CHANGING THE CULTURE OF PUBLIC - PRIVATE SECTOR PARTNERSHIPS TO DRIVE RESEARCH INNOVATION

AN INSIDE LOOK AT SWINBURNE UNIVERSITY OF TECHNOLOGY'S AND SIEMENS' 4.0 TESTLABS PROGRAM

Changing the culture of universities and industry is no small task, but is an issue that must be solved if Australia wants to have a healthy research ecosystem with impactful commercialised research.

Recently, Siemens granted $135 million to digitise Swinburne University of Technology's Factory of the Future and the national network of Industry 4.0 Testlabs. With the project currently being rolled-out across the country with one lab in each state, Swinburne is set to lead the world in providing digital manufacturing solutions to secure Australia's place in the lucrative intermediate product market.

Ahead of the **3rd Annual Research Innovation Summit 2018**, Professor Aleksander Subic, Deputy Vice-Chancellor (Research and Development) at Swinburne University of Technology discusses the how changing the culture in the university to bring industry and researchers closer together has been essential to the success of the program and lessons learned from the project journey to date.

Project overview:

“Our aim is to establish the first Australian industry 4.0 facility that’s going to demonstrate in action what the advanced manufacturing domain really is. Our facility is a digital factory of the future that showcases innovation and is a platform to engage industry, students, and other stakeholders within that facility to co-create ideas together. It’s through collaboration that learning happens.

As part of the project we have established a trans-national collaboration between Australia and Germany, who have rolled out industry 4.0 test lab bases around their country. We have used this case study as an inspiration and we have adopted the same philosophy and paradigm, to enable learning by involving all stakeholders in a non-competitive and supportive environment.

In Australia, we developed our own framework which involves having a 4.0 test lab in each state, the first which is being rolled-out at Swinburne. We have developed the $100 million Factory of the Future Facility and more recently have received a $135 million Siemens industrial digitalisation grant which involves digitalising that entire Factory of the Future. This means the entire design and manufacturing process and all the connectedness between all the machines and all elements of our activities are digitalised.

The aim is that the digital factory will complete and conduct all manufacturing operations autonomously. It is a major facility for Australia, but in particular for Victoria. Because of the innovative approach it will open the doors for industry, students and all stakeholders to really work together on relevant projects.”

Educating researchers about the combined values of both research and commercialisation

“The best way to bridge the gap between industry and researchers is to develop a deeper understanding of their respective needs, perspectives, and approaches. This all comes down to getting them to engage and interact with one another. It’s important to get both parties to learn to speak both languages and co-create solutions together for different problems.

Our aim with the Factory of the Future is to get industry interacting, engaging, and talking with our staff, with our teams and with our students. It is through these interactions we can develop a common language and deeper understanding of both perspectives.

In turn, this will help both parties to develop a deeper understanding about new technologies, research, new business models and what they need to do to engage in research. Ultimately, our aim is to facilitate co-creation of solutions. These solutions are not only new technologies, software or machines, but also co-creation of the workforce of the future.”

Fostering an entrepreneurial mind-set for researchers

“We have strategically positioned our Factory of the Future as one of the core pillars of our innovation precinct. The university innovation precinct was softly launched last year and officially in March this year. The Innovation precinct involves creating a connection between the Factory of the Future and all the technical aspects with our commercialisation teams. As part of this, our innovation teams are playing an active part in commercialisation workshops where they work with industry to develop solutions that are scalable and that are able to be taken to the global market.

We also have entrepreneurs in residents placed in these facilities as well to scout for new opportunities and advising at the outset. It’s a multi-faceted approach, but by placing the Factory of the Future in the middle of the innovation precinct, we are creating a flow of ideas and engagement with the right people at the right time.”

Lessons learned to date

“We have learnt that it is so important for both our industry and our society to take the lead when it comes to research innovation. Too often universities and industry wait for government to initiate investments and polices on innovation. At Swinburne, we want to lead by example and drive the idea that innovation comes from action. This is why both Swinburne and Siemens have both made such a significant financial and resource commitment through this project try to drive that thought leadership.

Our second learning is when it comes to research innovation, global collaboration is imperative. The reason why we’re so closely connected to Germany is to fast track the learning environment we need to foster success. We have also connected to San Francisco and Silicon Valley last month for the same reason. The aim is to drive innovation by bringing entrepreneurs and successful business people from other countries into our facility, through visits and co-location and so on.

While global engagement is important, it’s also important to collaborate and learn from what is happening in Australia. When we looked at our industry 4.0 Testlab we engaged in a design and development activity that’s relevant to Australia. Our Testlabs aim to reflect and align with the growth industry sectors in Australia. We have identified our growth sectors for the future within Australia rather than blindly trying to transfer something we have worked in another country.

Lastly, our industry is very unique and a great majority are Small to Medium size Enterprises (SMEs). As a result, we have had to find the most effective ways to engage with SMEs, which is part of the reason we are partnering with Siemens other global innovative corporations. Through these partnerships we are engaging potential future supply chain SME companies into these programmes, which means our program is more strategic. This also means that the stakeholders we bring in have the appetite and inspiration to integrate in the global value chain, rather than behave and act on the wrong information.”

Creating a mutually beneficial partnership with Siemens:

“The reason I call this a strategic partnership is because it’s a partnership at multiple levels. It is facilitated and nurtured at the highest level by me and the Chief Executive Officer of Siemens, Jeff Connolly. To make this partnership effective, we have to ensure that we are continuously engaged and listening to each other in terms of what each of our respective needs are.

Secondly, nothing should ever be too hard when it comes to research innovation. Our aim is to always be open for business. We try our best to help and support each other. This is what makes a true partnership, rather than a transactional one. We don’t talk about transactions or just project by project, we talk about our overall relationship and our overall aspirations. We also break up these conversations about different projects that involve both parties and staff.

Partnerships between universities and private sector need to begin with authentic, genuine engagement where the university is genuinely willing to listen to the industry partners and understand their needs. It’s important to have an understanding of what their value proposition and to understand what their aspirations are. Developing trust is equally as important. You need to deliver what you promise and stick to guidelines and work to the speed and to the flexibility that the industry expects of you.

But mostly, don’t start conversations with transactions or money. Start by really investing in time and effort in developing a relationship. This starts by understanding the language, by understanding what your industry partner needs and how can you actually help them with your expertise and capabilities achieve their aspirations and value-add.

Interested in learning more?

Aleksander will be joined by Jeff Conolly, CEO of Siemens at the **3rd Annual Research Innovation Summit 2018** where they will further explore how to:

- Identify how to alter behaviour and thus culture and how to fast track change
- Encourage researchers and foster culture change to create the entrepreneurial mindset with a focus on success and how to implement change
- Address culture change within business management to understand the value of research and how to be more involved with researchers
- Understand the limitations and lessons learned to avoid failure

For more information visit **https://researchinnovation.iqpc.com.au** or call **+61 2 9229 1000** or email **enquire@iqpc.com.au**