GLOBAL ENGINEERING DEANS COUNCIL INDUSTRY FORUM

Agile engineering education: Developing the next generation of engineering innovators, experts and leaders for our ever-evolving world

DRESDEN, GERMANY & ONLINE | **20-23 SEPTEMBER 2021**

DYNAMIC DESIGN GROUPS IDEA BOOK

The brainstorm output, ideas and resources developed by Dynamic Design Groups During the 2021 event.

October 2021

GEDC Global Engineering Deans Council

Petrus

IGIP

TECHNISCHE UNIVERSITÄT DRESDEN

CONTENTS

IF YOU WOULD LIKE TO GET INVOLVED IN A FUTURE GEDC INDUSTRY FORUM EVENT EITHER AS A SPEAKER, SPONSOR, HOST OR PARTICIPANT, PLEASE GET IN TOUCH

CONTACT@GEDC-INDUSTRYFORUM.COM

ABOUT THE EVENT

The Global Engineering Deans Council (GEDC) Industry Forum brings together engineering education leaders from around the world with senior executives from leading industrial, education and technology companies. The format throughout the event is unique and interactive, designed to allow every voice to be heard and every idea expressed.

From socially conscious engineering to ethics, micro-credentials to rapid innovation, the content and ideas that emerge from the event address the most important and compelling issues of the moment, allowing us to design the way forward together.

Building on four highly successful events to date, over **90 participants** from **27 countries** across **6 continents** gathered both online and in Dresden, Germany from 20th-23rd September 2021 to reflect and exchange together on a number of carefully framed themes related to our world today.

During the first two days of the event, participants joined a series of input sessions designed to inspire and inform on the core theme, with time for interaction and dialogue. We are grateful to all of the speakers for their valuable input to the event.

Participants then worked in small, diverse groups to design responses to the critical issues identified. You can discover more about what the groups came up with in this interactive resource.

FIND OUT MORE ABOUT THE 2021 EVENT ON OUR WEBSITE

Prof. Sirin Tekinay,

Chair, Global Engineering Deans Council (GEDC)

Co-Chair, GEDC Industry Forum

Building on the experience of our first online Industry Forum last year, we enjoyed another successful online gathering; our fifth GEDC Industry Forum with its exciting talks, invigorating panel sessions, excellent student contributions, fun and productive dynamic design groups, all fuelling cross-cultivation of many modes of university-industry interactions.

From co-innovation and collaboration on R&D to joint curricular reform, the forum established once again that we are one big engineering community aiming for the same greater good, namely, environmental and socio-economic sustainability, health, and safety in the world.

The invitation-only event brought together some 90+ delegates from academe and industry, from all around the world, each of them both decision makers and stakeholders. All participants contributed in an informal workshop setting and panel format, producing concrete results and connections.

Let me take the opportunity to express my gratitude to Petrus; our advisory committee; our event partners – Coursera for Campus, CTI, Quanser, Siemens and Elsevier; our speakers and our hosts.

LEARN MORE ABOUT THE EVENT ORGANISERS & PARTNERS HERE

Kirsten Williamson

Founder & CEO, Petrus

Co-Chair, GEDC Industry Forum

This fifth GEDC Industry Forum was our first hybrid event, bringing a range of interesting challenges to the planning, organisation and delivery. I'm grateful for the excellent support of our partners in Dresden, as well as to our Advisory Board for all the creative responses we found together.

Going hybrid was a catalyst for asking the question 'what do we get from in person interaction, that we cannot get online?' Online activity certainly brings greater diversity with the opportunity for those who might not otherwise be able to participate, to get involved. In person participation seems to allow for greater focus, as being online leaves us all open to a multitude of other requests and responsibilities.

I am grateful to the excellent work of the moderators and their teams for their leadership and tenacity in overcoming time zones and other distractions to deliver a range of fascinating presentations. And based on the extremely positive feedback from our participants, we'll continue to organise opportunities to gather – both online and in person – to connect again, explore these ideas further and find inspiration from our shared dialogue.

FIND OUT MORE ABOUT THE WORK PETRUS DELIVERS

DYNAMIC DESIGN GROUPS ON 8 KEY THEMES

The Dynamic Design Group exercise is an outstanding feature of each GEDC Industry Forum. The Dynamic Design Groups are designed to ensure every voice is heard creating a unique opportunity leverage collective knowledge whilst developing an influential and meaningful dialogue. It was a lively and stimulating experience drawing on the expertise of all event participants.

This year's Dynamic Design Groups focused on eight themes centred around **'Agile engineering education: Developing the next generation of engineering innovators, experts and leaders for our ever-evolving world'.**

Jan Quint, Sales Director Engineering, Elsevier

It was a great experience to join my first GEDC Industry Forum. I specifically liked the inspirational speakers who shared their insights and the work in design groups across academia and industry from various countries who brainstormed on important challenges and came up with some impressive outputs. Participation in the event convinced me that Elsevier Engineering can help to address some of the most urgent needs and support with developing the next generation of engineering experts to tackle the challenges ahead.

