



STRATEGIC PLAN 2019

# ENGINEERING *with* IMPACT



SMU | LYLE  
SCHOOL OF ENGINEERING



A strategic plan developed by  
the faculty and staff of the  
SMU Lyle School of Engineering.

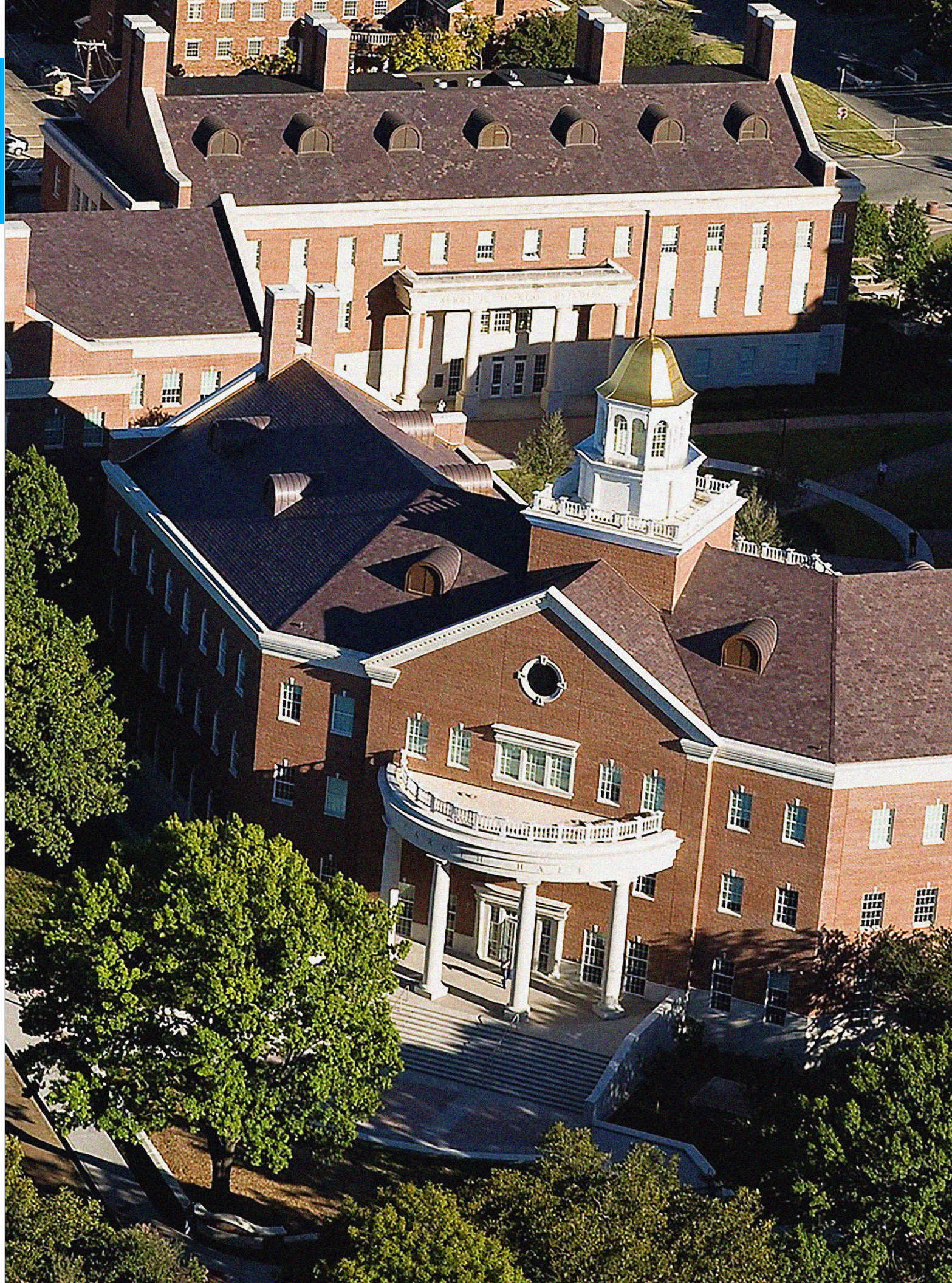
# ENGINEERING with IMPACT

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*Twelve years ago, the SMU School of Engineering assembled a team to imagine its future. The result was an audacious plan that envisioned a framework for the path forward, resulting in the newly named (2008) Bobby B. Lyle School of Engineering.*

The plan described a school committed to producing graduates who collectively served as an engine of the economy and were committed to advancing society; providing both individualized attention to students inside the curriculum and personal development outside it; and focusing on the development of leadership and innovation skills for all its students. Those core values have taken root over the intervening period as the school has enjoyed unprecedented growth in terms of enrollment, resources and facilities. In 2018, the University entered its second century, revisited its strategic plan, and formally stated goals for academic excellence. At the same time, the Lyle School took the opportunity to carefully reflect on the last decade and look forward to the challenges and opportunities that lie ahead. It is time to once again re-imagine our school, to turn up the heat on all we have accomplished, to discontinue programs and activities that are no longer relevant, and to expand our vision to consider what was impossible to imagine during the previous planning phase.

The new strategic plan's rallying call is **Impact**. The term embodies the best that we can be – the epitome of making a difference. Moreover, it calls for outcomes that can be measured and quantified. We began with a list of desired types of **impact** and how we must act to achieve success. Next, we held a series

of relatively small, facilitated brainstorming sessions, with over 90% of the school's staff and faculty participating in the sessions. These sessions generated 937 ideas, themes, tactics and notions, which were then categorized and combined into six areas that would be articulated into six strategic goals.

Task forces were formed for each area, co-chaired by a staff and faculty member. Each task force worked intensely over the 2018 spring semester to develop recommendations for each strategic goal. Committees conducted surveys of best practices, and consulted with students and other staff and faculty, as well as members of the Lyle School's Executive Board, to refine their work. Recommendations were reviewed and discussed by the Strategic Plan Steering Committee and the Lyle School Leadership Team. Ideas that could launch the school forward and help achieve emerging goals became evident. Many of the ideas fulfilled the aspirations of more than one goal. Five areas of strategic initiatives emerged.

On the pages that follow, the **Engineering with Impact** call to action is presented, followed by the developed Strategic Goals and Strategic Initiative Areas. The plan is intended as a "living" document, not to gather dust on a shelf, but rather to serve as the guiding principles for the work of the Lyle School over the next decade.





