

Innovation Partnerships Forum

Universities in Action:

Building Cross-sector Alliances and Making Impact on Society

A forum organized by the Global Federation of Competitiveness Councils (GFCC) and the Brazilian National Confederation of Industry (CNI)–Entrepreneurial Mobilization for Innovation

ORGANIZERS



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Letter from the GFCC Leadership

In a decade of growing global interconnectivity and accelerated technological change, universities have a crucial role in shaping, leading, designing, and implementing the innovation of the future for the benefit of all. They can no longer behave as ivory towers. Instead, they must play an integral role in interconnected socio-economic ecosystems.

Higher education institutions are responsible for training, educating, and unleashing the next generations of talent. But they have also been called upon to act on their responsibility towards improving local communities by driving economic development and prosperity.

Understanding the relevance of universities in this fast-changing landscape, we are pleased to present *Universities in Action: Building Cross-sector Alliances and Making Impact on Society*, a report documenting discussions held on September 29, 2023, in São Paulo, Brazil. Co-organized by the GFCC and its member, the Brazilian National Confederation of Industries (CNI).

The forum gathered C-suite leaders from Brazil, the United States, South Africa, Kazakhstan, Northern Ireland, and Sierra Leone on discussions about innovative models for cross-sector alliances and partnerships between industry, universities, and governments focused on innovation and impact.

We understand that the types of challenges that revolve around our world today are systemic and transdisciplinary and can only be addressed through cross-sector alliances. Societies continue to grapple in a world filled with crises, ranging from climate change and extreme weather events to high inflation,

rising cost of living, energy, and food insecurity, as well as armed conflicts and cyberattacks on critical infrastructure. Collaboration across sectors is no longer optional but rather a requirement to address these challenges and seize new opportunities.

We see the urgent need for collaboration on the United Nations recognition that we must foster partnerships to achieve sustainable development. The Sustainable Development Goal (SDG) number 17 is "Strengthen the Means of Implementation and Revitalize the Global Partnerships for Sustainable Development."

The GFCC has advocated for cross-sector partnerships and sustained alliances between universities and industry since its inception. The creation of the University and Research Leadership Forum (URLF) in 2016 signaled this commitment, establishing a venue for GFCC university, government, civil society, and corporate members to identify and discuss ideas to optimize the university and research enterprises.

As we enter a new phase of the URLF in 2024, we want to empower university-anchored high-performing innovation ecosystems and help to amplify their role of growth engines. We will connect university-anchored ecosystems in the GFCC and investigate how they engage with local economies, acting as instruments to tackle social challenges and foster prosperity.

Through this process, we aim to showcase universities acting in local and regional economies worldwide, and disseminate the tools, knowledge, and strategies needed to advance the implementation of place-based innovation.

We take the opportunity to thank our member and long-standing partner CNI for contributing to the forum by articulating the importance of industry-university partnerships for technological development and innovation in Brazil.

The second edition of the Innovation Partnerships Forum provided an occasion for leaders in the GFCC network to exchange best practices and experiences with their counterparts in Brazil and to continue a dialogue that was started years ago. Leaders had a chance to review trends and developments in innovation partnerships and forge new connections. This report documents these most relevant discussions.



Charles O. Holliday Jr.
Chairman, GFCC



Deborah L. Wince-Smith
President, GFCC
President & CEO, Council
on Competitiveness

Letter from the CNI Leadership



Antonio Ricardo Alvarez Alban
President, Brazilian National
Confederation of Industry (CNI)

Innovation is only possible with the collaboration of partners inside and outside companies. Within the changing world we have been living in, cooperation is an essential factor in improving companies' responses to societal demands and reducing the expenses required for the launch of new products and services in the market. Building partnerships between private companies and scientific, technological, and educational institutions, including universities, can

significantly increase the contribution to the development of disruptive innovation with a greater impact on economic and social matters.

