Complexity, interdependence and an accelerating rate of change define our era. Problems and opportunities exist in unexplored territory, at the boundaries of disciplines and with unknown and reverberating implications for individuals, organizations and societies. Solutions will result from exploring approaches that go beyond traditional notions of research, that consider human behavior as well as technological innovations, and that generate novel approaches with widespread and long-lasting benefits.

Through a strategic planning process involving the entire university community, Stevens Institute of Technology has looked inward with analytical rigor to envision our future. Our past—founded upon a historic legacy of technological innovation that benefits society—is the road map toward that future. In transforming ourselves, we will help transform our world.

Our mission ignites our work: **To inspire, nurture and educate leaders for tomorrow’s technology-centric environment while contributing to the solution of the most challenging problems of our time.**

*Per aspera ad astra.* Through adversity to the stars: The Stevens motto drives us to persevere, to innovate and to reach for grander goals.

Stevens is proud to unveil this strategic plan, *The Future: Ours to Create.* It sets an ambitious course toward a bold future in which we will play an integral role in addressing fundamental national challenges. And it will harness our unique capabilities—our innovative spirit, our unyielding work ethic, our entrepreneurial mind-set and our enviable location—to realize our tremendous potential.

As we move through the next decade, our legacy, our agility and our passion will position us to make a difference. We will transform ourselves into a premier, student-centric technological research university. Achieving this transformation matters—to the Stevens community and to our world.

The future is ours to create.
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The vision of our founding family was bold:

To create an institution of higher learning to rigorously educate students and advance the frontiers of engineering and technology. Their vision was prescient: that technology would play an integral role in economic and human development. And it was enduring: that the values and methods that guided Stevens in the Industrial Age would hold true in the Digital Age and beyond.

A sense of purpose, of opportunity and of responsibility has been part of our legacy since our beginning. Colonel John Stevens played an integral role in developing U.S. patent law. Robert Livingston Stevens invented the T-rail, still used in modern railroads. And engineer and inventor Edwin A. Stevens, a pioneer in maritime technology, left a bequest that provided for the founding of Stevens Institute of Technology as the country’s first college of mechanical engineering in 1870. Since then, generations of alumni have made similarly historic advancements: from Frederick Winslow Taylor, 1883, the “father of scientific management;” to Henry Gantt, 1884, developer of the Gantt chart; through Charles Stewart Mott, 1897, co-founder of General Motors; to Eugene McDermott, 1919, co-founder of Texas Instruments; and Mark Crispin, 1977, inventor of the Internet Message Access Protocol (IMAP). Artist Alexander Calder, 1919, and writer Richard Reeves, 1960, demonstrate the versatility of a Stevens education. Today’s students and faculty continue this tradition through groundbreaking innovations including self-healing surgical “smart materials” and piezoelectric nanofibers that monitor structural fatigue in real time.
“Throughout my career, I have worked beside graduates of Stevens and have always been impressed with their technical depth and leadership skills. As one looks to the future and the problems the world confronts, the Stevens formula for transformative innovation and education, founded in its principles of honor, integrity and accountability, should serve the nation and the world in an extraordinary fashion.”

Norman Augustine
RETIRED CHAIRMAN AND CEO, LOCKHEED MARTIN
Sustainable Energy
Current expertise includes economically sustainable, systems-oriented enabling technologies such as photovoltaic, solar-thermal and geo-thermal, biomass conversion, fuel cells, mechanical energy harvesting, tidal and wave energy, offshore wind, energy infrastructure management, and energy grid research, as well as techniques that can monitor human impact on the atmosphere and the earth.

Healthcare and Medicine
With more than 40 participating faculty, Stevens will address major areas of unmet need, such as tissue engineering, biomaterials, biosensors, drug discovery, healthcare analytics and systems-level medicine and healthcare delivery.

“A University for Our Time.
As the 21st century unfolds, Stevens will build on its foundation of expertise across multiple disciplines to address areas of true societal need. Advances in our knowledge, and growth in our research capacity, will expand our influence and our ability to meet these societal needs.

Kim Guadagno
LT. GOVERNOR OF NEW JERSEY

“The 21st century unfolds, Stevens will build on its foundation of expertise across multiple disciplines to address areas of true societal need. Advances in our knowledge, and growth in our research capacity, will expand our influence and our ability to meet these societal needs.”

“Success in a competitive 21st-century economy requires maximizing our state’s unique strategic advantages. In New Jersey, that discussion begins with leading institutions of higher education such as Stevens Institute of Technology. As the Christie Administration continues to promote economic growth and investment by strengthening the state’s innovation economy, the leadership and contributions of the Stevens Institute will be vital to producing the highly educated and skilled workforce needed for the jobs of tomorrow.”

