UNIVERSITY OF

South Carolina

Molinaroli College of Engineering and Computing

Project Elevating to Prominence

June 2025 – May 2030

Introduction

The Molinaroli College of Engineering and Computing stands at a pivotal moment in its evolution—one defined by opportunity, ambition, and a shared commitment to excellence. As we look toward the next five years, this strategic plan, *Project Elevating to Prominence*, outlines a bold and actionable roadmap to amplify our impact, elevate our standing, and deepen our contributions to the state of South Carolina and beyond. Grounded in our mission and values, this plan reflects the collective vision of our faculty, staff, and partners, and charts a course for sustainable growth, innovation, and academic prominence.

Like any strategic plan, this document is not static. We recognize that excellence is not achieved in a single moment—it is cultivated over time through hard work, humility, reflection, and adaptability. As the higher education landscape and broader economy continue to evolve, so too will this plan. We are committed to revisiting and refining our strategies as needed, ensuring that our goals remain relevant, our actions remain impactful, and our pursuit of excellence remains unwavering.

Our Mission

At the Molinaroli College of Engineering and Computing we foster innovation, research and scholarship, deliver exceptional education, and advance post-graduation success. We solve technological and societal grand challenges collaboratively and drive economic impact in South Carolina and beyond—going further, faster, together.

Our Vision

Focused Excellence, Elevated Prominence.

Our Values

1. Excellence & Prominence
   We aim higher…
   We don't just meet standards—we set them. Excellence is our baseline, and prominence is our pursuit.

2. Innovation & Discovery
   We imagine boldly….
   Curiosity fuels us. We chase ideas that challenge convention and unlock new possibilities.

3. Mentorship & Growth
   We lift each other…
   We believe in the power of guidance, encouragement, and shared wisdom to help everyone rise.

4. Community & Collaboration
   We build together…
   We thrive through connection—with industry, government, and academia—to create impact that reaches far beyond campus.

5. Student-Centered Focus
   Students are everything…
   Their growth, leadership, and success shape our purpose. Every decision starts with their future in mind.

Our Foundational Pillars

As the Molinaroli College of Engineering and Computing charts its course for the next five years, we are guided by a set of three foundational pillars that reflect our core values and align with the university's mission. These pillars will serve as the strategic framework through which we will elevate the college's prominence, amplify our impact, and strengthen the operational excellence that supports our academic and research endeavors. Each pillar represents a vital area of focus—designed to drive sustainable growth, enrich the student and faculty experience, and position the college as a leader in an increasingly dynamic and competitive higher education landscape.

Pillar 1: Elevate Student Excellence
Attract, retain, and graduate high-achieving students to build an academic community that fosters leadership innovation and scholarly impact.

Pillar 2: Advance Scholarly Impact
Enhance and develop top-tier academic programs that drive research excellence, knowledge creation, and recognition.

Pillar 3: Strengthen Statewide Innovation and Economic Growth
Collaborate with the state of South Carolina to apply knowledge and research in ways that drive economic development, industry partnerships, and workforce advancement.

Workstreams

To bring our strategic vision to life and elevate the prominence of the Molinaroli College of Engineering and Computing, we have identified a series of focused workstreams aligned with each of our foundational pillars. These workstreams serve as actionable pathways to operationalize our goals, drive meaningful progress, and ensure accountability.

Each workstream has been designed to strengthen the college's position as a leader in engineering and computing by addressing critical priorities, fostering innovation, and enhancing both the student and faculty experience. To ensure clarity and sustained progress, each workstream is accompanied by clearly defined goals, measurable metrics to track advancement, and targeted benchmarks to guide decision-making and resource allocation. This structure allows us to monitor outcomes, adapt strategies as needed, and remain focused on delivering long-term impact.

Metrics and Targets

At present, we have identified preliminary targets across each workstream that provide a strong starting point for each out our metrics. While these targets represent a solid foundation, some are not fully built out, intentionally. Over the first year of this strategic plan, we will engage in a collaborative, data-informed process to refine and expand metrics and targets where needed. This will involve benchmarking not only against our own historical performance, but also in relation to the broader goals of the University of South Carolina, our peer institutions, and the aspirational peers we seek to emulate.

When considering targets, it is important to note that our strategic plan is a living document. These goals are not static. As we move forward, we expect them to evolve—reflecting our learning, the opportunities before us, and the dynamic nature of higher education. This adaptive approach will allow us to remain agile, innovative, and responsive to change while keeping our eyes fixed on long-term impact.

By starting with purposefully crafted targets and building them out through intentional analysis and engagement, we ensure that we are measuring what truly matters—and that we remain accountable to the bold vision we have set for the Molinaroli College of Engineering and Computing.

The following sections outline the workstreams, metrics and preliminary targets associated with each pillar providing a clear roadmap for how we will advance our mission and elevate our prominence over the next five years.

Pillar 1: Elevate Student Excellence: Attract, retain, and graduate high-achieving students to build an academic community that fosters leadership innovation and scholarly impact.

Workstream 1: Streamline degree program structures to reduce complexity and increase flexibility, allowing for a broader range of elective options and more agile updates to curriculum. This initiative will enhance the student experience, support timely degree completion, and ensure programs remain responsive to emerging industry trends and academic innovation.

Strategic Goals:

1. Improve degree completion rates
   Increase four-year and six-year graduation rates by reducing curricular barriers, creating more flexible pathways to degree completion, and streamlining program structures to eliminate unnecessary complexity.
2. Enhance student retention
   Improve first-to-second year and overall student retention rates by providing more adaptable degree options, ensuring academic programs align with student interests and goals, and enabling a more personalized educational experience.
3. Ensure program responsiveness and relevance
   Establish mechanisms for continuous review and timely updates to academic programs to ensure alignment with evolving industry demands, technological advancements, and emerging areas of academic and workforce innovation.

Success Metrics:

1. Undergraduate Retention Rate
   Monitor and improve the retention rates for undergraduate students within MCEC, with a focus on first-to-second year and first-to-third year persistence as an early indicator of student success and engagement.
   Target: Since 2010 the first-to-second year and first-to-third year persistence *for MCEC has increased, however, this increase has not been steady or predictable (current data: 2023* first-to-second year retention rate: 81%, 2022 first-to-third year retention rate: 63.58%). *Therefore, MCEC aims to increase* first-to-second year and first-to-third *year persistence rates at a steady rate.*
2. Time-to-Degree Completion
   Track four-year and six-year graduation rates to assess how effectively streamlined program structures support timely degree completion, with a targeted emphasis on

increasing the proportion of students graduating within four years. At current, the 4-year college graduation rate for MCEC is 43% (2020 cohort) and the 6-year college graduation rate is 57% (2018 cohort). MCEC aims to monitor and improve this metric.
Target: Recognizing that the impact of these initiatives will take time to materialize, we anticipate a modest improvement in the early years (with a possible dip due to COVID). Specifically, we project up to a 2% increase in four-year graduation rates by 2030, with consistent 2% year-over-year growth thereafter as interventions take hold and scale.

