Challenge4Impact

SUPPORT SERVICES FOR STUDENT-BUSINESS COLLABORATION

Good practice collection of support services for challenge-based student-business collaboration in sustainable entrepreneurship

IMPRINT

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CONTENT

LIST OF ABBREVIATIONS

AI	*Artificial intelligence*
CBE	*Challenge-based education*
CBL	*Challenge-based learning*
C4I	*Challenge4Impact*
ECIU	*European Consortium of Innovative Universities*
HEI	*Higher education institution*
PjBL	*Project-based learning*
PbBL	*Problem-based learning*
R&I	*Research and innovation*
SDG	*Sustainable Development Goal*
SBC	*Student-business collaboration*
TU/e	*Eindhoven University of Technology*
UvA	*University of Amsterdam*
WUR	*Wageningen University & Research*

1 INTRODUCTION

"**Challenge4Impact**: Developing Partnerships for International Virtual Student-Business Challenges in Sustainable Entrepreneurship" is a research project funded through the EU Erasmus+ programme. The main goal of the project is to contribute to the development of **sustainable innovations** to help **tackle the grand challenges** by means of **university-business collaboration**. Specifically, the project focuses on **student-business challenges in sustainable entrepreneurship** that address sustainability-related challenges and target innovative solutions with the potential to create positive economic, environmental, and social impact and contribute to achieving the UN Sustainable Development Goals (SGDs).

Running from 2022 to 2025, Challenge4Impact builds on the preceding EU Erasmus+ project ScaleUp4Sustainability which championed a range of regional student-business programmes in co-creating eco-innovation ("collaborative green venturing"). Challenge4Impact consolidates the results from ScaleUp4Sustainability by focusing on challenge-driven learning formats and developing new insights for their successful development and integration in higher education institutions around the world. In light of unprecedented global challenges, the importance of international collaboration becomes ever more acute. For this reason, the project focuses on cross-border and cross-industry entrepreneurial learning using digital means.

Moving from regional to international challenge formats with students, teaching personnel and business partners from different countries increases complexity, transaction costs and organisational efforts needed for implementation. Some actors such as companies, initiatives and networks have responded with specialised support services for designing, implementing, and evaluating challenge-driven student-business collaboration. This report synthesises the results of our research on these intermediary actors and presents good-practice examples of intermediary support for international virtual challenge-based student-business collaboration in sustainable entrepreneurship.

The good-practice examples aim to inspire stakeholders involved (or looking to get involved) in challenge-driven student-business collaboration formats, providing information on strategies and approaches to promote and facilitate effective cooperation and communication between students and businesses in challenge-based learning formats.

SETTING THE SCENE

Conceptual Background

Grand challenges such as climate change, poverty, inequality, and the digital transformation, among others, represent social and environmental issues that have global and large-scale impacts on members of society and their environments. While organisations are part of creating and contributing to grand challenges, they also represent key actors in addressing critical barriers to solving the grand challenges (Gümüsay, Marti, Trittin-Ulbrich, & Wickert, 2022), for instance by developing **sustainable innovations** (Fichter & Clausen, 2016). Indeed, the concept of grand challenges itself has been deemed to strengthen communities of innovators that are "**collaborative, interdisciplinary, and global**" (Singer & Brook, 2011). As such, tackling grand challenges requires practices, perspectives and tools that are different from the standard approaches and tools we teach and utilise (Ferraro, Etzion, & Gehman, 2015).

COLLABORATIVE INNOVATION AT HIGHER EDUCATION INSTITUTIONS

Next to advancing education and research, higher education institutions (HEIs) have seen the redesign and extension of their traditional functions to include the third mission, portrayed as contributing to society (Compagnucci & Spigarelli, 2020). This third role comprises different forms of action-oriented knowledge transfer and collaboration, for example with actors from industry, the public sector, and civil society, and places HEIs at the forefront of co-developing the innovative solutions required to tackle local to global challenges. The quintuple helix model has advanced this framework by adding the natural environment as a key societal sphere next to education, politics, society and economy (Carayannis, Barth, & Campbell, 2012). In the context of HEIs' third mission and the quintuple helix mission, increasing recognition has been paid to developing new pedagogical approaches that enable students to engage in practice-oriented learning for sustainability in cooperation with external stakeholders.

EXPERIENTIAL LEARNING APPROACHES IN STUDENT-BUSINESS COLLABORATION

Moving away from traditional teacher-centred educational approaches, a range of active teaching and learning methodologies have evolved in academia over the years, including problem-based learning (PbBL), project-based learning (PjBL) and challenge-based learning (CBL). These approaches share common elements such as problem-solving, collaborative learning, critical thinking, and cultivating digital tools to improve the educational experience, all while employing a student-centred approach (Vilalta-Perdomo, Membrillo-Hernández, Michel-Villarreal, Lakshmi, & Martínez-Acosta, 2022). While PbBL focuses more on fictional cases and has developed especially in medical education programmes, PjBL uses both fictional and real-world cases and has established itself as a standard learning approach especially in engineering education (Eldebo, Lundvall, Norrman, & Larsson, 2022). In recent years, CBL has entered the landscape of teaching and learning practices as an evolution of PjBL and PbBL, in response to scientific insights into student learning and increasing societal demand. It distinguishes itself by way of its focus on real-life challenges and the development of real and applicable solutions as well as the involvement of external participants, besides students and teachers (Mayer, Ellinger, & Simon, 2022; Vilalta-Perdomo et al., 2022). Two different concepts and "schools" can be distinguished in CBL. The first focuses on the learning process of students (Ambrosi & Hermsen, 2023) and can be characterised as the "learner school", while the second conceptualises CBL primarily as a co-innovation process between students and practice partners to implement innovative solutions for sustainable development (Fichter et al., 2020). The latter can be characterised as the CBL's "innovation school".

SPOTLIGHT: CHALLENGE-BASED LEARNING (CBL) FOR FOSTERING SUSTAINABLE INNOVATIONS

As a form of experiential learning that uses challenges to frame learning experiences, the emergence of CBL is of special interest. It involves students in addressing real-world problems in **collaboration with external partners** (Leijon, Gudmundsson, Staaf, & Christersson, 2022).

It is characterised by focusing on student-centred and technology-enabled learning, working on real-world challenges that are relevant to both students and society, taking a multidisciplinary approach that requires integrating knowledge and skills from different disciplines and perspectives, and working in teams with fellow students, academic staff and external partners to co-create solutions (Gallagher & Savage, 2020; Norrman, Eldebo, Lundvall, Boiertz, & Stel, 2022). CBL often involves complex global themes such as sustainability, aiming for transformative and integrative value creation, i.e. challenging business-as-usual practices and involving diverse actors in the process (Doulougeri, van, Vermunt, Bots, & Bombaerts, 2022). It has been acknowledged that academic staff who employ the CBL approach in their teaching are required to revisit their pedagogical practices, going beyond the traditional knowledge-oriented role as teacher. They also take on the role of coach, activating and guiding the students' learning processes and supporting their skill development. Further, they take on the role of organiser, creating an effective learning context and ensuring smooth collaboration between all stakeholders involved (Ambrosi & Hermsen, 2023; Eldebo et al., 2022).

Main stakeholders involved in CBL are external challenge providers. Oftentimes, it is companies who provide challenges (Norrman et al., 2022), though it can also be other organisations such as NGOs, associations, or municipalities. According to the CBL framework, they may present their relation to the challenge or theme at the beginning of a challenge format, while the actual challenge is defined and formulated by the students (Ambrosi & Hermsen, 2023). This varies in practice, as challenge providers apply different degrees of instruction and direction (Mayer et al., 2022). As students receive the opportunity to develop and test their solutions in collaboration with the external challenge provider, the external partners' level of involvement throughout the challenge format may vary. Some challenge providers take on the role of training partner, cooperating with the students at eye-level and offering them deeper insights and access to their organisation's activities, processes, work sites and contacts (Membrillo-Hernández et al., 2018). Challenge providers oftentimes take on the role of experts as they provide additional subject knowledge and content advice. Further, they may act as feedback provider to the students, providing input and comments throughout various stages of the challenge process. Besides, they may also appear as networker, connecting students to relevant people and organisations to progress on the challenge, and as sponsor, providing financial resources such as prize money (Mayer et al., 2022).

Regardless of external challenge providers' level of involvement and the role(s) exercised, it is clear that complexity of the collaboration increases with their participation. This becomes especially relevant in the context of international virtual student-business collaboration in challenge-based programmes that may involve actors from several organisations and/or countries. This is where intermediaries may enter the challenge process as stakeholders to facilitate cross-border and cross-sector student-business collaboration with their various support services and mechanisms.

INTERMEDIATION FOR CHALLENGE-DRIVEN STUDENT-BUSINESS COLLABORATION

Interactions between academia, industry, and politics in the context of an increasingly open innovation environment have given rise to new intermediary actors who act as knowledge brokers between universities, companies and societal groups (Feser, 2023). Intermediaries can be described as individuals, organisations, or groups of organisations who bridge between two or more parties to **facilitate processes of interaction and communication.**

Innovation intermediaries take on a position "between the source and the seeker of knowledge and resources needed for innovation" (Howells & Thomas, 2022, p. 992). The need for intermediary activities usually arises when multiple parties experience difficulties in integrating their differing resources, values, competences, and activities, either due to communication problems, information asymmetry or high transaction costs (Kanda, Hjelm, Johansson, & Karlkvist, 2022). The range of activities that intermediaries carry out to support innovation processes span from forecasting and roadmapping, information gathering and dissemination, fostering networking and partnerships, prototyping and piloting, technical consulting, resource mobilisation, commercialisation to branding and legitimation (Kanda, Hjelm, Clausen, & Bienkowska, 2018). As shown in the following figure, these can be summarised to three main brokerage mechanisms (Kanda et al., 2022, based on Spiro et al., 2013).

Transfer: The intermediary transfers resources, such as knowledge, funds, or technology, from one party to another without creating a direct connection between the parties.

Matchmaking: The intermediary facilitates formation of direct relationships and collaboration between different parties, e.g., through creating physical or virtual spaces for interaction, learning, knowledge sharing, networking, partnership building, and through aligning interests.

Coordination: The intermediary enables different parties to interact without creating a direct connection between them, e.g., aggregating lessons from different challenge programmes and their actors without directly bringing them together to facilitate a challenge.

In the context of challenge-driven SBC, it is mostly academic staff who, as challenge organisers, deal with the complexity and uncertainty associated with collaborating with external challenge providers. They may find themselves investing more time and resources as they adopt challenge-based as opposed to more traditional pedagogical approaches. This may involve additional preparation of materials, technical infrastructure, development of appropriate assessment methods, recruitment and coordination of further academic staff and experts to support the challenge process, as well as creating physical and online collaboration spaces. Further, communication before, during and after challenge programmes and between all involved actors, such as external challenge providers but also HEI learning service centres and administration, has been observed to be a recurring issue. The involvement of several actors in a challenge and their differences in professional perspectives and logics hence increases the need to invest efforts in negotiating different objectives and understandings (Mayer et al., 2022).

With the rise of international and virtual challenge-based student-business collaboration, intermediaries have emerged who extend beyond traditional intermediary structures, working with assistive technology, digital formats, and virtual networks (Albats, Alexander, & Cunningham, 2022) to navigate the increased complexity of international collaboration with different external stakeholders. Hereafter, selected good practice intermediary organisations and their respective intermediation services and approaches are presented.

RESEARCH DESIGN

Building on insights on the role of intermediaries and their potential in supporting collaborative innovation programmes, specifically student-business challenge formats at HEIs, desk research was carried out to scan for and identify relevant intermediary organisations.

The inclusion criteria was set to organisations worldwide who act as intermediary and provide a set of support services (such as provision of technical infrastructure, guidelines, coordination support, etc.) for planning, implementing and/or evaluating challenge-driven learning formats. Priority criteria included the offering of intermediary services for international and virtual collaboration formats with a sustainability focus, as well as services for curricular integration of challenge formats. An overview of identified intermediaries can be found in the Appendix (Table 1).

Further, 21 expert interviews were carried out with academic staff at HEIs as well as business representatives and representatives from intermediary organisations. The following qualitative analysis aided in further identifying relevant intermediary actors as well as generating insights about experiences and perspectives of stakeholders involved in student-business challenges on using or offering intermediary services.

KEY INSIGHTS:

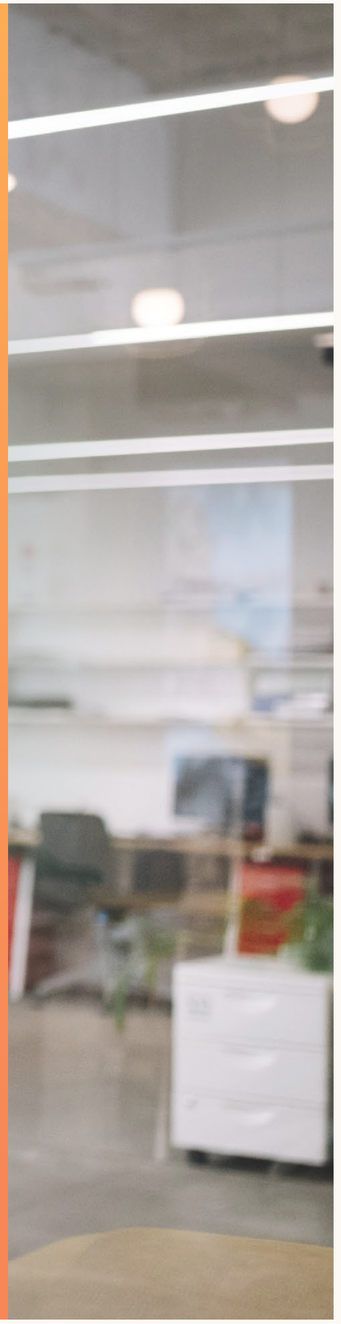
- Scanning the international landscape of support actors who facilitate challenge-driven student-business collaboration shows that specialised intermediary organisations have already been set up. Further, there also are organisations that assume the intermediary role, though intermediating student-business challenge programmes is not their primary function, but rather being carried out as a secondary function next to their core activities (see Appendix for overview of identified intermediaries for challenge-driven student-business collaboration).
- Intermediation for SBC in the context of higher education may be differentiated in terms of services developed and offered within HEIs and outside of HEIs. In addition, hybrid forms of intermediation for SBC are emerging. Hence, we may characterise intermediaries for SBC as:
  - **HEI-external intermediaries:**
    The intermediary operates as an independent actor such as an organisation running a matchmaking platform for SBC.
  - **HEI-internal intermediaries:**
    The intermediary is integrated into an existing HEI facility such as the HEI's centre for teaching and learning or the HEI's innovation centre or has been set up as a separate HEI facility.
  - **Hybrid intermediaries:**
    The intermediary is formed and operated as a partnership of HEI-external and HEI-internal actors, for example a joint organisation co-financed by a regional business development agency and a HEI.
- Interview participants expressed a clear need for intermediation in SBC, especially as formats go international. Those who indicated a need for intermediaries, but are not making use of their services, either cited financial limitations or lack of knowledge of service providers as reasons.
- Interview participants, particularly academic staff, highlighted the benefits of using HEI-internal rather than HEI-external support services. Reasons cited for this preference were that expertise was available HEI-internally, that it is more proximate and that going external would be associated with more organisational and bureaucratic efforts.
- Regarding future needs for intermediary support services, interview participants expressed their need for: (a) more formalised HEI-internal support structures for academic staff in carrying out challenge-driven learning experiences, (b), further support and resources for evaluation of challenge programmes, (c) support in recruitment of external challenge partners and providers as well as students, (d) technical infrastructure support, for instance for enabling post-challenge communication between students and businesses, and students and academic staff, (e) PR & marketing services, (f) access to arenas for exchange of learnings and experiences between challenge organisers.

