable them to thrive and also to serve to de-risk technologies developed by Stevens researchers for capture by industry; and strengthening and exporting our expertise in coastal flood prediction to the benefit of coastal areas nationally and globally.
- By ***developing robust resources***, the university will ensure that Stevens faculty capture research opportunities from a wide range of sources, perform their research with the best available facilities, utilize optimized human resources and electronic research administration systems for developing proposals and receiving and monitoring their available funds, and ensure compliance. Robustness of resources also speaks to the goal of diversifying funding streams in response to changes in the outlook of the federal government. Of particular importance here is developing the practices of smart, strategic, and aggressive corporate engagement with practices that are attractive to faculty as well as to companies while consistent with the university's mission and identifying philanthropic opportunities.

## **Priority 1: Digitally Transform Research and Innovation**

**Priority 1 Statement: Digitally Transform Research and Innovation – Digitally transform research through optimized computing infrastructure, broad implementation, and ethical use of AI, and the launch of a dynamic School of Computing that catalyzes campus-wide research innovation.**

Overarching thrusts: We will focus on (a) ensuring the availability and optimization of computing infrastructure, including determining the optimal balance between computing on premises and cloud computing, (b) implementing AI tools to be applied to all facets of research, (c) ensuring Stevens AI tool use is guided by ethical considerations, and (d) supporting a School of Computing whose mission will include catalyzing research broadly across the campus.

## Assessment

### *Positive External & Internal Factors:*

- Industry demand, especially in this region
- FinTech opportunities
- Health/Pharma opportunities
- Stevens' identity and reputation as an impactful technical university
- Strong existing programs relevant to the digital realm
- Several administrative processes converted from paper to online
- Stevens Institute for Artificial Intelligence (SIAI) and broad faculty participation
- State and Princeton University support for Stevens' engagement in AI Hub

### *Negative External & Internal Factors:*

- Recent federal outlook, including the disruption of federal agencies and funding
- AI complexity and dynamic nature. Potential bubble. Trustworthiness.
- Limited cross-departmental and cross-school research collaboration
- Faculty reports of inadequate IT research support
- Digitalization to date has focused mainly on the transfer of paper forms to online forms

### **Priority 1 Goals:**

**Goal 1.1: Create a research computing capacity, catalyzed by a School of Computing, that meets current and projected research demands.**

**Goal 1.2: Cultivate the transformative power of AI to accelerate research while continuously aligning Stevens practice with evolving ethical best practices.**

**Goal 1.3: Ensure digital and AI literacy for all faculty and students in all disciplines.**

**Goal 1.1: Create a research computing capacity, catalyzed by a School of Computing, that meets current and projected research demands.**

- **Strategy:** Develop and execute a plan for sustainable investment in research and innovation technology, such as AI, cloud computing, and on-campus infrastructure and support.
- **Strategy:** Optimize and continuously monitor the balance between on-campus and Cloud-based research computing resources.
- **Strategy:** Plan and launch a School of Computing.
- **Strategy:** Convene an AI committee focused on research as a component of a university-wide activity to support AI governance. The committee will help forecast and anticipate GenAI development, inform strategies for Stevens to respond, and identify best practices for the ethical application of generative AI tools.

### **Goal 1.1 Metrics:**

- Engagement of the Research Computing Services Committee to perform bi-annual assessments of computing capacity that considers the balance of investment between on-campus and Cloud-based resources. Target is FY 2026.
- Formation of AI committee referenced in the above Strategy. Target is FY 2026.
- Establishment of a School of Computing. Target is fall AY 2026-27, subject to budget.

### **Goal 1.2: Cultivate the transformative power of AI to accelerate research while continuously aligning Stevens practice with evolving ethical best practices**

- **Strategy:** Establish a standing research-focused AI governance function to track advances in AI, monitor evolving ethical best practices, and translate them into actionable guidance for Stevens researchers.
- **Strategy:** Pilot and scale AI-enabled research workflows that measurably accelerate discovery, proposal development, and translation while adhering to institutional standards for ethical and responsible AI use.
- **Strategy:** Engage faculty, students, and research staff through regular forums, guidance updates, and training to disseminate current best practices and reinforce shared norms for ethical AI adoption.