In this context, the Brazilian National Confederation of Industry (CNI), through the Entrepreneurial Mobilization for Innovation (MEI), and the Global Federation of Councils on Competitiveness (GFCC) held the second edition of the Innovation Partnerships Forum, which brought together a diverse number of institutions and companies to discuss ways to boost innovation and technological development among nations worldwide.

During the event, key speakers shared their knowledge on how collaboration can have a positive effect on universities, allowing research to be applied to practical exercises and creating concrete data that could be reinvested in new research and new structures. Additionally, they discussed how private companies can establish a connection to access new knowledge and talents improving their services and products.

Thus, to create an effective relationship between the participants interested in this matter, it is necessary to develop great communication skills and understanding on both sides to draw ways of collaboration that benefit all, creating a favorable environment for the development of cooperative projects.

In addition, the development of public and private policies represents a greater incentive on the matter. In Brazil, the creation of the Brazilian Company for Industrial Research and Innovation (EMBRAPPI) was a milestone in the dissemination of the collaborative culture by focusing on financing projects among research institutions and companies. It is pertinent to inform about the Innovation Institutes (ISI) of the National Service for Industrial Learning (SENAI), which is responsible for promoting the development of new products, procedures, and solutions in cooperation with Brazilian industries.

In summary, cooperation for innovation is strategic. Initiatives that aim to explore success factors and foster debate on the subject are aspects that still deserve attention and dissemination, generating an important impact on society worldwide.

Enjoy the reading.

Cooking the Innovation Recipe



Dr. Roberto Alvarez
Executive Director, GFCC

Advancing innovation in the economy is like cooking. It requires a blend of diverse ingredients, but merely having those is not enough. You need to know how to combine them, control various parameters, use the right tools, and execute the different steps. Nevertheless, each country's unique legal and economic environments make the concoction of innovation specific.

The Innovation Partnerships Forum was a melting pot of

ideas and strategies from various corners of the globe, including Brazil, the United States, the United Kingdom, Kazakhstan, Sierra Leone, Saudi Arabia, and South Africa. Despite the differences among these countries, there are common elements relevant to all realities and opportunities to explore together.

One of the pivotal themes at the forum was the need to advance public-private collaboration the circulation of assets across sectors and partnerships. Countries need regulatory frameworks that enable and are conducive to these partnerships, while universities are called to update their toolkits.

This is not a new theme to the GFCC Community. The work of the GFCC University Research Leadership Forum—as expressed in reports such as *Convergence & Circulation* and *Optimizing Innovation Alliances*—has consistently highlighted those needs and the directions that the most innovative nations and universities in the world are pursuing. The challenge to do so is particularly critical in emerging nations.

Despite the challenges faced by emerging nations, Brazil has established a robust science and technology system over decades, including research universities, funding agencies, and national labs. In the 2000s, the attention turned to the improvement of legal frameworks. The country's Innovation Law, passed in 2003 and inspired by the 1980's Bayh-Dole Act in the United States, was a crucial step towards enhancing public-private partnerships to fuel innovation. However, despite other recent improvements in legislation, Brazilian leaders in the forum agreed that much still needs to be done in practice.

The situation in Brazil is not unique among emerging countries. The encouraging takeaway is that legal frameworks can change, and platforms like the GFCC help generate the necessary momentum for this change. If there are noticeable differences across nations, there are also similarities in critical issues, such as the need to reinvent incentive systems in higher education.

The diversity present at the Forum and in all GFCC activities open venues for learning and collaboration. Future growth will depend heavily on innovation and on addressing the challenges of sustainable development, areas in which universities have significant contributions to make and advanced and emerging nations need to collaborate.

While there is no one-size-fits-all recipe for cooking innovation, there is a common thread connecting the most successful nations and practices. Our hope is that bringing together participants from various countries through initiatives like that can unlock new partnerships and opportunities for value creation.

A New Phase for the University and Research Leadership Forum

Universities, industry, research organizations, and other players in innovation ecosystems worldwide are operating in a fast-changing landscape marked by technology growth and uncertainty. They are called to develop and deploy solutions at speed and increasingly address significant societal challenges, from climate change to the imperative of inclusiveness. In such a context, universities and industry roles are changing, boundaries between organizations are blurring, and new models are emerging.

