



TEXAS A&M
UNIVERSITY®

Strategic Plan for the Research Enterprise

I. Plan to Elevate the Research Enterprise

a. Goals and Priorities

Texas A&M University Goals and Priorities

As stated in its Mission Statement, “*Texas A&M University is dedicated to the discovery, development, communication, and application of knowledge in a wide range of academic and professional fields. Its mission of providing the highest quality undergraduate and graduate programs is inseparable from its **mission of developing new understandings through research and creativity.***” The *Decade of Excellence: Vision 2020 – 2030*, highlights the institution’s ongoing “*quest for excellence as a preeminent public land-, sea-, and space-grant university will be realized through our commitment to transformational education, groundbreaking research, and a university community unfettered by discipline boundaries but focused on society’s vital challenges.*”

The foundation for achieving this mission and vision is anchored by four strategic pillars:

1. the University as community,
2. transformational education,
3. **discovery and innovation**, and
4. impact on the state, the nation, and the world.

The current [strategic plan](#) for Texas A&M University (Texas A&M), based on these four strategic pillars, prioritizes **strengthening and harnessing our research enterprise** among other things. Elevating the trajectory of Texas A&M as a leading public land-, sea-, and space-grant R1 institution requires attracting outstanding faculty, students, and staff alike; building a strong portfolio of collaborators and partners to invest their resources in our shared vision; improving and expanding the physical and organizational infrastructure of Texas A&M to serve the research enterprise; and finally, communicating to a broad audience why the research conducted matters. To broaden Texas A&M’s breadth and scope of discovery and innovation, the institution committed to the following in its strategic plan:

- Stimulate and support ground-breaking research that creates new knowledge and shapes the future for the benefit of generations to come.
- Invest in the infrastructure and tools, including core facilities and advanced computing, to lead the nation and the world in research innovation.

- Invest in, support, and grow research in the arts, humanities, and social sciences.
- Support collaboration across disciplines with financial and administrative resources, including faculty recognitions and promotions.
- Strengthen translational and clinical research and integrate them into the institution’s broad research enterprise.
- Build partnerships with external organizations, including industry, national laboratories, and others, to extend and leverage the reach of the institution’s research.
- Increase access to knowledge and develop the tools for data-driven decision making.
- Elevate the visibility of the research’s impact and of the researchers conducting it, internally and externally.
- Engage students at all levels in research and creative scholarship to prepare them as thinkers and leaders.
- Cultivate and reward faculty leaders who are bold in undertaking research opportunities, whether within traditional disciplines or across them.
- Reduce administrative burdens and enhance support for researchers at all career stages.

As highlighted in Texas A&M’s strategic plan, the institution’s well-developed extension network across the state is integral to supporting the translation of research into practice. Ongoing efforts to expand, enhance, and adapt activities based on scientific discovery and innovation improves lives in communities around the world. To expand the importance and impact of research conducted at Texas A&M, the institution committed to the following pertaining to the research enterprise specifically in its strategic plan:

- Lead the creation of knowledge to meet current and future challenges in areas such as artificial intelligence, digital humanities, food, energy, and climate change.
- Recognize and support the commercialization of successful research products to maximize public impact.
- Incentivize and promote a resilient physical environment through research and partnerships to improve and protect air quality, water, and stewardship of natural resources.
- Advance human health and the delivery of health care to underserved populations.
- Enhance the visibility of our researchers’ expertise and contributions to shaping state, national, and international policy.

Texas A&M Research Enterprise Goals and Priorities

The Texas A&M research enterprise encompasses all elements that come together to address critical research needs (basic, applied, or translational) including all stakeholders, resources, and infrastructure. These elements are coordinated and facilitated by the university’s Division of Research which is committed to supporting the collective efforts of researchers and inventors to advance the goals and priorities outlined above.

The mission of the Division of Research specifically is to “*advance and strengthen all aspects of the research enterprise by implementing an enhanced, integrated, and strategic approach to:*

- *capitalize on the institution’s research strengths and knowledge to deliver solutions to serve the public good by:*
 - *growing resources, infrastructure, data, and technology.*

- *aligning opportunities with potential collaborators and research teams.*
- *supporting interdisciplinary collaborations to advance research.*
- *increasing federal, state, and private funding.*
- *providing effective research support.*
- *build capacity through collaborations and strategic investments.*
- *promote creativity and innovation, while ensuring the highest standards of research integrity in proposing, conducting, and reporting research, and promote and facilitate safe, ethical, and scholarly activity that reflects the university's mission and core values.*
- *increase communication and enhance visibility with stakeholders to promote the value of research and the research enterprise.”*

In the summer of 2021, the Division of Research launched a process to develop a strategic plan for the institution's research enterprise, engaging stakeholders both within and outside the University and designed to achieve the institutional research-related goals and priorities outlined above. This process culminated in the *Texas A&M University's Research Strategic Plan: 2023 – 2030* (attached). Through this process, the following elements were identified as essential for advancing institutional goals and priorities related to the research enterprise.

An **Environment for Innovation** is foundational for creating and sustaining a culture of creativity and research compliance. Such an environment is based on factors such as shared knowledge, responsibility and accountability for compliance and ethical conduct; recognition of talent dedicated to the pursuit of excellence in all areas of research; an emphasis on service through the reduction of administrative burden; and a research infrastructure that supports and aligns with institutional goals and priorities. An environment for innovation rests on the maintenance of a culture that values each contributor as an equal and supports the needs of researchers in their collective pursuit of basic and applied research. Focusing efforts on the establishment of a streamlined and simplified administrative process, for example, will lead to service efficiencies and a continuous improvement model that becomes part of the cultural norm and a positive environment for innovation.

A **Dynamic Research Enterprise Community**, a second essential element to achieve the identified goals and priorities of the university, is comprised of students, faculty, staff, and other stakeholders (internal and external) involved in educational activities associated with learning or teaching the mechanics of research, the active production of research, and the provision of services in support of research and those impacted by research outcomes. Informal and formal activities and events designed to foster networking, identifying technologies that can facilitate connections, and providing other outlets for relationship building help expand and broaden the research enterprise community. Moreover, strategic initiatives that center around prioritized research themes/sub-themes foster the development of a dynamic research enterprise community and the achievement of the goals and priorities of the institution. Centers, Institutes, and Core Facilities also play a pivotal role in establishing and maintaining such a community (as discussed in more detail in section **I.b** below).

Finally, **Communications Visibility** is essential in achieving the goals and priorities of the university. The results or outcomes of basic, applied, or translational research must be transparent and timely, and articulate the value of research being conducted by explaining how the research activities are connected to solving current and future problems for society. Building and maintaining public confidence and trust requires sharing of such knowledge and implications with all stakeholders.

b. Collaborations and partnerships

As noted above, one essential element of a thriving research enterprise is the establishment and maintenance of a dynamic community that builds and supports collaborations, partnerships, and strategic investments. The Division of Research collaborates with internal stakeholder groups (e.g., colleges and schools, and faculty organizations such as the University Research Council, Council of Principle Investigators, and the Faculty Senate Research Committee) and associated agencies to coordinate and facilitate interdisciplinary team building efforts and other strategic initiatives to advance identified research themes/sub-themes and the overall research enterprise.

One significant outcome of the strategic planning process was the identification of strategic research themes/sub-themes that leverage Texas A&M's strengths, capacity, and capabilities across multiple disciplines and that align with state of Texas and national legislative priorities. These themes/sub-themes provide opportunities for Texas A&M to i) strengthen its tripartite mission of research, teaching, and outreach; ii) advance research excellence and scholarship through collaborations; iii) address state, national, and global challenges; iv) deliver significant societal impact; and v) elevate Texas A&M's status and ranking as a global research leader. The identification of the strategic research themes/sub-themes was informed by research priorities of the colleges and schools, agencies, and in consultation with faculty and faculty organizations previously noted and a range of external stakeholders. Six broadly defined strategic research themes emerged, representing strength of expertise, opportunities for significant collaborations and partnerships with internal and external stakeholders, and resources to support related efforts as listed below:

- **Community and Economic Resilience**
 - Arts Ecosystem and Culture
 - Human Development and Social Dynamics
 - Workforce and Future of Work
- **Emerging Technologies and Innovations**
 - Artificial Intelligence, Learning, and Autonomy
 - Biotechnology and Biomanufacturing
 - Data, Visualization and Information Technologies
 - Microelectronics and Semiconductors
 - Quantum Science and Technology
- **Health and Quality of Life**
 - Diagnostics, Treatments, Intervention, and Cures
 - Disease Prevention and Health Promotion
 - Health Disparities and Community Health
- **National Security**
 - Biodefense and Biosecurity
 - Cybersecurity
 - Nuclear Security
 - Advanced National Security Technologies
- **Space Exploration**
 - Human Space Flight
 - Space Engineering and Construction

- Earth and Planetary Sciences
- **Sustainability and Environment**
 - Climate Resilience and Mitigation
 - Energy Transition/Clean Energy
 - Food-Energy-Water-Health (FEWH) Nexus

The strategic research themes/sub-themes listed above are interconnected and do not represent an exhaustive listing of the research undertaken at Texas A&M nor the scope and magnitude of its research enterprise. Instead, the themes/sub-themes represent opportunities to strengthen disciplinary and interdisciplinary research and scholarship; engage the university community and external partners to address the grand challenges of our time; and deliver societal impact.

Centers, institutes, and core facilities provide a conduit by which a critical mass of intellectual capability, disciplinary expertise, financial resources, and physical assets are brought together to accomplish the university's mission of quality education, the development of new understandings through research and creativity, and service. Centers and institutes bring together faculty and students from across the university and partners from local, state, national, and international communities as interdisciplinary teams created to address the challenges and opportunities facing the state, the nation, and the world. In addition, centers and institutes are designed to be flexible, thus able to respond quickly to changing demands of interdisciplinary research critical to inspiring scientific discovery and creativity as well as inventing solutions that make society healthier, safer, and more sustainable. Similarly, Core facilities, centralized shared research resources, provide access to instruments, technologies and services, as well as expert consultation and other services to scientific and clinical investigators and members of interdisciplinary teams. These Core facilities support innovation and expand the capabilities of the research enterprise, and, where possible, provide hands-on training opportunities for undergraduate and graduate students.

c. Economic Impact

As highlighted above, one of the four primary strategic pillars for Texas A&M is **Impact on the State, Nation, and the World**. Texas A&M champions higher education's vital role in contributing to society in meaningful ways. The university builds and maintains strong connections between its research and groundbreaking discoveries and its impact on the state of Texas and communities around the globe. The global preeminence of Texas A&M University provides additional opportunities to develop new collaborations for research and create partnerships that extend the impact of its work. To be true to its public land-, sea-, and space-grant mission, Texas A&M is committed to using knowledge gained through discovery and innovation to meet the needs of the citizens of Texas in rural and urban communities alike, and to applying its research discoveries and innovations through knowledge transfer, commercialization, and partnerships.

The *Economic Value to Texas of Texas A&M University* (published November, 2024, and available at <https://collaborations.tamu.edu/edci/economic-impact/index.html>) highlights the economic impact of Texas A&M broadly and the research enterprise specifically. Based on 2022-23 fiscal year (FY23) expenditures, Texas A&M contributed \$22.3 billion and 254,222 jobs to the Texas economy that year alone. Within the seven-county Brazos Valley region, the University contributed \$3.5 billion and 59,794 jobs during this same time period. Within those figures, the research enterprise specifically contributed \$1.2 billion to the Texas economy and \$820.9 million to the regional economy. Research

activities impact the economy by employing people and purchasing equipment and other supplies and services. In FY23, Texas A&M spent \$518.6 million on payroll to support research activities. This, along with \$552.9 million in other research spending added income equivalent to supporting 15,941 jobs across the State of Texas. The economic impact of Texas A&M and of its research enterprise specifically is reported on a biennial basis. This report is shared with internal and external stakeholders to ensure the economic impact of the University and its research enterprise are routinely examined, understood, and maintained.