The final selection of eight good-practice examples of support services for challenge-driven student-business collaboration was based on the following criteria: innovativeness of services; embeddedness and engagement in innovation networks such as university networks or local initiatives; sustainability of service offerings; involvement of relevant stakeholders; and evidence-based and impact-oriented approach to developing and providing the support services.

Data on key areas of interest was gathered through a review of the organisations' official websites as well as publicly available materials such as reports, journal articles, and case studies. All data was validated and confirmed through one-on-one communication (via e-mail or video call) with a representative of the respective intermediary organisation.

GOOD PRACTICES

of Support Services for Challenge-Driven Student-Business Collaboration



EKIPA

Ekipa GmbH
Open innovation platform

Est. 2018
Germany
Frankfurt am Main

Number of employees
27

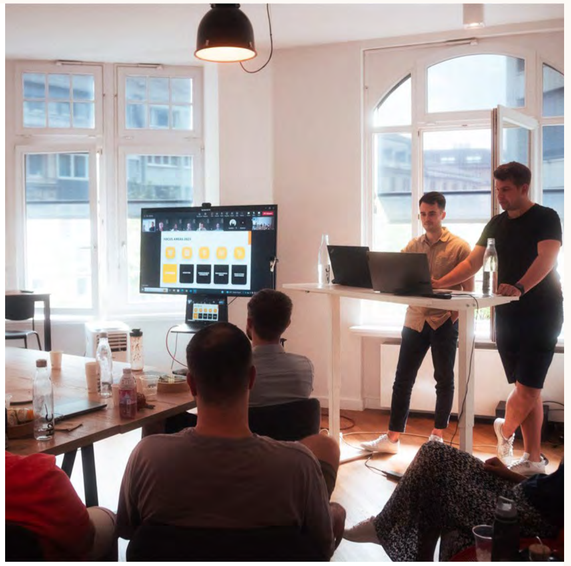
Geographic scope of activities
International

Type of intermediary
- ☒ HEI-external
- ☐ HEI-internal
- ☐ Hybrid

Intermediary set-up
- ☒ Single organisation
- ☐ Partnership of multiple organisations

Intermediation for SBC as
- ☒ Primary role
- ☐ Secondary role

Ekipa GmbH is a start-up from Frankfurt am Main, Germany that works to enable **open innovation processes** by bringing together universities, innovators (mostly university students, but also young professionals, young researchers and young companies) and established companies and organisations in innovation challenges and programmes. As Ekipa states, it wants to contribute to driving positive change by helping the digital generation create sustainable innovations.



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Background

Ekipa co-founders Justin Gemeri, Nico Heby and Linh Phung launched the open innovation platform back in 2018 at Goethe University Frankfurt am Main's entrepreneurship centre "Unibator". The aim was to help better make use of students' untapped innovation potential and digital skills to contribute to sustainable innovations. Based on the belief that open innovation goes beyond networking, Ekipa has built an open innovation ecosystem based on a crowdsourcing approach. The company expanded its initial focus on students and now also offers young professionals as well as start-ups the opportunity to participate as innovators in the Ekipa ecosystem. Its first clients included the German multinational science and technology company MERCK and the German newspaper Frankfurter Allgemeine Zeitung (F.A.Z.).

Funding & Financing Model

The primary source of revenue for Ekipa, a bootstrapping start-up that has developed without external investment funds, comes from collaborations with companies. Ekipa's innovation programmes are financed by the challenge providers, ensuring that participants incur no extra fees for their involvement.

Intermediary Support Services & Activities

GENERAL SUPPORT

- Design, implementation and organisation of challenge formats.
- Provision of technical infrastructure to streamline challenge organisation, centralise communication and ensure smooth collaboration among participants.
- Support in communication and trust building between stakeholders, specifically expectation management between HEIs, students and companies by setting the scope and content of solutions (for instance, Ekipa provides documentation templates).

TEACHER- AND STUDENT-SPECIFIC SUPPORT

- Design and delivery of guest lectures, seminar series, workshops and coachings that can be integrated into HEI teaching, focusing on topics such as design thinking, pitching and start-up basics.
- Personality and competence development for students and academic staff.
- Supporting collaboration as well as post-collaboration start-up processes to help bring ideas into practice.
- Integration of academic staff into a global network of sustainability-oriented academics (“Academic Alliance”), providing useful methods and tools in preparation of co-creation formats.
- Design and delivery of work assignments specifically targeted to help students develop ownership of their own innovation projects and guide them through an innovation process.
- Creation of teams through matchmaking of participants.
- Mentoring of innovator teams during the challenge process.
- Provision of official certification after challenge completion.
- Setting the collaboration framework which enables students to keep IP rights.

COMPANY-SPECIFIC SUPPORT

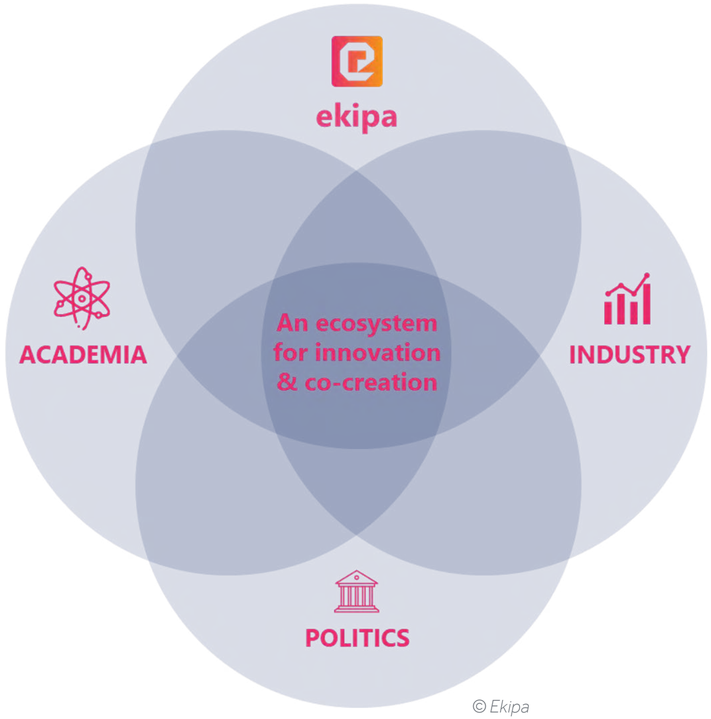
- Provision of a free open innovation assessment for companies to design need- and goal-aligned collaboration formats.
- Joint identification of innovation fields and problems, and their transformation into tangible open innovation challenges.
- Finding and approaching the most suitable innovators for specific challenges.
- Supporting companies in selection of award-winning solutions, based on criteria such as “degree of innovation”, “creativity and originality”, as well as “consideration of the challenge briefing and questions raised in the challenge”.
- Assisting companies in establishing and developing newly initiated cooperations.

Curricular Integration

Ekipa's University Relations Department guarantees flexible integration of collaboration formats into existing course structures to accommodate HEIs' and students' needs. Innovation challenges or programmes can be integrated into the curriculum on a semester or yearly basis. HEIs can work with three to ten organisations with real-world problems, translating the company problems into challenge cases suitable for being worked on by students.

International & Virtual Collaboration

- The Ekipa online platform (app.ekipa.de) functions as a central hub for collaboration between students, businesses, and HEIs. It provides tools for communication, project management, guidance and mentoring, and resource exchange and file sharing, allowing team members to work remotely across different locations and time zones. All information related to the challenge and company cases as well as background information about the respective challenge theme is provided to students via the platform.
- The platform makes up an important element to fulfil Ekipa's objective of transparent communication about programme progress and status updates with universities and companies.
- Co-working of virtual teams is further enabled by using digital software tools such as MURAL.
- Ekipa believes in team diversity as a critical factor for innovative approaches to problem solving, so the Ekipa platform's internal team building process matches team participants with different backgrounds in terms of academic and cultural backgrounds, and skills set.



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EKIPA

Impact

VISION & MISSION STATEMENT

Ekipa positions itself as a "fundamental part of an **innovative and sustainable future**" and states that it wants to "connect and empower courageous people and organizations worldwide" as it is convinced that by doing so it "can positively **change people, markets and our world**."

SUCCESS FACTORS AND ENABLING CONDITIONS

- Familiarity with a wide variety of industries and strong partner network built up through its five-year experience of working on open innovation projects with established companies.
- Strategic focus on the digital generation and transformation helped Ekipa grow and gave rise to new opportunities in the wake of the COVID-19-pandemic, when Ekipa saw new clients come aboard.
- Maximising impact through strengthening internal capabilities and resources: In June 2023, Ekipa started piloting the four-day week company-wide, stating that this means no availability for stakeholders on Fridays, but that these can in turn expect increased productivity of Ekipa staff due to higher levels of well-being and motivation, less absence due to fewer sick days and a more stringent approach to project planning.
- Advanced communication strategy and measures in place to position Ekipa as innovation enabler, for instance through the regular podcast format *peak*, its innovation talk with innovation pioneers from the Ekipa network on topics including innovation, digital transformation, and start-ups. Challenge programmes are accompanied by communication and social media measures such as presentation of challenge results via publications, e.g., the Ekipa Impact Papers and the social media awards.
- Participation in entrepreneurial support programmes such as the scholarship programme offered by Youth Business International helped the company develop its offering and strengthen its network.
- An interdisciplinary and diverse team that brings together expertise from different sectors and disciplines.
- Free student participation and provision of attractive prizes and grants function as attractors for student participation.
- Firm embeddedness in the regional innovation ecosystem, for instance via the former "Frankfurt Valley" network, a central platform for start-ups, corporates, investors, and policymakers in the Rhein Main region in Germany.

RESULTS

- More than 150 challenges have been carried out on the Ekipa platform since 2018.
- More than 15.000 people have participated in Ekipa's innovation programmes.
- More than 300 HEIs have been worked with.
- Ekipa emphasizes that it doesn't merely contribute to idea generation, but the actual creation of sustainable innovations. Several results have emerged after challenge completion in the form of implemented solutions, start-up projects and (research) partnerships, for example:
  - AgraCheck, an agriculture start-up from Ekipa's innovation challenge programme Germany 4.0, successfully developed a „Check24 for farmers." With the challenge partners RWZ Rhein-Main AG and Germany 4.0, they received financial and strategic support to advance their platform for digital technologies in agriculture.
  - Other impressive collaborations include long-term and international (research) collaborations, e.g., between Samsung, newly founded start-up Medac, and a (research) start-up in the Netherlands; between Fraport and a start-up from Japan, or between Rolex and a start-up from Spain.

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EKIPA

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Exemplary Challenge Format: ***Innovate2030 – Digital Natives for a Sustainable Future***

Innovate2030 is an ongoing **global innovation programme series** based on the Sustainable Development Goals of the United Nations, representing one of Ekipa's biggest challenge formats to date. The programme series is co-initiated with the German Environment Agency and calls young people (students, but also researchers, young professionals, and start-ups) to work with real-world problems of established organisations, including companies, and to develop new ideas and solutions for **Europe's digital and sustainable future**.

So far, three editions have been implemented as part of the programme series in the following challenge tracks: SDG12 - Responsible Consumption and Production (2021), SDG11 - Sustainable Cities and Communities (2022), and SDG13 - Climate Action (2023). On average, an edition features five to eight challenges submitted by challenge providers. Winning teams are awarded around 3,000 EUR prize money. In the case that the proof-of-concept is successfully developed by the end of the challenge, winning teams receive the opportunity for implementation of their solution in a joint pilot project.

RESULTS

- More than 1,600 participants, including students.
- More than 20 participating companies.
- More than 470 submissions of innovative solutions.
- More than 65 attendee countries.
- Implemented solutions and subsequent cooperations.

More information at:
https://ekipa.de/programme/innovate-2030/

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Expert interview carried out with company representative (12.12.2022).

BBENG

BBENG (BVIO B.V.)
Business development agency

Est. 2018
Netherlands
Groningen

Number of employees
21

Geographic scope of activities
Regional
(focus on Netherlands and Germany)

Type of intermediary
- ☒ HEI-external
- ☐ HEI-internal
- ☐ Hybrid

Intermediary set-up
- ☒ Single organisation
- ☐ Partnership of multiple organisations

Intermediation for SBC as
- ☒ Primary role
- ☐ Secondary role

BBENG is a consultancy bureau that works to **promote entrepreneurship** and innovation in the north of the Netherlands. With a focus on the **green economy**, BBENG offers services in business development, innovation brokerage, funding consultancy, and communication and marketing.

GBC participants during a study visit of a production facility.
© BG Creative

Background

Founded in 2018, BBENG is made up of a team of entrepreneurs and creatives who specialise in enabling regional transitions in areas such as sustainability, climate adaptation or the labour market, serving clients from government, business, and education. BBENG also works to bring together different parties in result-oriented collaborations. One of its services includes guiding student-business collaboration. The Green Business Challenge is its flagship student-business collaboration format which it runs since 2021, focusing on green and circular economy themes. With launching the Green Business Challenge concept, BBENG wanted to combine two elements: one the one hand, it aims to offer international students a practical introduction to the themes of sustainability, circular economy, bio-based green chemistry, biotech, and climate adaptation. On the other hand, the agency aims to help companies overcome hurdles related to sustainable business development because of lack of financing, time, and personnel.

Funding & Financing Model

- Revenue is generated through provision of consulting services.
- The Green Business Challenge is self-financed by BBENG and supported by in-cash and in-kind sponsorships. In-kind sponsorships may include provision of event locations for carrying out the kick-off and final events of the challenge.
- Challenge owners pay a participation fee.
- Through programme partnerships, partners provide important content elements such as events, providing expert input, tools and networking for the programme.
- In addition, BBENG has received a 60.000 EUR grant for the time period September 2022 to May 2023 through the EU Erasmus+ programme to support the development of the Green Business Challenge Toolkit, an innovative toolkit aimed at disseminating and scaling the Green Business Challenge concept to youth work organisations across Europe.

Intermediary Support Services & Activities

GENERAL SUPPORT

- Development of programme content for the Green Business Challenge concept on the themes of circular economy, biobased and circular product design, biocomposites, green chemistry, and climate change.
- Operational management and organisation of the challenge format across five locations, including guidance through the four phases of the Green Business Challenge model (see image „The GBC-Model“ on p. 19) and accompaniment of participating students during the challenge.
- Acquisition of external stakeholders, including companies as case owners as well as partners supporting the challenge.
- Acquisition of students via partner networks.
- Event management, including the organisation of the final challenge event with student pitches as a public event.
- Extensive communication and marketing around the challenge carried out by two BBENG staff members.

