2030 STRATEGIC PLAN

Educational Journeys
Collaborative Research
Meaningful Partnerships

UCI SAMUELI SCHOOL OF ENGINEERING**PLUS**
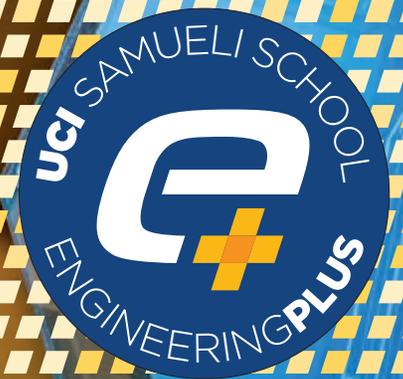
Engineering Plus (e+) captures the idea of reaching out and connecting across disciplinary boundaries. By fearlessly looking forward and being inclusive in our pursuit of finding solutions to the most important global grand challenges facing society, we embrace the e+ approach to collaborative research, educational journeys, and meaningful partnerships. This strategic plan is designed to formalize this notion and position the UCI Samueli School of Engineering as a leader in defining what a highly connected, innovative, inclusive, and forward-thinking engineering program could look like. It is intended to be a dynamic, living document that helps guide decisions and resource allocations, and most importantly, inspires our community and our stakeholders.

As part of a *public research university*, our focus has three primary dimensions.

First, as a *university*, we educate a future workforce that is increasingly diverse, international, and mission-driven, with graduates going out into the world as researchers, educators, policymakers, entrepreneurs, or industry leaders.

Second, our *research* pushes the boundaries of human knowledge, helping make the world a better, cleaner, healthier, more productive, creative, and equitable place where technology is used to enrich the human experience, as interpreted broadly. Engineering disciplines are crucial to address the big problems for the next decade in areas such as energy, water, environment, transportation, health, security, technological competitiveness, inequality, and demographics.

Third, the *public* aspect anchors us firmly to a local community. We are part of a civic ecosystem and have a responsibility to our stakeholders, to serve the local communities around us, and to connect and partner with local industry and institutions.

Although the Samueli School has many similarities with other engineering schools around the globe, several differentiators and unique characteristics and opportunities must be kept in mind:

+ Our student population is highly diverse. At UCI, 34% of our roughly 37,000 students are Asian, and 26% are Hispanic; additionally, over 55% of the graduates are first-generation college students. UCI is a federally designated Hispanic, Asian American and Native American Pacific Islander-serving institution, and enabling upward mobility is a hallmark of UCI.

+ Our culture is one where silos and territorial imperatives do not exist. It is a collaborative environment with an infrastructure enabling multidisciplinary thinking and action through numerous institutes and centers. Many of our faculty have joint appointments between departments and schools. For a top-tier research university, it is a surprisingly harmonious community; one that is still eager to actualize its full potential.

+ California is one of the leading states in the nation when it comes to pioneering policies that address the health of our planet. There is a symbiotic relationship between the state and its public universities, and a clear opportunity for the Samueli School to leverage these connections and lead the charge. In addition, we have a rich industrial ecosystem in California that positions us well for partnerships with a myriad of opportunities for our students and faculty.

+ Orange County is our home, and it offers many opportunities for our school to be a stakeholder in the health of the community. We are surrounded by communities with significantly different socio-economic characteristics, with a substantial percentage of the population from the lower economic strata of society.

+ The Samueli School of Engineering is at an enviable inflection point. The investments made the last five years in people and infrastructure put us in a position of strength. If we do not continue to invest in ourselves and instead become comfortable with the status quo, we will experience decline and will not achieve our aspirations. We must be comfortable being uncomfortable. This is a time of refresh and to invest in our future.

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VISION AND VALUES

The Samueli School of Engineering is doing world-class research that matters to our local communities, to our nation, and to the world. We are educating an increasingly diverse group of students and innovating the engineering curriculum. To that end, we aspire to be among the preeminent engineering programs globally, a top-25 engineering school at the forefront of solving national and global grand challenges and cultivating knowledgeable, passionate engineers who are dedicated to solutions-oriented engineering and serving their community. Two overarching needs drive us – (i) health of our planet, and (ii) health and equity of the people of our planet. People are front and center in all we do – our students, staff, faculty, alumni, community stakeholders, and industrial partners.

