



AMERICAN
UNIVERSITY OF BEIRUT
FACULTY OF ARTS & SCIENCES

RESEARCH, INNOVATION
AND CREATIVITY HUB

BRIDGING MINDS AND MARKETS

ADVANCING ACADEMIA-INDUSTRY
COLLABORATION IN LEBANON

THURSDAY, APRIL 24, 2025

SAMIR ZAABRI SCIENCE LECTURE HALL (SLH)

AMERICAN UNIVERSITY OF BEIRUT (AUB)



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BRIDGING MINDS AND MARKETS

Advancing Academia-Industry Collaboration in Lebanon

By The **Research, Innovation, and Creativity Hub (RICH)** at the Faculty of Arts and Sciences (FAS), American University of Beirut (AUB)

Abstract

Lebanon's economic and technological future depends on stronger collaboration between academia and industry. This conference aims to explore the role of academic intervention in addressing industry needs, fostering innovation, driving economic growth, and creating career pathways for students. By bringing together top industrialists, policymakers, and academic leaders, the event will provide a platform to discuss the gaps, challenges, and opportunities in bridging the academic and industrial sectors. Through insightful discussions and strategic recommendations, the conference seeks to establish a roadmap for mutually beneficial partnerships that enhance research, workforce readiness, and technological advancement in Lebanon.

Speakers (listed by the alphabetical order of the last name)

1. **H. E. Fady Abboud**, CEO of General Packaging Industries
2. **Dr. Carol Abi Karam**, General Manager of Pharmaline
3. **Mr. Walid Assaf**, Chairman of S.M.L.C.
4. **H. E. Michel Daher**, CEO of Daher Food
5. **H. E. Neemat Frem**, CEO of Indevco
6. **Dr. Fady Gemayel**, Honorary Chairman of Gemeyal Freres S.A.L.
7. **H.E. Joe Issa Elkhoury**, Minister of Industry
8. **Dr. Nada Sabra**, UNIDO Liaison and Resource Efficiency Officer
9. **Mr. Ziad Shammas**, Head of the Executive Board of IRALEB
10. **Mr. Salim Zeenni**, President of the Association of Lebanese Industrialists

CONFERENCE PROGRAM

9:30 A.M. Registration and Welcome Coffee

10:00 A.M. - 10:10 A.M. Welcoming Word by President Fadlo Khuri

10:10 A.M. - 10:15 A.M. Welcoming Word by Dean Fares Dahdah

10:15 A.M. - 10:20 A.M. Opening Word by Associate Dean Wissam Raji

10:20 A.M. - 11:05 A.M. Panel Discussion 1* (Fady Abboud, Neemat Frem, Fady Gemayel)

11:05 A.M. - 11:15 A.M. Q&A

11:15 A.M. - 11:30 A.M. Presentation by Dr. Nada Sabra, AUB-UNIDO Partnership on TEST Methodology under the framework of EU-funded 2circular project.

11:30 A.M. - 11:35 A.M. Q&A

11:35 A.M. - 11:45 A.M. Coffee Break

11:45 A.M. - 12:30 P.M. Panel Discussion 2* (Carol Abi Karam, Walid Assaf, Michel Daher)

12:30 P.M. - 12:40 P.M. Q&A

12:40 P.M.-01:05 P.M. Lunch Break

01:05 P.M. - 01:15 P.M. Presentation by Mr. Ziad Shammas, LIRA program: Empowering Innovation from Campus to Market

01:15 P.M - 01:20 P.M. Q&A

01:20 P.M. - 01:50 P.M. Panel Discussion 3* (Joe Issa el Khoury, Salim Zeenni)

01:50 P.M. - 02: 00 P.M. Q&A

02:00 P.M. - 02:05 P.M. Closing Word

To watch the full event, scan QR code or head to the link below:

<https://www.youtube.com/watch?v=jjHsQFBS-WI>



WELCOME NOTE DR KHOUZAMA KNIO

President Fadlo Khuri, Your Excellencies, Provost Zaher Daoui, Mamdouha El Sayed Bobst Dean of the Faculty of Arts and Sciences Dr. Fares El Dahdah, and esteemed guests. On behalf of the Faculty of Arts and Sciences Research, Innovation, and Creativity Hub, it is my distinct honor to welcome you to this conference entitled “Bridging Minds and Market: Advancing Academia-Industry Collaboration in Lebanon.”

Your presence is a testament to the importance of the dialogue we are gathered here to engage in. This conference seeks to examine the critical role that stronger, more intentional ties between academia and industry can play in driving innovation, supporting sustainable economic development, and fostering career pathways for the rising generation in Lebanon. Through thought-provoking panel discussions and the exchange of strategic insights, we aim to chart a collaborative roadmap that enhances research capacities, advances workforce readiness, and accelerates technological progress within the national and regional context. We thank you for your commitment to this shared vision, and we look forward to a productive and inspiring day of dialogue and discovery.

Before giving the floor to President Fadlo Khuri, a few words:

President Khuri is the 16th president of AUB. Under his wise and transformative leadership, AUB has established strong partnerships with prominent foundations and universities around the world, strengthening AUB’s reputation as a mission-driven university and improving its world-wide ranking dramatically over the years. He was very successful in leading fundraising campaigns and raised over 805M dollars. President Khuri is also a well-established oncologist and researcher with more than 750 publications and numerous awards.

Please join me in welcoming President Khuri.



PRESIDENT'S NOTE DR FADLO R. KHURI

Good morning everyone,

It is a pleasure to welcome you to this timely and really necessary convening—an important step in bridging minds and markets. Today's theme speaks not only to the urgency of Lebanon's economic and technological future, but to the real work needed to build stronger, more purposeful connections between academia and industry. We are not here for platitudes—we are here to ask difficult questions, share real experiences, and move forward together.

This is not a new conversation, and it is certainly not one we are starting from scratch. But there is something unique about this moment that many of these opportunities, I believe, can and should start to be realized. AUB has taken serious steps over the last decade to bridge this divide. Our Maroun Semaan Faculty of Engineering and Architecture (MSFEA) Institute supports enterprise competitiveness through R&D, prototyping, design thinking, and capacity-building. LEAF, our full-service environmental and food testing lab, provides trusted analysis for everyone from the Ministry of Public Health to the United Nations to the Lebanese armed forces. Programs like SAIL for Change, and collaborations across technology, health, and industry have put AUB at the forefront of academic intervention. The Faculty of Medicine has already launched not only patents, but a company that we now have established in Nebraska. The Faculty of Agricultural and Food Sciences has innovated several technologies that can and will make a difference for the people of Lebanon and the region. And it all starts in the Faculty of Arts and Sciences. This is where almost all of our students come to start their creative journey through AUB.

But we have to admit this is not enough. These efforts, while meaningful, are still scattered across a wider landscape of missed opportunity. The distance between our universities and industries remains. On the one side: companies striving to develop new technologies, attract talent, and remain competitive. On the other: academic institutions rich in research (and not just AUB, but Université Saint Joseph (USJ), the Lebanese American University (LAU), Beirut Arab University (BAU), and others), ideas, and bright young minds, but the connection—what the engineers call the impedance fit—has not been intentionally developed enough. But the synergy is clear. Our systems still continue to speak different languages, and we need to move past that to speak one language.

