

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

Insights for Universities

BACKGROUND

Industry research and development spending has soared over the past few decades; however, only about one percent of total industry R&D is spent on formal research collaborations with universities, and only six percent of university research funding comes from industry. Adding to the challenge, federal funding in R&D as a percentage of GDP has declined by over 60 percent since the 1970s. These trends point to a disconnect between industry and university research, making it more difficult to identify promising commercial applications, and slowing innovation and productivity growth in the U.S.

APLU members, comprising 251 public research universities, land-grant institutions, state university systems, and affiliated organizations, are uniquely positioned to advance productive partnerships with five key industries: biotechnology, telecommunications, pharmaceuticals and therapeutics, computing and quantum computing, and automotive engineering.

KEY TAKEAWAYS

- Enhanced support of university/business research and innovation interactions is essential to advancing U.S. economic competitiveness. The CHIPS and Science Act has provided welcome and needed support.
- Businesses seek access to university research facilities and students, who will be their future workforce.
- Industry-funded research and university startups should be encouraged because they de-risk technologies through applied research, facilitating further development by the private sector.

UNIVERSITY BARRIERS TO INDUSTRY ENGAGEMENT

- 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 capacity and infrastructure for pursuing and maintaining relationships.
- Frequent turnover of key relationship partners within industry.

OPPORTUNITIES FOR UNIVERSITIES

- Enhanced research opportunities, including those for students.
- Access to additional funding for research.
- Amplified public impact research; speedier application of research to address societal problems.

NEXT STEPS FOR UNIVERSITIES

- Implement incentives for faculty researchers to engage with industry partners, including adjusting promotion and tenure policies to recognize business engagement.
- Manage business and industry relationships centrally, including communicating university research/innovation capabilities more effectively.
- Simplify the contracting process and intellectual property policies to facilitate industrial engagement.

CASE STUDY

Clemson University's International Center for Automotive Research (CU-ICAR), located in Greenville, SC, began with financial resources provided by the university, state and local government, and private funding partners BMW, Timken, and Michelin. Over time, new funding partners from the federal government and industry have joined, leading to construction of new buildings and labs, and to additional programs and initiatives. One such initiative is the Virtual Prototyping of Autonomy-Enabled Ground Systems, a partnership between CU-ICAR and the U.S. Army Ground Vehicle Systems Center.



Photo Courtesy of Clemson University