# ENGINEERING — with IMPACT

The SMU Lyle School of Engineering strives to have a measurable positive **impact** in all of the dimensions it chooses to work in and on all of the people it touches.

*The **impact** of the research we conduct ripples through our fields of study, our community, our economy, our country and throughout our world. It has a significant **impact** on the quality of students and faculty we attract to the Lyle School.*

- We choose to focus our efforts on topics in which our faculty have the expertise to be truly excellent.
- We support innovative new research through seed funding that helps bridge the gap between ideas and first external funding.
- We strive to combine our collective expertise and seek out collaborators to enable novel and important research, which we are uniquely situated to jointly accomplish.
- We train Ph.D. students to be outstanding academics, as well as respected industry leaders.
- We partner with colleagues in other institutions to explore how our ideas may **impact** the world outside the boundaries of the University.

*The **impact** of our students is felt in the organizations where they are employed, throughout the sectors in which they work, and in the communities where they live.*

- We apply best practices in our teaching and training.
- We provide students with a firm grasp of the fundamentals of their field, as well as a taste of emerging and relevant innovations.
- We purposefully develop their “soft skills” and leadership acumen.
- We expose them to global challenges where their skills can make a difference.
- We nurture their innovative problem-solving talents.
- We instill in them the importance of moral and ethical behavior in their professional and personal lives.
- We prepare them to be effective leaders in business enterprises.
- We encourage and nurture their entrepreneurial spirit.

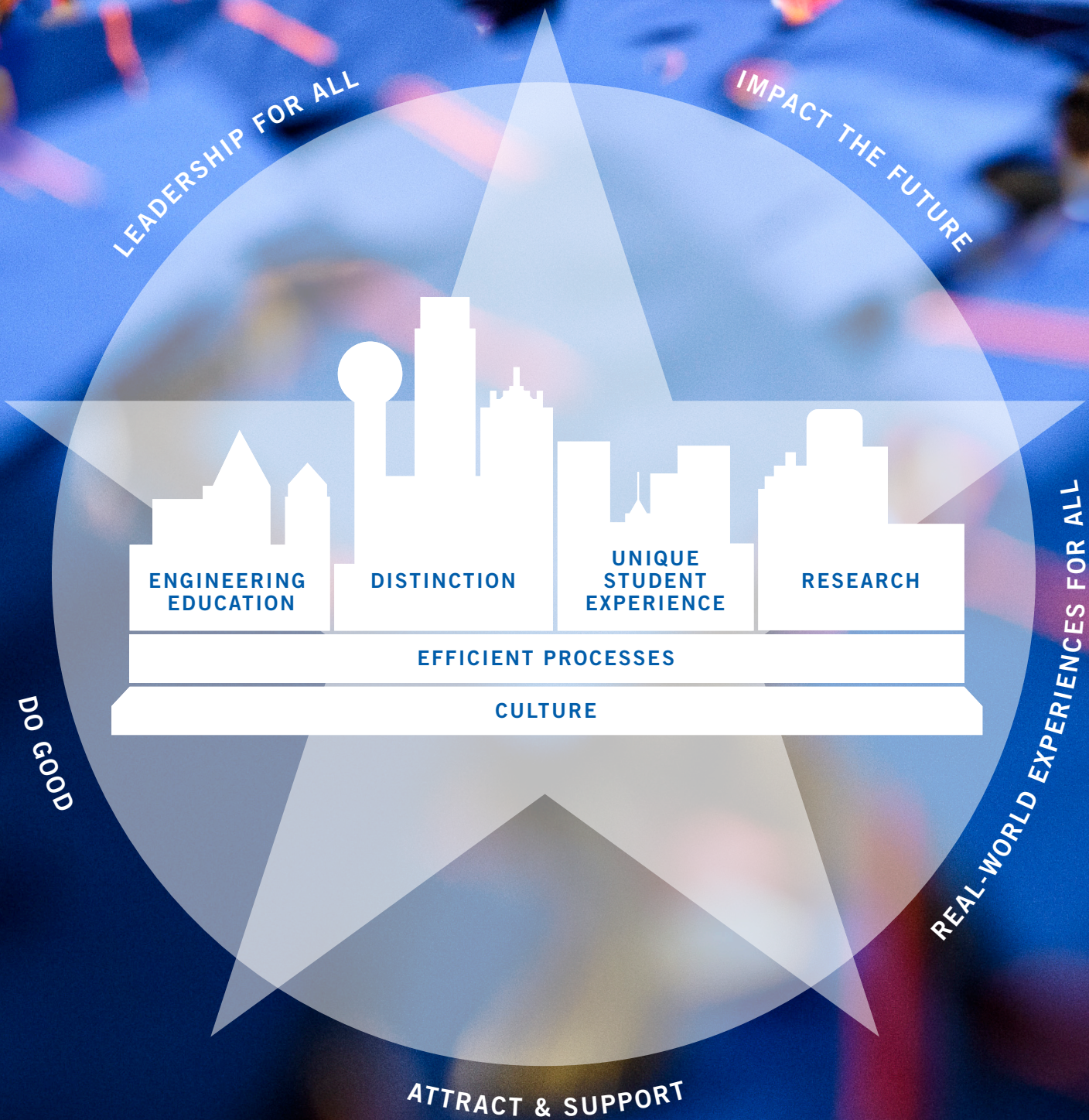
*To ensure we maximize our **impact**, the Lyle School will continually strive to be a high-performance organization where:*

- We are ever mindful of what is best for our students.
- We invest in the development of the talent at all levels within our organization.
- We work to foster a deep level of trust and kinship across the organization.
- We recognize that the quality of ideas matters more than who suggested them.
- We continually seek to be efficient in our processes.

*Through vigilant focus we will **impact**: the state-of-the-art in our chosen fields of research, the known best practices in engineering education, the bottom line in organizations in which our students and faculty are engaged, the global poor, the schools at which our students become professors, the pipeline of STEM-interested students, innovative new products, Dallas, healthcare policy, the security of our nation... the list goes on and on.*

WHAT DO YOU WANT TO IMPACT TODAY?