3. Curriculum Complexity Score
   Maintain a competitive curriculum complexity score, as assessed by Curriculum Analytics or similar tools, ensuring that programs remain rigorous yet navigable, reducing barriers that delay student progress.
   Target: MCEC will strive to be positioned within the top quartile of peer institutions and degree programs in terms of curriculum complexity, as measured by a standardized curriculum complexity score. By regularly assessing and refining degree program structures, MCEC aims to balance academic rigor with student success, ensuring our programs remain competitive, relevant, and aligned with industry standards.
4. Program Flexibility and Market Responsiveness
   Increase the number of MCEC academic programs that incorporate flexible components such as specialized tracks, elective modules, or stackable credentials. These offerings should be designed for rapid integration or revision in response to emerging technologies, market demands, and societal needs (e.g., AI, cybersecurity, sustainability).
   a. Track how many students declare specialized tracks or enroll in newly created electives

Target: By 2030, 100% of MCEC academic degree programs will include at least one flexible component—such as specialized tracks, elective modules, or stackable credentials—that can be rapidly adapted in response to emerging technologies, workforce demands, and societal challenges (e.g., AI, cybersecurity, sustainability).

<u>5- Year Plan:</u>

Year 1:

- Communicate and solicit feedback.
- Conduct comprehensive curriculum audit across all undergraduate programs using tools like Curriculum Analytics to assess complexity, course dependencies, and time-to-completion barriers.
- Evaluate consistency of formatting of degree requirements across all degrees.

- Establish baseline data for all metrics: retention, graduation (4-/6-year), complexity score, and flexible program elements.
- Engage stakeholders (faculty, advisors, students, employers) to identify structural pain points and opportunities for flexible design.
- Develop framework and definitions for tracks, specialty modules, and stackable credentials within MCEC.

Year 2:

- Offer 2 to 3 pilot programs to incorporate streamlined course structures, elective flexibility, and/or specialty tracks.
- Develop an approval and revision process that allows programs to integrate market-responsive content more quickly while ensuring continuity for student retention (e.g., short-form review cycles for emerging tech topics).
- Begin rolling out faculty development initiatives focused on curriculum innovation and modular design.
- Establish annual reporting dashboards to track metrics and highlight areas of improvement or concern.

Year 3:

- Expand redesign efforts to an additional 4 to 6 programs based on Year 1 and 2 learnings.
- Integrate modular or track-based options into at least 30–40% of degree offerings.
- Align advising and student support services to new curriculum pathways to ensure smooth navigation.
- Refine curriculum complexity benchmarks and establish targets based on peer comparisons and internal trends.
- Track students who enroll in specialized tracks or newly enrolled electives.

Year 4:

- Evaluate program outcomes of redesigned curricula (impact on retention, time-to-degree, and student engagement).
- Reassess complexity scores and adjust targets based on updated program structures.
- Close any gaps in program flexibility, ensuring nearly all programs have clearly defined pathways that allow for agile updates or customization.
- Integrate industry and student engagement feedback loop for continued curriculum relevance and responsiveness.
- Track students who enroll in specialized tracks or newly enrolled electives.

Year 5:

- Institutionalize successful practices into curriculum review policy and program development standards.
- Achieve a modest increase in 4-year graduation rates, improved retention, and competitive curriculum complexity scores.

- Position MCEC as a model for responsive, student-centered engineering education through publication, conferences, or peer benchmarking.
- Continue to monitor, adapt, and innovate to stay ahead of academic and industry trends, and student needs with flexibility embedded as a core design principle.
- Reassess students who enroll in specialized tracks or newly enrolled electives.

Workstream 2: Develop/finetune Mentorship Programs to connect students with academic mentors early in their college experience

Strategic Goals:

1. Develop/enhance efficient mentor programs
   Enhance existing MCEC and USC mentoring resources to create a flexible, accessible program that supports students throughout their academic journey. Incoming students will be encouraged to engage with peers and faculty mentors to ease their transition and build community. As students' progress, mentoring will shift to focus on career planning, research, and graduate opportunities, incorporating alumni and industry professionals. The program will prioritize equitable access, thoughtful mentor matching, and regular feedback to ensure continued relevance and impact.
2. Simplify the processes for mentors
   To build a strong mentoring culture, MCEC will implement strategies that recognize and reward the time and effort required for effective mentoring. Participation will be encouraged by reducing barriers—such as time commitment and administrative complexity.
3. Establish a comprehensive communications model for advising/mentoring.
   MCEC will develop a coordinated communication plan to improve collaboration between academic advising, faculty, and staff. This model will enhance awareness of student support resources, academic programming, and engagement opportunities, while also providing consistent channels for sharing student needs, concerns, and trends. The goal is to create a more connected and responsive support network that ensures students receive timely, well-informed guidance at every stage of their academic journey.

Success Metrics

1. Program Participation Rates
   Track the total number of active participants in mentorship programs, disaggregated by role (students, faculty, alumni, and other partners). Year-over-year growth in participation will indicate increasing program relevance and awareness.
   Target: By 2030, at least 50% of MCEC students will actively participate in a formal mentorship program. In addition, we aim to see 10% participation growth on behalf of faculty, peers, alumni, and other partners year-over-year. Participation will be tracked annually and disaggregated by role (students, faculty, alumni, and other

participants) to assess growth, engagement, and the evolving relevance of the program within the college.

2. Retention Rate Impact
   Compare the retention rates of students who participate in mentorship programs versus those who opt not to. A positive differential will indicate the effectiveness of mentorship in promoting student persistence and engagement.
   Target: By 2030, students who participate in MCEC mentorship programs will demonstrate a retention rate that is at least 5 percentage points higher than that of non-participating peers.
3. Clear and Open Communication
   Assess the quality and consistency of communication between advisors/student services and academic departments. Focus on the availability of timely, accurate, and transparent information regarding degree requirements, academic progress, and university resources.
   Target: Improvement will be measured through increased usage of communication tools (e.g., emails, newsletters, resource highlights) as well as regularly scheduled meetings.

<u>5-Year Plan</u>

Year 1:

- Establish a baseline of existing mentoring resources and practices at MCEC and USC, including facilities, platforms, and personnel.
- Initiate development/integration of sustainable, scalable resources to support mentoring efforts long-term (e.g., digital platforms, physical meeting spaces, staff/faculty capacity).
- Conduct small-group discovery studies with students, faculty, advisors, and alumni to gather insights on mentoring needs, expectations, and past experiences.
- Design and outline three core mentoring tracks:
    1. Peer-to-peer student mentoring,
    2. Faculty-student mentoring,
    3. Alumni-student mentoring
- Ensure that each track includes aligned program goals, responsible parties for implementation and oversight, structure and resources required, dissemination and outreach strategy.
- Launch small-scale mentoring pilot programs across a limited number of students.

Year 2:

- Evaluate pilot programs using the framework developed in Year 1, identifying challenges, successes, and opportunities for scaling.
- Present initial outcomes to MCEC leadership, departments, and stakeholders to encourage buy-in and gather additional input.

- Develop and formalize incentives for mentoring participation (e.g., recognition in annual reviews, teaching load adjustments, grant funding opportunities).
- Recruit and train additional faculty/student/alumni mentors, aiming to increase coverage across all departments.
- Establish college-wide participation expectations or requirements for students to engage in at least one type of mentoring program (if determined applicable).

Year 3:

- Expand mentoring program access to all MCEC, offering multi-level mentoring (peer, faculty, alumni/industry) across departments and academic years.
- Develop structured pathways for alumni and external partners to serve as mentors or program supporters, with defined roles, onboarding, and engagement protocols
- Continue iterative updates to all mentoring models, integrating feedback and resolving issues as they arise.

