

Report of findings

Final S₄S-conference Enschede

13/15 October 2021

Vennebroek Academic Services

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PROPOSAL FOR CITATION

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INVENTORY

LIST OF ABBREVIATIONS

LiU	Linköping University
UOL	University of Oldenburg
VAS	Vennebroek Academic Services
S4S	ScaleUp4Sustainability
ECIU	European Consortium of Innovative Universities
ECOR	Enabling Cocreation Cooperation and Shared Responsibilities (= Noble Technologies)



1 Introduction

As planned, we organized a final conference between 13-15 October, 2021, to present and discuss the results of all S4S-projects. After some virtual consortium meetings, we were glad to meet in person in and around the campus of the University of Twente. To prepare the conference, consortium partners summarized the results of their projects using a poster format with the following structure:

1. Facts (described quantitatively and qualitatively) and main elements
2. Main outcomes
3. What's new – how is the projects assessed?
4. Lessons learned & future plans.

At October 13th, we organized a meeting between delegates from LiU and University Twente regarding future challenge-based learning experiences within the ECIU organization. ECIU is an international network of research-intensive universities, with collective emphasis on innovation, creativity and societal impact. LiU and University Twente are members of ECIU, an online collaboration between universities that supports innovation and valorization (See Chapter 5). In addition, VAS organized a „green“ creativity workshop in which LiU-staff participated. In this ideation workshop, students discussed possible solutions for UN Sustainable Development Goal 4 (Education for all) using Lego Serious Play (see Section 2.12).

Apart from presenting the results of all S4S-projects, we aimed to refine and improve our findings during the plenary days, October 14 and 15. We focused on exchange of experiences and concretizing actions to disseminate our results via poster presentations (Chapter 2), World Café discussions (chapter 3), and the Borderstep Platform (Chapter 4).



20 consortium members participated in our final conference.



2 Poster presentation & discussion

During the plenary conference, 8 posters were presented and discussed. The remaining 9 posters were not plenary presented. These were discussed bilaterally. All posters are published on our website www.ScaleUp4Sustainability.eu and can be downloaded here.

Consortium partners gave their feedback using the following perspectives:

- Blue - What would a student think? (both good and bad)
- Yellow - What would a business partner think? (both good and bad)
- Green - What was good?
- Red - What can be done better?

During the S4S activities, consortium participants used these perspectives and considered these as a valuable evaluation format.

We categorized the perspectives that were made multiple times:

Student perspective

1. *Skills*. Which student **competences** are needed? What's in for me as student?
2. *Follow up*. Will the event **continue** and how can more students get opportunity to participate? If we get to keep the idea, are there any courses where we can continue to work with our ideas? Am I allowed to own my ideas and implement these? Can I work at your company after the Challenge?
3. *Tools*. how can you **support** the creativity processes of students?
4. *Assessment and grading*. As a student, I would like this assessment to be part of the **evaluation** of my examination of the course. How do you **assess and grade** my contribution? It would be great as a student to get kind of certificate on the entrepreneurial skill development that I achieved.

Business perspective

1. *Resources*. How much **time** do I have to invest as a business partner in a challenge? How do you prepare companies so that they know what to expect in such collaboration with students?
2. *Digitalization*. At considering an **online format**: how and do you at all want to attract more international businesses
3. *Tools*. Is there a **structure, toolbox** etc. for companies to establish spin-off experiences?
4. *Competencies*. As a business partner I am also interested to support/encourage my own sustainable entrepreneurship **competencies**. Can I also take part at the evaluation?
5. *Creativity & Innovation*. Great idea to create so many different channel judgements and ideas for your product. Good to obtain student ideas; it stimulates our "thinking out of the box"
6. *Finance*. Do you have internal funds ready to work with the ideas, or how do you arrange the work with the ideas afterwards?



