



# ***BUILDING ON A STRONG FOUNDATION—NJIT 2025***

A Strategic Plan

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## **Vision**

To be a preeminent public polytechnic research university with local and global impact.

## **Mission**

NJIT, the state's public polytechnic research university, is committed to excellence and global impact through:

- Education—preparing diverse students for positions of leadership as professionals and as citizens through innovative curricula, committed faculty, and expansive learning opportunities
- Research—advancing knowledge to address issues of local, national, and global importance with an emphasis on high impact basic, applied, and transdisciplinary scholarship
- Economic development—anticipating the needs of business, government, and civic organizations to foster growth, innovation, and entrepreneurship
- Engagement—applying our expertise to build partnerships, serve our community, and benefit society as a whole

These four elements guide NJIT in contributing solutions for the grand challenges of the future and improving the quality of life today.

## **Core Values**

Our core values reflect our beliefs, guide our behavior, shape our culture, and in so doing establish a sense of community, common purpose, and student focus.

### **Excellence**

We innovate in the pursuit of excellence in all that we do and continue to improve in order to meet and sustain the highest standards of performance.

### **Integrity**

We are honest and ethical in all we do, keep our promises, and acknowledge our mistakes.

### **Civility**

We treat each other with respect and with dignity.

### **Sustainability**

We develop responsibly and respect the needs of future generations.

### **Social Responsibility**

We pride ourselves on engagement and partnerships to enhance the communities in which we live.

**Diversity**

We celebrate the inclusiveness of our university community and are sensitive to cultural and personal differences. We do not tolerate discrimination in any form.

**Communication**

We strive to share information and understand each other's perspectives.

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## From the President

Joel S. Bloom

NJIT is an ascending university, and the success of our *2020 Vision* Strategic Plan has created the foundation for even higher aspirations. As one of only 32 polytechnic universities in the United States, we occupy an enviable position—a position that places our graduates in great demand, allows us to attract the most talented students and faculty, enables close partnerships with the industries that drive local, state, national and global economic growth, and allows us to conduct high-impact applied research.

During the course of *2020 Vision*, NJIT's progress has been remarkable. We have attained R1 status—the highest possible ranking—in the Carnegie Classification for research productivity, we are #1 in the entire nation, according to *Forbes*, for the upward economic mobility of students whose families have the lowest incomes, and are one of the top 100 universities as ranked by *US News & World Report*. We have seen the number of applications to NJIT double and the credentials of those applying become even more impressive than they already were. We have improved the graduation and retention rates of our students significantly. We have conducted curricular assessment and enhanced career placement for our students. We have renewed the faculty with more than 150 hires during the last seven years and have provided resources and support for both their teaching and promising research agendas. We also have transformed our campus through the creation of new facilities and additional capacity—New Jersey Innovation Institute (NJII), Makerspace, VentureLink, the new Life Sciences and Engineering Center, the Wellness and Events Center, and others—as well as the refurbishment of many labs and classrooms across the campus.

NJIT now is poised to achieve its vision of becoming a preeminent public polytechnic research university with global impact, and our strategic plan, *Building on a Strong Foundation—NJIT 2025*, is the roadmap that will guide us toward that vision. The strategic priorities we have embedded in this plan are Students, Faculty, Research, Resources, and Prominence. NJIT will be more widely recognized for its leadership in applied research, its student outcomes and learning experiences, the achievements of its faculty, and economic impact. This strategic plan will secure the resources necessary to achieve these goals through tuition, faculty and staff productivity, State of NJ allocations, grants and contracts, fundraising, monetization of NJIT assets, and organizational efficiencies.

I commend the leadership of Provost and Senior Executive Vice President Fadi Deek and all those community members who have shepherded NJIT through *2020 Vision* and have contributed to the development of *NJIT 2025*. Both plans were shaped through broad engagement of students, faculty, staff, alumni, trustees, overseers, and others, and they are representative of the priorities that emerged through extensive conversation, research, and analysis. The *NJIT 2025* plan sets forth the objectives, strategies, and tactics established by the planning committees that will guide our resource investments.

As this process comes to a close, I look forward to working with the entire university community to implement *NJIT 2025*. I am pleased to say that our university's foundation is strong and its outlook is bright. NJIT now enrolls more than 11,800 students<sup>1</sup> and conducts nearly \$170 million in research activity each year. We have a \$2.8 billion impact on New Jersey's economy annually. Philanthropic support of our university has grown, as has alumni engagement and awareness of NJIT's reputation and accomplishments. This university is poised for excellence in all that it does, and we are prepared to seize upon the opportunities that await NJIT.

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<sup>1</sup> 10<sup>th</sup> day enrollment

## Introduction

Fadi P. Deek

Provost and Senior Executive Vice President

*NJIT 2025* builds on the remarkable achievements of *2020 Vision*. Student learning, student support, and research remain central to the plan with many strategies continuing the momentum of *2020 Vision*. One *NJIT 2025* priority, however, stands out as new and critical to the vision for our university: Prominence. While *2020 Vision* moved NJIT into the ranks of the nation's top research universities based on formal metrics, recognition of NJIT by our peers and the public must match these accomplishments. NJIT must continue to build a record of achievements and tell its story, establishing a reputation befitting the achievements of our university.

As we embark on the next phase of our institutional transformation, we first take a retrospective look to learn from the experiences of *2020 Vision*.

The bold initiatives of *2020 Vision* have transformed the nature of NJIT's student population. Growth in applications has nearly doubled, from about 4,500 freshmen applications in 2014 to approximately 9,000 in 2019. Enrollment has also grown, with the cohort of first-time, full-time freshmen increasing from approximately 1,000 in 2014 to 1,316 in the fall of 2019. With higher average SAT scores and high school GPAs, incoming students are better prepared for the academic rigors of NJIT. Our programs include science, technology, engineering, and mathematics plus technology-focused programs in design, business, and humanities (STEM+). Changes to the student profile, combined with enhanced student support provided by effective and efficient staff, have led to higher retention and graduation rates, now comparable to America's best public universities.

NJIT has also seen tremendous achievements in research and scholarly productivity thanks to strategies implemented in *2020 Vision*, despite slow growth in available federal research dollars. Externally funded research has grown beyond all expectations, increasing from \$63M to \$113M in 2019. Total research expenditures increased over the same period, from \$106 million to nearly \$170 million. This growth, reflecting the synergy between NJIT and its public/private research corporation NJII, has moved NJIT into the prestigious list of 131 national doctoral universities with the Very High (R1) Research Activity Carnegie Classification. Growth in research funding has also contributed to NJIT's place among the *US News & World Report* Top 100 national universities.

These achievements would not have been possible without the success of the ambitious faculty renewal plan set out in *2020 Vision*. The count of tenured and tenure track faculty has reached 320, almost 50 percent of whom we hired in the last ten years. These faculty have been instrumental in driving NJIT's academic excellence by developing new courses and programs, teaching in new modalities, and implementing innovative pedagogical techniques. These same faculty have also created new research institutes, centers, and laboratories that drive research and innovation, resulting in scholarly publications and intellectual property and raising the profile of NJIT as a leading research university.

*2020 Vision* represented the collective ideas of our community implemented by the collaborative effort of faculty, staff, and students. The *NJIT 2025* strategic plan similarly reflects input from all community stakeholders. The Board of Trustees, Board of Overseers, Faculty Senate, and University Senate all contributed challenging objectives for the future of NJIT. A survey-based on these ideas compiled input from more than 1,000 faculty, students, staff, and alumni. Interviews and focus groups with engaged community members further elaborated the survey results.

Analysis of the community input revealed five key priorities for *NJIT 2025*: Students, Faculty, Research, Resources, and Prominence. Within this framework, we established the overarching theme of attaining recognition through our achievements. To identify the strategies needed to accomplish our goals, we requested volunteers to serve on five committees, one for each priority. The response was overwhelming, with more than 200 participants representing all aspects of the NJIT community. This strategic plan represents the collaborative work of the committees in translating the community's input into concise strategies and key performance indicators (KPIs), each culminating in a target to be achieved by 2025.