01 - Embedding Sustainability in Engineering Education

02 - Virtual Collaboration for Impact and Engagement

03 - Agile Innovation Systems and Ecosystems

04 - Learning from Each Other

05 - Learning How to Learn Continuously

06 - Intra & Entrepreneurship at Scale

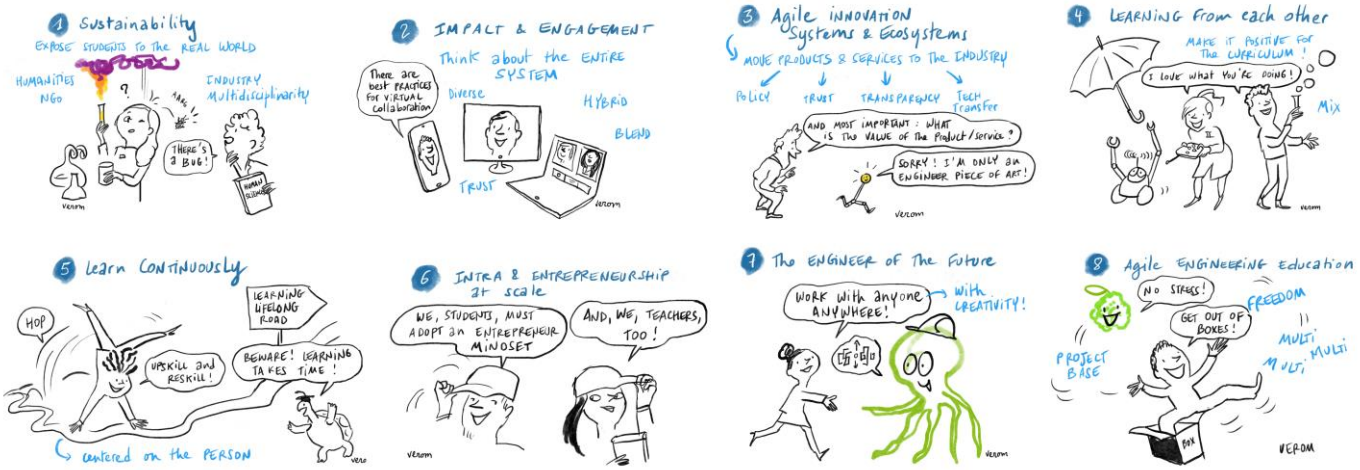
07 - The Engineer of the Future

08 - Agile Engineering Education

HOW DO THE DYNAMIC DESIGN GROUPS WORK?

- Participants brainstorm on each theme in small moving groups online.
- Each theme was assigned a moderator who guided the discussions and collated all ideas aired.
- Each moderator prepared a cohesive summary to present back to all participants.
- A graphic artist visualised the brainstorm output in the form of digital sketches.

> ***The brainstorming sessions were the most valuable aspect of the event for me. It was engaging and the international diversity was very valuable.***



Once all themes had been discussed and all ideas were collated, the scene was set for participants to work on their chosen theme, which became the focus for the remainder of the event.

- Participants were challenged to design a response relative to their chosen theme, leveraging the experience and knowledge of the whole design group.
- In keeping with the underlying innovative and creative environment of the event, each group was also challenged to make a presentation unlike any they had made before.
- Presentations were screened on the final day of the event which was hosted by Prof. Sirin Tekinay, Chair of the Global Engineering Deans Council.

The resulting output was extraordinary in the dynamism of the format and the scope of the ideas presented. This idea book presents this output in an interactive format allowing you to watch the short presentations from each group and explore useful resources related to each theme.

EMBEDDING SUSTAINABILITY IN ENGINEERING EDUCATION

Moderated by
Soma Chakrabarti, Education Programs Team Lead, Ansys &
Dora Smith, Global Senior Director, Siemens Digital Industries Software

THE PROBLEM

How do we radically reinvent engineering education to meet the challenging environmental, technical, social, and ethical issues of today. What model would embed what is needed (technologies, skills, behaviour) in engineering education quickly, at scale and for the lifetime of an engineer's career?

THE BRAINSTORM

WATCH BRAINSTROM OUTPUT

THE SOLUTION

Voted idea participants would most like to see taken forward

Our first group highlighted the UN Sustainable Development Goals (SDGs) of clean water and sanitation, clean energy, good health, and well-being as four targets where engineers can have tremendous impact. Enabling engineers to tackle challenges ahead requires another SDG, quality education. Team one's vision? A coalition of stakeholders called GIGA—GEDC-Industry-Guiding Bodies-Academia—that uses a top-down approach to include sustainability with implementation in academia through embedding sustainability in mission and fostering faculty development.

RESOURCES

SOLUTION VIDEO

FACT SHEET

Find out more about the discussions around **'Developing Socially Conscious Engineers'** in the 2019 GEDC Industry Forum Event Report.

READ REPORT

Dora Smith, Senior Director, Global Academic Program, Siemens Digital Industries Software

Our group was charged with tackling the very important topic of Embedding Sustainability in Engineering Education. We had an exceptional blend of group members representing academia, industry and guiding bodies (government / accreditation organizations). That group diversity drove innovation in our recommended solution – called GIGA - a strong framework led by GEDC to address the GIGantic sustainability challenges of climate, water, energy and health. We know our planet needs us and we are all committed to developing sustainability minded future engineers. Once again the GEDC Industry Forum brings the right stakeholders together to drive collaboration and deliver new ideas and approaches.

VIRTUAL COLLABORATION FOR IMPACT AND ENGAGEMENT

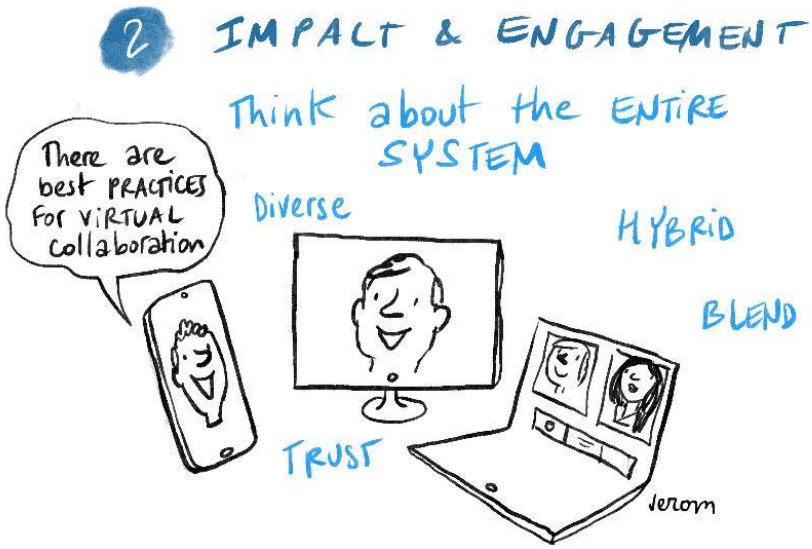
Moderated by
Andrew Watchorn, Global Academic Partnerships, Quanser