Year 4:

- Conduct a comprehensive review of all mentoring efforts, focusing on sustainability, equity of access, long-term scalability, and cross-departmental consistency.
- Revise program structures, incentives, and resource allocation based on review findings to ensure long-term institutional integration and effectiveness.

Year 5:

- Institutionalize the mentoring programs as a permanent, integrated element of the MCEC student experience.
- Maintain and enhance program quality through ongoing assessment, data collection, and engagement with participants.
- Continue to expand mentor pipelines, especially alumni and industry partners, to support student career readiness and long-term success.
- Report outcomes and impact to leadership, accreditation bodies, and external stakeholders to demonstrate value and secure continued support.

Workstream 3: Develop a dedicated, centrally located makerspace/innovation lab within MCEC to support hands-on student projects, student clubs, and interdisciplinary collaboration. The space will serve as a hub for creativity, prototyping, and applied learning while also showcasing the exceptional resources available to students.

Strategic Goals

1. Establish a college-supported maker space
   To establish a dynamic and functional makerspace/innovation lab within MCEC, the college will first identify and secure a dedicated physical location to house the lab. An inventory of existing equipment and resources currently owned by student clubs, organizations and the college will be conducted, with the goal of consolidating and centralizing these assets to improve accessibility and reduce redundancy. Funding will be pursued through institutional budgets, grants, and

external partners to outfit the space with essential tools. Clear policies and procedures will be developed for space usage, equipment checkout, safety protocols, and project storage to ensure equitable and efficient use. Dedicated oversight—through designated staff or faculty leadership—will be assigned to maintain sustainability, operational excellence, and broad access for all MCEC students and affiliated organizations.

2. Increase student engagement in the makerspace/ innovation lab
   Incorporate space use into coursework, capstone projects, and undergraduate research. Offer training in industry-relevant tools, and host regular events like build nights, design competitions, and open lab days. Promote participation through digital signage, social media, and in-class announcements, and provide opportunities for students to showcase their work to build portfolios and gain professional exposure.
3. Student organization usage
   Consolidate student club spaces across the college into one shared, accessible location within the space to foster resource sharing and streamlined support. Promote interdisciplinary teamwork by encouraging student-led projects that bring together different fields. Create an environment that supports peer learning, sparks creativity, and builds a strong sense of community and belonging.

<u>Success Metrics</u>

1. Establishment of the Makerspace/Innovation Lab
   Successful identification, renovation, and launch of a dedicated makerspace/innovation lab within MCEC. This includes securing a physical location, equipping it with essential tools and technology, developing usage policies, assigning oversight personnel, and ensuring accessibility for all students.
   Target: By the end of Year 1, identify and secure a physical location for the makerspace/innovation lab, conduct a comprehensive inventory of existing student club resources, and engage key stakeholders—including faculty, students, and staff—to inform space planning. Collaborate with architects and facilities to design the space, ensuring it aligns with student needs and instructional goals.
   In Year 2, begin construction and procurement of equipment and furnishings, while also developing policies, staffing plans, and usage protocols.
   The space will be fully operational by Year 3, serving as a central and well-equipped hub for innovation, interdisciplinary collaboration, and student-led projects.
2. Student Utilization Rate
   Track the number of unique students accessing and using the makerspace/innovation lab each semester. An increase over time will indicate growing awareness, relevance, and student engagement with the space.

Target: Increase the number of unique student users of the makerspace/ innovation lab by at least 10% year-over-year, beginning in the first full academic year of operation (Year 3). This growth will indicate rising awareness, engagement, and relevance of the lab across the student body.

3. Student Club Engagement
   Track the number of registered student clubs using the makerspace/ innovation lab for meetings, events, or project work. This will demonstrate how effectively the space supports co-curricular and extracurricular learning.
   Target: In Year 3, at least 50% of registered MCEC student clubs will use the innovation lab for meetings, events, or project-based work. Increase this to 60% by 2030 to ensure the space serves as a central hub for co-curricular innovation, collaboration, and hands-on learning across student organizations.
4. Academic Integration
   Monitor the number of courses and faculty members incorporating the makerspace/innovation lab into their curriculum for labs, class projects, or demonstrations.
   Target: By 2030, at least 75% of instructors teaching senior design courses will integrate the innovation lab into their curriculum (where applicable). By 2030, 100% of instructors teaching 101 level courses will integrate the innovation lab into their curriculum.

<u>5- Year Plan</u>

Year 1:

- Conduct benchmarking research on successful innovation labs at peer institutions to identify best practices in design, equipment, staffing, and programming.
- Consult faculty across departments to align lab capabilities with curricular and research goals (e.g., senior design, capstones, research labs).
- Identify a physical location for the lab and begin initial planning with facilities and architects.
- Engage with MCEC student clubs and organizations to gather project ideas, equipment needs, and space requirements.
- Develop a comprehensive cost proposal and phased implementation plan for the lab (this includes understanding what is already physically available for use and what needs to be purchased).
- Begin exploring potential external funding sources (grants, industry partners, donors).

Year 2:

- Complete site preparation and obtain necessary permits for renovation or setup.
- Purchase and/or install core equipment for the two selected pilot projects.

- Launch pilot initiatives with selected student teams; document processes and outcomes to guide future programming (near end of the year, if timing allows).
- Create foundational policies.
- Begin staffing the lab—hire or assign lab manager, student assistants, or faculty mentors (this could also be a student club that runs the operations).
- Launch a communication campaign to raise awareness, encourage usage, and position the lab as a key student resource.

Year 3:

- Fully open the innovation lab to all students, clubs, and faculty projects.
- Host a public Innovation Showcase Day featuring student projects and club initiatives; invite faculty, staff, leadership, and external stakeholders.
- Begin integrating lab activities into select MCEC courses (e.g., senior design, undergraduate research, elective courses).
- Survey students, faculty, and staff on lab accessibility, satisfaction, and improvement areas.
- Formalize partnerships with industry for project sponsorships, mentorship, guest speakers, and potential internships.
- Promote the lab in MCEC recruitment and outreach efforts.
- Begin regular data collection on student utilization, interdisciplinary collaborations, and course integrations.

Year 4:

- Use usage data to optimize lab operations, scheduling, and available equipment.
- Expand student access through themed build nights, workshops, and cross-department design challenges.
- Formalize training programs for lab safety and use of specialized tools or software.
- Increase faculty integration across departments to reach more capstone, 101, and elective courses.
- Continue data collection on success metrics and present annual findings to MCEC leadership.
- Feature the lab as a centerpiece in MCEC recruitment, donor relations, and strategic communications.

Year 5:

- Conduct a comprehensive evaluation of the lab's performance, usage trends, learning outcomes, and impact on student experience.
- Ensure integration across departments to meet minimum interaction requirements for capstone, 101, and elective courses.
- Scale successful programs (e.g., competitions, alumni mentorship, interdisciplinary challenges).

- Seek renewed or expanded funding sources based on demonstrated impact and strategic alignment.

Workstream 4: Establish a college level committee that develops processes to regularly review curricula, suggest updates, inform faculty managing curricula changes of implications beyond the unit, and collaborate with faculty to align with emerging trends, industry demands, and cutting-edge research.