We have to build lasting bridges, and to do that, we need to start with honesty. There are structural divides: academia and industry operate at different speeds, with different incentives. Where industries prize responsiveness, scalability, and readiness, universities reward depth, publication, and exploration. Beyond structure, there are cultural gaps: misaligned expectations, limited shared spaces, and too few opportunities for shared dialogues.

I do not believe these gaps are insurmountable, and I have seen this come together before in different ways, and it needs to come together in a unique way here in Lebanon and at AUB. We can see what



happens when alignment is intentional. At AUB nine years ago, we convinced the late Maroun Semaan to give the largest donation in the history of the university to endow the Maroun Semaan Faculty of Engineering and Architecture. The condition was that we would transform that faculty, and that endowment has transformed that faculty. Industry Program 3.0; bringing together nearly 200 students and professionals from global players like Amazon and others. Together, they have tackled real-world challenges, generating both insight and experience. It is not just a success story—it is a template. But it is not an identical template to what we are proposing. The Faculty of Arts and Sciences is different; it is the most diverse faculty. It touches on the humanities, the natural sciences, the social sciences. Creativity is a must for people in the Faculty of Arts and Sciences, but there are opportunities there that are enormous and that are untapped.

Academic intervention has played a critical role here and there. Faculty do not just assign tasks—they help shape the process. They guide students in framing complex problems, applying theory, and reflecting on impact. When universities position themselves not only as knowledge creators but as problem-solvers for industry and for the world, the outcomes are far more powerful.

The faculty help guide students not only in framing complex problems, applying theory, and reflecting on impact, but the university—the undergraduate and graduate experience—is a time for people to explore their boundaries, including their creativity. When universities position themselves not just as knowledge creators, but as problem solvers for their communities, the outcomes are far more powerful. This conference is our call to move beyond scattered initiatives and toward more systemic changes and a formal infrastructure for collaboration and acceleration. For two years now, I have called for us to focus on excellence for the greater good. That does not mean there is any less need for excellence, simply for excellence, for fundamental research. But we need to develop a formal infrastructure for collaboration and acceleration in order to create a better life for the people of Lebanon and the region. When we intentionally link academic excellence and creativity with industrial demand and market access, we can unlock enormous value: for businesses, for society, but also for students, many of whom now, post-pandemic, post everything that has happened in Lebanon, and, even post-war, want to stay here, want to have their most productive and creative portions of their lives here instead of coming home to retire.

There are international models that offer inspiration for the path forward, and I am going to start with Germany. If you consider where Germany was after World War II, it was a devastated country. Most of the houses were destroyed. All the industry was destroyed. I recently read a book about the 10 years, the 10 barren years, between the end of the war and 1955-56, when Germany was starting to emerge again as an industrial power. You see that this can be done for different people in different ways. Sweden offers a more peaceful but equally successful model. In all those cases, academicians collaborated with companies to solve pressing challenges, and students graduated equipped, not only for innovation and

discovery, but for production. Curricula often reflect national economic priorities. And the curricula that matter are the five or six leading universities and our great public university, the Lebanese University, but also the curricula of the schools. We need the curricula of the schools to start to create a space for creativity and for citizenship. It astonishes me, having spent 33 years away from Lebanon, how few people know the full three stanzas of “Kuluna lil Watan”. I still remember them. But now, most students just learn that first stanza. In our era, you could not graduate fifth grade without knowing them.

Can we build a similar ecosystem in Lebanon? We believe so—but only if we create stronger structures for creativity, for industry, but also for citizenship. That means embedding industry liaisons within universities, building national frameworks that reward collaboration rather than competition, and creating policies that support joint work—from research to prototyping, recruitment to strategy co-design.

Here, I am talking specifically to our Faculty of Arts and Sciences. For so long, we have rewarded you only for a solo effort. But Provost Dawy and I are studying this, and we want to reward rich collaboration; collaboration that has signatures. It is, in my honest opinion, as someone who has defined their entire career and been recognized only for collaborative work, and that is the only way I would like to. Working with others who are of equal but differing types of skills is incredibly rewarding and far less lonely than doing it on your own. Do not stop doing the work on your own, but we want you to find partners, and we will reward that in the university. We will not punish that. This will help us to do more to respond to industry. That collaboration, internal and external, will help us anticipate your needs. From agriculture to ICT, from energy to healthcare, we have to deploy our research capacity to confront real-world painpoints, and we cannot do it alone. From my first month here, I have reached out to the other universities to establish bridges. AUB is not a hovering, snobbish, condescending older brother, but a loving and equal partner to the other universities and to the schools of this country. Faculty have to be empowered to co-lead applied projects. If someone else has the lead at a sister university, there is nothing wrong with that. Reward them, work with them. Students have to have the space to prototype, test, and iterate alongside industry mentors. Some of this is already underway: already, partnerships through MSFEA’s Corporate Program, consulting work with small and medium-sized enterprises through the Suliman S. Olayan School of Business (OSB), and joint research supported by institutes like LEAF. And great programs, including the Women in Data Science, which bring outside universities, like Stanford University and others, into the fray, make a tremendous difference. We should not be too proud to work with any of the universities that are younger than us, nor should we be so humble that we do not approach the universities with far more resources and prestige.

One of the greatest tools that we have is aligning academic content with the realities of the market and its needs. That means inviting industry into the classroom: co-designing curricula in some cases, shaping capstone projects, embedding challenges into student work. It also means refining the model through pilots, feedback loops, and continuous learning.

To our industry partners—many of you likely have “backburner” projects. Things that you have not dared to try, ideas with potential that never quite rise to the top of your priority list. What if we matched those with student teams? It is a win-win: fresh thinking, dedicated effort, and market exposure for students from the university that ranks 35th in employment outcomes in the world, better than most of the Ivy Leagues, all but one or two of the great French and British universities each, with valuable insight and innovation from industry partners.

We have seen it work. Moodfit, the region’s first online interior design platform, began as a student project and grew into a thriving business. Our collaboration with Pansoft Technologies is helping shape Lebanon’s tech talent. It is developing a pipeline by equipping students with in-demand cloud computing and DevOps skills. There are so many more examples, and if you are curious, I encourage you to come to Demo Day next Tuesday at our iPark. It is less than five years old, and it has already exited more than 20 companies. Something to think about.

These are not isolated successes. They are proof points of what is possible when academia and industry meet with purpose. But they have to scale. Too much research still sits unpublished, untested, unused. And that will come with the resources, not only of the industry and the investors in this country, but I am going to repeat again and again with the new chance to bring outside investors from the Lebanese diaspora



and beyond to invest in and trust what is happening here. Too much research still sits unpublished, untested, unused. We have to champion application—through tech transfer offices, that Fadia Homeidan helped us launch a few years ago, incubators, industry fellowships, and seed funding that support the evolution from idea to impact.

National coordination is critical. Students have to, like governments, align priorities in their lives. We have set policies, and we offer incentives for our students. Please join us in doing so in a way that makes their life journey more curious and more fulfilling. The triple helix model of public, private, and academic has proven highly effective elsewhere. Lebanon must shape its own version, grounded in our context, but driven by shared ambition and a conviction that this will become a sustainable country that is fairer and more inclusive for all.

