

2019 STRATEGIC PLAN





Our world faces monumental challenges that directly affect the quality and safety of human life.

However, unsatisfied global demand for engineering talent prevents us from discovering and implementing timely solutions.

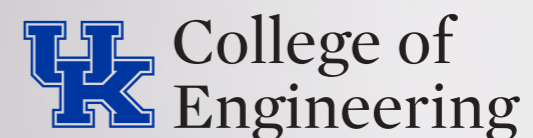
We need to do so much more.

That's why the University of Kentucky College of Engineering has launched aggressive growth initiatives designed to prepare and unleash armies of fearless problem solvers.

Relentless drive and passion. Prodigious faculty expertise. Students who refuse to back away from a challenge.

This is how we create a world that works.

Rudy Buchheit, Dean



VISION

We will be a highly networked academic ecosystem that prepares professionals for their future. We will enable discovery and purpose-driven research and create clear pathways for our innovation, understanding and collective ability to benefit society.

MISSION

We create a world that works by generating, transferring and preserving knowledge across the engineering disciplines, and by preparing professionals ready to sustain societal well-being.

VALUES

We value diversity in people and thought. We believe in access and inclusion to all. We believe in collaboration, integrity, trust and transparency in the pursuit of excellence.

FOUNDATIONS

This strategy document replaces the UK College of Engineering Top 50 Plan for the period of 2014-2019. It also builds upon the UK College of Engineering Plan for Growth.

EDUCATION

We have set a goal to expand the college's overall enrollment to 6,000 students by 2025. To put that in context, enrollment at the beginning of the 2018-19 academic year was approximately 3,900. To meet the challenge, the college will need to add close to 1,600 undergraduate students and 500 graduate students in the next six years. Adding programs with high demand, as well as broadening our delivery systems will play a large part in attaining these numbers.

As engineering's potential to transform human health and wellness is realized through innovative devices and procedures, more and more high school students look for the option to major in biomedical engineering. Additionally, our aerospace certificate program, which does provide formalized recognition of aerospace engineering studies, puts students in touch with several mechanical engineering faculty members conducting aerospace research. We are poised to make biomedical engineering and aerospace engineering into formal undergraduate academic offerings in the near future.

The centuries-old model for creating learning communities by aggregating teachers and learners in the same place at the same time is now being extended in our massively connected electronic world. Graduate programs, especially those geared toward working professionals, will best enable us to connect with more online learners. We already offer a manufacturing systems engineering master's program that can be completed entirely online, and five new online graduate certificates are either available or imminent.

GOALS

- Double the number of need-based and merit-based scholarships, and develop new scholarships for underrepresented minorities, women and other groups, so as to make UK the preferred choice for an engineering education
- Offer biomedical engineering and aerospace engineering as formal academic programs
- Increase number of students pursuing UK Engineering graduate studies through online programs

RESEARCH

Dedicated faculty members and researchers have enabled us to gain notoriety in areas like energy production and distribution; transportation and logistics; manufacturing and materials; and more. Thanks to those well-established fields, we can make important contributions to research areas naturally emerging from them.