We value a culture of excellence with an emphasis on:

✦ **Students** – We put our students' academic success and career readiness first.

✦ **Inclusivity** – We provide a welcoming and supportive environment that respects and embraces diversity and individual differences, empowering everyone to learn and achieve their highest potential.

✦ **Resilience** – We look for ways to enhance the ability at all levels of organization to create processes that are robust yet flexible and to use resources proactively in the face of disruption.

✦ **Innovation** – We imagine the impossible in pursuit of novel solutions. We explore and stretch the limits of our imagination, creativity, curiosity, and engineering prowess to benefit mankind.

✦ **Creativity** – We foster the knowledge, skills and experience to engineer the best solutions for the complexities of a global society.

✦ **Service** – We give back to society not only by engineering a better future, but by investing our time and resources in that future today.

✦ **Partnerships** – We are committed to meaningful, collaborative relationships that contribute to the public good and the advancement of the field.

MISSION AND THE THREE PILLARS

Our mission is to educate and train the next generation of global engineering innovators, to advance engineering discovery through the creation of original scholarship and research applied to societal grand challenges, and to provide a technological edge to industry through the facilitation of technology transfer and talent acquisition.

In support of our mission and with a focus on impact, we have identified three pillars around which this strategic plan is organized:

P1. EDUCATIONAL JOURNEYS. What does it mean to be an engineering student in an increasingly multidisciplinary environment where experiences outside of the classroom are as important as inside the classroom?

P2. COLLABORATIVE RESEARCH. Engineering is central to the big defining questions of our time. But we cannot address these challenges in isolation. The broader themes of Engineering+ Climate, Engineering+ Health, and Engineering+ Society have emerged as initial attempts at capturing this Engineering+ idea.

P3. MEANINGFUL PARTNERSHIPS. We need to connect internally across stakeholders in the school, with other units on campus, with local industry, with national labs, and state and federal agencies, with K-12 schools, and with alumni to realize P1 and P2. UCI should be the center of a new business-academic ecosystem, a Silicon Beach, where we can overcome barriers to research partnerships with industry.

These three pillars of Educational Journeys, Collaborative Research, and Meaningful Partnerships come together to support the idea of impact, where UCI's Samueli School of Engineering develops technological solutions that enhance the human experience, i.e., that makes us healthier, more productive, more creative, more equal, and more connected. The pillars are organized around high-level goals that we want to achieve over the next decade, supported by actionable and measurable subgoals.

OVERARCHING VISION

UCI's Samueli School of Engineering produces accomplished Ph.D. graduates at a per faculty rate commensurate with the top engineering programs in the country. We have a growing professional M.S. program and undergraduate programs with excellent experiential learning opportunities. These programs lead the nation in promoting economic mobility. Building on these strengths, our ambition is to become a **premier engineering program**, internationally recognized for the innovators we develop. We aim to do this by providing a world-class engineering education that is distinctive in offering experiential learning opportunities, multidisciplinary connections, cohort-based experiences, and training in essential skills that transcend the traditional engineering curriculum. As Ralph Waldo Emerson famously said, "It's not the destination, it's the journey," and the goals for this strategic priority are organized to reflect this sentiment and to describe a unique and forward-looking set of educational journeys for our students.