II. Plan to Increase Research Funding and Productivity

a. External Funding

Texas A&M is part of The Texas A&M University System, comprised of 11 universities, 8 state agencies, and a comprehensive health science center, educating more than 157,000 students annually, with more than 21 million additional educational contacts through service and outreach programs. System-wide, research and development expenditures exceed \$1.5 billion and help drive the Texas economy.

Strategies for increasing research funding and productivity include leveraging all assets of The Texas A&M University System to coalesce knowledge, skills, capacity and creativity which provides for real-world solutions to society's most pressing challenges. Focus on increasing partnerships with industry within the state of Texas as well as nationally and globally advances research opportunities as well as expanding workforce connections and economic impacts.

Texas A&M University has initiated several internal seed grant programs to grow the research enterprise of the university and foster leveraging of external funding. For example, the Division of Research is investing over \$10 million annually in various internal grant programs. Examples include

- **Targeted Proposal Teams (TPT) program**, designed to foster collaborative and interdisciplinary research and enhance leveraging of external funding.
- **Arts & Humanities Fellowship (AHF) program**, which provides support for scholarship and creative works in the humanities and creative arts.
- **Advancing Discoveries to Market (ADM) program**, an investment to advance innovation commercialization by de-risking discoveries and innovations to facilitate commercialization of Intellectual Property (IP) from Texas A&M University.

Building on existing efforts to support private-sector partnerships, the Division of Research in collaboration with other relevant units, has recently initiated a program to support faculty and staff adapt to the changing funding landscape and create a more robust and resilient funding portfolio. The major elements of this initiative includes: i) a retooling and remediation program designed to equip faculty and staff with the tools and strategies to navigate changes in federal funding opportunities while aligning research efforts with shifting national agenda and policies; and ii) a professional development and diversification program that expands funding opportunities beyond traditional federal sources by fostering enhanced engagement with mission-oriented sponsors, including industry partners, research foundations, and other private-sector entities.

Continuation of external funding is subject to change, depending on federal legislative and executive actions.

b. Research Facilities

Texas A&M Core facilities are specialized research centers equipped with advanced technology and expertise that support scientific and technical projects. University researchers and external partners have access to more than 50 specialized facilities across the university. Through shared resources, significant time and money are saved and researchers have access to equipment and expertise that individual researchers might otherwise not have access to. Core facilities support several thematic areas, such as data informatics and computation, microscopy and imaging, materials characterization and fabrication, animal care and behavior, environmental and chemical sciences, and genomics sequencing and flow. Each is designed, equipped, and staffed to support the research enterprise and the achievement of the mission, goals and priorities of Texas A&M. Among these Core facilities:

- **Animal Genetics Laboratory** – providing DNA genotyping used for the identification, parentage verification, and determination of specific homozygous/heterozygous gene mutations in animals.
- **Ballistic, Aero-Optics and Materials (BAM) Range** – providing researchers with a state-of-the-art research and development facility designed to evaluate high-energy laser propagation, hypersonic aerothermodynamics and hypervelocity impact response of materials and structures.
- **IBT Flow Cytometry and Cell Sorting Core – Houston** – located at the Institute of Biosciences and Technology in the Texas Medical Center, this Core facility provides technically sophisticated flow cytometry and cell sorting services and scientific expertise.
- **Innovative Proving Grounds** – located at the [Bush Combat Development Complex](#) on the RELLIS-Bryan campus, this \$50M, 134 acre Core facility provides an outdoor test and experimentation facility capable of rigorously assessing a myriad of technologies, sensors, platforms, networks and testing processes in an operationally relevant environment.
- **Materials Characterization Facility** – providing researchers access to high-end instrumentation essential for studying the surface and interfacial properties of materials.

A complete list of these Core facilities is available at <https://research.tamu.edu/research-support/core-facilities/>.

Beyond the Core research facilities, additional facilities across the university and its various locations are designed to support discovery and innovation. For example, in August 2023, members of the Texas A&M University System Board of Regents approved the creation of the **Texas A&M Space Institute** and the construction of a Texas A&M facility next to NASA's Johnson Space Center in Houston, Texas. Expanding the role of Texas as a leader in the new space economy, Texas A&M research will impact new discoveries, technological developments, health advances and workforce growth, and expand partnerships with public and private entities in a multitude of sectors across Texas and the nation. As of March 2024, Texas A&M students, faculty and researchers were working on more than 300 space-related projects, including researchers from across 12 colleges/schools, and other Texas A&M University System universities, including Prairie View A&M University and Texas A&M University-Corpus Christi.

Finally, the **Virtual Production Institute** (VPI) was established by The Texas A&M University System Board of Regents with the 88th Texas Legislature provided \$25M in seed funding for the VPI which will support state-of-the-art instrumentation for a learning laboratory designed as a performance capture and sound stage with supporting technology studio classrooms. The VPI will provide a unique technology-focused environment designed specifically to support teaching, learning and research centered on the interface between technology and the visual, performing and media arts.

c. Commercialization

Texas A&M creates an exceptional environment that fosters innovation and entrepreneurship, evidenced by the number of Texas A&M start-up and spin-off companies that have been created in across the state. Start-up companies, created specifically to license and commercialize Texas A&M technology or knowledge, have a strong and clearly defined link to Texas A&M. Spin-off companies, created and fostered through university programs by faculty or former students, have less direct link to Texas A&M. In fiscal year 2022-23 (FY23), Texas A&M spin-off companies added an estimated \$193.8 million in income to the Texas economy (as reported in the *Economic Value to Texas of Texas A&M University Report* referenced above).

Recent consolidation of technology transfer functions across the Texas A&M University System, resulting in the establishment of [Texas A&M Innovation](#) and recruitment of a Chief Innovation Officer for the System, and increased institutional support have positioned Texas A&M to exponentially increase its commercialization impact in the coming years. This work emphasizes increasing market-focused industry collaborations in aerospace and defense, and other efforts in markets such as energy, agtech, transportation, and healthcare. Success is ultimately measured quantitatively by number of products on the market and revenue from industry collaborations, and qualitatively by the stories of impact to customers, patients, and end users. Activities toward these ends include:

- Investments made to vastly increase the pipeline of discoveries across the A&M System through outreach, a full calendar of events, and building out licensing and operations teams to support such activities.
- Increasing the interconnectedness of campus units and leadership toward shared goals and fostering an entrepreneurial culture across Texas A&M contributing to its recognition as an institution that translational researchers are enthusiastic to join.
- Adding rigor and transparency to technology evaluation, IP protection, technology enhancement, and technology marketing processes are increasing the quantity and quality of licensing deals that will return funding to the institution.
- Establishing a new ventures unit led by deep investment expertise to strengthen industry collaborations and implement a solid support structure including programs and facilities for early-stage university start-up companies to elevate the caliber of companies, resulting in higher number of innovations reaching the marketplace and increased returns to A&M.

The program “**Advancing Discovery to Market**” ([ADM](#)) provides researchers, faculty, staff and students with the resources to advance the development or demonstrate the commercial potential of recent discoveries to advance such discoveries to market that will enable a better product-market fit and successful commercialization (or licensing).

III. Doctoral Programs

a. Doctorate Awards

Another strategic priority of Texas A&M is increasing the number of research doctorates awarded by implementing strategic initiatives focused on recruitment, retention, and timely degree completion. Key strategies include the following:

- **Enhanced Recruitment Efforts**
 - Expanding targeted recruitment initiatives to attract high-caliber doctoral students, including partnerships with research-intensive undergraduate programs.
 - Strengthening pathways for Texas A&M undergraduate students to matriculate into Texas A&M graduate and professional programs through partnership with central undergraduate advising.
 - Increasing funding for competitive fellowships and assistantships to attract high-achieving students.
 - Participating in various local, regional and national conferences and/or recruiting events.
- **Financial Support and Competitiveness**
 - Continuing to advocate for competitive graduate assistant (GA) stipends to enhance financial support and reduce attrition due to financial constraints.
 - Expanding internal fellowship programs and securing external funding to ensure sustained financial resources for doctoral students.
- **Advising, Mentoring, and Professional Development**
 - Strengthening faculty mentorship and graduate advisor development programs to ensure doctoral students receive the necessary guidance for timely degree completion.
 - Enhancing student well-being, experience and success via focused student-oriented career development (academia, industry, and government), mentoring (e.g., Graduate Mentoring Academy), and professional development (e.g., GRAD Aggie program), making Texas A&M Ph.D. programs more attractive.
- **Interdisciplinary Opportunities**
 - Encouraging interdisciplinary research collaborations to open new pathways for doctoral student engagement and funding.
- **Data-Driven Retention and Completion Strategies**
 - Implementing data analytics to track student progress and identify areas where additional support is needed to prevent attrition.
 - Enhancing dissertation completion support, writing programs (offered by the University Writing Center), and time-to-degree incentives (i.e., dissertation fellowship).

- Refining institutional policies and procedures to minimize administrative barriers to timely degree completion, while developing and implementing platforms to streamline degree milestones, such as the continued development of *Academic Requirements Completion System* (ARCS), and *My Grad Journey*, an interactive tool designed to support graduate and professional students in obtaining feedback from committee members and view their current academic progress.

b. Supports for Doctoral Candidates

There are on-going institutional efforts to provide competitive financial support through (a) identifying sustainable funding to raise stipends across campus, (b) increasing number of assistantships/fellowships, and (c) striving to offer multi-year financial commitment. These efforts are reflected in the following areas:

- **Graduate and Professional School Funding Support**
 - The Graduate and Professional School allocates funding to colleges and schools to support graduate student stipends, tuition, and fees for Ph.D. students serving in teaching and research positions. Additionally, this funding supports initiatives that enhance graduate recruitment, retention, and student success.
- **Major Competitive Programs at Institutional Level**
 - Top-off program: The Graduate Recruitment, Enhancement, and Travel (GREAT) program, a new initiative in its 3rd year of implementation developed to attract high-achieving students by offering supplemental funding for national fellows (e.g., NSF GRFP) and trainees that is competitive with the nation's top graduate schools.
 - New initiatives: highly competitive, multi-year fellowships (\$40,000 stipend, plus tuition and fee, and health insurance):
 - Doctoral Research Excellence Assistantship, start date Fall 2024
 - Chancellor's National Academy STEM Ph.D. Fellowship Program, start date Fall 2025
 - Multi-year assistantship

Additional efforts are ongoing to secure additional resources to support doctoral students. These include:

- **Expand external fellowship profile** through hosting workshops throughout the year to raise awareness, provide support to assist doctoral students applying for competitive external awards, e.g., NSF GRFP, dissertation fellowship, etc.
- **Support Graduate Training Grants** by:
 - providing resources/guidance and encourage/facilitate institutional graduate training grant applications.
 - providing institutional cost-share for external training programs by supporting additional training/research assistantships.
- Initiate large campaign to establish **endowed grad student fellowships**.
- Make legislative budget request to **increase funding support for graduate/doctoral education**, e.g., increased number of additional teaching assistantships.

Detailed information on funding opportunities including research assistantship, teaching assistantship, and fellowship can be found at: <https://grad.tamu.edu/funding-opportunities-for-graduate-students>.

c. Areas of Emphasis

Texas A&M is committed to ensuring all its programs, including its doctoral programs, clearly meet an identified or projected workforce need and demand by potential students. The University's prioritized strategic growth of its graduate student population by expansion of graduate education is a result of increasing demands for more skilled and advanced professionals across the state and nation. All new program proposals must demonstrate this demand by providing data that highlights an unmet need or projected growth in an emerging field or discipline. Programs must also provide specific data that demonstrate there is an existing and sustainable population of individuals interested in pursuing such a degree. Finally, alignment with the mission of the institution, its strategic priorities, and areas of demonstrated expertise must be clearly articulated in new program proposals. Many of the graduate programs recently launched or under development align with the six (6) research themes (i.e., areas of emphasis) previously outlined (e.g., emerging technologies and innovation, health and quality of life, national security, space exploration). For example, new and developing graduate programs ranging from visual computing and interactive media to space engineering are not only based on demonstrated need and demand but also representative of areas of research strength and capacity.