Let us not forget the heart of all of this: our students. They are not observers—they are our future. I am sad to say that for almost two centuries, Lebanon has expelled so many of its best and brightest. Today, they are hopeful but hesitant. They are talented but unsure, but they are seriously considering careers here in the mother country. While many are preparing to leave, questioning their role in Lebanon’s future, if we can show them that education leads to employment and opportunity and even leadership, I think, to impact, to purpose, more and more will choose to stay. If they stay, given the history of this university, more and more will lead.

As Neemat Frem said, “The ingenuity of students is one of Lebanon’s most valuable resources. Investing in them is not charity. It is strategy.” Let us see that strategy.

And as Philippe Ziade reminded us, “We can’t wait for miracles. We must create ecosystems of opportunity—and we must do it now.”

Lebanon’s universities consistently produce some of the most brilliant minds in the region, some of the most sought-after employees and leaders in the region, with AUB at the helm. Our youth are curious, they are driven, they are bursting with ideas. But they graduate into uncertainty—lacking experience, clarity, or pathways. Meanwhile, industries—from agri-food to clean energy—are calling for talent and innovation. We cannot let this disconnect widen. We cannot keep expelling them. We do not export them – we get nothing back – but their money is in banks with uncertain futures.

I have one major warning, amidst this excitement to translate discoveries to application, and to attract working capital. Actually, two warnings. One is we cannot constrain research for its own sake. The work of the mathematician, the educator, the poet, the playwright, the biologist cannot be made to serve tomorrow’s needs. Research excellence for its own sake has to continue to thrive here. So many of our ideas pop up from those fundamental discoveries. In pursuing excellence for the greater good, we cannot risk that purest form of research that seeks to uncover fundamental truths about the way we live

and why. A balance has to be struck between fundamental and applied research, and I believe we can do that. I am confident that as long as we remain cognizant of this risk, we can manage the priorities well and do both. They are not mutually exclusive. We can fuel exciting discoveries that advance society while simultaneously solving more of life's mysteries.

My other concern, I want to be very blunt about. This is a unique moment in the history of Lebanon. If we are all honest, we, Lebanese and our brothers in Syria, Palestine, and Jordan, are extraordinarily critical. We love to be the Monday morning quarterback. In event after event, in dinner after dinner, I have said, "I am suspending my criticism of this government and of this time in Lebanon." The criticisms will be private. This is the time to rally around this unique opportunity in Lebanon's future. We will have this chance now, and perhaps not again for half a century, when the country truly has much of the say in its future. I do not think we can afford to keep shooting at one another. The Lebanese are infamous for the circular firing squad that shoots inward.

We cannot afford silos. We should continue to criticize, but not in a pejorative or hurtful way. As the head of the most important university in the region, I would never say, do not criticize, but pick the way you criticize, make it count. This is only going to be possible if our universities lead. They become even greater engines of innovation, but homes of citizenship. People have to see that the greater good must be served.

In closing, I am going back to almost 50 years ago when my friends and I were playing softball with the Marines. Because they gave up, they were so far ahead and were convinced they would win. They did not count on our coming back and actually defeating them. It was probably one of the most shocking victories I have ever been involved in. Last night was an equally shocking event of different kinds. Afterwards, I sat with the captain of that Marine team. I was the captain of the Lebanese team, and asked him about the motto that they wore, proudly the Marines. It said, "Semper Fi" – Semper fidelis, from Latin; "always faithful." I think now is the time to be faithful to the concept of a new Lebanon, Lebanon of creativity, of openness, of inclusion, but of will and momentum.

Thank you.





MAMDOUHA EL-SAYED BOBST DEAN OF THE FACULTY OF ARTS AND SCIENCES

DR FARÈS EL DAHDAH

Greetings to all.

Welcome to today's event, which inaugurates the first public manifestation of the Research, Innovation, and Creativity Hub (or RICH), here at the Faculty of Arts and Sciences (or FAS).

As some of you may already know, there are, at FAS, four disciplinary divisions, which include 16 departments: 5 in the Humanities; 4 in Natural Sciences; 2 in Quantitative Thought; and 5 in the Social Sciences. In addition to departments, we also host 12 programs, 5 research centers; 2 Central Labs; 3 Journals; 1 museum 2 galleries; 2 initiatives; and finally, 1 institute. All these units are home to about 526 people (not including students), be they staff members, research personnel, or faculty. In any given semester, about 2750 courses are taught at FAS... and about 26,136 classroom seats are filled.

This should give you an idea of scale...

While the mission of all these units is to offer these students –who are all hoping to become doctors, engineers, architects, nurses, entrepreneurs, teachers, technologists, agronomists, public health specialists, MPs, ministers, or prime ministers... While the mission is to offer them a solid grounding in the liberal arts, it is important to keep cultivating FAS's other purpose, or *raison d'être*, which is all about creativity and outreach... lest we run the risk and be doomed to always be at service of others.

Hence today's event designed to bridge between the units I just mentioned and the world around the campus. It is up to RICH to bridge between research on sustainability and resilience, for example, and the habits, beliefs, knowledge, ethics, values, practices, and institutions that, in one way or another, have contributed to the precarity of our environmental condition. Up to us, here in this room, therefore, to look for ways that can help both scholars and community partners identify and solve problems of expertise, talent pipelines, or even political bias, if only to determine which areas of the country can most benefit, and be of benefit to, the students we educate.

Thank you and I wish you all a great meeting ahead!



A WORD FROM THE ASSOCIATE DEAN OF RESEARCH - RICH

DR WISSAM RAJI

Good morning and welcome, everyone,

It's very hard to speak after the President and the Dean, but I want to start with a very interesting story I saw the other day when I was scrolling on my LinkedIn page. There was a short video about Professor Michael Crow. Professor Michael Crow is the President of Arizona State University.

So, he held up his iPhone 16, and he said: "When we talk about iPhone 16, we say Steve Jobs was a genius".

Yes, Steve Jobs was a genius in integration, design, timing, marketing... But what most people fail to see are the 5,000 research groups behind this iPhone. And what many people fail to see are the hundreds of patents behind this iPhone. And what many people fail to see are the thousands of research papers done in universities behind this iPhone.

Why am I saying this?

Because on one hand, if you look closer, you will find out that many research papers authored here at AUB have been behind great achievements. Many patents filed at AUB have been behind remarkable breakthroughs. And many research groups at AUB have worked on interesting research projects that made it worldwide.

And on the other hand, we have our group of remarkable industrialists and business leaders who did not only stand resilient in the face of the countless crises that hit this country in the last 50 years—and mainly in the last 7 years—they did not only endure the businesses, they also developed them to compete at the local and international levels.

So we, at the Research, Innovation, and Creativity Hub (RICH), are here today to hear from the industry. We want to learn about the opportunities that provide mutual benefits between the industry, the academia, and our students. And we want to also hear about the challenges you face. We are going to set the first cornerstone at the bridge—I call it the two-way bridge—between the minds at AUB and the industry and the markets that you serve.

Why is it a two-way bridge?