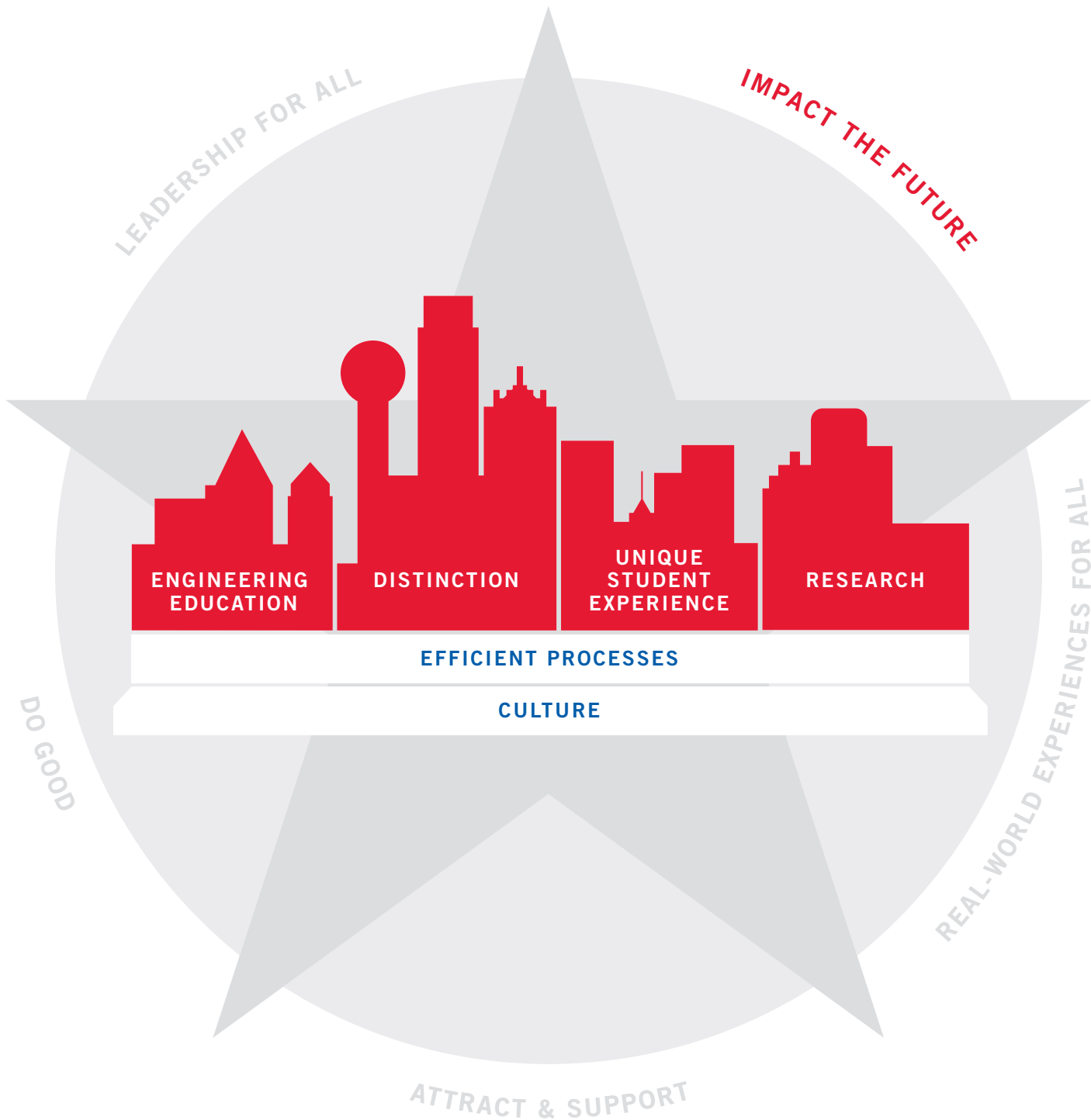
# OUR STRATEGIC GOALS

- 1 *Be internationally recognized for our research **impact**.*
- 2 *Be an engineering education leader grounded in research-based practices.*
- 3 *Distinguish ourselves through leadership development, real-world experiences, and a focus on solving society's greatest challenges.*
- 4 *Cultivate a unique and supportive student experience that results in sought-after engineering leaders.*
- 5 *Foster a culture of belonging and engagement that celebrates the diverse talents of the Lyle community.*
- 6 *Strive to be a high-performance organization that maximizes the Lyle School's **impact**.*

## STRATEGIC INITIATIVE AREAS SUPPORTING OUR GOALS

- 1  
*Impact the Future: The Lyle Future Fund* (GOALS 1, 2, 3, 4)
- 2  
*Leadership for All* (GOALS 1, 3, 4)
- 3  
*Real-world Experiences for All* (GOALS 1, 2, 3, 4)
- 4  
*Do Good* (GOALS 1, 2, 3, 4)
- 5  
*Attract the Very Best and Support Them to Succeed* (GOALS 1, 2, 3, 4, 5, 6)





# IMPACT THE FUTURE: THE LYLE FUTURE FUND

*Academic institutions are designed to last for centuries. The very concept of an endowment has, at its core purpose, the intention to provide perpetual support for a specific predetermined purpose. In today's fast-paced world of high technology, **impact** often requires agility.*

As Walter Gretzky told his son, Wayne, "Skate to where the puck is going, not to where it has been." Far too often, the longevity of academic institutions leads instead to inertia. Programs and processes that have been in place for decades, if not centuries, can constrain our thinking about what is possible. This is especially ironic in an engineering school, where we aim to educate our students to be innovative and agile, capable of responding to shifts in technological capabilities and markets.



The Lyle Future Fund will be a vehicle to break that model. The Fund will have three main characteristics:

- 1

The Future Fund will provide resources to engage our faculty with external thought leaders such as National Academy members and innovators of industry. Brainstorming possible future developments in the context of our faculty's capabilities will enable us to prioritize candidate intellectual thrusts which could be impactful in a 5- to 10-year timeframe. Ultimately, one such thrust will be selected for immediate investment.
- 2

The Future Fund will provide substantial resources to a chosen area for a term of no longer than five years. This will allow the launch of a new initiative with sufficient resources to quickly establish a leadership position in the important emerging area for the coming years and decades.
- 3

The Future Fund process can begin at the conclusion of each investment, or more often as funds allow. Ideas that are proven successful will then be supported through other means (programmatic revenues, external research support or philanthropic support). If a thrust does not fulfill its aspirations, it will be terminated at the conclusion of the investment period or as soon as it becomes clear that it will not succeed.

The Future Fund for the Lyle School of Engineering will reframe how funds are positioned at the Lyle School. Its resources will be deployed strategically in pursuit of the most forward-thinking projects – projects that might not receive support from external sources of funding in time for the Lyle School to be a leader in the intellectual area.