Releasing the community review draft of *NJIT 2025* yielded many thoughtful comments. Constituents across the NJIT community urged a stronger emphasis on sustainability in the plan. This led us to integrate sustainability through objectives and strategies in each of the five priorities because, as stated by the US EPA, "Sustainability isn't *part* of our work – it's a guiding influence for *all* of our work."<sup>2</sup>

Achieving the ambitious goals of this strategic plan will once again require the collaboration of the entire NJIT community. Priority Committees will work together to implement the strategies described in this plan for the continuous improvement of NJIT. Administrators at the vice president level will assume responsibility for achieving the KPI targets in their division. Holding each area accountable through the *NJIT 2025* key performance indicators will drive our self-assessment and help us realize continuous improvement. By working together to achieve the targets, the year 2025 will see NJIT recognized as a premier STEM+ institution known nationally and internationally for its unique academic programs, translational research, economic impact, outstanding and diverse students, dedicated faculty and staff, and world-class resources and facilities.

At the launch of *2020 Vision*, I stated, "Every objective outlined in *2020 Vision* is designed to help move NJIT into the ranks of premier research institutions..." This has happened, and thanks to the efforts of the implementation committees and the entire community, we are poised to build on the strong foundation of students, faculty, research, and resources to realize the prominence our university deserves. *NJIT 2025* is the roadmap for that future.

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<sup>2</sup> <https://www.epa.gov/sustainability>



## Priority: Students

NJIT has transformed, in a few short decades, from a commuter university awarding degrees in engineering to a national, research, STEM+ university offering engineering, architecture, management, computing, science, and select humanities degrees. Carnegie classification awarded the Very High Research (R1) designation to NJIT in 2018, and, in the 2020 College ranking edition, *US News* ranked NJIT among their top 100 national universities. Nothing underscores the transformation of NJIT more powerfully than the academic preparation and achievements of our students. During *2020 Vision*, the number of freshmen applicants doubled. The profile of enrolling students has also changed with average SAT scores rising more than 150 points in the past decade to almost 1300 in 2019. NJIT has also dramatically improved student outcomes. The four-year graduation rate has increased from 19% reported in 2010 to 47% in 2019. The average time to degree for first-time, full-time freshmen fell from 5.1 years to 4.5 over the same period. The profile of our students has also changed. Today, they compete with the nation's best to win prestigious fellowships, including Fulbright, Goldwater, and Truman scholarships. They win engineering competitions such as steel bridge and concrete canoe, and compete in the international solar decathlon.

As an educational institution, NJIT has also undergone a profound metamorphosis. Today's NJIT guides well-prepared students toward successful careers as professionals in the knowledge and technology economy. Our students make great contributions as engineers, scientists, technologists, architects, business leaders, and as entrepreneurs. Nationally and globally, however, the perception of NJIT has only begun to catch up with this reality. Our university is ranked among the top 100 universities in the nation by student outcome, achievement, and mobility metrics, and the perception of our university nationally and internationally must continue to improve to appropriately reflect this reality.

While aligning the perception of NJIT with real accomplishments, we continue to seek continuous improvement as an educational institution. Through *NJIT 2025*, we will promote student achievement as we enhance student support, increase diversity and accessibility, improve graduation rates for all students, including underrepresented minority (URM) students, develop opportunities for experiential learning, enhance the curriculum, improve the student experience, and attract, admit, and enroll a diverse population of students who can succeed.

### Foundational Achievements of *2020 Vision*

- Total enrollment increased 33%, from 8,931 in 2010 to 11,859 in 2019
- First-time, full-time undergraduate (FTFTU) average SAT Composite score increased from 1141 in 2010 to 1299 in 2019
- Retention rate increased from 79% for freshmen entering in 2010 to 88% for freshmen entering NJIT in 2018
- Four-year graduation rate increased from 19% in 2010 to 47% in 2019, with the six-year graduation rate increasing from 55% to 67% during that same period
- 62% of students participated in milestone learning experiences in the 2018-2019 academic year, up from 20% in 2014

- 81% of graduates are either employed or attending graduate school three months after graduation, up from 55% in 2010

#### **Enhance the curriculum and promote student learning**

- Support innovative curricular experiences that engage students by extending instruction beyond the classroom. Supporting new initiatives with targeted funding will help NJIT establish itself as an innovative leader in education.
- Promote activities and courses that develop student skills in leadership, entrepreneurship, business, and innovation. These activities will prepare our students for success in the knowledge and technology economy.
- Develop new programs in areas with career growth potential that are related to existing NJIT strengths. New programs will attract a broader population of students and keep NJIT current with new career opportunities.
- Develop increased international partnerships with highly ranked universities, development companies, and governmental departments through alumni and faculty contacts and others. These partnerships will establish NJIT's place among world-leading institutions.
- Develop a virtual, global campus offering engaging graduate programs at competitive tuition rates. The global campus will increase accessibility of programs to populations with time restrictions or limited access to higher education and allow NJIT to grow beyond the limits of its physical infrastructure.
- Formalize feedback from Advisory Boards to facilitate the review and implementation of recommendations regarding the relevancy and value of our courses and programs. A formal process for reviewing and archiving such reports will enable the university to focus on continuous program improvement.
- Conduct analyses of student cohort(s) to identify challenges, needs, and trends. The results of such analyses will guide decision-making to improve student outcomes.

#### **Promote and facilitate experiential learning**

- Enhance opportunities for students to participate in milestone experiences within NJIT by including appropriate capstone experiences in all curricula and expanding the Provost's Summer Research Program. Integrating at least one experiential learning opportunity into every degree program will better prepare students for success after graduation.
- Expand financial support for international and domestic exchange programs by increasing the range of options available and providing scholarships to fund travel and housing expenses. Financial support for exchange programs will make these milestone experiences more accessible to all students.

- Make sustainability an institutional learning goal and integrate it throughout the curriculum and as a focus for milestone experiences. This will make the environment and sustainability, in general, a presence in student life at the university.

### **Support the student experience and engagement**

- Implement an innovative, nationally recognized holistic advising model, particularly for freshmen and sophomores, that takes into account personal, social, emotional, developmental, and cultural issues beyond the traditional focus on class scheduling and program requirements. Holistic advising, particularly for sophomores and students changing majors, will put students on the path to academic and career success.
- Initiate proactive advising, implement programs to identify and support at-risk students not performing at their full potential, and develop a better understanding of the reasons students leave NJIT without graduating. Identifying and supporting students who may be struggling will improve educational outcomes.
- Address the achievement gap by developing an EOP-type cohort program to serve all undergraduate URM students. The services and support of EOP have a long history of success and can help improve the retention and graduation rates for all regular admission URM students.
- Target increases in mental health staff to meet the growing need for mental health services for incoming and current students. Providing expanded mental health services on campus will increase students' access to needed support and reduce the disruptions of off-campus treatment.
- Support transfer students as they integrate into the NJIT community and adjust to the rigorous academic environment. Transfer students face many challenges that can be eased through targeted services, resulting in a smooth transition to NJIT.
- Increase support for greek life by funding training, leadership programs, and increasing support staff. In addition to developing better student leaders, this will align with the university's commitment to improving student retention and satisfaction while encouraging young alumni engagement.
- Encourage staff and faculty to attend and participate in student activities, events, and award ceremonies. This will build a more vibrant, close-knit university community.
- Develop more campus events and activities during the week to involve commuter students in the NJIT community. Offering more commuter-friendly activities on campus will contribute to a more engaged university community.
- Support an environment promoting gender identity and expression. A welcoming climate will enable students to openly self-identify on a campus that allows all students to feel comfortable being who they are.

### **Enroll a diverse population of students**

- Increase support for workshops, activities, and conferences encouraging women high school students to pursue careers in STEM. Such events will promote NJIT to local and regional high schools while simultaneously addressing a societal need.
- Develop recruitment events targeting potential women and URM applicants and enhance our relationships with professional organizations (e.g., the Society of Women Engineers, National Society of Black Engineers, and the Society of Hispanic Professional Engineers) that can support such efforts. Professional societies can offer insights to develop targeted recruitment and yield events that can increase enrollment of underrepresented student populations at NJIT.
- Analyze student profiles and performance using data analytics to identify predictors of success beyond test scores and GPA, particularly for URM students. Developing more robust decision-making tools for university admissions will provide opportunities for more students while also improving retention and graduation rates for admitted students.
- Recruit and enroll an increasing number of students from Newark. This will expand NJIT's commitment to the city, develop a strong local STEM workforce, and contribute to the economic development of New Jersey.
- Become a Hispanic-serving institution (25% of total enrollment) through targeted recruitment of qualified prospective Hispanic students. Designation as a Hispanic-serving institution will enable the university to serve a critical underrepresented group through expanded grant funding opportunities.