Because we could play the role of problem solvers: the problems that you have and that you provide for us to solve, or we have these deep research ideas that we can tailor in some way to serve the industry.

So, I am sure if you walk outside the campus now and you go to some of the buildings, you will find a professor sitting in their office, working on their research, trying to make Lebanon, AUB, and the world a better place—and their students are working in the lab on the research idea. But I am also certain that if I go to your facilities, I will find many managers sitting in their offices, trying to work on making your businesses better. So, why not connect those two worlds together?

There is a quote by Carl Jung that I like so much: “When two personalities meet, it is like two chemical substances: if there is a reaction, both are transformed.”

So, at the end, I would like to thank the RICH team members: Drs. Kouzama Knio, Simone Kachar, Antoine El Ghauch, Tarek Ghaddar, and Tamer Amine.

And I would like to thank the staff at the Dean’s Office for their infinite support, mainly Zeina Katergi and Arminé Seferian, and Lara Mneimneh from the Events Team.

Last but not least, I would like to thank Dean Dahdah for his unwavering support for our work.

Enjoy the day, I hope you have a great conference, and thank you.



BRIEF SPEAKERS BIOGRAPHIES



H.E. Fady Abboud is a Lebanese-British businessman and former Minister of Tourism in Lebanon (2009–2014). He chairs General Packaging Industries and Naas Food Company. He served as President of the Association of Lebanese Industrialists (2002–2010).

Mr. Abboud founded Feu Vert, a firefighting initiative, and was President of the SABIS Alumni Association (2007–2016). Known for his commitment to transparency and industrial growth, he has been a key figure in Lebanon's economic development.



Dr. Carole Abi Karam assumes her current position as General Manager of the Pharmaline. Dr. Abi Karam led the company's significant regional development while enhancing and consolidating its position as a leading manufacturing company in the Lebanese market. Guided by Malia Group governance and engagement principles, she actively contributed to engaging Pharmaline in improving performance on Environment, Social, and Governance (ESG) matters and incorporated ESG issues into the company's policies and practices, demonstrating the company's commitment to functioning sustainably. She is a founding member and the incumbent President of the Syndicate of Pharmaceutical Industries in Lebanon (SPIL), established in 2016. She is also a Board Member of the Arab Union of Pharmaceutical Manufacturers. Dr. Abi Karam holds a Doctorate in Pharmacy from Saint Joseph University in Lebanon.



Mr. Walid Assaf is the Chairman and CEO of Societe Moderne Libanaise pour le Commerce, the Pepsi Cola Franchisee for Lebanon since 1952. He is also Chairman I CEO of Assaf Investments Company. He is a member of the Board of Directors of the Lebanese Industrialists Association. He is also a board member and treasurer of the American Lebanese Chamber of Commerce and a member of the Advisory Board of AMIDEAST Lebanon. Mr. Assaf holds a master's degree in mechanical engineering from the Massachusetts Institute of Technology (MIT), a bachelor's degree in engineering from Manchester University, and an Executive Business degree from London Business School.



H.E. Michel Daher is an entrepreneur and investor who has made significant contributions to both the business and political spheres. Elected to the Lebanese Parliament in 2018 and re-elected in 2022, he continues to serve as a dedicated member. In 1992, he founded Daher Foods, which has grown into one of the largest FMCG manufacturing and distribution companies in the region. Beyond his achievements in the food industry, he is also the founder and Chairman of Daher Capital, a single-family office that operates at the intersection of Private Equity, Venture Capital, and Hedge Fund investments. Daher Capital has achieved remarkable success over the years, including a strategic investment in Pilgrim's Pride, where it became the second-largest shareholder. Under its growth trajectory, Pilgrim's Pride emerged as the second-largest poultry producer in the United States, generating revenues exceeding USD 8 billion.



H.E. Neemat Frem is a Lebanese MP, businessman, and CEO of INDEVCO Group, employing over 11,500 people globally. He founded and is currently leading "Project Watan" (Homeland), a national movement to build a sovereign, modern, and prosperous Lebanon. A 2025 presidential candidate, he reaffirmed his commitment to restoring trust, rebuilding institutions, and ensuring a stable and prosperous future. Twice elected MP for Keserwan-Jbeil, he chaired the National Economy, Trade, Industry, and Planning Parliamentary Committee, where he proposed a five-year zero-deficit plan in 2019 to avert the financial crisis. Unfortunately, his warnings went unheeded. He resigned in 2020 after the Beirut Port explosion, protesting corruption and state failure. He chaired the Association of Lebanese Industrialists (2010–2014) and the Maronite Foundation in the World (2016–2018). He led numerous innovations in energy, environmental and medical sectors and holds three U.S. patents. He received an honorary doctorate from the Holy Spirit University of Kaslik.



Dr. Fady Gemayel is a Lebanese industrialist. He holds a « Doctorat en Sciences de Gestion » from Université Paris 1 Sorbonne – France, and two master's degrees in Economics from Texas A&M and Georgetown universities – USA. He is Honorary Chairman at "Gemayel Freres S.A.L." and the Chairman General Manager at " Société Libanaise de Carton" (SOLICAR) S.A.L. He is also serving as the President of GEMDOUBS and NORPAPER, Recycled Paper producers' factories in Besançon, Blendecques, and Nantes – France. He was the former President of "The Arab Federation for Paper, Packaging and Printing Industries" (AFPPPI). He was the former President of the Association of the Lebanese Industrialists (ALI). He has been Senior Advisor to the Minister of Industry, the late Sheik Pierre Gemayel.



H.E. Joe Issa El Khoury is the current minister of Industry. He earned his bachelor's degree in civil engineering from the American University of Beirut and an MBA from INSEAD. His career began at Merrill Lynch in Paris, after which he joined Lebanon's Mediterranean Group as Deputy General Manager at Bank of the Mediterranean for Investment. Subsequently, Mr. Issa El Khoury was Chairman and CEO of the Investment House, the investment banking division of the Saradar Group. He has served on the boards of multiple companies across various sectors in the United States, Europe, and the Gulf Cooperation Council (GCC). Additionally, he held significant roles in various associations, including President of the INSEAD Alumni Association – Lebanon Chapter, Secretary-General of the Lebanese Businessmen's Gathering (RDCL), and Vice President of the Maronite League.



Dr. Nada Sabra is a senior environmental expert and is currently working as the Liaison and Resource Efficiency Expert at the United Nations Industrial Development Organization (UNIDO) under the "2Circular" project that is funded by the European Union and implemented by UNIDO in collaboration with national partners to foster the transition of the private sector toward a green and circular economy in Lebanon. She holds a Ph.D. degree in environmental biotechnology from the Université de Technologie de Compiègne in France.



Mr. Ziad Shammas is the President and CEO of multiple companies, including Shammas Trading Co, Constratto Co., and Lebanese Explosives Co. With over 25 years of experience, he has built a strong track record in engineering, construction, civil explosives (his specialty), jewelry, lubricants, and batteries. He expanded his family business from a local operation to a regionally and internationally recognized company. He holds a Mechanical Engineering degree from AUB and an MBA from the University of Balamand. Mr. Shammas currently chairs the executive committee of the Lebanese Industrial Research Achievement Program, which promotes collaboration between Lebanon's industrial and academic sectors by supporting young researchers' innovative projects.