Longstanding doctoral programs, some having been established as early as the 1920s and 30s, are held to these same standards of ensuring the curriculum is current, the research and creative scholarship of faculty and their students is innovative and contemporary, and that graduates are well prepared to address evolving needs and priorities of the state and nation. The rigorous graduate program review, conducted at least every ten years by national experts in the discipline, closely examines the program curriculum and the productivity and recognized expertise of its faculty in the discipline, among other things, to ensure each program remains contemporary in comparison with peer or aspirant programs.

These data-informed reviews of both proposed and current programs ensure students graduating from one of a wide array of doctoral programs offered by Texas A&M have been actively engaged in research and creative scholarship and thus prepared as thinkers and leaders in the creation of knowledge and the translate of these discoveries to meet current and future challenges.

IV. Plan for Faculty Development

a. New Faculty

Texas A&M's goal is to recruit top-notch faculty to enhance its educational and research mission. This strategy includes identifying early career faculty that show tremendous promise and recruiting them from doctoral programs and postdoctoral positions at peer and aspirational peer institutions. Texas A&M also routinely identifies high performing faculty from other institutions, particularly in areas where education and research are needed (e.g., national defense). These promising and high performing faculty are identified and subsequently recruited base on the impact and recognition of their work, including recent major awards (e.g., NSF CAREER, national academy membership). For the highest achieving faculty, Texas A&M leverages the Texas A&M University System Chancellor's

Research Initiative (CRI) and the Governor’s University Research Initiative (GURI). These programs provide significant funding to recruit members from the National Academies of Science, Engineering, and/or Medicine, as well as members of their international equivalents. Texas A&M couples these resources with initiatives from the Hagler Institute for Advanced Study. The Hagler Institute brings visiting highly recognized scholars to campus. Once these scholars are familiar with our institution, GURI/CRI funds are used to further incentivize them to join the faculty at Texas A&M.

To ensure Texas A&M is identifying the top applicants, searches are conducted to intentionally develop a large pool. This includes advertising in multiple outlets such as listservs, organizations, or networks that engage with academics in specific disciplines, areas of disciplines, or groups of academics. Departments also send direct messages to academics who might be interested in the position or share opportunities at Texas A&M with their students and colleagues. Research potential (or demonstrated excellence among senior hires) is the primary criterion for selection for tenure-track faculty.

b. Faculty Research

Faculty are given multiple opportunities to develop skills that enhance their research programs. In addition to the networking opportunities previously described, general career development planning opportunities are offered by the Division of Faculty Affairs. Programs intentionally develop tenure-track faculty members’ ability to plan their academic careers and communicate their research impact, as well as enhance the skill sets of mid-career faculty to continue their successful careers at Texas A&M. Faculty Affairs offers support for faculty to pursue prestigious and highly prestigious awards and recognitions, which has resulted in a significant increase of honors among our current faculty, including multiple new national academy members. Faculty Affairs and the university’s Marketing and Communications have partnered to develop initiatives for faculty to convey their scholarship to the broader public. Texas A&M faculty contribute regularly to *The Conversation*. *The Conversation* publishes 7 to 8 articles daily, written by academics aimed at general audiences, with up to 7 million readers per month. These articles are often republished by major news outlets. The articles published in *The Conversation* allow faculty research to be highlighted in the context of current events or timely happenings. Texas A&M is also a partner in Associated Press (AP) *Campus Insights*. This paid service gives news broadcasts access to videos of academic experts through the AP. This service allows Texas A&M research faculty to have a broader impact among a wide national audience. These initiatives have resulted in millions of reads and views of Texas A&M scholars’ work. These development opportunities help faculty plan their careers and elevate their research impact.

To enhance faculty research productivity, Texas A&M provides tenure-track faculty with competitive start-up packages to ensure that faculty can develop sustainable impactful programs of scholarship. These start-up packages typically support the equipment, materials, data sets, and personnel required to initiate innovative research. Also included are funds to support doctoral students that further enhance the research mission of the institution. Faculty hired into tenure-track positions are submitted to a rigorous tenure and promotion process at Texas A&M that requires the development of a national and international reputation for impactful scholarship for promotion and tenure. This ensures that the Texas A&M faculty is made up of nationally and internationally recognized scholars doing impactful research and providing first class education to its students.

In the document “*Decade of Excellence, Vision 2020 – 2030*” previously highlighted, Texas A&M committed that “*through purpose-driven research and groundbreaking discoveries, the university*

will demonstrate strong connections between the research conducted here and its impact on the state of Texas and communities around the globe.”

World class scholars are recruited through the Hagler Institute for Advanced Study at Texas A&M University. The new Chancellor’s National Academy STEM Ph.D. Fellowship Program, beginning in the Fall 2025 semester, will attract the nation’s top students, teaming them with a graduate committee, co-led by a National Academy member and a rising star faculty member.

Early-career researchers receive dedicated support through Research Development Services with personalized proposal support, consultations with research development officers, and researchers have workshops and webinars focused on the professional development needs of early career faculty. Internal funding programs are available which facilitate team building/interdisciplinary collaborations.

Summary

In summary, Texas A&M has a robust research enterprise, representing over \$1 billion dollars in annual expenditures and contributions to the Texas economy, guided by the institution’s mission of “...*developing new understandings through research and creativity...*” and based on the strategic priority of “*strengthening and harnessing the institution’s research enterprise*”. The Division of Research’s *Texas A&M University’s Research Strategic Plan: 2023 – 2030*, referenced throughout provides a clear roadmap of priorities, strategies, and resources to be leveraged to meet the mission and strategic priorities of the institution. The goals and strategies outlined above are a testament to Texas A&M’s commitment to elevating the research enterprise, supporting its students, recruiting nationally and internationally renowned faculty, and facilitating innovative groundbreaking research and creativity designed to improve the lives of people and communities around the world.



RESEARCH ENTERPRISE STRATEGIC PLAN

2023-2030





FROM THE VICE PRESIDENT FOR RESEARCH

The process of developing a strategic plan for the Texas A&M University research enterprise started during the summer of 2021 as we assessed administrative and research activities inside and outside the university community. Since then, we've listened and learned as we conducted surveys, town halls, and listening-and-feedback sessions. Many within the research enterprise have shared their perceptions of the strengths, opportunities, aspirations, and results possible with the engagement of all stakeholders.

As much as possible, we incorporated recurring themes related to innovation, the ecosystem of research infrastructure, interdisciplinary research, and service efficiencies, and we supported the highest expectations expressed through this assessment process within the research enterprise strategic planning document. We clearly heard stakeholders express the importance and need for purpose and connection surrounding the conduct of research to serve the public good and meet societal challenges. The content within and the outcomes expected are not just for the Division of Research. This document will forge a path forward, without infringing (whenever possible) upon the diversity of thought expected of a R1 research university.

The division will facilitate, lead, and execute the cultural changes and innovative processes within our service centers that will continue to elevate the research community's efforts. Only through embracing multiple perspectives, identities, and experiences will we assure that students, faculty, and staff—as well as external stakeholders—are part of the research conversation. Foundational to this effort will be acknowledging the importance and significance of our Aggie core values—respect, excellence, loyalty, leadership, integrity, and selfless service—and ensuring our actions and research endeavors reflect these values.

This university-wide research enterprise document is dynamic and is accompanied by resources and tools to assist individuals and units in communicating and executing plans and activities in support of meeting personal, unit, and institutional goals.

It is my hope and expectation that, as part of this process of planning and engagement, you will find new purpose, renewed motivation, and encouragement in your unique role in the research enterprise as we all move forward.

Cheers,

Jack Baldauf

Texas A&M University Research Enterprise 4

Strategic Planning Process 5

Executive Summary 7

A. Environment for Innovation (Foundational)9

Knowledge

- Education
- Mentorship
- Research compliance, research integrity

Culture of appreciation for pluralism and wellbeing

- Organization
- Processes
- Wellness

Emphasis on Service

- Agility, dynamic needs assessments
- Accountability processes
- Administrative effectiveness

Research Infrastructure

- Organizational alignment
- Physical
- Information technology
- Identification of infrastructure barriers
- Internal funding investments
- Performance based budget
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- The Texas A&M System, Texas A&M University
- Division of Research units
- Faculty Research Organizations
- Internal and External Sources for Defining Strategic Research Themes and Priorities
- Abbreviations
- Acronyms and Definitions

The Texas A&M University **research enterprise** encompasses all elements that come together to address critical research needs (basic, applied, or translational) including all stakeholders, resources, and infrastructure. Delivering outcomes and results that promote knowledge growth and solve or prevent challenges for the public good are the basis for the research enterprise strategic plan.



DIVISION OF RESEARCH

The Division of Research is committed to a truly comprehensive university where students, researchers, and inventors bring scholarship and innovation to bear for the benefit of the community, the state, the nation, and the world.

DIVISION OF RESEARCH MISSION STATEMENT

Texas A&M is one of the world's leading research universities. The Division of Research (DOR) will advance and strengthen all aspects of the research enterprise by implementing an enhanced, integrated, and strategic approach to:

- **Capitalize on our research strengths and knowledge to deliver solutions to serve the public good**
 - Grow our resources, infrastructure, data, and technology
 - Align opportunities with potential collaborators and research teams
 - Support interdisciplinary/multidisciplinary collaborations to advance research
 - Increase federal, state, and private funding
 - Provide effective research support
- **Build capacity through collaborations and strategic investments**
- **Promote creativity and innovation, while ensuring the highest standards of research integrity in proposing, conducting, and reporting research, and promote and facilitate safe, ethical, and scholarly activity that reflects the university's mission and core values**
- **Increase communication and enhance visibility with stakeholders to promote the value of research and the research enterprise**

Currently, the Division of Research operates under multiple strategic plans from the university and the research enterprise, including the following:

- **Vision 2020**, prepared in 1999 by a year-long, campus-wide discussion involving more than 250 stakeholders, on and off-campus, who identified benchmarks for achieving national and international prominence.
- **Decade of Excellence, The Vision 2020-2030**, includes Four Pillars (The University as Community; Transformational Education; Discovery and Innovation; and Impact on the State, the Nation, and the World) as imperatives for laying the foundation for the next 150 years.
- **Texas A&M University Strategic Plan for Research December 2017**, focused on research funding and productivity; master's degree level education; doctoral programs; faculty and student development; research facilities, library resources, and graduate student support and national visibility.

TEXAS A&M UNIVERSITY RESEARCH ENTERPRISE STRATEGIC PLAN 2023-2030

The Division of Research partnered with Mays Business School to develop a comprehensive, seven-year (2023-2030) strategic plan for the university's research enterprise. The strategic planning process utilized the SOAR method for strategic planning (**S**trengths | **O**pportunities | **A**spirations | **R**esults) and the Appreciative Inquiry (AI) method of organizational development and change management. These two approaches focus on identifying and building on an organization's strengths rather than addressing its weaknesses.

The planning included a series of structured conversations across SOAR sprints and town hall meetings. In addition, the division acquired input to the process through an enterprise-wide survey. More than 1,300 stakeholders responded to the survey and/or participated in one or more of the strategic planning sessions. The timeline on page 6 includes a detailed timeline of the sprints, town hall sessions, planning sessions, surveys, and other events associated with the planning process. An advisory committee was formed and tasked with review and approval of the survey to be sent to research enterprise stakeholders.



