



# HOWE SCHOOL OF TECHNOLOGY MANAGEMENT

## 5-Year Strategic Plan 2012-2017

UPDATED NOVEMBER 2013





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# FOREWORD

by the Co-Chairs of the Strategic Planning Committee

In technological universities, business schools play a special role. On one hand, they develop academic programs and conduct research in the traditional business areas. On the other, by instilling these programs with a thrust in technology and analytical thinking, they also serve as a place for conversations about the future — specifically, about how ideas emerging from engineering, scientific, and computational disciplines may become realized in business.

Especially today, with the proliferation of data from information technologies forcing innovation and changing businesses, government and educational institutions, business schools are expected to be on the cutting edge of not only the social sciences — including consumer behavior and organizational behavior — but also the computational sciences that underlie modern decision making processes, like information systems, data analytics and operations research.

The Howe School is growing in that direction. We have been developing programs and cutting-edge research that cover the above areas, and have been adding faculty to effectively span this wide range of disciplines. But it's just a start.

Our goal is to establish the Howe School as a leading business school, one that attracts students who want to build the social and technical skills necessary to lead in a world of rapid change and pressing challenges, and attracts faculty ready to engage in research and teaching at the forefront of the business disciplines.

Shortly after his appointment to the Howe School in February 2012, Dean Gregory Prastacos formed a Strategic Planning Committee chaired by Ann Murphy and Jeffrey Nickerson, and including Murrae Bowden, George Calhoun, Linda Pittenger, Michael zur Muehlen and Ted Stohr. Dean Prastacos participated ex-officio in the committee.

The Strategic Planning Committee met multiple times during the spring and fall semesters of 2012. A draft version of this plan was presented to the Howe School faculty on two occasions. It also was presented in a town hall meeting in September 2012 to the entire Stevens community, and specific presentations were given to alumni, students and the leadership of the university. What follows is the result of the input from, and the discussions with, the hundreds of constituents that define the Howe community.

We wish to thank all the members of the Committee, the faculty, and the remaining constituents of the School for their support and innumerable contributions to this effort.

May, 2012

The Co-Chairs of the Strategic Planning Committee

**Dr. Ann Murphy**

*Associate Professor  
Associate Dean*

**Dr. Jeffrey Nickerson**

*Professor*





## MESSAGE FROM THE DEAN

With a great legacy from Frederick Winslow Taylor, the father of scientific management and Henry Gantt, the father of project management, a thriving academic environment within Stevens Institute of Technology promoting technology, innovation and entrepreneurship, a unique location minutes from New York, an array of innovative academic and research programs, a population of exceptional students and dedicated alumni, and a faculty of distinguished scholars and experienced professionals, the Howe School is in a unique position to grow and develop into a leading global Business School.

It was this potential that inspired me to accept my position as the Dean of the Howe School. The school has an internationally recognized tradition in technology management and project management. Innovation has always been at the center of the school's interests, and the research conducted here addresses several of the key aspects surrounding innovation. In addition, it has already developed cutting-edge programs in quantitative finance, information systems and business intelligence, as well as in the more traditional areas of management, marketing and finance.

We plan to put these disciplines into practice and demonstrate applications of these techniques to advance innovation and entrepreneurship, foster economic growth, and improve the quality of life. We value the research conducted by our faculty, and we also encourage them to engage in practice, in order to contribute our intellectual energy toward the societal challenges of our time.

This plan describes how, over the next five years, the Howe School will establish its identity, increase its impact, and grow while increasing the quality of its research and teaching. Here, I highlight five major goals, which were selected out of many, and which exemplify the many initiatives described by the detailed plan that follows.

First, the Howe School will double the size of its undergraduate program. This goal, consistent with the overall plans of the university, will drive the growth of students and faculty, as the Howe School creates new majors to accommodate the expanding student body.

At the same time, the school will achieve AACSB accreditation, a prerequisite to attracting and retaining top students and faculty, and an essential step toward improving reputation and enabling us to appear alongside major business schools in well-known rankings, including those kept by the Financial Times and U.S. News & World Report.

Third, the Howe School will lift its ranking in the Social Science Research Network, so as to appear in the top 100 U.S. business schools. This will raise our reputation among our peers, and will create an open research culture in which our working papers are rapidly disseminated to other researchers and industry.

Fourth, the school will add at least one endowed chair. This will allow the Howe School to attract and retain the very best faculty, obtain even wider visibility, and grow in areas of high growth potential and of strategic importance to the School.



Fifth, the Howe School will increase its international footprint. Specifically, we will deepen our relationship with schools in Europe and Asia, so as to be able to attract the most skilled and motivated students in the world, enrich our classes, and provide a global perspective to our students and opportunities for research networking to our faculty.

To accomplish these goals, we need to establish a clear identity for Howe as a business school with technology at its core. In addition, more fundraising will be required to finance the anticipated growth.

The Howe plan presented in this document is a blueprint for the growth of the Howe School, in alignment with the strategic objectives of Stevens. This plan describes Howe as a business school that infuses research in the core business disciplines with the best new ideas surfacing in research labs and the marketplace. The plan defines a future for Howe, while maintaining and adhering to the same strategic growth initiatives and strategic priorities defined by the University as a whole in the Stevens' 10-year strategic plan.

I invite you to review this plan, and to help us in turning it into reality.

**Professor Gregory P. Prastacos**  
*Dean*

# BACKGROUND





## HISTORICAL BACKGROUND

The Howe School was originally the Department of Management in the School of Engineering. This changed in 1997, when Wesley J. Howe, an alumnus of the Stevens Institute and a longtime chairman of the Stevens Board of Trustees, lent his generous support to establish the Wesley J. Howe School of Technology Management. It is then that the school began its mission as a world-class center of research and learning in technology management.

Stevens Institute of Technology was founded in 1870 as an undergraduate college specializing in mechanical engineering. Over the years, Stevens has been associated with many engineering and scientific advances and has earned a strong reputation for the excellence and rigor of its academic programs. Early in its history, Stevens recognized the importance of management education. One of its alumni, Frederick Winslow Taylor, started the Scientific Management movement at the beginning of the 20th century. Another alumnus, Henry Gantt, invented the Gantt Chart, a ubiquitous project management tool.

A Stevens faculty member and its first president, Alexander Crombie Humphreys, helped found the American Society for Engineering Management (ASEM). Stevens is accredited by the Middle States Commission on Higher Education. Its School of Engineering and Applied Sciences is accredited by the Accreditation Board for Engineering and Technology (ABET). The Howe School is currently undergoing an accreditation process by the Association for the Advancement of Collegiate Schools of Business (AACSB). All courses that are part of the Howe School graduate degrees — particularly the Project Management courses — are accredited by the Project Management Institute (PMI).

Stevens ranks 9th in the nation for student ROI in Payscale's 2013 ranking of the colleges for return on investment, up from 23rd in a similar 2012 survey conducted by Bloomberg BusinessWeek. The Princeton Review ranks Stevens 9th in the nation in the "College City Gets High Marks" (2012) and 13th in the nation in career services (2013). Forbes and Princeton Review rank Stevens as one of the top 25 national schools in student-enterprise partnership. In 2013, CNN Money ranked, Stevens ranks 3rd in the nation and 1st in the Northeast with respect to the salaries of its alumni, up from 12th in the nation in a similar survey in 2012. U.S. News & World Report ranks Stevens 82nd in the category of Best National Universities and 7th among elite universities in percentage of STEM degrees awarded, while Wall Street & Technology lists Stevens among the Wall Street's top technology schools. Stevens was also named the 2013 ECAC Institution of the Year, exemplifying the highest standards of collegiate academics and athletic performance, and has every year for the last three years captured the CAA NJ Cup, honoring the New Jersey DIII institution with the most athletic successes.



## ACADEMIC PROGRAMS

The Howe School of Technology Management builds on a rich history of accomplishment at the intersection between technology and management, both with its graduate and undergraduate academic programs, as well as its research.

### Graduate Programs

The Howe School offers graduate programs at the Masters and Ph.D. levels. It also offers a number of four-course certificate programs.

The Masters programs include both Masters of Business Administration (MBA) and Masters of Science (MS) degrees. In addition, the Howe School experimentally offers jointly with the School of Systems and Enterprises a M.Eng. in Technical Leadership (METL). The MBA degree is a recently revamped flexible 48-credit program, offering concentrations in Finance, Marketing, Information Systems, Project Management and Innovation & entrepreneurship. We also offer a 48-credit lockstep Executive MBA (EMBA) program for candidates with significant experience. The MS degrees are 12-course programs in Management (MSM), Information Systems (MSIS), Telecommunications Management (MTEL), Business Intelligence & Analytics (BI&A), Enterprise Project Management (EPM), and Technology Management for Executives (EMTM). BI&A and EPM were newly launched in the 2012-13 academic year.

The Masters students fall into three main groups. The first includes students who are recent graduates, either domestic or international, who attend on a full-time basis. The second group is domestic students who attend on a part-time basis and take their coursework at our Hoboken campus or online through our web campus while they also work. The third main group of Masters students includes our corporate cohorts. For these cohorts, we typically teach our courses on the corporate site to their students, or offer online courses only for that cohort. Among the corporations that have recently offered a Howe School education to their employees are Citibank, ITT, Broadridge, Exxon Mobil and Verizon.

The Doctoral program is an interdisciplinary 12-course, full-time program positioned at the crossroads of information management, technology and innovation management and social computing. The program focuses on the creation and augmentation of technology-driven innovations, and enables students to conduct creative and innovative research in any of the three fields. Like many quality Ph.D. programs, we help our doctoral students develop their ability to understand and analyze. However, we also focus on fostering their abilities to create and apply.

### Undergraduate Programs

The Howe School offers two undergraduate degrees: a Bachelor of Science (B.S.) in Business, and a Bachelor of Science in Quantitative Finance. It also offers 7 minors, in Marketing, Finance, Economics, Entrepreneurship, Business and Technology, Information Systems, and Quantitative Finance. All students attend classes full time.

The B.S. in Business has five majors: Business & Technology, Marketing, Management, Information Systems, and Finance. All students take the same core curriculum, which is comprised of the liberal arts and science core, the business core, and the practice core. The B&T program has been in existence since 2001, the other majors started with the fall 2013 freshman class.