### **Goal 1.2 Metrics:**

- Adoption of AI-enabled research practices that demonstrably accelerate research discovery, analysis, proposal development, or translation. Targets TBD
- Integration of AI into priority research and innovation efforts, including interdisciplinary initiatives aligned with Stevens' Grand Challenges and Opportunities. Targets TBD
- Sustained operation of a research-focused AI governance function to ensure AI-enabled research remains aligned with current ethical and responsible-use best practices. Targets TBD

### **Goal 1.3: Help faculty and students become leaders in the application and ethical use of transformative digital and AI tools.**

- **Strategy:** Offer faculty digital and AI professional development opportunities
- **Strategy:** Provide students with research experiences that enable them to develop and apply their digital and AI knowledge
- **Strategy:** Convene an annual AI Forum, supported by AI committee, to bring together industry experts, faculty, and students to discuss leading AI tools and practices to ensure Stevens is a leading contributor to research and practice.

### **Goal 1.3 Metrics:**

- # faculty who participate in professional development opportunities. Target TBD.
- # AI research experiences for students. Target TBD.
- AI Forum launch and success. Target is FY 2027.

## Priority 2: Engage the Entire Campus Through Research

**Priority 2 Statement: Engage the Entire Campus Through Research – Harness collaboration to address complex societal challenges by fostering a campus-wide research culture powered by interdisciplinary research centers with effective governance practices to ensure their success.**

Overarching thrusts: Pursuing opportunities and challenges requiring attention from many disciplines can generate a common purpose and powerful idea exchange. It also requires a wide base of researchers capturing sponsored research awards. Creating such common purpose and idea exchange is responsive to the complexity of broad classes of societal challenges. Tools for creating a culture and practices of interdisciplinary engagement include seeding program development, incentivizing faculty engagement to participate and lead in complex research enterprises, and implementing effective governance practices for interdisciplinary centers.

### Assessment

#### *Positive External & Internal Factors:*

- Societal challenges requiring interdisciplinary attention
- Federal agencies are seeking institutions that are strong in interdisciplinary research
- The NYC metro area can serve as a nexus for partnerships and international engagement
- SIAI is already strongly interdisciplinary and is an enabling resource for all manner of other interdisciplinary centers
- Growing faculty interest in interdisciplinary challenges and opportunities
- Interdisciplinary research partnerships already exist in some parts of the campus
- A culture of collaboration and ease of engagement exists
- Solid undergraduate interest in conducting research that makes a societal difference

#### *Negative External & Internal Factors:*

- The White House posture towards federal research, as of this writing, presents a significant risk to the historical partnership between the federal government and research universities
- Lack model for financially supporting Centers
- Limited seed funding for supporting the creation of interdisciplinary proposals
- A relatively small number of faculty are responsible for a majority of research awards captured
- Interdisciplinary research is not incentivized in tenure and promotion assessments
- Faculty-student interactions are hampered by a large fraction of faculty living outside of Hoboken

**Priority 2 Goals:**

**Goal 2.1: Develop and implement governance, assessment, and support system processes for interdisciplinary centers.**

**Goal 2.2: Ensure that each Grand Challenge and Opportunity is addressed by and aligned with at least one university-level interdisciplinary research center.**

**Goal 2.3: Increase research engagement among faculty and between faculty and students in different academic units to address interdisciplinary research opportunities.**

**Goal 2.1: Develop and implement governance, assessment, and support system processes for interdisciplinary centers**

- **Strategy:** Engage the Deans of all schools to conduct an inventory of, and perform due diligence on, current research centers, reporting conclusions to the Provost and VPRI.
- **Strategy:** Develop and implement systems to govern and assess interdisciplinary centers, resulting in an optimization of Stevens' portfolio of centers – e.g., launching new centers, revamping or sunseting existing centers.
- **Strategy:** Develop and implement a plan for providing financial support to interdisciplinary research centers
- **Strategy:** Create a Centers' Governance Group and review Center performance regularly.