RESEARCH ENTERPRISE STRATEGIC PLANNING TIMELINE

2022	FEBRUARY 15 –23	Division of Research Staff Survey
	MARCH / APRIL	DOR Training, SOAR Sprints for feedback, progress to date
	MAY 10 • 2:00 - 4:00 PM	State of the Division and Spring Social / Presentation Thomas G. Hildebrand Equine Complex
	JUNE 13 • 8:30 AM - NOON	TOWN HALL - Nurture: Innovation Thomas G. Hildebrand Equine Complex <i>Division of Research staff only</i>
	JUNE 20 • 8:30 AM - NOON	TOWN HALL - Ecosystems: Infrastructure Thomas G. Hildebrand Equine Complex <i>Division of Research staff only</i>
	JULY 12 • 8:30 AM - NOON	TOWN HALL - Cultivate: Interdisciplinary Research McFerrin Center for Entrepreneurship 1700 Research Parkway, 2 Research Park Building <i>Division of Research staff only</i>
	JULY 13 • 8:30 AM - NOON	TOWN HALL - Uproot: Administrative Challenges McFerrin Center for Entrepreneurship 1700 Research Parkway, 2 Research Park Building <i>Division of Research staff only</i>
	AUGUST 23	DOR Train-the-Trainer, SOAR, Appreciative Inquiry
	SEPTEMBER	Form Strategic Planning Advisory Committee; Committee reviews and approves survey to be sent to Research Enterprise Stakeholders
	SEPTEMBER 15 • 8 - 11:00 AM	TOWN HALL - Cultivate: Interdisciplinary Research* McFerrin Center for Entrepreneurship 1700 Research Parkway, 2 Research Park Building
	SEPTEMBER 15 • NOON - 3:00 PM	TOWN HALL - Nurture: Innovation* McFerrin Center for Entrepreneurship 1700 Research Parkway, 2 Research Park Building
	SEPTEMBER 19 - SEPTEMBER 28	Research Enterprise Stakeholder Survey conducted*
	SEPTEMBER 22 • 8 - 11:00 AM	TOWN HALL - Uproot: Administrative Challenges* McFerrin Center for Entrepreneurship 1700 Research Parkway, 2 Research Park Building
	SEPTEMBER 22 • NOON - 3:00 PM	TOWN HALL - Ecosystem: Infrastructure* McFerrin Center for Entrepreneurship 1700 Research Parkway, 2 Research Park Building
OCTOBER 13 • 8 - 11:00 AM	VIRTUAL ZOOM TOWN HALL (<i>locations external to College Station</i>) Themes included: Cultivating Interdisciplinary Research, Nurturing Innovation, Uprooting Administrative Challenges, Ecosystem Infrastructure	
OCTOBER 27 • 1 - 1:45 PM	State of the Division Fall Update / Presentation	
DECEMBER 2022 – FEBRUARY 2023	DOR reviews feedback and creates draft research enterprise strategic plan	
2023	MARCH	Advisory Group and other constituents review draft plan

**Open to Stakeholders external to Division of Research staff/programs/centers/institutes*

DIVISION OF RESEARCH MISSION STATEMENT

Texas A&M is one of the world's leading research universities. The Division of Research will advance and strengthen all aspects of the research enterprise by implementing an enhanced, integrated, and strategic approach to:

- **Capitalize on our research strengths and knowledge to deliver solutions to serve the public good**
 - Grow our resources, infrastructure, data, and technology
 - Align opportunities with potential collaborators and research teams
 - Support interdisciplinary/multidisciplinary collaborations to advance research
 - Increase federal, state, and private funding
 - Provide effective research support
- **Build capacity through collaborations and strategic investments**
- **Promote creativity and innovation, while ensuring the highest standards of research integrity in proposing, conducting, and reporting research, and promote and facilitate safe, ethical, and scholarly activity that reflects the university's mission and core values**
- **Increase communication and enhance visibility with stakeholders to promote the value of research and the research enterprise**

The Texas A&M Research Enterprise Strategic Plan outlines a wholistic approach to sustain and maintain a thriving research ecosystem. Each element (A – E) correlates to the mission statement above.

A. Environment for Innovation (Foundational for creating and sustaining a culture of creativity and innovation)

- Knowledge-seeking, Mentorship, Shared responsibility in responsibility and accountability in research compliance
- Culture of appreciation for plurality and wellbeing
- Emphasis on service and process-oriented elimination of service barriers
- Research infrastructure, Internal funding investments, Performance-based budget, Performance evaluation equity

B. Dynamic Community – Stakeholders, Strategic Research Themes/Sub-themes, Synergies

- Advocating for crosscutting communications on the landscape of the current and future research enterprise

C. Communications Visibility – Basic Applied or Translational Research Results

- Encouraging continuum of processes for sharing of information, internal and external, to serve public good

D. Texas A&M 2036

- Developing a pipeline of scholars, futurists, to envision what's possible, leading up to the 200th birthday of the state of Texas, and beyond

E. Assessment of Impacts

- Setting guidelines for information gathering and sharing, with associated key performance indicators to be developed by stakeholders, establishing meaningful metrics based on results and impacts expected to advance the research enterprise, serving the public good

Implementation plans will include:

- Baselineing with respective units/colleges/schools/centers/institutes, etc. to confirm current state of alignment, areas of opportunity, and new knowledge
- Establishing efficient communication protocols to accelerate future collaborations and partnerships
- Strategic planning related to visioning impacts/results for establishing meaningful metrics

The Texas A&M Research Enterprise Strategic Plan has five strategic elements, which encourage synergy, multidisciplinary, and interdisciplinary collaboration. Each interdependent element is critical to the plan.

A. Environment for Innovation (Foundational)

Knowledge

- Education
- Mentorship
- Research compliance, research integrity

Culture of appreciation for pluralism and wellbeing

- Organization
- Processes
- Wellness

Emphasis on Service

- Agility, dynamic needs assessments
- Accountability processes
- Administrative effectiveness

Research Infrastructure

- Organizational alignment
- Physical
- Information technology
- Identification of infrastructure barriers
- Internal funding investments
- Performance based budget
- Performance evaluation

B. Dynamic Community – Stakeholders, Strategic Research Themes/Sub-themes, Synergies

- Creating community via networks
- Strategic Research Themes/Sub-themes and Initiatives
- Synergies of centers, institutes, core facilities

C. Communications Visibility – Basic, Applied, or Translational Research Results

- Communication about research that impacts society with stories that are purpose-driven and focused and support a process for internal and external delivery

D. Texas A&M 2036

- Process
- Baseline

E. Assessment of Impacts

- Process
- Baseline

A. Environment for Innovation

The **research enterprise** supports creative scholarship and sponsored research at Texas A&M through the creation and sustainment of an environment for innovation. The research environment comprises many critical **cultural components** including knowledge, appreciation for pluralism, wellbeing, emphasis on service, and research infrastructure, as well as their sub-components.

An environment for innovation requires the development of a culture that values each component and contributor as an equal and recognizes the inter-dependencies in the components and their sub-components to best support the needs of those passionate for the pursuit of basic and applied research. Identified as a high priority by stakeholders, focusing on the establishment of a streamlined and simplified administrative processes will lead to service efficiencies and a continuous improvement model that becomes part of the cultural norm.

1. Environment for Innovation

TWO CRITICAL DIVISION OF RESEARCH MISSION STATEMENT COMPONENTS ALIGN WITH THIS THEME

Capitalize on our research strengths and knowledge to deliver solutions to serve the public good

- Grow our knowledge, resources, infrastructure, data, and technology
- Align opportunities with potential collaborators and research teams
- Support interdisciplinary/multidisciplinary collaborations to advance research
- Increase federal, state, and private funding
- Provide effective research support

Promoting creativity and innovation, while ensuring the highest standards of research integrity in proposing, conducting, and reporting research, while promoting and facilitating safe, ethical, and scholarly activity that reflects the university's mission and core values

Knowledge

- 1.1 **Education:** Elevate research experiences and inspire students, staff members, faculty, and community members to be referred to as "**stakeholder**" or "**stakeholders**". (Note: the term **stakeholder** is defined in a broader context and utilized throughout this document— see Appendix, Definitions)
 - 1.1.1.1 Develop and refine an ecosystem for continuous environmental scanning of local, state, national, and international data access points to learn from and develop a depth of understanding. Examples of data access points: government websites, interest groups, LinkedIn Learning, and peer institutions.
 - 1.1.1.2 **Stakeholders** will establish communication protocols pertaining to educational and research opportunities that create synergies and align communication priorities across academic areas/divisions/agencies for sharing of information (internal and external). Utilize formal and informal settings (workshops, events, programs, technology/applications that facilitate connections).
 - 1.1.1.3 **Stakeholders** will establish internal and external (strategic areas of interest) subject matter experts to be resources for other stakeholders.

- 1.1.1.4 In the pursuit of knowledge and development of new ideas, discoveries, and technologies that have the potential to benefit the public at large, applied, or translational research will follow intellectual property management and commercialization principles.
- 1.1.2 **Mentorship:** Identified as a high priority by survey respondents, shared individual knowledge contributes to the greater good of the whole body of institutional knowledge, and those who are inspired to develop others will accept an invitation to mentor and those interested in learning to be a mentee.
 - 1.1.2.1 **Stakeholders** will develop mentorship for new student researchers, faculty, and staff to afford a robust understanding of the university research enterprise and provide knowledge and tools for optimal engagement. Current mentors and mentees will assess objectives and outcomes.
 - 1.1.2.2 **Stakeholders** will establish lifelong learning and individual career growth strategies to drive the pursuit of new knowledge and excellence.
 - 1.1.2.3 **Stakeholders** will establish mentorship partnerships with specific pathways for depth of knowledge, leadership, and projected outcomes. Identification of mentors and development of interest communities are examples.
- 1.1.3 **Research Compliance and Integrity:** **Stakeholders** will cultivate and sustain an environment of shared responsibility and accountability for compliance and ethical conduct that serves as the foundation for excellence in research and maintains the public trust in the *research enterprise*. Risk assessment with transparency and implementation of administrative service efficiencies to reduce administrative burdens will provide effective research safeguards while protecting **stakeholders** and the institution and ensuring compliance with regulatory requirements.
 - 1.1.3.1 The regulatory environment is ever-changing, with increasing administrative demands on the institution and its researchers. In addition, the university's research ecosystem is large and complex with overlapping roles and responsibilities and institutional requirements. In collaboration with stakeholders, the Division of Research compliance teams will support the advancement of knowledge and innovation by providing a robust, coordinated, transparent, and responsive compliance framework built on best practice assessment processes that are operationally nimble, effective, and high-quality.
 - 1.1.3.2 The Division of Research will meet with stakeholders to ensure transparency, provide guidance, coordinate research compliance efforts, promote research in conformity with regulatory requirements, and to share best practices and tools that facilitate outstanding research.
 - 1.1.3.3 The Division will provide effective training on research misconduct and a review of Texas A&M University System and university rules, guidelines, and other resources that support awareness of protocols for adherence to the highest ethical standards.
 - 1.1.3.4 **Stakeholders** will communicate any needs they may have with respect to training.
 - 1.1.3.5 The Division will take an integrative approach to maximize training effectiveness and minimize redundancies.
 - 1.1.3.6 The Division will implement service efficiencies whenever feasible in association with the conduct or facilitation of research while ensuring the highest standards of research compliance and integrity, with recognition of impacts when introducing new knowledge and new technology.

1.2 Culture of Appreciation for Pluralism and Wellbeing

- 1.2.1 **Organization:** The *research enterprise* will recognize and retain talent and pursue the hiring and retention of diverse talent dedicated to the pursuit of excellence in all areas of research and the support of research.
 - 1.2.1.1 **Stakeholders** will utilize hiring practices aligned with Human Resources and Organizational Effectiveness (HROE) guidance and policies to attract diverse talent pools in the hiring process.