The B.S. in Quantitative Finance has only one major, Quantitative Finance. The program is unique in that it sits at the intersection of finance, computer science and mathematics. The program teaches students the mathematical modeling and other quantitative applications of the financial sector. It was one of the first of its kind at the undergraduate level when it began in 2010.

Our undergraduate job placement outcomes have been excellent. Four months after graduation, 91% of the 2013 graduating class have settled, with 76% accepting employment, 11% enrolling in graduate school and 4% returning home internationally. Salaries for those accepting employment have traditionally been 24% above the national average. Our students find work at prestigious firms, including Goldman Sachs, JP Morgan, UBS and Accenture.

### Executive Education and Training

The Howe School is a much sought-after provider of executive education and training to some of the world's top technology-driven organizations. In recent years, Howe School faculty have designed and delivered customized leadership development programs to employees at BAE, Johnson & Johnson, IBM and the U.S. Department of Defense, to name just a few. Most recently, Howe School faculty partnered with ExxonMobil Corp. to develop and deliver technical leadership training for its worldwide Upstream Development organization. During the next five to six years, approximately 3,000 ExxonMobil employees will participate in this Howe School program in locations around the globe.



## International Presence

For eight years, the Howe School has been running a joint degree program that was established with the prestigious EPITA Graduate School of Computer Science, in Paris, France. For the last six years, Howe has offered a Masters of Science in Management/Project Management in Beijing with the Central University of Finance and Economics (CUFE). Although currently interrupted, Howe offered a Master of Science program in Telecommunications Management, which we developed in collaboration with the Beijing Institute of Technology (BIT), in China. Howe School undergraduate students study in a number of universities throughout the world, and we host international students as part of exchange programs with the Technical University of Berlin, the University of Amsterdam, and the Indian Institute of Technology, in Delhi. In 2013 discussions have started with a number of prestigious universities around the world to expand our international presence.

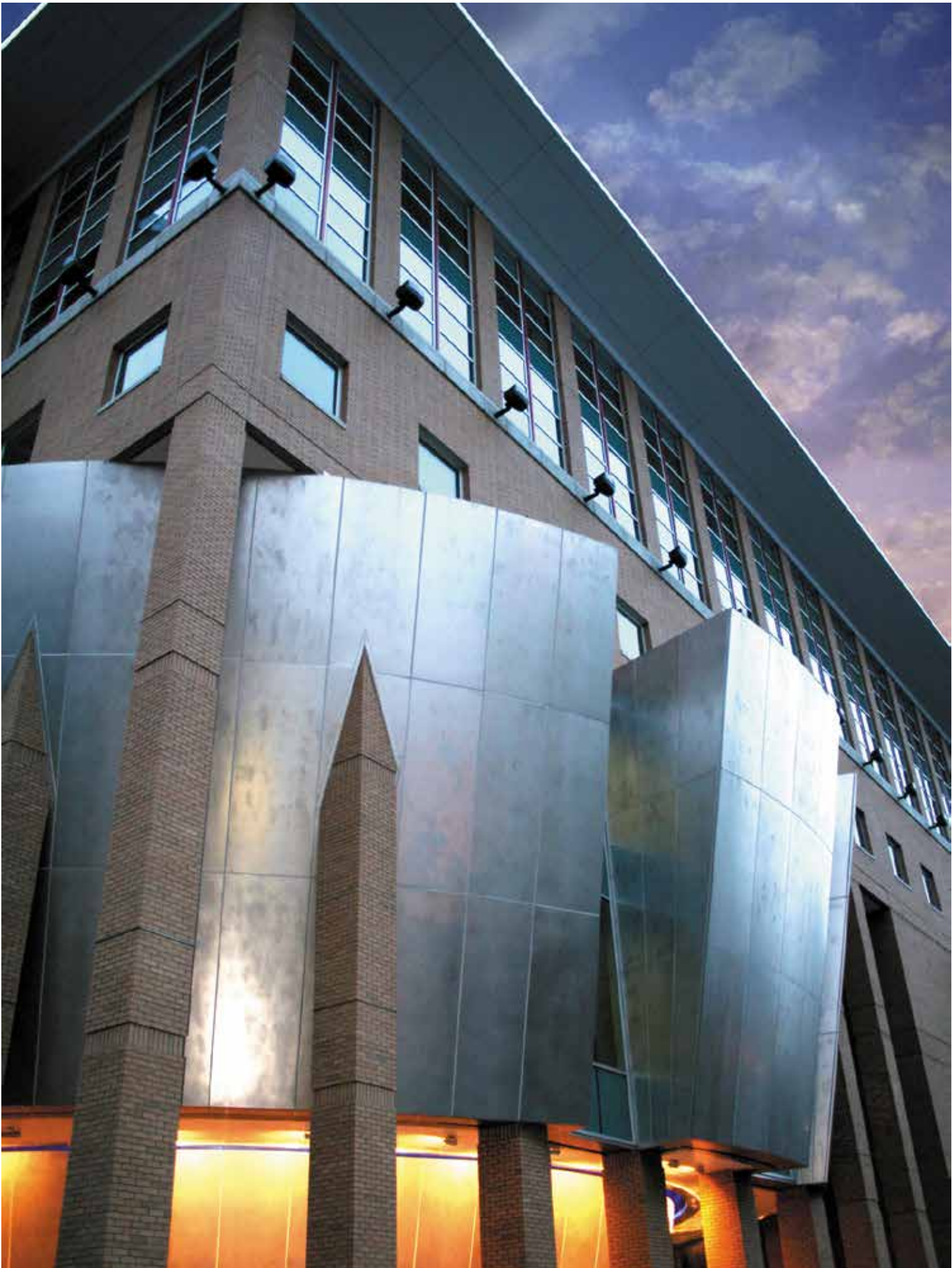
## Howe Facilities

The Howe School is located in the Lawrence T. Babbio Jr. Center for Technology Management, a six-story, 95,000-square-foot building made possible by a generous personal gift from Lawrence T. Babbio Jr., the Chairman Emeritus of the Board of Trustees of Stevens, and contributions from strong Stevens supporters, including Verizon, Lucent Technologies, AT&T, the State of New Jersey and a number of esteemed Stevens alumni. The Babbio Center's award-winning design complements the Stevens campus and incorporates elements from Hoboken's urban grid.

In 2012, we welcomed a great addition to the fourth floor of the Babbio Center: the Hanlon Financial Systems Center. Through the generous donation of Stevens alumnus Sean Hanlon, the Center offers students and faculty access to the latest technology and data used in Finance. The lab is instrumental to our undergraduate programs in Quantitative Finance and Finance, and our graduate program in BI&A, as well as to other programs throughout Stevens.

Although we are proud of our physical facilities, the Howe School also takes full advantage of online learning in its course delivery. Stevens has developed a world-class online distance learning capability, and has repeatedly won the International Distance Learning Award from the United States Distance Learning Association. The Howe School is investing in high-quality, web-based learning, and most of our courses are offered both face to face and online.





## RESEARCH

Howe School faculty conduct research in business intelligence, decision sciences, technology management, innovation management, business process management, organizational behavior, leadership, marketing, quantitative finance, economics, information systems and operations research. They bring in significant amount of research funding from organizations such as the National Science Foundation, the Department of Defense, the Department of Energy and the New Jersey Department of Labor. In recent years, the performance in grants attraction has been impressive — according to metrics reported in the Chronicle of Higher Education (2010), Howe’s research output has been comparable to, or exceeded, those of a number of top business schools.

Business School	Peer- Reviewed Journal articles published & accepted, per faculty member	% of faculty winning an external research grant	Value of new research grants won per faculty member
Howe School <sup>1</sup>	1.63 <sup>2</sup> [1.05 <sup>3</sup> ]	33.3% <sup>2</sup> [21.6% <sup>3</sup> ]	\$ 49,854 <sup>2</sup> [\$32,338 <sup>3</sup> ]
Univ. of Michigan	1.90	6%	\$10,500
Univ. of North Carolina	1.45	3%	\$121
Univ. of Pittsburgh	1.70	3%	\$4,900
Stanford University	2.43	5%	\$8,000
Columbia University	2.90	6%	\$5,300

### Research Areas

The areas of research mentioned above are at the intersection of business and technology, and can be consolidated in three interdisciplinary areas that include all Howe faculty members:

- **Creativity, Innovation and Entrepreneurship.** This area focuses on understanding and applying how creativity, innovation and technology spur the generation of ideas, products and processes. Businesses create value with new products and services, and so our research in this area has direct application in a wide range of industries, including those targeted in the University’s strategic plan: health care and medicine, sustainable energy, financial systems, defense, and security. Indicative current research that Howe School faculty are conducting in this area includes work on business process innovation, front end innovation, acceptance and diffusion of healthcare IT innovation, new product development, innovation and project management, app entrepreneurship, evaluation of the impact of R&D spending on innovation, and more.
- **Collaboration, Networks and Markets:** This area focuses on identifying programs, platforms and protocols that help organizations understand the changing nature of teams, organizational hierarchy, crowds and markets. Businesses are engaged in open innovation, asking customers to provide product refinement and design ideas, and new technologies are making it possible to assemble thousands of individuals to address large-scale problems. Our research in this area can accelerate the growth of

the economy by allowing startups to move quickly from idea to implementation. Indicative current research that Howe School faculty are conducting in this area includes work on interactive intelligent systems, crowdsourcing and collective creativity, cognitive processing, social media and collaboration, quantitative finance, behavioral finance, financial markets, team behaviors, strategy and performance, strategic management, leadership development, team learning and more.

- **Decision Analytics and Big Data:** Researchers in this area implement methods and systems to build, collect and analyze collective intelligence. This area is becoming increasingly important, as our increased ability to monitor both the natural and social worlds provides data that can be used to customize products and services. Increasingly, companies are taking advantage of such sensor and online data to better predict customer demand and behavior. The ability to predict behavior leads in turn to new innovations, products and services. Indicative current research that Howe School faculty are conducting in this area includes work on marketing analytics, supply chain analytics, text analytics, decision support systems, vehicle routing problems, logistics and supply chain management, risk management, markov decision processes, portfolio management, large scale information mining, business intelligence, knowledge management, profile analysis, and more.