### **Increase yield of admitted students**

- Offer engaging and challenging summer-intensive programs for high school students. This will increase the visibility of NJIT among high schools nationally and expand the pool of applicants.
- Target aid distribution by reviewing the scholarship matrix and need-based aid to focus on increasing yield. Strategic aid distribution will help the university meet its enrollment goals, increase net revenue, and remain competitive.
- Create an ESL pathway program and bridge courses for prospective graduate students who meet NJIT's academic profile but lack sufficient preparation to be successful. Transition support will increase the number of qualified applicants and ensure their success at NJIT.

### **Become nationally and internationally recognized for student achievements**

- Encourage and support students in applying for prestigious awards such as Fulbright, Boren, and NSF Graduate Research fellowships while also attracting students with prestigious scholarships from abroad. Such awards will allow students to pursue exciting

opportunities after graduation while simultaneously raising the profile of NJIT nationally and internationally.

- Build a nationally prominent, best practice co-op, internship, and apprenticeship program that utilizes the established rapport between academic departments and industry to increase opportunities for all students, including underserved, under-resourced students, students with disabilities, and at-risk student populations. Strong experiential learning programs will prepare all students for successful careers, provide meaningful learning experiences outside the classroom, and enhance industry engagement with NJIT.
- Support and encourage students to obtain professional licensure. This will enhance the university's reputation for training students to achieve success in professional careers.
- Develop a process to sustainably support student achievement in academic competitions such as those we have had in the past including: solar decathlons, engineering and coding challenges, hackathons, math olympiads, debate, chess, and eSports. Encouraging student success in competitive, academic extracurricular activities will bring recognition to the university and enhance student learning.

## Priority: Faculty

As a leading public research university, NJIT depends on its faculty to educate the next generation of professionals and expand knowledge through focused research and development. To achieve this goal, the renewal of our faculty has been a critical element of *2020 Vision*. Over the past nine years, NJIT has hired 156 new faculty members, nearly 50% of our current faculty. This renewal has offered an unparalleled opportunity for educational innovation, and the advancement of research as recently hired faculty members bring new ideas and techniques to the classroom and the laboratory.

This growth offers NJIT a unique opportunity to position faculty as experts and leaders in their fields. With appropriate mentoring and support, they can represent NJIT in the media and take on leadership positions in professional societies, agencies, and foundations. They can serve as the new, vibrant faces of a university growing into its leading role. They will also anchor our reputation through research citations and their influence on the emerging new pedagogies of higher education.

In *NJIT 2025*, we pursue a robust program to develop a more engaged, recognized, and diverse faculty community. Although the rate of faculty growth will not match the previous strategic plan, we will continue to expand the faculty in areas of high impact research and education. By hiring faculty in theoretical and computational areas, we will complement our established tradition of applied research. We will also emphasize teaching by increasing its importance in hiring and promotion decisions. We will create faculty teaching positions that integrate current University Lecturers and Professors of Practice into a new cohort of instructors with superior pedagogical ability. The success of the education and research initiatives established in this strategic plan depends on effective support and mentoring to propel new faculty toward successful careers. Finally, this strategic plan must address the issue of diversity. Building a robust and diverse community of educators and researchers who serve our students, the state, the nation, and the globe is critical to NJIT's continuing status as a premier institution of higher education and a leading polytechnic university.

### Foundational Achievements of *2020 Vision*

- 156 new tenured/tenure-track faculty, nearly 50% of the current total, hired since 2010
- 100% of new faculty have terminal degrees
- 14 early career awards since 2010
- Six faculty named as Fellows and two as Senior Members in the National Academy of Inventors since 2014
- Average number of citations per faculty increased by 18% since 2010

### **Develop a more diverse faculty**

- Create and train an institutional Diversity Committee and require the presentation of search committee plans to the dean and new Diversity Committee. Such efforts will standardize search committee processes to ensure fairness and create accountability for committees and deans to report and track their diversity and inclusion efforts in faculty hiring.
- Develop family-friendly programs, resources, and policies detailing issues important to families, women, underrepresented minorities, members of the LGBTQ+ community, and candidates with spouses/partners. Developing a family-friendly environment will create a more welcoming atmosphere for all new and existing faculty.
- Enhance relationships with diverse professional organizations (e.g., Women in Computing Society, Society of Women Engineers, the National Society of Black Engineers, and the Society of Hispanic Professional Engineers) that can help disseminate information about open faculty positions. Professional organizations can be important conduits for alerting underrepresented populations to career opportunities.
- Develop a Diverse Faculty Fellow Program to provide fellowships for underrepresented minority group members who wish to gain valuable teaching and research experience. This program will provide an opportunity to identify potential faculty members who can be competitive candidates for future faculty positions.
- Develop a category of “opportunity hire,” such as a waiver of a search, target of opportunity hire, or spousal hire, to recruit faculty of diverse backgrounds. This flexibility will create additional opportunities to hire highly qualified and sought-after diverse faculty members.
- Create university postdoc positions that are research-focused (including discipline-based pedagogical research) and fully funded by administration in return for limited (2:2) teaching load, focusing on women and underrepresented minority (URM) candidates. Postdocs can serve as a pipeline for diverse faculty candidates that will allow us to improve teaching effectiveness and increase diversity in hiring.

### **Improve teaching and research**

- Value teaching in the hiring and promotion of all instructional staff. Increasing the emphasis on teaching will encourage the development of more innovative and responsive pedagogy and improve students’ educational experiences.
- Increase the number of courses accessible through multiple delivery modes, and ensure that instructors receive support and training for teaching in other modalities. Flexible delivery modes will facilitate student learning regardless of physical location.
- Create a category of full-time teaching faculty (with professorial ranks) that would also create a career path for the present cohort of University Lecturers and Professors of Practice. This will enhance student learning experiences by increasing recruitment and retention of quality teaching faculty and reducing dependence on adjunct instructors.

- Identify and address the need for faculty in areas of existing strength and high act research. Targeted increases in faculty will allow NJIT to maximize its research and teaching potential in these areas.
- Seek new faculty who conduct theoretical and computational basic research. Such hires will advance NJIT's knowledge and reputation in high impact research areas while minimizing space or laboratory startup requirements.
- Encourage faculty to highlight sustainability in their scholarly activities consistent with the role of sustainability as an institutional learning goal and research focus. Faculty are key agents in the promotion of sustainability as an institutional learning and research goal.

#### **Strengthen training and mentoring programs for faculty**

- Provide training and support for faculty teaching courses through the virtual, global campus. Implementing best practices in online learning will ensure positive experiences for students enrolled in the global campus, leading to improved outcomes such as retention and graduation.
- Develop and implement (or identify available) formal programs to train faculty in pedagogy, emerging learning strategies, and best classroom practices to help students succeed in their courses. This will provide faculty with formal training in teaching and education while also benefitting our students.
- Develop and implement a multi-level, university-wide mentoring program that provides support for doctoral students, new/junior faculty, and senior faculty. Mentoring will ensure that faculty have the necessary tools for success and that doctoral students are well prepared for their future roles in academia.
- Create an internal incentive program to encourage faculty participation in training to improve teaching effectiveness, and facilitate participation in such programs by offering training in multiple delivery modes. Increasing opportunities for training will encourage faculty to continually enhance their teaching skills.
- Provide training and support to develop a stronger faculty presence in traditional media and social networks. Supporting faculty in such activities will highlight the university and position faculty as professional and academic leaders.