**Goal 2.1 Metrics:**

- Completion of Research Center assessment and due diligence. Target is FY 2026.
- Formation of Research Center Governance Group. Target is FY 2026.
- Initial use of a system to provide financial support for research centers. The Target is FY 2026.
- Create Research Center governance policy. Target for implementation is FY 2027.

**Goal 2.2: Ensure each Grand Challenge and Opportunity is addressed by and aligned with at least one university-level interdisciplinary research center.**

- **Strategy:** Leverage technology (e.g., InfoEd) to improve monitoring and communication of research funding opportunities, emphasizing those aligned with the Grand Challenges and Opportunities.
- **Strategy:** Create seed grant programs in areas aligned with each Grand Challenge and Opportunity area to stimulate campus-wide and national team proposal development for major research centers.
- **Strategy:** Hire nationally prominent research leaders in areas of strategic interest, securing in advance the appropriate startup funds.

**Goal 2.2 Metrics**

- Launch of technology-driven funding opportunity system. Target FY 2027.
- Establishment of GCO seed grant programs. Target FY 2027.

- # of prominent research leaders hired. Target TBD.

**Goal 2.3 Increase research engagement among faculty and between faculty and students in different academic units to address interdisciplinary research opportunities.**

- **Strategy:** Launch internal seed grant programs for proposal development involving research with faculty from at least two different Schools.
- **Strategy:** Ensure that interdisciplinary research is emphasized and acknowledged in Faculty Activity Reports (FARs) and is considered favorably in the tenure and promotion evaluations.

**Goal 2.3 Metrics**

- Establishment of two-school seed grant program. Target FY 2026.
- Leadership reinforces high value of interdisciplinary research in FAR and in T&P processes. Target FY 2026 and onward.

**Priority 3: Synergize Research and Education**

**Priority 3 Statement: Synergize Research and Education—Ignite a passion for research in students by amplifying curricular and extracurricular opportunities to advance research discovery, engage in experiential learning, and develop professional skills that will serve them well in the workforce. Also, ensure research vigor and reputation by recruiting and mentoring the very highest quality PhD students in an increasingly competitive recruiting landscape.**

Overarching thrusts: Research by undergraduates serves as an effective platform for experiential learning. Benefits include developing domain expertise and creating workforce pipelines. Another benefit is increased student awareness of their own preferred work environment and the deepening of their resilience to change and challenge. A facet of this Priority is ensuring that the classrooms and campus are imbued with the excitement of research being performed by faculty.

Doctoral education is central to Stevens’ research identity and to its trajectory toward sustained R1 standing. In research-intensive technical fields, PhD recruitment is driven primarily by the scientific reputation, mentorship record, and research impact of individual faculty advisors, supported by institutional infrastructure and student success outcomes. Strengthening doctoral recruitment therefore requires deliberate investment in faculty research distinction, mentor visibility, and lab-level reputation. Stevens will therefore pursue a dual strategy: strengthening faculty research distinction and mentor visibility while building structured, well-supported PhD training environments aligned with major research domains and Grand Challenges and Opportunities.

**Assessment**

***Positive External & Internal Factors:***

- Untapped corporate research opportunities
- Undergraduate research opportunities and the eagerness of undergraduates to pursue them

- Various research seminars/ events/ programming offered to students
- Successful, university-wide senior design program culminating in a widely attended Innovation Day

***Negative External & Internal Factors:***

- Federal funding uncertainty
- External challenges to the academic enterprise are discouraging students from pursuing research careers
- No formal research component for undergraduate and graduate masters programs
- Limited research opportunities for undergraduate and graduate masters students

**Priority 3 Goals:**

**Goal 3.1: Increase the number of quality undergraduate research experiences that generate distinct advantages for undergraduate researchers, including those aspiring to pursue research as a career.**

**Goal 3.2: Grow the number of quality PhD student research experiences that cultivate academic and industry relationships and opportunities.**