<sup>1</sup> Data for the Howe School refer to the AY 2010-11. In AY 2012-13 results are mostly improved even further: PRJ articles/faculty: 1.82 [0.94]; % of faculty winning grants: 35.3% [24.2%]; Value of grants/faculty: \$83,630 [\$66,828]

<sup>2</sup> Refers to full-time research active (tenured and tenure-track) faculty

<sup>3</sup> Refers to all full-time (tenured, tenure-track, non-tenure-track) faculty

## Research Centers

The Howe School houses four research centers and one industry-academia consortium. The Center for Decision Technologies performs funded research on topics related to decision making. The center studies new forms of coordination and collaboration that can enhance current organizations, as well as create new businesses and new industries. The work that the center has performed has applications to the design of large-scale information systems, social networking websites, sensor networks, financial markets, emergency response, supply-chain optimization, health care analytics and Internet standards. The center has received funding from the National Science Foundation, the Department of Homeland Security and the Office of Naval Research.

The Center for Technology Management Research conducts research on issues related to innovation and the management of technologies in a global context. The Center for Excellence in Business Process Innovation studies the interplay between business processes and the organization. The Consortium for Corporate Entrepreneurship's mission is to significantly increase the number, speed and success probability of highly profitable products and services entering development.

Finally, the Howe School co-sponsors, with the School of Systems and Enterprises, the Financial Systems Center, which offers academic programs and research on quantitative finance, information technology and regulatory policies to analyze, understand and characterize the behavior of the global financial system.

## The Howe School Alliance for Technology Management

A unique feature of the school is the Howe School Alliance for Technology Management (HSATM). The alliance is a partnership among academia, industry and government, founded in 1991, that is dedicated to helping its member organizations implement more effective practices for the development and application of technology in the broadest sense. It does this by sharing best practices through conferences, roundtable meetings, workshops, seminars and publications. Partner organizations have the opportunity to exchange ideas in a collegial environment with Howe School faculty and a diverse network of other professionals dealing with similar issues.

Since its creation, the alliance has been very active and supportive of the Howe School research and educational activities. In 1992 it created, financed and developed the Stevens Masters in Technology Management for Experienced Professionals program, the precursor of the EMTM program. The alliance also played a prominent role in the development and establishment of the Howe School in 1997.

Other important activities of the alliance include the organization of five roundtable meetings per year, the organization of a major annual conference, the funding of seed research for Howe faculty, the conducting of workshops tailored to partner organization needs, and a publication presenting state-of-the-art thinking on management practices. Since 1992, more than 100 roundtable meetings have taken place, as well as 22 annual conferences. In addition, the alliance has funded more than \$300,000 in seed research grants to 38 faculty projects, and has provided a forum for 35 faculty members to present their work to, and interact with, HSATM partner organizations.

Today, the Alliance includes 11 partner organizations: Alcatel-Lucent; AT&T; Horizon Blue Cross Blue Shield of NJ; iConnect Corp; Infineum Group; Johnson Technology Systems; John Wiley & Sons; Stryker; U.S. Army Armament Research, Development and Engineering Center; U.S. Navy Strategic Systems Program; and Verisk Analytics. Our objective going forward is to grow the alliance and provide enhanced benefits to the partner organizations and the school.



## STEVENS BACKGROUND: ALIGNING TWO STRATEGIC PLANS

Last year, Stevens unveiled its strategic plan for the entire University, entitled *The Future, Ours To Create: Strategic Plan for Stevens 2022*. The Howe five-year plan was developed in concert with the university's campaign for growth and excellence, and with the major objective to facilitate its implementation at the Howe School. Consistent with the Stevens plan, Howe is positioning itself to be a business school with technology at its core that has impact throughout the world.

The Stevens strategic plan is based on five strategic priorities:

1. Student centrality.
2. Excellence in all we do.
3. Through collaboration, impact.
4. Technology at our core.
5. Strengthened reputation, increased prestige.

In addition, the University's strategic plan sets growth objectives, which are to a large extent based on the growth of the Howe School.

The objectives set forth in the 5-year Howe School strategic plan are fully aligned with these priorities, and the actions proposed facilitate the implementation of the Stevens plan. For example, the growth objectives are reflected in the "Growth & Diversity" pillar of our strategic plan, while priority 2 above is reflected in the "Quality & Engagement" pillar of our plan. More details are given in the specific action plan, which accompanies this strategic plan.

We will achieve the objectives of our plan through a collaborative, streamlined approach to our identity, impact, growth and quality. We will continue to attract high-caliber students and faculty, and prepare leaders in industry, government and academia. And we will exceed expectations in providing services, advisement and resources to students and faculty alike. We will build an engaged, connected and proud alumni base that is eager to help its alma mater through financial resources, career opportunities and research endeavors.

Our growth goals include:

- Doubling our undergraduate base, from 227 to 500 full-time students.
- Increasing our graduate student base by 25%, from 880 to 1,100, with a shift toward more full-time and "lockstep" students.
- Adding additional full-time, academically qualified faculty to meet AACSB standards and accommodate the growth in the student body.
- Increasing the impact of our research.
- Improving the efficiency of our operations.
- Establishing up to two endowed chairs in areas of high growth potential and of strategic importance to the School.
- Boosting the international enrollment of our student body in order to foster a more diverse student body, and to provide first-hand global context and experiences to enhance student learning.





## CURRENT CONTEXT

Today's fast-paced, technologically driven economy is creating a world, workforce and industries that continue to change rapidly. The workforce increasingly requires analytic and computational skills, critical thinking skills, and people skills such as collaboration, negotiation, and decision making. Tomorrow's business climate will undoubtedly look much different than it does today, and it is essential that our university, its students and faculty are prepared to meet these challenges. As technology changes the fabric of education, work and life, and as our global society grapples with complex challenges, we need to create an informed, educated, well-rounded student who is both fluent in the world of technology and prepared to help tackle these challenges as an alumnus.

### **The changes we need to prepare for include:**

- International competition. Increased investments by competing U.S. and international universities to bolster their Science, Technology, Engineering and Mathematics (STEM) offerings may negatively impact the number of students seeking degrees at institutions such as Stevens.
  - Domestic competition. Traditional business schools, such as Stanford, Harvard and MIT, are offering more online courses, and are attracting tens of thousands of students to individual classes. Cornell, CMU and others are extending their footprint to the greater New York area. NYU and Columbia are developing programs on business intelligence and analytics.
  - Cost pressures. The rising costs of higher education — and the high costs of private technical and business education, in particular — are prompting universities to look at capping tuition to control costs, which can negatively affect profitability.
  - Growth/capital investment by local competition. Rutgers has a new, state-of-the-art, 143,000-square-foot building for its business school. Montclair State is to host a private tech incubator. NJIT is building three acres of student housing. Cornell is establishing a \$2 billion technology campus on Roosevelt Island, in New York.
- Student demographics are shifting as the current baby boom graduates. Overall, universities will face a smaller pool of potential applicants. In addition, the lack of U.S. high school students with strong STEM skills will increase recruiting competition.
  - Growth of open-source and online education. According to the Babson Survey Research Group's 2011 study of online education, more than 6.1 million students took at least one online course during the fall 2010 term — an increase of 560,000 students over the previous year. The study also shows 31% of higher education students now take at least one course online, and that 65% of higher education institutions say online learning is a critical part of their long-term strategy.
  - The business model for online education is being disrupted. Massive Open Online Courses allow one professor at a prestigious university to teach tens of thousands of students. Many of these courses are free. A startup, Coursera, plans to offer an entire college education for free, relying on corporations to subsidize the education in return for rights to recruit top students. Georgia Tech recently announced the offering of an online MSc in Computer Science for less than \$7,000.
  - Impact of U.S. economic conditions on investments in higher education. The current fiscal stalemate, in which the executive and legislative branches of government often battle over taxes and spending, makes it possible the federal government will cut back on research. NSF, NIH and the DOD all are concerned about reduced R&D appropriations over the next five years.
  - The challenges of geopolitical shifts. The world's economies are changing, and it is likely that students who seek leadership positions in industry will need to demonstrate skills in international business.

With these uncertainties in mind, our strategic planning process engaged the community in a self-analysis of the strengths, weaknesses, opportunities and threats in Howe's current environment and the near-term future we envision.

## SWOT ANALYSIS

The analysis below identifies the major challenges facing the school. After performing this exercise, we proceed to define the mission for the school, as a way of clarifying and emphasizing current strengths and future opportunities.

### STRENGTHS

- Strong, established technology-centric brand
- Unique location with proximity to industry
- Accomplished and committed faculty
- Engaged constituents
- Good, and improving, rankings
- University support of plan, and Stevens' own plan provides framework to follow
- Excellent student placement
- Strong graduate and undergraduate programs
- Howe is 16 years old and going strong

### WEAKNESSES

- Lack of AACSB accreditation
- Lacks clear identity
- Not sufficiently research driven
- Lack of alumni community
- Size of full-time faculty and facilities have lagged needs
- Vast selection of program offerings that don't appear distinct
- Lack of sufficient customized offerings for executive programs

### OPPORTUNITIES

- Tech-centric orientation positions us to define and capture modern business model
- Strong innovation
- Growth of tech opportunities throughout region
- Exploit unique location
- Strengthen brand offerings through expanded business, technology and entrepreneurship programs
- Scholarships
- Cultivate alumni relations
- Develop executive education programs
- Develop the Howe School Alliance for Technology Management to facilitate research funding, as well as relevance, impact and fundraising
- Grow student body

### THREATS

- Growth and capital investments by local competitors
- Growth of BI&A programs in the region
- Stronger economic conditions in other countries could create competition for best and brightest
- Attracting good faculty
- Diminished research output
- Reduced public funding
- Reduced corporate funding for graduate education
- Reduced industry funding for research

# MISSION AND VISION STATEMENTS



## THE HOWE MISSION

*We impact industry, academia and society through business education and research in a technology-driven economy.*

## AN ELABORATION OF OUR MISSION

We serve graduate and undergraduate students, the academic community, government, industry, alumni, and society both locally and globally.

### Our Students

We serve both graduate and undergraduate students, and are intent on deriving the same outcome of success for both constituents through programs and offerings that are relevant to their needs. At the graduate level, we serve two primary student types: those with a management background who want to enhance their knowledge of technology in order to advance their careers, and those with a technology background who need to refine their management expertise and skills in order to advance their careers.

At the undergraduate level, we serve students interested in acquiring core business knowledge with a technical emphasis, as well as in developing specialized knowledge in a particular business domain.

Our student base at both the graduate and undergraduate level is sourced from around the globe, but with a strong regional base from the New York City metropolitan area, including students, alumni, corporate and government partners.