COMPANY-SPECIFIC SUPPORT

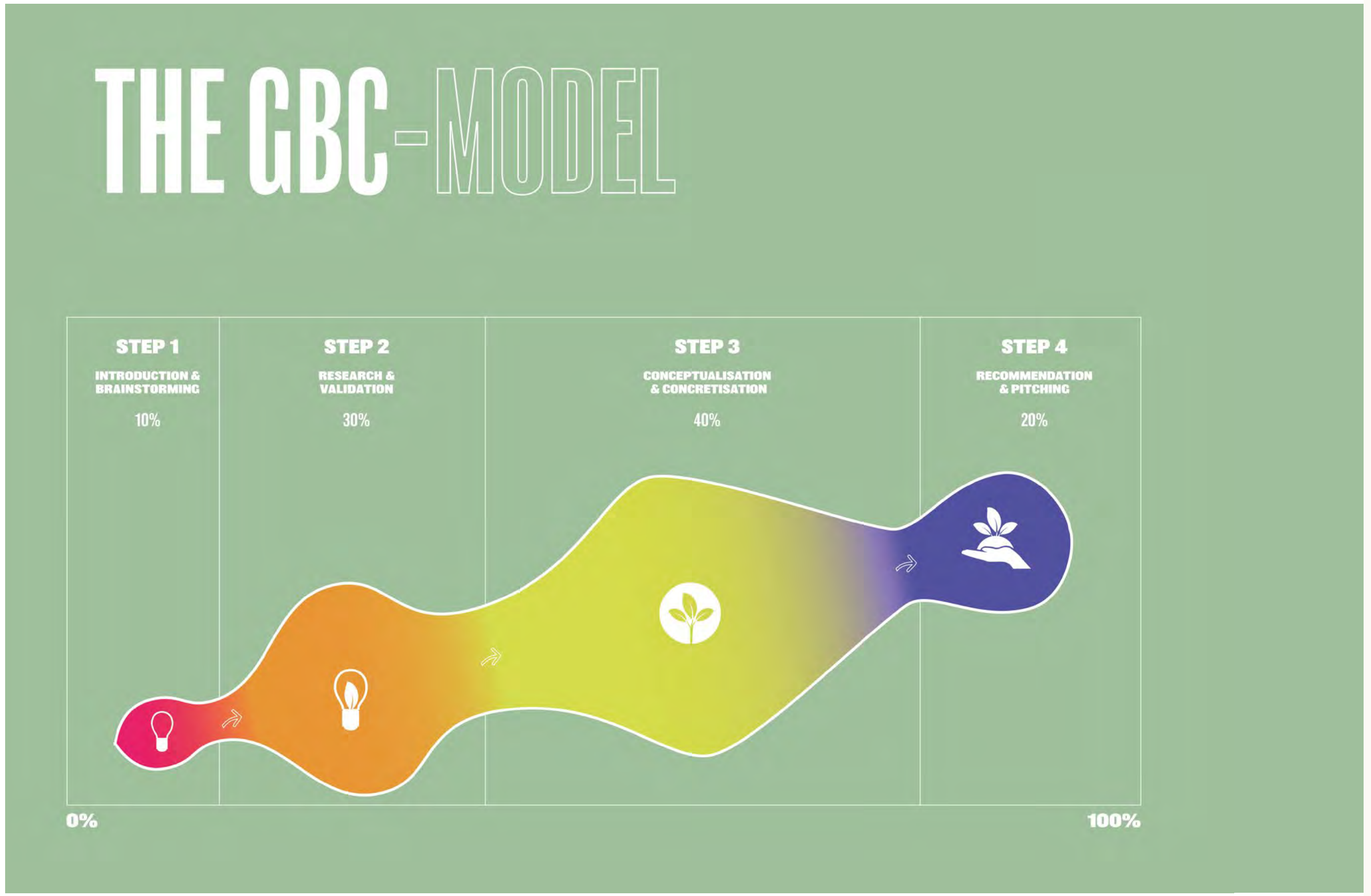
- Development of a common understanding of the problem faced by the company.
- Guidance of participating company representatives in their roles as challenge owners or supervisors through expectation management and provision of relevant information regarding interaction with the student teams and expected inputs.
- Quality management of the challenge process, including continuous checks to ensure adequate use of resources, high quality of challenge outcomes and meeting of official agreements.
- Visibility through communications and marketing around the company and the solutions developed for its challenge, for instance in the form of a challenge aftermovie for each company case.
- Network building by providing challenge partners with the opportunity to forge cooperations with other challenge partners.

A student team discusses their ideas. © BBENG

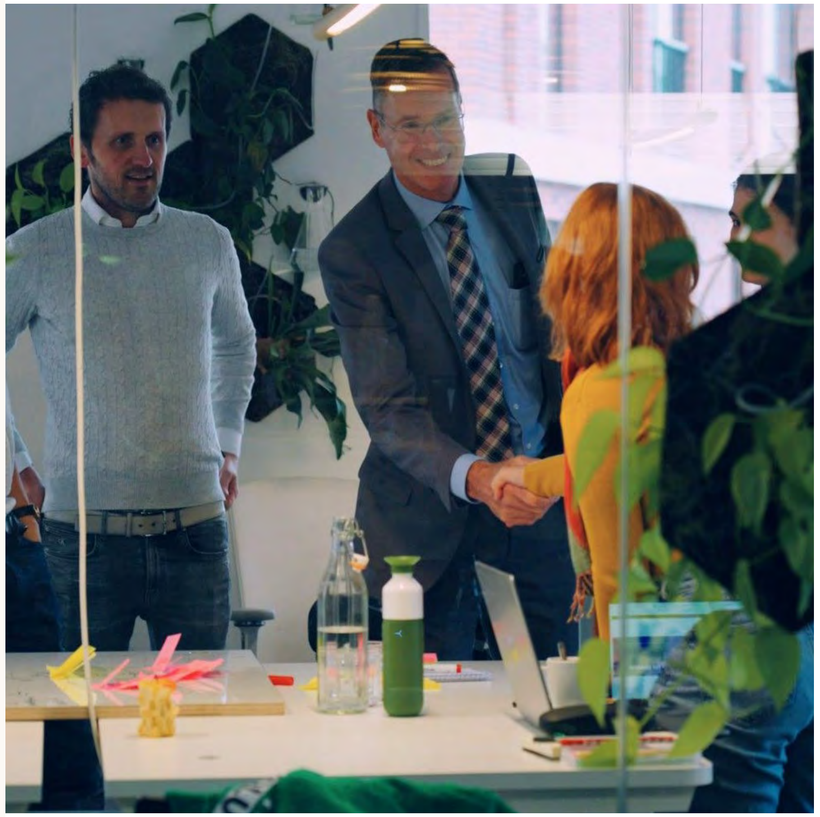
Intermediary Support Services & Activities

TEACHER- AND STUDENT-SPECIFIC SUPPORT

- Offer of free of charge participation in the Green Business Challenge for students, including sustainable food and travel options.
- Development of challenge briefing containing detailed information about challenge owner, challenge history, and directions and criteria for solutions, indicating previous ideas or actions.
- Provision of one supervisor per team who shares expert knowledge.
- Provision of guidance to students throughout the challenge, e.g., through structuring team organisation by appointing team leaders as well as coordination of daily stand-ups which allow for regular exchange and give students the opportunity to report on their team progress.
- Organisation of expert input provided at each location from theme specialists, business developers, university professors, e.g., in the form of workshops and thematic sessions.
- Guarantee of availability of challenge owners to students throughout the programme for feedback on the developed ideas.
- Organisation of opportunities for social interaction and gatherings.
- Provision of certificates of recognition as well as awards and prizes, for instance the Green Business Challenge ambassador prize which grants challenge winners travels including university and business visits.



The GBC-Model. Source: Green Business Challenge Toolkit.



Students meet with a challenge owner. © BG Creative

Curricular Integration

While the Green Business Challenge is organised independently of HEIs, BEENG puts emphasis on connecting with educational systems and cooperating with HEIs and their entrepreneurship centres for mutual learning. For instance, BBENG partners with universities as partners who provide supervisors and theme experts for the student teams and to make the challenge programme available for curricular integration. BBENG plans to expand on these partnerships and collaborations in the future by setting up multiple editions a year with different lead partners. A pilot for curricular incorporation of the approach is an option BBENG wants to pursue.

International & Virtual Collaboration

- The challenge programme is open to students and young professionals from all around the world, with around 15 nationalities represented by participating students each year. Given the regional focus of the challenge programme, most participants recruited come from Germany and the Netherlands, with a small proportion of students travelling from other places in or outside of Europe.
- In the past editions, five different locations have been travelled to during the challenge: Leeuwarden, Meppel, Emmen, and Groningen in the Netherlands, as well as Oldenburg in Germany.
- While most events during the challenge programme take place in person, hybrid events are organised using video conferencing software.
- Technology integration: BBENG uses TAEMio software to support the building, matching and meeting of student teams and to improve team performance and collaboration throughout the challenge programme.
- BBENG provides an online environment (Dropbox folder) to provide content such as a handbook, briefings and forms to enable other organisations to successfully organise their own Green Business Challenge format.

BBENG

Impact

VISION & MISSION STATEMENT

BBENG is driven by curiosity, connection and action. The consultancy aims to make a **positive impact on their environment and region** by supporting sustainable and circular initiatives. Their mission is to help entrepreneurs, start-ups and SMEs **turn their challenges into opportunities for sustainable transitions.**

GBC participants at their stop-over in Oldenburg, Germany. © BBENG

RESULTS

- Annually, around 30-35 young professionals (students and starters) develop eight impact solutions for eight companies, leading to environmental and economic benefits.
- Student participants develop concrete and practical advice for the challenge owners, presenting this in the form of reports, presentations and / or sustainable business model canvases. In addition, students provide an implementation plan for the companies to enable direct implementation of the solutions developed.
- Companies are connected within networks and the wider circular business ecosystem, strengthening collaboration for innovation in the regions Northern Netherlands and Northwestern Germany.
- Scaling the Green Business Challenge concept: The Green Business Challenge Toolkit enables replication of the concept, allowing youth work organisations to implement their own challenge programme to empower youth to learn about business development in the green economy and make an impact.

SUCCESS FACTORS AND ENABLING CONDITIONS

- With great expertise in the green economy, BBENG weaves its working topics such as bio composites, climate adaptation, circular economy, etc. into the development of its challenge programme.
- BBENG has taken a cross-border regional focus on the North of Netherlands and the Northwest of Germany, building on its strong network to both strengthen its regional partnerships and gradually expand its challenge concept to more regions and countries.
- BBENG bases the selection of company partners as challenge owners on actual company needs to ensure that the solutions developed by students are implemented. Also, commitment of companies in terms of time and effort investment is a key criterion in selecting company partners.
- Strong marketing strategy, driven by the communications expertise within the BBENG team. The Green Business Challenge is established as a brand through various channels and networks.

BBENG

Exemplary Challenge Format: **Green Business Challenge – Circular Edition (2022)**

The Green Business Challenge Edition Circular took place 6-11 November 2022. **31 international students** participated, working on a circular challenge in teams of four. For the duration of a week, they travelled to five locations with electric cars, visiting their case owners and other companies who provided expert input for their impact solutions.

The Green Business Challenge 2022 was supported by a range of partners, including the regional administrations of Friesland, Groningen and Drenthe, the city administrations of Meppel and Groningen, circular economy initiatives such as Noord-Nederland verdient Circulair and NICE Northern Innovation Lab Circular Economy as well as academic institutions such as the University of Oldenburg, University of Groningen, University of Applied Sciences Groningen, NHL Stenden.

RESULTS

The student teams developed:

- an idea for a new product application for a high-quality and clean medical waste stream coming from hospitals, for Friesland-based circular plastic producer Keunsto.
- a recycling solution for ropes for the Harlingen-based marine wholesaler BijRinus.
- sustainable packaging, transport and delivery solutions of internal doors to construction sites for door specialist BPZ - Van Vuuren.
- an eco-friendly packaging solution, for Groningen-based mustard supplier Marne Mosterd.
- ideas for scaling sustainable coffins from hemp seeds and mycelium produced by Groningen-based start-up MyCoffin.
- a development and funding concept for a circular economy living lab, for NICE Northern Innovation Lab Circular Economy.
- ideas for changing public perception and raising awareness of the benefits of tree harvesting, for the Dutch Forestry Commission Staatsbosbeheer.
- a circular experience concept for the EnergyHub050 building as a circular showcase of new materials and solutions from the region, for the educational institution Alfa College in Groningen.

Student participants with challenge owner Marne Mosterd and a business coach.
© BG Creative

© BBENG

PUBLIC CONTACT DETAILS

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ECIU UNIVERSITY

ECIU University
University alliance

Est. 2019
Europe
Twente

Size
14 member universities (uniting over 300,000 students and 46,000 staff) and more than 33 associates (including national and regional authorities, cities, enterprises, associations and agencies).

Joint governance structure: central office in Brussels, presidium, board, and institutional coordination (46 people from 14 member universities).

Geographic scope of activities
International (focus on Europe)

Type of intermediary
☐ HEI-external ☐ HEI-internal ☒ Hybrid

Intermediary set-up
☐ Single organisation
☒ Partnership of multiple organisations

Intermediation for SBC as
☒ Primary role ☐ Secondary role

ECIU University is an **alliance of 14 HEIs across Europe**, including one university in Mexico. It enables learners, academic staff, and researchers to work together with businesses, but also NGOs and municipalities, to solve real-life challenges, focusing especially on solutions contributing to SDG 11 – Sustainable Cities and Communities. ECIU University represents one of the 50 European University alliances formed under the European University Initiative – the flagship initiative of the European strategy for universities which aims to support 60 transnational alliances of HEIs by 2024.

Background

ECIU University emerged in November 2019 out of the ECIU (European Consortium of Innovative Universities), a network of selected European HEIs founded in 1997. A common dimension of the HEIs participating in the network is the entrepreneurial orientation and the commitment to ensuring an institutional nature of innovation. The original focus of the network was placed on research cooperation, joint study programmes, expert groups and project- and problem-based learning. In 2019, the Erasmus+ project focus led to the organisational development towards the ECIU University which instigated a challenge-based approach to create learning opportunities across the HEI network. Following the pilot phase with small-scale experimentation with challenges and micro-modules from 2019-2022, the project partners are now more focused on building and growing innovation communities and hubs via both physical and virtual spaces, developing engagement platforms, looking at new target groups, employing central staff as well as exploring legal structures. ECIU University aims to create a "collaborative ecosystem where universities are key players."

Funding & Financing Model

- As a European University alliance, ECIU University receives funding through the Erasmus+ programme.
- Next to their Erasmus+ financial support as main source of funding, European University alliances can access additional funding schemes. ECIU University receives complementary financial support for its SMART-ER project (see "International and virtual collaboration") which is implemented under the EU Research and Innovation programme Horizon 2020 part "Science with and for Society" (SwafS).
- The long-term goal of ECIU University is to establish a sustainable funding model in collaboration with the European Union and national governments, moving towards a mixed funding model that combines free, cost-based and for-profit services. For instance, the concept of micro-credentials may be a suitable business model for ECIU University, allowing professionals to enhance their skills while contributing to a smart upskilling of Europe's workforce.

ECIU UNIVERSITY

Intermediary Support Services & Activities

GENERAL SUPPORT

- Design, development and coordination of European learning pathways with micro-credentials at the core, and portfolio through combinations of learning offers from the 14 ECIU member universities.
- Setting the topics of focus related to the SDGs: circular economy, energy and sustainability, resilient communities, and transport and mobility. These are complemented by additional focus topics such as entrepreneurship, technology and innovation, transversal competencies, and language learning.
- Provision of technical infrastructure and tools such as the ECIU Digital Experience Platform to enable online matchmaking, building of communities of practice, multi-stakeholder collaboration and exchange on a European level.

SUPPORT FOR COMPANIES AND OTHER SOCIETAL STAKEHOLDERS

- Coordination and contact with external stakeholders who are not only seen as challenge suppliers, but are also actively involved in the challenge process, participating as external specialists, co-learning members, or solution adopters.
- Set-up of and coordination of Local Partnership Arenas in which potential challenge ideas are developed by company and public sector representatives together with academic staff and learners.
- Organisation of Society Quest Events (SQE) during which several external stakeholders can present the problems they face in their respective region – whether as a company, municipality, regional development agency, or NGO – and enter into discussion with ECIU University staff to frame the problem and determine the right format for challenges. The SQE provide opportunity for external stakeholders to humanise the challenge through personal narratives and storytelling.