**Goal 3.3: Create and enrich campus spaces where undergraduates can engage in research and innovation activities.**

**Goal 3.1: Increase the number of quality undergraduate research and innovation experiences that generate distinct advantages for students, including those aspiring to pursue research as a career.**

- **Strategy:** Elevate and expand undergraduate research and innovation experiences.
- **Strategy:** Grow faculty awareness of and support for undergraduates developing strong proposals for national scholarship opportunities such as the Goldwater Scholarships.
- **Strategy:** Increase the number of undergraduate students pursuing federally funded undergraduate research opportunities, e.g., Research Experiences for Undergraduates (REU) at NSF.

*Note: Goal 3 Strategy execution will involve the Dean of Undergraduate Education convening a committee to (1) conduct an inventory and assessment of research and innovation experiences and programs throughout the various Stevens units; (2) facilitate cross-unit discussions to share and implement best practices; (3) develop and execute strategies for elevating and expanding the number and quality of undergraduate R&I experiences.*

**Goal 3.1 Metrics (Targets to be confirmed)**

- The number of applicants for nationally recognized scholarships and prizes regarding undergraduate research. Possible targets include growing Goldwater Scholarship applications from 4 to 10 by FY 2029 and to 15 by FY 2032.

- REU awards. Targets are supporting 10 students annually by FY 2029 and 20 by FY 2032, assuming a constant source of federally supported opportunities.

**Goal 3.2 Grow the number of quality PhD student research experiences that cultivate academic and industry relationships and opportunities.**

- **Strategy:** Support nationally visible faculty research leadership through strategic proposal support, center leadership opportunities, named research initiatives, and keynote/platform visibility. Invest in communications and research storytelling that highlights faculty mentors, lab cultures, and student outcomes.
- **Strategy:** Increase competitive PhD funding packages through blended models (federal awards, corporate partnerships, philanthropy, center funds). Develop targeted recruitment pipelines tied to major research centers and Grand Challenge domains. Expand faculty-led PhD recruitment travel and lab-level recruiting.
- **Strategy:** Foster opportunities for PhD students to engage in inter-institutional/ cross-university research (e.g., interdisciplinary research targeting Grand Challenges & Opportunities) and to have experiences that broaden and enrich their academic networks (e.g., conferences).
- **Strategy:** Improve and streamline the process for attracting, securing, and developing corporate-sponsored research agreements that engage PhD and other students.

**Goal 3.2 Metrics (Targets to be confirmed)**

- PhD students per tenure-stream research-active faculty (growth target TBD)
- PhD yield rate from offers (target TBD)
- Faculty national research recognition indicators (e.g., keynote roles, center leadership, major awards) tracked annually
- The number of graduates whose job placement was catalyzed by relationships formed during research experiences. Target an increase of 25% by the end of FY 2029.

**Goal 3.3 Create and enrich campus spaces where undergraduates can engage in research and innovation activities.**

- **Strategy:** Assess the viability of establishing a Living-Learning Community (LLC) for digital research with a focus on artificial intelligence, for first-year students, ultimately to be housed in the Digital Innovation Hall.

**Goal 3.3 Metrics**

- Working with Student Affairs, establish a model for an LLC likely to be of sustained interest to students

## Priority 4: Leverage the Region for Research and Innovation

**Priority 4 Statement: Leverage the Region for Research and Innovation** – Capitalize on the rich research and innovation opportunities provided by the NYC metro region’s unique and complex characteristics as a global industry hub, a vibrant urban and cross-cultural setting, and a vulnerable coastal area.

Overarching thrusts: The NYC metro area is rife with resources for research and innovation yet to be captured, increased university and corporate partnerships, as well as using the city as a platform for research. But they also include the nature of this urban area that makes the region something akin to an extraordinary research platform. Present-day examples of what this can look like include the Stevens Flood Advisory System and the CRAFT Center is exercising research partnership with Wall Street.