#### **Become nationally and internationally recognized for faculty excellence**

- Enhance faculty recognition by supporting advancement in research leadership positions and prestigious awards. Recognition of our faculty as top international researchers and professionals in their fields will increase the reputation of NJIT.
- Advance faculty for recognition in professional societies and national academies. Promoting faculty advancement will promote the reputation and influence of NJIT faculty within their disciplines.



- Attract and recruit highly recognized faculty, including national academy members. This will establish NJIT as a competitor for high impact faculty.
- Present faculty as experts for public commentary in the global media. A greater media presence will increase NJIT's visibility as a knowledge leader.

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## Priority: Research

Research has propelled NJIT's growth as a leading national university. During the past two decades, the university and its faculty have dramatically increased their contributions in both basic and applied research and development. The transformation is evident in NJIT's total research expenditures, which have grown from over \$40 million in 1999 to almost \$170 million in 2019. The university quadrupled growth despite an increase in total federal R&D expenditures of only 30% during the same period. During *2020 Vision*, significant increases in research expenditures promoted NJIT's leadership in critical research fields. It also served to advance knowledge and enhance the economic development of our region. These successes pushed all key research performance indicators (KPIs) in *2020 Vision* to achieve or exceed targets well before the plan's conclusion.

The goal of prominence depends on the reality of achievements; therefore, the transformation of NJIT into a leading research institution continues under this strategic plan. Rather than resting on the achievement of a Carnegie R1 classification, NJIT intends to capitalize on opportunities this reclassification makes possible. By cultivating research relationships with federal agencies and other leading universities, NJIT will establish its place as a valued contributor to the state, national, and international research agendas and an important participant in critical research.

NJIT is poised to not only have a sustained and important impact in our academic and research areas, but to stimulate local, national, and global communities through innovative technologies and economic growth. The following five objectives of *NJIT 2025* will propel NJIT toward building its national and international research prominence: 1) Promote collaborative research; 2) Foster innovation and entrepreneurship; 3) Promote partnerships; 4) Expand research management/support systems; 5) Become recognized for high impact research.

### Foundational Achievements of *2020 Vision*

- Total R&D expenditures increased from \$92M in 2010 to \$168M in 2019, with total external R&D almost doubling, from \$61M to more than \$113M during the same period
- Number of doctoral students increased by 37%, from a low of 381 in 2014 to 522 in 2019
- Number of research institutes, centers, and laboratories increased from 31 in 2010 to 105 in 2019
- NJIT activities generated \$180M in sponsored economic development programs since 2014
- NJIT has engaged 100 new agency and corporate partners since 2014

### **Promote collaborative research**

- Institutionalize collaborative research partnerships through institutes and centers with internal and external resource sharing. Collaborative research partnerships improve efficiency and expand the breadth of research while promoting the exchange of ideas and skills among researchers.
- Develop research programs and secure external funding to address challenges of greater societal impact. These programs will advance NJIT as a competitive candidate for national funding agencies' program-level and training grants in priority areas.
- Facilitate translational research by providing seed funding and investment that allows for pursuing external grants, collaborations, and partnerships. Such efforts will provide additional revenue streams and elevate NJIT's prominence.
- Expand multi- and trans-disciplinary research through collaborative research centers, institutes, and partnerships with other universities. Through such efforts, NJIT will emerge as a leading institution conducting high impact applied research.
- Promote collaborations and invest in faculty, students, staff, and facilities to achieve success in high impact research areas. Such efforts will establish NJIT as a research leader in areas critical to technological and economic development.

### **Foster innovation and entrepreneurship**

- Encourage research that challenges current paradigms and develop policies to support the ensuing risk. Doing so will set NJIT apart as a leader in key emerging research areas.
- Provide institutional support for high impact research. Institutional funding will allow NJIT faculty to initiate critical research projects before securing external funding.
- Expand entrepreneurial pathways for faculty and students seeking to translate applied research into marketable products. Such pathways will make the research enterprise a continuous process from early-stage investigation to entrepreneurial success.
- Implement an innovation, translation, and acceleration internal seed funding program to help faculty and student innovators pursue preliminary market research, validation, and pre-commercialization. Seed funding will provide support for student and faculty-led startups at the initial stages, which will lead to economic and reputational growth as the startups mature.

### **Promote partnerships**

- Develop NJIT as the state's industry-university partnering organization for collaboration among academic, private, public, and government sectors. This will benefit the state and region by cultivating research and development synergies.
- Drive economic cluster development, entrepreneurship, and enterprise expansion through a range of innovation services, products, and platforms offered by NJIT and

VentureLink. These efforts will improve access to innovations, technologies, knowledge, and processes for industry and public sector organizations in New Jersey and beyond.

- Develop, together with NJIT, organizational assets (e.g., agile business planning and management tools) that serve as central differentiators and core capabilities for NJIT's work with industry and government partners. Such assets will differentiate NJIT from other similar organizations and strengthen its partnerships with industry and governmental organizations.
- Expand externally-funded academic research across the entire spectrum of funding agencies, both public (state, federal, and international agencies) and private (industry and foundations). Such efforts will diversify and expand the funding base for research at NJIT.

#### **Expand research management/support systems**

- Create panels of successful grant recipients to offer workshops and mentor faculty members who will submit proposals to these programs in the future. Drawing on the success of faculty award recipients will help other faculty members also achieve success.
- Improve research management and compliance through the continued refinement of institutional policies setting out clear expectations and ensuring compliance with federal and state regulations. Providing appropriate management and compliance of research efforts will ensure adequate administrative and financial support for the increasing portfolio of research grants and contracts.
- Guarantee effective research management by increasing research support services and information systems through investments that include comprehensive reporting tools. Investing in appropriate infrastructure will allow for efficient management of financial, legal, and administrative matters related to research.

#### **Become nationally and internationally recognized for high impact research**

- Focus the institution's research efforts on grand challenges with high societal impact such as sustainability, environment, health, and the big data revolution. These projects will improve sustainable resources for food, water, and energy; increase the understanding of climate change to curb and adapt to its impacts; create efficient, healthy, secure, resilient smart communities; develop medical technologies to improve health and the quality of life; advance cyberinfrastructure, data analytics, and machine intelligence technologies for the future; and promote a better understanding of space weather. Applying our research enterprise in collaboration with other universities, government, and industry to solve these grand challenges will also establish a prominent reputation for NJIT and its researchers.
- Bring to bear and continue to develop our expertise in 1) Bioengineering and Bioscience; 2) Data Science and Management; 3) Environment and Sustainability; 4) Materials Science and Engineering; and 5) Robotics and Machine Intelligence to address the grand

challenges. Establishing a consistently strong reputation in these areas will advance NJIT as a leading research university.

- Cultivate faculty scholarly publications and patents to increase citations and the impact of the institution. These metrics elevate our status as a top-tier research institution among global universities.

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## Priority: Resources

Success in higher education builds on a strong foundation of human, digital, physical, and fiscal resources. Throughout *2020 Vision*, NJIT has built the components for a strong future. In addition to renewed faculty, the staff supporting all university operations are committed to achieving the university vision and mission. The information technology serving as a backbone for the university is now undergoing a systematic analysis and transition to serve the needs of a research-focused faculty and a digitally sophisticated student body. (Given its importance, a strategic plan for reforming our IT infrastructure will progress in parallel with this strategic planning effort.) The physical facilities have grown with the addition of more than one million square feet of buildings and a concentrated renewal plan for existing classrooms and laboratories. Finally, steadily growing enrollment and rapidly expanding research and development have served to strengthen the fiscal position of the university.

The achievements of *2020 Vision* offer NJIT a unique opportunity to transform its image. Even the new facilities and landscaping present a different picture for the university, one which can impress students and visitors alike. The increasingly accomplished staff contribute to the culture of a leading institution aware of its potential for success. Finally, the strong fiscal position of NJIT offers opportunities to invest in the digital resources critical to standing out in a crowded higher education marketplace.

Over the five years of this strategic plan, NJIT will enhance human resources, improve information technology, renew physical facilities, consider new facilities, and develop alternative sources of revenue while integrating the goal of sustainability into all operational and pedagogical systems. We will develop human resources by further increasing diversity for administrative positions and promoting training and an internal career trajectory for professionals. Information technology will undergo a complete transformation into a service organization focused on operations, integration, and architecture. Throughout *NJIT 2025*, we will also improve common spaces, innovate classrooms, renew academic facilities, accommodate planned growth, and promote sustainability, which requires long-term vision and preparedness to stay the course. Finally, to increase the financial resources of NJIT we will monetize intellectual property and maximize revenue from new and innovative programs.