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Intermediary Support Services & Activities

TEACHER- AND STUDENT-SPECIFIC SUPPORT

- Offer and coordination of two ECIU University learning opportunities for learners, including students:
  - **Challenges:** Courses that engage teams of students, academic staff and external stakeholders such as business representatives to solve real-life problems using the CBL approach. These can range from a few days to several months.
  - **Micro-modules:** Supplementary courses that are offered by ECIU member universities and provide additional knowledge and skills helpful for engaging in challenges. Micro-modules can be selected flexibly based on the learner's needs and may take the form of online courses, study packages, summer schools, research projects, or industry courses.
- Screening and final selection of suggested challenges collected within the ECIU University network, based on criteria such as relevance and impact potential of the challenge as well as there being no solution to the challenge.
- Services management via a virtual ECIU Office for Learners' Services, built up around common e-mail inboxes and a network of admission officers from all member HEIs who handle pre-application and post-application requests. Gradually, and in response to evaluation results, more options for individualised support systems to increase user-friendliness and quality have been created and added.
- Central organisation of the admission process to challenges via the ECIU platform (while actual admission takes place at the member HEI).
- Coordination and provision of financial support for mobility of students and academic staff in the frame of challenges and micro-credentials through a dedicated ECIU mobility fund or from Erasmus+.
- Provision of the ECIU Student Community, a digital student community platform offered via Facebook for all students of ECIU member universities. In the community, students receive information regarding ECIU Students' News and Events and can share tips and best practices regarding challenges, mobility and social interaction.
- Coordination of the ECIU Student Agora, a forum for students to offer support to each other in the context of challenges and micro-credentials. Since launching in 2021, student representatives lead several focus groups to facilitate cross-cultural discussion among students about the future of education.
- Provision of a motivation scan for students to determine the most suitable challenges or micro-credentials based on individual needs and interests.
- Training of academic staff through workshops on CBL principles, roundtables to foster exchange and peer feedback as well as a tandem system ("PraxisDUO") at each university.
- Operation of Innovation of Education Labs at each member university where academic staff can provide and receive support in implementing challenge-based education in their classroom. The labs are both physical and virtual spaces where academic staff innovate and deliver classes, meet other academic staff and share experiences and best practices in CBL.
- Annual issuance of the ECIU Team Award to interdisciplinary academic staff teams of ECIU member HEIs who promote innovative teaching and learning practices.
- Upon challenge completion, students receive an ECIU University certificate or an e-sealed micro-credential, with the option of applying for a diploma supplement.
- Issuance of a European Learning Passport which documents the learner progress and obtained competencies through participation in challenges and micro-credentials and allows for renewal or adding of further learning offers.
- In the future, ECIU University will offer localised support for learners through its ECIU Learners Service Centres which will be located at each ECIU member HEI.

ECIU UNIVERSITY

Curricular Integration

- In the pilot phase, ECIU University embedded challenges in preexisting university modules as this allowed for quick implementation. At the same time, it experimented with extra-curricular short-term formats which did not offer ECTS such as the Creathon format. From this, formats emerged which combine flexible forms of co-creation all while providing a regular educational programme, an example being the InGenious project.
- The current framework foresees students being enrolled in one of the ECIU member HEIs and having completed at least 120 ECTS to be eligible for participation in ECIU University's learning opportunities. The possibility for participation of students outside the ECIU University network is granted in some cases.
- In the long-term, ECIU University is moving towards an educational model that includes students from the member universities, but also continuous learners looking for upskilling and reskilling of their competencies and skills. This is in line with its goal of making education more flexible, going from offering degree-based to challenge-based learning pathways.
- Depending on the workload and learning outcomes, between 1-30 ECTS points are awarded for participating in selected challenges or micro-credentials.
- ECIU University experiments with different ways of integrating the CBL approach into the curriculum, e.g. development of the Strategic Challenge concept which fuses a team challenge with working on a Master's thesis linked to the topic of the challenge. The first Strategic Challenge "ECIU Master's Challenge: Climate Neutral Campus Europe" was launched in 2022.

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ECIU UNIVERSITY

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International & Virtual Collaboration

- ECIU University operates a "hybrid space model" to ensure the delivery of both educational services at the local level as well as the wider European level through providing digitally enabled flexible learning possibilities.
- ECIU University places digital transformation at the core of its ecosystem. Its vision for 2030 is to function "as a hybrid, digitally enabled learning, innovation and knowledge space with fit for purpose, low-cost, high-quality and people-centric services." To bring this vision to life, it is developing an IT-enabled European "inter-university campus." This includes the development of an ECIU Digital eXperience Platform (DXP) with customer journeys for key stakeholders. A minimum viable system was launched end of 2022 and will be further developed in several steps until 2030. This includes the use of AI systems to support the matching of learners' needs with educational content. Preceding the launch of the ECIU DXP, challenges were posted via the ECIU University challenge platform (CHAD) as well as handled manually via the ECIU main website. Further platform development and expansion is aimed at empowering "European people and organisations to build open European knowledge-creating teams where societal stakeholders together with learners and academics solve real world challenges."
- To connect its campuses and communities, ECIU University has developed an educational metaverse that can be accessed anywhere, anytime. The ECIU Extended Reality (XR) Campus was launched in September 2021, providing learners, including students, with an environment for enhanced learning as well as interaction with academic staff and societal actors such as companies. For example, students can interact in small groups in virtual rooms which will adapt based on the themes discussed. The XR Campus was developed by Helsinki-based virtual reality creator Zoan, in cooperation with ECIU member Tampere University.
- ECIU University features three Challenge Innovation Hubs set up in northern, central, and southern Europe: Innovation Hub North coordinated by Linköping University (Sweden), Innovation Hub Mid coordinated by Hamburg University of Technology (Germany), and Innovation Hub South coordinated by Universitat Autònoma de Barcelona (Spain). These are used as physical and virtual spaces for co-creation, formulation, and revision of relevant challenges as well as development of a new model for results valorisation.
- ECIU University is supported by the ESEU (European Status for a ECIU University) project, of which all ECIU members as well as national authorities and European organisations are a partner. The project explores the possibility of a European legal status for European universities as an institutionalised instrument to achieve deeper and longer-term forms of cooperation between European HEIs.
- Based on the rapid development of digital infrastructures across Europe, ECIU University is establishing the European Virtual Research Institute SMART-ER to facilitate international connectedness of regions.

ECIU UNIVERSITY

Impact

VISION & MISSION STATEMENT

ECIU University envisions a European ecosystem based on "open and inclusive collaboration connecting societal stakeholders, researchers and learners" who jointly develop solutions to future societal challenges for real impact. Its mission is to create a playground for collaboration and learning opportunities by championing an innovative "university model based upon co-creation." The main elements of its Vision 2030 make up "open community", "cutting-edge technologies", "innovative co-creation model", and "European education and research".

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RESULTS

- In the ECIU University pilot phase 2019-2022:
  - more than **82 challenges** and **126 micro-modules** have been offered through the ECIU platform,
  - more than **600 learners**, including **400 students**, participated in challenges,
  - more than **150 academic staff members** co-created learning opportunities and challenges,
  - more than **100 companies, NGOs and public organisations** submitted their challenges.
- ECIU University represents a collective effort to enhance the societal impact of universities in Europe at the local, national, and European levels.

SUCCESS FACTORS AND ENABLING CONDITIONS

- As a university alliance of the European Universities' initiative, ECIU University benefits from the substantial financial resources offered by the initiative and the political attention it receives.
- Trust and familiarity built among the partners during more than 20 years of collaboration help to deliver on ECIU University's ambitions to innovate higher education in Europe through CBL.
- Uniting the experience of 13 European HEIs has built a strong momentum, combining different expertise and backgrounds to experiment with new educational models. For instance, ECIU University builds on each member university's strengths, allocating topic foci based on existing expertise, e.g. Tampere University taking the lead in digital learning, Dublin City University taking the lead in micro-credentials.
- User-centred development: Students are actively involved in the development of the ECIU University, e.g., through participating in vision workshops and informing input for joint policies.
- ECIU University's board is made up of members of all member universities, but also includes societal stakeholders, such as people from industry, social entrepreneurs, local mayors and students.
- ECIU University demonstrates organisational flexibility and future orientation as it has recognised the need for flexibility among students and the increased need for lifelong learning. Based on these insights, it has developed an innovative educational model open to all kinds of learners, from students to citizens.
- Clear branding as the European challenge-based university with a focus on SDG11.

ECIU UNIVERSITY

Exemplary Challenge Format: CO_2 reduction plan for Scania Lithuania

In its first challenge submitted to the ECIU University platform in spring 2022, transport company **Scania Lithuania** asked students to help the company **reduce its CO_2 footprint**. Over three months, an international team of four students from various engineering fields at the Kaunas University of Technology in Lithuania, the National Institute of Applied Sciences in France, and University of Stavanger in Norway, developed a CO_2 reduction plan, **mentored by a university professor** and lecturer at Kaunas University of Technology.

© KTU Kaunas University of Technology

RESULTS

- The students developed a comprehensive sustainability plan and CO_2 footprint reduction package for Scania Lithuania, which included proposals for fuel saving and electricity generation, including a plan for the installation of solar cells. The student team also included an employee reward system for motivating employees to reduce their CO_2 footprint through electricity, office supplies and fuel savings.
- According to the students, participation in the challenge helped them gain new knowledge as well as experience in teamwork, time planning, creative thinking and presenting ideas.
- Challenge owner Scania Lithuania is planning to implement some of the sustainability plan elements over the next two to three years, saying the plan will help Scania Lithuania take steps forward on its sustainability journey.
- As noted by the professor mentoring the student team, the students' developed ideas are not only important for the challenge owner Scania Lithuania, but also of relevance for other Lithuanian companies intent on reducing their environmental impact.
- One of the solutions regarding printing optimisation proposed by the students will be implemented at one of the faculties at Kaunas University of Technology.

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ALMI EAST SWEDEN & LIU

Almi East Sweden AB & **Linköping University (LiU)**
Business developer and financial intermediary | Public university

Est. 2016 | Est. 1975
Sweden | Sweden
Norrköping | Linköping

Number of employees
4

Geographic scope of activities
National / International

Type of intermediary
- ☐ HEI-external
- ☐ HEI-internal
- ☒ Hybrid

Intermediary set-up
- ☐ Single organisation
- ☒ Partnership of multiple organisations

Intermediation for SBC as
- ☐ Primary role
- ☒ Secondary role

Students during a study visit at Apptek. © Almi East Sweden AB

Almi East Sweden AB is a subsidiary of Almi Företagspartner I Östergötland AB, a state-owned company in Sweden that offers business development and financing services to start-ups and SMEs. Together with Linköping University (LiU), Almi East Sweden AB offers students the one-semester challenge-based **InGenious project course**. Students receive the opportunity to apply their knowledge and skills in projects supplied by regional companies and organisations.

Background

The InGenious course is offered at Linköping University, a state university in Linköping, southern Sweden and one of Sweden's larger academic institutions that was granted full university status in 1975. Since 2016, academic staff, including InGenious course supervisor and examiner Professor Charlotte Norrman, started to co-develop the InGenious course together with Almi East Sweden AB. The course has been continuously adapted over the years, based on regular exchange with academic staff from other universities in the ECIU University network, including Twente University and Stavanger University.

Funding & Financing Model

Almi East Sweden receives funding from Linköping University, Linköping Municipality, Norrköping Municipality, and Östergötland Region.

ALMI EAST SWEDEN & LIU

Plantit, the student team who won best pitch award in the autumn 2022 course. © Almi East Sweden AB

Intermediary Support Services & Activities

GENERAL SUPPORT

- Design and delivery of the four-month inGenious course and its innovation, entrepreneurship and sustainability contents by LiU.
- Coordination of the partner recruitment process by Almi East Sweden AB, using its extensive network to scout for and contact potential challenge providers.

TEACHER- AND STUDENT-SPECIFIC SUPPORT

- Matching of students with challenge projects, coordinated by Almi East Sweden AB.
- Joint provision of support and mentoring to students throughout the course, for example in idea development and pitch training and guiding the group process.
- Joint organisation of course events such as the public final graduation event which features student pitches and alumni presentations.
- Provision of continued support for InGenious participants who would like to receive more training after the course or continue to develop their solution.

COMPANY-SPECIFIC SUPPORT

Challenge partners receive support from Almi East Sweden AB in:

- formulating their challenge briefs to adequately convey their specific problems and necessary information to students.
- communicating and engaging with students throughout the course, e.g. in meetings.

ALMI EAST SWEDEN & LIU

Curricular Integration

The InGenious course runs in both the spring and autumn semesters and is awarded 8 ECTS credit points. The course is examined through hand-in group assignments, including a project plan and final report, active participation in seminars and pitches, as well as an individual reflection. Participation is open to students from all fields of study at LiU and requires students to have completed a minimum of 90 ECTS from undergraduate studies. The course is organised by the division of Project Innovation and Entrepreneurship at the Faculty of Science and Engineering at LiU and linked to and determined by LiU's Faculty of Arts and Sciences' Course and Programme Syllabus Board.

International & Virtual Collaboration

- The course takes place in an international environment and is carried out in English to enable participation of exchange and international students.
- The LiU International Office is involved in enabling the periodic integration of the InGenious course as a challenge offer at the Challenge platform of ECIU University (see good practice ECIU University). This means that student groups may be hybrid if one or more ECIU University students are part of the group. In this case, certain course elements are adapted for online implementation, such as integrating online pitches at the final course event and live broadcasting to other universities of the ECIU University.
- The course contains on-site course events at the university and as well as off-site course events at innovative business environments.

Student group visiting challenge provider Siemens Energy in Finspång. © Almi East Sweden AB

ALMI EAST SWEDEN & LIU

Impact

VISION & MISSION STATEMENT

Almi East Sweden AB and Linköping University use the **UN SDGs** as the overarching framework for designing and delivering the InGenious course. Their mission is to support the development of sustainable solutions, while encouraging student work across different disciplines and perspectives.

A student team pitches their business idea at the InGenious final graduation event.
© Almi East Sweden AB

RESULTS

- Since 2016, more than 300 students have participated in more than 70 challenge projects.
- Students own their solutions and may sell them to challenge providers, usually for around EUR 500-5000. On average, challenge providers buy around two challenges per semester. Students may also develop their ideas further with support from Student Innovation by LiU. Several ideas developed in the InGenious course have been built upon, for instance the company Signostium (automatic and sustainable stairwell information in all apartment buildings) was created from a challenge provided by Desquare.

SUCCESS FACTORS AND ENABLING CONDITIONS

- Almi East Sweden AB and LiU have benefited from synergies in their strategic partnership, complementing each others resources and strengths to achieve impact in the educational system as well as the Östergötland region. While Almi East Sweden AB has used its large network to act as a bridge between LiU, the public sector and industry in the Östergötland region in Southern Sweden, LiU has been an invaluable partner for fostering sustainable innovations in the region.
- The membership and long-term involvement of LiU in the European-wide ECIU network has enabled cooperations such as the integration of the InGenious course into the ECIU University platform offer. In this case, ECIU University provided an environment for experimentation. As a result, the innovative course can be accessed by more students on a European scale and has also benefitted from continuous course improvements inspired by the professional exchange with the ECIU University network members.

ALMI EAST SWEDEN & LIU

Exemplary Challenge Format:

InGenious – Cross-Disciplinary Project (Autumn 2022 Edition)

Running from 31 August to 13 December 2022, 40 students with different study backgrounds, e.g., Industrial Engineering and Management, Cognitive Science, Business & Economics, and Graphic Design, worked on six challenges provided by challenge providers from the region. Next to lectures in entrepreneurship and innovation, the course delivered workshops such as "shitty prototyping" in which, together with their challenge providers, students visualised their challenges and built prototypes made of "shitty" material. This helped to create a common understanding around the challenge and was conducive for team building.

The educational content was supplemented with site visits in the region. For instance, the company representative of the challenge provider Siemens Energy offered his student team a study visit of the office and production site, conveying an increased understanding of the complexity of the business in terms of material and knowledge flows. Pitches of the student ideas using the value creation forum (VCF)-method to provide constructive peer feedback were carried out mid-term. The course culminated in the final graduation event which featured student pitches, judged by a jury consisting of representatives from Almi Företagspartner, Linköping Science Park, and Lead, the LiU business incubator.

RESULTS

- Challenge providers bought four student projects, for between 400 to 2000 EUR.
- Two students were offered job positions at their respective challenge provider.