### Our Educational Programs

We provide undergraduate programs to educate future business leaders in a technology-driven economy. Starting with the entering freshman class in 2013 students have the option to select a major among six business majors. In addition to traditional business majors - Finance, Marketing, Management and Information Systems - we offer majors in Business & Technology and Quantitative Finance. The Business & Technology degree program offers students the ability to learn about business and technology as drivers of business success and allows them to specialize in a specific business discipline. The Quantitative Finance degree program is designed for students who want to specialize in the computational aspects of finance. Both programs provide opportunities to engage in other disciplines. We also offer business minors for all undergraduate students at

Stevens. All of our programs emphasize the importance of team building, communicating, collaborating, analyzing, and applying knowledge to practice.

We provide graduate programs to satisfy people at different stages of their career. Our MBA program is designed for students with business experience who seek to broaden their knowledge in business and technology management disciplines. The Masters of Science degree programs are intended for those who seek deep knowledge in specific disciplines, while the Ph.D. program is for those preparing for careers in research.

### Our Research

We perform research at the intersection of business and technology, and specifically focus on the three areas mentioned above.

These areas have direct impact on business, as shown by the table below:

Research Area	Creativity & Innovation	Collaboration & Networks	Decision & Big Data
Business Domain	Marketing, Strategy, Innovation, Entrepreneurship, Organizational Behavior	Marketing, Information Systems, Operations Management, Finance, Economics, Strategy, Organizational Behavior	Marketing, Information Systems, Accounting, Operations Research, Organizational Behavior

### Our Service and Outreach

We serve the school, the university and the surrounding community through our research, teaching, volunteer efforts, on-campus resources, and informational sessions and lectures. We develop specialized certificate and training programs for corporate education, and we offer pre-college summer programs to high school students. We continuously assess and improve our research and teaching with the help of outside advisers drawn from industry and government. The Howe School Advisory Board and the advisory boards of the academic programs could be especially helpful here.

## VISION STATEMENT

A Howe School education is only complete when considered alongside the long-term vision for our programs, our graduates, and how the two combined will shape our world. We infuse our studies with practical, industry-driven guidance and leadership to ensure our students have a deeper understanding of the challenges they will face upon graduation — and will make better use of the tools available to them in meeting those challenges.

*To be a leading business school  
widely recognized for superior  
technology-focused and student-centric  
educational programs and research.*

We will attract high-caliber students and faculty, and prepare leaders in industry, government, and academia. We will exceed expectations in providing services, advisement and resources to students and faculty. Our alumni will be an engaged, invaluable asset to promote the Howe School and provide financial resources and network opportunities to businesses, whether close to home or in rapidly developing nations overseas.

We will be successful because we are leading from the intersection of business and technology, a place executives realize is crucial when it comes to growing their businesses in a competitive global economy.

Our impact will be even more profound because of our geographic location. With access to New York and its industries, we will be able to provide many opportunities for our students, in terms of placement, internships, practical project work, guest lectures and business networking. In addition, the immersion in one of the nation's art and culture centers lends added dimension to a Howe education.





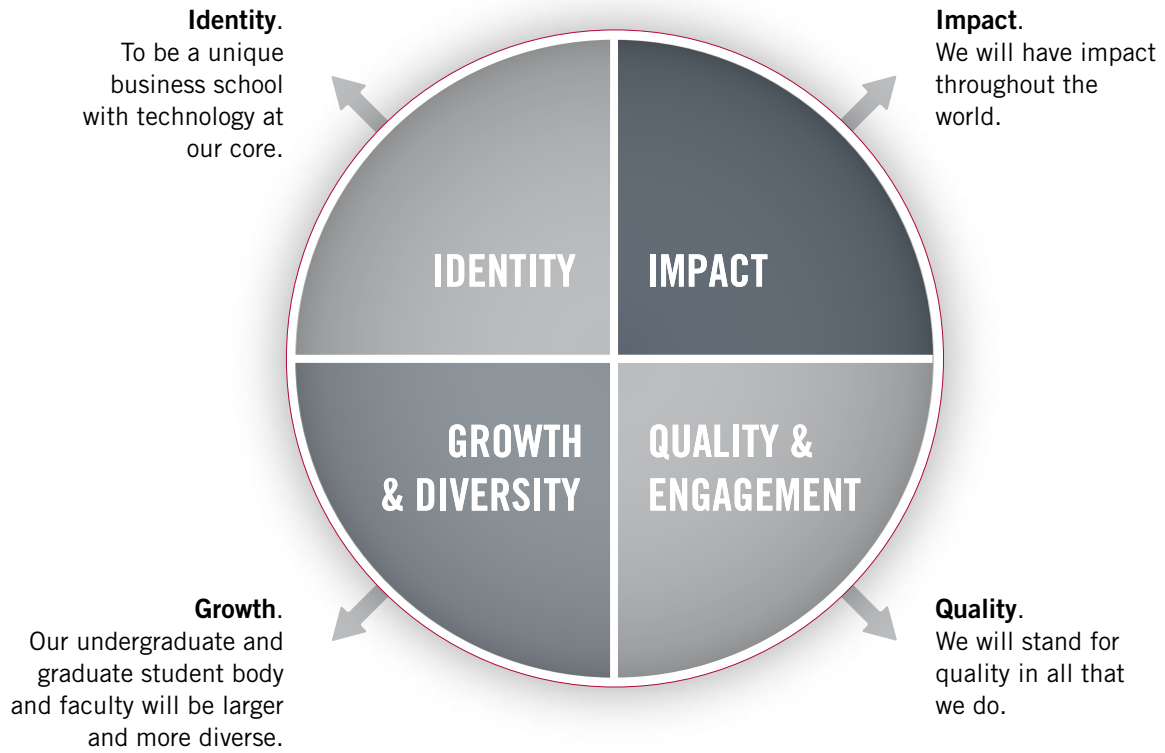
# PILLARS OF THE STRATEGIC PLAN





## AREAS OF FOCUS

We plan to pursue our growth over the next five years by focusing on the following four pillars of our strategic plan:



## IDENTITY

Identifying and understanding what the Howe School stands for and strives to be is an integral part of the strategic plan. Our name must reflect traditional business school naming conventions, our offerings must be differentiated, our faculty must be overwhelmingly academically qualified and we must achieve AACSB accreditation.

To that end, our Identity goals are to:

1. Change our name and rebrand from the Wesley J. Howe School of Technology Management to one that better reflects our mission, vision and activities.
2. Develop undergraduate majors and other educational programs that reflect the core business disciplines, but with a special emphasis on technology as a key driver of business and community success.
3. Clarify our distinct advantages that cut across all of our programs.
4. Hire world-class faculty that build our identity as a business school with technology at our core.
5. Achieve AACSB accreditation by meeting or exceeding all standards for faculty sufficiency, assessment of learning processes and strategic positioning.

### Rebranding

The current school name does not represent well what we do and what we plan to do in the future. The phrase “technology management” represents only a segment of the management field, and management is only one of several fields within the overall business domain. In addition, student interest has shifted — only 15% of Howe undergraduate students, and less than 10% of Howe graduate students, are taking a program in technology management. The majority are enrolled in programs traditionally associated with a business school, such as finance, marketing, information systems or management. We believe the time has come to associate the Howe School more explicitly with business.



We worked with a brand consultant, Sequel, to identify a new name, and conducted a thorough benchmarking study with other universities to identify current preferences and trends and make sure our new name would align our school with the naming conventions of other reputable business schools, such as Carnegie Mellon (Tepper School of Business), Lehigh (College of Business and Economics), and Case Western (Weatherhead School of Management).

The results of our research indicate strong support for a new name containing “School of Business” or “Business School,” which:

- Is clear and concise.
- Communicates the intent of the strategic plan.
- Is consistent with industry and competitive practices.
- Complements the Stevens name and reputation, which drives the understanding that technology is a key emphasis of our business school.
- Broadens the net we cast for prospects; once we are in their consideration set, we can demonstrate our differentiation.
- Is one part of the solution — complemented by the story and the associated marketing programs, it creates the greatest opportunity to differentiate the business school.

This name change will have the full support not only of the faculty and the Board of the Howe School, but also of important constituencies for our operation, such as the Admissions Office, the Career and Placement Office, and others. We are engaging with all members of the Howe community to gain consensus on the name change.

All Howe School offerings are linked by the common distinctive advantage of having technology at the core. This will be a very clear message in our rebranding effort. We will leverage this advantage by identifying greater opportunities for placement and partnership through the nearby industry hub of New York City. We also will expand our real-world orientation through technology as part of theoretical knowledge, which can then be applied to practical relevance and problem-solving.

### Expand Undergraduate Majors

In order to establish important points of parity with other undergraduate business schools, we need to introduce and expand our offerings of majors. Based on the success of the new programs in Finance, Marketing, Information Systems and Management, as well as of the existing programs in Quantitative Finance, and Business & Technology, we will create additional majors for Economics, Accounting, and possibly Business and Engineering, and Business Intelligence. We need to emphasize important points of difference with our competitors by building a curriculum that emphasizes technology through coursework, cases and real-world applications. Among the differences we will promote:

- Our requirement of more IT courses than most business undergraduate programs, and how we infuse those majors with courses that show students how to leverage technology for success.
- Our projects, cases and coursework, which are centered on tech-centric businesses and organizations.
- Our coursework design, which combines entrepreneurship, business consulting, analytics and a team project centered on actual business issues.
- Opportunities we develop for practical experience that allow students to apply learning to actual businesses.
- Our partnerships with dozens of firms in New York City.

### Evolve Graduate Programs

In order to continue to attract graduate students and expand our student base, we will streamline, focus and further develop our graduate programs. Based on input from students and alumni, we have this year evolved and simplified our MBA, EMBA, MSM and EMTM programs, while maintaining their focus on technology as a main catalyst for business and innovation. We will continue developing our specialized MS degrees: MS in Business Intelligence & Analytics, MS in Enterprise Project Management, MS in Information Systems. We plan on developing a MS program in Finance to be offered by September 2015, which will capitalize on our new undergraduate major in Finance, as well as our connections and proximity to the financial industry.

In order to grow academic quality and stabilize our enrollment base, we will emphasize full-time graduate programs, especially for the BI&A and MSM programs, and develop marketing approaches to attract highly qualified graduating college seniors. We will continue to work with other schools and programs inside and outside Stevens to develop additional select and successful interdisciplinary programs.