Strategic Goals:

1. Establish market-responsive specialty programs
   Develop and promote specialized academic programs that position USC as a national leader in select areas of engineering where there is opportunity to establish a stronghold. These programs should be aligned with college's areas of prominence and designed to differentiate USC by creating signature areas of academic and research excellence not widely offered or dominated by peer institutions.
2. Expand interdisciplinary and cross-college collaboration
   Design and implement new interdisciplinary courses and collaborative academic programs that bridge departments and colleges, encouraging integrative thinking and cross-functional skill development. Emphasize curricular innovation at the intersections of engineering, computing, business, health, policy, and other relevant fields to prepare students for complex, real-world problem solving.
3. Leverage industry and research partnerships to inform curriculum
   Develop academic programs and course offerings that directly integrate input and engagement from industry leaders and research collaborators. These should include opportunities for experiential and work-based learning such as co-ops, internships, capstone projects, and research practicums, ensuring that students graduate with practical, market-aligned competencies and exposure to cutting-edge industry applications.
4. Align with broader strategic initiatives across the college
   Ensure the integration of curriculum changes with other strategic workstreams and pillars of the college. Identify and incorporate relevant initiatives—such as those related to curriculum bottlenecks, mentorship, and innovation labs—into curricular planning to maintain alignment with the college's overall mission and priorities.

Success Metrics:

1. Increase enrollment in interdisciplinary courses
   This will be achieved by identifying high-demand intersections across disciplines,

promoting cross-departmental collaboration, and ensuring that new or revised interdisciplinary offerings are well-aligned with market needs and student interests.
Target: Aim to increase interdisciplinary course enrollment by at least 10% year-over-year, with a focused effort on developing and promoting new interdisciplinary courses that reflect emerging fields and industry relevance.

2. Expand and modernize academic offerings
   Increase the number of specialty programs, courses, certificates, and academic tracks that are either newly created or strategically rebranded to align with industry-relevant focus areas. This includes incorporating input from industry partners, advisory boards, and alumni, and utilizing labor market analytics to prioritize areas of growth and innovation.
   Target: Ensure that 100% of MCEC degree programs incorporate at least one specialized element—such as a concentration, certificate, or curriculum track.
3. Improve student post-graduation outcomes
   Ensure that academic programs improve students' post-graduation outcomes measurably—specifically, job placement or acceptance into graduate/professional schools within six months of graduation.
   Target: Achieve a 95% placement rate by 2030 (of those who self-identify)—meaning 95% of graduates are either gainfully employed or enrolled in graduate/professional studies within six months of completing their degree.
4. Expand and ensure the quality of online learning
   Increase the number of courses available in online and hybrid formats to meet the broad needs of learners, including working professionals and non-traditional students. Ensure the quality of online offerings through regular review processes, faculty development programs, adherence to instructional design best practices, and student satisfaction surveys.
   Target: By 2030, ensure that 100% of preparatory (non-credit) material is available online to increase accessibility and support academic readiness. For infrequently offered high-level elective courses, ensure 100% are available in an asynchronous online format to maximize student access regardless of term or location. For majors with freshman cohorts of 100 or more students, ensure that all non-lab and non-design courses have an online option available, providing flexibility and scalability for high-enrollment programs.
   *Important note** as online offerings expand, there will be a need to assess instructional capacity and, where necessary, increase the number of qualified faculty or instructors to support course development and delivery at scale*

5 Year Plan:

Year 1:

- Establish the Curriculum Innovation Committee (CIC). Develop a formal charter, meeting schedule, decision-making process, and communication plan.
- Lead a comprehensive self-study of existing programs, interdisciplinary offerings, industry partnerships, online/hybrid courses, curriculum bottlenecks, retention data, and other relevant metrics.
- Gather external input from industry advisory boards, alumni, and labor market data to inform program relevance.
- Rank programs by priority based on self-study findings to determine which require immediate attention and which are performing well.
- Identify 2 to 3 specialty program areas for initial development based on institutional strengths and market gaps.
- Define clear criteria for what constitutes a specialty program, interdisciplinary course, and high-quality online course.
- Establish a cadence for regular program review and develop consistent evaluation protocols.

Year 2:

- Begin regular curriculum review based on the established cadence.
- Launch at least two new interdisciplinary courses to promote cross-college collaboration.
- Convert 50% of preparatory (non-credit) material to an online format.
- Begin offering online options for high-demand electives and large freshman cohort courses (excluding labs and design courses).

Year 3:

- Continue curriculum reviews per established schedule.
- Expand specialty programs based on Year 1 development and stakeholder feedback.
- Achieve a minimum 10% increase in interdisciplinary course enrollment.
- Integrate internships, co-ops, and industry-led projects into academic programs.
- Complete the conversion of the remaining 50% of preparatory (non-credit) courses to online format.
- Ensure all online offerings undergo quality assurance reviews and that faculty receive instructional design support.

Year 4:

- Maintain regular program review cadence.
- Expand opportunities for experiential learning across disciplines.

- Ensure that all high-level electives and freshman-level non-lab, non-design courses are available in an online format to enhance flexibility and access.

Year 5:

- Continue with regular curriculum reviews and ongoing program improvements.
- Sustain year-over-year growth in interdisciplinary course enrollment (targeting 10%+ increase annually).
- Continue to build and maintain online course availability for high-level electives, non-lab and non-design courses, and preparatory courses with emphasis on increasing the availability of flexible learning options for students.

Pillar 2: Advance Scholarly Impact: Enhance and develop top-tier academic programs that drive research excellence, knowledge creation, and recognition.

Workstream 1: Identify branding "Areas of Prominence" that distinguish MCEC at the intersection of research excellence, academic innovation, state collaboration, and industry relevance. These areas will serve as the foundation for branding efforts, program development, and strategic partnerships.

Strategic Goals:

1. Identify 4 to 5 signature areas of prominence for MCEC
   Conduct a comprehensive assessment to identify four to five high-impact areas where MCEC can build distinction. These areas should reflect the college's core research strengths, address critical societal and technological needs, and present unique opportunities for leadership. The selected areas will guide the development of future research programs, academic offerings, and industry collaborations, and will support MCEC's long-term vision for growth and influence.
2. Build institutional capacity in the selected areas
   Develop and implement a strategic framework to support and scale the identified areas of prominence. This includes assessing current capabilities, defining the critical mass of faculty, facilities, funding, and partnerships needed for success, and recommending resource allocations to maximize impact. The goal is to ensure MCEC is well-positioned to lead in these domains through sustained investment and coordinated efforts across research, teaching, and external engagement.

Success Metrics:

1. Establish Defined Areas of Prominence
   Clearly identify and formalize 4 to 5 distinct areas of prominence that reflect MCEC's core strengths and potential for distinction.
   Target: Finalize and publish designated focus areas by the 6-month mark, with supporting rationale and alignment to institutional priorities.
2. Faculty Engagement per Area of Prominence
   Track faculty participation in each area of prominence to assess capacity and collaboration potential.
   Target: Maintain a minimum threshold of active faculty per area (e.g., 10 or more affiliated faculty members) to ensure critical mass and sustainability of research and academic initiatives. This minimum threshold will be determined by end of year 1 and tracked throughout implementation.
3. Scholarly Impact and Research Infrastructure
   Evaluate the scholarly impact and research infrastructure across all areas of prominence by tracking research publications, grant activity, and the role of externally funded centers, labs, and institutes. Emphasis will be placed on the depth, relevance, and interdisciplinary nature of scholarly work, the volume and success of external funding efforts, and the strategic alignment and sustainability of affiliated research centers.
   Target: Demonstrate year-over-year growth in scholarly output and external funding across all areas of prominence by Year 3.
   By Year 5, ensure that areas of prominence are supported by high-impact, externally funded centers or institutes that advance strategic priorities, and foster interdisciplinary collaboration.
4. Industry Engagement and Collaboration
   Monitor the extent of industry partnerships, including the number of faculty engaged in applied research, consulting, and joint ventures with external organizations.
   Target: Ensure that each area of prominence includes at least five faculty members actively collaborating with industry partners by Year 4, with formalized agreements or projects in place.