Mr. Salim Zeenni is a leading industrialist and business leader, serving as the Owner and President of Zeenni's Trading Agency, a major manufacturing company in North Lebanon specializing in consumer care, packaging, and food products, with exports to the Middle East, Europe, and North America. Beyond manufacturing, he has invested in solar energy and IT, reflecting his commitment to innovation and sustainability. Currently, he is the President of the Association of Lebanese Industrialists and the Chairman of the American Lebanese Chamber of Commerce. Zeenni is also a former chairman of the Children's Cancer Center in Lebanon.

BRIDGING MINDS AND MARKETS

ADVANCING ACADEMIA-INDUSTRY COLLABORATION IN LEBANON

PANEL DISCUSSION 1

1. Lebanon's industrial sector faces significant challenges, from economic instability to global competition. How can universities play a more active role in supporting industrial growth through research, innovation, workforce development, and graduates' transition into the workforce?
2. In many countries, universities act as hubs for research, innovation, and technology transfer to industry. What are the key obstacles preventing similar collaboration in Lebanon, and how can we overcome them?



FIRST PANEL DISCUSSION

The first panel discussion regrouped three prominent figures from the Lebanese industrial sector addressing the potential role of the higher education sector in Lebanon in supporting the country's industrial development along with the challenges faced when positioning the universities as centers for innovation and technology transfer to the industry.

The panelists were:

- H.E. Mr. Neemat Frem**, member of the Lebanese parliament, businessman, and CEO of INDEVCO Group.
- H.E. Mr. Fady Abboud**, former Minister of Tourism in Lebanon, businessman, and Chair of General Packaging Industries and Naas Food Company.
- Dr. Fady Gemayel**, Honorary Chairman at Gemayel Frères, Chairman General Manager at Société Libanaise de Carton, and President of GEMDOUBS and NORPAPER.

The panelists tackled first the question of how the universities can play an active role in supporting the industrial growth through research, innovation, workforce development, and graduates' transition into the workforce.

The panelists highlighted the fact that we are living in a singularity where the universities' role is to lead, especially that we are in an era when technocracies are taking the lead over ideologies. The panelists stressed the importance of innovation and automation in the industrial sector where the need is for engineers who think "industry". It was agreed that there is a need to move the Industrial Research Institute (IRI) from its current role as a testing laboratory into a real research center. There is a need to redefine the role of IRI which is expected to be the place where students exercise sometimes, but also with their accumulated expertise should be able to teach the industrial sector and advise it at different levels. There is an obvious need for more industry-oriented research, and Lebanon should be the laboratory for the whole region where new technologies exist and be ready to be deployed regionally and beyond. The panelists agreed that this is an opportunity for the industrial sector to create such a new business where hundreds of job opportunities can emerge from these initiatives. Realizing it needs a close collaboration between academia and the industrial sector, and AUB is the best positioned to lead all universities in Lebanon in this journey. The tools are there, and we need the minds to put them in the right channels. Our greatest assets are the youth and our mindsets, in addition to the diaspora that is seen as a hub for the knowhow. Reinventing the role of the industries in Lebanon by aligning their success stories with those of the universities and their alumni will make the Lebanese industrial sector a regional hub for value-added production and industrial management.

In the second part of the discussion, the panelists addressed the challenges and obstacles for a university-industry collaboration. The panelists shared their views about the key obstacles preventing universities in Lebanon from acting as hubs for research, innovation, and technology transfer to industry, and how this can be overcome.

The panelists see that industry led by research and research led by companies are the two faces of any academia-industry collaboration. The existence of hubs and centers of excellence are the anchors for successful industry-oriented research. The panelists mentioned sectors where Lebanon can be very successful based on existing industries, namely food and beverage, pharmaceuticals and cosmetics, AI and technology, and clean energy. The panelists also agreed that the development of new laws is crucial to bridge the hubs to the industries, where for instance research should be considered as a new investment to help the industry benefit from tax deduction and tax credits. This will be seen as an incentive for the industry to collaborate with academia. At this level, IRI's role will be to identify qualified universities and industries, and confirm the research aspect of the collaboration between the involved parties. It was also mentioned that these collaborations should not be limited to technological aspects, but rather expanded to social sciences, economics, and other sectors.



SECOND PANEL DISCUSSION

Moderator's Question 1:

Many Lebanese industries rely on imported expertise and technologies. How can universities in Lebanon become reliable partners in providing homegrown solutions, R&D, and innovation tailored to local industrial needs?

Dr. Carol Abi-Karam reply/intervention

General Manager of Pharmaline

• Pharmaline

- operates in one of the most regulated and innovation-dependent sectors
- strong presence locally and regionally, with an EU-GMP certified facility, and most importantly an in-house R&D lab
- attracted several multinational licensors, gained sustainability recognition
- team of talented Lebanese professionals—pharmacists, chemists, biochemists, and engineers, who graduated from local universities

• Worldwide – Examples of current successful partnerships between academia and industry

- Pfizer and University of Pennsylvania: quick availability of COVID vaccines through development process optimization
- UCLA, academic research led to an innovation and laid the foundation for the first targeted biologic for breast cancer
- in sustainability, Pfizer working with UC Berkeley to design green, enzyme-based pharma processes that reduced emissions and solvent use
- Pharmaline collaboration with a local university in Lebanon. A Master's student in Chemistry joined us to co-develop a product. It ended up accelerating development, improving the process, and reducing waste all while making the product available to Diabetes patients faster; Today this product is market leader within its category

• **The Pharma:** industry is under pressure—to develop new products without infringing on patents, to go green, to optimize costs, and to get to the market faster. We need academic support that is practically oriented.; We need applied research

Three collaboration opportunities, as an example, in which universities can step in at the level of:

1- Patent intelligence: Pharma Industry needs to develop advanced therapies without patent infringement; We don't have a national searchable database for pharma patents and have very few experts who can analyze them. Academia, in collaboration with Government, can build this searchable platform to be used by pharma industry; also, Academia can develop talents to become those needed experts.

2- Product development. Process optimization and Green initiatives, we can collaborate on 2 aspects:

* First aspect: Innovation

Industry needs to collaborate with Academia on research projects that will lead to innovative and/or optimized pharma products alongside publications, creating shared value for both academia and industry.

Universities and pharma industries can capitalize on each other's expertise and facilities to co-develop or optimize products. These collaborations as we see abroad should be funded through government grants with co-participation of the industry and industrial participation.

We can collaborate on developing a generic product; or optimizing the shelf life of an existing one; or enhancing its stability to cope with selected climate zones; or improving its manufacturing process and delivery system ...

But we can also collaborate on innovative products: Lebanon has resources we are not fully utilizing. For example, the notable cases of:

Zallouh: In Lebanon, “Ferula hermonis is commonly referred to as “Zallouh” (Arabic: زلوع) and is sometimes dubbed the “Lebanese Viagra” due to its traditional use as an aphrodisiac. The roots of the plant are believed to enhance sexual health and overall vitality. This reputation has led to its popularity in herbal medicine, with various preparations sold as herbal teas in pharmacies.”