### Foundational Achievements of *2020 Vision*

- Completed major capital projects including the Wellness and Events Center, Central King Building, Life Sciences, and Engineering Center, Makerspace, and Science and Technology Parking Deck, totaling more than 1 million square feet
- Installed the telescope SOLIS (Synoptic Optical Long-term Investigations of the Sun) as a complement to the Goode Solar telescope and commissioned the Owens Valley Long Wavelength Array, an array of hundreds of dipole antennas
- Expanded learning opportunities with the new NJIT @ Jersey City
- Increased the number of new computer labs and smart classrooms by 26% and expanded student social and recreational spaces
- Upgraded technology in 44% of the registrar-scheduled classrooms

- 90 new and renovated labs
- More than \$130M in state funding for facilities between 2014 and 2019

## **HUMAN**

### **Develop and sustain the strengths of NJIT's human capital**

- Develop the NJIT employer “brand” and strengthen the recruitment process through strategic marketing and social media. Effective branding and recruiting will broaden our reach to attract top, diverse talent.
- Develop and sustain a diverse talent pool by increasing the degree of diversity (women and underrepresented minorities) across all employee groups through intentional recruiting and strategic selection processes. Intentional efforts to hire diverse employees will enable the university to benefit from unique perspectives at all levels.
- Assess management and leadership skill levels for professional employees and provide increased opportunities for development. Effective management and opportunities for professional development will ensure staff have the knowledge, skills, and attributes to excel.
- Increase staffing and training to provide student support commensurate with increasing enrollment and student needs. This will enrich the student experience and promote student engagement, well-being, and retention.
- Become a more family-friendly employer by providing back-up childcare for faculty and staff as an employee benefit. Emergency childcare will be attractive to potential employees who are parents, particularly women.
- Support a holistic wellness strategy to improve employee health and wellbeing. A wellness program will show NJIT's commitment to its employees and improve employee performance.
- Provide career opportunities for employees identified as high performers or who have high potential. Offering an internal career path will allow the university to retain exemplary employees and provide opportunities for growth.
- Promote sustainability as part of professional development. This will ensure that sustainability becomes a consistent factor in decision-making.
- Become recognized as a “Great Place to Work.” This will help NJIT recruit and retain the finest staff and faculty.
- Adopt an individualized assessment system to optimize performance. Providing meaningful performance evaluations will enable staff to excel in their positions.

## **DIGITAL**

### **Renew technologies to support teaching, learning, and research**

- Implement instructional technologies that will integrate the physical and virtual campus. Facilitating anytime, anywhere learning is critical to meeting the needs of students today and into the future.
- Establish a standard for technology in all instructional spaces and implement a continuous upgrade plan. An upgrade plan will allocate resources to ensure that all classrooms and instructional spaces are equipped with standardized technology to enable and improve teaching and learning.
- Create a model that will provide ongoing IT support for the global campus initiative. A well implemented global campus will require continuous efforts to maintain and improve the technological infrastructure providing a positive and effective learning experience for all students.
- Introduce desktop virtualization to support the Bring Your Own Device (BYOD) alternative. Taking advantage of students' own devices will require investment in virtualization technologies but will alleviate requirements for computer laboratories and other instructional spaces with dedicated devices as well as provide more flexibility for classroom scheduling.
- Create a research computing investment and implementation strategy to support anticipated growth in the number of researchers and their expanding needs. Strategic investment in and implementation of research computing is essential to maintaining NJIT's preeminence as a leading research university and enabling more faculty to use computing resources in their research.

### **Align IT and data resources with institutional priorities, objectives, and strategies**

- Leverage insourced and outsourced resources to provide 24x7 technology support. Providing a hybrid service model will ensure that IT service assistance is available whenever and wherever needed.
- Recognize data as a critical institutional resource. Developing a data-aware culture will improve the consistency and quality of data by making the university community partners in capturing, preserving, and using this critical resource.
- Develop an agile organizational structure that adjusts to changing community requirements. An agile organizational structure is essential to meeting the current and future IT needs of the university.
- Ensure that future year budget development includes appropriate inflationary funding. This is essential to continually support necessary software licenses and maintenance contracts.



- Develop a detailed IT infrastructure inventory. This will contribute to establishing a sustainable renewal and replacement fund consistent with useful life expectancies.
- Assess processes and outsource activities that result in programmatic improvements and, potentially, budget savings. Prudent IT spending will positively impact the university's overall capital and operating budgets.
- Implement a multi-year IT capital budget accumulating funds to cover the cost of timely system renewal. This will allow system renewal on a regular cycle.
- Establish an agile IT organization that can quickly adapt to influences and trends. IT staff must stay current with ever-evolving technologies supporting higher education.

### **Ensure secure and reliable enterprise applications and infrastructure systems**

- Investigate modern Software as a Service (SaaS) Enterprise Resource Planning (ERP) solutions to replace the legacy on-premise Banner system. Identifying an appropriate SaaS ERP solution will allow NJIT to move forward with a more integrated product that serves the university's needs now and into the future.
- Build secure enterprise platforms that integrate data security with data stewardship. This will ensure that system security and data security are shared priorities for all university stakeholders.
- Implement an identity/access management solution. Identity and access control will strengthen NJIT's system security and reduce instances of unauthorized system access.
- Establish enterprise cybersecurity policies that catalogue and protect all university data including those hosted on cloud and third party systems. This will ensure the security of university data regardless of location or host system.
- Provide secure and reliable system administration and database administration for all enterprise systems which include, but are not limited to, student information systems, financial systems, human resources systems, and other core services. Providing administrative capabilities for enterprise-level systems and databases will increase system standardization and interoperability.
- Research and establish environments for experimenting with the latest trends in network architecture. Investigating new network solutions is an essential activity to maintain NJIT's leadership in IT infrastructure.
- Develop plans and projects to deliver advanced wireless services throughout the university. This will support advances in curriculum delivery, digital communication, and technology trends.

## **Transform the library into an open knowledge resource**

- Create a model digital knowledge environment enabling all forms of digital scholarship: research, teaching, and learning. A digital scholarship environment will support students and faculty in locating and using knowledge in a digital format to increase collaboration and engagement supporting education and research.
- Lead and innovate in expanding the definition, scope, and functions of the research library by reimagining its resources, spaces, and services. This will ensure that the library meets the evolving needs of the students, faculty, and university community.
- Create a library learning commons for students, faculty, and partners to immerse themselves in interactive computing, multimedia creation, and large-scale visualization—tools that are enabling new ways to process and use information. A Learning Commons within the library will support new ways of teaching and learning.
- Establish policies, procedures, and infrastructure to move NJIT's academic materials and scholarly endeavors into a more open and accessible format. This will ensure access to knowledge resources is equitable and sustainable.
- Collaborate with faculty to increase the use of open textbooks, open educational resources (OER), or digital learning materials in courses. The use of open educational resources will achieve significant savings for students.

## **PHYSICAL**

### **Commit to sustainability**

- Integrate sustainability into our community's daily life through conservation and the use of renewable energy, informed recycling, and other practices of the university and its subcontractors. Through this orientation, NJIT will set an example for sustainability and offer students, faculty, and staff opportunities to contribute directly to the green economy.
- Create a baseline and plan from which NJIT will reduce its carbon footprint and execute energy conservation projects to reduce the use of fossil fuels and electricity. A baseline is necessary to allow the university to track the outcomes of its sustainability efforts, and the plan will guide strategic efforts to promote a green campus.
- Develop an internal Energy Savings Improvement Program with demonstrated energy savings funded by NJIT outside of the annual capital renewal and replacement budget and repaid through energy cost savings. Energy-saving projects will illustrate NJIT's commitment to green initiatives and reduce energy usage and costs for the university.
- Promote alternative transportation options, including mass transit, ride-sharing, and reduced emissions transport, and expand opportunities for electric and hybrid-electric vehicle use. Facilitating these alternatives among students and employees will cut carbon emissions and reduce congestion around campus and in Newark during peak hours.