GOAL P1.1:

Provide a world-class education system for undergraduate students that produces creative, socially engaged, and technically strong professional engineers and academic scholars

SUB-GOAL P1.1A: Reframe the undergraduate experience in the Samueli School of Engineering to emphasize **experiential learning, hands-on design, and professional development training.** The school should encourage and support each department to build an undergraduate program that includes the following components: (1) Design-based introduction to engineering problems, including the establishment of a program in **Engineering Design** that takes advantage of a new cutting-edge **maker space**, Merage School of Business, Beall Applied Innovation, and **cohort-based classes** in the undergraduate curriculum to inspire students and provide Engineering+ connections in

learning, and (2) provide a **senior capstone design** experience that includes industry support and advising for at least 50% of the projects, allows for multidisciplinary teams across department boundaries, satisfies common ABET requirements, and includes an essential professional skills/leadership training course that sets our students up for career success. Further, we should establish a **formal co-op program (Engineering+ Practicum)** for undergraduate and graduate students. Students receive credit and certificates based on the length and richness of their experiences. Employers provide long-term (up to 18 months) work plans and flexible schedules for students in the program.

SUB-GOAL P1.1B: Establish and execute a plan to explore different innovative pedagogies and facilities focusing on engaged teaching practices that promote learning. A global health crisis has forced a paradigm shift in teaching modes since spring of 2020, but we must now consider the **rational and selective use of online education methods**, including flipped classrooms, robust distance-learning models, and technology-enhanced educational approaches that increase the quality of student learning outcomes to promote greater access and personalization of learning.

SUB-GOAL P1.1C: Integrate computational and data science activities across the school. Encourage or require all departments to integrate programming, open-sourced software, or data-science-oriented projects in at least one class each quarter across the major. This goal could in part be achieved through collaboration with the Donald Bren School of Information and Computer Sciences.

SUB-GOAL P1.1D: Expand student indoor and outdoor **collaborative study and socialization spaces**. Our students are spread across majors, buildings, and other affinity groups and are lacking headquarters for the experience on campus. By providing such spaces, our students would not only be spatially anchored, they would also organically create more connectivity among themselves, which is beneficial from both academic and well-being perspectives.

GOAL P1.2:

Provide a world-class education for graduate students that produces creative, socially engaged, and technically strong professional engineers and scholars

SUB-GOAL P1.2A: Recruit and retain more and higher quality graduate students by, (1) offering full (4 years +) **guaranteed financial support**, (2) providing experiential learning through the establishment of a **formal internship program** with both industrial and academic partners, (3) promoting graduate students and their research in our external communication, and (4) placing more graduate students in **academic careers**.

SUB-GOAL P1.2B: Expand and improve our **Master of Engineering** programs based on market needs that can be tailored to each student's path using modules and stackable certificates in specialized and highly marketable topics. Grow certificate programs to train the next generation of professional engineers with the latest engineering technologies. Such programs can be targeted at working professionals who need additional training in specific areas, or at students who want a less-expensive alternative to the one or more years of study required for an M.S. degree.

SUB-GOAL P1.2C: Support our graduate students in pursuing innovative, multidisciplinary research that crosscuts the Samueli School of Engineering and the entire university (Engineering+). To encourage this type of innovation, the school should support **interdisciplinary research "ignition" programs** to seed future projects and proposals. Further, each department should establish and support Ph.D. **student leadership groups** to organize research and social events focused on the major cross-disciplinary research thrusts of the Samueli School.

GOAL P1.3:

Continue to invest in efforts to increase the diversity of our faculty, staff, and students to cultivate a community that is proud to be part of UCI

SUB-GOAL P1.3A: Develop **diversity action plans** at the school, department and center levels that provide transparency of diversity and inclusion efforts by reporting outcomes using quantifiable metrics and relevant data. These action plans should include training for faculty, staff, and students.

SUB-GOAL P1.3B: Grow our population of **underrepresented undergraduate students** to be more reflective of the demographics of the regions where we draw students, and grow our population of **underrepresented graduate students to foster a more inclusive experience** that matches or exceeds the national average.

SUB-GOAL P1.3C: Encourage the development of **culturally relevant pedagogy** to support the demographics of our student population. We want to be known for not only being "minority-serving," but also a place where Black, Hispanic, Asian, Native American, Pacific Islander, and LGBTQ+ students feel welcomed, experience a strong sense of belonging, and **thrive**. The school should **create a culturally relevant pedagogy award** (along with the annual spring awards) that recognizes departments with strong records of involvement in culturally relevant pedagogy training and practices, as well as individuals who prioritize culturally relevant pedagogy in their classes. In addition, the school should provide **guidance for first generation students** through mentorship networks and sharing of academic and social resources.