### Assessment

#### ***Positive External & Internal Factors:***

High population density/diversity of institutions and outlooks

- Tech transfer/industry partnership possibilities
- Many universities provide collaboration opportunities
- Interest from others in partnering, including a medical center
- Vibrant area for finance, health tech, deep tech, and tech innovation
- Extraordinary location

#### ***Negative External & Internal Factors:***

- High competition in higher ed
- Limited size/space
- High Cost of living/operation
- Low Stevens endowment
- No medical school
- Limited capacity and nascent culture for growing corporate partnerships

### Priority 4 Goals:

**Goal 4.1: Capitalize on the rich community of universities, foundations, companies, and other institutions in our region to grow R&I collaborations that raise Stevens’ visibility as a leader in areas of strategic interest.**

**Goal 4.2: Leverage our extraordinary region to promote Stevens as a gateway to the New York City metropolitan area for national and international partners outside our region.**

**Goal 4.1: Capitalize on the rich community of universities, foundations, companies, and other institutions in the region to grow research and innovation collaborations that raise Stevens’ visibility as a leader in areas of strategic interest.**

- **Strategy:** Become a leader in developing, monetizing, and managing the commercialization risk of Stevens R&I discoveries, using a variety of approaches such as securing licensing, establishing spinout companies, attracting venture capital, and forming corporate research agreements.
- **Strategy:** Launch a seed grant development program that provides resources for the development of regional R&I collaborations aligned with the Grand Challenges and Opportunities.
- **Strategy:** Cultivate an expanded range of federal agency relationships in areas anticipated to be of high strategic interest to the nation that are aligned with Stevens' strengths (e.g., quantum computing, artificial intelligence, naval ship design, advanced manufacturing, biotechnology, resilience to extreme weather events, and cybersecurity).
- **Strategy:** Explore establishing joint education and research programs with regional medical centers.

#### **Goal 4.1 Metrics**

- Onboard a new Technology Commercialization and New Ventures Director with experience in licensing, corporate research agreements, and venture capital. Target is Fall 2025.
- Grow corporate-sponsored research expenditures. Target is \$10M by the end of FY 2029.
- Establish the viability of creating an MD-PhD program with a regional medical center. Target is FY 2027.
- Initiate a trial seed grant program for HMC-Stevens joint research. Target is FY 2026, budget permitting.
- Develop a strategic plan for expanded and regularized federal engagement with Winning Strategies Washington (WSW), Stevens' government relations partner. Target is FY 2026.

#### **Goal 4.2: Leverage our extraordinary region to promote Stevens as a gateway to the New York City metropolitan area for national and international partners outside our region.**

- **Strategy:** Launch a seed grant development program that provides resources for the development of R&I national and international collaborations aligned with the Grand Challenges and Opportunities.
- **Strategy:** Establish and promote Stevens as the convening center of choice for research and innovation idea exchange and community building in the New York region.
- **Strategy:** Host high-profile summit(s) focused on topic(s) of national and global interest aligned with Grand Challenge or Opportunities.

#### **Goal 4.2 Metrics**

- With Government Affairs, launch an initial series of events with TechUnited leadership. Target is the fall of 2026.

- Convene administration and academic leadership to identify possible themes and resource needs for a Stevens summit event(s) for FY 2027. Target is the spring of 2026.

## **Priority 5: Develop Robust Resources for Research and Innovation**

**Priority 5 Statement: Develop Robust Resources for Research and Innovation** – Bolster research and innovation resources by enhancing research administration capacity, diversifying funding sources, and investing in state-of-the-art facilities aligned with Stevens’ research and innovation priorities.

Key emphases include:: (a) bringing the research administration organization and system to high efficiency through electronic systems and strengthening research compliance practices; (b) taking a qualitative step- up in corporate engagement, in addition to more traditional sources, and (c) working to allow for staged lab upgrades in advance of the construction of a Digital Innovation Hall.