- Provide incentives for and encourage regular mass transit commuting by making the occasional use of campus parking more convenient as a backup. This will give commuters an alternative when circumstances require it.
- Expand options for learning anytime and anywhere through additional online and converged courses for those classes that tend to meet at peak travel times. This will allow students to engage in learning activities without having to commute to campus.
- Adopt the principle of sustainability: “Everything that we need for our survival and well-being depends, either directly or indirectly, on our natural environment. To pursue sustainability is to create and maintain the conditions under which humans and nature can exist in productive harmony to support present and future generations.”<sup>3</sup> This will make sustainability not a part of our work but a guiding influence on all of our work.<sup>4</sup>

### **Renew facilities to improve teaching, learning, and research**

- Create more learning commons spaces in academic buildings for group work and quiet study that will also meet the needs of commuter students. Such areas will provide increased opportunities for students to study and learn together.
- Increase the percent of capital renewal spent on academic facilities. This will support the consistent renewal of classroom and laboratory spaces.
- Develop new student residence options on and near campus to include space designed for graduate and non-traditional students. Additional housing options will encourage more students to apply from beyond the local area.
- Acquire strategic properties to foster campus expansion consistent with the facilities master plan. The acquisition of strategic properties is critical to planned university growth.

### **Improve the campus quality of life**

- Embark on a campus beautification plan that would include additional green spaces as well as creative science and engineering displays. Such efforts will improve the campus appearance and provide recreation/relaxation space for the NJIT community.
- Identify and implement physical improvements to create a special sense of place at the NJIT campus. Creating a welcoming physical environment will build a stronger sense of community across all stakeholders.
- Provide sufficient parking, including appropriate accessible parking, to meet demand while recognizing the impact of ride-sharing and autonomous vehicles on future parking needs. This will ensure that parking services and capacity are in line with the university’s planned growth.

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<sup>3</sup> <https://www.epa.gov/sustainability/learn-about-sustainability>

<sup>4</sup> <https://www.epa.gov/sustainability>

## **FISCAL**

### **Build a sustainable financial model**

- Monetize NJIT/NJII intellectual properties and services. Deriving income from intellectual property will provide additional revenue streams while also highlighting the innovations developed by NJIT faculty.
- Identify and develop alternative revenue streams that tie into the mission of the university and have a positive impact on student recruitment, brand recognition, and research opportunities. Alternative revenue streams will reduce the university's reliance on tuition and state funding.
- Strengthen our program of private philanthropic fundraising to unlock the potential of NJIT's successful alumni and other constituents, including corporations and private foundations in response to flat public support for the university and the rising cost of a STEM+ education. This will provide additional revenue streams to support NJIT's continuing efforts to enroll and graduate hardworking and high-achieving students, strengthen education, and expand research.
- Support student, faculty, and alumni start-up enterprises through business incubation and product acceleration in VentureLink. Encouraging new businesses will provide an economic benefit to the university and the regional economy.
- Manage tuition increases to not exceed the Higher Education Pricing Index (HEPI) national average. This will ensure NJIT's tuition remains affordable and competitive with other institutions.
- Foster a culture of continuous improvement in operational efficiency across the university through the use of data analytics such as dashboards for functional areas. This will allow managers to assess and improve efficiency within their departments and accomplish more with available resources.
- Promote the use of local vendors and suppliers. This will allow NJIT to contribute more directly to the local and regional economy.
- Include effective sustainability practices as criteria in selecting vendors. Giving preference to vendors committed to sustainability will expand the impact of the university sustainability initiative.

## Priority: Prominence

Graduation and retention rates, plus faculty research activity, underscore NJIT's transformation. The success of the NJIT's \$200 million NEXT campaign highlights the changed relationship between NJIT, its alumni, and the regional community. Today, the campus is achievement-oriented and serves as a critical engine of social mobility and economic development for the region. Faculty research has increased dramatically, as has the number of faculty winning prestigious awards and career grants. Student teams have won accolades in national engineering and design competitions, and every year, students win recognition through prestigious national and international fellowships and scholarships. The economic impact of the campus today also approaches \$3 billion annually.

Although prominent by many metrics, the university's reputation has not kept pace with its achievements. In simplest terms, the national reputation of NJIT has not changed significantly in the past two decades despite a fivefold increase in research funding and dramatic improvements in student profiles, faculty scholarship, and university facilities. A critical objective of *NJIT 2025* is to alter the university's image to match this transformation while continuing to build upon our strong foundation.

NJIT's Vision is 'to be a preeminent public polytechnic research university with local and global impact.' A primary challenge for this strategic plan is to achieve preeminence through an earned reputation for excellence. The strategies outlined in the Prominence Priority build the NJIT brand on achievements in the other four priorities.

The Prominence Priority sets four key objectives: 1) Increasing university visibility—a critical element in building an awareness of NJIT as a leading research university. 2) Engaging with the City of Newark—affording opportunities to contribute to the city's redevelopment while benefiting from the unique opportunities for collaboration our region offers. 3) Promoting alumni connections—benefitting current students and graduates by providing opportunities for collaboration and the exchange of ideas within a dynamic knowledge network. 4) Achieving a reputation for excellence—establishing the university community as a leader in education and high impact applied research.

### Foundational Accomplishments of 2020 Vision

- Achieved Carnegie Classification Very High Research (R1) rating
- Ranked 97th among *US News & World Report's* Best National Universities (up from 150 in 2013), and 43<sup>rd</sup> among Public Colleges (up from 68<sup>th</sup> in 2013)
- Ranked #1 nationally in upward social mobility by *Forbes* and *New York Times*
- \$2.8 billion annually contributed to the New Jersey economy according to independent analysts

## **Increase university visibility**

- Recognize and highlight faculty professional honors, prizes, and awards. Such recognitions will increase the reputation of NJIT faculty nationally and internationally.
- Communicate student accomplishments in winning prestigious fellowships and academic competitions, and by featuring profiles of students engaged in prominent and emerging work experiences and community service activities. Highlighting the successes of current students will raise NJIT's visibility and attract other high achieving students to NJIT.
- Focus NJIT to enhance NJIT's role in economic development while differentiating it from any other education, research, or technology organization in the US. This will increase state and national visibility for NJIT as an educational institution and engine for economic development.
- Host international academic conferences, renowned speakers, and student competitions with national and global impact. High profile events will draw positive attention to NJIT and contribute to revitalizing the image of Newark.
- Implement a new university branding campaign to increase recognition of NJIT as a leading academic research institution. An effective branding campaign will create a focused and consistent message to grow NJIT's visibility and reputation.
- Highlight research achievements in the media, particularly in areas of public interest or with significant societal or economic impact. Doing so will increase public awareness of the research conducted by NJIT faculty.
- Identify and seize opportunities to improve the university's standing in high-impact rankings and communicate these achievements. Increased standings in high-impact rankings will improve NJIT's public image and strengthen the NJIT brand.
- Raise the profile of NJIT in Washington, DC, and with the higher education community by joining The Science Coalition (TSC) and building relationships with the Task Force on American Innovation (TFAI). Relationships with these organizations will position NJIT with other top national research universities and move NJIT towards membership in the Association of American Universities (AAU).
- Build sustainability into the brand of NJIT. This will communicate the university's commitment to sustainability as a value.
- Join the Association for the Advancement of Sustainability in Higher Education (AASHE) and participate in their Sustainability Tracking, Assessment & Rating System (STARS). This will provide an important metric against which NJIT can benchmark its sustainability efforts.