OVERARCHING VISION

Over the last decade we have witnessed unprecedented change in our global climate, our political systems, human health, and in the way that we communicate and learn about all these changes. Our cities, infrastructure, need for mobility, and demand for natural resources, whether minerals, energy or water, are under intense pressure. It is expected that by 2030, 70% of the world population will be living in urban areas with the need for "smart" and sustainable cities. As designers and builders of the modern world, engineers have a responsibility to address these challenges. The solutions will necessarily cross disciplinary lines and require collaborative efforts between engineers, and physical and social scientists, health professionals, businesses, and policymakers. We call this Engineering Plus, or simply *"e+."* The interpretation of this inclusive concept is that although engineering is at the center of these big, impactful research questions, we must go beyond historical, disciplinary boundaries and adopt a deeply collaborative approach. To that end, and over the next decade, it is our ambition that the Samueli School of Engineering will become one of the preeminent institutions in the world dedicated to the creation of knowledge and its application to societal grand challenges.

The role of engineers in our society is evolving as science and technology have permeated virtually every facet of our daily lives. Engineers have a voice, and they should be advocates for the public good. Social entrepreneurs develop and fund solutions that directly address social issues. Three enabling Engineering+ themes have been identified that play to our strengths and our strategic placement in local and global ecosystems, and that advance the sustainable development aim of protecting and enhancing the health of our planet, and the health of the people of our planet.

Engineering+ themes

Technical Strengths	CLIMATE	HEALTH	SOCIETY
Energy			
Materials & Manufacturing			
Engineering Systems			
AI/Data Science			
Robotics & Autonomous Systems			
Synthetic Biology & Cellular Engineering			
Microelectronics			
Social Entrepreneurship			
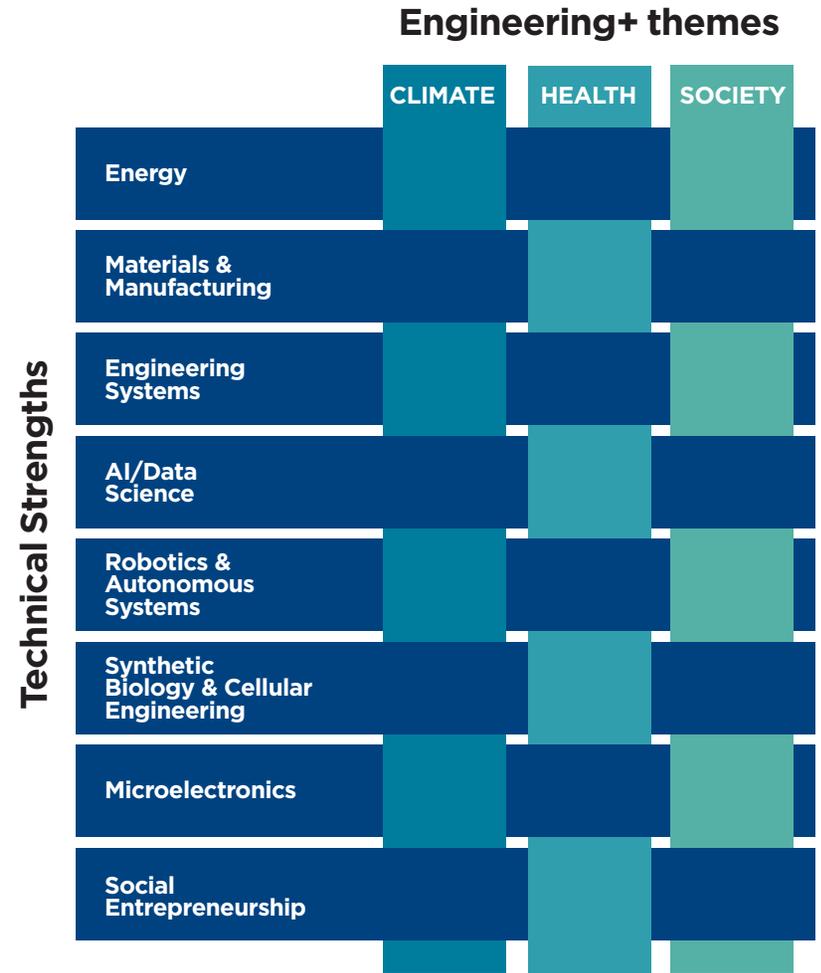
The verticals highlight some of the envisioned Engineering+ themes that will emerge from this strategic plan while the horizontals describe technical areas of strength in the Samueli School of Engineering.