Kim Guadagno
LT. GOVERNOR OF NEW JERSEY
STEM Education

Our nation’s need for an expanded technical workforce creates increased demand for break-the-mold approaches to STEM (science, technology, engineering and mathematics) teaching and learning from elementary through graduate education. The Center for Innovation in Engineering and Science Education (CIESE), with recognition from the White House, will play a leadership role.

Financial Systems

Stevens focuses on systems and informatics aspects of the global financial system, including system resilience, high-frequency trading, big data analytics and intelligence, reliability, integrity, systemic risk, governance and complexity, cyber security, systems and software engineering, signal processing and decision technologies.

Defense and Security

Three National Centers of Excellence and other national-level research and education programs position Stevens to develop and deploy important technologies for U.S. defense and homeland security: the Systems Engineering Research Center, the National Center for Secure and Resilient Maritime Commerce, the Center for the Advancement of Secure Systems and Information Assurance and the Atlantic Center for the Innovative Design and Control of Small Ships.
Student Centricity

Nurturing student success is our core business.

Stevens will create a new paradigm that elegantly combines stellar learning opportunities and trailblazing research as inseparable components of a 21st century education. In 2022, Stevens will provide the preeminent technology-informed education, with programs designed to broaden students’ horizons.

A student-centric research university puts the development of the whole student at the heart of its mission. Our research is distinct not only in the solutions it provides, but also in the involvement of students—both undergraduate and graduate—in the process of innovation. We will mentor the next generation of researchers and problem solvers using the best possible teacher: experience. Stevens graduates will understand the power of technology along with its business aspects and policy implications, spurring new modes of creating, innovating and collaborating.

We will hold ourselves accountable to excel in teaching performance and to develop innovative and meaningful ways to engage students in deep learning. Student advising, participation in competitions, travel abroad opportunities, internships and other out-of-classroom experiences will expand our students’ opportunities.

Success will be measured by our students’ post-graduation career achievements, their salary statistics and the contributions they make to our world.
Four strategic priorities will enable us to make a far-reaching impact.

The Stevens Digital Learning Lab

In 2022, the Digital Learning Laboratory (DLL) will be a collaborative environment of faculty, students and sponsors that will pursue research and implementation of technology-enhanced STEM learning and will develop, test and deploy tools to prepare students for technical leadership in the 21st century. It will contribute to the rapidly changing landscape of higher education in areas such as simulation and animation tools for visualizing and examining complex processes, social networks for forming diverse teams to tackle complex interdisciplinary problems, analytic approaches that take advantage of massive data sets and online externships to expose students to real-world problems and teamwork requirements. This student-centric initiative will truly embody all of the university’s strategic priorities.

Over the next 10 years, Stevens will enlarge its undergraduate student population by 60 percent while also increasing its academic selectivity.
Stevens was listed among the nation’s top schools for technology talent—twice—for the insurance industry (according to Insurance & Technology) and on Wall Street (according to Wall Street & Technology) in 2012.

Stevens climbed 13 spots in one year in the 2012 U.S. News & World Report ranking of National Universities, a bigger jump than any other college in the top 100.
Excellence In All We Do

*Strengthening the caliber and capabilities of our people, our facilities and our research*

Coupling an eagerness to move forward with an insistence on the highest standards, Stevens will create a pervasive culture of excellence that will serve as a model for our partners and our students throughout their lives.

Stevens is aggressively pursuing this goal. The student body has grown in size and academic quality, while admission to Stevens has become more selective. Faculty are recipients of prestigious grants, awards and other recognition for their research and scholarship. Stevens is home to three National Centers of Excellence. The ROI of a Stevens education and mid-career salaries of Stevens graduates are among the best in the nation.

*Stevens graduates earn the nation’s 12TH HIGHEST mid-career salaries (average of $112,000) according to CNNMoney in 2012, evidence that a Stevens education provides its students with knowledge and leadership skills in high demand by today’s global market.*
Through Collaboration, Impact

*Strategies and synergies that yield extraordinary results*

Solutions to today’s problems lie at the confluence of technology, business and policy, creating a need for agile and innovative partnerships. We will build a culture in which our strengths meld with and enhance those of synergistic and complementary collaborators. Together, we will produce novel research, create visionary education programs and influence policy and the national agenda, thereby enhancing the perspectives of our students and the international reach and reputation of Stevens.