- 1.2.1.2 To retain the best talent, leaders will set meaningful goals, discuss career progression for employees, and provide timely feedback regarding employee performance; provide coaching as needed for the success of each employee; and recognize outstanding performers for their contributions via award programs and other recognition outlets provided by the university.
 - 1.2.1.3 Interdisciplinary research teams will reflect diversity in experience and expertise in the pursuit of inclusive knowledge.
 - 1.2.1.4 The research enterprise will operationalize and practice consistency in providing support for research efforts.
 - 1.2.1.5 Texas A&M is a designated Hispanic Serving Institution (HSI). The Division of Research will address barriers to include and to promote environments where all researchers feel included, respected, and valued. This office will increase knowledge of and accessibility to resources, such as research collaboration with the A&M System schools and agencies.
 - 1.2.2 **Processes:** The Division of Research will focus on streamlining and simplifying administrative processes, which was Identified as a high priority during the strategic planning process. The supporting processes will be flexible, adaptive, and reflective of workforce needs to strengthen the **research enterprise** by building partnerships and research collaborations with Texas A&M System schools.
 - 1.2.2.1 The commercialization process will support Texas A&M's mission of advancing discoveries to benefit society.
 - 1.2.3 **Wellness:** The appreciation for work/life balance of each **stakeholder** of the **research enterprise** will be affirmed through operational practices.
 - 1.2.3.1 Promotion of university/agency/system programs as well as **stakeholder** dynamics that also promote the mental and physical wellbeing of each **stakeholder** will be supported through scheduling of wellness time, activities, and events.
- 1.3 Emphasis on Service:** Reducing administrative burdens was identified as a high priority from internal and external stakeholders. The Division of Research will lead a service-centric model intended to improve and maintain **stakeholder** satisfaction.
- 1.3.1 Identification of service efficiencies will be transparent; process-oriented detection and elimination of ineffective processes or unnecessary redundancies will be operationalized within each **stakeholder**. Opportunities for harmonizing and streamlining the research ecosystem will be identified to support the research mission, integrity, compliance, and trust.
 - 1.3.1.1 **Stakeholders** will create and demonstrate agile and dynamic needs assessments that will be conducted to assure alignment with overall **stakeholder/organizational** goals.
 - 1.3.1.2 The Division of Research is a service organization with the purpose and mission of ensuring the success of university researchers. Service units within the division (such as Research Development Services or Sponsored Research Services), as well as throughout the **research enterprise**, will provide access points that accommodate and encourage continuous improvement feedback by constituents and must demonstrate efficient and effective response mechanisms to take corrective action or respond to a changing environment, such as regulatory protocols.
 - 1.3.1.3 Best practice solutions are defined as proven, best-in-class, evidence-based, and process oriented and must include built-in accountability processes. Engagement of stakeholders for understanding of varied perspectives and greater understanding of common interests will be included as part of the process for change, with the outcome and result assuring the achievement of optimum service levels. Transparency is required on all counts.
 - 1.3.1.4 Administrative burdens and barriers are real or perceived challenges to efficient delivery of services towards the pursuit of research or conduct of research. Commitment by all parties to communicate context, deadlines,

regulatory requirements, etc., with the shared purpose of following efficient and effective processes towards research excellence will be required.

1.4 Research Infrastructure

1.4.1 Organizational structure aligned to meet institutional and societal goals:

Stakeholders will review respective organizational structures annually to identify and fill any gaps in leadership or execution of the needs of the organization and the response of the organization to meet the goals and outcomes of an evolving and advancing research enterprise.

1.4.1.1 **Physical facilities (buildings/rooms), singular research stakeholder:** **Stakeholders** will review the current and projected future needs of the physical space, equipment, and instrumentation of the unit to assess and update annually and to align with budgetary processes.

1.4.1.2 **Information technology elements:** **Stakeholders** will evaluate the networking infrastructure, hardware, and software in support of safe and secure computing, storage, and services required to conduct or support research.

1.4.1.3 **Shared physical facilities:** **Stakeholders** will review the current and projected future needs of the physical space, equipment, and instrumentation of the unit to assess and update annually and align with budgetary processes.

1.4.1.4 **Identification of barriers:** **Stakeholders** will assess any infrastructure barriers to research and service of research excellence practices with transparency and with process-oriented detection methods. **Stakeholders** will quantify the barrier, whether it is budgetary, lack of staffing, low priority, etc.

1.4.1.5 **Internal funding investments:** The **research enterprise** will be supported by internal funding investment programs to increase collaboration, grow interdisciplinary research collaborations, and advance discoveries to benefit the world.

1.4.1.6 **Performance-based budget:** A performance-based budget schedule will be provided along with resources to guide and align **stakeholder** needs with the strategic goals of the **research enterprise**, requiring:

- Alignment of deliverables with priorities and impact
- Alignment of deliverables with available financial, human, and other resources
- Eliminate potential redundancy
- Provide units with budget authority, responsibility, and accountability
- Preparation for the university's FY2024 budget process

1.4.1.7 **Performance Evaluation:** The performance evaluation process associated with a faculty researcher performing interdisciplinary/multidisciplinary research will be assessed to assure equity with an evaluation of faculty researchers conducting basic or applied research.

B. Dynamic Community – Stakeholders, Strategic Research Themes/Sub-themes, Synergies

The **research enterprise** community comprises students, faculty, staff, and other stakeholders (internal and external) involved in educational activities associated with learning or teaching the mechanics of research, the active production of research, and providing services in support of research as well as those impacted by research outcomes. Internal stakeholders are defined as those within Texas A&M and state agencies of the Texas A&M System involved in basic, applied, or translational research, or delivery of research-based solutions.

This strategic plan documents strategic research themes and sub-themes that leverage Texas A&M's strengths, capacity, and capabilities across multiple disciplines. These themes/sub-themes provide opportunities for Texas A&M to i) strengthen our tripartite mission of research, teaching, and outreach; ii) advance research excellence and scholarship through collaborations; iii) address state, national, and global challenges; iv) deliver significant societal impact; and v) elevate Texas A&M's status and ranking as a global research leader.

Identification of the strategic research themes/sub-themes was informed by various input sources including:

- Strategic plans and research priorities of the various colleges, schools, and agencies, and consultation with faculty and external groups
- Input received during Division of Research's strategic planning process
- Solicited input/feedback from the University Research Council (URC), Council of Principal Investigators leaders, and others on high research priorities within their respective areas
- Alignment with the national and global research-and-development agenda and priorities of key federal research-and-development funding agencies—including Department of Defense (DOD) and its Defense Advanced Research Projects Agency (DARPA), National Institutes of Health (NIH), Department of Energy (DOE) and its National Laboratories, National Aeronautics and Space Administration (NASA), National Science Foundation (NSF), Department of Agriculture (USDA), Department of Commerce (DOC), and Department of Education (DOED)—and the Texas Legislature.

Following this process, six broadly defined strategic research themes emerged:

- i) Community and Economic Resilience
- ii) Emerging Technologies and Innovations
- iii) Health and Quality of Life
- iv) National Security
- v) Space Exploration
- vi) Sustainability and Environment

Multiple sub-themes were defined for each thematic area, for a total of 21 sub-themes (Tables 1 and 2). Examples of research areas of strength within Texas A&M are provided for each sub-theme in Table 1, while a mapping of Texas A&M's capacity and alignment of each sub-theme with state and national priorities is provided in Table 2. The strategic research themes and sub-themes are interconnected and do not represent an exhaustive listing of the excellent research undertaken at Texas A&M and the scope and magnitude of our research enterprise. The themes/sub-themes should be viewed as opportunities to strengthen disciplinary and interdisciplinary research and scholarship; engage the university community and external partners to address the grand challenges of our time; and deliver societal impact.

Dynamic processes within the research enterprise community—including regular consultations with key stakeholder groups—will inform continuous refinement of the strategic research themes/sub-themes and selection (bi-annually) of immediate priority sub-themes for further development as strategic initiatives.

The short- and long-term societal impact success of the strategic research themes/sub-themes and initiatives require integration of discipline-specific knowledge gained in STEM, health sciences, social-behavioral sciences, arts, and humanities research and scholarly activities. It is unlikely, for example, that we could achieve national security without cultural understanding or develop effective technologies and innovations without understanding attitudes, beliefs or physiologies that impact their utilization or effectiveness. Similarly, our understanding of immigration and migration of people on earth will inform our space exploration and space habitation. In sum, strengthening our discipline-specific research and scholarly activities while removing known barriers to interdisciplinary/transdisciplinary engagement around the strategic research themes/sub-themes will be essential to the elevation of our research enterprise.

Table 1: Strategic Research Themes, Sub-Themes, and Texas A&M’s Areas of Strength and Opportunity

Strategic Research Themes	Strategic Research Sub-Themes	Examples of Research Areas of Strength/Opportunity within Texas A&M
Community, Culture, and Economic Resilience	Arts Ecosystem and Culture	Impact of arts on health and wellbeing, education and economy, community transformation and healing, adaptation to social, economic and technological challenges, public humanities, cultural heritage, historic creative activity, civics education, creative production and performance, use of new media and technologies in arts, and tourism
	Human Development and Social Dynamics	Human resource development, change management, resilience, leadership development, social dynamics, policy, human factors, bioethics, education disparities
	Workforce and Future of Work	Workforce development, future of work, cultures of work, policy, inclusive workforce
Emerging Technologies and Innovations	Artificial Intelligence, Learning, and Autonomy	Machine learning, deep learning, human-machine interactions, sensors, robotics, computer vision, ethics/policy, technology adoption
	Biotechnology and Biomanufacturing	Synthetic biology, genomics, gene editing, genetic medicines and RNA/DNA vaccines, biomanufacturing, smart and sustainable infrastructure
	Data, Visualization, and Information Technologies	Digital twins, computing platforms, visualization, AR/VR technology, LED production stages, communicating with the future, policy
	Microelectronics and Semiconductors	Analog and mixed signal circuits, artificial intelligence hardware, biosensors, brain-inspired computing, integrated photonics, intelligent and cognitive EM sensors, MEMS sensors and actuators, memristors and emergent memory devices, metrology, molecular computing, neuromorphic materials, radiation-hardened electronics, secure edge computing, 5G/6G technology, workforce development
	Quantum Science and Technology	Quantum sensing, quantum biology, quantum communications, quantum computing
Health and Quality of Life	Diagnostics, Treatments, Intervention, and Cures	Biomedical devices, diagnostic technologies, precision medicine, genetics/genomics, toxicology/environmental health, neuroscience, infectious diseases, zoonotic/emerging diseases, digital health, telehealth, cancer therapeutics/vaccines, cardiovascular diseases, communication and adoption, clinical trials, governance
	Disease Prevention and Health Promotion	Risk and protective factors, food-nutrition-health link, prevention of chronic diseases, stress management, vaccine development, emissions-energy-health interactions, health communication, hospitality and recreation
	Health Disparities and Community Health	Rural and community health, racial/ethnic/socioeconomic health disparities, women’s health and gender differences, military and operational medicine, humanitarian assistance/disaster response, health resilience, global health security, governance
National Security	Biodefense and Biosecurity	Detection/forecasting, rapid response/contamination, pandemic response, one health, rapid therapy/vaccine development, applied biosafety/bio-risk mitigation, environmental surveillance, manufacturing, supply chain
	Cybersecurity	Cybersecurity assessment, human dimensions, cyber modeling, privacy versus security, governance
	Nuclear Security	Arms control, nuclear terrorism, risk analysis, nuclear forensics, nuclear nonproliferation, nuclear power, policy
	Advanced National Security Technologies	Directed energy; hypersonic technology; ballistics; encryption; systems engineering; materials for extreme environments; policy
Space Exploration	Human Space Flight	Human factors and behavioral performance, human health countermeasures, space radiation, exploration medical capability, research operations and integration, food/nutrition, space humanities
	Space Engineering and Construction	Aerospace power and energy storage; robotics, sensors, and autonomous systems; robotics space flight; materials and manufacturing; space food systems
	Earth and Planetary Sciences	Earth science, astrophysics, astrobiology, planetary science, exoplanets, space domain awareness, remote communications, asteroid detection and deflection
Sustainability and Environment	Climate Resilience and Mitigation	Climate resilience/mitigation, coastal resiliency, blue economy, carbon capture, environmental ethics/humanities, policy
	Energy Transition/Clean Energy	Biomass/renewables, nuclear reactors, hydrogen economy, smart grid/infrastructure of the future, electrification, decarbonization, energy storage, critical materials, simulations of scenarios of energy of the future, response, training, policy
	Food-Energy-Water-Health (FEWH) Nexus	Development and application of integrated tools/platforms to inform the decision-making process for FEW resilience, assessment of the sustainability of FEW systems, water quality decision support system, FEW and health, food security, clean water, response, training, policy

