

Driving U.S. Competitiveness Through Improved Industry-University Partnerships

Insights for Industry

BACKGROUND

Industry-university partnerships drive generation of new knowledge and the translation of that knowledge for the public good. While industry tends to focus on applied research, universities offer exposure to basic research that may spur new processes and product development, as well as provide access to faculty expertise, state-of-the-art equipment, and new talent. Successful industry-university partnerships are adept in navigating the intersection between industry's focus on "commercialization pull" and the academy's focus on "technology push."

While industry R&D spending has increased dramatically over the past several decades, the private sector accounts for a low and declining share of university research. In response, universities are seeking to remove real and perceived barriers to research collaboration with industry partners.

APLU members, comprising 251 public research universities, land-grant institutions, state university systems, and affiliated organizations, are uniquely positioned to advance productive partnerships with industry. Many states rely on public research institutions as engines of economic growth, and some state governments have encouraged or supported investments in university programs that align with the needs of industry in the state. Partnerships between industry and public research institutions can leverage these investments for greater impact.

KEY BENEFITS OF PARTNERSHIPS

- Goal alignment between partners and the ability to articulate mutual benefit are key elements of strong partnerships.
- Expose industry partners to new fundamental research and multi-disciplinary perspectives.
- Access to students who will build a diverse research and development talent pipeline.
- Multifaceted partnerships involving multiple sources of benefit across campus, e.g., recruitment, research, continuing education and employee engagement, sponsorships, supply chain and leadership connections are more likely to have longevity.

BARRIERS TO UNIVERSITY ENGAGEMENT

- Challenges in identifying the appropriate point of contact and navigating within the non-hierarchical university infrastructure.
- Real or perceived misalignment between the goals, priorities, and incentives of industry research managers and university faculty, leading to misunderstanding and a lack of respect.
- Lack of knowledge about university research and technology strengths.
- Intellectual property and contracting language and timelines can be a barrier, but they don't have to be.
- University researchers often do not understand industry's need for compliance with confidentiality requirements and limits to publication.

OPPORTUNITIES FOR INDUSTRY

- Access to unique research assets, equipment, and testing facilities that reduce the cost of research, students who are trained in state-of-the-art techniques, and startups that can mitigate the risk of investing in new technologies.
- Early awareness of potentially disruptive ideas.
- Co-investment for basic and long-term research in strategic areas.
- Clinical data that can be used to test and frame the benefits of new products to patients.

NEXT STEPS FOR INDUSTRY

- Identify potential university partners and commit resources to centralized relationship management, e.g., joint steering committees to keep the relationship on track.
- Up-front investment in the development and implementation of mutually agreeable expectations for proposed projects; spend more time working with each other.
- Clear direction from leadership to prioritize university partnerships.

CASE STUDY

UC San Diego has a [long-standing partnership with Thermo Fisher Scientific](#) to integrate research, workforce development, and procurement. The Technology Sandbox ensures ready access to the most advanced equipment and expertise for education and research throughout the region; a 'democratization' of access to advanced systems, from cryo-EM to mass spectrometry to data science. The Collaborative Research Framework accelerates collaborative research, technology development, and innovation converging UC San Diego's research with Thermo Fisher's technology roadmap. These foundations support new programs that drive equity, diversity, and inclusion as it attracts and develops top talent and future STEM leaders. Woven throughout these activities is a program to support a Sustainable Supply Chain by increasing the use of environmentally friendly alternatives to commonly used materials and solutions, reducing our carbon footprint and aligning with both organization's sustainability goals.



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