Since its inception, the GFCC has advocated for strengthened ties between universities and industry. The creation of the University and Research Leadership Forum (URLF) in 2016 signaled

this commitment, establishing a venue for university, government, civil society, and corporate members to identify and discuss ideas to optimize the university and research enterprises.

Throughout the years, the URLF has conducted timely reviews of universities' roles and strategies, highlighting ways for higher education institutions to become more innovative and engage in transformational technology projects. The reports released between 2017 and 2018—*Convergence & Circulation, Speed and Leadership, Leveraging Extreme Innovation, and Optimizing Innovation Alliances*—showcase the evolving toolkits that universities use to engage in innovation and highlight new models for university and research organizations.

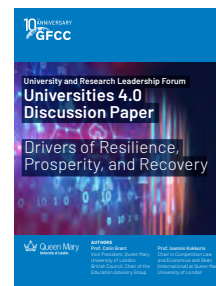
University and Research Leadership Forum Reports

Click on a cover image to download a PDF of the report.

2022



2021



Starting in 2024, the URLF is embarking on a new groundbreaking initiative to connect university-anchored innovation ecosystems and unveil the mechanisms and enablers behind them. Its primary goal is to create and engage an international network of universities committed to place-based innovation, acting as catalysts for placemaking through research-led innovation in partnership with entities from the public and private sectors and the communities they serve.

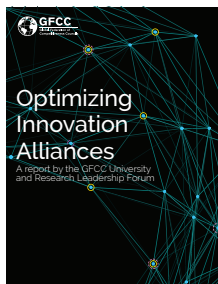
This process will include promoting study tours, developing case studies and policy briefings, and the use of digital tools to provide visibility and connect innovation ecosystems around the globe.

Prof. Aleks Subic, Vice-Chancellor and Chief Executive of Aston University, a recognized global leader in technology and innovation in higher education, will be one of the URLF co-chairs in this new phase.

We know that partnerships with public and private sectors are essential for the development of thriving innovation ecosystems. Hence, the relevance of the discussions held in São Paulo in September 2023 for building up the scope of our next activities.

The URLF will continue to evolve through this new phase building on its past achievements and the relationships with various stakeholders developed over the years. We hope you can join us on this journey.

2018



2017



A Network of Global Leaders

The **Innovation Partnerships Forum** offered unique networking opportunities for leaders in industry, academia, and policy-making. Distinguished leaders from Brazil, the United States, South Africa, Kazakhstan, Northern Ireland, and Sierra Leone seized the opportunity to exchange contact information, foster relationships with their counterparts, and collaborate on best practices in their respective domains.

For over a decade, the GFCC has served as a premier platform for identifying emerging opportunities and sharing best practices within an exclusive network of C-suite professionals spanning more than 30 countries. Explore membership levels and associated benefits on the [GFCC website](#) for further details.



Top: Kandeh Yumkella, Presidential High Commissioner, Feed Sierra Leone, and Distinguished Fellow, GFCC; and Sandra Regina Goulart Almeida, Rector, Federal University of Minas Gerais (UFMG).

Bottom: Luíz Roberto Liza Curi, President, Brazil's National Education Council (CNE); Carlos Lopes, Professor, Mandela School of Public Governance, University of Cape Town; Gianna Sagazio, Former Director of Innovation, CNI; and Deborah L. Wince-Smith, President, GFCC, and President and CEO, Council on Competitiveness.



Senior leaders working in industry, academia, and policymaking gathered in São Paulo on September 29 for the Innovation Partnerships Forum.



Top left: Carlos Bulhões, Rector, Federal University of Rio Grande do Sul (UFRGS); Roberto Alvarez, Executive Director, GFCC; and James Young, Director, Centre for Competitiveness (CforC)

Top right: Gianna Sagazio, Former Director of Innovation, CNI; and Deborah L. Wince-Smith, President, GFCC, and President and CEO, Council on Competitiveness.