THE PROBLEM

Developed in collaboration with QUANSER INNOVATE·EDUCATE

What might it look like if 'virtual' collaboration was not just the next best thing but brought more and better opportunities to the digital and in person campus and workplace? If this is an effective way to engage students in learning, how can we make it accessible to more?

THE BRAINSTORM



WATCH BRAINSTROM OUTPUT

THE SOLUTION

Our second team proposed the development of Virtual Project-based Collab Software to maximise access and quality of project-focused virtual collaboration. The software's aim includes increasing access to different projects, resources, and people and expand the reach of institutions. Since best practices for virtual collaboration are not yet engrained in academia, it was proposed that this tool could help suggest best practices. Additional functions include checking infrastructure quality for participants and providing solutions when infrastructure is weak, such as locations with stable internet access through the use of geo-caching. The proposed tool includes a plethora of other offerings, including integrating workflow tools such as Miro, suggestions for timing of project steps, and using LinkedIn crawlers and university databases to identify nearby experts and available equipment.

RESOURCES

SOLUTION VIDEO

RELATED CONTENT ON THIS THEME

McMaster University Case Study: Digital Twinning Enables Seamless Delivery of a Virtual Control Theory Course.

York University Case Study: A HYBRID LAB EXPERIENCE: Blending Hands-on Explorations with the Flexibility of Virtualization.

Andrew Watchorn, Global Academic Partnerships, Quanser

Our group imagined a yet-to-be-made software tool that could proactively help students collaborate better. From finding appropriate, high-bandwidth local spots to do work to suggesting in-person meeting places if possible. From suggesting industry expertise for a project to suggesting ways to make their backgrounds more focused. When we started thinking about what was helpful vs. what was immediately feasible the idea really started to blossom and could lead the way to actually making such a tool in the future.

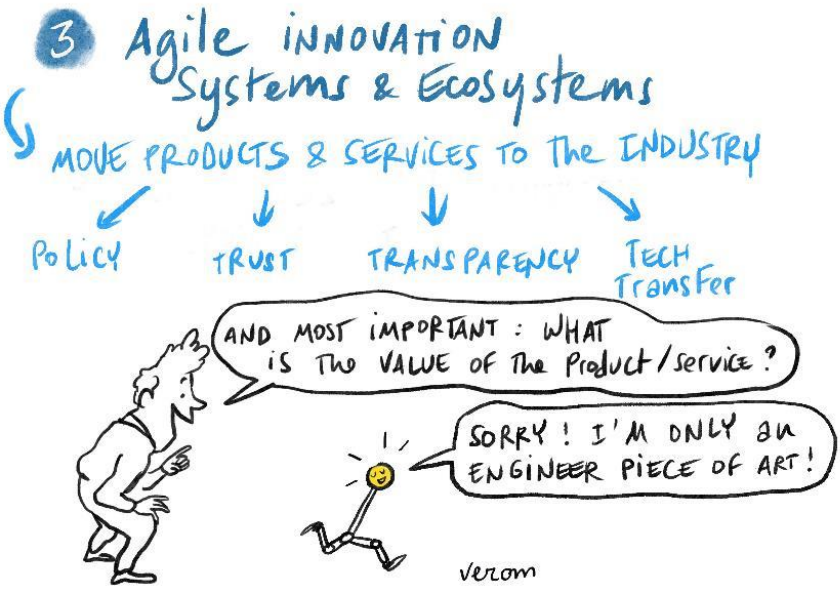
AGILE INNOVATION SYSTEMS AND ECOSYSTEMS

Moderated by
Ramiro Jordan, Professor, The University of New Mexico &
Carsten Burchardt, Professor Dr.- Ing., Siemens

THE PROBLEM

How can universities and industry work together to create more agile innovation systems and ecosystems that take research out of the lab and into industry? Which critical technologies will drive innovation and value creation in the next decade and beyond?

THE BRAINSTORM



WATCH BRAINSTROM OUTPUT

THE SOLUTION

Developing agile innovation systems and ecosystems requires understanding legal framework and existing policies, and taking into account whether you need to create or fix policy. Implementation requires people, networks, and relation, thus trust-making, trust-building and trust-keeping in a transparent system where information and knowledge are symmetric is vital. Furthermore, this approach requires understanding not only the value of the product or service, but also who is coming up with the value. Senior design can be a good testing ground of this concept that requires connecting complex political and social systems.

RESOURCES

SOLUTION VIDEO

RELATED CONTENT ON THIS THEME

Hear from Yannis Yortsos, Dean of USC Viterbi School of Engineering, with an important talk on **"Trustworthiness: A Needed Attribute in Engineering"**.