Table 2: Strategic Research Themes Mapped onto the Priorities of Federal R&D Funding Agencies and Texas Legislature, and Internal Capacity within Texas A&M

Strategic Research Themes	Strategic Research Sub-Themes	Alignment with National and Texas (TX) Legislative Priorities	Texas A&M Capacity (Initial Mapping of Alignment with Colleges, Schools, Agencies, and Centers/Institutes/Core Facilities)
Community, Culture, and Economic Resilience	Arts Ecosystem and Culture	NEA, NEH, NSF, NIH	CAS, CEHD, PVFA, COA (<i>HRRC, CHUD, CHC</i>), BUSH, LAW, LIBRARY, <i>GCHR, CoDHR, CSFA, CMAC, RESI</i>
	Human Development and Social Dynamics	NSF, NIH, DOED, NEA, USAID, UN	CEHD, CAS, MAYS, PVFA, TEES (COE), HSC (SPH, CoN, CoM, CoP), AGLR (COALS), LAW, BUSH, AGEX, TEEX, TTI, <i>IECE</i>
	Workforce and Future of Work	NSF, NIH, DOED, USDA, DOC, CHIPS ACT, NEH, MULTI-AGENCY R&D, NATIONAL SECURITY, USAID, UN, TX	CEHD, CAS, MAYS, PVFA, TEES (COE), AGLR (COALS), LAW, BUSH, AGEX, TEEX, TTI, <i>ERGO, ARCHI</i>
Emerging Technologies and Innovations	Artificial Intelligence, Learning, and Autonomy	NSF, NIH, DOD, DARPA, DOED, CHIPS ACT, MULTI-AGENCY R&D, NATIONAL LABS, SBIR/STTR	TEES (COE), CAS, CEHD, AGLR (COALS), PVFA, HSC (CoM, CoP), BUSH, TTI, TAMIDS, COA, LAW, (<i>GeoSAT</i>)
	Biotechnology and Biomanufacturing	NSF, NIH, DOE, DOD, DOC, DARPA, CHIPS ACT, MULTI-AGENCY R&D, NATIONAL BIOTECH, SBIR/STTR	CAS, AGLR (COALS, VMBS), HSC (CoM, CoP), TEES, CEHD, <i>CPT, MIC, TxGEN, AggieFab, MCF, NCTM, SI, LAW, CIADM</i>
	Data, Visualization, and Information Technologies	NSF, NIH, USDA, DOC, DARPA, NEH, SBIR/STTR MULTI-AGENCY R&D, NATIONAL SECURITY, TX	CAS, PVFA, COA, TEES (COE), AGLR (COALS), CEHD, MAYS, BUSH, HSC (SPH), TTI, <i>HPRC, TAMIDS, ARCHI, LAW,</i>
	Microelectronics and Semiconductors	NSF, NIH, DOE, DOD, DOC, DARPA, CHIPS ACT, MULTI-AGENCY R&D, SBIR/STTR, TX	TEES (COE), CAS, MAYS, CEHD, AGLR (COALS), <i>AggieFab, CI, HPRC, IQSE, MCF, NES, TAMIDS</i>
	Quantum Science and Technology	NSF, DOD, DARPA, MULTI-AGENCY R&D	CAS, TEES (COE), AGLR (COALS), <i>IQSE,</i>
Health and Quality of Life	Diagnostics, Treatments, Intervention, and Cures	NIH, DARPA, DVA, DHA, HRSA, ARPA-H, MULTI-AGENCY, MULTI-AGENCY R&D, NATIONAL BIODEFENSE, USAID, UN, TX	HSC (CoD, CoM, CoN, CoP, SPH), CAS, LAW, TEES (COE), ENMED, AGLR (COALS, VMBS), TVMDL, PVFA, CEHD, <i>CVRI, GHRC, CMDD, CPT, CTCR, HCRF, TAMIN, IQSE</i>
	Disease Prevention and Health Promotion	NIH, USDA, MA, CDC, DHA, HRSA, ARPA-H, NEH, SBIR/STTR, UN, TX	HSC (CoM, CoN, SPH), CEHD, COA (<i>CHSD, CHUD</i>), LAW, AGLR (COALS, VMBS), AGEX, TTI, TEES, <i>IAH, IBT, CCHA, HCDC, GHRC, IAD, CARTEEH</i>
	Health Disparities and Community Health	NIH, DOED, USAID, VA, DHA, NSF, HRSA, ARPA-H, NEH, MULTI-AGENCY R&D, UN, TX	HSC (CoD, CoM, CoN, CoP, SPH), CEHD, COA (<i>CHSD, CHUD</i>), CAS, LAW, AGLR (COALS), BUSH, TEES, AGEX, <i>CDC, IECE, IAH, CHEER, SRHRC, CCHA, HST</i>
National Security	Biodefense and Biosecurity	NIH, DOE, NL, DARPA, DHS, CDC, MULTI-AGENCY R&D, NATIONAL BIODEFENSE, NATIONAL SECURITY, NATIONAL LABS, SBIR/STTR, USAID	HSC (CoM, CoP, SPH), CAS, TEES (COE), AGLR (COALS, VMBS), TDEM, TVMDL, TEEX, BUSH, <i>GHRC, IAD, CBTS, IQSE, NCTM, CIADM, TEMAG, TxGEN</i>
	Cybersecurity	NSF, DOD, DOC, DOE, DARPA, AFOSR, CHIPS ACT, MULTI-AGENCY R&D, NATIONAL SECURITY, SBIR/STTR, NATIONAL LABS	CAS, TEES (COE), LAW, MAYS, CEHD, TEEX, <i>CC, GCRI, HPRC, BCDC, CI, TAMC2</i>
	Nuclear Security	DOD, DOE, NASA, DARPA, NATIONAL SECURITY, SBIR/STTR MULTI-AGENCY R&D	TEES (COE), CAS, LAW, BUSH, <i>ReCENT, NES, CI</i>
	Advanced National Security Technologies	DOD, DOE, NASA, DARPA, NATIONAL SECURITY, SBIR/STTR, MULTI-AGENCY R&D	TEES (COE), CAS, LAW, BUSH, TTI, <i>BCDC</i>
Space Exploration	Human Space Flight	NASA, DOC, AFOSR, CHIPS ACTS, NATIONAL LABS	HSC (CoM, CoN, CoP, SPH), TEES (COE), CAS, AGLR (COALS), CEHD, PVFA, BUSH
	Space Engineering and Construction	DOD, NASA, DOE, DARPA, AFOSR, CHIPS ACT, SBIR/STTR, MULTI-AGENCY R&D	TEES (COE), CAS, COA, PVFA, AGLR (COALS), <i>CI</i>
	Earth and Planetary Sciences	NASA, DOC, DOD, AFOSR, CHIPS ACT, NATIONAL SECURITY, NATIONAL LABS	CAS, TEES (COE), LAW, <i>IQSE, CI</i>
Sustainability and Environment	Climate Resilience and Mitigation	NSF, DOE, USDA, DOC, CHIPS ACT, INFLATION REDUCTION ACT, USEPA, NATIONAL SECURITY, NATIONAL LABS, NEH, MULTI-AGENCY R&D, USAID, UN	CAS, AGLR (COALS, VMBS), TEES (COE), COA, CEHD, BUSH, LAW, MAYS, HSC (SPH), Galveston, Qatar, TDEM, PVFA, TTI, <i>TSG, TIO, NRI, EI, TCCS, ISTPP, NBI, TWRI</i>
	Energy Transition and Clean Energy	NSF, DOE, USDA, DOC, DOT, AFOSR, CHIPS ACT, INFLATION REDUCTION ACT, USEPA, NATIONAL SECURITY, NATIONAL LABS, ARPA-E, SBIR/STTR, MULTI-AGENCY R&D, UN, TX	TEES (COE), CAS, AGLR (COALS), MAYS, PVFA, CEHD, COA, (<i>CHUD, CHSD</i>) BUSH, LAW, TEEX, TTI, Qatar, <i>EI, CIR, NCEBR, IQSE, CI</i>
	Food-Energy-Water-Health (FEWH) Nexus	NSF, DOE, USDA, NIH, CHIPS ACT, NATIONAL LABS, NATIONAL SECURITY, USAID, USEPA, UN, TX	CAS, AGLR (COALS), TEES (COE), AGEX, CEHD, BUSH, LAW, COA, MAYS, PVFA, HSC (SPH), TEEX, Galveston, <i>TSG, TWRI, EI, NBI</i>

CRITICAL DIVISION OF RESEARCH MISSION STATEMENT COMPONENT THAT ALIGNS WITH THIS THEME

Build capacity through collaborations and strategic investments

Strategies:

2. Dynamic Community

2.1 Networks (Creating Community)

- 2.1.1 Internal **stakeholders**, including the fellow community, postdoctoral community, and others in the research enterprise will seek interdisciplinary access points to expand and broaden the **research enterprise** community. Informal and formal activities and events for networking, focus on technology that can facilitate connections, and other outlets for relationship building will be planned and executed.
- 2.1.2 External **stakeholders** may include anyone outside of Texas A&M, the Texas A&M System, and its state agencies, such as: the public, other academic units, private enterprises, foundations, the National Laboratories, funding agencies, and other governmental agencies, etc. Review of strategic connections to achieve strategic priorities and communications to prevent gaps and overlap will be facilitated by the Division of Research.

2.2 Strategic Research Themes/Sub-Themes and Initiatives

- 2.2.1 Strategic initiatives that center around the research themes/sub-themes identified in Tables 1 and 2 will be defined and developed, in consultation with the research enterprise community and **stakeholders**.
- 2.2.2 The Division of Research will collaborate with Texas A&M internal **stakeholder** groups (including colleges, schools, faculty research organizations such as the University Research Council, Council of Principal Investigators, and Faculty Senate Research Committee) and associated agencies to coordinate and facilitate interdisciplinary team building activities and other efforts to advance the strategic themes/sub-themes and initiatives and overall research enterprise.
- 2.2.3 Strategic research themes/sub-themes and initiatives will guide and inform DOR future strategic investment in research. While the division will continue to support original and innovative research ideas by the faculty, priority for research support (e.g., research development support, internal seed funding, and matching funds) may be given to research efforts that align with and advance the strategic research themes/sub-themes and initiatives.
- 2.2.4 The division, with input from **stakeholder** groups, will continue to review and update the strategic research themes/sub-themes periodically to reflect expected growth in internal capacity and capabilities and respond to new opportunities.
- 2.2.5 The university will invest in internal and external programs that increase the capacity of our faculty and doctoral programs.

2.3 Synergies of Centers, Institutes, and Core Facilities: Centers, institutes, and core facilities will provide a conduit by which a critical mass of intellectual capability, disciplinary expertise, financial resources, and physical assets are brought together to successfully accomplish the university's mission of quality education, research, and service. The priorities will focus on supporting foundational research infrastructure along with the human capital necessary to promote excellence, innovation, and outstanding achievement in research, scholarship, and creative artistry.