The Lyle Future Fund will have four portfolios that advance the Lyle’s School’s core values, making transformative changes that propel the School forward.

The focus of the Future Fund’s four portfolios will be:

- 1 —

Accelerating Emerging Research
- 2 —

Accelerating High-Tech Business Innovations
- 3 —

Transforming the Engineering Education Experience
- 4 —

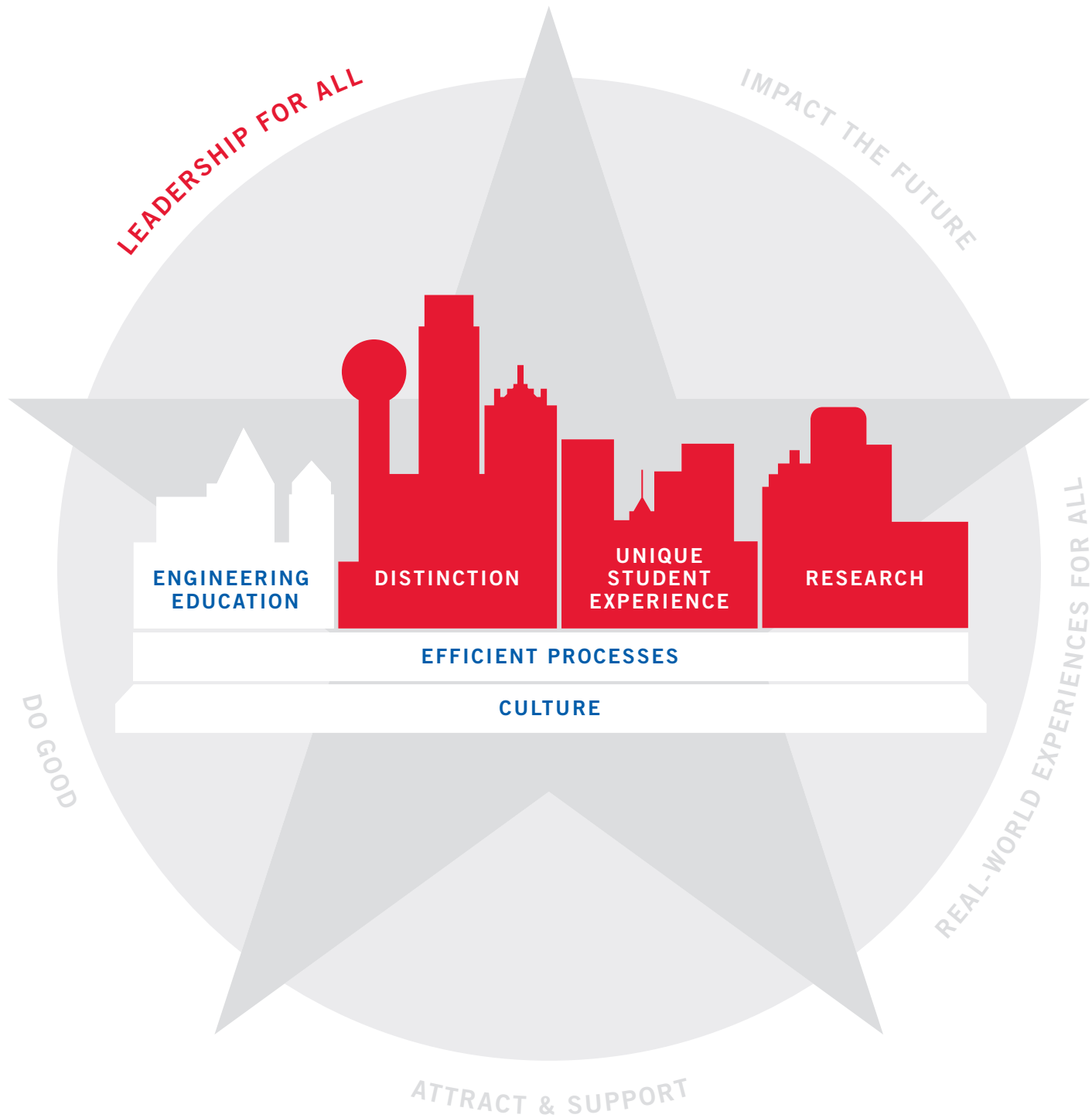
Transformative Technology for Social Good

FUNDRAISING TARGET

ITEM	ANNUAL OPERATING EXPENSES	EQUIVALENT ENDOWMENT
Lyle Future Fund	\$500K - \$1M	\$10M - \$20M
ITEM		
Accelerating Emerging Research		\$5M
Accelerating High-Tech Business Innovations		\$5M
Transforming the Engineering Education Experience		\$5M
Transformative Technology for Social Good		\$5M







# LEADERSHIP FOR ALL

*The Lyle School has distinguished itself with the leadership development opportunities provided to students through the Hart Center for Engineering Leadership (HCEL). To date, these robust leadership experiences have primarily targeted undergraduate students, specifically, in their first and last years at Lyle.*

Fortune 100 companies with which we have met have commented: “Whatever you are doing in leadership and soft skills development, keep doing it. We can put your students in front of the customer faster than those from any other school in the country.” With this success, we will focus on four interrelated thrusts to expand the leadership development offerings extended to all of our students through the HCEL:

- 1

We will grow the offerings and co-curricular support of the HCEL to meaningfully **impact** students in all four years of their undergraduate education in a personalized and individualized way.
- 2

We will create leadership development programming to serve the unique needs of our graduate students.
- 3

We will develop a dual undergraduate/graduate implementation of the National Academy of Engineering Grand Challenges Scholars (NAEGCS) Program.
- 4

We will expand the number of both students and mentors participating in our formalized mentoring program.



In doing so, we will meaningfully **impact** the career trajectories of all of our students. We will prepare them to be thoughtful, purposeful leaders in whatever field they ultimately choose. For the first time, we will purposefully develop our graduate students’ leadership skills, preparing them to excel in industry, in government, or as successful faculty members at other institutions. Through the NAEGCS Program, we will not only prepare our students to have a strong positive **impact** on the world, but also gain in reputation through their presentations at the NAEGCS conferences and workshops.