### ***Positive External & Internal Factors:***

- High potential for increased corporate research partnership
- Excellent relations and proven track record with federal entities, including Picatinny Arsenal
- A deepening talent pool in the research administration team, from leadership to staff
- The electronic research administration system is being deployed under experienced leadership
- Strong connection and leadership in research administration professional societies
- University leadership support for building top-tier R&I support
- New leadership in technology commercialization with deep experience
- Recast Corporate Relations Committee with members from across campus charged with transforming corporate engagement for research
- Faculty outlook: inspired to perform research with impact

### ***Negative External & Internal Factors:***

- Federal threats to the research enterprise, including proposed reductions in indirect cost recovery, agency funding, and changes in agency missions
- State of New Jersey strongly favors public universities
- Risk aversion regarding non-standard agreements
- Offices of Sponsored Programs (OSP) and Sponsored Accounting (OSA) working practices are still maturing
- Only modest support for mentoring faculty in proposal development and award monitoring
- Limited campus space and facilities
- Sub-optimal Tech/IT
- Technology commercialization has been hampered by disruptions in its leadership
- High cost of laboratory space

**Priority 5 Goals:**

**Goal 5.1: Strengthen administrative capacity needed to support a Carnegie R1 institution, including deepening the capacity in the research-intensive units.**

**Goal 5.2: Diversify funding through increased government engagement, corporate relations, and philanthropic giving aimed at capturing new and penetrating existing sources of sponsorship.**

**Goal 5.3: Ensure state-of-the-art facility capacity to support and advance Stevens Research and Innovation.**

**Goal 5.1: Strengthen administrative capacity needed to support a Carnegie R1 institution, including deepening the capacity in the research-intensive departments**

- **Strategy:** Maintain engagement in professional organizations at the leading edge of alternative federal indirect cost recovery proposal development and implementation.
- **Strategy:** Perform an internal assessment of the Office of the Vice Provost for Research Innovation (OVPRI) plans for strengthening research, innovation, and compliance administration capabilities in the first year of this plan and twice thereafter in the period of this plan.
- **Strategy:** Require research-intensive departments to identify administrators to be trained by OSP and OSA to perform tasks in support of proposal development and award administration, to make overall research administration operations more efficient.
- **Strategy:** Implement and continuously improve electronic research administration (eRA) to increase ease of proposal submission and award setup and monitoring, and ensure its effective and efficient interfacing with the Office of Sponsored Research (OSP) and the Office of Sponsored Accounting (OSA).
- **Strategy:** Continuously engage with the broader national research administration community, including organizations such as the National Council of University Research Administrators (NCURA), the Society of Research Administrators International (SRAI), and InfoEd, to inform implementation of best practices, including the application of AI in some areas of research administration.

**Goal 5.1 Metrics**

- Work with OSP, OSA, the Provost, and the Chief Financial Officer to implement a new indirect cost recovery model within the time allowed by the federal government.
- Using the Stevens' learning management system, track department administrator training in proposal development and award oversight.
- Refine OVPRI organizational plans informed by the audits, federal compliance requirement changes, faculty feedback, and staff knowledge of best practices,

including cost-benefit assessments of additional investment in eRA resources. Target FY 2026 and annually.

- Support staff's participation in professional development opportunities with leading organizations, such as NCURA, SRAI, and InfoEd, budget permitting.

**Goal 5.2: Diversify funding through increased government engagement, corporate relations, and philanthropic giving aimed at capturing new and penetrating existing sources of sponsorship, and increase impact through invention and licensing.**

- **Strategy:** Leverage the power and expertise of Stevens' research-related entities (OVPRI, government affairs, key faculty) and our Washington, DC government relations contractor (WSW) to strategically expand and improve Stevens' presence and relationships with federal agencies and Congressional offices.
- **Strategy:** Engage OVPRI, Office of Development and Alumni Engagement, and leading faculty to cultivate relationships and expand efforts to secure philanthropic gifts from individual donors and foundations to support research in areas of strategic importance.
- **Strategy:** Increase corporate collaborations, including corporate sponsorship, partnerships, alliances, and agreements, that dramatically grow a rich culture focused on corporate research, innovation, business creation, and commercialization.