Students during the "shitty prototyping workshop".
© Almi East Sweden AB

PUBLIC CONTACT DETAILS

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DEMOLA

Demola Global Oy
Innovation challenge platform

Est. 2008
Finland
Tampere

Number of employees
13

Geographic scope of activities
International

Type of intermediary
- ☐ HEI-external
- ☐ HEI-internal
- ☒ Hybrid

Intermediary set-up
- ☐ Single organisation
- ☒ Partnership of multiple organisations

Intermediation for SBC as
- ☒ Primary role
- ☐ Secondary role

Demola is an **open innovation platform** operating internationally, bringing together university students, HEI faculty, leading organisations and companies in challenge projects to create collective impact. Interdisciplinary student teams are invited to develop solutions for challenges of company partners. Demola is run by Tampere-based **Demola Global Oy** (formerly New Factory International Oy), who provides the platform services for regional universities, municipalities, and companies. Demola Global runs innovation projects, designs and publishes project topics, coordinates selection of students and as well as student marketing together with partner universities. Demola experts are actively involved in co-creating results together with the teams.

Background

Demola was founded in 2008 by Hermia Oy, a semi-public Finnish innovation and technology agency and network builder, in cooperation with the Nokia Research Centre in Tampere, and operated together with Tampere University, Tampere University of Technology, and TAMK University of Applied Sciences. The initial focus of the public-private partnership was to provide a collaborative environment for students and ICT and media companies operating in the Tampere region in Finland to co-create product and service concepts. The aim was to build a new culture and processes to boost innovation activities and move "from science-driven R&D to demo-driven innovation". While Tampere represented the first operational node of Demola, the end of funding through the regional development programme "Creative Tampere" in 2011 and the access to new funding programmes led to internationalisation of the Demola model. By 2012, New Factory International (now Demola Global) was set-up, activating Demola operations in Vilnius, Lithuania and Budapest, Hungary. Around 2015, a turn in internationalisation was seen when major global companies joined the Demola network. Since then, the Demola standardised model and Finnish regional site structure have been expanded to more than 18 countries and are adapted based on local functioning of collaborative innovation systems.

Funding & Financing Model

- Demola was launched through revenue-based financing between 2008-2011 in the City of Tampere Business Development Programme "Creative Tampere". In addition, funding was provided by the Nokia Research Centre which also supported the set-up of the demo factory in Tampere, Demola's first operational node.
- Revenue is generated through Demola service fees for companies. Main revenue streams come from innovation projects and talent acquisition.
- In the establishment of Demola regional sites, public sector organisations act as co-creation partners, but also funding agents.
- Funding received through national and regional funding programmes.
- Funding received through participation in EU innovation projects such as the Erasmus2027 project "Co-Creating a New Form of Governance in Societal Transition for Healthy Living", together with a consortium of nine European cooperation partners.

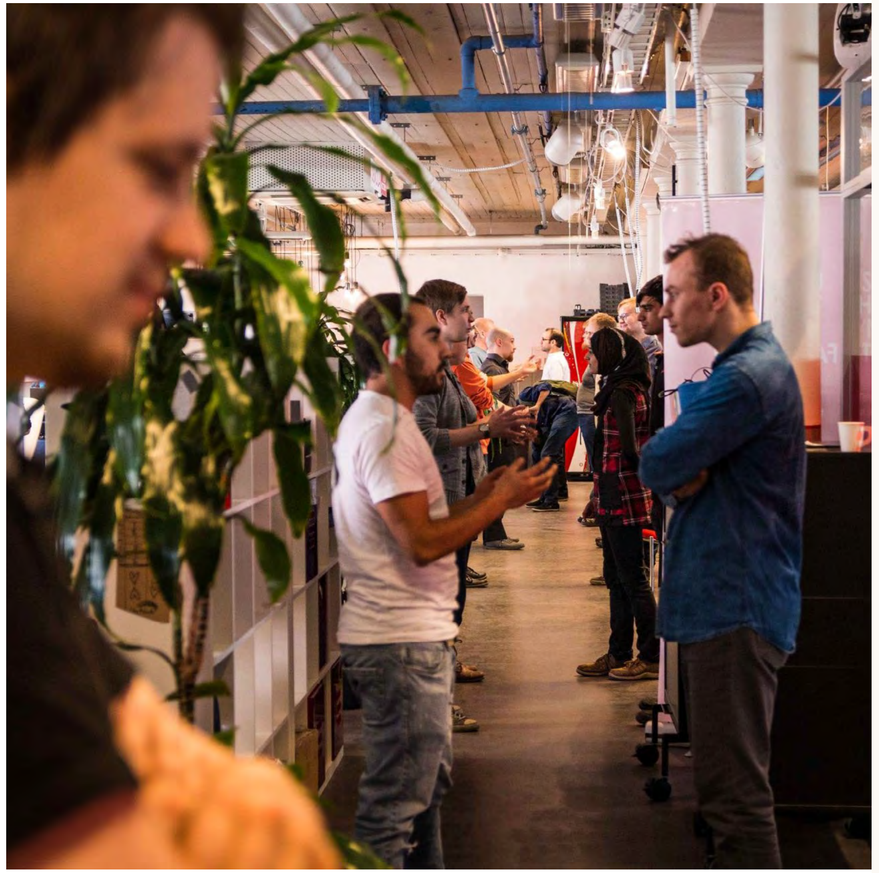
Intermediary Support Services & Activities

GENERAL SUPPORT

- As the Demola Network Coordinator, Demola Global takes on the role of the Demola model manager and provides the overall co-creation framework including processes, tools and methods as well as training of local operators and facilitators of the Demola model.
- Facilitation of on average eight-week challenge formats with four key events (kick-off, jams, and final meeting) and three work phases (discovery, ideation and prototyping, refine and package).
- Provision of the Demola digital platform with option for profile registration as well as showcase of available innovation challenges open for application, filterable by theme, type of collaboration (online or in-person), location and language.
- Organisation of Demola community events such as coaching programmes, boot camps, milestone events, and alumni meet-ups.
- Coordination of all marketing and social media communication activities.

COMPANY-SPECIFIC SUPPORT

- Organisation of open innovation partnerships for companies, consisting of individual Demola projects. For each individual project, Demola facilitates the forming of student project groups which are selected in coordination with the company partner. Demola also administers needed agreements between companies and the project groups and the Demola Network (university partners and local Demola operators).
- Coordination of the design process of the company case and organisation of subsequent workshops and meetings to support participating company representatives.
- Support in developing challenge projects that are tailored to the recruitment needs of the company and foster early talent engagement and help build brand awareness.
- Support and training in showcasing company expertise in the form of mentorship in challenge formats.
- Provision of tailored services and resources to curate content for companies and the further development of their organisational strategies through trend analysis and scenario building.
- Offer of Hub Partnership for companies who would like to join local Demola activities.
- Supporting companies in employer **branding** and creating connections to next generation talent.



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Intermediary Support Services & Activities

TEACHER- AND STUDENT-SPECIFIC SUPPORT

- Offer of integrating Demola projects into the university curriculum, including building and facilitation of teams, coordination of the online application process, performance and skills evaluation, management of agreements and IPR frameworks, and issuance of verified certificates.
- Provision of teacher training programmes in Demola regional hubs, with a focus on co-creation methodologies and online facilitation.
- Offer of the Demola TeamHub supports students in becoming part of interdisciplinary student teams and an international community of innovating students. International collaboration with student peers is supported through progress tracking and time management tools and access to a Demola chat.
- Team members of student teams own the rights to the solutions they develop during Demola innovation projects.
- Issuance of Demola certificate that can be added to professional network profiles such as LinkedIn.
- Support of all student teams through designated Demola co-creation experts who accompany students by providing support in decision making, connecting to experts, guidance through the challenge topic and granting access to background material from previous projects, conveying design thinking, foresight, and systems thinking methodologies.
- Facilitation of global thematic student groups by Demola co-creation experts who help student teams to meet each other and enter into discussion across individual challenge formats.

Curricular Integration

The nature of the Demola model as a public-private partnership between an innovation agency and three HEIs means that enabling integration of innovation projects into university curricula lies at the core of Demola. Currently, Demola innovation projects can be integrated as part of credited university study courses under the “Demola for Campus” programme. The projects can either be offered as tailored university courses or be incorporated into existing courses and modules. Up to 10 ECTS credits are allocated for a standard Demola project. Students may participate in several Demola projects, however, only receive ECTS credit points once.

International & Virtual Collaboration

- In the start-up phase of Demola, when co-creation activities were still mostly based in the Tampere region, international students already made up 35% of participating students in innovation projects and focus was placed on cooperation with internationally operating companies. This paved the way for internationalisation of the Demola model.
- Operation of international Demola Hubs in cooperation with universities to enable in-person collaboration and interaction, but also to connect regional university students and growth companies to global innovation activities and in this way, increase international connectiveness of regional and national innovation ecosystems. Demola Hub Locations include Tampere and Helsinki (Finland), Lisbon (Portugal), London (UK), Tokyo and Sapporo (Japan), Budapest (Hungary), and Windhoek (Namibia).
- The Demola online platform enables both remote teams and hybrid teams to collaborate and work with each other on innovation projects.
- Support to participating students is provided via the Demola Chat which can be used as a computer app.

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DEMOLA

Impact

VISION & MISSION STATEMENT

The vision of Demola is to build positive futures and develop a global innovation ecosystem. Demola is on a mission to **support students in achieving their full potential** and showcasing and advancing their skills and competencies by connecting them with real-world projects from companies and organisations.

RESULTS

- Community of over 24,000 students from more than 1,500 universities and 100 countries worldwide who have participated in Demola innovation projects.
- Cooperation with more than 50 universities worldwide to offer innovation challenges integrated into university curricula.
- 92% of participating students strongly agree or agree that their participation in a Demola challenge had a big impact on their working life capabilities.
- Through Demola, around every sixth student participant finds a job or connection that leads to employment.

SUCCESS FACTORS AND ENABLING CONDITIONS

- Participating students own the rights to their results. From the outset, Demola Global has operated on the terms of students and created fair co-creation processes for them. Demola has recognised a shared IPR framework as key innovation enabler and established a clear working mechanism based on a unified contract framework, consisting of a community code of conduct and team agreements with students and project agreements with companies. Developed challenge solutions belong to student teams and companies receive the possibility to invest in the development of solutions via shared or full licenses or become a shareholder.
- The launch and development of Demola was supported by the strong culture of cooperation and co-creation between companies, research institutes, education providers, and public administration in the Finnish innovation system. In addition, the Tampere region specifically boasts a history of university-industry collaboration and a willingness for experimentation.
- One of Demola's most important factors for success has been its culture of continuous internal monitoring and assessment, basing further development on feedback collected from its key users, students and companies. This has allowed Demola to experiment and strengthen and upscale its platform offer over the years.
- The involvement of important corporate organisations and businesses in the Demola model from the outset helped to attract other organisations and companies.
- The Demola model features well-defined roles that can be carried out by different agents, leading to successful replication of the Demola model across the world.
- Strong community and alumni network led to former student participants' desire to get involved in the facilitation and support of new challenge projects as Demola ambassadors, contributing to organic growth as well as internationalisation of the Demola network.
- Demola has been recognised as an important collaboration concept and has been included as a policy tool in Finland's open innovation platform policy framework. In Portugal, the Demola concept is promoted by the national government as an important tool to innovative university-business cooperation.
- The Demola model reflects Finnish non-hierarchical culture which has helped to spread a collaboration model based on equality in which students and company staff work together as equals.
- In some Demola local nodes such as Demola Canary Islands, public funds provided by regional governments are a key success factor for enabling company participation.

DEMOLA

Exemplary Challenge Format: **Demola Portugal Initiative**

The **Demola Portugal Initiative** is an exemplary internationalisation initiative by Demola to provide a "support system for the co-creation of innovation, creativity and entrepreneurship" in Portugal.

Co-financed by Demola Global, the EU-funded Human Capital Operational Program (POCH) and Portuguese polytechnic universities, the initiative aims to connect students with companies to explore future requirements for their products or services and investigate changes in consumer behaviour. In the frame of a 20-week "Teacher Training Program", a national platform was established to promote cross-polytechnic exchange for academic staff and provide training in co-creation and facilitation methodologies and creation of partnerships with regional actors.

Academic staff from partner universities in Portugal participating in teacher trainings.
© Demola Global Oy

RESULTS

- In the first phase (2021-2023) of the Demola Portugal Initiative, 885 academic staff from 14 polytechnic universities in Portugal, more than 3,900 students from HEIs in Portugal and internationally and 600 companies were brought together in challenge projects.
- Project evaluations of the challenges have shown that students have benefited mostly in terms of improvements in skills relating to communication and collaboration, initiative and self-motivation, as well as gaining practical hands-on experience in the context of their studies.
- One edition ran from 21 March to 3 June 2022 under five thematic tracks, focused on sustainability, the future of work, and digitalisation. The challenges were divided into two 5-week phases "Present" and "Future". In the "Present" phase, the students explored problems and opportunities around the challenge theme using the Design Research method. In the "Future" phase, Speculative Design methodology was applied to explore different futures of the challenge topic. For example, in the "Value Creators of Tomorrow" track, the challenge project "Value-Adding Factors of Electric Vehicles" involved four undergraduate and graduate international students with study backgrounds from Engineering to Business Administration and Marketing. Carried out as a remote project, the students collaborated with Portuguese company PKE Automotive in exploring questions related to future key performance metrics and trends of electrification and software.

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PUBLIC CONTACT DETAILS

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WUR STUDENT CHALLENGES

Wageningen University & Research (WUR) Student Challenges
University platform for student-business challenges.

Est. 2017
Netherlands
Wageningen

Number of employees
5

Geographic scope of activities
International

Type of intermediary
- ☐ HEI-external
- ☒ HEI-internal
- ☐ Hybrid

Intermediary set-up
- ☒ Single organisation (unit)
- ☐ Partnership of multiple organisations

Intermediation for SBC as
- ☒ Primary role
- ☐ Secondary role

WUR Student Challenges at Wageningen University & Research is a university-internal unit specialising in enabling **international challenge-based student competitions**, both for students at Wageningen University & Research and students from all around the world. WUR Student Challenges enables students to work with experts and representatives from industry, government, academia and NGOs. Challenge topics are aligned with WUR's strategic themes, focusing on societal issues such as food production, protein transition, bio-based economy, and nature-based solutions.

Background

- In 2017, WUR Student Challenges was launched at Wageningen University & Research under the Education & Student Affairs (ESA) unit, running under the subdivision of the Dean & Managers Office. WUR Student Challenges manager Rio Pals, expert in international cooperation, multi-stakeholder processes, and communication science and marketing, built a team to design several challenge formats for both WUR students specialised in the life-sciences domain and students from abroad.
- The WUR Student Challenge philosophy is to bring academic and industry experts together with students as prospective innovators. On average, 200-400 students participate in a challenge, working with 15-20 partners such as companies and NGOs. Student teams are asked to register their team of between 4 to 10 people, including one supervisor from their university.
- The design of student challenges is based on the understanding of CBL employed at WUR, meaning that challenges provided to students thematise a complex problem for which multiple solutions are possible. Student teams propose their own idea or solution to answer the question of the challenge.

Funding & Financing Model

- Funding is provided through a university-internal and -external partner network, including the University Fund Wageningen which connects donors with socially relevant WUR projects to accelerate the work and people at WUR who are not eligible for regular funding. Further financial resources are provided by Friends of University Fund Wageningen, and Wageningen Ambassadors.
- Sponsor fees are paid by most companies and organisations of the partner network who also provide expertise and coaches.

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WUR STUDENT CHALLENGES

Intermediary Support Services & Activities

GENERAL SUPPORT

- Recruitment of challenge partners through university network and contacts.
- Definition of challenge cases in collaboration with academic staff and topic experts as well as company representatives.
- Each academic year, organisation of one large challenge format integrating multiple cases. The annual focus switches between business innovation and conceptual design.
- Organisation of smaller challenge formats focused on local impact creation and implementation of solutions in the student teams' own environment. The local impact challenges and international challenges are equally large in time requirements.
- Monitoring and evaluation of challenge formats, including data collection through feedback forms and live feedback sessions.
- Organisation of a selection committee that manages selection of student teams in two rounds throughout the challenge process, as well organisation of a jury that manages the selection of a winning team amongst the finalist teams.