Bottom: Leaders gathered in São Paulo for the Innovation Partnerships Forum

Capacity Building Through Collaborative Research and Innovation

Presenter: Carlos Lopes

Professor, Mandela School of Public Governance
da University of Cape Town

African nations are collaborating among them to overcome multiple socio-economic challenges and develop collective capacity-building. In 2015, they issued a strategic framework for the continent called Agenda 2063. This landmark document brings together all 54 member states of the African Union to deliver inclusive and sustainable development.¹

The creation of the African Continental Free Trade Area (AfCFTA) during the pandemic in 2021 was an important step in realizing these aspirations. Before the AfCFTA, African nations held over 17 trade deals among them and a lot of internal division. "If Africa negotiates as a single entity, it becomes the third-largest trading partner of Europe, after the United States and China, and, therefore, it is a completely different negotiation. This visibility did not exist due to division and fragmentation", argued Prof. Carlos Lopes.

Prof. Lopes reminded participants that the world is going through a transition period, in which it is essential to create ecosystems to promote dialogues across different sectors. Otherwise, nations run the risk of feeding fragmentation and stalling innovation.

During this transition phase, humanity is running into the risk of widening the gap between developed and undeveloped nations if incentives are not made to promote social-economic reforms, upskill the workforce and promote digitalization. As an example, initiatives such as [the coding school 1337](#), which provides free-of-charges IT training to young people aged 18 to 30 years old in Marroco, can help Africa leapfrog.

This time calls for innovation and new roles being played by stakeholders in all sectors of societies, particularly universities.

¹ <https://au.int/en/agenda2063/overview>.

Business–University Cooperation: Best Practices and Success Factors

MODERATOR

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President, National Association for the Advancements of Science (SBPC)

Industry–university cooperation is crucial for driving innovation and economic growth. Various forms of partnerships can benefit both parties while contributing to the overall progress of society through workforce development, research advancement, knowledge sharing, technology transfer, and addressing societal issues. Additionally, business can be a relevant source of funding for research, which can lead to the development of new products, technologies, and solutions.

The level of maturity of business–university cooperation varies widely worldwide. The United States, for instance, is a leader in this type of cooperation, with universities holding close ties to industry. Texas A&M has engaged with businesses since its inception and has had billion dollars to research funding directly from industry over the years. Texas A&M has four primary models of engagement with other sectors:

1. Philanthropy, particularly through scholarships;
2. Industry, via problem-solving projects being sponsored by private companies;
3. U.S. Federal Government, which finances large consortiums and centers gathering universities and companies; and
4. Public–private partnerships.

An example of ongoing business–university cooperation is the [University Consortium for Applied Hypersonics](#) led by Texas A&M and funded by the US Department of Defense with the goal of boosting hypersonics discovery and sustainable manufacturing capabilities in support of national defense. Under this initiative, over 100 universities and 100 companies in the country work together with government agencies, national laboratories, and research centers to advance innovation in the field.

In emerging countries, such as Brazil, business–university cooperation is less developed due to a combination of economic, cultural, and structural factors. For instance, Brazilian federal funded universities held numerous regulatory hurdles that prohibited close ties with the private sector for years in the name of impartiality and unbiased knowledge production. Therefore, improving legal frameworks, simplifying government processes and promoting a mindset shift to encourage cross-sector collaboration is crucial to gradually advance partnerships.

Similarly, in Kazakhstan, underdeveloped research and innovation ecosystems, economic profile and poor institutional frameworks limit industry-university cooperation. Kazakhstan's economy still relies heavily on gas, oil, and mining revenues, with universities lacking investments in applied research and sustainable long-term fundings for researchers. Universities in the country still operate mainly as "teaching units" and the innovation agenda needs to be advanced, as pointed out by Mr. Kainar Kozhumov, Managing Partner, Center for Research and Consulting.