5 Year Plan

Year 1

- Convene a working group led by the Dean, to identify MCEC's 4 to 5 areas of Prominence. This group will work in collaboration with the Research Committee to assess the research and academic strengths already present in the college and look for opportunities to group related efforts into cohesive themes. At the same time, they will align these strengths with the needs of the state and industry to ensure relevance and impact, with the goal of finding intersections where MCEC's work can be elevated through strategic investment and external demand.
- Ensure that at least one area is in an emerging field where MCEC does not currently have established representation, to promote innovation and growth.
- Conduct a benchmarking analysis of peer institutions to understand how they define and support research focus areas.
- Evaluate regional, national, and industry needs using labor market analytics, government priorities, and stakeholder interviews to validate chosen focus areas.
- Collect and document baseline data for success metrics, including:
    - Number of faculty involved per area
    - Level of scholarly activity (e.g., publications, citations, funding)
    - Existing externally supported centers and institutes
    - Current industry engagement per focus area

Years 2 and 3

- Increase faculty engagement within each area by strategically hiring or reassigning faculty; aim for a proportional increase in affiliated faculty per area.
- Identify and provide support for at least one major grant proposal (>$5M) in each focus area, including seed funding, grant-writing support, and collaboration facilitation.
- Partner with the Curriculum Committee to ensure new or revised academic offerings — including degree programs, certificates, and micro-credentials are aligned with the identified Areas of Prominence.
- Align internal, external communications and branding efforts (e.g., websites, promotional materials, media relations) to reinforce MCEC's leadership and expertise in each area.

Years 4 and 5

- Conduct a comprehensive mid-cycle review of each Area of Prominence, assessing progress against baseline and target metrics. Use findings to refine strategy and resource allocation.
- Evaluate the quality, sustainability, and interdisciplinary nature of any new externally supported centers or institutes created as part of this initiative.
- Develop long-term sustainability plans for each Area of Prominence, including strategic resource allocation, partnerships, and opportunities for cross-college collaboration.

Workstream 2: Establish and maintain a college-wide research committee that identifies and promotes emerging research needs and trends across the college.

Strategic Goals:

1. Foster interdisciplinary collaboration
   Establish structured opportunities that encourage cross-departmental and interdisciplinary collaboration by constructing mechanisms that connect faculty around shared research interests and funding opportunities.
2. Showcase research excellence
   Create and implement a strategy to elevate the visibility of research by organizing an annual college-wide research symposium. Complement this event with coordinated efforts to promote research in newsletters, local news channels, informational white papers, and national platforms.
3. Align research with strategic priorities
   Support initiatives that connect research to the college's designated areas of prominence. Identify alignment opportunities, encourage interdisciplinary proposals, and facilitate connections between researchers and relevant funding agencies or partners.
4. Strengthen faculty mentorship
   Launch a faculty mentoring initiative with department-specific guidelines and best practices to support early-career researchers. With the goal of the program focusing on research development, grant writing, and long-term career planning, with ongoing assessment to ensure effectiveness.

Success Metrics

1. Formation of research committee
   Establish a representative research committee with applicable bylaws, member roster, and approved charter.
   Target: By Fall of 2025 determine who is on the committee, write the bylaws, and approve a charter. Set at least 4 meetings for the upcoming year with documented intended outcomes for each meeting and annual goals.
2. Interdisciplinary research collaboration
   Track and support interdisciplinary research proposals and awards that include at least three people from different departments or colleges.
   Target: A sustained year-over-year increase in the number of interdisciplinary proposals submitted with all departments participating in at least one interdisciplinary submission by year 4.
3. Research grants aligned with areas of prominence
   Track the number and the funding amount for research proposals and awards that align with the college's designated areas of prominence. This includes analyzing the distribution of projects, funding levels, and faculty participation within each focus area to ensure strategic alignment and impact.

Targets: A sustained year-over-year increase in the number of research grants submitted and awarded that are aligned with the college's areas of prominence.
By Year 5, each designated focus area should have multiple active large grant-funded projects (>$500K) and demonstrate sustained growth in participation and funding levels.

4. Visibility and promotion of research
   Monitor and enhance the visibility of MCEC research through coordinated communication strategies and recurring events that highlight faculty accomplishments, major awards, publications, and innovations. Emphasis will be placed on both internal recognition within USC and broader external visibility through media, partnerships, and academic platforms.
   Target: Publish at least 12 internal features per year (averaging 1 per month) across USC platforms. Secure 3 to 4 external research features annually. Demonstrate a year-over-year increase in engagement. By Year 5, achieve a consistent and recognizable presence for MCEC research across university and public channels, establishing MCEC as a leader in its areas of prominence.
5. Faculty mentoring
   Completion of an environmental scan of existing faculty mentorship practices across all departments, followed by the development of department-specific guidelines informed by national best practices and internal feedback.

<u>5-Year Plan</u>

Year 1

- Establish the desired composition, responsibilities, and service initiatives for the research committee. This includes researching peer institutions and establishing best practices as it relates to research prominence.
- Recruit committee members ensuring representation across areas of expertise.
- Define the committee's charter, including short- and long-term goals, decision-making processes, and scope of influence.
- Collect baseline data for success metrics: scholarly activity, research visibility, faculty retention, interdisciplinary collaborations, and PhD student engagement.
- Conduct a faculty survey focused on research support, collaboration opportunities, and mentoring needs.
- Inventory current research promotion efforts and assess visibility gaps internally and externally.
- Begin working with the communications department to build out a college wide coordinated communication strategy that highlights faculty accomplishments, major awards, publications, and innovations.

Year 2

- Begin implementation of initiatives outlined in the committee charter.
- Track and evaluate early success metrics based on Year 1 baseline data.
- Develop the framework for enhanced research support based on findings from survey of faculty
- Begin planning for the first college-wide research symposium (to launch in Year 3).
- Develop a searchable, online repository of faculty expertise to connect researchers across disciplines.
- Work with the MCEC Center for Industry solutions to identify opportunities for industry and research collaboration.
- Develop and implement a protocol to regularly update faculty research profiles and department websites.
- Work to identify areas of potential research collaborations with the state.

Year 3

- Host the inaugural college-wide research symposium.
- Launch structured faculty mentoring programs focused on grant development, research planning, and career progression.
- Continue to build on industry research collaboration with MCEC Center for Industry Solutions.
- Track and report on annual increases or decreases in success metrics, re-evaluate as needed.

Year 4

- Continue to track and report on annual increases or decreases in success metrics, re-evaluate as needed.
- Re-administer the faculty survey to measure progress and identify new areas for support.
- Identify and document best practices and lessons learned across initiatives.
- Continue discussions around sustaining successful efforts and transitioning pilot programs into permanent structures.
- Continue to build on industry research collaboration with MCEC Center for Industry Solutions.

Year 5

- Update and refine the research committee charter based on outcomes, feedback, and evolving college priorities.
- Formalize processes for: ongoing interdisciplinary collaboration support, annual research symposium planning, research visibility and communications.
- Publish an end-of-cycle report summarizing achievements, growth trends, and strategic recommendations for the next five years.
- Continue to track and report on annual increases or decreases in success metrics, re-evaluate as needed.