Working together within Stevens, we will infuse ethics, policy studies, communication and management into educational and extracurricular programs, including community service and government internships. Our faculty will pursue impactful sabbatical assignments in academia, government, industry and NGOs. Off-campus graduate education programs—in areas of strategic importance—will increase.

At the local, national and international levels, new partnerships and other initiatives will enrich our experience and expand our influence.
The Systems Engineering Research Center

As a small research university, Stevens regularly marries its core competencies with those of external partners—large and small—in government, industry and academia. These intellectually fertile collaborations bring better results, an expanded scope and a dynamic profile as the value of a Stevens partnership is recognized. The Systems Engineering Research Center (SERC) brings together more than 20 universities and 300 researchers who work in a wide variety of domains and industries and generate ideas from beyond the traditional defense industrial base. The SERC is led by Stevens, sponsored by the Assistant Secretary of Defense for Research and Engineering, and includes strategic sponsors such as the Defense Acquisition University, the U.S. Army and the U.S. Air Force. Through its collaborative research model, the SERC embodies the potential to radically improve the application of systems engineering to the successful development, integration, testing and sustainability of complex systems, services and enterprises.
Technology at Our Core
*Exploiting technology for visionary outcomes*

Our heritage is built on technology, from the transportation technology pioneered by the Stevens family to the countless technology-based companies launched and led by our alumni, to the technological advancements created by our faculty researchers. Just as technology is our past, so will it differentiate us in the future, offering a distinctive educational experience to our students, driving our research and scholarship, leading us to devise novel teaching and learning methods and enhancing our administrative, outreach and communication activities.

**In Bloomberg Businessweek’s annual ranking of the best colleges for return on investment, Stevens Institute of Technology’s 30-year net ROI for graduates of $1.17 million is 16th in the nation.**

The Innovation and Design Laboratory

The Innovation and Design Laboratory (IDL) will produce transformative innovations through design to address the challenges presented by stakeholders. It will be distinguished by an approach in which participants coalesce around big ideas and by a culture where excellence is pervasive. Student participation in IDL projects will catalyze their development of problem-solving skills and complex cognitive capabilities. This collaboration will leverage a diverse, interdisciplinary community both within and beyond Stevens to effectively facilitate the creativity and innovation fueled within groups. It will utilize emerging technological tools such as those that access “wisdom of the crowd” and virtual, 3D-immersive “collaboratories.”
"Universities develop skills and knowledge to enable students to flourish in advancing personal interests and careers. As an engineering organization involved in developing complex technical solutions for both government and commercial customers, Space Systems has benefited tremendously from the contributions of Stevens alumni. With confidence, we look forward to the energy and commitment that the next Stevens recruits will bring to our team."

Jeff Ferketic
ENGINEERING DIRECTOR, SPACE SYSTEMS
UTC AEROSPACE SYSTEMS, WINDSOR LOCKS, CT
Growth will be deliberate, progress monitored, success achieved.

Our journey will require persistence and rigorous accountability across many dimensions of the university.
Undergraduate Studies and Experience

Our strategic plan recognizes the need to anticipate the future and to create our place in it. We feel a profound responsibility to grow not only students’ learning opportunities, but also the student body itself. Our growth strategy reflects this belief: Stevens will attract and retain top academic talent from across the country and the world, increasing and diversifying our enrollment to further the reach of our innovation and to provide the talent to address complex technical and societal problems.

Growth in the student body as well as the necessary faculty, infrastructure and research programs will create a more intellectually varied environment and provide more educational options for our students. All growth will be carefully stewarded to ensure adherence to the strategic priorities, with special emphasis on fostering a student-centric culture committed to excellence.

**BENCHMARKS:**

- Increase undergraduate enrollment to 4,000 by 2022 while also improving selectivity and students’ academic profile.
- Balance enrollment across the university by achieving greater increases in such new and existing technology-centric programs as science, business, humanities, social sciences and the arts, and slower growth in engineering.
- Attain a student body more representative of the general population, with more women, underrepresented minorities, students from outside New Jersey and international students.
- Support and expand programs to imbue integrity and professional ethics in our students, including the student-led Honor System.
- Achieve a six-year graduation rate of at least 87 percent by fall 2022.
- Enact curriculum changes and develop joint programs to provide holistic learning experiences that meet the needs of students and the rapidly changing world.
- Maintain a stellar record of graduate school and employment outcomes for students across all majors and disciplines.