WATCH NOW

LEARNING FROM EACH OTHER

Moderated by

Natacha DePaola, Professor and Center Director, Illinois Institute of Technology &
Kenneth Ball, Dean, College of Engineering and Computing, George Mason University

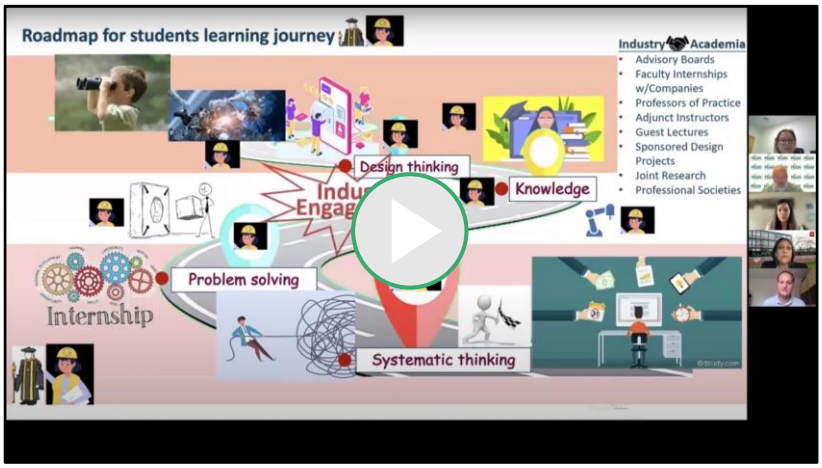
THE PROBLEM

What are some concrete, sustainable ways to build and maintain interaction between faculty and industry to ensure engineering education remains fit for purpose? What can we learn from evolutions in the way we collaborate that have occurred in the past year and a half?

THE BRAINSTORM

WATCH BRAINSTROM OUTPUT

THE SOLUTION



Our fourth team proposed designing a user-centered platform for broader engagement using data driven insights and decision making that provides a broad range of curricular, co-curricular and extracurricular activities. Sustainability is at the heart of the concept, along with the promotion of academia-industry interactions that reflect agile innovative curricula consistent with continuous evolution of learning journeys, such as learning communities and environments, targeted to close the existing gap between graduation and job readiness. The platform would also include a global repository of outcomes, accounting for current topics and emerging technologies, such as AI, based on industry expressed needs and expectations from engineering graduates, along with the implementation of systemic assessment to track success and drive continuous improvement. Built into this idea is ongoing assessment for continuous improvement.

RESOURCES

SOLUTION VIDEO

READ MORE ABOUT THE DISCUSSIONS NATACHA & KEN WERE PART OF AT THE FIRST GEDC INDUSTRY FORUM

Our ultimate goal is to close the gap between Graduation-Industry readiness.

Natacha DePaola, Professor and Center Director, Illinois Institute of Technology

LEARNING HOW TO LEARN CONTINUOUSLY

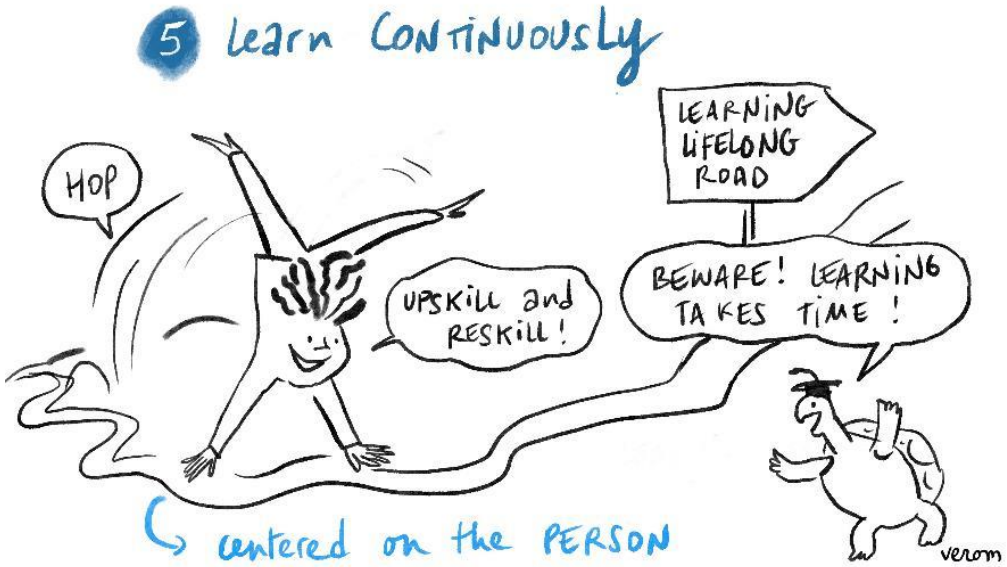
Moderated by
Jennifer Bradford, Program Manager, Siemens Digital Industries Software &
Monica Collins, Researcher, Institut Mines-Télécom Business School

THE PROBLEM

Developed in collaboration with SIEMENS

How can reskilling, upskilling or non-degree-learning programs respond more quickly to the needs of learners and industry? How should universities, organizations like IFEES/GEDC, and industry work together to establish a consistent taxonomy, quality, recognition, and relevance of these programs? Should students ever actually graduate if lifelong learning becomes the norm?

THE BRAINSTORM



WATCH BRAINSTROM OUTPUT

THE SOLUTION

Voted by participants as most enjoyable presentation

The fifth team proposed a global standardised platform for lifelong learning. At the base of the concept is the idea that universities are where people learn how to learn and take their skills, curiosity and foundational knowledge into any direction they chose. Pinpoints of lifelong learning include focus on critical, autodidactic life-long learning mindset early on, with the goal of ultimately changing societal mindset where leaders acknowledge the limit of their own knowledge and exemplify lifelong learning. As continuous learning is expected to take place more autonomously over time, course and model developers should optimize new resources delivered, keeping a global audience in mind, with the design of educational resources informed by latest findings and learning sciences. Today, being a subject matter expert is not enough to optimally design education that will reach different populations via different modalities in an equitable way and there is an acknowledged need to re-evaluate the need/modes regarding assessment, credentials and accreditation and redefine success in this new continuous education world. This requires a collective effort among students, academia, industry, government and policy makers working together to figure out how to support future engineers.