Additionally, when we commit ourselves to Leadership for All, we must carefully consider and plan for the leadership development of our own faculty and staff. To that end, we will focus on our own leadership development by investing in:

STAFF PROFESSIONAL DEVELOPMENT

Particularly in a university, the value placed on human development must be paramount. We have refined processes to ensure that detailed discussions between all staff and their management regarding professional development goals and aspirations are taking place. We will review the documentation of such discussions and provide development opportunities to help our staff continue to grow professionally, thereby providing opportunities to promote from within whenever feasible. Resources will be identified to provide an increased volume and quality of professional development to this critical component of Lyle.

RESEARCH INITIATION WORKSHOPS

For faculty members, developing the skills to effectively communicate research ideas and their potential **impact** is extremely important. In 2014, Lyle launched an initiative to hone the faculty’s skills in face-to-face meetings with potential funders. This initiative includes a series of workshops each fall that culminates with a trip in the spring term to funding agencies in the Washington, D.C. area. This new initiative has resulted in increasing both the number of faculty authoring external grant proposals and the number of proposals awarded. We will endeavor to expand and institutionalize this critical professional development training for our faculty.

EDUCATIONAL STARTUP PACKAGES

At a small private institution such as SMU, excellent classroom instruction is a high priority. For faculty members, one cannot expect to earn tenure as a weak teacher. To support our faculty in developing into the superlative teachers we expect them to be, we will supply education augmentations to faculty startup packages, which are traditionally only focused on research development. This will assist our faculty in improving and innovating as teachers by providing them the resources to attend targeted workshops and procure needed supplies to help them hone leading-edge teaching and learning strategies. These enhancements must extend beyond the classrooms to our laboratories and our distance education students. To further this objective, we will engage our faculty and adjunct faculty with colleagues from the Caruth Institute for Engineering Education and the Annette Caldwell Simmons School of Education and Human Development to help develop them into strong educators.



*As leadership is a core value of the Lyle School, we will celebrate leadership as it is exhibited in our alumni, our students and our community.*

HALL OF LEADERS AWARDS BANQUET

We will reconstitute our recognition awards banquet as a community engagement event. It cannot simply be “one more recognition dinner.” Instead, it must speak to our core values and have an engaging twist appropriate for the Lyle School of Engineering. This occasion should eventually grow into a fundraising event to support scholarships, fellowships and innovation programming.

Support for this initiative will take the form of endowing the HCEL, and providing endowment and operational support for the constituent leadership programs and offerings.

FUNDRAISING TARGETS

ITEM	ANNUAL OPERATING EXPENSES	EQUIVALENT ENDOWMENT
Hart Center for Engineering Leadership	\$250K	\$5M
Graduate Leadership Offerings	\$75K	\$1.5M
NAE Grand Challenges Scholars Program	\$100K	\$2M
Mentoring Program	\$100K	\$2M
Staff Professional Development	\$50K	\$1M
Research Initiation Workshops	\$50K	\$1M
Educational Startup Packages	\$75K	\$1.5M
Hall of Leaders Awards Banquet	\$100K	\$2M







# REAL-WORLD EXPERIENCES FOR ALL

*Engineers are creators and innovators. They bring into existence things that change the world, be they high-tech products and services driving economies or altruistic endeavors targeting societal good. The value created by solving society's problems using technology has been the foundation of growth in our nation for decades.*

For the Lyle School to take its place among the institutions of higher education recognized as truly great, we must be a partner in the entrepreneurial endeavors of the community. Additionally, over the years we have seen a strong correlation between the number of real-world work experiences and the starting salaries of our graduates. Providing all of our students with valuable real-world work experiences and access to support entrepreneurial ventures will be key to their long-term success. Closely associated with these external real-world experiences is providing a safe internal space to learn and fail. This is the hallmark of our Deason Innovation Gym (the DIG). The skills and experiences our students learn in the DIG are invaluable to their long-term trajectory.



To best prepare our students to be innovators, creators, entrepreneurs and highly valued employees, thereby readying them to **impact** their companies, communities and technology sectors, we will invest in:

REAL-WORLD EXPERIENCES FOR ALL

Provide the opportunity for 100% of our students, both undergraduate and graduate, to have relevant real-world work experiences as a part of their development as engineering leaders. This will entail:

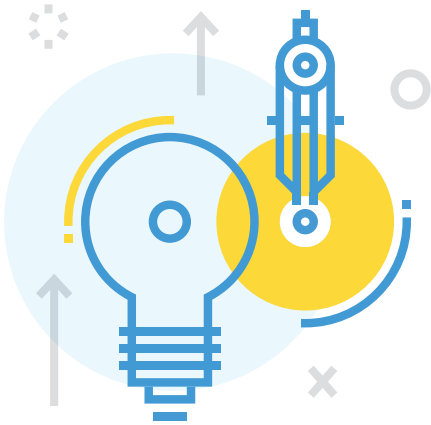
- Targeted marketing of our graduate students’ capabilities to raise their internship rate.
- Creating a fund to sponsor engineering work associated with the non-profit and social sectors to support social good projects that cannot bear internship salaries.
- Creating hands-on, real-world experiences within Lyle for students unable to obtain external work experiences due to their international status.

DIG 2.0

Expand the concept fostered under the DIG with improved and ever-improving fabrication and prototyping capabilities. Larger scale, higher precision equipment and a more expansive palette of materials will allow students from across campus to safely and effectively realize their creative visions while practicing serious engineering principles.

EXPANDED PROJECT-BASED LEARNING

Over the past decade, we have institutionalized project-based learning in the initial and final portions of our curriculum (first year and senior design). We will invest in expanding these efforts so every student has a robust engaged-learning experience each semester. The Caruth Institute for Engineering Education is uniquely positioned to be a source of best practices to help and support our faculty in this endeavor. Through faculty fellowship programs and summer course redesign awards, we will greatly expand the percentage of the curriculum engaged in project-based learning.



**Impact**, for the discipline of engineering, includes innovations that bring a positive economic force to the marketplace. Thus, an ingredient for an impactful engineering school must be a vibrant program of entrepreneurial activities. In addition, the entrepreneurial skill set is a most pragmatic toolbox for a successful engineer. Therefore, we will:

RAISE TWO FUNDS IN SUPPORT OF LAUNCHING HIGH-TECH COMPANIES

- One internal philanthropic fund will enable technology to transition from a student’s mind or faculty’s laboratory to the demonstration of a product. This fund is the equivalent of the Research Seed Funding, with a goal of product transition rather than extramural funding.
- One external venture fund will seed viable commercial start-ups.