### **Engage with the City of Newark**

- Undertake service activities to improve the University Heights community, such as monitoring drinking water quality and improving stormwater drainage. These types of activities will underscore NJIT's commitment to improving its local community.
- Expand opportunities to engage students from the local community in STEM fields. Introducing younger students to STEM careers will increase their interest in applying to NJIT.
- Enhance community engagement by working with local economic development, community investment, and business associations such as the Newark Regional Business Partnership and the Newark Alliance to develop meaningful academic, experiential learning opportunities matching students with local businesses. Such opportunities will provide students with meaningful work experience and promote the local economy.
- Facilitate NJIT-Newark community interactions by encouraging the development of service-learning projects and monitoring, recording, and broadly communicating such activities for publicity and analysis of outcomes. Increasing service learning within the Newark community will enhance the relationship between NJIT and its host city while tracking and reporting community engagement will inform decision-making about future efforts and highlight the contributions NJIT makes to its host city.
- Integrate the campus and the surrounding Newark area through the continued implementation of the NJIT Campus Gateway redevelopment plan, creating an environmentally friendly, 24-7 living/learning community. Completion of the redevelopment plan will provide options for students, faculty, and staff to hire, buy, and live locally.

### **Promote alumni connections**

- Expand alumni engagement with the NJIT community through Highlander Nation. Building a robust online alumni network will increase opportunities for alumni to network with one another, mentor current students in a variety of ways, including co-ops and internships, and exchange information about NJIT.
- Increase the number and variety of formal alumni affinity groups based on common alumni interests or experiences. Developing a broad array of affinity groups will facilitate the engagement of alumni who have not previously been involved with the university.
- Develop and implement additional alumni programs and activities tailored to students and graduates of the past decade, including expert faculty presentations. Focused programs for young alumni will nurture a culture of engagement and philanthropy among this population.
- Enhance alumni support of the athletics program. This will promote engagement and grow connections between the alumni and the campus community.

### **Achieve a reputation for excellence**

- Promote NJIT research accomplishments for media recognition. This will increase the visibility of NJIT as a research institution.
- Promote NJIT faculty, staff, and alumni as experts who can provide commentary on the news. Opportunities to provide subject matter experts will establish NJIT as a knowledge leader in high impact research areas.
- Provide scholarships to attract students who will represent NJIT in competitive academic activities and promote the achievements of these students. Offering scholarships for such activities will generate interest in NJIT among outstanding applicants and promote NJIT's visibility and reputation as a premier institution for students.
- Announce and publicly celebrate student achievements. This will bring recognition to the university and increase applications.
- Cultivate national and international partnerships with aspirational peer institutions. These partnerships will offer opportunities to share best practices and establish NJIT as an influential research university.



## Guiding Principles of *NJIT 2025*

A vision to establish NJIT as a preeminent academic institution known nationally and internationally for its leadership in education inspired the development of *NJIT 2025*. To achieve this vision, the following principles guided the development of *NJIT 2025*:

**Diversity**—we will create a welcoming and inclusive campus environment by:

- Developing a diverse community of students, faculty, staff, and administrators
- Ensuring an affordable education
- Nurturing connections with alumni
- Actively engaging with the local Newark community
- Connecting with national and international business communities

**Sustainability**—as a STEM+ university, we will respond to the call for climate action and create a sustainable and enduring legacy by:

- Making sustainability a central goal in education, research, and our own use of resources
- Following a sustainable plan for renewal and expansion
- Renewing and revitalizing facilities to accommodate responsible growth
- Ensuring a fiscally sustainable university model
- Making a positive lasting impact on the lives of students and alumni

**Recognition**—through this strategic plan, we will enhance NJIT’s recognition as a leading STEM+ research university by:

- Promoting faculty and student academic achievements
- Establishing leadership in high-impact applied research areas
- Developing innovative curricula and inspiring pedagogy
- Leading efforts for sustainability in higher education

**Transformation**—the principles of diversity, sustainability, and recognition require an institutional transformation that can only be achieved by:

- Innovating classroom spaces and pedagogy to continuously improve the education of our students
- Building a high-impact research agenda focused on the grand challenges of today
- Appointing and supporting diverse faculty and staff
- Transforming NJIT digital resources to foster world-leading technological innovation
- Restoring and renovating existing facilities for quality of life and function as well as sustainability
- Optimizing resources in support of the university’s expanding mission

## Key Performance Indicators

(KPIs in red will be tracked but not published.)

Objective	Metric	Baseline	Target
<b>STUDENTS</b>			
Success	FTFTU retention rate <sup>5</sup>	88%	90%
	Retention of transfer students into their 3 <sup>rd</sup> semester at NJIT <sup>6</sup>	84%	88%
	6-year graduation rate <sup>7</sup>	67%	72%
	Percent of students participating in events and organizations on campus <sup>8</sup>		
	Net Promoter Score <sup>9</sup>		
Promote Diversity	% of Hispanic students (FTE) <sup>10</sup>	21%	26%
	% of Black/African American students (FTE) <sup>10</sup>	8%	
	% of women students (FTE) <sup>10</sup>	25%	
	URM retention rate <sup>5,11</sup>	87%	90%
	URM graduation rate <sup>7,11</sup>	53%	62%
	Equity gap <sup>12</sup>	20%	10%

<sup>5</sup> The percent of first-time, full-time undergraduates (FTFTU) students in a given cohort who are still enrolled for their third full semester. (Based on 9<sup>th</sup> week enrollment counts)

<sup>6</sup> For a cohort of transfer students starting in a given semester, the percent enrolled for a third full semester (based on 9<sup>th</sup> week enrollment counts).

<sup>7</sup> For a given cohort of FTFTU entering in the year 20XX, the percent of those students (minus reported exclusions) receiving a degree by August 31, (20XX+6). (Based on 9<sup>th</sup> week FTFTU enrollment counts)

<sup>8</sup> Baseline and target will be established based on results of the revised Survey of the Student Experience.

<sup>9</sup> The Net Promoter Score is an index ranging from -100 to 100 that measures the willingness of students to recommend NJIT to others. Student responses will be captured through the revised Survey of the Student Experience on a scale from 0 to 10, with the final score calculated as percent giving a score of 9 or 10 minus percent giving a score of 0 to 6.

<sup>10</sup> Undergraduate FTE based on fall enrollment calculated as FT + (0.403543\*PT) according to IPEDS definition.

<sup>11</sup> URM is defined as students who are Black/African-American, Hispanic, Native Hawaiian/Pacific Islander, or American Indian/Alaska Native.

<sup>12</sup> The equity gap measures the difference between the average 6-year graduation rates for non-URM students and URM students in the same cohort.

	Pell recipient retention rate <sup>5,13</sup>	88%	90%
	Pell recipient graduation rate <sup>7,13</sup>	63%	66%
	Number of FTFTU students from Newark <sup>14</sup>	46	92
Enrollment	Total enrollment <sup>15</sup>	11,859	13,000
	Average SAT Composite score <sup>16</sup>	1299	1310
	Average GRE Quantitative Score (MS)	158	160
	Number of freshman applications <sup>17</sup>	9,048	12,000
	Number of transfer applications <sup>17</sup>	2,002	2,200
	Number of master's applications <sup>17</sup>	6,032	8,000
	Number of doctoral applications <sup>17</sup>	661	700
	Global campus FTE <sup>18</sup>	191	
Recognition	Number of students applying for / receiving prestigious fellowships or awards <sup>19</sup>	24/8	72/14
	Number of students/student teams winning competitions <sup>20</sup>		
	Placement of students in high visibility apprenticeship, co-op and internship programs <sup>21</sup>		
<b>FACULTY</b>			

<sup>13</sup> For a given cohort of FTFTU, the term "Pell recipient" indicates a student who was awarded a federal Pell grant. Students who were eligible but were not awarded a Pell grant are not included.

<sup>14</sup> First-time full-time matriculated freshmen students whose permanent address is in Newark.

<sup>15</sup> 10th day enrollment

<sup>16</sup> SAT scores will be tracked, but anticipated increase will be modest as the university focuses on other aspects of the student profile.

<sup>17</sup> Specifically the number of completed applications

<sup>18</sup> Graduate FTE based on fall enrollment calculated as FT + (0.361702\*PT) according to IPEDS definition

<sup>19</sup> Awards include Fulbright, Goldwater, Boren, and Watson as well as NSF Graduate Research Fellowships. Other awards will be evaluated for inclusion on a case-by-case basis.

<sup>20</sup> Competitions include concrete canoe and steel bridge as well as eSports and club conferences, professional society competitions, and athletic conferences.

<sup>21</sup> High visibility implies companies in the Fortune 50 and companies listed in Vault's annual Most Prestigious Internships ranking.