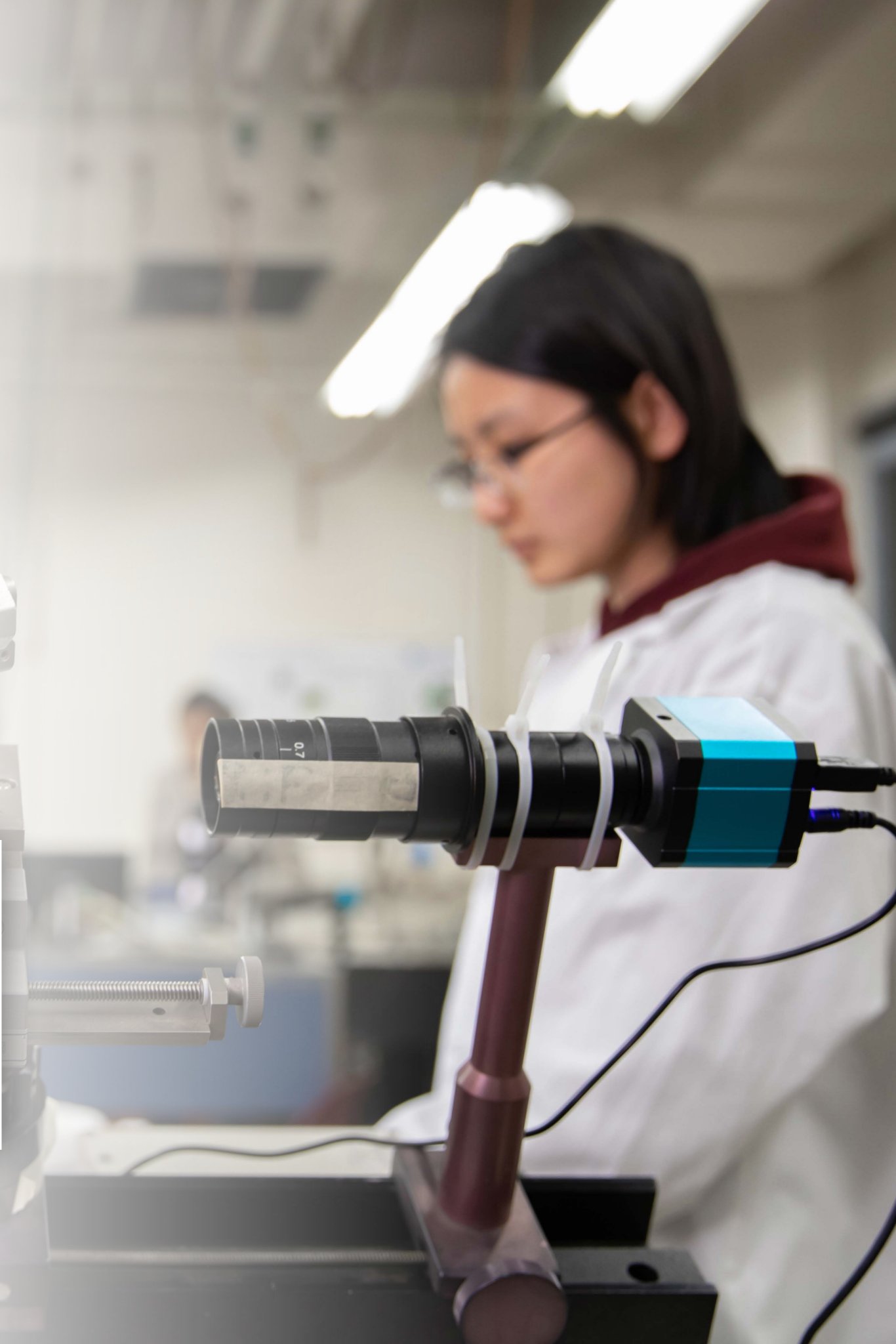
Autonomous systems is one such area. Twenty faculty members representing five departments, as well as staff from the Kentucky Transportation Center, are developing, connecting and focusing UK's existing research strengths in the area of autonomous systems across multiple technical areas and domain applications. Other niches for research breakthroughs include sustainable systems and structures; engineering for human health; computing and information; and cyber-physical systems and security.

Our annual research expenditures currently total approximately \$50 million. Our plan calls for that number to be at \$70 million by 2023.

One strategy for achieving that number is to continue utilizing federal funding sources like the National Science Foundation and the National Institutes of Health and diversify our pool of funding resources. Expanding the number of funding pools will increase the odds of maintaining research productivity during economic downturns. Focusing on emerging areas of research may also enable UK to become the home of a large, externally funded research center.

GOALS

- Increase annual research expenditures from \$50 million to \$70 million by 2023
- Build from established research strengths to form collaborations in emerging areas
- Expand number of funding pools

