EXTRAORDINARY PEOPLE
GLOBAL IMPACT

You must be the change you want to see in the world.
—Mahatma Gandhi

ONE VISION, THREE GOALS, FOUR STORIES
One Vision, Three Goals, Four Stories

Our vision
We will be known for our impact on the world.

Our mission
To advance engineering learning, discovery, and engagement in fulfillment of the Land Grant promise and the evolving responsibility of a global university.

Our goals
• Graduates effective in a global context—
  Our graduates will be prepared for leadership roles in responding to the global technological, economic, and societal challenges of the 21st century.

• Research of global significance—
  We will focus our talent and facilities on research with great potential for expanding the boundaries of science and technology and addressing the global challenges and opportunities of the 21st century.

• Empowering our people, enriching our culture—
  We will create a leadership culture and environment where the people of Purdue Engineering can dream their boldest dreams and collaborate in a place where those dreams can become reality.

Our stories
Over 400 faculty, staff, students, alumni, and friends around the globe helped conceive and articulate the substance of our journey. Four stories capture the essence of our plan.
Imagine...

...being young and getting your first glimpse of what engineering is all about.

...going to college and choosing from a palette of engineering experiences.

...tailoring your Ph.D. to your dreams and aspirations.

...connecting to Purdue through a unique umbilical cord—a two-way lifeline—throughout your changing career so you continue to learn and grow professionally and share your life-earned wisdom with faculty and future alumni.

We have set the stage for lifelong impact:

• The School of Engineering Education, the INSPIRE Institute for P-12 Engineering Research and Learning, EPICS High.
• Purdue’s Engineer of 2020 initiative and Global Engineering Program.
• First-year Engineering’s Ideas to Innovation (i2i) Learning Lab.
• Engineering Professional Education’s lifelong learning programs.
• The HUB cyberinfrastructure that extends our virtual reach.

Our key actions:

• Create the signature foundational pedagogy for P-12 engineering education.
• Integrate the Purdue Engineer of 2020 learning outcomes into the curriculum—in addition to strong fundamentals, career skills such as interdisciplinary design, leadership, innovation, multicultural aptitude, flexibility during change, entrepreneurship, and ethics.
• Prepare today’s graduate students to be tomorrow’s Faculty of 2020.
• Strengthen and evolve international experiences and dual-degree programs.
• Design interdisciplinary professional masters programs, personalized Ph.D. programs, and expanded avenues for career-long learning.

We will create and sustain the human, intellectual, and information infrastructures to connect people and Purdue for life—

Always@PurdueEngineering
Imagine...

...faculty and students whose research shapes the world—
tackling problems from the nanoscale to the scale of space exploration and
from biofuels to biomechanics to biodiversity.

...faculty who are connected not only to the technology, but to the implications of
that technology on our economy, our built infrastructure, human development,
national security, and international relations.

...research strengthened by deep partnerships with industry, federal agencies,
and national and international labs.

We have set the stage for research impact:

• Growth in our senior-most faculty and interdisciplinary signature areas.
• New facilities in Discovery Park and engineering: Birck, Bindley, Mann,
• nanoHUB.org, which supports unprecedented sharing of research tools.

Our key actions:

• Create a Systems of Systems Institute to lead the world in understanding
intricate connections—in healthcare, energy, aerospace, transportation,
defense, and more.
• Provide high-quality lifecycle support by placing researchers at the heart
of research galaxies with unique professional structures, agile space
repurposing, flexible staffing to launch large-scale projects, and re-classifying
of jobs to meet the needs of grand-scale research.
• Double research productivity and have a voice in the national research agenda.
• Enrich our collaborations by growing global fellows and exchange programs.
• Use the web effectively to share our research story.

We will reshape our research universe and bring solutions
to the globe—

ChangeTheWorld@PurdueEngineering
Imagine…

...an environment where collaborations cut across disciplines in unexpected ways.

...a place where agile, fluid teams tackle specific problems or grand-scale long-term challenges.

...Purdue Engineering as the destination for students and world-class faculty who want to solve problems through risk-taking research and a fearless search for answers—and through entrepreneurship, spur economic development and benefit society.

...deliberately pursuing research creativity through a new model for innovation and collaboration.

Our key actions:

We envision a three-layer innovation ecosystem that will change our traditional research culture to one that connects creativity and risk-taking to high-impact outcomes and engagement.

- The base layer is the idea zone, where an “innovation institute” and “skunkworks” environment provide resources, rewards, and recognitions that foster creativity and intellectual risk.

- The top layer is the exchange zone, where we touch the world and amplify our impact by building deep, sometimes sole source partnerships with industry, defense agencies, policy bodies, and global labs and governments.

- The middle layer is the collaboration zone or “collaboratory” to connect dynamically the appropriate human assets for the topic of interest—internal actors (faculty, staff, and students) with external actors (national labs, policy bodies, etc). A lean centralized staff plus agents—“matchmakers”—within the schools facilitate, catalyze, and launch interdisciplinary teams and support activities such as “Talks in Plain English” to build bridges across disciplines.

We will build an innovation ecosystem and nurture a culture of creativity that takes us far beyond where we are today—

Innovate@PurdueEngineering
Imagine…

...having the courage—the sheer guts—to revolutionize our culture.

...an environment that supports boundless thinking.

... a place where each person can dream their farthest-reaching dreams—and know that their institution wants to help realize those dreams.

...a culture that facilitates the first three stories.

We have set the stage for a “lead-the-world” infrastructure: In the past eight years we proved we can do things differently—we branched out deliberately and across disciplines; we competed successfully on the national stage. We have shown that we are ready to change our culture to allow us to make the next “giant leap” forward.

Our key actions:

• Take a lesson from our first-year student programs and create a learning community for new faculty.

• Build our capacity for leadership sabbaticals and fellowships and create an “Influencers in Residence” program.

• Support our research ambitions by launching a highly effective post-award process; creating mental space via research semesters, team teaching, and banking research credits; and by developing the “Staff of 2020.”

• Create a Center for Diversity to foster new synergies and a Diversity Certificate for faculty and staff professional development.

• Align our hiring and promotion and tenure practices with our values.

• Assess our progress with external reviews and a semesterly report card.

We will engage our people to transform our culture, because empowered people radiate passion that energizes them to change the world—

OurPeopleOurCulture@PurdueEngineering.
Investing in Our Dreams

Our plan represents an investment of $530 million:

**Always@PurdueEngineering** $160M
- Scholarships and fellowships, international and experiential programs,
- Ideas to Innovation (i2i) Learning Labs, a student projects facility,
- learning HUBs, “Faculty of 2020

**ChangeTheWorld@PurdueEngineering** $120M
- Endowed professorships, global fellows and scholars, research
  semesters, technology-policy partnerships, Systems of Systems Institute,
  world-class research facilities, research HUBs, post-award support and
  research galaxies

**Innovate@PurdueEngineering** $110M
- Innovation ecosystem: Innovation Institute, Skunkworks, collaboratory;
  endowed innovation fellows and agents; Alumni/ae Classroom Innovators

**OurPeopleOurCulture@PurdueEngineering** $90M
- Leadership sabbaticals and fellowships, faculty learning communities,
  national and international faculty rotations, “Staff of 2020,”
  Center for Diversity

**Other** Capital Projects and Unrestricted Support $50M
- Core facilities in CoE, ABE, CE, ECE, IE, ME, NE and unrestricted support

Our plan is a bold roadmap for achieving the dreams of the faculty, staff, students, and alumni of Purdue Engineering—

**JoinTheAdventure@PurdueEngineering.**