We will work closely with our alumni, here and abroad, to attract qualified candidates and to improve our yield rates. We will work closely with HR managers of companies currently participating in our cohort programs, and also with additional companies in the same and other sectors, to increase the number, size and quality of our cohort programs.

### Engage in Active Faculty Hiring

Since we are only as good as our faculty, we must hire business faculty that strengthen our key areas, build our identity as a business school with technology at our core, and contribute to our strategic goals. Our plan of expanding our faculty by six members in Year One (2012-13) was successful. We will continue by hiring two to three faculty members annually for Years Two through Four. We will focus our efforts on hiring scholars who hold a Ph.D. in core

business disciplines, and with excellent research capabilities and strong teaching abilities in the areas of interest to the Howe School.

### Achieve AACSB Accreditation

The Howe School began the AACSB application process in 2008. In 2010, as part of the process, the AACSB evaluation committee recommended that we withdraw, in order to address several shortcomings. We followed the recommendation to streamline our programs and focus on hiring academically qualified faculty.

We seek AACSB accreditation, the gold standard for business schools and an important consideration for both students and employers, because by meeting the standards, we also will achieve assurance of learning and faculty sufficiency. We submitted our reinstatement application in October 2012, six months ahead of our 2013 deadline. The application was accepted, and the accreditation process has been reactivated. Assuming we implement our strategic plan, we anticipate we will gain accreditation by 2015. The factors that will be significant in our efforts to secure the accreditation will be: a) the success of our hiring plan, which is not only critical for the achievement of the AACSB criteria, but also for achieving our strategic goal of growth, b) the close monitoring of the teaching engagements in order to satisfy the AACSB standards, and c) the development of strong and sustainable assessment of learning (AoL) processes.

### Summary

The following table summarizes the actions to be taken to achieve our identity objective.

Identity Objective	Actions to be taken
Launch new undergraduate programs	Launch 6 new undergraduate majors
Rename and rebrand the School	Rename the School to associate it more clearly with business; undertake a rebranding campaign.
Evolve and enhance the graduate offerings	Evolve existing graduate programs; launch two new ones
Engage in active faculty hiring	Attract top faculty in the areas of key importance to the school
Achieve AACSB accreditation	Develop and sustain acceptable ratios; develop and sustain strong AoL processes; implement the strategic plan.

# IMPACT

Our mission is to have impact on the world through our research and teaching. We will achieve this impact by focusing our efforts to achieve four goals:

1. To create research impact by being a leader in focused research areas, and by disseminating our findings throughout academia and industry.
2. To collaborate and lead internally on areas of strategic interest to Stevens, such as entrepreneurship, analytics, and finance.
3. To collaborate globally by building strong networks with top international universities, developing joint academic programs and collaborative research, and thus benefitting our students by creating a globally minded student body and our faculty by offering opportunities for research.
4. To continually improve our research, coursework and curriculum to produce graduates who impact industry and government through solutions to challenges, and with products and services that capitalize on opportunities.

In achieving these outcomes, we will help achieve our ultimate goal: to build an outstanding reputation.

## Research Impact

We will focus our research on three major areas: a) Creativity, Innovation and Entrepreneurship b) Collaboration, Networks and Markets and c) Decision Analytics and Big Data. These areas represent an evolution of some of our core competencies, and address future needs for our students and industry.

We measure our research impact through a number of indicators, such as publication in top journals, citations, grants awarded and SSRN downloads. The following table indicates the metrics to be used to measure the impact of our research.

Research Objective	Metrics to be used
To be a leader in focused research areas	Research grants awarded, publications in top journals, SSRN rankings, leadership in conferences, editorial positions, professional societies, distinctions, patents.
To disseminate the findings through academia and industry	Journal publications, citations, research rankings, SSRN downloads, newsletters.

## Through Collaboration, Impact

In alignment with the Stevens strategic plan, we will collaborate with the university's other schools and aspire to take a leadership role in three major areas within Stevens: entrepreneurship training, the promotion of educational and research programs on Big Data and Business Analytics, and the support of the Financial Systems Center. In addition, we will continue our excellent collaboration with the other schools, while also supporting Stevens' strategic research areas, mainly in health and finance.

### a) Entrepreneurship training

The major challenges of this century — healthcare, environment and security, to name a few — all demand a magnitude of resources that can come only from continued rapid economic growth. Economic growth, in turn, requires continued entrepreneurial innovation. Innovation and entrepreneurship during the last century have been the key drivers of economic growth, and have led to radical changes in the world's social and economic landscape.

Innovative and entrepreneurial thinking is, therefore, very important in a technological environment, where new products are developed and new methods are established. In a technological university, the education of engineers and scientists largely emphasizes invention, and this lays the foundation for innovation and entrepreneurial activity. It is important, therefore, to effectively supplement engineering education with entrepreneurial thinking and know-how.

The Howe School will undertake a number of initiatives in order to develop and coordinate entrepreneurship education within the Stevens community. These include:

- Further development of the Entrepreneurship minor. The curriculum will be revamped, and the minor will be actively promoted to students.



- Coordination of the Ph.D. signature course. The Howe School will undertake the responsibility for the entrepreneurship component of the course.
- Development of an introductory entrepreneurship course for all engineers by capitalizing on our recent international experiences about entrepreneurship education.
- Integration of entrepreneurship into the Design Spine contained in the undergraduate engineering curriculum. Further development of the senior innovation courses within the engineering student's senior design project.
- Additional initiatives that include growing the entrepreneurship faculty and engaging the students in business plan competitions, among others.

**b) Research on Big Data**

The explosion in the amount of data available; changes in the technologies required to manage and analyze those data; and industry demand for the technology, infrastructure, and skilled employees to capture value from data are all well documented developments across most industry sectors. It is clear that companies that harness Big Data will enjoy a disruptive advantage over their competitors. It also will be true that companies — and universities — with significant connections to strong ecosystems in Big Data will have access to most of the opportunities. Finally, given the current crisis in STEM education, there will be an increasing gap in employees with the skills required of individuals working in this area.

Stevens is a leader in this field, as evidenced by its master's degree program in Business Intelligence & Analytics, and also by the extensive research activities in this field across three of its schools. The Howe School is planning to collaborate with the other schools in order to develop a Center for Big Data Invention and Innovation. This center would perform cutting-edge research; partner with leading corporations and government agencies; and support incubation of new entrants in Big Data markets. In cooperation with corporations in the Northeast, it will conduct joint research cementing its position as a leader in technology and management of technology.

**c) Financial Systems Center**

Finance is one of the areas of strategic interest to Stevens, and especially so to the Howe School. We already have a very successful undergraduate major in Quantitative Finance, and as of this year we are also offering a popular major in Finance. We are currently designing a graduate program in Finance, as a natural sequel to the Finance major, to be launched in Fall 2015. Stevens enjoys an excellent reputation in the financial community, and the number of alumni of Stevens and of the Howe School in leading positions in the financial industry is impressive.

The Financial Systems Center and the Hanlon Financial Lab are great assets to our students and faculty. We plan to collaborate with the other schools, and in particular with the School of Systems and Enterprises, to grow the Center by participating actively in the formulation and implementation of the center's strategic plan, hiring faculty who are aligned with the center's strategic objectives, developing academic programs and research proposals within the interests of the center, and attracting corporate interest to increase its impact in the financial community.

The following table summarizes the actions to be taken to achieve our collaboration objective.

Collaboration Objective	Actions to be taken
Lead in Entrepreneurship	Development of entrepreneurship minor, coordination of the Ph.D. signature course, development of the required course on entrepreneurship for all engineering undergraduates.
Lead in Big Data	Further develop the BI&A program, develop certificate programs, attract corporate interest for work in BI&A, coordinate effort across schools for research in Big Data, develop a center on Big Data & Analytics.
Support the Financial Systems Center	Actively participate in the design and implementation of the center's strategic plan; hire faculty who will be aligned with the center's strategy; participate in the leadership of the center; develop programs and research to attract industry.

## International Leadership

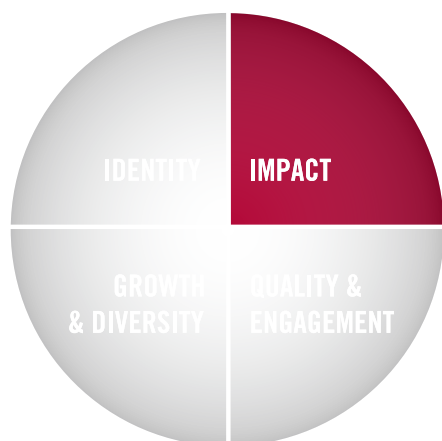
As the world becomes smaller through digital communication, social networks and the multinational operation of businesses, creating a balanced yet influential international constituency amongst our student body is imperative. A mix of domestic and international students can help offset a decline in enrollment in one or the other population, but most importantly, a growing base of international students helps all students generate a deeper and broader view of the business world. As such we will look to grow the international dimension of our programs through a series of initiatives.

We will expand our current exchange relationships with the University of Amsterdam, the University College of Dublin, the Technology University of Berlin, and IIT Delhi. These universities are among the top schools in their home countries. We also will develop new exchange agreements with other top schools in Europe, Asia, and South America, and look to develop joint/cooperative degree or certificate programs with top international schools. We will expand our current international degree programs with EPITA and CUFE, and will seek similar collaborations with other schools.

We will focus on key competencies for Howe and see where we can also leverage the international relationship into other areas such as research, joint programs or executive training.

In order to broaden the global perspective of all students, we will develop study trips abroad for undergraduate and graduate students. We will develop a comprehensive promotion program around international opportunities for our students, including fact sheets and collateral materials for the various destinations and programs.

In addition, we will pursue research collaborations with top universities in China and India. Areas of focus will include Big Data and analytics, innovation management, and technology management. We also will establish cooperative agreements at the doctoral level, with doctoral internships and pre-doctoral collaborative programs. Finally, we will promote the use of sabbaticals for semester or year-long visits by international faculty.



The following table summarizes the actions to be taken and the metrics to be used to achieve our internationalization objective.

Internationalization Objective	Metrics to be used
To be an international leader	Growth of the international students in terms of numbers, diversity, quality, selectivity; growth in joint academic or research programs with top international schools; growth of exchange programs; promote sabbaticals.

## Student Impact

We need to ensure we keep our academic programs updated. We must also ensure the quality of teaching surpasses the benchmarks defined in the AACSB accreditation process, so students can effectively learn and apply what they learn at Howe.

