

Transformative Research, Creativity, Innovation and Entrepreneurship

... benefiting the region, the nation, and global
society

Transformative Research, Creativity, Innovation and Entrepreneurship

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Global Context – External Factors

- Borderless knowledge enterprise and democratization of access
- Pressing societal challenges require interdisciplinary approaches
- Shifting demographics domestically and shifting economics internationally

- Increasingly competitive landscape for universities
 - Period of flat or no growth in federal research budget
 - Increasing expansion of global footprints
 - Intense competition for the best talent
 - Growth of MOOCs & technology-enhanced learning

- Universities' increasingly pivotal role in the innovation ecosystem driving regional and national economic growth.

Global Context – Internal Factors

- Long history of pioneering new fields of inquiry
 - Low barriers to starting new things, allowing organic growth
 - Intentionally not comprehensive coverage of all disciplines
- Interdisciplinary ethos & bottom-up culture
 - Also, a culture of entrepreneurship and risk taking
- Integral ties to our region's heritage and economic development
- Strong global reputation and presence
 - But in limited disciplines and in limited regions of the world
 - Significant interest and engagement from industry, civil society and artistic institutions
- Insufficient endowment
 - Limited central support or coordination of RCIE activities
 - Lack of diverse funding sources for research and infrastructure

Summary of Our Four Goals for Transformative Research, Creativity, Innovation and Entrepreneurship

- Reputation: To be acknowledged for excellence and significance of our contributions
- Environment: To be nurturing, inclusive and networked
- Culture: To have a broad and inclusive culture of innovation and entrepreneurship
- Infrastructure: To provide comprehensive, creative and effective support

Goal 1: To be more widely acknowledged for excellence in research and creativity and contributions to the understanding of and solutions to questions of societal significance

Possible Strategies:

- Elevate CMU's participation in global conversations on issues of societal importance (e.g., Davos, NSF & OSTP Workshops)
- Establish internationally-recognized awards that associate CMU with excellence in research, creativity, innovation, and entrepreneurship (e.g., High School Drama Teaching Award)
- Create mechanisms for CMU to influence Federal research priorities and funding levels (e.g., Influencing DC re: Biometrics)
- Increase number of CMU faculty and staff nominated for prestigious awards and recognitions (e.g., establish committee to drive nominations for NAE/NAS/IOM, Franklin, Draper Prizes)
- Attract more high-profile individuals as Distinguished Service Professors to raise visibility and expand networks

Goal 2: To grow the RCIE enterprise as a broad and inclusive network of exploratory activities including creative endeavors, basic discoveries, and translational innovations

Possible Strategies:

- Provide more opportunities for serendipitous interactions to build connections, share interests, and encourage generation of novel ideas (e.g., university-wide workshops)
- Protect and nurture research and other forms of academic expression driven by intellectual curiosity (e.g., endowment for sustained internal funding of selected initiatives)
- Support establishment of cluster hires to bring diverse expertise to interdisciplinary initiatives (e.g., sustainability or privacy)
- Create mechanisms to stimulate meaningful bottom-up collaboration between faculty, staff, and students with diverse disciplinary backgrounds (e.g., seed funding, online forums)
- Identify and implement new flexible ways to work with the private sector and with non-profits (e.g., flexible IP policies)
- Expand the range of creative work eligible for consideration in promotion and tenure decisions

Goal 3: To make CMU the academic destination for faculty, staff and students seeking a culture of innovation and entrepreneurship, and opportunities to learn, conceive, collaborate, launch, and lead in new endeavors

Possible Strategies:

- Increase opportunities and ease for connecting with non-traditional expertise on campus (e.g., entrepreneurs-in-residence, professor of practice, “reverse” linkages from innovation/entrepreneurship to motivate research/creativity)
- Develop curricula that educates our students in problem identification, problem solving, and innovation subskills (e.g., minor in innovation and entrepreneurship)
- Connect faculty and organizations across the university engaged in innovation and entrepreneurship to create synergy and leverage strengths (e.g., CIE Showcases and CIT Innovation Palooza)
- Provide the foundation for our students, staff and faculty to be leaders in their life endeavors (e.g., certificate programs in Jterm)
- Leverage alumni and extended community to enrich the RCIE experience on campus (e.g., as EIRs)

Goal 4: To provide comprehensive, creative and effective support to enable faculty, staff and students to maximize their opportunities for engagement in RCIE pursuits

Possible Strategies:

- Create an “ecology” of flexible, non-department owned space to provide temporary space for new ventures to develop and mature (e.g., creative projects, start-ups, industry-government partnerships)
- Provide flexible space for students to come together to collaborate and experiment (e.g., IDEATE & Build18 programs)
- Establish support and infrastructure to coordinate and compete effectively in high-impact activities having a long term horizon (e.g. large research centers, academic-industry-government partnerships)
- Provide top-down support that aids in the growth and development of bottom-up RCIE endeavors (e.g., seed funding, technical infrastructure, proposal support)