RESOURCES

SOLUTION VIDEO

FACT SHEET

[Educator Resources]

[Innovation in the Classroom Podcast]

[Siemens Software Student Connect]

[Digital Technologies and the Future of Manufacturing]

Jennifer Bradford, Program Manager, Siemens Digital Industries Software

It became really clear through the brainstorm and our subsequent sprint that the narrative around higher education versus microcredentialing is false. The market, both from the perspective of the learner, and industry, is really looking to the university to teach students how to learn – how to think critically, communicate and collaborate. At the same time, learners and industry alike are hungry for a more agile approach to the acquisition and recognition of discrete skills - whether in the form of digital badges, microdegrees, or certifications. Both of these aspects of learning are necessary, but neither alone is sufficient.

INTRA AND ENTREPRENEURSHIP AT SCALE

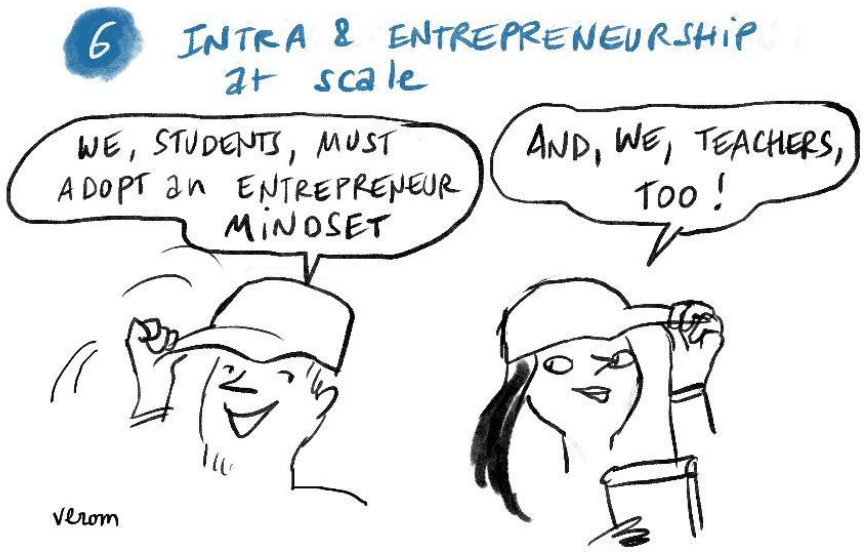
Moderated by

Uriel Cukierman, CIIE Director, Universidad Tecnológica Nacional &
Camilla Le Net, President, Wez'u (association)

THE PROBLEM

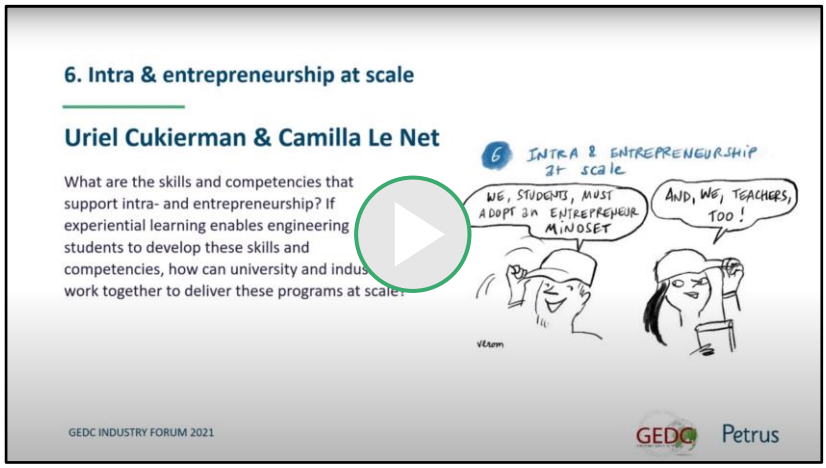
What are the skills and competencies that support intra- and entrepreneurship? If experiential learning enables engineering students to develop these skills and competencies, how can university and industry work together to deliver these programs at scale?

THE BRAINSTORM



WATCH BRAINSTROM OUTPUT

THE SOLUTION



According to group six, developing an entrepreneurial mindset is an important goal for future engineers; whether not they plan to start a new business. Fostering this mindset is impactful in the creation of new products or services, as well as for the development of community solutions. Intra and entrepreneurial mindsets require compassion and character, community and citizenship, critical thinking and problem solving, creativity and innovation, collaboration, and communication. Furthermore, failure should be seen as a source of learning to become more resilient rather than as a punishment. Developing this mindset requires authentic learning developed all along the curriculum, with industry knowing the requirements of academia and vice versa. Industry involvement can include bringing in real-life examples and providing volunteers to create a bench of coaches in different domains to help student teams. Finally, the team noted the importance of acknowledging that different countries and regions need different approaches.

RESOURCES

SOLUTION VIDEO

RELATED CONTENT ON THIS THEME

Entrepreneurial mindset should be developed all along the curriculum.