We will provide opportunities for students to participate in and understand business through firsthand experiences inside and outside of the classroom. We will broaden opportunities for invited lectures, and for students to work with industry and government through projects and internships. Providing more global opportunities will strengthen our students' global points of view of the world and business.

Finally, in order to help foster the development of students, we will create greater opportunities for community service so that our students can become responsible citizens and leaders. We will work collaboratively with student government on existing projects, and find community service programs and projects to participate in that will contribute to classroom learning.

The following table summarizes the actions to be taken to achieve our student impact objective.

Student Impact Objective	Actions to be taken
To produce graduates that impact industry and government	Continuous review of curriculum and of teaching ratings, feedback from employers and alumni, opportunities for student participation in projects in and outside the classroom as well as globally, opportunities for community service.

## Reputation

Meeting these four goals will improve the overall reputation of the Howe School, but only if we succeed in informing our stakeholders, including those in other academic institutions, employers and high school recruiters. Together with the Stevens Office of Communications & Marketing, we will develop a communications strategy to improve the communications function at Howe, to help publicize and promote our students' academic successes and career achievements.

The communications plan will include two newsletters, one with general Howe School news and achievements and one with thought leadership articles based on our research, as well as active outreach to higher education reporters and Web stories. It also will help promote our faculty achievements in research and teaching, and thus raise our reputation to academia, industry and society.

In addition, we will enhance our reputation by drawing attention to the differentiating aspects of our academic programs by elaborating on our identifying principle at both the University and School levels — “technology at our core.” We will identify how and where the principle is manifest, and include examples in case studies, which in turn, will contribute to individual courses and overall programs. We will identify instances where the principle has contributed to the solution of complex problems by our alumni. We will promote our strong position in technology and analytics by attracting top faculty in these areas, developing breakthrough research and becoming a focal point globally.

Moreover, we will focus on another core skill taught in our school: design. Through our presence in our engineering environment, and through the pedagogy of our courses, we encourage students to practice design thinking. Our students will be challenged to imagine possible futures, then plan ways of realizing these futures. Our courses share a design thread that enriches the student experience in the Howe School. As part of our plan, we will both strengthen this thread and communicate its outcomes more widely.

One way that we will measure research reputation is through our rankings in the Social Sciences Research Network (SSRN), the only electronic platform in which business schools are ranked monthly on research performance. Between February 2012 and September 2013, the Howe School jumped 75 spots in national research ranking, from 156 to 81. The number of new downloads (over the last 12 months) has increased from 2,039 to 7,938; the number of total downloads has increased from 7,485 to 18,645; and the total number of citations of our papers has increased from 19 to 236. Our initial goal, when the strategic plan was put in place, was to be ranked among the top 100 U.S. business schools on SSRN within three years. This goal has already been achieved. Our next goal is to achieve a position among the top 60 in the next 3 years; doing so will require us to surpass better-established business schools through our focused research efforts.

## Summary

The following table summarizes the actions to be taken to achieve our impact objective.

Impact Objective	Actions to be taken
Research impact	Pursue research grants and publications in top journals, SSRN rankings, leadership in conferences, editorial positions, professional societies, distinctions, patents; disseminate results through publications, conferences, newsletters, SSRN
Through collaboration, impact	Lead in Entrepreneurship initiatives; lead in coordinating Big Data educational and research initiatives; support the growth of the Financial Systems Center.
Internationalization impact	Grow the international students in terms of numbers, diversity and quality; develop joint academic or research programs with top international schools; growth of exchange programs.
Impact from our graduates in industry and government	Continuous review of curriculum and of teaching ratings, feedback from employers and alumni, opportunities for student participation in projects in and outside the classroom as well as globally, opportunities for community service.
Reputation	Develop a strategy to further publicize academic successes; launch newsletters addressed to academia and to industry; spread the word about our unique value proposition.

# QUALITY & ENGAGEMENT

Howe will create a framework, through the use of technology, to allow us to measure and monitor quality goals related to student admissions, faculty research, teaching, student support, faculty support and alumni relations. We will use data-driven reports and analytics to benchmark our quality standards, and identify challenge and opportunity areas. We will also use technology to increase our outreach to alumni, students and potential students.

## High-Quality Student Support

In alignment with the strategic priority of the University concerning our student centricity, we will place great emphasis in providing excellent support and an outstanding learning experience to the student. We will capitalize on recently launched advising initiatives, and develop ones to improve the student experience and our retention rate. Our goal is to achieve a retention rate of 96%, and a six-year graduation rate of 83%, in line with Stevens' goals. We will use Salesforce to provide real-time student information, manage courses, streamline operations and support curriculum decisions. We will enhance the system with custom program elements that will allow us to unify budget processes and systems and assist in financial planning. We also will use Salesforce as a CRM system.

We will upgrade the recently launched Student & Faculty Support Center, and will develop a program and calendar of events to host student-centric events to help facilitate enrollment, study plans and advising. We will also help the center establish its role as a liaison to the Institute's office of International Students and Scholar Services, the Registrar and faculty advisers, to manage international visiting students and J-1 scholars. We will monitor students' needs, as expressed through the center, to continuously provide the best possible support.

The following table summarizes the actions to be taken to achieve our student high quality support objective.

Student High-Quality Support Objective	Actions to be taken
Upgrade the Student-Faculty Support Center	Develop calendar of student-centric events, monitor student needs, use Salesforce to provide real-time information.

## Quality of Faculty

Faculty is the key differentiator of every great university. The Howe School will develop a strategy to attract and retain top research talent. Incentives and awards for top-performing faculty should be included in the plan, as well as ways to mentor and develop junior faculty.

To advance our reputation, we will focus on hiring tenure-track faculty and reducing the proportion of teaching and adjunct faculty. However, we must strive for quality in all three categories. With respect to tenure-track faculty, we must recruit primarily on the basis of research performance and potential. With respect to teaching faculty, we must find those candidates with significant experience in practice and the ability to communicate this experience. We must vet and hire adjuncts that are academically or professionally qualified, and that provide excellent teaching. We will help nontenure-track faculty produce intellectual contributions. Together with the Office of Development we will pursue the funding of endowed chairs. All tenure-track faculty should attend the teaching improvement workshops provided by the University.

The following table summarizes the actions to be taken to achieve our faculty quality objective.

Faculty High-Quality Objective	Actions to be taken
Attract and retain top faculty	Develop strategy for attracting and retaining top talent; develop initiatives to support young faculty; increase TT hiring; monitor carefully NTT and adjunct hiring; add endowed chairs





## Quality of Teaching

The quality of teaching and student learning are important contributors to student retention. In order to uphold our teaching standards, we must continually monitor the AACSB standards for AoL. We will offer faculty teaching development opportunities, and provide doctoral students with teaching development opportunities. Specifically, qualified Ph.D. students will be offered the opportunity to run undergraduate labs, and those Ph.D. students who demonstrate capability in the labs will later be given the opportunity to teach undergraduate courses.

To monitor teaching performance, we will adopt metrics that will be reported to the faculty each semester. To reward performance, we will adopt teaching excellence awards.

In addition, as the trend to online education continues, we have an opportunity to strengthen our technology and methods for online teaching, improve our online offerings, and invest in educational technology. Our initial task will be to establish a set of technological and pedagogical goals related to online education that take into account the changing international educational environment, as well as university-level initiatives. We will continue the initiative of supporting faculty to develop effective online content for all the courses, and will also explore innovative methods for growing into the digital learning environment.

The following table summarizes the actions to be taken to achieve our high-quality teaching objective.

High-Quality Teaching Objective	Actions to be taken
Provide high-quality teaching	Develop rigorous AoL processes; review curriculum and ensure that best instructors are assigned; help young faculty and Ph.D. students develop their teaching skills; monitor and report teaching performance, develop teaching excellence awards; improve online content and delivery.

## Quality of Research

We will continue to emphasize research in the top target journals. We will continue to provide publication bonuses as incentives for motivation. We will foster a research culture built on colloquiums, incentives and the celebration of successes. And we will use our research to create synergies among faculty members.

Furthermore, we will pursue funded research in a focused way by targeting large and winnable grants from the major funding agencies. We will expand the doctoral program to include new courses and disciplines, and secure funding for 12 additional Ph.D. students to support the new faculty.

To help faculty in preparing successful grant proposals and manuscripts for top journals, we will develop support initiatives, led by senior faculty. We will adopt metrics of

research performance for publications, for funded research and for exceptional distinctions.

The following table summarizes the actions to be taken to achieve our high-quality research objective.

High-Quality Research Objective	Actions to be taken
Provide high-quality research	Emphasize publications in the target journals (FT45, ABS4/3, IF>1.5); actively pursue research funding and corporate support; celebrate successes; help young faculty to write proposals and manuscripts for top journals; grow the Ph.D. program; monitor and report research performance; develop research excellence awards.

## Quality of Students

We need to increase the number of applications to our programs. Already last fall, with the launching of the new majors and the emphasis placed by Undergraduate Admissions to the Howe School, the undergraduate applications increased significantly. A similar effort will be undertaken for the graduate division, together with the Office of Graduate Admissions and the Office of Communications & Marketing. Emphasis at the undergraduate level will be placed to international, female and minority recruitment, while at the graduate level, emphasis will be placed to full-time students.

Once the number of applications increases, we will increase student selectivity. We will focus our recruitment efforts at students that demonstrate a predisposed interest toward and experience in business, math, science and computer science. We will boost the acceptable level of both SAT and GMAT so as to be within range of the 100 undergraduate and top 100 graduate business schools.

The following table summarizes the actions to be taken to achieve our high-quality incoming students objective.

Quality of Incoming Students Objective	Actions to be taken
Increase the number and quality of applicants	Increase the quantity and quality of applications; develop collaborative agreements with top universities; spread the word about our unique value proposition.
Improve the quality of incoming students	Develop better student targeting in admissions process; create higher admissions standards; offer scholarships to top candidates.

## Alumni Relations

Alumni are the living testimonials to the quality and impact of any university. What they achieve and accomplish in their post-college careers is a singular metric of the education they received. Our alumni are appreciative of their academic careers at Howe. We need to leverage their spirit, networks and financial access in order to help us to achieve our goals. We need, in collaboration with the Alumni Office of Stevens, to first identify, track and communicate with each of our alumni, and build a database (organized by graduating class, region and academic sector) for ongoing communication. We need to systematically develop opportunities to engage alumni in networking at the school, to participate and lead activities, and to serve on advisory boards to help our current students see the possibilities a Howe education provides.