ENGINEERING+ CLIMATE

Research in the nexus of water, energy, and climate-related hazards, including floods, droughts, fires, and coastal erosion, is a strength of the school; we have recognized and renowned champions, and it is a theme that is well-represented on campus. From physics-based modeling to real-time sensor deployment to quantitative analysis of remote sensing observations, and predictive analytics for decision support, we are poised to make a difference in early prediction and adaptation strategies. Investing in this area of **mitigation and adaption to a changing climate and extremes** has the potential to propel UCI into one of the best (if not the best) programs in the country.

Additionally, **renewable energy, storage, and carbon dioxide removal** are all essential for meeting the challenge of containing climate change, we must simultaneously find ways to reduce our emissions of greenhouse gases through the development of competitive renewable energy conversion and storage technologies and find ways to sequester carbon from the atmosphere and from industrial sources. We are one of the leading universities in the nation in the fields of hydrogen, fuel cells, electrolyzers, batteries, electrification, high-efficiency industrial processes, and energy production and distribution. Our faculty cover a unique breadth of research, from atomic level of materials to system level design and demonstration projects through multiple institutes, centers and programs dedicated to solving energy issues.

ENGINEERING+ HEALTH

The COVID-19 pandemic has called into focus in a dramatic manner the **global health challenges** we are facing together. Adding an aging population, climate change, and increased inequities to the mix, and health and medical care as viewed from a global perspective become critically important. Addressing these challenges requires expertise that ranges from molecular to societal scales. Such expertise enables novel approaches to the discovery, design, synthesis and production of molecular and cellular therapies; development and

deployment of mobile devices for continuous monitoring to support healthy lifestyles, early detection of disease and identification of health disparities; implantable biomaterials and medical devices for disease treatment and restoration of lost function; and systems to monitor communitywide health status to inform and direct public health policies. In addition, clean energy production and transportation have real health implications beyond the more immediate sustainability consequences.

Extramural funding for human health-related research topics provides a significant fraction of research expenditures within the school. The development of health-related technologies is thus a core strength of the Samueli School of Engineering, and further investments and focus are warranted to continue to develop our national and international prominence. We should engage and leverage the exceptional strength of the medical device industry in Orange County as well as the molecular and cellular biotechnology industries in Southern California.

ENGINEERING+ SOCIETY

Our research should enhance the human experience as interpreted broadly, meaning that our **technologies must be situated and placed in their proper societal contexts**. Research on human-robot interactions, the future of work and the future of the worker, privacy and security, communication technologies, and new transportation modalities, such as urban air-mobility, should be pursued and resourced. This also means that connections should be made between the corresponding engineering disciplines and public policy, law, business, economics, and the humanities and arts, to achieve the required "situatedness." Questions pertaining to the economy and jobs, technological competitiveness, and security are all under the purview of engineering research. In fact, the showstoppers of the future may not always be due to "Laws of Nature," and the social sciences may very well end up being the "physics" of the 21st century. As such, our research programs need to cover topics of alleviating misinformation and influencing government policies, as an engineer's place is no longer solely in the laboratory. The voice of engineers needs to be heard to direct

mainstream scientific views. This can be accomplished by supporting collaborative efforts with other schools within the university and through building joint programs where engineering, social sciences, and political sciences work together to address global challenges.