**Goal 5.2 Metrics**

- Each year of this plan, identify faculty well suited for government stakeholder engagement, providing training if necessary, and engage with them with Congressional staff at least annually and as circumstances warrant.
- With Development and Alumni Engagement, develop and implement a strategy for growing philanthropic engagement to support Stevens research.
- Starting in the fall of FY 2026, convene a series of events to host regional entrepreneurs and venture capitalists to build relationships with Stevens faculty and students and showcase Stevens talent.

**Goal 5.3: Ensure state-of-the-art facility capacity to support and advance Stevens Research and Innovation**

- **Strategy:** Following an investigation of existing laboratories, including physical space and research grant support, adjust space allocations to ensure optimal use.
- **Strategy:** Create additional lab and faculty office space with a new Digital Innovation Hall
- **Strategy:** Upgrade the remainder of the existing laboratory space in the McLean Hall, floor by floor, to create more efficient, modern lab space for present and future use by taking advantage of the recently upgraded infrastructure. Increase floor efficiencies by creating shared equipment space when practical.

### Goal 5.3 Metrics

- Complete research expenditure and award performance analysis in McLean Hall and Burchard Hall to identify underperforming laboratories. Target is the spring 2026 semester.
- Complete ‘efficient use of space’ survey of McLean Hall and Burchard Hall. Target is by the end of June 2026..
- Perform construction of 14,514 square feet of new research space and 8,202 square feet of administrative support and faculty office space in the Digital Innovation Hall. Target is by August 2031
- Relocate of laboratory and classroom space from McLean and Burchard Halls into the Digital Innovation Hall to enable renovation into modern laboratory spaces. This includes relocating 750 square feet of lab space and 1,978 square feet of classroom space from McLean Hall, and 2,372 square feet of classroom space from Burchard, and 4,685 square feet of lab space from Gateway Academic Center.
- Initiate McLean laboratory space designs with a goal of construction beginning after the spaces are vacated. Target start is FY 2028.
- Renovate four floors in McLean Hall. Targets are between FY 2030 and FY 2034.

Note:

- Assumes occupancy of the Digital Innovation Hall in August 2031, provided funding is available. The timing of actions will be adjusted according to the available budget and the progress of building construction.

### Summary: Grand Challenges and Opportunities Supported by Priorities



The Priorities and their accompanying Goals and Strategies are cross-cutting in their support of each of the Vision elements. This Vision embraces research and innovation in response to societally important Grand Challenges and Opportunities, all embedded in an environment that celebrates and utilizes discovery. For each Grand Challenge and Opportunity, the potential exists to engage the entire campus, synergize research and education, leverage the region, and digitally transform the research performed. All is grounded in a robust research infrastructure.

## **Execution Overview**

To execute the strategies and accomplish the priorities, goals, and strategies outlined above, an execution plan is needed. Sharing in the responsibilities of the plan's implementation will bolster the accountability while making the goals more achievable.

### **The Role of the Committees**

The Research Advisory Committee will be engaged at least once per semester to review the implementation of the plan and its progress. The Board of Trustees Research and Technology Commercialization Committee (RETCOM) will be apprised of progress, issues, and adjustments annually.

### **Accountability**

To ensure accountability and bolster implementation success, a "Priority Owner" will be designated for all 5 priorities, along with a "Goal Owner" for every goal within those priorities.

The Priority Owner and Goal Owners will be responsible for managing and supervising the progress in the plan's execution. More specifically, they will be responsible for:

- Reviewing the goals, strategies, and metrics for their assigned strategic priority and goals, collaborating with other relevant members in the community to make additions and revisions where needed
- Working with the Office of the Vice Provost for Research and Innovation where needed to accomplish goals and pursue strategies, and to communicate about their Priority's progress and challenges
- Developing metrics for monitoring progress and gathering data (or overseeing the gathering of data) to track metrics
- Assessing progress towards priority and goal achievement based on metrics and other information

### **Execution Dashboard**

An execution dashboard will be developed to monitor execution progress. The strategy execution dashboard indicates the lead people for each priority and associated goals and strategies, along with other execution plans.