## Summary

The following table summarizes the actions to be taken to achieve our quality and engagement objective.

Quality & Engagement Objective	Actions to be taken
Provide high-quality student support	Upgrade the Student-Faculty Support Center; develop calendar of student-centric events; monitor student needs.
Attract and retain top faculty	Develop strategy for attracting and retaining top talent; develop initiatives to support young faculty; increase TT hiring; monitor carefully NTT and Adjunct hiring; add endowed chairs
Provide high-quality teaching	Develop and sustain rigorous AoL processes; continually review curriculum and ensure that best instructors are assigned; help young faculty and Ph.D. students develop their teaching skills; monitor and report teaching performance, develop teaching excellence awards; improve the online content and delivery.
Provide high-quality research	Emphasize publications in the target journals (FT45, ABS4/3, IF>1.5); actively pursue research funding and corporate support; celebrate successes; help young faculty to write proposals and manuscripts for top journals; grow the Ph.D. program; monitor and report research performance; develop research excellence awards.
Improve the quality of incoming students	Work with the Offices of Undergraduate and Graduate Admissions and the Office of Academic Communications and marketing to increase the quantity and quality of applications; develop better student targeting in admissions process; create higher admissions standards.
Improve alumni relations	Work with the Alumni Office to develop quality databases of our alumni; communicate with alumni through our newsletters; engage alumni in our boards; organize events to honor alumni; engage alumni in giving.



## GROWTH & DIVERSITY

At the heart of our strategic plan is growth. When pursuing growth, we should also grow diversity. In general, growth and diversity signal progress and advancement. For Howe, growth would expand our impact, deepen our research and allow us to make stronger links to industry. It would expand our network, which in turn would provide better career opportunities for both our graduating students and our working alumni. Growth would also allow us to deliver on our goal of further diversifying our student body. Diversity, on the other hand would mean a more diverse student body, at both the undergraduate and graduate level, and a more diverse faculty body.

### Growth & Diversity Goals

As part of our five-year growth goals we will, by fall 2017:

- Serve 500 full-time undergraduate students, up more than 100% from 227.
- Have 100 students enrolled in business minors, up 400% from 25.
- Stop the declining trend of our graduate enrollments of the last 5 years and achieve a 25% increase in our masters students, to 1,100 from 880, with a shift towards more full-time, lockstep and cohort students.
- Increase the international diversity of our graduate student body.
- Expand our full-time doctoral student base 50%, from 14 to 21.

In addition, we have a longer-term goal: By 2020, Howe will serve 25 percent of Stevens' undergraduate student body, in line with the benchmarks from other technological universities.

As part of the growth formula we will pursue the following:

- Expand our faculty to about 50 full-time faculty, while maintaining our sufficiency and qualification ratios. This assumes at least 40 AQ and 45 (AQ+PQ) faculty.
- Improve our operating efficiency in order to economize on resources.
- Increase our revenues from fundraising.



### Howe Growth Strategies

We will start by sharing our plan through a comprehensive positioning and marketing strategy for all of the key activities of the Howe School and its individual programs. We will use proactive media outreach and communications to gain publicity, and make better use of the Stevens and Howe websites to tell our story. We also will develop and leverage social media resources to promote the outstanding achievements of current and former students — testimonials for what can be achieved with a degree from Howe.

### Undergraduate Growth Strategies

We will start by building awareness and positioning the school as the university of choice for undergraduate students who strive to be tech-savvy business leaders.

We have already added four new business majors and developed curricula infused with technology. We will update our business minors to ensure they are relevant to and fit with a student's study plan. And, together with the Office of Undergraduate Admissions, we will aggressively promote the offerings to help drive enrollment. We will assume the lead role in promoting and offering entrepreneurship education across the university, and will build on our requirement of a core entrepreneurship course for all majors. In addition, we will design the entrepreneurship curriculum so that it is integrated into Stevens' senior design experience.

We will coordinate, cooperate and communicate with the university's Admissions Office, so that our message and positioning is also delivered at the university level. Howe will plan to participate in all admissions events, which occur about 20 times per year, and support Admissions in all of its outreach activities. We also need to supplement the resources of the Admissions Office by improving our own website and social media presence. We will build on our own relationships with high school business clubs, visit high schools, collaborate with the Stevens Office of Athletics and create strong marketing collateral for Howe that can be used by recruiters.

### Graduate Growth Strategies

Our graduate growth strategy will place increased emphasis on:

- Highly qualified full-time students.
- Highly qualified and diversified international student body.
- Improved yield rates.
- Cohorts for our on-campus degree or certificate programs.

Keys to growing our graduate program are: increasing the applicant pool, improving the yield rate of acceptances to enrollments and improving the retention rates of continuing students. To increase the applicant pool, we will work with the Office of Graduate Admissions and the Office of Academic Communications & Marketing to develop effective outreach campaigns. To improve the yield rate

we will improve our student targeting, we will implement effective CRM techniques, we will make sure applications are processed with no delay and we will ensure the clarity of the value proposition for a student to attend Howe. We will promote scholarships to good candidates. To improve student retention, we will deep dive into the numbers and the composition of the student body, understand the reasons for attrition of the part-time students, and develop effective methods to improve student satisfaction and retention.

At the same time, together with the Office of Graduate Admissions and the Office of Academic Communications and Marketing, we will seek to increase the number of domestic students through effective promotion policies, open houses, or articulation agreements. We will develop specific activities to attract full-time students to our programs, especially the BI&A and MSM programs. We will make presentations of the programs to colleges and departments where students have developed high analytical skills. Five-year programs also will be pursued, as a means to improve enrollments in these programs. We will undertake initiatives to increase student representation from Europe, Asia and South America, increasing diversity and the percentage of full-time students.

In addition, we will create an international alumni network to help attract and convert new students. As part of this, we will sponsor international alumni events focused on attracting our Indian, Chinese and French alumni.

We will further streamline and simplify our offerings, which will make it easier for students to understand their path to a degree and make comparisons with competing offers. Furthermore, we will expand our tailored offerings, primarily in the area of certificates, to corporations, with emphasis on on-site programs.

We will encourage faculty to develop research relevant to industry. For example, we will encourage participation in industry forums relating to business analytics, information systems, project management, social media and finance. We will pursue research funding from industry and build close relationships with industry leaders; in particular, we will ask industry partners to contribute to the funding of student scholarships and endowed chairs.

### **Supporting the Growth**

We will support the growth by taking a number of measures that include:

- Hiring of faculty. Hiring will not only support the AACSB accreditation process, but will be important to accommodate the planned growth in the student body.
- Enhancing the student support center. We are in the process of hiring one additional full-time person, simplifying processes and running more events to make sure we are in tune with student needs.
- Creating more student spaces. We are planning to refurnish study halls to accommodate more students and create new

study spaces within the Babbio Center.

- Getting additional outreach support. Working with the Office of Academic Communications & Marketing, we have a person engaged in communication and outreach.
- Increase internship and full-time job opportunities. To maintain our placement rates with a larger student population, we will do more outreach to companies.
- Increasing extracurricular business opportunities. We are expanding existing clubs and adding new clubs, and would like to add a business honor society, such as Gamma Phi.
- Expanding our relationships with industry to identify guest speakers. With more classes and students, we will need to expand our network of guest speakers.

### **Fundraising**

With growth will come the commitment of a significant financial investment to support faculty hiring, administrative support, IT infrastructure and doctoral research assistantships. In addition, we need improved marketing, sales and communications at both the Stevens and Howe levels, as well as an efficient and effective working relationship with the Admissions Office to support our vision and growth.

In addition, fundraising will be required to finance our growth, in areas such as:

- Establishing academic chairs.
- Establishing merit-based or need-based scholarships.
- Creating leading-edge IT infrastructure for research.
- Increasing subscriptions to business databases.
- Improving classroom technology.
- Increasing available office space for our expanding faculty.
- Improving and increasing available student space.
- Supporting an invited lecture series.
- Supporting research activities through seed funding.
- Supporting academic activities, such as the international study trip.
- Supporting Ph.D. research through scholarships, fellowships or assistantships.

We will develop a set of specific funding objectives and will work with the Development office and the Howe School Advisory Board to achieve these goals.

## Improving the efficiency of our operations

We have to take every effort to improve the efficiency of our operations. An internal study on current processes will identify possible inefficiencies at the graduate level, and propose solutions. Already, significant steps have been taken in that direction with the establishment of the Student & Faculty Support Center, the streamlining of the number of course sections offered, the preparation and uploading of a perpetual calendar for improved planning, the establishment of the Salesforce software for improved monitoring of classes and sections.

Additional measures will include:

- Improving coordination with the Registrar's Office.
- Improving coordination with the Office of Communications & Marketing.
- Simplifying processes and study plans at the graduate enterprise.
- Implementing the perpetual calendar for improved class and section planning.
- Improving the advising process.
- Further increasing class sizes in a sustainable way.

## Summary

The following table summarizes the actions to be taken to achieve our growth and diversity objective.

Growth & Diversity Objective	Actions to be taken
Grow the undergraduate student body	Grow the total undergraduate body from a base of 227 (F12) to 500; grow the minors from 25 (F12) to have 100 enrolled students
Grow the graduate student body	Stop declining enrollment; grow the graduate student body to 1,100; increase the number of full-time and lockstep students; grow the number of cohort programs; increase the doctoral students to 21.
Increase diversity of student body	Increase the international diversity of the graduate student body; no country to represent more than 35% of the students of any program; increase undergraduate international students to at least 10%; increase the percentage of women to at least 30%; grow minorities students according to Stevens strategic plan.
Support the growth	Hire faculty; enhance student support center; get more outreach; increase internships and career opportunities; add extracurricular activities.
Grow the faculty size	Expand to 50 full-time faculty; at least 40 should be AQ; at least 45 (AQ+PQ); at least 30 of them should be T/TT.
Increase giving	Develop a list of potential giving opportunities; work with the Office of Development to target potential donors and increase giving.
Improve the efficiency of our operations	Improve coordination with the Registrar office to guarantee accuracy and availability of data; work with the Office of Assessment to develop and access metrics; improve coordination in marketing and outreach; improve the effectiveness and the efficiency of the outreach efforts; improve our advising process; improve the efficiency of the instructor assignment process.