Cannabis: FDA-approved pharmaceutical treatments for pediatric epilepsy and for pain as well as numerous medical applications, speed the research on innovative pharma and medical cannabis products once the law is enforced

* Second aspect: Capacity Building

Most of the scientific and engineer graduates we recruit are equipped with high level theoretical knowledge but need substantial on-the-job training before they can contribute. We encourage academic programs that guarantee pharma industry-ready scientists and engineers.

To respond to these needs, we’d love to see:

- a. Master’s and PhD programs addressing the pharma needs: Pharmaceutical science (covering the pharma product development) product development; Analytical chemistry; QA and GMP Compliance; Regulatory and market access
- b. Longer internships embedded in real industrial settings with specific weighted and rated projects
- c. AI and its impact in the Pharma in shortening any process being: in the supply chain, R&D, quality systems, and preventative maintenance. Universities curricula to include AI usage and aligning with what the industry needs targeting students and professionals

3- Pharmaceutical Waste Management

Pharmaceutical waste management represents a key area for collaboration, where academia can leverage WHO guidelines to develop locally compliant and regulator-approved solutions. This approach could reduce reliance on costly export of pharmaceutical waste and ease the burden on the national healthcare system.

Mr. Walid Assaf reply/intervention

Chairman of S.M.L.C.

Fostering Homegrown Innovation and Global Competitiveness in Lebanon

As a Lebanese businessman working in industry for more than 40 years, I have witnessed firsthand how crucial it is for Lebanese universities and industries to join forces. Strengthening these partnerships will reduce our reliance on imported expertise and drive the innovation and quality needed to compete globally. Below, I address two key questions with a forward-looking perspective, offering examples and actionable strategies grounded in Lebanon’s current economic and academic landscape.

Universities as Partners in Homegrown Solutions and R&D

Many Lebanese industries historically turned to imported technologies and foreign experts, partly because local R&D capacity and university-industry linkages have been underdeveloped. Lebanon’s expenditure on research and development is extremely low (only about 0.05% of GDP as of 2022), and companies often innovate in isolation. Studies find that most tech firms in Lebanon rely on internal resources rather than collaborating with local research institutions. This dynamic is unsustainable, especially amid today’s economic challenges—and it underutilizes the talent in our universities. To become reliable partners for industry, Lebanese universities must actively contribute homegrown solutions tailored to local needs.

There are several strategies to achieve this:

1. Forging Formal University-Industry Partnerships: Building structured partnerships allows academia to address real industry problems. A successful example is the long-running LIRA program, which since 1997 has linked students and professors with industrial projects to reduce brain drain and boost manufacturing productivity. LIRA partnered with 13 Lebanese universities and numerous local industries, yielding annual exhibitions of applied research and new products.

2. Promoting Applied Research and Innovation Centers: Universities should expand R&D centers and incubators, focusing on applied innovation. Many institutions are already moving in this direction. For instance, the EU-funded LEBANON INNOVATE initiative is helping universities establish technology transfer offices and commercialization programs. This 42-month program (coordinated by BERYTHECH) strengthens IP management and academia-industry partnerships so that innovations “emerging from universities” become market-ready products. Likewise, several Lebanese universities have launched innovation hubs (such as AUB’s Innovation Park) to mentor student entrepreneurs and spin-offs, ensuring academic research translates into startups and practical solutions. By nurturing such innovative ecosystems, universities become engines of homegrown technology that companies can adopt.

3. Aligning Curriculum and Projects with Local Industry Needs: Academic programs must reflect the skills and topics Lebanese industries require. This means co-developing curricula with industry input and encouraging students to tackle local industrial challenges as part of their studies. The revitalized LIRA (now IRALEB) program exemplifies this approach by publishing real industry problem statements and inviting students to solve them. Such initiatives give students hands-on experience and yield prototypes or research that companies can directly use. Expanding internship and co-op programs will expose students to industrial environments and build trust between employers and universities. When these students graduate, they are effectively the “homegrown experts” ready to drive local innovation.

4. Incentivizing Collaborative R&D and Funding: The public and private sectors should incentivize research that serves local industry. In the past, Lebanon’s Central Bank and government bodies supported academia-industry projects (for example, Banque du Liban funded LIRA in 2016 to scale up industrial research and innovation). Today, creative funding models, such as industry-sponsored research chairs at universities or competitive grants for projects that solve Lebanese industrial problems, are needed amid tight budgets. Companies can allocate a portion of their budget to contract research at local universities. In return, firms gain early access to innovations and a pipeline of skilled graduates.

5. Leveraging Local Talent and Diaspora Expertise: Lebanon’s greatest asset is its human capital – talented engineers, scientists, and entrepreneurs, both at home and abroad. Universities can act as bridges by involving industry experts in teaching and research and tapping into the Lebanese diaspora for mentorship and knowledge transfer. For example, the LEBANON INNOVATE program is strengthening local capacity and establishing linkages with European partners and diaspora networks to exchange know-how. By drawing on expertise from successful Lebanese abroad and aligning it with regional research teams, universities can develop solutions finely tuned to the Lebanese context. This approach upgrades local capabilities and ensures that innovations are appropriate for Lebanon’s unique challenges.

Moderator's Question 2:

In sectors like food production, pharmaceuticals, and manufacturing, global competitiveness is key. How can Lebanese universities and industries work together to drive innovation, improve quality standards, and expand into international markets?

Dr. Carol Abi-Karam reply/intervention**General Manager of Pharmaline**

In Lebanon, the local pharmaceutical market is too small to support long-term growth in the pharmaceutical sector.

The pharmaceutical industry is a pillar in both health and economic sectors, and was so noted in the McKinsey economic report (2019).

Academia and pharma industry can collaborate on different levels:

1. Regulatory Intelligence & Compliance

Exporting pharmaceuticals means meeting the rules and regulations of each target country. Those rules are complex and constantly evolving and not harmonized yet. What if our universities, through graduate research programs, take the lead in building a national regulatory intelligence database updated continuously by graduate students, research teams, and accessible to local manufacturers.

This could help to:

- Map the regulatory frameworks of target export markets
- Track ongoing changes in guidelines to properly implement at the industry end (for example, from EMA, SFDA, JFDA, FDA),
- Support the design of export strategies, market prioritization
- Guide the upgrading of registration dossiers to meet international expectations. On top of that Graduate students, through universities' labs can actively contribute to the registration Dossiers upgrade
- Support dialogue with our own regulatory authorities, helping align Lebanon's system with regional and international norms.
- Finally, it will develop graduate's skills in pharma regulatory and market access

2. Driving innovation

Today, pharma innovation is moving fast — from traditional chemistry to biotechnology, from traditional to targeted advanced drug delivery systems And: Lebanon is still behind in this area — both in the industry and in academia.

That's why we need joint academic-industry initiatives coupled with a regulatory framework to build capability; A concrete model: In Jordan, Hikma collaborated with the University of Jordan to develop a biotech-focused training program.

Imagine doing something similar in Lebanon:

- Developing a biotech curriculum
- Launching research projects on biosimilars and drug delivery systems within university premises, led by university researchers
- Evaluating biotech production feasibility with Lebanese industrial partners and implement where feasible

3. Quality Standards

Another huge opportunity: clinical and bioequivalence studies.