- Continue to build on industry research collaboration with MCEC Center for Industry Solutions.

Workstream 3: Expand Undergraduate Research Opportunities – Increase the number of opportunities and ways in which undergraduate students can participate in research. This includes building research opportunities into degree programs, as well as developing targeted mechanisms such as research assistantships or fellowships to incentivize undergraduates to continue their studies at the college after graduation.

Strategic Goals

1. Enhance and expand undergraduate research opportunities
   Develop structured pathways for undergraduate students to participate in meaningful research experiences across all departments. Encourage integration of research components into core curricula, co-curricular programs, and summer research initiatives.
2. Strengthen resources and broaden extracurricular opportunities to enhance student engagement and professional development
   Invest in programming and infrastructure that support student participation in research initiatives, interdisciplinary project teams, and professional development opportunities. Expand access to workshops, conferences, and networking events that promote collaboration, presentation skills, and exposure to real-world challenges. Collaborate with industry and alumni to offer experiential learning opportunities and applied research projects.
3. Increase the number of students being retained from undergraduate to graduate
   Increase the pipeline of undergraduate students transitioning into graduate programs through enhanced mentorship, research engagement, and academic preparation

Success Metrics

1. Undergraduate student research participation
   Track the number of undergraduate students actively engaged in research across academic-year and summer programs, including both curricular and co-curricular opportunities.
   Target: Achieve a minimum 10% year-over-year increase in undergraduate student participation in research activities.
2. Undergraduate-to-Graduate Transition Rates

Measure the number of students transitioning from undergraduate programs into MCEC graduate programs, including Ph.D. and paid master's degrees.
Target: Increase the percentage of undergraduates entering graduate programs within MCEC by 10% year-over-year.

3. Undergraduate Conference Participation
   Track the number of undergraduate research students participating in conferences, symposia, or other scholarly and professional presentation opportunities.
   Target: Ensure that 100% of undergraduate students engaged in research participate in at least one academic or professional conference during their time at USC.
4. The number of students applying for external fellowships
   Track the number of undergraduate and graduate students applying for prestigious fellowships in research by externally funded agencies or foundations (ex: NSFGRF, DOD NDSEG, Goldwater).

Target: Increase the number of undergraduate and graduate students applying to these types of scholarships/ fellowships by 10% year-over-year.

5-Year Plan

Year 1

- Assess current undergraduate research participation, undergraduate to graduate retention, undergraduate conference participation, and student application rates for prestigious research fellowships.
- Survey/poll faculty to assess ability to accommodate and need for additional undergraduate research activity.
- Establish formal pathways for undergraduate research, including integration of research components into key degree programs and curricula.
- Initiate partnerships with industry and alumni to explore experiential learning and applied research opportunities.

Year 2

- Expand structured undergraduate research programs, including summer research fellowships and credit-bearing research opportunities.
- Begin tracking undergraduate student attendance and participation in research conferences.
- Begin tracking student applications to prestigious research fellowship programs and scholarships.
- Increase marketing and communication efforts to raise awareness of undergraduate research opportunities across the college.
- Develop research-focused undergraduate internship opportunities through industry partnerships.

Year 3

- Increase the number of faculty participating as undergraduate research mentors and enhance cross-departmental collaboration on student research projects.
- Integrate undergraduate research components more deeply into degree curricula across all departments.
- Collaborate with the Office of National Fellowship and Scholarship Programs to create programing focused on enhanced application tactics for engineering and computing students.
- Collaborate with external partners to offer applied research projects and internships linked to faculty research areas.
- Implement targeted initiatives to support retention of undergraduate researchers and transition to graduate studies.
- Establish recognition programs to celebrate undergraduate research achievements, including awards and symposium presentations

Year 4

- Refine and update research pathways and mentorship programs based on feedback from students and faculty.
- Expand funding and scholarship opportunities to support undergraduate research assistantships and conference travel.
- Enhance data tracking systems to monitor longitudinal outcomes for undergraduate researchers, including graduate school enrollment.
- Continue to build collaborations with industry and alumni to broaden experiential learning opportunities.

Year 5

- Conduct a comprehensive evaluation of program impact on undergraduate research participation related to graduate applications rates and conference engagement.
- Institutionalize undergraduate research pathways as a core element of degree programs throughout MCEC.
- Achieve or exceed the target growth metrics for undergraduate participation, retention into graduate programs, and conference attendance.
- Evaluate and refine partnership with the Office of National Fellowship and Scholarship Programs aimed at increasing student application rates.
- Develop a sustainable funding model for undergraduate research incentives such as fellowships, assistantships, and tuition discounts.
- Publish and promote annual reports showcasing undergraduate research impact, successes, and student outcomes.
- Explore new innovative models for undergraduate research engagement, including interdisciplinary projects and community partnerships

□

Pillar 3: Strengthen Statewide Innovation and Economic Growth: Collaborate with the state of South Carolina to apply knowledge and research in ways that drive economic development, industry partnerships, and workforce advancement.

Workstream 1: Develop market-responsive non-thesis Master of Science programs, incorporating soft skills and systems courses while maintaining minimal prerequisite structures for technical coursework. Additionally, repackage professional-format degrees into asynchronous online courses, expanding accessibility and flexibility for working professionals and industry partners.

Strategic Goals:

1. Develop market responsive professional master's programs
   Create flexible graduate programs and stackable certificate options that directly align with emerging market demands and workforce gaps in South Carolina and beyond. Position, these programs as career accelerators for mid-career professionals by incorporating the latest trends in computer science and engineering. Simplify entry into these programs by minimizing prerequisite requirements where appropriate and embedding foundational knowledge into program curricula to promote ease of access for various learner backgrounds.
2. Expand accessibility through online asynchronous course delivery
   Establish flexible, asynchronous online courses to enable greater flexibility for working professionals and expand the college's reach to industry partners across the state and nationally.

Success Metrics

1. Program and certificate development
   Track the number of new market-responsive non-thesis Master of Science programs and stackable certificate offerings developed annually. Ensure each new program aligns with industry-validated competencies and priority growth areas (e.g., artificial intelligence, cybersecurity, sustainability, data science, advanced manufacturing).

Target: By the end of the five-year period ensure there are at least 10 new graduate/professional certificate options offered within MCEC. By the end of the five-year period, ensure that every department within the college offers at least one professional-format non-thesis Master of Science program tailored to workforce and industry needs.

2. Student enrollment and retention
   Monitor enrollment trends in newly launched programs, with a goal of exceeding baseline enrollment figures from comparable traditional graduate programs. Track retention and completion rates of students in asynchronous and flexible-format offerings.
   Target: Achieve year-over-year growth in both student enrollment and retention across newly launched programs, with steady and predictable increases that reflect strong market demand and program relevance. Trends should demonstrate improved engagement, accessibility, and sustained learner success over time.
3. Accreditation and credentialling
   Ensure that all new degree and certificate programs meet applicable regional accreditation standards and professional credentialing requirements. Where appropriate, align curricula with recognized industry certifications (e.g., AWS Certified Solutions Architect, CompTIA Security+, LEED, PMP), offering students the ability to earn embedded credentials as part of their academic progression.
   Target: Ensure all non-thesis Master of Science programs meet applicable regional accreditation requirements while aligning certificate offerings with relevant industry-recognized credentials and professional accreditation standards. Program design should reflect current and emerging workforce demands, ensuring that both degrees and certificates deliver credible, high-value outcomes for learners and employers.