Virtually 100 PERCENT of Stevens students gain real-life experience through cooperative education, internships and undergraduate research opportunities.
Graduate Studies and Experience

Graduate students will play a critical role in the expansion of leading-edge research programs envisioned in this plan. A more dynamic graduate student body will help realize a bigger footprint and greater national visibility for Stevens. Overall growth of our graduate population will also allow Stevens to substantially increase net revenue through economies of scale, leading to improved effectiveness, efficiency and financial stability. Together, these benefits are expected to provide significant opportunities for investment in the plan’s strategic priorities.

**BENCHMARKS:**

- Improve graduate admissions selectivity to 35 percent.
- Increase the full-time Ph.D. and master’s degree population by at least 30 percent.
- Double the number of off-campus partnerships for corporate graduate programs, emphasizing domains of particular significance to Stevens.
- Improve graduate faculty teaching performance and student learning against specific metrics.

Based on data provided by students to the Office of Career Development, **94 PERCENT** of graduating seniors in the Stevens Class of 2012 had secured employment or admission to graduate school, law school or medical school, with 1 percent entering the military.
Research and Scholarship

Stevens will expand educational and research programs in a disciplined, targeted fashion, strengthening our position across a range of important metrics and furthering opportunities for collaborative ventures with far-reaching impact. Inherent in the advancement of research and scholarship is the development of faculty talent. We will encourage faculty to innovate, conduct high-quality research, produce high-impact publications and develop and experiment with promising new teaching and learning approaches. We will create an ecosystem of innovation and entrepreneurship consisting of individuals who see the value of associating themselves with Stevens.

BENCHMARKS:

- Increase externally supported annual research expenditures per tenured and tenure-track (T/TT) STEM faculty to $550,000.
- Operate at least six designated national research centers.
- Ensure that a steady number of faculty on sabbatical assume positions of influence in government, industry and NGOs.
- Significantly increase the number of products reaching the marketplace based on Stevens-generated IP.
- Increase and diversify the faculty commensurate with student body growth.
Strengthening and Expanding Our Community

Growth of the order outlined in this strategic plan will depend on the successful development of external partnerships and increased engagement with Stevens alumni.

**BENCHMARKS:**

- Successfully complete the President’s Initiative for Excellence by June 30, 2014, raising at least $30 million.
- Achieve a philanthropy target of $70 million by 2017 to support key initiatives in the first five years of the strategic plan and raise an additional $100 million during the balance of its implementation.
- Increase the undergraduate alumni giving rate and the value of the university’s endowment.
- Create a compelling campus visitor experience that conveys our rich history, alumni achievements, aspirations for the future and strong relationship with the City of Hoboken.
- Develop a plan in partnership with key Hoboken stakeholders to further integrate and engage Stevens and our students within the local community, which will prove advantageous to the economic development of Hoboken and the scientific and technical advancement of Stevens.
- Seek opportunities to enter into at least one sister-university agreement to significantly enhance the work of the faculty and the learning opportunities of students from both institutions.
- Pursue a small number of strategic, long-lasting, institutional-level partnerships that enhance our global presence in geographic regions important to Stevens and that have distinct and measurable benefits to our educational and research impact.

“The DHS Center for Secure and Resilient Maritime Commerce (CSR) at Stevens Institute of Technology is developing cutting-edge technological solutions to port and maritime security problems. Stevens’ integrated surveillance research—combining satellite, shore-based, and submerged detection—is already attracting worldwide interest. Moreover, Stevens researchers, who witnessed firsthand the horrors of 9/11, have shown a visceral and unique commitment to the DHS mission.”

Matthew Clark, Ph.D.

Director, Office of University Programs
Science and Technology Directorate
U.S. Department of Homeland Security
This strategic plan describes a vision for Stevens that is bold, ambitious and transformative. It simultaneously embraces our legacy while articulating our aspirations in a changing global environment. It sets high expectations for all key stakeholders—faculty and staff, students, alumni, leaders, neighbors and friends. Realizing the full impact of this plan will require significant investment and engagement.
Enabling Success.

We will capitalize on our momentum, expand our size and our offerings, and maintain both agility and focus.
Student Recruitment
Increasing our impact requires increasing our footprint. As part of the Stevens 2022 strategy, we will embark on a deliberate and careful expansion of our undergraduate and graduate student bodies while becoming a more selective and more diverse institution.

Faculty
Growth in enrollment and research will necessitate growth of faculty and the creation of new majors, programs, research initiatives and co-curricular programs.