If universities in Lebanon could set up accredited CROs (Contract Research Organizations), where the local and international pharma players we would finally be able to conduct clinical trials and bioequivalence studies locally, in compliance with ICH, FDA, and EMA requirements.

Today, most of these studies are outsourced abroad, costly and time-consuming. Local CROs would not only reduce costs and timelines but would also create jobs for talents on top of positioning Lebanon as a hub for such trials .

We also encourage universities to revisit their IRB approval system and alleviate it and further enroll clinical studies and real-world evidence studies actually performed Pharmaline and few other pharma industries.

Mr. Walid Assaf reply/intervention**Chairman of S.M.L.C.****Driving Innovation, Quality, and Global Competitiveness in Key Sectors**

Global competitiveness is the goal in sectors like food production, pharmaceuticals, and manufacturing, especially as Lebanon seeks to export and diversify its economy. Competing internationally means our products must meet stringent quality standards, be produced efficiently, and offer innovative features. Here too, close collaboration between universities and industries is critical. Universities can provide R&D expertise, testing facilities, and fresh ideas to help Lebanese companies improve and innovate for global markets. Meanwhile, industries offer practical insights and opportunities to apply research. Together, they can elevate entire sectors. The following are actionable ways universities and industries in Lebanon can work together to achieve quality and expansion into international markets:

1. **Adopting International Standards and Best Practices:** One of the first steps to go global is ensuring that Lebanese products comply with international quality standards. Academic institutions can support this through training and technical assistance. For example, the Lebanese Standards Institution (LIBNOR) has been aligning local standards with international benchmarks, positioning Lebanese food products favorably in the global market. LIBNOR often collaborates with universities on research and innovation in food safety and quality. Building on this, universities can develop specialized courses or certification programs in quality assurance (ISO standards, Good Manufacturing Practices, etc.) for industry employees. They can also offer laboratory services for product testing and certification. Ultimately, university expertise in global standards and compliance can significantly raise the quality bar across Lebanese industries.
2. **Joint R&D for Product Innovation:** Innovation is key to standing out internationally. Universities and industries should co-create new or improved products that leverage Lebanon's strengths. In the agri-food sector, we already see this happening: the QOOT Agri-Food Innovation Cluster, which was created by the government of the Netherlands and includes food companies, startups, and research institutions, actively fosters collaboration to introduce new products and technologies. This cluster has helped its member companies adopt innovations and opened world markets for them. An example is the partnership between AUB's Faculty of Agriculture and the QOOT cluster: AUB experts recently conducted R&D workshops to help local agribusinesses develop new product strategies and improve their R&D management practices. Such training equipped dozens of Lebanese food companies with the tools to innovate based on consumer trends and rigorous testing, rather than relying on foreign formulas.
3. **Improving Quality and Efficiency through Academic Expertise:** Universities in Beirut and beyond can act as knowledge partners to upgrade industry operations. Through consultancy projects, faculty can advise on process improvements, energy efficiency, or waste reduction — all of which lower costs and improve competitiveness. A recent EUUNIDO initiative demonstrated this approach: it trained 27 local experts (with AUB's support) on the Transfer of Environmentally Sound Technologies, who then helped 30+ food, and beverage companies implement resource-efficient,

cost-saving measures. The results are twofold: companies save money, reduce waste (becoming more competitive and sustainable), and meet the increasing global demand for eco-friendly supply chains. We should replicate such academia-backed programs across sectors. In manufacturing, mechanical and industrial engineering departments can help factories re-engineer workflows or adopt lean manufacturing, improving product consistency for export markets.

4. Sector-Specific Research Centers and Facilities: High-tech facilities are often needed to achieve world-class standards. Here, universities can lead by establishing joint research centers serving academia and industry. A prime example is LAU's Byblos campus's new Pharmaceutical and Medical Research Center (PMRC). This cutting-edge facility – developed in collaboration with Lebanon's pharmaceutical industry and health authorities – is the first bioequivalence center in the country. It will test generic medications to ensure they match international efficacy standards, a critical step for local pharma companies to export their drugs.

5. Expanding into International Markets through Collaboration: Finally, to break into new markets, Lebanese industries can leverage the global connections of academia. Our universities have extensive networks of alumni and partner institutions worldwide. Collaborative programs can help internationalize Lebanese products by leveraging the diaspora of AUB, LAU and others through their alumni chapters globally, and by connecting enterprising graduates abroad with businesses in Lebanon we can create distribution channels or foreign offices for Lebanese products. A concrete strategy would be establishing export mentorship programs where business schools pair MBA students or faculty with local companies to develop export marketing plans and navigate foreign regulatory requirements. With academia as a knowledge bridge, even smaller Lebanese companies can overcome the learning curve of going global. The end goal is to see more “Made in Lebanon” goods – be it gourmet food items, generic medicines, or bespoke manufactured products – succeeding in foreign markets.

Conclusion (Mr. Walid Assaf for Questions 1 and 2)

Lebanon's current landscape is undoubtedly challenging, but it is also rich with opportunity in the form of untapped intellect and resilient enterprises. Universities in Beirut and across the country are adapting – many have become more entrepreneurial and outreach-oriented – and industries recognize that local collaboration is a smart way to innovate cost-effectively. The partnership between academia and industry is ultimately a partnership for Lebanon's future. By developing homegrown solutions, we reduce vulnerability and build self-reliance; striving for global standards and innovation ensures Lebanese products and services can shine on the world stage.

My outlook is decidedly optimistic: if we continue to strengthen these ties with actionable programs, Lebanon can transform its brainpower into economic power, fostering an environment where our universities fuel industrial success, and our industries, in turn, invest in the next generation of Lebanese talent and innovation. This synergy will revive our economy and inspire a new narrative for Lebanon – one of resilience, creativity, and success on the world scene.



THIRD PANEL DISCUSSION

The panel began with an important examination of how academia interacts with society, highlighting that the dialogue encompasses more than just innovation and institutional excellence. This conversation fundamentally addresses citizenship and our shared responsibility to tackle national challenges.

A pivotal question framed the discussion:

Moderator's Question:

How can Lebanon's real-world needs align with the capabilities of the private, public, and academic sectors?

This question captures the core of active citizenship: recognizing societal challenges and working collaboratively to address them across different sectors. Academic institutions must not function in isolation, as they play a vital role in Lebanon's national development. The panel explored practical strategies to connect university research with industrial applications, striving to foster effective, lasting partnerships underpinned by sustainable policies, funding models, and collaborative efforts.

Part I. From Research to Real-World Impact: Bridging the Gap

The first part of the panel reflected on the following question: Lebanon has a vibrant academic community ready to promote innovation and economic transformation. However, a significant gap remains between academic research and the requirements of Lebanon's industrial sector. What specific mechanisms or policies could help turn academic research into commercially viable industrial solutions?

A. Three Pillars of Industrial Innovation Panelists introduced a widely recognized framework for innovation ecosystems: the alignment of ideas, talent, and funding.

- Ideas originate from manufacturers, tech developers, startups, or entrepreneurs
- People must be trained by education systems beginning at the school level and advancing through universities
- Funding tends to follow strong ideas and capable people through venture capital, equity investment, or strategic partnerships

At the intersection of these three pillars, thriving innovation ecosystems emerge. Universities play a crucial role in nurturing the ideas and talent that fuel this process.