Renewal	Total tenured/tenure-track faculty <sup>22</sup>	317	375
	Percent of faculty hired in the last 10 years <sup>23</sup>	44%	44%
	Number of new teaching professor positions <sup>24</sup>	0	6
Diversity	Percent of women new faculty hires <sup>25</sup>	30%	40%
	Percent of URM new faculty hires <sup>26</sup>	10%	20%
	Number of institutionally funded postdocs <sup>27</sup>	2	5
Recognition	Number of faculty receiving prestigious awards <sup>28</sup>	2	6
	Number of faculty achieving fellowships in professional societies <sup>29</sup>	45	
	Number of faculty achieving membership in national academies <sup>30</sup>	1	2
<b>RESEARCH</b>			
Expenditures	Total research and development (millions) (FY) <sup>31</sup>	\$162M	
	Externally funded academic research (millions) (FY)	\$37M	\$50M
	Externally funded business and technology development (millions) (FY)	\$64M	
	Number of NJII externally funded business and technology development projects (FY)		

<sup>22</sup> Total count of tenured/tenure-track faculty on the KPI reporting date.

<sup>23</sup> For every KPI reporting period, the percent of total T/TT faculty who were hired in the preceding 10 year period.

<sup>24</sup> This count will include lecturers converted to teaching professors as well as individuals hired into teaching professor positions.

<sup>25</sup> For every KPI reporting period, the percent of faculty hired in the preceding five-year period who are women.

<sup>26</sup> For every KPI reporting period, the percent of faculty hired in the preceding five-year period who are members of an underrepresented minority (Black/African-American, Hispanic, Native Hawaiian/Pacific Islander, or American Indian/Alaska Native).

<sup>27</sup> Institutionally funded postdocs are supported by the administration in return for limited (2:2) teaching load. The goal is to develop a pipeline of qualified faculty candidates focusing particularly on women and URM candidates.

<sup>28</sup> Number of faculty receiving prestigious awards in the past three fiscal years, based on awards recognized by the Top American Research Universities Annual Report published by the Center for Measuring University Performance. Other awards will be evaluated for inclusion on a case-by-case basis.

<sup>29</sup> Count of faculty having Fellow status in their professional society during the reporting fiscal year.

<sup>30</sup> Count of faculty who are members of national academies (including the National Academy of Inventors, National Academy of Sciences, National Academy of Engineering, Royal Society, and Royal Society of Edinburgh) in the reporting fiscal year. Other national academy memberships will be evaluated on a case-by-case basis.

<sup>31</sup> Total amount includes education and service grants.

Impact	Average number of peer-reviewed articles per faculty member <sup>32</sup>	2.6	
	Average citations per faculty member <sup>33</sup>	25.7	
	Number of grants supporting commercialization of technology <sup>34</sup>		
<b>RESOURCES</b>			
Human	Employee satisfaction <sup>35</sup>		
	Employee career advancement <sup>36</sup>		
	Percent of administrative leadership who are URM <sup>37</sup>	16%	
	Percent of administrative leadership who are women <sup>38</sup>	36%	
	Percent of non-instructional staff receiving annual professional development/training		
Digital	Student perceptions of experience with IT <sup>39</sup>		
	Faculty perceptions of experience with IT <sup>40</sup>		
	Staff perceptions of experience with IT <sup>40</sup>		
	Percentage of scheduled classrooms equipped with digital learning technologies <sup>41</sup>		
	Average time to resolution of IT projects <sup>42</sup>		

<sup>32</sup> Total number of peer-reviewed journal papers published during the previous fiscal year divided by the total count of tenured/tenure-track faculty.

<sup>33</sup> Average citations per faculty member as calculated by the QS World University Rankings.

<sup>34</sup> Commercialization of technology grants including NSF I-Corps, PFI, SBIT, Undergraduate Research Initiative (URI) Phase 2 awards, and other similar grants.

<sup>35</sup> From the Great Colleges to Work For Survey which will be conducted every two years.

<sup>36</sup> Number of internal promotions for staff categorized as PSA, ASEM, Public Safety, and non-aligned.

<sup>37</sup> Percent of administrative leadership (Director-level and above) who are underrepresented minorities (Black/African-American, Hispanic/Latino, Native Hawaiian/Pacific Islander, or American Indian/Alaska Native).

<sup>38</sup> Percent of administrative leadership (Director-level and above) who are female.

<sup>39</sup> Baseline and target will be established based on the revised Survey of the Student Experience Section 18 by averaging items A, C, D, and E.

<sup>40</sup> Baseline and target will be established based on questions in the Sightlines survey.

<sup>41</sup> Digital learning technologies include technologies supporting converged instruction, virtual labs, and other emerging pedagogical technologies. Classrooms include all lecture halls, labs, and traditional classrooms scheduled by the Registrar.

<sup>42</sup> For all IT projects completed in the previous fiscal year, the average elapsed time from the date a project is requested and entered into the system until the date the project is marked as completed.

	Student satisfaction with library services <sup>43</sup>		
	Faculty satisfaction with library services <sup>40</sup>		
	Number of courses using open educational resources/textbooks <sup>44</sup>		
Physical	Facilities Condition Index <sup>45</sup>	0.08	0.05
	Student satisfaction with facilities <sup>46</sup>		
	Faculty satisfaction with facilities <sup>40</sup>		
	Percent of capital renewal spent on academic facilities (FY)	65%	70%
	Number of classrooms and teaching laboratories added/comprehensively renovated <sup>47</sup>	74	135
	Campus carbon footprint <sup>48</sup>		
Fiscal	Ratio of tuition increase to Higher Education Pricing Index national average (FY)	0.76	
	Alternative revenue sources as percentage of total revenue <sup>49</sup>		
	Number of student/faculty/alumni-led companies in VentureLink <sup>47</sup>	4	
	Revenue generated from non-credit, executive and continuing education courses (FY)		
<b>PROMINENCE</b>			
Visibility	Relative market share <sup>50</sup>	28%	30%

<sup>43</sup> Baseline and target will be established based on the revised Survey of the Student Experience Section 10 by averaging items A and B.

<sup>44</sup> Calculated by reviewing textbook information from syllabi uploaded to Digital Commons.

<sup>45</sup> The Facilities Condition Index reflects the current and projected condition of a building asset. (Good = 0.0 to 0.05, Fair = 0.05 to 0.10, Poor = 0.1 to 0.3, and Critical > 0.3)

<sup>46</sup> Baseline and target will be established based on the revised Survey of the Student Experience Section 14 by averaging items A through C.

<sup>47</sup> During the previous fiscal year

<sup>48</sup> Baseline and target will be established at the start of the strategic plan implementation.

<sup>49</sup> Based on patents, licensing of intellectual property, and other similar revenues as reported in audited financials for previous fiscal year.

<sup>50</sup> Market share of Google searches compared to several of our peer institutions.

	Academic audience exposure <sup>51</sup>	3,112,103	4,045,734
	Social network account followership <sup>52</sup>	145,663	174,796
	Number of on-campus WEC events attended by more than 300 people <sup>53</sup>	34	40
	Number of on-campus academic conferences <sup>54</sup>		
	Classification by the Association for the Advancement of Sustainability in Higher Education assessment system <sup>55</sup>	Unranked	Silver
Reputation	Academic reputation score <sup>56</sup>		
Giving	Undergraduate alumni giving rate	10.3%	15%
	Overall philanthropic giving (millions) (FY)	\$13.9	\$20
	Total endowment (millions) (FY)	\$127	\$150
	Percent of alumni with engagement score of 4 or higher	14.3%	25%

<sup>51</sup> Number of individuals categorized as academics who view online information about NJIT.

<sup>52</sup> Number of followers/subscribers NJIT has across its social network platforms.

<sup>53</sup> Non-athletic events attracting 300 or more attendees.

<sup>54</sup> Academic conferences and events focused on higher education.

<sup>55</sup> The AASHE Sustainability Tracking, Assessment and Rating System (STARS) is a comprehensive assessment of sustainability efforts across campus, including facilities and operations, administration, curriculum, research, and engagement.

<sup>56</sup> As reported by US News and World Report Best National Universities ranking.