TEACHER- AND STUDENT-SPECIFIC SUPPORT

- Connection of students to the WUR start-up incubator who provide important services and expertise for challenge implementation, such as providing students with online workshops and coaching on business-related themes such as the business model canvas, as well as providing access to a partner network with experts who can answer student questions related to more specialised topics such as IP.
- Provision of workspace for students to work on their ideas.
- Provision of support to finalists and student teams after challenge completion in the form of after-care, in cooperation with partners such as the World Food Forum.
- Organisation of events with alumni and former challenge participants who have continued to develop their innovation, to provide inspiration to student participants.

COMPANY-SPECIFIC SUPPORT

- Pre- and post-challenge meetings with partners such as companies to prepare for participation in the challenge as a partner and coach to student teams, clarify and manage expectations, and discuss experiences, learnings, and take-aways.
- Support in communication and contracting with the campaign agency that supports the challenge process. The contracting covers topics relating to confidentiality and student IP rights.

WUR STUDENT CHALLENGES

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Curricular Integration

The WUR Student Challenges team specialises in carrying out extra-curricular challenges around societal grand challenges and real-life company cases that run between six to nine months. In the context of further developing its innovative programme offer, together with a consultant, the team is in the process of exploring new challenge formats that may be offered as in-curricular course activities, taking inspiration from existing curricular challenge programmes at WUR such as the Academic Consultancy Project. For instance, WUR Student Challenges will pilot new and shorter challenge formats to reach more students, offering them the opportunity to try out a challenge, without having to commit over half a year.

International & Virtual Collaboration

- The infrastructure for interaction between students and companies throughout the challenge is provided by external service partners, for example by Netherlands-based impact campaign agency Soapbox who build online platforms and construct digital learning environments for challenge participants, providing tools for sharing of information and updates and progress tracking, as well as organising live events such as the kick-off and grand finale events.
- During the challenges, company partners act as coaches, meeting with students online and in real-life. Coaching goes two ways: the company may reach out to student teams whose idea or solution they find interesting or may be approached by students with questions related to their specific expertise. Intermediate contact to company representatives is secured by organising online consultations and virtual interaction via email and chat. Some companies invite students to come work with them at their lab spaces, if available.

WUR STUDENT CHALLENGES

Impact

VISION & MISSION STATEMENT

WUR Student Challenges empowers students, PhD candidates and fresh graduates to “explore, create and grow for a better future”. Its mission is to create a space for young people to learn, think out of the box, network, collaborate, and create impact.

RESULTS

- Since 2017, the WUR Student Challenges team organised more than 16 global challenges in which more than 340 student teams and 2250 students from 251 universities and 72 countries worldwide have participated. Around a quarter of participants were WUR students. 97% of the student participants from WUR valued the student challenges (immensely), according to the 2021 Alumni Survey.
- More than 153 partners have participated, out of which 100 made up private companies. Many business partners go on to form partnerships after the challenge, contributing to development of the innovation ecosystem.
- WUR Student Challenges enables post-challenge cooperation between students and companies, e.g. Fuji Oil Global Innovation Centre Europe is in contact with the winning teams of the ReThink Protein and ReThink Waste challenges to explore future opportunities for collaboration.
- Several winning and finalist teams of the WUR Student Challenges have developed their challenge ideas into start-ups, such as Proprotein (production of dairy proteins by fermentation with yeast, reducing cattle farming) who emerged out of the ReThink Protein Challenge, or LettUs Design (digital and in-person tools for community groups and professionals to plan and visualise public green spaces) who emerged out of the Urban Greenhouse Challenge.

SUCCESS FACTORS AND ENABLING CONDITIONS

- Close cooperation with the WUR affiliated entrepreneurship and innovation bodies such as the university start-up incubator and maker space, benefiting from organisational connection and familiarity in organising challenge activities.
- Established relationships and smooth processes with service delivery partners who support the WUR Student Challenges team in professional PR, communication and design activities as well as partner recruitment and consulting on interactive and hybrid design of events.
- Building of strong partnerships to actively support the further development of student ideas into start-ups. For example, in October 2022, WUR established an Innovation Alliance with the Food and Agriculture Organisation (FAO) of the United Nations (UN) to “create follow up to teams in challenges like the Nature Based Solutions Challenge of WUR for even more impact”. The Innovation Alliance is planning to launch an Innovation Incubator to support students in turning “their idea-stage solutions into ready-to-launch business plans.”
- Incorporation of student assistants into challenge formats who engage in multimedia activities such as vlog series to accompany the challenges boosts student motivation and supports visibility.
- Flexibility regarding programme design and development, adapting the offer and developing shorter student challenges to suit students who cannot commit to extra-curricular challenges of up to half a year. Shorter challenges are set to launch in 2024 in the form of hackathons of 10 days, in collaboration with local municipalities who provide a case, for example on the topic of municipal waste processing.

WUR STUDENT CHALLENGES

Exemplary Challenge Format: **ReThink Waste Challenge 2023**

- The ReThink Waste Challenge took place from January to June 2023 and challenged students to develop a business idea or prototype that contributes to a circular biobased economy and zero-waste future. The challenge format specifically asked for sustainable approaches to prevent, reduce, reuse, recycle or recover biomass side-streams. Several partners were involved in supporting the challenge format, for instance through media and funding partnerships, while 16 partners participated as direct business partners to the challenge.
- From September to December 2022, students were invited to create teams and submit their ideas. The challenge was organised in three rounds, officially launched on 18 January 2023 with a kick-off event. Entrepreneurship training was provided in the form of three sprints on the topics of "solution vs problem", "business model canvas", and "validation and impact", as well as workshops on prototyping, pitching and PR. The training was carried out in collaboration with WUR's start-up centre Starthub Wageningen, the open workspace provider Fablab Wageningen and Pitch Academy.
- Collaboration between students and companies was enabled during online consultations and one-to-one meetings as well as at events such as the kick-off event and sprint days. The grand finale event was organised as a public event and featured several panel discussions as well as an innovation market for presentation of student teams and partner companies.
- Student teams were asked to deliver three key milestones: in the first round, a document containing vision, problem statement, solution and validation plan as well as an up-to-date team profile. In the second round, they were asked to provide vision, market analysis, validated solution including revenue model, as well as a social media pitch and artist impression of the solution. The third round before selection of finalists asked for a 2.5 min video pitch for the jury as well as a Q&A with the jury.

RESULTS

- Participation of 190 students from 72 universities in 33 different countries.
- Creation of 27 business solutions contributing to the biobased economy.
- Next to personal development and attainment of new knowledge and skills, several student participants gained internships and jobs at the partner companies.
- With its concept of using fungal fermentation to convert agricultural food waste into a source of protein usable in meat alternatives, team "Afterlife" won first prize in the ReThink Waste Challenge and received the additional SDG Prize awarded by company partner Fuji Oil. The team received financial and professional support to join an accelerator programme and has developed its idea into a start-up. It also maintains close contact to Fuji Oil to explore sustainable production of staple ingredients.

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MASTER CHALLENGE

Master Challenge B.V.
Online matchmaking platform

Est. 2020
Netherlands
Amsterdam

Number of employees
6

Geographic scope of activities
National / International

Type of intermediary
- ☒ HEI-external
- ☐ HEI-internal
- ☐ Hybrid

Intermediary set-up
- ☒ Single organisation
- ☐ Partnership of multiple organisations

Intermediation for SBC as
- ☒ Primary role
- ☐ Secondary role

Master Challenge is a time-saving **matching platform for educational institutes that want to bring education and practice closer together.** The platform streamlines the process of recruiting and approving challenges from external stakeholders. Next to that, it allows lecturers to carefully match those challenges to their student teams using the team formation tool and team-challenge matching tool. The platform can also be embedded on HEI websites.

Background

With an academic career that started in 2015 as professor in Entrepreneurship at the University of Amsterdam, Master Challenge founder Dr Bram Kuijken started noticing a divide between course work and real-life applications. As a result, in the year 2016 he started to integrate real-life challenges from companies from his personal network into his university courses. As more academic staff and fellow colleagues started to approach him with requests to support the sourcing of company challenges, Kuijken created a platform as a way of easing coordination and communication processes. This was the starting point of the offer that was gradually developed into the Master Challenge platform, officially launched in 2020.

Funding & Financing Model

- Master Challenge was launched with a loan from the University of Amsterdam.
- Master Challenge charges a license fee to HEIs, which is determined on the basis of the type of platform services used, e.g. challenge recruitment services.
- In some cases, challenge owners are charged a fee, depending on agreements made with the respective HEI.

Intermediary Support Services & Activities

GENERAL SUPPORT

- Automated recruiting as well as matching of companies, HEIs, and students via the digital platform, using the stable marriage algorithm based on approval of submitted company challenges by professors and ranking of students as well as ranking of student teams by the challenge owners.
- Publishing of and communication around challenges on the platform in so-called challenge spaces for courses that are open for challenges from external stakeholders.
- Accompanying communication activities via social media and blog channels.

A student team presenting their update during a challenge programme organised by Master Challenge. © Bram Kuijken

TEACHER- AND STUDENT-SPECIFIC SUPPORT

- Based on input from academic staff, sourcing of suitable real-life challenges from businesses.
- Support with curricular integration of challenges into university courses.
- Building of well-balanced teams, using a team formation tool with algorithm that matches students based on diversity or similarity variables.
- Access to a network of companies to increase future possibilities for cooperation such as guest visits, expert inputs and research.
- Offer of the Website Embed Feature, allowing academic staff and their universities and faculties to showcase courses open for collaboration with external partners by integrating the Master Challenge platform on the university website.
- Offer of bulk mailer that allows academic staff to email (segments of) students and/or challenge representatives.
- Provision of free input and workshops for students in the fields of business development, consulting skills, lean startup, and online marketing with the option to receive certificates.
- Offer of the Master Challenge talent pool to receive access to further practical experiences and career opportunities, with topical focus on business, sustainability, IT and data science, and communication.

COMPANY-SPECIFIC SUPPORT

- Offer of booking a demo call during which interested companies receive an introduction to the platform and can discuss their specific challenge.
- Offer of efficient challenge submission process via KVK (Chamber of Commerce) integration that enables automatic and accurate instead of manual input of company information.
- Access to challenge spaces which help companies understand the type of challenges needed and present their own challenges.
- Possibility to submit open challenges via the open challenge feature which academic staff may react to on the platform by inviting companies to become part of their courses.
- Offer of challenge formulation via the platform feature AI Challenge Generator which creates tailored drafts of company challenges based on brief descriptions of the respective company and challenge.
- Connection to university course coordinators for mutual work on formulating the final challenge.
- Access to pool of Bachelor and Master students and algorithm-based matching of students' skill sets to company challenges and needs.

MASTER CHALLENGE

© Bram Kuijken

Curricular Integration

As a former co-director of the Master in Entrepreneurship at University of Amsterdam, Master Challenge founder Bram Kuijken recognised the importance of curricular integration of challenges early on, as a way of allowing not just a small proportion, but all students to benefit from putting theory into practice. As a result, the Master Challenge platform specialises in enabling challenge formats integrated into the regular university curriculum that are awarded ECTS credits. Curricular integration of challenges is a key service of the Master Challenge platform, currently used by 11 HEIs in the Netherlands. It allows academic staff to save time, simplify communication, and organise challenges in a more professional and structured way.

International & Virtual Collaboration

- Participation of Dutch as well as Netherlands-based international students in the challenges.
- The SaaS-solution created by Master Challenge provides individual platform spaces for each user group (academic staff, students, companies).
- The platform is being scaled up as a SaaS solution to more universities both in the Netherlands as well as abroad.
- Next to other topic areas, challenge formats may deal with challenges related to scaling up internationally for companies.
- The set-up of the platform allows for interdisciplinary and transdisciplinary education which is ideal for faculties and/or universities that aim to work together with other universities.

MASTER CHALLENGE

Impact

VISION & MISSION STATEMENT

Master Challenge envisions a future in which HEIs function as knowledge hubs and **learning communities made up of different stakeholders** interacting with each other. The mission is to **close the gap between university and industry** by facilitating the integration of relevant and real learning opportunities for mutual impact into university curricula.

RESULTS

- More than 100 academic staff at 11 HEIs in the Netherlands use the Master Challenge platform to enable their students practice-oriented learning as part of the university curriculum. More than 2000 challenges have been matched with student teams.
- Companies receive solutions in the fields of data science, psychology, sustainability, communication, marketing, and HR. They also receive solutions that explore new markets and growth strategies or validate new value propositions.
- Developing long-term career opportunities: Several students have started internships or full-time jobs with the companies whose challenges they worked on.

SUCCESS FACTORS AND ENABLING CONDITIONS

- Many years of experience in consulting HEI lecturers on recruitment of real-life challenges and incorporation into courses.
- Master Challenge founder Bram Kuijken remains involved in education through a guest lectureship at the University of Amsterdam which allows him to stay on top of educational developments and follow discussions in the university context to adapt his platform offer accordingly.
- Master Challenge builds long-term relationships with educational institutions and individual lecturers who need support in recruiting challenges, forming affiliations and partnerships.
- The challenge platform and marketplace has been built in cooperation with innovative HEIs who take the lead in formulating university-wide policies and strategies to integrate experiential learning in their education offer, enabling cross-innovation.

Master Challenge founder Bram Kuijken with Suzanne Hansen, Head of Partnerships for the Bachelor's Computational Social Science at University of Amsterdam infront of the Roeterseiland Campus in Amsterdam. © UvA

MASTER CHALLENGE

Exemplary Challenge Format: **Summer Sustainability Challenge 2022**

The Summer Sustainability Challenge is an annual extra-curricular challenge programme offered by Master Challenge in collaboration with REC Impact, the impact initiative connecting teaching with practice at Roeterseiland campus (REC) of University of Amsterdam (UvA).

The campus hosts the Economics and Business, Social and Behavioural Sciences and Law faculties at UvA. In the 2022 edition of the Summer Sustainability Challenge, six student teams from the Roeterseiland campus worked on sustainability challenges of six Dutch companies for three weeks (4-22 July 2022). Master Challenge helped REC to recruit the six challenges and using the team formation and team-challenge matching tool, six interdisciplinary student teams were formed and matched to the challenges. The teams were guided by coach and Master Challenge founder Bram Kuijken as well as representatives from the organisations.

RESULTS

- Student team Azul Impact worked on a challenge of the lighting company Signify, developing advice on circular business practices. This included research on circular economy legislation in and outside Europe, such as the EU Green Deal 2050 and the "right to repair" clause, and established circularity practices, particularly reuse and upgrading.
- Student team Avatar worked on a challenge of the agricultural manufacturer Lely, developing an implementation plan with a suggested timeframe for how the company can further reduce its carbon emissions, e.g., through sourcing and funding of global projects.
- Student team Sustainability Warriors worked on a challenge of health care company Mediq, examining the company's existing product line of medical devices and healthcare products and developing a product development cycle to suggest more sustainable alternatives for the company's supply range.
- Student team Sustainable Advocate worked on a challenge by BuyBay, a tech-company specialised in smart return management, quantifying their business model's environmental impact based on company data as well as own research on electronic waste.
- One student team worked on a challenge of the pension investment company APG, developing a measurement framework to support the company in determining its success in terms of helping one million people be more financially fit.

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PUBLIC CONTACT DETAILS

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FRUITPUNCH AI

Fruitpunch.ai BV
Challenge-based AI education platform

Est. 2020
Netherlands
Eindhoven

Number of employees
7

Geographic scope of activities
International

Type of intermediary
- ☐ HEI-external
- ☐ HEI-internal
- ☒ Hybrid

Intermediary set-up
- ☒ Single organisation
- ☐ Partnership of multiple organisations

Intermediation for SBC as
- ☒ Primary role
- ☐ Secondary role

FruitPunch AI is a challenge-based platform that provides learners with education on ethical and sustainable application of AI and enables them to put their new knowledge into real-world practice by working on challenges with partner companies. Ultimately, FruitPunch AI wants to build a **global "AI for Good" community**.