B. Global Models of Success The panel drew on international examples to illustrate the importance of geographic and institutional alignment:

- Silicon Valley flourished through its proximity to Stanford and UC Berkeley
- Route 128 in Massachusetts developed near MIT and Harvard
- The Cambridge Innovation Center benefits from collaboration with the University of Cambridge.
- Ann Arbor, Michigan links the University of Michigan directly to the auto industry through problem-driven R&D

These examples underscore the need for universities to be embedded in national and regional industrial ecosystems.

C. Lebanon's Assets and Challenges Despite political and economic instability, Lebanon possesses critical strengths:

- Prestigious academic institutions like AUB
- A globally connected and highly skilled diaspora

However, major reforms are needed, especially in curriculum development. Academic programs must adapt to emerging fields such as robotics, AI, digital innovation, and mechatronics. Crucially, Lebanon must not design policy for a population of four million, but for a regional market of 500 million.

D. Key Policy Proposals Panelists presented a series of proposals to close the academia-industry gap:

- Establish university-industry liaison offices (e.g., Arizona State model)
- Align research with market needs and commercial viability
- Create permanent platforms for collaboration, beyond short-term donor-funded initiatives
- Leverage diaspora networks for mentorship, investment, and internationalization

A recurring message from the discussion: "You must market your problems, and we must market our ideas."

Part II. The Role of the Public and Private Sectors in Advancing Collaboration

Reflecting on the following question: What concrete policies or initiatives can the Ministry of Industry implement to strengthen university-industry collaboration and ensure that academic research directly contributes to industrial growth and innovation?

A. Public Sector Strategy and Reform Minister Joe Issa el Khoury outlined the Ministry of Industry's shift toward strategic reform after years of systemic neglect. Key facts reveal the scale of underinvestment:

- \$238 billion in public spending (2000-2019)
- Only \$4 million per year allocated to the Ministry of Industry

Yet, the sector is Lebanon's largest private employer, supporting over 210,000 jobs and exporting \$2.5 to \$3 billion annually.

Current initiatives include:

- Launching six strategic workshops in partnership with Association of Lebanese Industrialists
- Collaborating with consultancies (many led by AUB alumni) to develop a National Industrial Strategy and a ministry restructuring plan
- Drafting the Industrial Technology Parks Law platforms that could host global companies looking to near-shore their manufacturing outside Asia now under parliamentary review

This law would enable the establishment of industrial zones equipped for advanced manufacturing and global partnerships, attracting companies seeking nearshoring alternatives to Asia.

Policy Recommendations from the Ministry:

- Tax rebates and R&D subsidies for university-industry collaboration
- Incentives for export-oriented and import-substitution industries
- Legal reforms to support intellectual property protection and investment in innovation

B. The Role of the Private Sector and Association of Lebanese Industrialists: The president of the Association of Lebanese Industrialists stressed that Lebanon's industrial resilience during the 2019-2024 crisis proved its foundational role in the economy. He noted that despite limited government support, Lebanese manufacturers have led innovation in areas like mechatronics.

Association of Lebanese Industrialists is committed to:

- Working with all serious universities, not just AUB
- Developing sustainable, institutional partnerships beyond short-term donor projects
- Forming joint industry-academia committees with the Ministry

Zeenni also highlighted that universities must actively market their research, just as industries must articulate their challenges. Collaboration must be reciprocal and strategic.

C. Leveraging Diaspora and Alumni Networks . Both speakers emphasized the untapped power of Lebanon's diaspora:

- LebNet, a U.S.-based organization of over 2,500 Lebanese professionals in tech, represents a strategic pool of expertise
- If even 50 of these experts returned or contributed to local innovation initiatives, the impact would be transformative
- Alumni from AUB and other universities working in R&D worldwide could also serve as connectors between Lebanon and global markets

D. Educational Reform and Future-Oriented Thinking Minister Issa el Khoury emphasized the need to modernize university curricula. Drawing on his own experience in civil engineering, he noted how academic programs once aligned with regional demand. Today, new disciplines such as AI and robotics are essential.

The university's role must evolve to meet global technological standards and attract talent and investment back to Lebanon.

Coordinated Vision: The Way Forward

The panel closed with a collective call for coordinated action. The Ministry of Industry, the Association of Lebanese Industrialists, and Lebanon's universities must come together to form a coherent, long-term national innovation framework. This requires:

- Institutionalizing collaboration among academia, industry, and government
- Building permanent structures for research and innovation
- Reforming curricula to align with global technological demands
- Actively engaging the diaspora for mentorship, investment, and global positioning

Lebanon has the human capital, the ideas, and the entrepreneurial spirit. What is needed now is sustained coordination, vision, and commitment.

"We were once the industrial hub of the region. We can be again."

Policy Recommendations Based on the Panel Discussion

1. Strengthen Institutional Collaboration Through Permanent Structures

Establish long-term, university-industry partnership bodies led by universities and supported by industry associations like the Association of Lebanese Industrialists. These should not be temporary committees, but ongoing structures capable of nurturing innovation and following up on applied research.

Position universities as the custodians of continuity, ensuring research and innovation outlast political cycles or funding periods.

2. Incentivize Research through Policy and Tax Mechanisms

Introduce financial incentives, tax breaks, and R&D subsidies to encourage companies to invest in collaboration with academia. This is a common practice "in the U.S., in our neighboring countries," and it works

The Ministry of Industry should legislate enabling policies that reduce the cost of innovation and open up markets for industrial research outputs.

3. Update Academic Curricula to Match Technological Shifts

Urgently reform higher education programs to focus on AI, robotics, digital innovation, and mechatronics. Curricula must anticipate not only local, but regional and global demand.

Shift the vision of university education to serve regional and export-oriented markets, with training aligned to global technological shifts (what one speaker called "geo-technology").

4. Market Problems and Ideas Proactively

Create bidirectional platforms: universities must promote their research, while industries must clearly articulate the challenges they are facing. This exchange will allow more targeted, applied solutions to emerge.

The private sector should publish "problem briefs" to which university researchers and students can respond. Universities, in turn, should have dedicated offices to promote and commercialize ideas, similar to Arizona State University's marketing unit for innovation.

5. Leverage Diaspora and Alumni Networks

Launch targeted programs to engage diaspora professionals, especially in tech and R&D sectors. Offer incentives for mentoring, co-investing, or even returning to Lebanon for knowledge transfer.

Mobilize AUB and other university alumni networks to support research commercialization, startup mentorship, and global partnerships.

6. Accelerate Legislation for Industrial Technology Zones:

Expedite the ratification and implementation of this law to create tech-enabled industrial zones that can attract multinational companies seeking alternatives to Asia ("onshoring," "nearshoring").

Position Lebanon as a regional innovation and manufacturing platform, especially in sectors where industrial-academic synergies can be quickly activated.

7. Coordinate Across Stakeholders with National Vision

Form a national innovation task force that includes the Ministry of Industry and leading universities. Its mission: coordinate funding, strategy, and implementation of industrial innovation programs.







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