Additionally, the **built environment** and the need for "smart" cities with requirements in mobility, connectivity, and delivery of services will be pivotal as 70% of the world population will be living in urban centers in the next decade. We have core strengths in decarbonization of construction materials such as concrete and cement, built environments, mobility, and transportation. Investments in these areas that can be broadly summarized as **urban infrastructure** will enable us to have a leading position and make significant impact.

The Samueli School of Engineering should also actively promote the role of **engineers as creators** of our modern civilization (not just problem solvers and analysts) by blending strong technical preparation with creativity and entrepreneurship, including communication skills and understanding of customer needs. Global awareness and experiences should be part of the preparation of every student.

GOAL P2.1:

Make fundamental contributions to global grand challenges through focused research investments in areas where we are poised to make an impact

SUB-GOAL P2.1A: We need to **determine and prioritize areas of investment**, i.e., to identify unique areas of opportunity within the school in consultation with faculty and other stakeholders. These areas should be chosen based on their potential for **significant societal impact**, the existence of a critical mass of resources, such as faculty and infrastructure, and the availability of extensive extramural funding opportunities.

SUB-GOAL P2.1B: An action plan should be developed to promote the formation of **nimble research institutes** (or equivalent organizational structures) along the identified, major thematic research areas. These institutes should be seeded by school support in exchange for seeking and obtaining federal, state, and industrial funding, and will need to achieve self-supporting status in three to five years. A transparent and sustainable process will be set in place for evaluating existing centers and assessing their relevance; those that are in decline will be closed to free up resources for growing centers so they can reach their full potential. The other side of this coin is the need to develop a plan for **sustaining or sun-setting existing areas** of excellence in the school to increase relevance and nimbleness, following the recommendations made by the taskforce on "Centers and Institutes" in 2021.

SUB-GOAL P2.1C: We should make sure that we **recruit and retain the most promising faculty** who strengthen the Engineering+ themes by focusing on the critical areas that align with this strategic plan. Each department should additionally implement policies and procedures to increase or maintain our pace of **inclusive excellence** in the hiring of new faculty. Emphasis should be placed on recruiting faculty who are women and/or belong to underrepresented minorities.

GOAL P2.2:

Increase the reach and impact of our research and researchers

SUB-GOAL P2.2A: Enhance the i**nfrastructures surrounding research grant support** by investing in the staff, technology and systems supporting the research enterprise of the school, including the pre- and post-award functions. This will allow us to increase capacity and efficiency in proposal preparation and submission, and in handling the increasing number of complex industrial and federal awards.

SUB-GOAL P2.2B: Overhaul the **indirect cost return structures** by increasing the amount returned to PIs and replacing the support model for our research centers and institutes with staff and services rather than an overhead return model. This will allow for greater flexibility among our researchers, alleviate tensions between departments and centers, and promote multidisciplinary participation in centers. An additional outcome of this is an increase in clarity and transparency surrounding indirect cost return, as noted by the taskforce on "Centers and Institutes" in 2021.

SUB-GOAL P2.2C: Streamline the support for **broader impact components** in grant applications and implement a strategic refocus of the Stacey Nicholas Office of Access and Inclusion in support of such activities.

SUB-GOAL P2.2D: To increase the impact of our research, we need to i**ncrease the number of center grants led by UCI faculty**. To that end, the school should help facilitate high-level "hot topic" workshops to spearhead center grants. Increased support for proposal development and targeted workshops is also needed. To that end, a clear selection process should be defined for obtaining school and campus resources and formal incentives should be created for center grant leadership.

GOAL P2.3:

Create mechanisms for impactful science communication

SUB-GOAL P2.3A: Redesign the school website to make it more effective in terms of telling our story, connecting to social media, and ease of access to the research breakthroughs happening in the Samueli School of Engineering.

SUB-GOAL P2.3B: To ensure that we not only bring top researchers to campus as faculty members, but also that we promote the excellence of our existing faculty in the Samueli School of Engineering, a more **formal process should be established for faculty award nominations**. In addition, the school should strive to foster a broader culture of promoting and nominating colleagues for awards.