- 2.3.1 Centers and institutes will draw faculty and students from across the university along with partners from local, state, national, and international communities to create interdisciplinary/multidisciplinary teams that can address the challenges and opportunities facing the state, the nation, and the world by:

- Enhancing the partnerships among diverse stakeholders across the university to provide relevant perspectives to assess potential opportunities and develop innovative solutions.
 - Increasing access to the unique capabilities, expertise, and facilities at the National Laboratories to overcome technological challenges within the innovation environment, develop new technology platforms, address national security challenges, and build long-term opportunities.
- 2.3.2 Centers and institutes exist to promote scholarship in teaching, training and/or research, as well as perform service or outreach functions consistent with the mission of the university. The priorities will focus on supporting foundational research infrastructure along with the human capital necessary to promote excellence, innovation, and outstanding achievement in research, scholarship, and creative artistry, and as such will:
- Develop collective leadership models in centers and institutes that will encourage individuals to cross disciplinary boundaries and work collaboratively to catalyze systemic change.
 - Accelerate the hiring of key personnel to fill knowledge gaps to support cross-cutting curricula and interdisciplinary/multidisciplinary scholarship to engage undergraduate and graduate students.
 - Foster interdisciplinary/multidisciplinary collaboration through centers and institutes that will support diverse teams of researchers focused on challenges that span disciplines and promote new avenues of inquiry.
- 2.3.3 Centers and institutes will nimbly and quickly respond to the changing demands of interdisciplinary/multidisciplinary research critical to inventing solutions that make the nation and the world healthier, safer, and more sustainable as well as inspire exploration science by:
- Supporting and enhancing existing centers and institutes and developing new centers and institutes to support strategic research priorities capable of transforming systems to create a more sustainable and resilient future where exploration leads to discovery.
 - Using centers and institutes as a catalyst to accelerate research focused on entrepreneurial problem-solving for a wide range of societal problems by helping to connect faculty with partners in the public, private, and social sectors and bringing the power of university assets (technology, intellectual property, facilities, and leading scientist and researchers).
 - By engaging the public policy sector, centers and institutes can assist university researchers in understanding the technical needs, the risk appetite, and investment criteria to develop strategies to help minimize the regulatory barriers and increase incentives that will ensure the innovations the university is making will have the greatest societal impact.
- 2.3.4 Core facilities are centralized shared research resources that will provide access to instruments, technologies, and services, as well as expert consultation and other services to scientific and clinical investigators. Core facilities will support innovation that expands the research capabilities of the **research enterprise**, and, where possible, provide hands-on training opportunities for undergraduate and graduate students. Core-facility priorities will focus on the following areas:
- Engaging in methods development and analytical innovation that expands the research enterprise both in terms of outcomes that address societal challenges as well as grants awarded.
 - Advancing the university's educational and training mission by contributing to teaching courses or providing hands-on-experience and training opportunities for undergraduate, graduate, and post-doctoral students.
 - Providing long-term/full-time professional technical support which is key to maintaining quality core facilities capable of providing the services, development, and innovation critical to cutting-edge research.

- Ensuring the long-term financial health of core facilities is central to their success. Develop a shared financial responsibility model between the university, colleges, schools, departments, and principal investigators along with service center fees that equitably address the needs of both small and large service centers alike (critical).
- Leading in the acquisition of state-of-the-art technologies for a broad user base to support interdisciplinary research.
- Providing shared resources and facilities to enable interdisciplinary /multidisciplinary research teams, including equipment shared amongst diverse groups, the expertise to support new research directions and the creation of new research platforms.

C. Communications Visibility – Basic, Applied, or Translational Research Results

The results or outcomes of basic, applied, or translational research must be transparent, timely, and articulate the value of the research being conducted and the solutions provided by the research or explain how the research activities are connected to solving future problems for society. Building and maintaining public confidence and trust requires sharing of knowledge with all **stakeholders**.

CRITICAL DIVISION OF RESEARCH MISSION COMPONENT THAT ALIGNS WITH THIS THEME

Increase communication and enhance visibility with stakeholders to promote the value of research and the research enterprise

Strategies:

3. **Communications Visibility:** Basic, applied, or translational research results will be effectively communicated internally and externally following these principles.
 - 3.1 Basic research is foundational to applied or translational research.
 - 3.2 Execution of translational research that impacts society will be communicated in a variety of outlets and mediums, and the internal as well as external communication processes are essential elements to full-cycle recognition of the **research enterprise** efforts. **Stakeholders** are local, state, national, and global.
 - 3.3 Translational research is effective when outcomes or results are evident and recognized by impact and serve the public good.
 - 3.4 Utilizing subject matter experts will promote faculty/researchers as leaders in their field, advance careers, and provide visibility and prominence through local, state, national, and international recognition.
 - 3.5 All stories will be focused and purpose-driven and will incorporate messaging of Aggie Core values for branding awareness.
 - 3.6 The internal process for execution and delivery of communications will be established to provide timely and seamless communication across multiple platforms and mediums that are designed to meet the needs and requirements to benefit respective **stakeholders**. The process, where appropriate, will align associated research efforts across university units.
 - Communication with the external community will, in part, align with strategic priorities and new research.
 - An annual communications report detailing marketing activities, reach, and other meaningful statistics will be developed for the **research enterprise stakeholders** to complete the cycle of transparency and outcomes. The report should be based on:
 - 3.6.1 Quantitative metrics that reflect distribution and penetration among key

- 3.6.2 *stakeholder* groups. Qualitative metrics generated by the combination of professionally conducted baseline surveys and annual follow-up surveys to gauge awareness as well as attitudes and opinions among these *stakeholders*.
-

D. Texas A&M 2036

Texas A&M 2036 recognizes the 200th birthday of the state of Texas and is a vector for research *stakeholders* to broaden and awaken the possibilities and imagination of everyone involved in the *research enterprise* and to define the needs for tomorrow and the next generation. Envisioning what is impossible now but possible in the future through the engagement of *stakeholders* within the *research enterprise* is an open invitation for pursuit of what some may believe is attainable. The process for wayfinding and framing longer term priorities is complex and yet the possibilities are endless. The challenge of doing so is the rate of change in technology and the ability to vision the social, technological, and environmental landscape for Texans, the nation, and the world. Given this, any such strategic vector must be flexible, nimble, and adapt to unforeseen change and opportunities.

Strategies:

4. Texas A&M 2036

4.1 Process:

- 4.1.1 The Division of Research will plan events and activities designed to bring together thought leaders at Texas A&M, the Texas A&M System, and its agencies, as well as futurists in the local, state, national, and international community, for visioning sessions.

4.2 Baseline:

- 4.2.1 The Division of Research will produce a baseline vector, in collaboration and partnership with stakeholders.
-

E. Assessment of Impacts

The *research enterprise* strategic plan is a dynamic, living document. Elements that are included in the plan are intended to be broad categories that are reflective of strategic priorities, input from stakeholders, as well as environmental scanning of the present and future needs of all stakeholders. The development of specific plans, activities, tasks, and resources of each respective *stakeholder* will be critical to moving the *research enterprise* forward.

Strategies:

5. Assessment of Impacts

5.1 Process:

- 5.1.1 Each *stakeholder* will review the elements contained within this document and determine plans, goals, and intended impacts associated. Document the specific activities, goals, and intended impacts utilizing template forms that are provided by the Division of Research through the [division website](http://vpr.tamu.edu) (vpr.tamu.edu) to promote consistency and categorizing of data responses.

5.2 Baseline:

- 5.2.1 **Stakeholders** may submit to the Vice President for Research (vpr@tamu.edu) a plan for implementation of activities that will align with the **research enterprise** strategic plan.
- 5.2.2 The VPR will acknowledge and present through the Division of Research website all plans that have been submitted.
- 5.2.3 Each **stakeholder** will provide data related to outcomes and or changes to plans; the VPR will acknowledge and present through the Division of Research website. An evaluation process will assess the relevance, achievement, and any modifications necessary.
- 5.2.4 Key Performance Indicators (KPIs) for progress and success will be based on meaningful outcomes.

RESOURCES AND DEVELOPMENT OF KEY PERFORMANCE INDICATORS (KPI)



The Division of Research is available to assist and guide stakeholders.

- 1.1 Review the **research enterprise** strategic plan and establish **stakeholder** plans identifying alignment and/or potential opportunities.
 - 1.1.1 **Stakeholder** plans should align with the overall strategic goals and priorities of the research enterprise.
 - 1.1.2 Plans should include steps to achieve and assessment processes (strategies) to measure outcomes/expected results.
 - 1.1.3 Plans should answer the question, “how do these actions advance and or impact the research enterprise mission?”
 - 1.1.4 Individual stakeholders must see alignment in their roles to fit **stakeholder** plans.
 - 1.1.5 Individual stakeholders must assess their engagement as part of individual metrics.
- 1.2 Template forms for use (under development)
- 1.3 Contact the Office of the Vice President for Research at 979-845-8585 with any questions.
- 1.4 Email vpr@tamu.edu or utilize the [feedback and comment form](#) found on the Division of Research website (anonymously or you may provide contact information).
- 1.5 The Division of Research will track and assess Key Performance Indicators relative to enterprise level engagement metrics and outcomes.
- 1.6 Reports that indicate progress for each strategic element (Environment for Innovation, Dynamic Community, Communication Visibility Basic, Applied and Translational Research Results, Texas A&M 2036, and Assessment of Impacts) may be provided to stakeholders. Examples of traditional KPI measurements:
 - Increasing total research expenditures
 - Increasing the number of National Academy members
 - Increasing the number of invention disclosures
 - Increasing the number of interdisciplinary collaborations
 - Increasing the number of sponsored projects
 - Increasing the funding projects for clinical research
 - Increasing the number of sponsored awards and fellowships in the social sciences, arts and humanities
- 1.7 **Stakeholders** may define KPIs that will correlate to enterprise-level engagement metrics.
- 1.8 **Stakeholders** may define KPIs that elevate and recognize other contributions.

THE TEXAS A&M UNIVERSITY SYSTEM, TEXAS A&M UNIVERSITY

THE TEXAS A&M UNIVERSITY SYSTEM

The mission of The Texas A&M University System is to provide education, conduct research, commercialize technology, offer training, and deliver services for the people of Texas and beyond through its universities and state agencies.

The Texas A&M System is made up of 11 universities with Texas A&M University in College Station serving as the flagship campus with branch campuses in Galveston, Texas, and Doha, Qatar. Texas A&M University is accredited by the [Southern Association of Colleges and Schools Commission on Colleges \(SACSCOC\)](#) to award baccalaureate, master's, and doctoral degrees.

Purpose

Classified by the Carnegie Foundation as a Research University (having very high research activity), Texas A&M embraces its mission of advancing knowledge and human achievement in all its dimensions.

TEXAS A&M UNIVERSITY

Is one of only 69 members of the prestigious Association of American Universities (AAU), an association of leading public and private research universities in the United States and Canada. As one of the largest universities in the United States with more than 71,000 students and 10,000-plus faculty and staff members, Texas A&M boasts some of the top programs in academic research, and scholarship. Texas A&M is one of only 24 institutions in the nation to hold the triple designation as a land-grant, sea-grant, and space-grant university and is an active member of the Association of Public and Land-grant Universities (APLU) — a research, policy, and advocacy organization dedicated to strengthening and advancing the work of public universities in the U.S., Canada, and Mexico.

Texas A&M University Mission Statement

Texas A&M University is dedicated to the discovery, development, communication, and application of knowledge in a wide range of academic and professional fields. Its mission of providing the highest quality undergraduate and graduate programs is inseparable from its mission: discovery and innovation through research and creativity.

It prepares students to assume roles in leadership, responsibility, and service to society. Texas A&M assumes as its historic trust the maintenance of freedom of inquiry and an intellectual environment nurturing the human mind and spirit. It welcomes and seeks to serve persons of all racial, ethnic, and geographic backgrounds as it addresses the needs of an increasingly diverse population and a global economy. In the 21st century, Texas A&M seeks preeminence among public universities while respecting its history and traditions.

A Brief History of Texas A&M University

Texas A&M University opened in 1876 as the state's first public institution of higher education. Texas A&M is one of a select few institutions in the nation to hold land-grant (1876), sea-grant (1971) and space-grant (1989) designations. A mandatory military component was a part of the land grant designation until 1965. Texas A&M remains one of only six senior military colleges that provide Reserve Officer Training Corps (ROTC) programs under US Code Title 10 with a full-time Corps of Cadets leading to commissions in all branches of service. The institution's ROTC programs are administratively housed in the School of Military Sciences and are offered through the departments of aerospace studies, military science, and naval science. Texas A&M has 16 academic colleges and schools (not counting the School of Military Sciences); two branch campuses, one in Galveston, Texas (established in 1962, and officially merged with Texas A&M in 1991) and one in Doha, Qatar (established in 2003); 17 SACSCOC-approved off-campus instructional locations (OCIS) at which 50% or more of the total credit hours for specified academic programs is provided. In 2013, the Texas A&M

University System Health Science Center merged with Texas A&M University. This same year, the university acquired the School of Law from Texas Wesleyan University.