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Zachary Feinstein	Business
Yi Guo	Electrical and Computer Engineering
Muhammad Hajj	Civil, Environmental, and Ocean Engineering
Yuping Huang	Physics
Jennifer Kang-Mieler	Biomedical Engineering
Matt Libera	Chemical Engineering and Materials Science
Aron Lindberg	Business
Philip Odonkor	Systems Engineering
Nick Parziale	Mechanical Engineering
Jason Rabinovitch	Mechanical Engineering
Jordan Suchow	Business
Kelland Thomas	Humanities, Arts, and Social Sciences
Hongjun Wang	Biomedical Engineering
Steve Yang	Business
Antonia Zaferiou	Biomedical Engineering
Damiano Zanotto	Mechanical Engineering

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## **Appendix: Stevens 2032 and RETCOM Goals, Actions, and Metrics**

In addition to the Metrics described in this document, Research and Innovation is guided by Goals and Metrics articulated in the Stevens 2032 Strategic Plan as well as Strategic Actions and Metrics developed in consultation with the Research, Entrepreneurship, and Technology Commercialization committee (RETCOM) of the Board of Trustees.

### **Stevens 2032 Goals and Metrics**

#### **Goal 3.1 Develop and implement a long-term strategic plan for faculty recruitment and retention that includes:**

- a. a robust faculty mentoring program to support, nurture and enable faculty to strengthen their academic career and produce their best work at Stevens
- b. best practices, policies and reward systems that encourage team science and promote a culture of excellence

#### **Goal 3.2 Continue university investment to:**

- a. strengthen existing and establish new interdisciplinary centers in areas of high impact and growing national importance
- b. improve and expand research infrastructure, including labs, equipment and high-performance computing facilities to meet the needs of our fast-growing research portfolio

#### **Goal 3.3 Enhance research administration by:**

- a. streamlining policies, reducing bureaucracy, and integrating and digitizing the end-to-end process of administrative support
- b. providing regular professional training for our research support staff
- c. recruiting and retaining the most talented and dedicated research administrators

The following targets and metrics provide more specificity on our 10-year aspirations and the methods by which we will measure our progress in implementing the initiatives and achieving the goals.

#### **Metrics and 10-Year Targets**

- a. Increase our research expenditure per tenure-stream faculty in SES and SSE from \$266,000 to \$450,000 (adjusted for inflation) per year
- b. Double our total university research expenditure from \$40 million to \$80 million (adjusted for inflation) per year
- c. Build five new interdisciplinary centers in areas of high societal impact and growing importance such as life sciences and healthcare (specifically, at the interface between medicine, engineering and informatics), quantum technologies, automation and robotics, human-robot interaction, financial technology, sustainable energy and environment and other emerging opportunities (a joint metric with Goal 5: Partnerships)

- d. Expand societal impact and generate substantial revenue by capitalizing on the entrepreneurial environment at Stevens that supports faculty conducting translational research by increasing technology licenses/options per year from seven to 25, which is expected to boost the number of startups launched at Stevens

## **RETCOM Strategic Actions and Metrics**

### **Strategic Action 1: Increase research intensity and peer recognition**

#### **Metrics:**

- a. Research expenditures per year per TS faculty member in SSE and SES (mean and median)
- b. Number of PhD students graduated per year per TS faculty member
- c. Percentage TS faculty members in SSE and SES with sponsored research expenditures sufficient to support a PhD student

### **Strategic Action 2: Build a research, innovation, and technology transfer ecosystem**

#### **Metrics:**

- a. Number of licenses issued per dollar of sponsored research
- b. Dollar amount of license income per dollar of sponsored research
- c. The average H-Index for TS faculty

### **Strategic Action 3: Build a dynamic entrepreneurship ecosystem and beyond**

#### **Metrics:**

- a. Number of students participating in entrepreneurship programs
- b. Number of new startup companies created by students in iSTEM and Launchpad programs each year