Uriel Cukierman, CIIE Director, Universidad Tecnológica Nacional

THE ENGINEER OF THE FUTURE

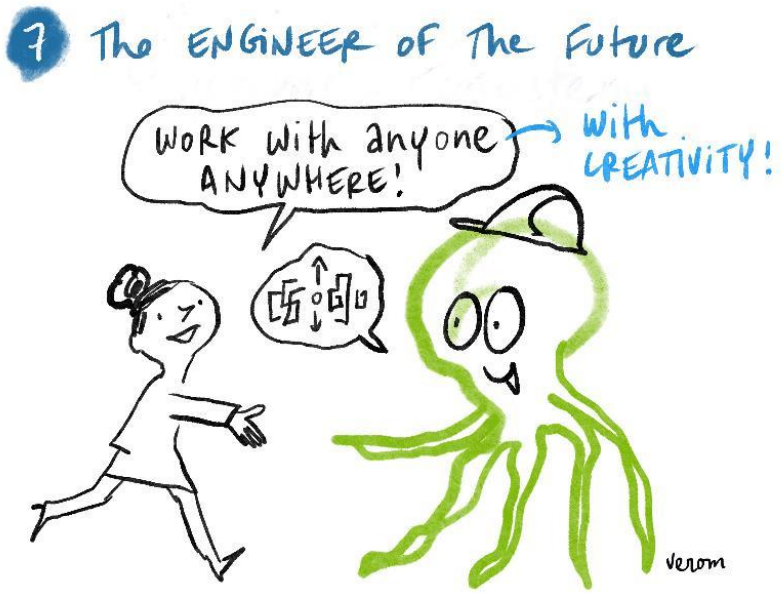
Moderated by
Sorabh Bajaj, Skills Transformation Consultant, Coursera &
Sushma Kulkarni, Director, Rajarambapu Institute of Technology, Maharashtra

THE PROBLEM

Developed in collaboration with coursera for campus

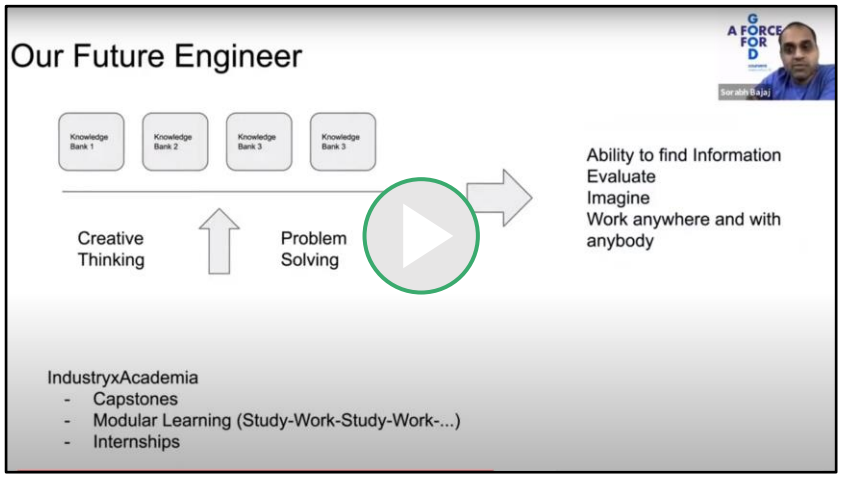
What emerging engineering trends and technologies are already required in a global engineer? How can industry and educators work better together to identify and develop the engineering competences required from the next and future generations of engineering experts and leaders?

THE BRAINSTORM



WATCH BRAINSTROM OUTPUT

THE SOLUTION



Team seven advocated for university as the place to create knowledge banks, for students alongside the incorporation of creative and critical thinking and problem solving skills that engineers can more critically apply more critically and solve key problems society faces. Universities can provide more perspective on how engineers can be creative using knowledge banks to solve critical problems. The goal is for the future engineer to have the ability to find information, evaluate, imagine and work anywhere with anybody. Industry and academia can work together to develop capstones, internships and modular learning that alternates between work and study to prepare students for careers, not jobs.

RESOURCES

SOLUTION VIDEO

RELATED CONTENT ON THIS THEME

[Helping students acquire in-demand skills and job-ready credentials]

[IITU brings academic excellence to the modern digital classroom]

[The Unbounded University: Unlocking Opportunities through Online Learning]

[Curriculum Mapping for Student Employability]

[Education for Employability]

[The Campus Guide to Delivering For-Credit Online Learning]

AGILE ENGINEERING EDUCATION

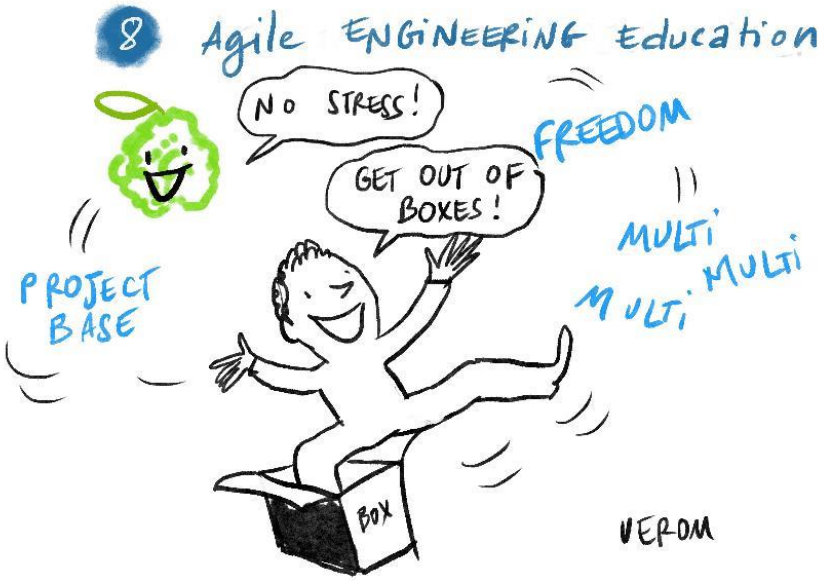
Moderated by

Christian Bolu, Professor of Mechatronics Engineering, Pan-Atlantic University &
Paul Karam, Chief Operating Officer, Quanser