Background

FruitPunch AI is a spin-out of the Eindhoven AI Systems Institute (EAISI) at Eindhoven University of Technology (TU/e). During his studies at TU/e, FruitPunch AI founder Buster Franken was looking for a community to learn more about the application of AI, but did not find a suitable environment to do so. He made use of the university's offer to create a TU/e Student Team as an interdisciplinary organisation of students that challenge themselves to tackle societal challenges by developing innovative technologies together with TU/e Institutes and external partners. Together with other students, Buster Franken developed the FruitPunch AI concept which combines the training of AI engineers with challenge-based education. The student team was supported by the Data Science Center Eindhoven (DSC/e) and IBM. After launching a call to action for applying AI to solve problems relating to the SDGs, and upon a response from the wild reserves of South Africa, the FruitPunch AI team explored the use of AI to fight poaching, together with 50 AI engineers from around the world. The result was an autonomous drone with thermal cameras for detection of poachers that was developed in collaboration with rangers. This marked the first AI for Good Challenge (AI for Wildlife). Other AI for Good Challenges have been developed since, working on topics ranging from automated detection of Covid, saving of coral reefs and detection of wildfires and illegal deforestation.

Funding & Financing Model

- Revenue is generated through fees for providing the following programmes:
  - Challenge-based Learning Programme: Both monthly and per challenge fees for onboarding and mentoring of engineers and students throughout FruitPunch AI challenges and certification for gained skills.
  - Challenge Programme: Fixed operational fees for setting up 10-week AI for Good Challenges based on data of target organisations who benefit from the results of the challenge.
- In 2021, FruitPunch AI was selected as one of five start-ups to receive an investment of € 500,000 by Netherlands-based impact investor LUMO Labs to further develop its platform features, hire strategic roles, and turn pilot programmes into sustainable partnerships.
- In 2023, VC investor Shamrock Ventures led an investment of further € 500,000, together with LUMO Labs and various business angel investors.

FRUITPUNCH AI

Intermediary Support Services & Activities

GENERAL SUPPORT

- Development and coordination of the FruitPunch AI platform which provides education and real-world AI application in 10-week challenges, including kick-off and mid-term and final presentations.
- Matching of talent from the FruitPunch AI learners' community to partner companies through identification of skill-need fit based on learner participation in challenge formats.
- Coordination of thematic AI Labs to build several communities of AI engineers with a partner ecosystem around a specific topic and technology, such as the AI for Wildlife Lab, AI for Earth Lab, and AI for Health Lab. The labs combine the experience from all challenges, turning them into resources for machine learning projects available to all lab members and partners.
- Setting up and building of challenge teams via a crowdsourcing approach based on platform skills assessment. On average, 15 to 50 people are recruited for participation in AI challenges. They are assigned various roles, including (student) engineer, project manager, work group coordinators, experts, event organisers, and storytellers.
- Empowerment of community members to self-organise challenges.

TEACHER- AND STUDENT-SPECIFIC SUPPORT

- Free participation in challenges as individual learner or as a student linked to a university that has entered a partnership with FruitPunch AI. On average, learners invest 8-12 hours per week during the AI challenge.
- Provision of AI for Good learning journeys on the FruitPunch AI platform, including access to free AI education such as masterclasses, bootcamps, coding sessions, and tutorials for a community of global learners, including but not limited to university students.
- Students can create individual learner profiles which keep track of learning goals, areas of interest and interest in particular SDGs. Based on interests, learners join corresponding communities. An incorporated skills tree tool provides detailed insights into hard and soft skills acquired during challenges. The skills assessment function enables matching with organisations, for example via an integrated career page.
- Provision of accreditation with badges for specific skills acquired as well as certification after challenge completion.
- Partnerships with universities to further students' applied AI skills.

COMPANY-SPECIFIC SUPPORT

- Support in defining deliverables for the challenge programme based on the problems experienced by the organisation and available data.
- 6-8 weeks prior to challenge launch, recruitment of talent for participation in the company partner's AI challenge via marketing and community channels and selection of suitable participants from the pool of applicants.
- Next to provision of corporate education for upskilling and retaining current talent, FruitPunch AI provides a matching service to help companies find new AI talent through its challenge programmes, aided by a dedicated career page and peer-reviewed skills assessment function on the platform.
- Contribution to visibility of companies through communication and press activities.

FRUITPUNCH AI

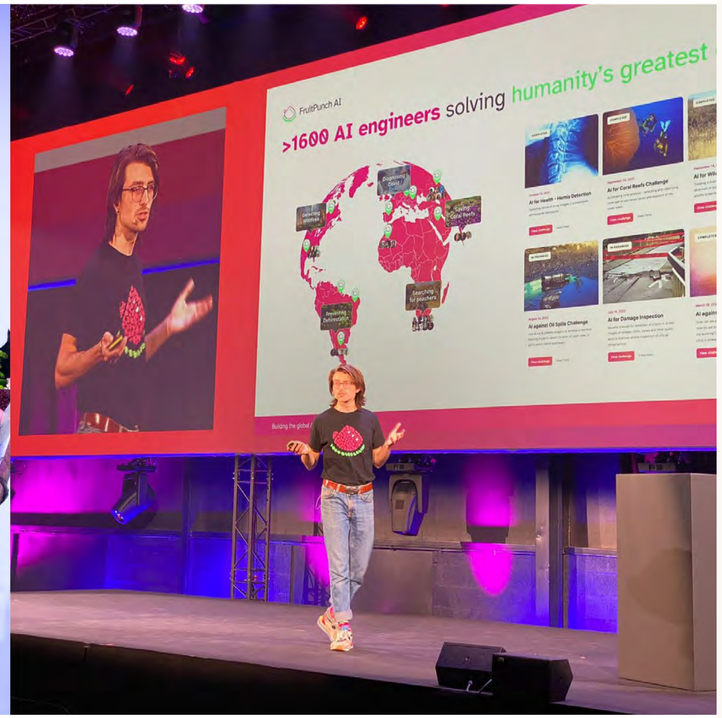
Curricular Integration

In addition to its own projects, FruitPunch AI has developed a primary focus on education. As part of its educational offer, it engages in university partnerships to create tailored AI challenge programmes that employ CBL and enable co-creation of solutions by students and businesses.

International & Virtual Collaboration

- The FruitPunch AI gamified platform is open to students, engineers and lifelong learners worldwide, facilitating international collaboration in AI. The platform facilitates a productive exchange of AI expertise of up to 50 international AI engineers and students per challenge.
- FruitPunch AI maintains the four chapters in Eindhoven (Netherlands), South Africa, India, and Uganda, which are associated to universities via maintenance through students. FruitPunch AI is expanding its international network and setting up new collaborations, e.g. through student ambassadors in Finland.
- The independent FruitPunch AI for Health Eindhoven Chapter, operated by a TU/e Student Team, aims to expand into a worldwide community of city-chapters that tackles wellbeing challenges.

FruitPunch AI CEO Buster Franken (left) and CTO Sako Arts © Nathalie Duin



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FRUITPUNCH AI

© FruitPunch AI

Impact

VISION & MISSION STATEMENT

The vision of FruitPunch AI is to create meaningful work, **combining applied AI education and real-world impact**. It is on a mission to build and educate a worldwide community of AI for Good engineers that will contribute to reaching the SDGs through application of tech solutions.

RESULTS

- More than 26 challenges have been carried out on the FruitPunch AI platform.
- More than 3000 AI engineers are part of the FruitPunch AI community.
- More than 80 partners collaborate with FruitPunch AI to develop the Global AI for Good community, for example through providing machine learning focused educational events.

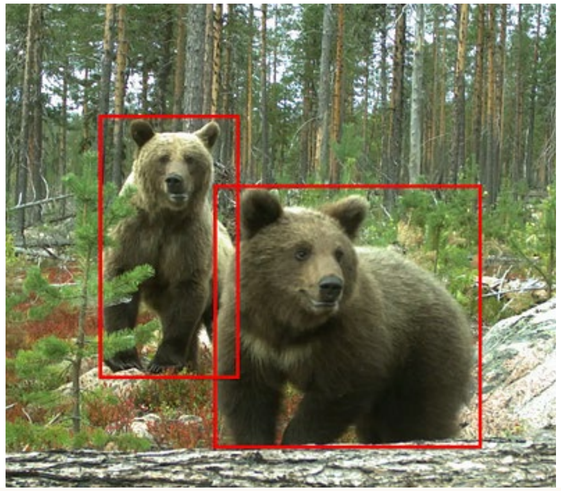
SUCCESS FACTORS AND ENABLING CONDITIONS

- FruitPunch AI has further developed its platform offer and services over the years, setting up educational content for different levels of education, including secondary and higher education.
- Visibility through creation and organisation of flagship events such as the FruitPunch AI Connect conference.
- Established collaborations with recognised NGOs, impact start-ups & research centres like Stanford University, World Wide Fund for Nature (WWF) and NXP Semiconductors.
- Strong support provided by TU/e in incubating and accelerating FruitPunch AI has shaped its success and growth. FruitPunch AI maintains its university connection through its location at the High Tech Campus Eindhoven, a R&D ecosystem of 300 companies, launched by Philips.

FRUITPUNCH AI

Exemplary Challenge Format: **Startup Scalability Challenge 2022**

- The AI for European Wildlife Challenge ran from 25 April to 4 July 2023 in the context of FruitPunch AI's AI for Wildlife Lab. Challenge research partner was SLU Swedish University of Agricultural Sciences. Rewilding Europe, WWF Spain, and Huawei supported the challenge with its expertise and resources as a contributing partner. For instance, Rewilding provided datasets containing over 378,000 camera trap images.
- The overall context of the challenge was to further effective wildlife conservation measures through monitoring of population dynamics of ecosystems. The specific AI challenge was to build computer vision models to help identify species of European wildlife on camera trap images and improve population monitoring. For SLU researchers, the results were of high relevance as they use camera traps for population monitoring, but identification of species had only been carried out manually.
- Prerequisites for participation were backgrounds in data science or ecology, with basic knowledge of Python programming and machine learning.
- FruitPunch AI enabled the delivery of two masterclasses that provided insights into ecological issues and how computer vision can support conservation efforts. Participants were divided into teams, one team exploring various AI models, and the other team constructing the machine learning pipeline.



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RESULTS

All results including reports are open access, made available on the FruitPunch AI platform: AI for European Wildlife Challenge: Solving automated wildlife taxonomy with AI.

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CONCLUSION AND OUTLOOK

Support Services for Student-Business Challenges in Sustainable Entrepreneurship

The **good practice examples of support services** for challenge-driven student-business collaboration presented here are all **very recent and show that the entire field is still in its infancy**.

A lot can be learned from the good practices and transferred to one's own situation and location. However, more experimentation and situation- and region-specific adjustments to support systems and services will still be needed in the coming years. Certainly, what works very well in certain locations and countries may not work in other regions due to differing framework conditions. A situational fit which allows room for experimentation and local adaptations to intermediary activities is therefore always required. Following, we summarise key insights generated from the analysis regarding availability and suitability of support providers and services for different target groups:

Availability of support services for HEI teachers, students, and businesses

All support services and platforms are available for students and companies. However, while some offers focus exclusively on enabling student-business collaboration, others extend their offer to further target groups. For instance, next to serving students, they may be open to other people taking on the "learner's role" in challenge-driven learning formats, for example researchers, start-up founders, or interested individuals. Further, some services are also open for not only working with companies as challenge providers, but different types of organisations, for example associations.

Student-business collaboration	***BBENG***	× Students worldwide × Companies (mostly based in the Netherlands and Germany)
	MASTER CHALLENGE	× Students at Dutch HEIs × Companies (based in the Netherlands)
	ALMI EAST SWEDEN & LINKÖPING UNIVERSITY	× Students from Linköping University (as well as ECIU member HEIs) × Companies based in East Sweden
	DEMOLA	× Students worldwide × Companies worldwide
Collaboration between students and business, public sector organisations and NGOs	***WUR STUDENT CHALLENGES***	× Students worldwide × Companies, public sector organisations, and NGOs worldwide
	ECIU UNIVERSITY	× Students from member HEIs (and in some cases non-member HEI students), with ongoing expansion of the offering to continuous learners (work professionals and other learners from society and business from the countries of the ECIU member HEIs) × Companies, public sector organisations, and NGOs worldwide (EU focus)
Collaboration between learners and business, public sector organisations and NGOs	***EKIPA***	× Students, researchers, and start-up founders/team members × Companies and public sector organisations, worldwide
	FRUITPUNCH AI	× Individuals, including higher education and also high school students, but also work professionals such as engineers and developers, worldwide × Companies and organisations worldwide (including those who would like to offer real-life challenges for their teams and employees)

While all support services and platforms are available for students and companies, not all offers focus on curricular integration into HEI structures. However, there is a clear trend towards establishing specialised services for academic staff to support incorporation processes of challenge formats into the curriculum, either through integration into existing course structures or through establishing of new courses. This shows that scaling of challenge-based student-business collaboration can be driven by developing support structures and services towards HEI faculty teachers as a key target group.

	Curricular integration: Incorporation into existing courses	Curricular integration: Development of tailored courses	No curricular integration
DEMOLA	× Integration into existing courses via "Demola for Campus".	× Development of tailored courses via "Demola for Campus".	
MASTER CHALLENGE	× Focus on incorporation into existing courses via "Challenge Spaces" to improve courses and make them more relevant.		
EKIPA	× Incorporation on a semester or yearly basis.		
ECIU UNIVERSITY		× Integration at 14 member HEIs, after having first experimented with extra-curricular courses and curricular integration into existing courses.	
ALMI EAST SWEDEN & LINKÖPING UNIVERSITY		× InGenious course integrated at Linköping University - enrolment of international students possible through ECIU University.	
FRUITPUNCH AI			× Partnerships with universities available, but no curricular integration of tailored AI programmes yet.
WUR STUDENT CHALLENGES			× Up until now, focus on designing and implementing extra-curricular challenge formats. Currently, plan to offer challenge formats as in-curricular course activities.
BBENG			× So far, not available for academic staff at HEIs. The focus has mainly been on cooperation with HEIs and their entrepreneurship centres for mutual learning (for example, entrepreneurship centre staff as content experts during challenge). Currently, a pilot is being planned for curricular integration of the Green Business Challenge approach.