Administration

General (Ret.) Mark A. Welsh III was named 27th president of Texas A&M University on Dec. 12, 2023. He served as dean of the Bush School of Government and Public Service in 2016-23 after four decades in the U.S. Air Force as a fighter pilot, a four-star general and the Chief of Staff.

Academic Units

The faculty researchers of Texas A&M work in units that include academic colleges and schools and two branch campuses at Galveston and Qatar:

- College of Agriculture and Life Sciences
- College of Architecture
- College of Arts and Sciences
- Mays Business School
- College of Dentistry
- College of Education and Human Development
- College of Engineering
- School of Engineering Medicine
- Bush School of Government and Public Service
- School of Law
- College of Medicine
- College of Nursing
- College of Performance, Visualization and Fine Arts
- Irma Lerma Rangel School of Pharmacy
- School of Public Health
- College of Veterinary Medicine and Biomedical Sciences

Centers, Institutes, and Core Facilities

Research centers, institutes, and core facilities play an important role in the academic landscape at Texas A&M, bringing together scholars and scientists—often from different disciplines—to tackle major research challenges. Presently there are more than 130 Texas A&M Centers and Institutes bringing together experts to solve problems in areas such as climate and the environment, computation and information, education and outreach, energy, food and water, global health and security, healthcare, infrastructure, materials and manufacturing, and science, policy, and the economy, among other research domains.

Core facilities are an essential part of Texas A&M research infrastructure, providing critical resources for groundbreaking research. By ensuring more efficient resource utilization, shared research facilities are a cost-effective way to leverage research expertise and specialized instruments. Core facilities provide dedicated space and specialized scientific equipment. Additionally, staff scientists provide field-specific expertise, research services, technical support, and training of graduate students and research staff. A&M offers more than 50 core facilities that can be generally categorized into chemical science technologies, data information and computation, integrated biological and medical translation, materials and fabrication, and microscopy and imaging.

Division of Research Units

Attending Veterinarian at Texas A&M
Comparative Medicine Program
Research Administration
Research Compliance and Biosafety
Research Development Services
Research Security and Export Controls
Sponsored Research Services
Office of Hispanic Serving Institution and Inclusivity Research Services
Office of Postdoctoral Affairs

Office of the Vice President for Research

- Centers and Institutes Management
- Health**
- Research Integrity Officer
- Research Reporting
- Strategic Initiatives

Research Communications and Public Relations*

Research Enterprise Business Services* (*includes Human Resources and Payroll; Budgets, Accounting, Travel*)

Technology Services, Research Services*

Hagler Institute for Advanced Study at Texas A&M University

High Performance Research Computing

International Ocean Discovery Program

Texas A&M Energy Institute

Texas A&M Global Cyber Research Institute

Texas A&M Global Health Research Complex

Texas A&M Institute of Data Science

Texas A&M Institute for Genome Sciences and Society

Texas A&M Institute for a Disaster Resilient Texas

Texas Sea Grant College Program

Bioscience Business Accelerator (in the TIPS building***)

Microscopy and Imaging Center

Interdisciplinary Life Sciences Building

Lab Animal Research Facility

* *In-partnership*

** *In-development*

*** (*TIPS*) *Texas A&M Institute for Preclinical Studies*

Faculty Research Organizations

- CPI – Council of Principal Investigators
- Faculty Senate Research Committee
- URC – University Research Council

External Sources for Defining Strategic Research Themes and Priorities

[ARPA-E: Advanced Research Projects Agency-Energy](#)

[ARPA-H: Advanced Research Projects Agency for Health](#)

[AFOSR: Air Force Office of Scientific Research](#)

[CDC: Centers for Disease Control and Prevention](#)

[CHIPS ACT: U.S. CHIPS and Science Act of 2022](#)

[DARPA: Defense Advanced Research Projects Agency's \(DARPA\) Priorities](#)

[DHA: Defense Health Agency](#)

[DHS: U.S. Department of Homeland Security](#)

[DOC: U.S. Department of Commerce \(DOC\) 2022 – 2026 Strategic Plan](#)

[DOD: U.S. Department of Defense's \(DOD\) Priorities](#)

[DOE: U.S. Department of Energy's \(DOE\) Priorities](#)

[DOED: U.S. Department of Education's \(DOED\) Priorities](#)

[DVA: U.S. Department of Veterans Affairs Office of Research & Development](#)

[HSRA: Health Resources and Services Administration](#)

[MULTI_AGENCY R&D: Multi-Agency Research and Development Priorities for the FY 2023](#)

[NASA: National Aeronautics and Space Administration's \(NASA\) Priorities](#)

[NATIONAL BIODEFENSE: National Biodefense Strategy and Implementation Plan for Countering Biological Threats, Enhancing Pandemic Preparedness, and Achieving Global Health Security](#)

[NATIONAL BIOTECH: National Biotechnology and Biomanufacturing Initiative](#)

[NATIONAL LABS: National Laboratories | Department of Energy](#)

[NATIONAL SECURITY: Biden-Harris Administration's National Security Strategy](#)

[NEA: National Endowment for the Arts Research Agenda- FY 2022-2026](#)

[NEH: National Endowment for the Humanities](#)

[NIH: National Institutes of Health \(NIH\)-Wide Strategic Plan 2021-2025](#)

[NSF: National Science Foundation \(NSF\) Strategic Plan 2022-2026](#)

[SBIR/STTR: Small Business Innovation Research and Small Business Technology Transfer](#)

[TX: Texas Legislature and Priorities](#)

[UN: United Nations \(UN\) Sustainable Development Goals](#)

[U.S. Department of Transportation](#)

[USAID: U.S. Department of State and U.S. Agency for International Development \(USAID\) Joint Strategic Plan FY 2022-2026](#)

[USDA: U.S. Department of Agriculture's \(USDA\) Priorities](#)

[U.S. Environmental Protection Agency](#)

Abbreviations

Federal Agencies

- DARPA Defense Advanced Research Projects Agency
- DOC Department of Commerce
- DOD Department of Defense
- DOED Department of Education
- DOE Department of Energy
- NASA National Aeronautics and Space Administration
- NEA National Endowment for the Arts
- NEH National Endowment for the Humanities
- NIH National Institutes of Health
- NSF National Science Foundation
- USDA United States Department of Agriculture
- USAID U.S. Agency for International Development

Colleges, Schools, and Agencies

- AGEX Texas A&M AgriLife Extension Service
- AGLR Texas A&M AgriLife Research
- BUSH Bush School of Government and Public Service
- CAS College of Arts and Sciences
- CHSD Center for Health Systems Design
- CHUD Center for Housing and Urban Development
- COALS College of Agriculture and Life Sciences (research embedded within Texas A&M AgriLife Research)
- COE College of Engineering (research embedded within Texas Engineering Experiment Station)
- CEHD College of Education and Human Development
- ENMED School of Engineering Medicine
- Galveston Texas A&M University at Galveston
- GeoSAT Center for Geospatial Sciences, Applications, and Technology
- HSC Health Science Center (includes five aligned schools – medicine, pharmacy, nursing, public health, and dentistry)
- LAW School of Law
- MAYS Mays Business School
- PVFA College of Performance Visualization, and Fine Arts

- Qatar Texas A&M University at Qatar
- COA College of Architecture
- CoD College of Dentistry
- CoM College of Medicine
- CoN College of Nursing
- CoP Irma Lerma Rangel College of Pharmacy
- SPH School of Public Health
- TDEM Texas Department of Emergency Management
- TEES Texas Engineering Experiment Station
- TFS Texas A&M Forest Service
- TTI Texas A&M Transportation Institute
- TVMDL Texas A&M Veterinary Medical Diagnostic Laboratory
- VMBS School of Veterinary Medicine and Biomedical Sciences (research embedded within Texas A&M AgriLife Research)

Centers, Institutes, and Core Facilities

- AggieFab AggieFab Nanofabrication Facility
- ARCHI A&M Rural and Community Health Institute
- BCDC Bush Combat Development Complex
- CARTEEH Center for Advancing Research in Transportation Emissions, Energy, and Health
- CC Cybersecurity Center
- CCHA Center for Community Health and Aging
- CHC Center for Historic Conservation
- CHEER Center for Health Equity and Evaluation Research
- CHUD Center for Housing and Urban Development
- CI Cyclotron Institute
- CIADM Center for Innovation in Advanced Development and Manufacturing
- CIR Center for Infrastructure Renewal
- CMAC Center for Maritime Archaeology and Conservation
- CMDDD Center for Microencapsulation and Drug Delivery
- CoDHR Center of Digital Humanities Research
- CPT Center for Phage Technology
- CSFA Center for the Study of First Americans
- CTRC Center for Translational Cancer Research
- CVRI Cardiovascular Research Institute
- EI Texas A&M Energy Institute
- ERGO Ergonomics Center
- GCHR Glasscock Center for Humanities Research
- GCRI Global Cyber Research Institute
- GHRC Global Health Research Complex
- HCDC Texas A&M Health Cancer Disparities Core
- HCRF Human Clinical Research Facility
- HPRC High Performance Research Computing
- HRRC Hazard Reduction and Recovery Center
- HST Healthy South Texas
- IAH Institute for Advancing Health through Agriculture
- IBT Institute of Biosciences and Technology
- IIAD Institute for Infectious Animal Diseases
- IECE Institute for Early Childhood Education
- ISTPP Institute for Science Technology and Public Policy
- IQSE Institute for Quantum Science and Engineering
- LIBRARY Cushing Memorial Library and Archives
- MCF Materials Characterization Facility
- MIC Microscopy and Imaging Center
- NBI Norman Borlaug Institute for International Agriculture

- NCEBR National Center for Electron Beam Research
- NCTM National Center for Therapeutics Manufacturing
- NESCC Nuclear Engineering and Science Center
- NRI Natural Resources Institute
- NSSPI Center for Nuclear Security Science and Policy Initiatives
- ReCENT Renewable Clean Energies and Nuclear Technologies
- RESI Race and Ethnic Studies Institute
- SIIA Scowcroft Institute of International Affairs
- SRHRC Southwest Rural Health Research Center
- TAMC2 Texas A&M Cybersecurity Center
- TAMIDS Texas A&M Institute of Data Science
- TAMIN Texas A&M Institute for Neuroscience
- TCCS Texas Center for Climate Studies
- TEMAG Texas A&M Emergency Management Advisory Group
- TIO Texas Institute of Oceanography
- TRDC Texas Research Data Center
- TSG Texas Sea Grant
- TWRI Texas Water Resources Institute
- TxGEN Texas Genomics and Bioinformatics Services

Acronyms and Definitions

Applied Research	Any research that may possibly be useful for enhancing health or well-being.
Appreciative Inquiry	Methodology utilized in stakeholder engagement.
Basic Research	Systematic study toward greater knowledge or understanding.
KPI, Metrics	Key Performance Indicators (KPI) are quantitative or qualitative measures of achievements or progress toward goals. Metrics allow for baseline data as well as data that may demonstrate growth, decline, or no change in progress.
S.O.A.R.	Strengths, Opportunities, Aspirations, Results. The methodology utilized in stakeholder engagement.
Stakeholders	Undergraduate students, postdoctoral students, graduate students, faculty, researchers, administrators, Division of Research, centers, institutes, core facilities, Texas A&M System, Faculty Research organizations, university partnership with Texas A&M agencies, public, support units such as Information Technology, Human Resources Organizational Effectiveness (HROE), Facilities, Finance, Marketing and Communications, etc.
Texas A&M University Research Enterprise	Undergraduate students, postdoctoral students, graduate students, faculty, researchers, administrators, Division of Research, centers and institutes, core facilities, Texas A&M System, university partnership with Texas A&M agencies, support units such as Technology Services (including Research Services), Human Resources Organizational Effectiveness (HROE), Facilities, Finance, Marketing and Communications, etc. Includes research infrastructure and associated components.
Translational Research	Systematic effort to convert (translate) basic research knowledge into practical applications that will result in benefits to humans and the human condition.



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