THE PROBLEM

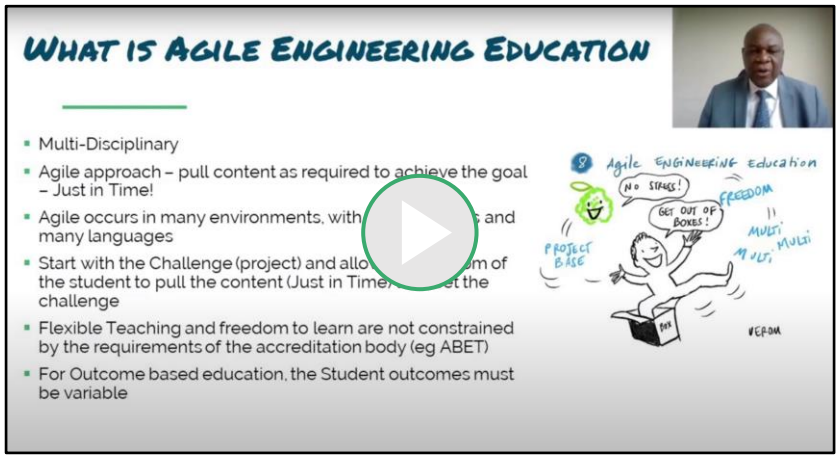
What would a truly agile engineering education system look like? Inspired by the rapid prototyping brought about by the pandemic, what if we took a systems thinking approach to build new models and partnerships for excellent agile engineering education?

THE BRAINSTORM



WATCH BRAINSTROM OUTPUT

THE SOLUTION



Team eight defines agile engineering as a multi-disciplinary approach that pulls content as required to achieve goals from many environments with many cultures and languages. They envision starting with a challenge (project) and allow student to pull content to meet the challenge. Agile engineering also requires flexible teaching and freedom to learn, with a focus on an outcome-based education where student outcomes are variable. For students, this approach provides them with an ability to learn what they want on their own time and graduate job ready with more distilled and personified concepts. In engineering education, this can help reduce attrition and demystify engineering to attract wider variety of students and increase global recognition. Industry benefits through an increase of job ready graduates who have adopted modern technologies and techniques and more industry relevant research due to student exposure to industry challenges. Team eight proposes leveraging agile tools like SCRUM, Jira, Github, etc., that have evolved and matured during pandemic. They also proposed modularising bite size chunks of content to all students to pull or choose their own learning, uptrain professors and faculties in philosophies of agile engineering education, and provide a challenge where groups iterate on solutions to solve the challenge.

RESOURCES

SOLUTION VIDEO

ADDITIONAL RESOURCES

Check out our additional resources (next page) to see some of the innovative and exciting initiatives and programmes taking place in engineering education around the world right now – often prepared ahead of the global health crisis, and accelerated as a result!

ADDITIONAL RESOURCES

1. Individual Institutions and Initiatives

Engineering for One Planet (EOP)

Global initiative working to equip all future engineers across all disciplines with the fundamental skills and principles of environmental sustainability.

McMaster University – The Pivot

McMaster University is "transforming the undergraduate [engineering] experience into a rich experiential learning opportunity to prepare students to be flexible in a rapidly-changing world and to meet challenges not yet imagined. The approach is centred around three pillars: transforming the curriculum, reimagining the classroom, and amplifying experiential learning. **Read more here.**

New Model Institute for Technology and Engineering (NMITE)

NMITE has been created to provide contemporary and inclusive engineering education, and respond to the "recognised and predicted shortage of engineering graduates", as well as "industry feedback that graduates have become very discipline-focussed but not work-ready to add value immediately".

The Dyson Institute

Created in 2017 by James Dyson, the Dyson Institute works "to build challenging and enriching educational experiences which are free, student-centric and aligned with the needs of industry". The institution combines engineering education with practical application; students are paid employees of Dyson and work alongside the Dyson Technology Global Engineering team from day one.

TU Berlin – Blue Engineering Initiative

Blue Engineering is an international and innovative seminar-style course provided by Technische Universität Berlin that focuses on ecological and social responsibility. The course facilitates creative, interdisciplinary and sometimes heated debates on the issues posed by technology in society and in nature. The initiative received the European Society for Engineering Education (SEFI) Francesco Maffioli award in 2019.

The National Academy of Engineering Grand Challenges Scholars Program

The **NAE GRAND CHALLENGES FOR ENGINEERING**, created in 2008, presented an aspirational vision of what engineering needs to deliver to all people on the planet in the 21st century. In just 15 words, the vision it calls for is **"Continuation of life on the planet, making our world more sustainable, secure, healthy, and joyful."** The century-spanning vision was based on **14 GOALS** that the NAE recognized as necessary to deliver this vision in the 21st century. Engineering schools have adopted the NAE Grand Challenges to inspire practical projects for their students through an educational supplement called the Grand Challenges Scholars Program (GCSP), which identifies five competencies that students must achieve to prepare to address these global challenges.

2. Resource Collections

Collaborative Engineering Education in the Digital Age (CEEDA)

The CEEDA website showcases examples of global best practice in collaborative and/or project-based engineering learning that are partially or wholly delivered online. It forms one element of a wider study looking at the lessons learnt from the current period of 'emergency teaching' and how this might impact the trajectory of engineering education in the future.

GEDC Industry Forum Community Responses to COVID-19

Gathers a collection of relevant initiatives by members of the GEDC Industry Forum community related to innovation, skills development, employer engagement and community outreach that have been developed to respond to the COVID-19 crisis.

University of Michigan Center for Academic Innovation Publications

Lists publications related to the Center for Academic Innovation, which strives to design the future of learning through research, innovation, experimentation, and iteration.

3. Publications

Advances in Engineering Education – Special Issue on Worldwide Leading Innovative Engineering Education Program

Featuring a collection of approaches by institutions designated as current and emerging leaders in engineering education in the 2018 review *The global state of the art in engineering education*[1], this editorial considers global developments in engineering education in the unique context of COVID-19.