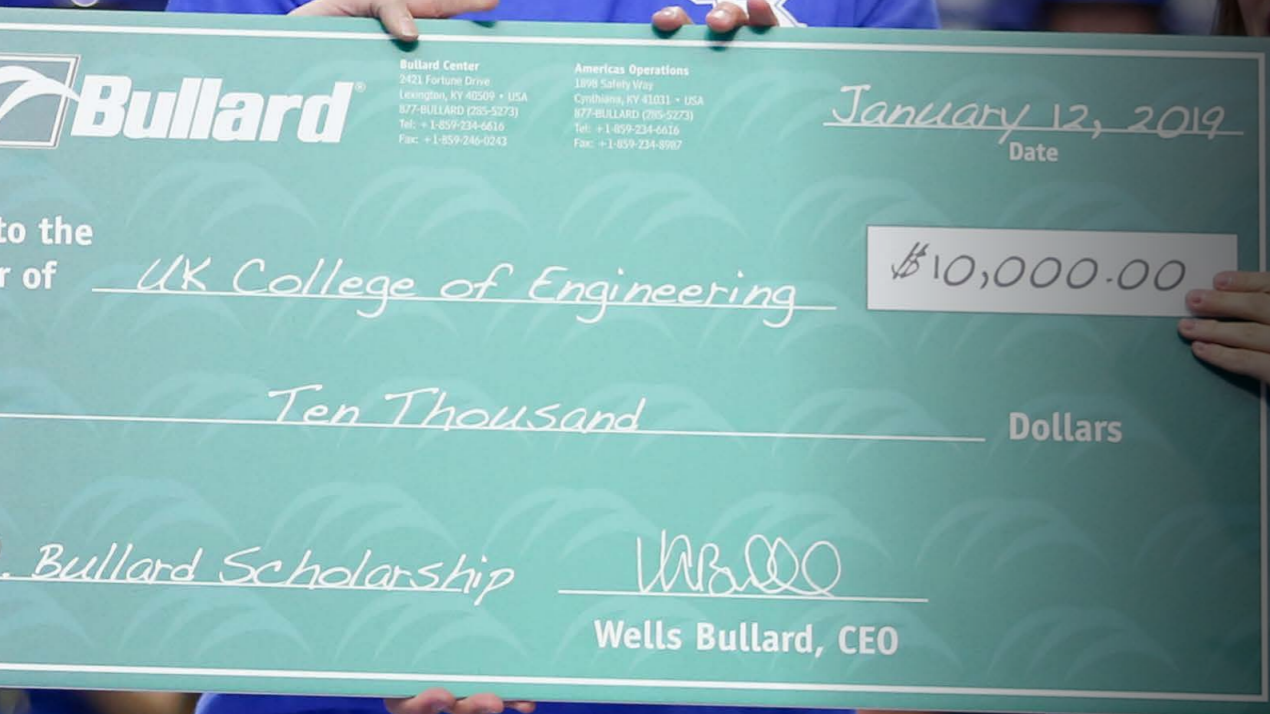


ALUMNI RELATIONS, CORPORATE RELATIONS AND PHILANTHROPY

Opportunities for mutually beneficial partnerships with current and new industry partners are plentiful. Hundreds of students have completed co-op rotations and internships with engineering companies in Kentucky and across the U.S., and our fall and spring career fairs continue to expand.

While industry partners have always been able to support senior design projects, participate in "Evening with Industry" events, financially support student organizations like Kentucky Racing, establish scholarships, donate equipment and more, we would like industry partners to take a more active role in faculty recruitment, startup companies, research programs and even join the faculty through a courtesy or part-time faculty appointment.

A key to developing industry partnerships is engagement with our alumni, many of whom work at thriving engineering companies and demonstrate their ongoing support of the College through philanthropic gifts. Creative, visionary philanthropy does more than fill gaps; it launches initiatives able to transform the College.



GOALS

- Increase the depth and breadth of alumni engagement leading to meaningful relationships and engendered loyalty
- Build a collaborative, well-integrated and productive college philanthropy team that engages the college's external alumni and corporate constituencies to attract resources and opportunity to the college mission
- Build corporate relationships to help fulfill our Land Grant mission and attract opportunity to the College's educational and research missions

FACULTY AND FACILITIES

If the student body is going to grow to 6,000 by 2025, the faculty, staff and facilities will need to grow as well.

In September 2018, we announced a plan to hire 20 new tenure-track faculty members for the 2019-2020 academic year. In all, we plan to hire 70 new faculty members by 2025. Renovated facilities and at least one new building will be necessary to accommodate student and faculty growth.

In addition to the renovation of the Grehan Building, which increases the College's square foot total to 275,000, another large, multifaceted structure will be necessary. Our vision is to construct the Central Engineering Building, which will be located between the Robotics & Manufacturing Building and Memorial Hall. Such a facility would offer the size and scope needed to educate our rising number of engineering students.

As a land-grant institution, we are responsible to bring our comprehensive research mission to communities across the state. It's our obligation to make sure our expertise and facilities are put to good use for the people of the Commonwealth.

GOALS

- Hire 70 new tenure-track faculty members by 2025
- Construct the Central Engineering Building to better support our teaching and research missions
- Generate philanthropic funding to create endowed chairs and professorships that will attract and retain renowned faculty

DIVERSITY AND INCLUSION

We put diversity and inclusion here, not because it is least important but because it's inherent in all of the other areas.

Broadly, our goal is to enhance diversity and inclusion among our students, faculty and staff, but we want to do more than that. We want to exceed what is expected of us and go on to accomplish something more difficult than surpassing thresholds: create a culture and climate where everyone participates and benefits. A diverse College allows for a richer and broader educational experience.

So when you begin to visualize what the college will look like with new programs, new student opportunities, new facilities, new faculty hires and new industry partnerships, know that our commitment to diversity and inclusion is hardwired into each initiative.

Of all our goals in this strategic plan, this one says the most about who we want to become.

GOALS

- Enhance diversity among our students, faculty and staff
- Create and sustain a college environment that values inclusion and equity and demonstrates those values through individual and collective action
- Increase the number of College of Engineering scholarships for females and underrepresented minorities