Suitability of support services for transnational virtual student-business challenges in sustainable entrepreneurship

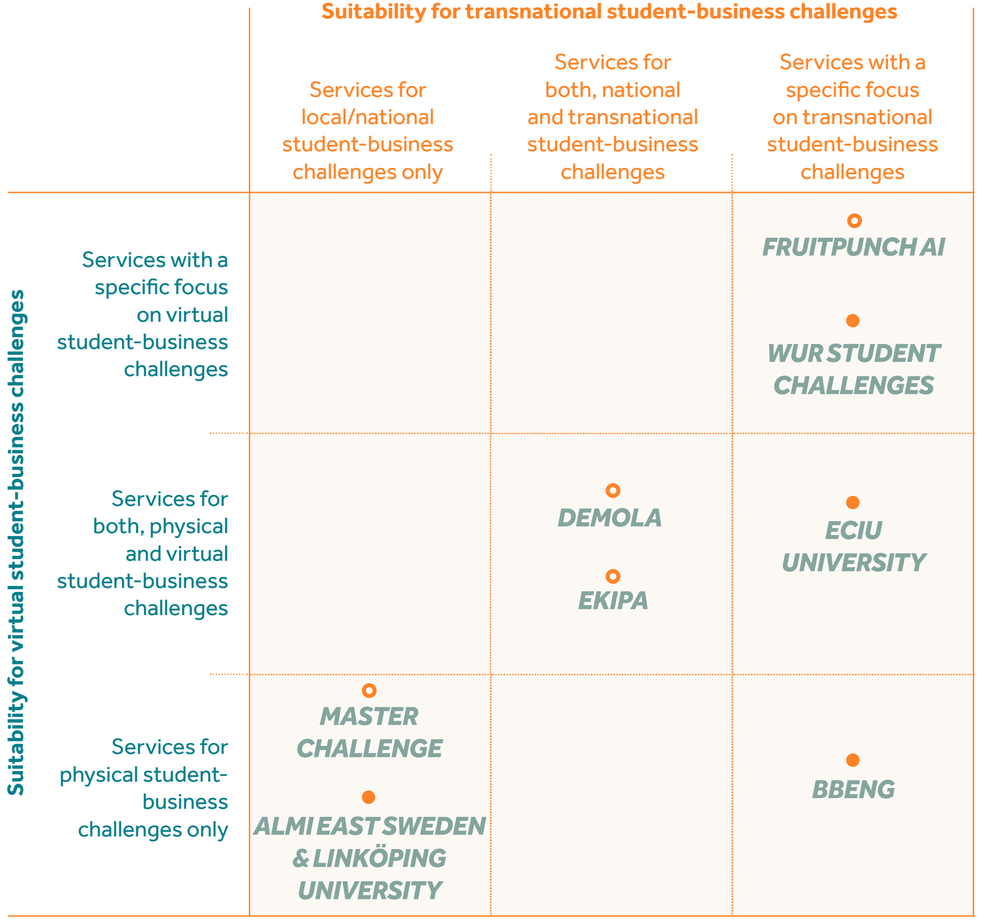
Some of the presented good practice examples are specifically suitable for supporting transnational virtual student-business challenges in sustainable entrepreneurship, including WUR Student Challenges and FruitPunch AI as well as ECIU University, Ekipa, and Demola.

While ECIU University focuses on enabling transnational student-business challenges in both physical and virtual formats, Demola and Ekipa offer platform services that enable physical and virtual student-business challenges at transnational, but also national level. The good practices Master Challenge and Almi East Sweden & Linköping University are specialised in supporting student-business challenges at a local or national level and so far, have not explored transnational formats. Good practice BBENG focuses on supporting a transnational challenge format between three neighbouring countries in Europe, keeping the challenge in a physical format with travel between the three countries.

While some of the support services presented enable student-business challenges on a range of topics, including but not limited to sustainability, others take an explicit focus on supporting sustainability-focused student-business challenges (WUR Student Challenges, BBENG, Almi East Sweden & Linköping University).

Suitability for sustainable entrepreneurship education

- ○ both sustainability-focused and general student-business challenges
- ● specialised in sustainability-focused student-business challenges



The good practice examples presented show that it is not about individual singular support services, but about **creating an ecosystem for challenge-driven education and co-innovation processes** between students and companies.

Dedicated teachers, a networked system of stakeholders and professional support services that ensure matchmaking and well-organised processes are central components of the ecosystem. Only with an ecosystem approach and professional HEI-internal and/or HEI-external services will it be possible to scale challenge-driven learning and co-innovation processes between students and business and get them out of the niche in which these innovative forms of teaching/learning have remained up until now.

The Challenge4Impact team. From left: Alexandra Widrat, Karl Eldebo, Prof Olof Hjelm, Prof Dr Klaus Fichter, Anne Seela, Dr Frans Stel

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APPENDIX

TABLE 1: OVERVIEW OF IDENTIFIED INTERMEDIARIES FOR CHALLENGE-DRIVEN STUDENT-BUSINESS COLLABORATION

INTERMEDIARY ORGANISATION	DEMOLA Demola Global Oy	FUTURE-PROOF COMMUNITY Stichting MVO-Register	EKIPA Ekipa GmbH	EIT RAW-MATERIALS EIT RawMaterials Innovation Hub CLC	ECIU UNIVERSITY European Consortium of Innovative Universities	AGORIZE AGORIZE SAS
COUNTRY/ CITY (HQ)	Finland (Tampere)	Netherlands (Zwolle)	Germany (Frankfurt am Main)	France (Metz)	Europe	France (Paris)
TYPE OF ENTITY	**Global innovation challenge platform**	**Matchmaking platform for sustainable entrepreneurs**	**Open innovation incubator and platform**	**Developer of open innovation initiatives across Europe**	**CBL-focused initiative of the international network of research-intensive universities**	**Online platform for open innovation challenges**
TYPE OF INTERMEDIARY	☐ HEI-external ☐ HEI-internal ☒ **Hybrid**	☐ HEI-external ☐ HEI-internal ☒ **Hybrid**	☒ **HEI-external** ☐ HEI-internal ☐ Hybrid	☒ **HEI-external** ☐ HEI-internal ☐ Hybrid	☐ HEI-external ☐ HEI-internal ☒ **Hybrid**	☒ **HEI-external** ☐ HEI-internal ☐ Hybrid
SUPPORT FOR VIRTUAL COLLABORATION	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial
SUPPORT FOR INTERNATIONAL COLLABORATION	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial
CURRICULAR INTEGRATION OF SERVICES	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial
SUSTAINABILITY FOCUS	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial

INTERMEDIARY ORGANISATION	BBENG BBENG BV	PROJECT COLOGNE Rheinische Fachhochschule Köln gGmbH	MASTER CHALLENGE Master Challenge BV	CHEM-TELLIGENCE ChemCologne	UTRECHT CHALLENGE ALLIANCE Utrecht University	SOAPBOX Soapbox BV
COUNTRY/ CITY (HQ)	Netherlands (Groningen)	Netherlands (Zwolle)	Netherlands (Amsterdam)	Germany (Cologne)	Netherlands (Utrecht)	Netherlands (Maastricht)
TYPE OF ENTITY	**Consulting agency**	**Regional open innovation platform**	**Online matching platform**	**Regional open innovation platform**	**Partnership for open innovation**	**Marketing and campaign agency**
TYPE OF INTERMEDIARY	☒ **HEI-external** ☐ HEI-internal ☐ Hybrid	☐ HEI-external ☐ HEI-internal ☒ **Hybrid**	☐ HEI-external ☐ HEI-internal ☒ **Hybrid**	☐ HEI-external ☐ HEI-internal ☒ **Hybrid**	☐ HEI-external ☒ **HEI-internal** ☐ Hybrid	☒ **HEI-external** ☐ HEI-internal ☐ Hybrid
SUPPORT FOR VIRTUAL COLLABORATION	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial
SUPPORT FOR INTERNATIONAL COLLABORATION	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☐ Yes ☐ No ☒ Partial	☐ Yes ☒ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☒ Yes ☐ No ☐ Partial
CURRICULAR INTEGRATION OF SERVICES	☐ Yes ☐ No ☒ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial
SUSTAINABILITY FOCUS	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial

	WUR STUDENT CHALLENGES	SUSTAINABLE MOTION	ALMI EAST SWEDEN	TUTECH INNOVATION	EXPAND ACCELERATOR	FOUND.ATION
INTERMEDIARY ORGANISATION	Wageningen University & Research	SustainableMotion	Almi East Sweden AB, subsidiary of Almi Företag-partner Östergötland AB	Tutech Innovation GmbH	Impact Shakers	Found.ation
COUNTRY/ CITY (HQ)	Netherlands (Wageningen)	Netherlands (Amsterdam)	Sweden (Norrköping)	Germany (Hamburg)	Europe	Greece (Athens)
TYPE OF ENTITY	**University platform for student-business challenges**	**Education consultancy**	**Education support provider (subsidiary of regional business developer)**	**Technology and knowledge transfer office (subsidiary of Technical University Hamburg and City of Hamburg)**	**EU research project developing a challenge-based idea accelerator**	**Innovation management consulting firm**
TYPE OF INTERMEDIARY	☐ HEI-external ☒ **HEI-internal** ☐ Hybrid	☒ **HEI-external** ☐ HEI-internal ☐ Hybrid	☐ HEI-external ☐ HEI-internal ☒ **Hybrid**	☐ HEI-external ☐ HEI-internal ☒ **Hybrid**	☐ HEI-external ☐ HEI-internal ☒ **Hybrid**	☒ **HEI-external** ☐ HEI-internal ☐ Hybrid
SUPPORT FOR VIRTUAL COLLABORATION	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial
SUPPORT FOR INTERNATIONAL COLLABORATION	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial
CURRICULAR INTEGRATION OF SERVICES	☐ Yes ☐ No ☒ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial
SUSTAINABILITY FOCUS	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial

	CREATE NEW BUSINESS	CHARM-EU	C-LAB TRENTO	IXL CENTER	TT-BMI THINK TANK BUSINESS MODEL INNOVATION	HUBS
INTERMEDIARY ORGANISATION	CreateNewBusiness BV	Charm-European University	University of Trento	Center for Innovation, Excellence, and Leadership	FHNWS Fachhochschule Nordwestschweiz	Tampere Universities
COUNTRY/ CITY (HQ)	Netherlands (Zuidlaren)	Europe (Netherlands, Ireland, Hungary, Spain, France)	Italy (Trento)	USA (Cambridge, MA)	Switzerland (Basel)	Finland (Tampere)
TYPE OF ENTITY	**Management and consultancy company**	**EU-funded challenge-driven European University Alliance**	**Cross-disciplinary learning laboratory for entrepre-neurship and innovation**	**Management consulting firm**	**University initiative for student-business collaboration**	**Sustainable entrepreneurship unit at Tampere Universities**
TYPE OF INTERMEDIARY	☒ **HEI-external** ☐ HEI-internal ☐ Hybrid	☐ HEI-external ☒ **HEI-internal** ☐ Hybrid	☒ **HEI-external** ☐ HEI-internal ☐ Hybrid	☐ HEI-external ☐ HEI-internal ☒ **Hybrid**	☐ HEI-external ☒ **HEI-internal** ☐ Hybrid	☐ HEI-external ☒ **HEI-internal** ☐ Hybrid
SUPPORT FOR VIRTUAL COLLABORATION	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☐ No ☒ Partial
SUPPORT FOR INTERNATI-ONAL COLLABORATION	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☒ Yes ☐ No ☐ Partial
CURRICULAR INTEGRATI-ON OF SERVICES	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial
SUSTAINABILITY FOCUS	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☐ No ☒ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial

INTERMEDIARY ORGANISATION	SUSTAINABLE FUTURE HUB Lund University	TUE/E INNOVATION SPACE Eindhoven University	FUSION POINT Design Factory Global Network	AMSTERDAM LIVING CASE LAB University of Amsterdam	ACTION LEARNING OFFICE Massachusetts Institute of Technology	OMM SOLUTIONS OMM Solutions GmbH
COUNTRY/ CITY (HQ)	Sweden (Lund)	Netherlands (Eindhoven)	Spain (Barcelona)	Netherlands (Amsterdam)	USA (Cambridge, MA)	Germany (Stuttgart)
TYPE OF ENTITY	**Collaboration hub for economic and social sustainability at Lund University**	**Center of expertise for CBL and student entrepreneurship at Eindhoven University of Technology**	**Academic initiative that encourages applied research and new teaching methodologies by solving business challenges**	**Initiative for case-based learning at the Teaching and Learning Centre of University of Amsterdam**	**University office for action learning, featuring a range of Action Learning Labs, e.g. Sustainable Business Lab**	**Digital transformation consultancy and IT service provider offering the Inno-Challenge solution**
TYPE OF INTERMEDIARY	☐ HEI-external ☒ **HEI-internal** ☐ Hybrid	☐ HEI-external ☒ **HEI-internal** ☐ Hybrid	☐ HEI-external ☒ **HEI-internal** ☐ Hybrid	☐ HEI-external ☒ **HEI-internal** ☐ Hybrid	☐ HEI-external ☒ **HEI-internal** ☐ Hybrid	☒ **HEI-external** ☐ HEI-internal ☐ Hybrid
SUPPORT FOR VIRTUAL COLLABORATION	☒ Yes ☐ No ☐ Partial	☐ Yes ☐ No ☒ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☐ No ☒ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial
SUPPORT FOR INTERNATIONAL COLLABORATION	☐ Yes ☒ No ☐ Partial	☐ Yes ☐ No ☒ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☐ Yes ☒ No ☐ Partial
CURRICULAR INTEGRATION OF SERVICES	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial
SUSTAINABILITY FOCUS	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial

	INNOSABI	HEALTHCARE HACKATHON	CENTRE OF EXPERTISE IN LEARNING & TEACHING	QLAB THINK TANK	FRUITPUNCH AI	AALTO GLOBAL IMPACT
INTERMEDIARY ORGANISATION	innosabi GmbH	Universitätsmedizin der Johannes Gutenberg-Universität Mainz	University of Twente	QLab Think Tank GmbH	Fruitpunch.ai BV	powered by Aalto University
COUNTRY/ CITY (HQ)	Germany (Munich)	Germany (Mainz)	Netherlands (Enschede)	Germany (Bremen)	Netherlands (Eindhoven)	Finland (Espoo)
TYPE OF ENTITY	**Idea and innovation management software provider**	**Challenge-based initiative for the digital transformation of healthcare in Germany**	**University centre for support in educational innovation, including CBL**	**Sustainability consulting start-up for public utility companies**	**Challenge-based AI education platform**	**Facilitator of Aalto University's research and educational programmes for societal impact**
TYPE OF INTERMEDIARY	☒ **HEI-external** ☐ HEI-internal ☐ Hybrid	☐ HEI-external ☒ **HEI-internal** ☐ Hybrid	☐ HEI-external ☒ **HEI-internal** ☐ Hybrid	☒ **HEI-external** ☐ HEI-internal ☐ Hybrid	☐ HEI-external ☐ HEI-internal ☒ **Hybrid**	☐ HEI-external ☒ **HEI-internal** ☐ Hybrid
SUPPORT FOR VIRTUAL COLLABORATION	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial
SUPPORT FOR INTERNATIONAL COLLABORATION	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial
CURRICULAR INTEGRATION OF SERVICES	☐ Yes ☒ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial
SUSTAINABILITY FOCUS	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial

	FUTURY	BERKELEY HAAS CENTER FOR RESPONSIBLE BUSINESS – CONSULTING	4TU.FEDERATION	NOVEL-T	BLUE CITY HUB	PROJECT-MATCH
INTERMEDIARY ORGANISATION	Futury GmbH	University of California, Berkeley	TU Delft, Eindhoven University of Technology, University of Twente, Wageningen University & Research	Novel-T	Blue City	ProjectMatch Ltd
COUNTRY/ CITY (HQ)	Germany (Frankfurt am Main)	USA (Berkeley, CA)	Netherlands (Delft, Eindhoven, Twente, Wageningen)	Netherlands (Enschede)	Netherlands (Rotterdam)	England (Hitchin)
TYPE OF ENTITY	**Innovation and sustainability platform (Futury Ideation Platform)**	**Experiential learning division at Berkely Haas Center for Responsible Business**	**Initiative of the four technical universities in the Netherlands, boosting research-business cooperation**	**Non-profit business development consultancy connecting students with regional businesses through its "SMART" offer**	**Circular economy hub for the city and region, organising the Circular Challenge**	**Real-world innovation platform**
TYPE OF INTERMEDIARY	☒ **HEI-external** ☐ HEI-internal ☐ Hybrid	☐ HEI-external ☒ **HEI-internal** ☐ Hybrid	☐ HEI-external ☒ **HEI-internal** ☐ Hybrid	☒ **HEI-external** ☐ HEI-internal ☐ Hybrid	☒ **HEI-external** ☐ HEI-internal ☐ Hybrid	☒ **HEI-external** ☐ HEI-internal ☐ Hybrid
SUPPORT FOR VIRTUAL COLLABORATION	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial
SUPPORT FOR INTERNATIONAL COLLABORATION	☐ Yes ☒ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☐ Yes ☒ No ☐ Partial
CURRICULAR INTEGRATION OF SERVICES	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☒ No ☐ Partial	☐ Yes ☒ No ☐ Partial
SUSTAINABILITY FOCUS	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☒ Yes ☐ No ☐ Partial	☐ Yes ☐ No ☒ Partial