SUB-GOAL P2.3C: We need to strengthen the channels for ensuring that high-impact, department-level stories reach the appropriate UCI-levels for dissemination to proper media outlets. Internal processes need to be established and monitored to ensure that we are telling the right stories, that the stories are effective, and that they strengthen the brand of the **Samueli School of Engineering as a global thought leader**.

OVERARCHING VISION

Our vision is to be a role model for meaningful partnerships with alumni, industry, government, nongovernment organizations, and international institutions. This will allow us to create a sustained and renewable ecosystem of partners for enriching the student learning experiences, empowering scholars to take on holistic research, and laying the groundwork to educate future researchers, educators, policymakers, industry leaders, entrepreneurs, and philanthropists. We should also be a place where people are proud to work, where there are clear opportunities for staff members to advance their careers, and where our internal processes are continually evolving and improving. To that end, the goals that constitute this partnership pillar will have to be both externally and internally focused.

GOAL P3.1:

Elevate our role as a transformational agent for society at large

SUB-GOAL P3.1A: Strengthen and scale up the educational experience of the students in the underserved neighborhoods in OC by taking inventory of the activities already underway in the Samueli School of Engineering (such as MESA and OC-STEM). Work with schools, teachers, and all stakeholders to ensure that the learning ecosystem is strengthened. Focus on teachers and K-12 and leverage existing programs to bring in more low-income students.

SUB-GOAL P3.1B: The Samueli School of Engineering should act as a **transformational educational and technological agent** for the state of California to help realize the state's policy goals, such as achieving a just and equitable transition to carbon neutrality by 2045 as per Executive Order B-55-18.

SUB-GOAL P3.1C: Establish **stronger international connections** with particular focus on efforts in **Latin America**, which are strategically important due to our geographic location and to the demographics of our students. Such connections should include international opportunities for our students, access to talent, joint research projects, and to have UCI's Samueli School of Engineering help serve as a transformational agent for issues facing those societies.

SUB-GOAL P3.1D: Strengthen connections across schools at UCI to find **new solutions to grand challenges** (Engineering+) and to introduce new partnerships and lines of research yet to be established at UCI.

GOAL P3.2:

Establish and build an ecosystem with the industrial sector for the main research themes described in the strategic plan

SUB-GOAL P3.2A: The Dean's Leadership Council, comprised in part by senior executives or major companies and startups, should be used as a resource when pursuing the goals identified in the strategic plan.

SUB-GOAL P3.2B: Identify major companies and industries in OC, Southern California, and California in fields such as semiconductors, manufacturing, infrastructure, transportation, new aerospace technologies, and medical devices in order to **establish collaborative research** based on the mutual areas of interest. This will allow us to expand the research scope and education opportunities for our students.

SUB-GOAL P3.2C: Have all centers in the school develop a strategy to have **industrial outreach and support**. Set a target for new partnerships per year with well-defined minimum funds or resources required.

SUB-GOAL P3.2D: Develop a robust and unique **co-op program** tying in senior design/thesis projects with industry in such a way that every undergraduate has the opportunity to do a six-month industry experience before entering their senior year. The project for the senior design/thesis should be developed in concert with the industry partner and co-op experience provider.

SUB-GOAL P3.2E: Develop a unique program for our graduate students wherein every engineering graduate student will have the opportunity to do a six-month residency in industry or a national laboratory after passing the qualifying exam and prior to defending their doctoral thesis.

SUB-GOAL P3.2F: Educate faculty on IP strategies and constraints, and contract negotiations with industrial partners to streamline the processes. To achieve this, we should work effectively with UCI and Beall Applied Innovation to overcome some of the IP barriers associated with industry sponsored research.

SUB-GOAL P3.2G: Establish partnerships with **national laboratories** for student internships, research collaborations, and cross-institutional exchanges of research personnel.

GOAL P3.3:

Strengthen the school's connectivity with its alumni

SUB-GOAL P3.3A: Strengthen the connections between the development office, departments, and alumni associations to coordinate and improve alumni relations (e.g. track the industries our students join, match their interests with our centers, send newsletters/other promotional materials).