# GOALS & TARGETS





After the adoption of the strategic plan, an extensive discussion took place among the faculty of the Howe School in order to determine the specific targets to be achieved along the pillars and the actions indicated in the strategic plan. The objective was to determine targets that are ambitious, realistic, and in line with the school's mission. As a result of these deliberations, the following targets have been adopted:

### 1. Identity targets

ID1: By fall 2013, launch the new undergraduate majors in Finance, Marketing, Information Systems and Management; by fall 2014, launch a new major in Economics.

ID2: By winter 2013, identify the distinctive characteristics that permeate our academic offerings and our research, and which differentiate the Howe School from other Business Schools.

ID3: By winter 2013, officially adopt a new name that will indicate the business school nature of the school, and will be more aligned with the interests of the student body, our academic offerings and our research activities.

ID4: By winter 2013, conduct profile analysis and develop thought leadership papers on each graduate and undergraduate program, indicating the concept, the objectives, the need it addresses, its distinctive characteristics.

ID5: By spring 2014, launch new versions of the MBA, MSM, EMTM graduate programs that will be simplified, streamlined and increasingly targeted to full-time or lockstep students. By fall 2015, launch an additional graduate program in Finance.

ID6: By spring 2014, conduct a thorough analysis and required revisions to all master's programs.

ID7: By spring 2014, revise the doctoral program to allow it to grow; implement rolling admissions policy.

ID8: By fall 2015, achieve AACSB accreditation.

### 2. Impact targets

IM1: By spring 2013, launch the Howe Quarterly newsletter. Maintain a sustainable publication track of four issues per year.

IM2: By spring 2013, launch the e-journal of the Howe School, mainly addressed to academics, in collaboration with SSRN, in order to disseminate our research widely. Maintain a sustainable publication record of four issues per year.

IM3: By summer 2013, launch KnowHOWE, the Howe School thought leadership newsletter, to impact practitioners with the results of our research. Maintain a sustainable publication track of two issues per year. Every faculty

member will contribute one article every two years.

IM4: By fall 2014, from a baseline of ranking 122 (spring 2013), achieve a sustainable SSRN ranking among the top 100 U.S. Business Schools, and by fall 2017, achieve top 85.

IM5: By fall 2015, develop a sustainable program of organizing one conference per year in order to promote research on Big Data, Finance or another topic of major research interest at Howe.

IM6: By fall 2017, achieve one NSF career award won, and a total of nine faculty members winning competitive research awards.

IM7: By fall 2017, launch three additional international undergraduate degree programs, five additional international graduate degree programs and five additional undergraduate exchange agreements with top schools, with approximately 20 students participating in exchange or study abroad agreements annually.

IM8: By fall 2017, achieve a total of about 10 research collaborations with companies in the form of grants or scholarships that lead to publications, patents, or other examples of industry impact.

IM9: By fall 2017, achieve significant visibility of the faculty members: get 10 faculty members as members of editorial boards or as chairs of conferences or workshops, and 2 keynote speakers per year.

IM10: By fall 2017, from a baseline of 0.79 papers per year per tenure or tenure-track (T/TT) faculty in the target journals (FT45, ABS3/4, journals with impact factor >1.5), have every T/TT faculty member achieve 1.25 of papers per year in this category of target journals.

IM11: By fall 2017, achieve 10 publications or accepts by Howe School faculty in FT-45 journals in the last five years.

### 3. Quality & Engagement targets

Q1: Maintain and improve the excellent student undergraduate placement of 93%; increase the pool of employer companies with top brands.

Q2: By February 2014, achieve an acceptable AoL process for all programs, having received the approval of the AACSB mentor and having gone through the AoL cycle twice for most programs.

Q3: By February 2014, achieve and maintain the required AACSB AQ/PQ and P/S ratios for every discipline, program and location.

Q4: By February 2014, achieve at least 60% of all NTT faculty to be AQ and at least 90% of all NTT to be at either AQ or PQ.

Q5: By February 2014, submit an acceptable gap analysis to AACSB and by September 2014 receive the green

light for submitting the final report and inviting a review team.

Q6: By fall 2014, have developed, jointly with the Development Office, reliable and complete databases of the Howe School alumni, both for undergraduate and graduate alumni, for all programs and locations. Make sure at least 35% of the members of our boards are Stevens alumni.

Q7: By fall 2015, have at least one endowed chair, in one of the areas of top priority for the Howe School.

Q8: By fall 2015 grow the number of HSATM member companies to 13, and to 15 by fall 2017.

Q9: By fall 2015, establish at least two international alumni chapters.

Q10: In collaboration with the Development Office, develop two campaigns per year for alumni, one program-specific and one for the school. Organize two events per year, for alumni and for employers.

Q11: By fall 2016, and from a baseline of 3.45 (fall 2012) achieve an average teaching rating of 3.6, with the percent of faculty with teaching rating of less than 3.0 (from a base of 7%) at less than 5%.

Q12: By fall 2017 achieve an average GMAT for the incoming graduate class of at least 600.

Q13: By fall 2017, achieve a sustainable average SAT for the incoming class of 1275, and less variability.

Q14: By fall 2017, and in line with Stevens targets, achieve an undergraduate retention rate of at least 96%, and a six-year graduation rate of at least 83%.

#### 4. Growth & Diversity targets

G1: By fall 2017, grow the number of majors offered to eight (from a base of two in spring 2012) and increase, in line with Stevens targets, the undergraduate student body to 500 (from a base of 227 in fall 2012), with specific annual targets for new students.

G2: By fall 2017, launch two additional graduate programs, and increase the size of graduate student body to 1,100 (from a base of 880 in spring 2012).

G3: By fall 2017, achieve a total of 50 full-time faculty, with specific intermediate targets of the number of full-time faculty. The number of tenure/tenure-track faculty should grow to at least 30 by 2017. The number of AQ and PQ faculty should be at least 45 by 2017.

G4: By fall 2017, the percentage of full-time students in BI&A and MSM should be at least 80%.

G5: By fall 2017, achieve a total population of at least 21 Howe-funded full-time doctoral students.

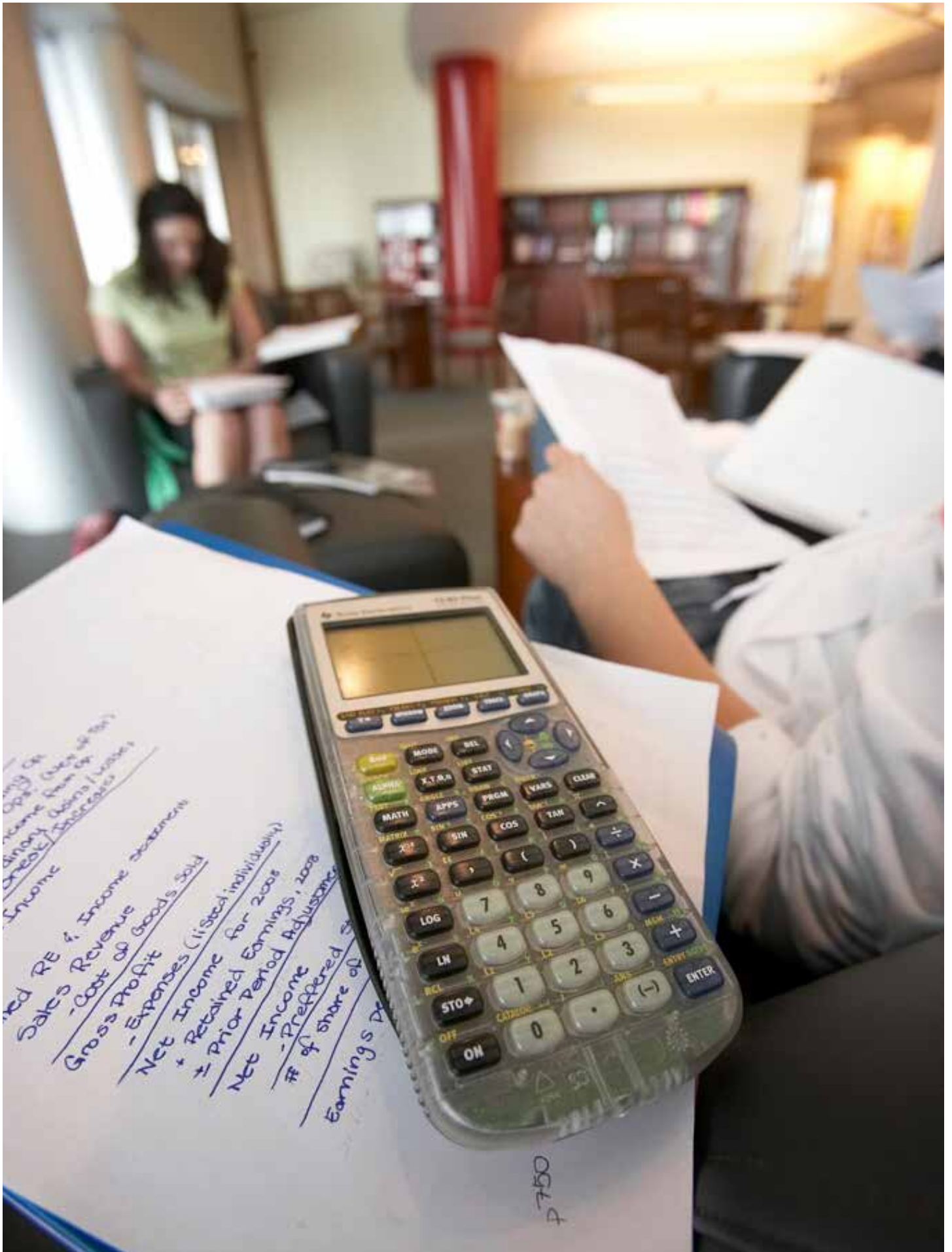
G6: By fall 2017, and in line with the Stevens strategic plan, grow the number of cohorts from a base of three cohorts (Spring 2012) to six.

G7: By fall 2017, achieve a total population of at least 100 undergraduate Stevens students seeking Howe School minors.

G8: By fall 2017, achieve an international diversification among graduate program enrollments, so that no individual country will have more than 35% in a given program.

G9: By fall 2017, achieve an international diversification of undergraduate students of at least 10%.

G10: By fall 2017, achieve gender and minorities diversification targets in line with Stevens targets.





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