Leveraging Our Strengths and Capabilities
Stevens will maximize the impact of our existing strengths with regard to curricular rigor, our culture of innovation, successful partnerships, cutting-edge research and our spectacular location. We will seize the momentum of our unprecedented rise in national rankings, recognition as a university offering significant ROI for students, prestigious faculty awards and an inspirational $10 million gift toward a new academic complex.

An Enviable Location
To the east lies one of our most important assets: New York City. A short train ride under the Hudson River, “The City” provides phenomenal opportunities for student internships, networking, career prospects and partnerships within industry and academia, especially as New York’s star rises as a hub of entrepreneurial technology development.

To our north, west and south, New Jersey’s pharmaceutical and telecommunications industries provide similar access and potential for collaboration and student success. Stevens’ charming hometown, Hoboken, was ranked by The Princeton Review as a top college town and provides fertile ground for collaboration in technology-based education, research and community projects.

“"The City of Hoboken is proud to be home to Stevens Institute of Technology. The Future. Ours to Create. reflects on the historic successes of the Institute and builds upon them for the future. The City of Hoboken is committed to working with Stevens to create a brighter future for us all.""

Dawn Zimmer
MAYOR OF HOBNOKEN, NJ
External Relations

Stevens will leverage opportunities locally, nationally and globally to build an interdisciplinary, technology-centric orientation. We will capitalize on the emergence of New York as a hub for entrepreneurial technology development as well as the increased national emphasis on STEM education and its relationship to innovation and prosperity. Add that to strategic education and research partnerships as well as meaningful engagement with highly successful alumni, and the Stevens of 2022 will be a model of high-impact collaboration and innovation.

Infrastructure

This vision of Stevens 2022 will require significant investment in key infrastructure. Through increased revenues, careful financial stewardship, and the generous support of alumni, partners and friends, a new Stevens will encompass:

- A University Center
- New academic building(s)
- New student residence hall space
- Refurbishment of the existing physical plant
- Expansion of the physical plant, including classrooms, laboratories, housing, dining and athletics facilities
- A campus IT and physical infrastructure befitting a world-class technological university
- A larger faculty, inclusive of several endowed chairs and professorships
- The Digital Learning Laboratory
- The Innovation and Design Laboratory

“When I visit our national laboratories, our military installations, or private companies in our pharmaceutical, telecommunication and transportation sectors, I always ask where people were educated. Often, the answer is Stevens! It’s clear to me that many, many outstanding men and women have a Stevens foundation for life.”

Congressman Rodney Frelinghuysen
Representative to the U.S. Congress
New Jersey’s 11th District
As we review our institutional legacy, our skills, talents and collective strengths, as well as the challenges our world faces, our purpose gains poignant clarity:

Stevens is poised to make significant contributions to society and prepare the leaders and innovators of the future.

The Stevens community is energized by our strategic plan and eager to implement it. Multidisciplinary and collaborative, our strategic priorities will create a Stevens far greater than the sum of its parts. We will remain true to our longtime mission as a student-centric technological research university while moving toward a future of dynamic growth, uncompromising excellence and increased prestige.

What will our university look like in 2022? The entire Stevens community—our students, faculty, staff and partners—will live innovation. We will be driven by the knowledge that what happens here truly does matter and that we, as world citizens, have an opportunity and an obligation to catalyze change and employ innovation for a larger purpose.

Because our legacy and tradition are defined by creativity and innovation,
Because our education and research programs have great societal impact,
Because we dynamically adapt to meet needs and opportunities,
Because we are situated in one of the most vibrant metropolitan areas in the world and
Because we have the drive to make a difference...

Our course is clear. Our time is now.

The Stevens tradition, honed over more than 140 years on the campus at Castle Point, provides the framework to guide us toward an exciting future that is ours to create. We will rise to the occasion.

“Our growing human potential is fueled by institutions of higher education, but only to the extent that they themselves adapt to society’s ever-changing needs. The framing of a growth strategy centered on these foundational pillars assures that Stevens will continue to live up to the vision of its founder and remain a vibrant and vital part of our global community.”

Dr. Jeong Kim
PRESIDENT, BELL LABS
CHIEF STRATEGY OFFICER, ALCATEL-LUCENT
This strategic plan, built upon our strong foundation with a sense of responsibility and opportunity, will usher in a new era of Stevens innovation.
“The vision of the Stevens family is part of the Stevens of today and will be integral to the Stevens of 2022 and beyond. Innovation, an entrepreneurial spirit and an indomitable work ethic are what define Stevens. These are the traits that will transcend and transform Stevens in the next decade. Please join us on this journey.”

Per aspera ad astra.

Nariman Farvardin
President, Stevens Institute of Technology