SUB-GOAL P3.3B: Increase annual **alumni donations**, including the Giving Day donations, to the Samueli School of Engineering to at least $500K/year.

SUB-GOAL P3.3C: Establish **alumni/industry advisory boards** in all the departments in the school.

SUB-GOAL P3.3D: Create mechanisms and reasons for our alumni to come to campus to experience what goes on in the Samueli School of Engineering.

GOAL P3.4:

Make the Samueli School of Engineering a highly desirable place of employment where people are proud to work with clear growth opportunities for our staff

SUB-GOAL P3.4A: Create **opportunities for connections** within and across all units of the school to engage with and learn from each other and to better understand and respect the work happening at different units and offices in the school. This will require the creation of formal and informal interaction modalities at multiple levels across the school.

SUB-GOAL P3.4B: Provide **opportunities for continuous learning and career development** for engineering staff in order to develop the skills and knowledge needed to grow professionally in support of different career goals. The creation of such opportunities would not replace programs already offered by campus but rather supplement them where there are gaps in existing programs and to meet school specific needs, such as cross training and mentoring.

SUB-GOAL P3.4C: The Samueli School of Engineering has gone through many substantive changes over the past few years, from new school leadership and colleagues, to new opportunities for flexible and creative work options. As a result, we have a unique opportunity to explore and enhance our new working environments and capitalize on what we have learned to improve how we do business administratively. An important goal is to identify process-related issues and provide objective analysis and feedback for **process improvements** within the school.

EPILOGUE

The aspirations described in this strategic plan are designed to inspire and encourage our partners to join us in the pursuit of these goals, and to publicly embrace our responsibility as a public university in the state of California to promote prosperity through advances in technology in a broad sense, reflecting knowledge and tools and the capacity to guide policy and practice. While these challenges are cast in the context of California, the impact of our work should extend far beyond state lines, especially given the leadership status that California holds as the fifth largest economy of the world and a trendsetter in many areas such as information technology, environmental protection, human health, and lifestyle.

PROCESS

This strategic plan was produced with input from several different stakeholder groups to ensure that the perspectives, ideas, and opinions represented were not limited to any particular group or got stuck in any particular concept track. To that end, an all-day strategic planning forum with over 40 participants was held on May 12, 2022, with representation from faculty, students, and staff, as well as alumni and industry partners. This forum was followed up with similar meetings throughout the month of May, including a student group meeting, a Samueli School of Engineering Staff Advisory Council meeting, and a SWOT analysis performed at the Dean's Leadership Council meeting on May 27, 2022. From these meetings, several themes emerged, with the organization of the strategic plan into three pillars as a direct outcome.

A faculty group was subsequently convened to take the information from the stakeholder meetings and organize it into actionable goals and subgoals. This group was divided into three subgroups, each focusing on a different pillar. The participants in these subgroups include:

✚ **Educational Journeys** – Lee Swindlehurst (Chair), Michelle Digman, David Reinkensmeyer, Natascha Buswell, Farzin Zareian

✚ **Collaborative Research** – Quinton Smith (Chair), Athina Markopoulou, Yoonjin Won, Tim Rupert, Dimitri Papamoschou

✚ **Meaningful Partnerships** – Iryna Zenyuk (Chair), Diran Apelian, Payam Heydari, Kristen Davis, Elliot Botvinick

These groups spent June and July of 2022 producing draft versions of the three pillars, at which point Diran Apelian and Kristen Davis pulled everything together into a coherent draft that was subsequently shared with school leadership, including the associate deans, department chairs, center directors, and key staff members during the Dean's Retreat on Sept. 12, 2022, for additional feedback. Diran Apelian, Kristen Davis, and Dean Magnus Egerstedt incorporated this feedback into a document that was shared broadly with the school's faculty, staff, and students during the fall quarter in 2022 for feedback, ensuring that many different voices were heard and represented in the crafting of the strategic plan.