FOSTER FACULTY INDUSTRY EXPERIENCES

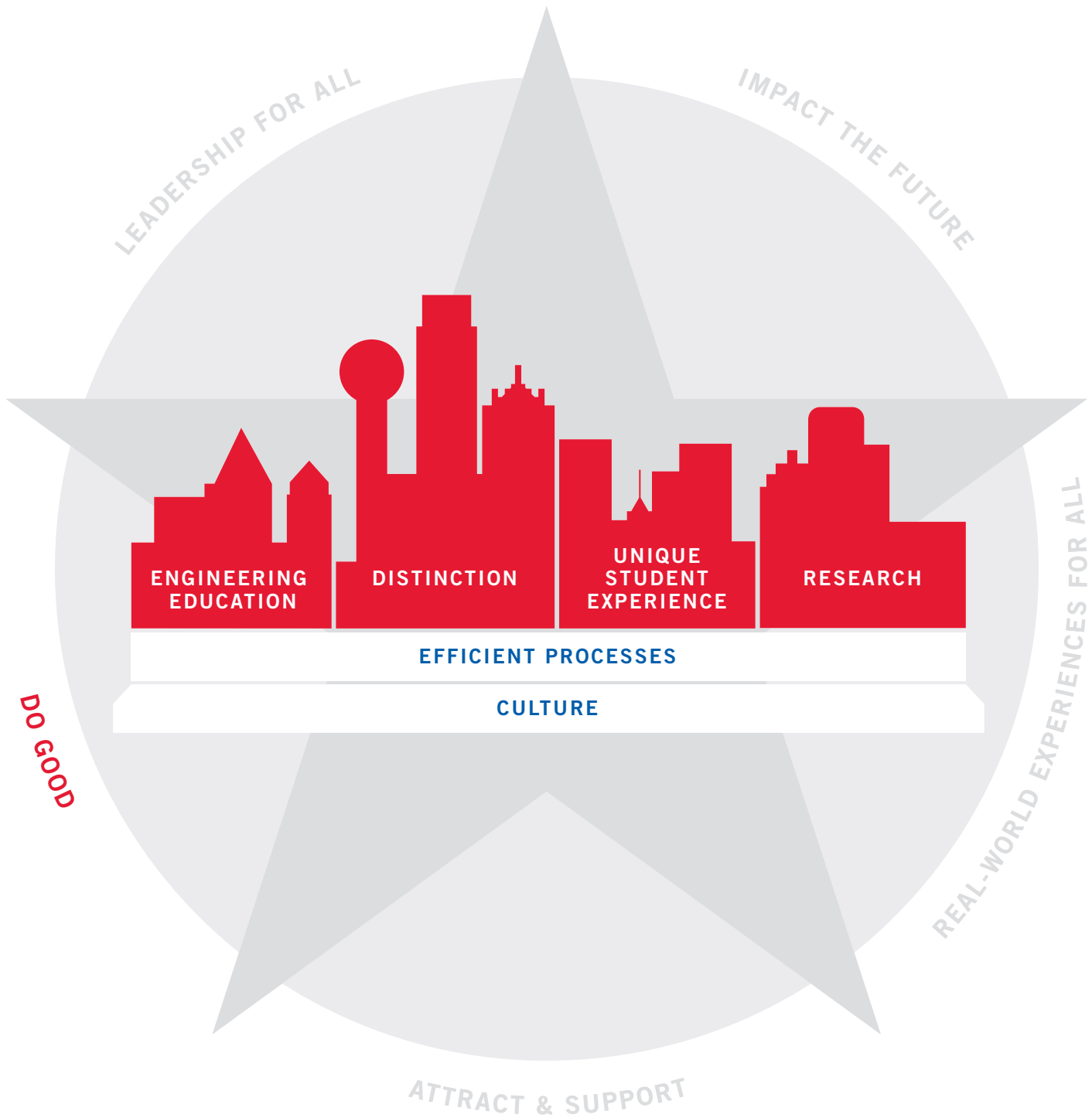
Develop a program of faculty immersion opportunities in industry. Such interactions have proven invaluable for faculty to jump-start a research area and tighten their relationships with industry collaborators.

FUNDRAISING TARGETS

ITEM	ANNUAL OPERATING EXPENSES	EQUIVALENT ENDOWMENT
Staff Expanded Career Services	\$125K	\$2.5M
Work for Social Good Fund	\$150K	\$3M
DIG 2.0	\$250K	\$5M
Project-Based Learning	\$150K	\$3M
Philanthropic Entrepreneurship Fund	\$100K	\$2M







# DO GOOD

*A strong calling for this generation of Lyle School students is finding ways to have a positive **impact** in the world. While much of the Lyle School strives to embody this concept, it is most strongly evident in the Stephanie and Hunter Hunt Institute for Engineering & Humanity (HIEH) and in the Caruth Institute for Engineering Education (CIEE), both of which have core missions central to this notion.*

The mission of Doing Good in the community and the world has been, and continues to be, a key differentiator for the Lyle School. As we remain vigilantly focused on this mission, we will strengthen our ties with the city, the community and the region.

Specific programmatic offerings in which we will strategically invest are:

## FACULTY FELLOWS PROGRAMS

We will initiate a Faculty Fellows program in the HIEH, the CIEE and the HCEL to recognize and structure the activities of faculty engaged with the missions of the Institutes and Centers. The program will support the mission-driven activities of the faculty, as well as supporting visiting fellows from other institutions.



THE INCLUSIVE ECONOMY RESEARCH & ACTION PROGRAM (IERAP)

The emerging program, based in the Hunt Institute, focuses on market-based solutions to poverty and inequality, and inclusive, sustainable economic development. We will seek sustainable funding to allow continual support of the program’s goals. The program includes system-level research on how technological advancement, globalization and climate change have contributed to the poverty and inequality experienced today, both locally and globally, and studies best practices from around the world to analyze how the same global forces can be leveraged to foster inclusive, sustainable economic solutions. The Action pillar of this program puts the research findings into practice through the Global Development Lab. The program intentionally builds on the role universities are uniquely qualified to fulfill as honest brokers of information and conveners of parties with diverse interests. Through this convening platform, the following have been successfully piloted in preparation for full-scale implementation:

- The Inclusive Economy Consortium (IEC), an interdisciplinary community of diverse stakeholders who are dedicated to creating an economy that works for all. The consortium enables change agents to connect, share and act. By providing a collaborative platform for social innovation, thought leadership and collective action, we help foster inclusive and sustainable development.
- The Early Stage Social Entrepreneurs program taps into the energy and skills of SMU students, as well as the expertise and experiences of a diverse group of SMU faculty and IEC members. The pilot has proved there is an opportunity for a multiplier effect in this area, simultaneously maximizing community, educational and scientific **impact**.
- A project-based interdisciplinary student engagement model that allows students from various disciplines to work together as a team under the guidance of expert faculty, staff, fellows and IEC members who work on solutions for some of the pressing problems faced by humanity.
- Successfully piloted the Transformational Technology Hub for Inclusive Economic Development concept with Map4Good. Map4Good aims to improve access to information about free services available in Dallas through an innovative GIS and big data-based mapping approach, with plans to incorporate blockchain. Studies have shown that many services go unused by the people who need them most. Map4Good empowers individuals with the tools to identify and reach services, while collecting valuable policy and scientifically relevant data. In addition to experts from five schools at SMU (Lyle, Dedman, Meadows, Perkins and Cox), Map4Good involves almost two dozen entities, besides the City of Dallas, collaborating in this effort; a testament to the convening platform established by IERAP.

ENGINEERING EDUCATION OUTREACH PROGRAMS

The CIEE has, as part of its mission, the design and implementation of educational programs and outreach services that reach both youth and adults, working to enrich educational pathways for college and career readiness in STEM domains. CIEE programs and services include hosting campus events (e.g., summer camps, TEDx, teacher professional development), as well as joining in on partnerships with area independent school districts, SMU’s Simmons School of Education, and the rich array of DFW cultural and informal STEM education institutions and museums. While a number of strong programs have been developed since the inception of the CIEE, we will commit to providing and seeking sustaining support to 1) scale our outreach services and programs more broadly to underrepresented individuals and communities in STEM disciplines and 2) engage in R&D that will inform and improve K-12 integrated STEM education, as well as secondary and post-secondary engineering education.

LIFE-LONG ALUMNI PARTNERSHIPS

In today’s climate, there is continuous pressure for institutions of higher education to clearly demonstrate their value proposition. The Lyle School contains a great asset to help define this for our students and their families: our expertise in distance education. Due to our approach to distance learning, we can provide access to our curriculum at little to no cost. Therefore, we will provide all alumni access to view our graduate course content at no cost. Should alumni want to earn an additional degree, they can pay the tuition, take the exams, and have their participation certified on a transcript. However, if they simply want to brush up on the latest trends, they can, without fees, access our library of course offerings at no additional cost. In this way, the Lyle School will establish itself as a true partner in lifelong learning for each and every alum – an invaluable relationship for both parties.

FUNDRAISING TARGETS

ITEM	ANNUAL OPERATING EXPENSES	EQUIVALENT ENDOWMENT
Faculty Fellows Program	\$150K	\$3M
Inclusive Economy Consortium	\$100K	\$2M
Early Stage Social Entrepreneurship	\$100K	\$2M
Transformational Technology Hub	\$200K	\$4M
Engineering Outreach Programs	\$200K	\$4M
Life-long Alumni Partnerships	\$25K	\$500K







# ATTRACT & SUPPORT

*A school is only as strong as the people who comprise its whole. While the excellence of our undergraduate populations has made great strides over the past 15 years, a concerted effort to recruit world-class graduate students can reap similar gains.*

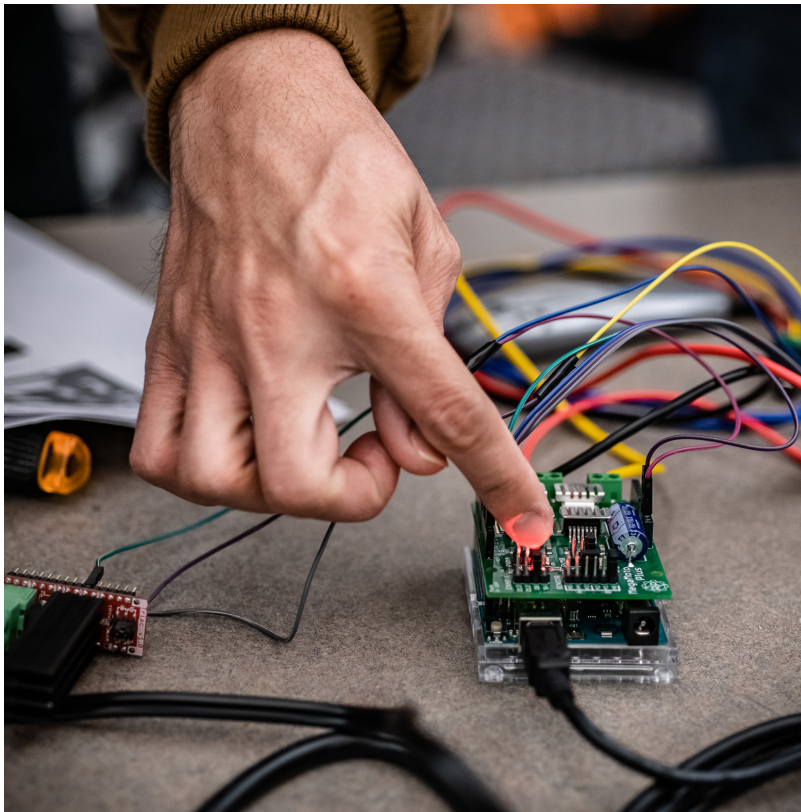
Additionally, a continued focus on recruiting and retaining excellent faculty and staff is absolutely necessary to the ongoing success of the Lyle School. A key part of this final aspect is not only how faculty and staff are attracted to the university, but also how they are developed and helped to grow professionally once here. Aspects of this professional development can also be found outlined under Strategy 2: Leadership for All.

To that end, we will undertake the following strategies:

## HOSTING SUMMER UNDERGRADUATE EXPERIENCES FOR TOP STUDENTS

The recruitment of top graduate students is much easier when they have early contact with our research faculty, beautiful campus and laboratory facilities. We have begun strategic relationships with top institutions of higher education abroad. We must now capitalize on those relationships by creating opportunities for students at those institutions to come and engage with the Lyle School before making graduate school decisions. This approach can work equally well for domestic students.