Emerging Stronger: Lasting Impact from Crisis Innovation

Edited by Beverley Gibbs & Gary C Wood

Gathers input from over 250 educators and practitioners to answer the questions: How do we develop practical skills in students at a distance? How can students gain workplace experience in the absence of internships? How do we maintain academic standards in remote assessments?

Engineering Learning & Teaching Interdisciplinary Engineering Education: Difficult, but not Impossible

By Abel Nyamapfene

Blog article by University College London associate professor on interdisciplinary engineering education.

NEXT DESTINATION: SOFTWARE How automotive OEMs can harness the potential of software-driven transformation

Report by Capgemini Research Institute

[1] Graham, Ruth. 2018. The global state of the art in engineering education. Massachusetts Institute of Technology (MIT)
Report, Massachusetts, USA. Accessible here.

Faculty wide curriculum reform: the integrated engineering programme

By John E. Mitchell, Abel Nyamapfene, Kate Roach, & Emanuela Tilley

"Many traditional engineering schools are struggling to balance the calls to provide an innovative engineering education that meet the demands of graduates and their employers with the constraints and momentum of their existing curriculum." This paper presents "the conceptual design behind a framework that integrates existing discipline-specific content with threads of professional skills and design through a backbone of problem-based learning experiences".

Resilient Pedagogy: Practical Teaching Strategies to Overcome Distance, Disruption, and Distraction

Edited by Travis N. Thurston, Kacy Lundstrom, Christopher González

The editors of Resilient Pedagogy asked authors to explore the concepts surrounding resilient pedagogy in the context of the COVID-19 and the social justice movements that impacted higher education in myriad ways, and provide practical strategies to better support students across contexts.

4. Other Events & Initiatives

World Engineering Education Forum (WEEF)

WEEF/GEDC 2021 will be held in Madrid from 15-18 November. The theme **is "Diversity and Ethics in Education for an Inclusive and Sustainable World."**

The Global Learning Expedition

A highly interactive online experiential learning programme brought to you by multi-award-winning design experts Petrus, together with outstanding academic, industry and community partners.

Working in interdisciplinary, international teams, selected students from all backgrounds and profiles tackle real-world challenges carefully designed to generate innovation and critical thinking on a range of inspiring themes and underpinned by the United Nations Sustainable Development Goals.

With inspirational talks, skills workshops, career insights, networking sessions and creative teamwork supported by world-class coaches, participants gain essential workplace skills and discover a range of industries and potential career paths, to hit the ground running on their career-search.

Global Virtual Internship Program

Engineering students need internship experience in order to fulfill their graduation requirements, gain insight into the world of work, and obtain professional skills. Through this program GEDC members' students access opportunities shared by corporate partners and other member institutions, gaining this much needed. experience, even while at home.

GEDC Diversity Award

A global award for innovative projects that inspire students of all profiles and backgrounds to study and succeed in engineering. Initiated by Airbus in 2012 together with the Global Engineering Deans Council, this time-honored annual tradition of the GEDC continues to recognise successful projects and is now held in partnership with George Mason University and Siemens.

Rising to the Top

Rising to the Top provides an intimate and inspiring look into the experiences that have shaped the lives and careers of women engineering leaders from around the world, from Sudan to Chile to Malaysia, and many points in between.

PAST EVENTS

2017 GEDC INDUSTRY FORUM, FONTAINEBLEAU, FRANCE

Over 3 days, the first Global Engineering Deans Council (GEDC) Industry Forum provided global industry, HR, and academic leaders a platform to exchange, learn, and share ideas about how to collaborate to best develop the next generation of engineers. Invited delegates from global companies and innovative SMEs, along with engineering Deans from around the world came together to share knowledge, network and identify partnership and collaboration opportunities. We were able to launch this much-needed forum thanks to the support of our industry partners Total, National Instruments and Boeing who played a key role in leading discussions and shaping the event

2019 GEDC INDUSTRY FORUM, BUCHAREST, ROMANIA

The first regional GEDC Industry Forum took place at the Athénée Palace Hilton in Bucharest, Romania. Building on the immense success of the 2017 Industry Forum, this event focused on stimulating innovation through bringing together universities and industry, tackling the growing gap in digital and scarce skills as well as developing key graduate employability skills, including intra/ entrepreneurship.

2019 GEDC INDUSTRY FORUM, FONTAINEBLEAU, FRANCE

Building on two hugely successful events, the 2019 GEDC Industry Forum took place in Fontainebleau, France from Wednesday 3rd to Friday 5th July 2019. The event addressed how to implement high impact, large scale programmes to develop the skills needed in future engineering experts and leaders, exploring the importance of developing trust and open communication skills in the engineering and technology graduates of the future. Delegates also focused on strategies to improve innovation with university-industry collaboration, in particular working across borders.

2020 GEDC INDUSTRY FORUM, ONLINE

Hosted by Faculty of Engineering, McMaster University, Canada

Over 4 days, more than 120 engineering and technology leaders from 25 countries across 5 continents gathered online in the first virtual GEDC Industry Forum. Engineering deans and leaders from academia, non-profit organizations, government and private sector connected via Zoom, exchanging ideas on possible ways forward to adapt engineering education to a changing world.

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ORGANISERS

Established in 2008, the mission of the Global Engineering Deans Council (GEDC) is to serve as a global network of engineering deans and to leverage the collective strengths of the deans for the advancement of engineering education, research, and service to the global community. The four main arms of GEDC strategic plans are institutional leadership, curriculum leadership, policy leadership and accreditation leadership. The Council's network includes over 500 leaders and stakeholders representing over 40 countries from all continents.

www.gedcouncil.org

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Petrus is a longstanding Global Engineering Deans Council (GEDC) member and partner.

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The 2021 GEDC Industry Forum was organised in partnership with…

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