Key Takeaways

Be clear about IP rights upfront

Reaching a consensus in patent development for business-university partnerships can be a challenging process, as it involves aligning the interests and goals of both parties. From the start of the partnership, it is crucial to define roles and responsibilities, engage in open communication, and set up structured agreements about IP ownership and sharing.

Speed up the deployment of novel organizational solutions

Another challenge is finding a common language between academia and industry and adapting the timeline of both parties. Knowing that convergence will not happen by chance, it is necessary to build organizational solutions to facilitate communication and the convergence of perspectives. In 2017, the GFCC published the flagship report *Convergence & Circulation* emphasizing the need to foster a common language across sectors to strengthen partnerships and promote knowledge sharing, technology transfer and cultural exchange. It is critical to evaluate policies, initiatives, programs and organizational solutions in the university system, and establish metrics, reminded Prof. Irineu Gianesi, President, Mauá Institute of Technology (IMT)

Leadership must support change

Leadership is crucial to create the environment for university-industry partnerships. It goes from providing vision and strategy to the initiative to facilitating resource mobilization, alignment of interests, and resource allocation. Dr. Kandeh Yumkella, Presidential High Commissioner of Sierra Leone, defended that governments must play a leading role to foster innovation and partnerships, including providing funding and incentives, when there isn't yet established industry to finance innovation, particularly in developing nations. Dr. Yumkella and Dr. Claudio Furtado, GFCC Distinguished Fellow, stressed the need for leaders to step up and champion changes in legislation and the implementation of new institutional and organizational models.

Advancing the Science & Technology Enterprise via Industry-University Partnerships

MODERATOR

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Eduardo Couto e Silva

Director, Brazilian Biorenewables National Laboratory (LNBR/CNPEM)

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Brazilian Innovation Agency (Finep)

Sérgio Fonseca

Director of innovation, China Three Gorges Corporation (CTG)
President, James Young Director, Centre for Competitiveness (CforC)

University and industry partnerships are crucial to advancing science and driving impactful research. These alliances allow for research projects based on real-world problems, enable technology transfer and access to funding, and facilitate the commercialization of new academic research. However, this exchange can still stumble on some building blocks, particularly in developing nations. The lack of proper legal frameworks and long-term public policies that can guarantee legal security and certainty are actual obstacles that can hinder partnerships and slow down innovation.

Governments can help to promote industry-university collaboration by providing funding and incentives. In Northern Ireland, Dr. James Young could open a nutraceutical product business as direct result out of his PhD research and lab experiments at Queen's University of Belfast by using government incentives and the university's infrastructure. He advocates for expanding

knowledge transfer models linking universities, businesses, and associates. "Through this type of infrastructure, we will start to enable reinvestment back into the whole system to grow the economy," he points out.

The Brazilian Center for Research in Energy and Materials (CNPEM), a private non-profit laboratory overseen by the Ministry of Science, Technology, and Innovation, is one of the few labs in the world with a Synchrotron light source. According to Dr. Eduardo Couto e Silva, Director of the National Laboratory of Biorenewables at the Center, CNPEM had to pioneer new models to foster relationships with local industry and universities since no channels were previously available. The center created ways to allow the scientific and academic communities to use its cutting-edge equipment, aiming at the possibility of talent circulation across sectors and institutions, as well as internationalization.

Another strategy to advance innovation partnerships is mapping out the problems the local industry needs to solve and design engagements following a mission-based approach that considers the main challenges faced by industry and the capabilities and strengths of research and universities. For that to work, all players must think strategically and own the strategy.

Finally, it is crucial to acknowledge that thriving innovation ecosystems with solid business-universities relations take time to build and reach a certain maturity level since it involves integrating various components and strategies to promote the exchange of knowledge, expertise, and resources.

Key Takeaways

Simplify processes and reduce bureaucracy

Governments need to invest in streamlining regulations to simplify and consolidate processes that enable business-university collaboration. Dr. Sandra Goulart, President of the Federal University of Minas Gerais, in Brazil, commented on the need

to build more clarity into the Brazilian 2016's Legal Framework for Innovation, the legal piece that regulates the relationships between industry and public universities in Brazil. For her, the current language is complex and not accessible to most stakeholders, creating layers of complexity and friction in implementing partnerships.