<u>5 Year Plan</u>

Year 1

- Conduct a comprehensive audit of MCEC's existing graduate programs to identify barriers to flexibility and market alignment.
- Conduct a comprehensive audit of competitors to identify areas of success and areas of opportunity.
- Establish baseline metrics for enrollment, retention, and program responsiveness.
- Engage with industry leaders, alumni, and government partners to identify high-demand skills and co-design frameworks for new professional certificates, master's programs, and non-credit baring trainings.

- Develop asynchronous course templates and begin training faculty in best practices for online pedagogy and instructional design.

Year 2

- Launch the first pilot non-thesis Master of Science or certificate program, embedding an industry-recognized credential (e.g., AWS, CompTIA, Six Sigma).
- Submit new programs for accreditation review (e.g., SACSCOC for MS degrees) and align certificate content with professional credentialing organizations (e.g., PMI, ISACA, LEED).
- Implement a streamlined internal approval process that supports timely curriculum updates.
- Expand faculty development efforts focused on modular course design, competency-based assessment, and online instruction.
- Build real-time dashboards to monitor enrollment, retention, and certification completion for pilot programs.

Year 3

- Scale program offerings to 2–4 additional professional non-thesis MS degrees and certificate programs, incorporating feedback from Year 2 pilots.
- Submit new programs for accreditation review (e.g., SACSCOC for MS degrees) and align certificate content with professional credentialing organizations (e.g., PMI, ISACA, LEED).
- Integrate stackable credentials into graduate programs.

Year 4

- Evaluate long-term program outcomes, including graduate employment rates, learner satisfaction, and employer feedback on skills preparedness.
- Formalize input from Industry Advisory Boards to provide regular input into curriculum development and emerging trends.
- Integrate AI-driven tools to support personalized learning pathways, course recommendations, and learner analytics.
- Ensure that most degrees include flexible components such as elective tracks, micro-credentials, or hybrid delivery formats.

Year 5

- Embed successful program models and practices into institutional policy, including standardized annual curriculum reviews and formalized industry engagement protocols.
- Reach a minimum of 100+ cumulative enrollments across newly launched programs, demonstrating scalable demand and sustained interest.
- Secure long-term sustainability through a blend of tuition revenue, corporate partnerships, and competitive grant funding.

Workstream 2: Centers and Institutes of Excellence – Develop and expand centers in strategic areas like AI, battery tech, semiconductors, nuclear advancements, advanced manufacturing, and acute stress research. Focus on industry collaboration, co-investment, and state partnerships to drive innovation, secure funding, and position the university as a research hub.

Strategic Goals

1. Define the strategic role of centers and institute within MCEC
   Establish a consistent and operational definition of a "Center" and a "Institute" within the context of MCEC, clearly distinguishing them from research labs, departmental initiatives, and other such entities. This definition will guide development, resource allocation, and external communications.
2. Clarify value proposition and strategic purpose
   Articulate the unique mission, value proposition, and strategic objectives of each Center or Institute to strengthen internal alignment and enhance external engagement with partners, funders, and stakeholders.
3. Optimize portfolio of MCEC Centers/Institutes
   Conduct a comprehensive review of all Centers and Institutes affiliated with MCEC. Deactivate and remove inactive or dormant entities to maintain an accurate, transparent, and strategically aligned portfolio.
4. Enhance digital presence and visibility
   Revamp and maintain functional, user-friendly websites for each center/institute. Elevate the visibility of centers and institutes through consistent MCEC branding, strategic partnerships, and increased public prominence.
5. Establish a healthcare AI consortium
   Launch and support a new initiative within the AI Institute focused on statewide healthcare partnerships. Facilitate collaboration with the school of medicine to leverage already established relationships with hospital systems and physicians to share data and co-develop AI-driven solutions aimed at improving clinical outcomes.

Success Metrics:

1. Number of clearly defined and active centers/institutes
   Track the total number of Centers/Institutes that meet the established MCEC definition and maintain active research, programming, or external engagement. Ensuring continued growth reflects strategic alignment with college priorities and statewide innovation goals.
   Target: By the end of Year 1, establish and adopt a formal MCEC Center/Institute framework that defines criteria for creation, continuation, and evaluation (e.g., mission alignment, funding sustainability, engagement metrics). By Year 5, ensure 100% of existing and new Centers meet these standards through periodic review, with public documentation of their strategic contributions, partnerships, and

outcomes. This includes ensuring that all active Centers demonstrate core quality benchmarks: a minimum of 3–4 actively engaged faculty members, external recognition through ongoing partnerships with industry or government, and secured external funding.

2. Quality of centers/institutes related to statewide industry
   Evaluate the relevance and impact of Centers/Institutes based on alignment with South Carolina's key economic sectors, such as advanced manufacturing, AI, energy, and life sciences. Metrics may include applied research output, commercialization potential, and industry advisory board engagement.
   Target: By Year 5, at least 75% of Centers and Institutes should be recognized as prominent contributors to the state's innovation ecosystem, evidenced by their visibility outside the college and sustained collaboration with external stakeholders.
3. Number of industry or state partnerships connected to centers
   Measure the number of formalized partnerships between Centers and state agencies, private sector organizations, or national labs. Emphasis will be placed on co-investment, research collaboration, and sustained engagement that drives economic development.
   Target: Establish a minimum of one new formalized partnership annually with state agencies, private industries, federal agencies, or national labs.
4. Overall engagement with centers by faculty, staff and students
   Monitor participation across the college community in Center-related initiatives, including research projects, events, grant proposals, and interdisciplinary collaboration. Growth in engagement will signal the integration of Centers into MCEC's academic and research culture.
   Target: By Year 3, 50% MCEC departments will have faculty, staff, or students actively participating in Center-related activities, such as research projects, events, or collaborative grant proposals. By Year 5, increase that to 75%, reflecting strong interdisciplinary integration and a culture of engagement that connects Centers with the full academic community.
5. The amount of collaboration with school of medicine and the AI institute healthcare initiative
   Track the number of collaborative projects between MCEC AI institute and the school of medicine as well as healthcare systems. These collaborations should support research, workforce development, and real-world implementation of emerging AI technologies within healthcare.
   Target: By Year 2, establish a formal collaboration framework between the MCEC AI Institute, the School of Medicine, and at least one major healthcare system in South Carolina. By Year 5, support a minimum of 5 active, jointly led projects focused on AI applications in healthcare, with at least two resulting in external funding, publications, or clinical implementation pilots

5 Year Plan:

Year 1

- Finalize and publish the official MCEC definition and criteria for Centers and Institutes, emphasizing alignment with college mission and statewide innovation goals.
- Conduct a comprehensive audit of existing Centers; sunset or restructure entities that do not meet/cannot meet newly established standards.
- Initiate a formal collaboration framework with the AI Institute, School of Medicine, and one major healthcare system
- Begin redesigning all Center/Institute websites to align with MCEC branding, ensuring consistency, accessibility, and visibility.

Year 2

- Apply new criteria to review and formally approve all active Centers/Institutes; require documentation of faculty engagement, external funding, and prominence.
- Complete web presence overhauls for all qualifying Centers/Institutes and create public-facing value propositions for each.
- Formalize new industry, state, or federal healthcare partnerships with a focus on research collaboration and co-investment.
- Launch an engagement dashboard to track participation from faculty, staff, and students across all Centers.
- Launch a targeted marketing and communications campaign to elevate the profile of MCEC Centers across the state and nation.