HIGHLY COMPETITIVE FELLOWSHIPS FOR HIGHLY QUALIFIED GRADUATE STUDIES APPLICANTS

While the machinery of the research enterprise is composed of innovative ideas of highly talented faculty, both the fuel and, in a sense, the product of the research machine are exceptional graduate students. This represents a challenge at all top comprehensive research universities: to recruit and retain highly qualified graduate students to collaborate with faculty in research and to carry the brand of the institution forward into industry, government and academia as they graduate. These students are leveraged as a workforce multiplier in both research and its publication – a faculty’s productivity is greatly enhanced by having a cadre of talented graduate students with whom to work. Such graduate students can also have a positive **impact** on the undergraduate educational experience, especially in areas of highly engaged learning. Graduate students function as the teaching assistants in classrooms and often as research mentors to undergraduate students. We will secure funding to guarantee the very best candidate students have financial support for a time sufficient to complete their degree, which will help secure these top candidates.

UNDERGRADUATE SCHOLARSHIPS

Each year we compete with top institutions for incoming students. We currently are competing for the top 5% of standardized test takers. In order to maintain our ascent in academic profile and simultaneously increase the diversity of our incoming classes, we continue to need to offer more scholarship dollars. These funds are used both to convince highly sought-after students to commit to SMU and to make possible an education such as the Lyle School provides.

TARGETING DOMESTIC GRADUATE STUDENTS THROUGH MILITARY AND VETERAN PATHS

The supply of foreign national graduate students is subject to the political climate and issues outside of our control. SMU finds itself in a unique position, being nationally recognized as a top institution for military veterans. Furthermore, in certain research areas, such as cybersecurity, U.S. citizenship is paramount. We will focus on recruiting students through pathways from military and veterans’ organizations.

TARGET FACULTY PLACEMENT

A large portion of the *U.S. News and World Report* rankings is based upon reputation. A major contributor to that factor is the quality of Ph.D. graduates placed in faculty roles and the institutions at which they are placed. A portion of the leadership development for graduate students will target training for those desiring eventual placement in faculty roles. By providing such interested students with the skills they need to be excellent teachers and successful researchers, we will improve the overall reputation of the Lyle School. This is particularly true for highly sought-after candidates, such as under-represented groups.

ENDOWED FACULTY POSITIONS

Faculty are driven by autonomy and recognition. One of the most powerful recruiting mechanisms for faculty is the freedom and recognition afforded through an endowed position. We will continue to enhance the number and size of endowed positions available at all ranks to enable us to recruit and retain the very best faculty.

MULTIDISCIPLINARY RESEARCH LABS

Throughout our recent research expansion, we have been perpetually 10,000 square feet (sq. ft.) short of needed research laboratory space. We must create world-class research facilities to match the world-class ideas of our faculty. To achieve an annual funded research expenditure goal of ~\$20M, we will need an additional 30,000 sq. ft. of research space, nearly doubling our research footprint today. This will come in several forms: shared multidisciplinary research space with Dedman College faculty, and dedicated laboratory space in a new engineering building.

NEW ENGINEERING BUILDING

Current faculty growth in the Lyle School has caused the faculty complexes of the Mechanical Engineering and Civil & Environmental Engineering departments to collide. Prospects for continued growth in the existing physical space are marginal. A new engineering building is necessary to allow the transition of Civil & Environmental Engineering out of the Embrey Building. Such a move would give each department the growth opportunities they both desire and need. Expanded space for Innovation and Engineering Entrepreneurship programs are also needed. It is anticipated that they would also be located in the new engineering building. This building will provide a home for expanded prototyping of innovative technologies.

RESEARCH SEED FUNDING

Technology development often suffers from a lack of support between conceptualization and implementation. Innovative faculty generate ideas with great potential, but the extraordinarily high burden of evidence required for external funding means that without funding for preliminary proof-of-concept data, the idea will never successfully attract the external funding necessary to be implemented. This early stage funding gap is often termed the “valley of death” – where good ideas go to die. In contrast, investment in high potential early stage research allows ideas to mature to the point where they are likely to attract sustained external funding. Providing early stage funding for targeted research with a high potential for attracting external funds will act as a catalyst, enhancing the Lyle School’s research productivity. The purpose of the SMU Lyle Research **Impact** Fund is to accelerate the Lyle School’s growth in external research expenditures, thereby bolstering the reputation of the school and aiding in the University’s long-term goal of joining the Association of American Universities (AAU). It is envisioned that this initiative will leverage strong research collaborations with external world-class research organizations such as the University of Texas Southwestern Medical Center and the Southwest Research Institute.





CULTURE TEAM

It is said that culture eats strategy for breakfast. We must pay close attention to the various aspects of culture inherent in the Lyle School and make consistent efforts to adjust and advance them as needed. This involves, at a minimum, the research culture of the school, the workplace culture of all employees, the culture of inclusion supporting diversity, and the culture we share with our students. We must take steps to ensure that all voices are heard at Lyle, and that all groups feel welcomed and included. To ensure that we are ever mindful of culture, we will form a Culture Team composed of staff and faculty and will provide them with a mandate and budget to initiate a culture study and take actions to support the culture to which we aspire. As part of this, we will track the statistics of underrepresented groups among our faculty and staff ranks and student body.

DISTANCE EDUCATION

The Lyle School enjoys over 50 years of experience with Distance Education. Distance Education at Lyle was initiated with the TAGER system, and progressed through VHS tapes, to DVD, to streaming online. Today, nearly every graduate class is recorded and streamed across the globe. To ensure the continued competitive advantage of this critical part of the Lyle School, we must invest in technology and pedagogy, freeing our instructors to have their lessons captured without the constraints of the recorded education of the past. Given the scale of the Lyle Distance Education operation, it is critical that the solution not be manual or labor intensive. Giving control to the consumer to choose what is observed in the classroom will create an experience most like a front row seat in every classroom. Given the large portion of our graduate students from foreign countries and the uncertainty of their ability to travel for education, continued excellence in Distance Education is critical.

FUNDRAISING TARGETS

ITEM	ANNUAL OPERATING EXPENSES	EQUIVALENT ENDOWMENT
Summer REU Recruitment	\$150K	\$3M
Graduate Fellowships (x20)	\$25K each	\$500K each
Lyle Scholars UG (x50)	\$7.5K each	\$150K each
Military & Veteran Recruiting	\$15K	\$300K
Targeted Faculty Placement	\$100K	\$2M
Endowed Faculty Positions (10)	\$100K each	\$2M each
Research Seed Funding	\$750K	\$15M
Culture Team	\$25K	\$500K
Distance Education	\$100K	\$2M
ITEM	CAPITAL EXPENSE	
Multidisciplinary Research Building	\$30M	
Engineering Building	\$65M	







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