Ensure clarity in agreement details

The success of industry-university partnerships relies heavily on developing upfront clear agreements to ensure that both parties understand their roles, responsibilities, and expectations. Ambiguity can lead to misunderstandings and potential conflicts. Before starting activities, define objectives and goals, run a legal review, and ensure that intellectual property rights are clearly addressed. Additionally, it is crucial to check if liabilities are well established, and to make sure that dispute resolution mechanisms are set, and that roles and responsibilities are defined unambiguously.

Try a mission-based approach

A mission-based approach can significantly enhance the prospects for successful university-industry cooperation by providing a clear shared sense of purpose and direction. It fosters alignment, relevance, and a commitment to addressing significant challenges, ultimately leading to more effective and impactful partnerships. To pursue that, it is worth investing time and resources to design technical and business goals.

Industry-University Partnership Enables the Production of Renewable Hydrogen

Presenter: Julio Meneghini

Professor Polytechnic School University of São Paulo
Director General, Research Center for Gas Innovation (RCGI)

A project focused on decarbonization in Brazil offers a model of effective business-university collaboration. Launched through a partnership between Shell, the University of São Paulo, and FAPESP, a Brazilian research funding agency, the Research Center for Greenhouse Gas Innovation gathers over 500 researchers from Brazil and abroad and supports the development of transdisciplinary research focused on renewable energy.

Its flagship project focuses on producing green hydrogen from ethanol made from sugarcane biomass. In addition to project initiators, the project also has the support of several companies, such as the French multinational Total Energies, the Brazilian state oil company Petrobras, Braskem, and others. Universities such as Imperial College London, Princeton University, and the University of Queensland are also partners in the initiative, along with 28 labs and research centers in Brazil and abroad. The Center's goal is to enable the production of commercial green hydrogen for fuel by 2025 at two dollars per kg. Besides green hydrogen production, the Research Center for Greenhouse Gas Innovation also develops other solutions focused on decarbonization, such as technologies for carbon sequestration and other green technologies.

Prof. Julio Meneghini, the center's director, highlighted the importance of stakeholders involved in similar ventures understanding national regulations, such as the already mentioned Brazilian Legal Framework for Innovation. Existing legislation allows university faculty to become partners of spin-off companies and enables intellectual property rights to be shared between university, the companies sponsoring projects, and other participants. Mastering the use of regulatory frameworks is a key attribute to advance innovation partnerships.

Building Higher Education Institutions of Excellence to Advance Society and Economy

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Ricardo Galvão

President, National Council for Scientific and Technological Development (CNPq)

Sandra Regina Goulart Almeida

Rector, Federal University of Minas Gerais (UFMG)

Tommy Gardner

Chief Technology Officer HP Inc.

Universities can play different roles and fulfill local and regional development needs beyond teaching and research, depending on their context and location. Throughout the years, the concept of university excellence has evolved to become more responsive to socio-economic needs and community concerns. A university can no longer be considered excellent if it is not simultaneously relevant to its surrounding community, connected to global trends, and if it does not fulfill its role of generating wealth.

Additionally, in today's world, teaching must include a critical view of ongoing socio-economic and environmental challenges. It's part of universities' duty to engage and dialogue with local communities, businesses, industry, government, and civil society to understand their needs and participate in finding solutions to their challenges. To make this happen, universities must invest in interdisciplinarity and foster an open mindset among faculty and staff, particularly considering that today's global challenges are multifaceted and interwoven. Besides, leadership must work towards creating a culture of innovation.

Historically, in Brazil, universities, particularly public universities, have faced internal and external barriers to maintain relationships with the private sector. In recent years, considering the importance of exchange, network, and research based on industry needs, universities have taken steps to change this reality, pushing forward new regulations and forging new links with businesses.