Year 3

- Embed Center/Institute engagement into faculty workload guidelines and graduate research experiences; expand student participation through internships, co-ops, and fellowships.
- Launch an interdisciplinary seed grant program to support collaborative research between Centers.
- Ensure at least 75% of Centers are actively contributing to statewide economic or healthcare priorities.

Year 4

- Develop co-branded initiatives and translational research pilots with external partners.
- Expand the internal seed fund to support multi-year, cross-Center research aligned with industry needs.
- Produce and disseminate impact reports for all Centers, including engagement metrics, funding, and innovation outcomes.
- Position at least 3 Centers/Institutes for national recognition or federal designation (e.g., NSF Engineering Research Center, NIH center status).

Year 5

- Conduct a formal 5-year review of all Centers/Institutes using established performance criteria; refine the Center model based on findings.
- Develop the next 5-year strategic roadmap, with a focus on global partnerships, commercialization, and real-world implementation of Center-driven innovations.

Workstream 3: Build out, market and leverage the MCEC Center for Industry Solutions to enhance academia-government-industry collaboration, driving data-informed strategies for statewide economic progress.

Strategic Goals

1. Clarify Mission, Vision, and Value Proposition
   Establish a clear mission, vision, and client-oriented value proposition for the MCEC Center for Industry Solutions. Define key solution areas to guide strategic alignment, internal collaboration, and effective communication with potential clients, government partners, and industry stakeholders.
2. Establish a sustainable funding model
   Develop a scalable and diversified funding structure to ensure the long-term viability of the Center. Explore revenue streams such as a set-price menu of service options for industry partners seeking solutions, sponsored research, and philanthropic grants/gifts.
3. Design and launch a marketing and engagement strategy
   Create and implement a comprehensive marketing and referral plan to increase visibility, attract new clients, and demonstrate the Center's value to external and internal partners. Emphasize the Center's role as a gateway for industry and government collaboration with MCEC, supporting economic impact across South Carolina.

Success Metrics

1. Number of industry partnerships
   Track the number of formalized partnerships directly connected to the Center for Industry Solutions. Emphasis will be placed on the number of currently active sustained partnership/clients, the number in the pipeline as well as the number of new partnerships/clients year-over-year.
   Target: Achieve steady year-over-year growth in both the number of active industry partnerships and the overall funding generated through Center services. Develop and maintain a service menu that supports scalable engagement tiers, enabling the

Center to attract a growing pipeline of new clients while deepening relationships with existing clients.

2. Visibility and prominence of the center
   Evaluate the Center's internal and external visibility through increased mentions in university publications, planning documents, and media coverage. Growth in recognition within MCEC, across USC, and among industry stakeholders will reflect the Center's role as a high-impact collaborative hub.
   Target: Develop and implement a clear marketing and strategic communications plan by the end of Year 1 to enhance the Center's visibility across USC, MCEC, and key industry sectors. Track and increase formal references to the Center in university materials, planning documents, and media coverage annually, establishing the Center as a go-to hub for academia-industry-government collaboration.
3. Cross-Sector Engagement in Annual Symposium
   Measure participation levels of faculty, students, and industry/government representatives in the MCEC annual Research Symposium. Increasing attendance and variety of industry sectors represented will reflect the Center's success in serving as a bridge between academia and external partners.
   Target: Collaborate with the MCEC Research Committee to co-develop and facilitate the annual Research Symposium, ensuring robust industry involvement in program planning and execution. Establish a structured process for engaging industry partners as speakers, panelists, and participants, with year-over-year growth in faculty, student, and external stakeholder attendance across broad economic sectors.

<u>5 Year Plan</u>

Year 1

- Finalize and document the CIS's mission, vision, and areas of core focus with stakeholders.
- Develop communications strategies for internal and external stakeholders.
- Develop branding, website, and promotional materials.
- Implement an outreach campaign targeting academia, industry, and government.
- Host informational webinars and networking events to introduce the CIS's services.
- Draft initial pricing model determined by company size, manpower needed etc. Secure initial endorsements from key university and industry leaders.
- Develop a structured approach for partnership engagement and onboarding.

Year 2

- Introduce a scalable pricing structure for services.
- Expand marketing and media relations collateral (brochures, case studies, conference presentations, tabling) to expand external (clients) and internal branding (partner faculty, student workers, other future referral sources).
- Expand outreach efforts to government agencies and industry groups

Year 3

- Establish an industry referral system to streamline client acquisition.
- Launch case studies showcasing successful academia-industry collaboration.
- Deepen industry involvement with annual research symposium.
- Conduct evaluations of partnership impact, visibility growth, and symposium engagement.
- Adjust marketing strategies based on data insights

Year 4

- Explore additional funding sources, including corporate sponsorships and licensing opportunities.
- Seek to expand service menu to attract more varied industry clients.
- Publish collaborative studies showcasing MCEC's role in economic development.

Year 5

- Strengthen partnerships with state policymakers for long-term engagement.
- Ensure financial stability through multi-year funding agreements.
- Conduct a five-year impact review and adjust strategy for sustained growth.
- Identify emerging trends and expand the Center's scope accordingly

Conclusion:

As we conclude *Project Elevating to Prominence*, we do so with a sense of momentum, humility, and shared purpose. This strategic plan is not a static document—it is a living framework designed to guide the Molinaroli College of Engineering and Computing through a period of bold transformation. It reflects our collective ambition to elevate the college's prominence, deepen its impact, and position it as a leader in engineering and computing education.

At the heart of this plan are three foundational pillars that define our strategic direction:

- **Elevate Student Excellence:** We will build a student-centered academic environment that attracts, retains, and graduates high-achieving students. Through streamlined curricula, expanded mentorship, and flexible, responsive programs, we aim to foster leadership, innovation, and scholarly success.

- **Advance Scholarly Impact**: We will strengthen our research enterprise by identifying signature areas of prominence, supporting interdisciplinary collaboration, and expanding undergraduate research opportunities. Our goal is to amplify the visibility and influence of our faculty's work while cultivating a culture of discovery and innovation.
- **Strengthen Statewide Innovation and Economic Growth**: We will deepen our partnerships with industry, government, and community stakeholders to drive economic development and workforce advancement across South Carolina. Through market-responsive graduate programs, centers of excellence, and applied research, we will serve as a catalyst for innovation and impact.

Each of these pillars is supported by detailed workstreams, measurable goals, and a five-year implementation plan that ensures accountability, transparency, and progress. But we also recognize that excellence is not achieved in a single moment—it is cultivated over time. Like any meaningful strategic effort, this plan will evolve. We are committed to revisiting our goals, refining our strategies, and adapting to the changing landscape of higher education, technology, and the economy.

We approach this work with humility, knowing that the path forward will require reflection, resilience, and collaboration. We will listen to our community, learn from our experiences, and remain open to change. Our commitment to excellence demands that we not only set high standards—but that we also remain flexible and responsive as we pursue them.

Ultimately, *Project Elevating to Prominence* is a call to action. It invites every member of our college—students, faculty, staff, alumni, and partners—to contribute to a shared vision of excellence. Together, we will build a future where the Molinaroli College of Engineering and Computing is not only recognized for what it achieves, but for how it leads—with purpose, with integrity, and with a relentless drive to go further, faster, together.