An example is the program that includes a Master's and PhD in Technology Innovation at the Federal University of Minas Gerais. The course requires candidates to link their thesis to a topic proposed by industry. It is a clear example of collaboration between universities and the business sector. The first successful thesis was financed by Mercedes Benz analyzing the use of nanotechnology from Brazilian rubber for bus tires. This thesis resulted in several publications and contributed to research development.

Key Takeaways

Invest in internationalization

Internationalization plays a pivotal role in shaping universities of excellence. Embracing a global perspective enhances the overall academic experience and fosters cultural diversity, collaboration, and innovation. Universities that prioritize

internationalization attract a diverse pool of students and faculty, creating a dynamic and enriching learning environment. Collaborative research ventures and partnerships with institutions worldwide contribute to the advancement of knowledge and the development of cutting-edge solutions to global challenges.

Foment open innovation

Implementing solutions for universities to engage with the corporate world via open innovation encourages collaboration across disciplines, industries, and even borders. Universities that actively engage in open innovation become hubs of creativity, breaking down traditional silos and cultivating an environment where ideas can flow more freely. This approach not only enhances research and innovation capacity but also prepares students for a rapidly evolving job market. By engaging via new models with external partners, universities can leverage a wealth of diverse perspectives and resources, accelerating the pace of discovery and innovation.

Foster inclusiveness

The importance of fostering inclusiveness cannot be overstated in the quest to establish successful universities. Inclusive environments promote diversity of thought, backgrounds, and experiences, enriching the overall learning and research landscape. Moreover, inclusive universities are better positioned to attract and retain top talent, fostering collaboration and innovation. The future success for universities will be intrinsically linked to their ability to promote inclusiveness and involve all demographics and sectors of society in the innovation economy.

Advancing Innovation— 5 Overarching Takeaways from the Innovation Partnerships Forum

In the vortex of global change, innovation stands as both a beacon and a challenge, demanding an orchestrated response across public and private sectors. Public-private collaboration is a must. The Innovation Partnerships Forum distilled the essence of this challenge into five pivotal themes necessary to propel innovation forward.

1. **Convergence across sectors:** The forum accentuated the imperative of harmonizing languages, practices, and protocols across sectors. The crux lies in crafting legislation that encourages the seamless sharing of resources and expertise across sectors, fostering a symbiotic relationship in which governments, industries, and academia collaborate with agility and mutual understanding.
2. **Existential imperative:** With the relentless pace of transformation in our contemporary world, universities confront a stark reality: evolve or face obsolescence. The forum echoed a clarion call for institutions to embrace strategy, recognizing that survival hinges on the capacity to change and adapt promptly. Leadership matters like never before.
3. **Institutional innovation:** Furthering innovation will not happen by chance; it demands deliberate action and tailored organizational solutions. Universities must develop and cultivate the capabilities and organizational solutions to engage in innovation, from setting up dedicated offices and task forces to evolving processes and metrics, ensuring and recognizing faculty engagement in cross-sector innovation initiatives.
4. **Systems approach:** Innovation and university engagement in innovation happen in the context of institutional and economic systems. It is a systems issue and system's shaping is a critical task. Place matters and all stakeholders must engage in the innovation conversation. For instance, governments at all levels must act not just in advancing regulatory frameworks but putting in place toolkits to support innovation at the national, regional and local levels. Universities must work as system shapers.
5. **Measuring progress:** Progress in innovation must be quantifiable. The forum underscored the need for robust assessment frameworks and measurement tools to evaluate policies, university initiatives, and individual contributions against global standards. Higher education incentive systems must reflect the impact beyond measuring publications and traditional academic output, aligning faculty performance metrics with real-world influence. The only way to sustain progress is by measuring results and adjusting existing frameworks.

We encourage the reader to review two GFCC reports that speak directly to various of these topics, particularly topics 1 and 2: *Convergence & Circulation* and *Speed and Leadership*. They resonate with these themes and offer tangible examples and guiding principles.

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