7. *Results & impact.* How can my company benefit from your results? Is there any report? Are you sharing the concept in any other way?
8. *Follow up.* If we as a company want to implement the ideas into new products: how do we start up a collaboration like this? What is the business impact? Can the ideas be **replicated** to our other businesses? If a good idea is rejected by our company and the idea cannot be worked with by the students, can other companies come in and by the idea or will it just get lost? Or can it be used elsewhere?
9. *Intake of students.* How to make sure that our company get real motivated students participating in the challenge program?

Encouraging perspective (What was good)?

1. *Student / business collaboration.* Great that you have managed to develop this to a real center where you can continue the work! valuable both for your company and for students. I really like the idea that the business partners are challenge providers and coaches at the same time. Did you train the business partners to act as coaches? Great approach that students get involved in the processes that start-ups have to go through and are involved with different companies to learn different ways of dealing with situations. Great commitment from the company. Multi-background international teams: surprising ideas come to life; 10 weeks program allows enough time for students to internalize the challenge; results achieved despite it had to be online, this is a great starting point for a hybrid or physical forms for next editions.
2. *Methodology.* Good, that you systematized all the ideas and approaches within your company to give them what they need and to clear your interest and objectives while incubating them. Good combination of teaching self-reflection to the students and using the results to reflect on the effect of teaching methods on the university side. Good idea to use self-assessment as tool to show the students what progress they make. Good for the "technical students" that generally are not good and reflect upon their knowledge and skills. And in the end of the course implement these kinds of questions in a reflection paper. Make it standard in Entrepreneurship courses!
3. *Diversity of teams.* It's impressing that you involve students from 4 different departments. Also mixing students from different disciplines is a good way for them to learn how work in a company team would look like. A focus is on team diversity (different background, study course, skills) is a great recipe for learning.
4. *Follow up.* I like the buy-out process of the ideas, so that business can possess the idea without interference of patent rights etc. The buyback option is great! Adds a lot of relevance and motivation for the students. Great idea to make the ideas buyable so students feel their work is worth something for the company.
5. *Internationalization.* Nice to see how cross-border exchange could be organized between a large group of students and a business.
6. *Strategy.* Good that you are trying to improve and systematize the venturing process and more importantly you use different strategies.



7. *Competences*. What are the differences of “sustainable” compared to general entrepreneurial skills?

Critical perspective (what can be done better)?

1. *Methodology & organization*. How do you organize knowledge and experience sharing between the start-up of your incubator? How do you select the challenges – definition of a challenge is key, don't define problems too narrowly. The competence framework is rather complex and entails many, too many questions! I think it needs to be streamlined and leaner. The survey with the sustainable entrepreneurship competencies is valuable for short term outcomes, but not for assessing long-term outcomes. We also need a tool for monitoring/assessing long-term effects. Are the questions of the competence survey clear (=not too abstract) for students? The unit of analysis of the research has to be clarified: is it the entrepreneur, the company/business, or both?
2. *Time spending / duration*. Please expand time for the challenge a bit so that all can work a bit more in details than sticking on the surface!
3. *Follow up*. The follow up after the course would be very valuable; understanding that this is an academic course, still the link to the upscaling of ideas would be a great added value. You mentioned stakeholders' involvement: they can buy back what the students' developed, is there a mechanism to rate the % of successful ideas that are pursued by the companies? What happens with the ideas that are not picked up by the company? Is there a "way forward" for them? For startups for example? How do you integrate the workshop into a curriculum? Build an online community during the challenge! Provide a platform as a basis for collaboration. Could be accompanied by social online activities to form the teams. Think about "book a coach", not linking one coach to one team. Go forward with internationalization within the challenge! Can you install a monitoring process investigating what happens with the ideas/concepts generated by the students after the challenge and investigating the actual innovation/business impact?
4. *Digital & hybrid programs*. Think very carefully how to design the hybrid programs -physical and also online to make it work well.
5. *Tools*. How's the ideation process structured? Do you supply tools?
6. *Creativity & innovation*. how do you attract and organise radical innovative ideas?



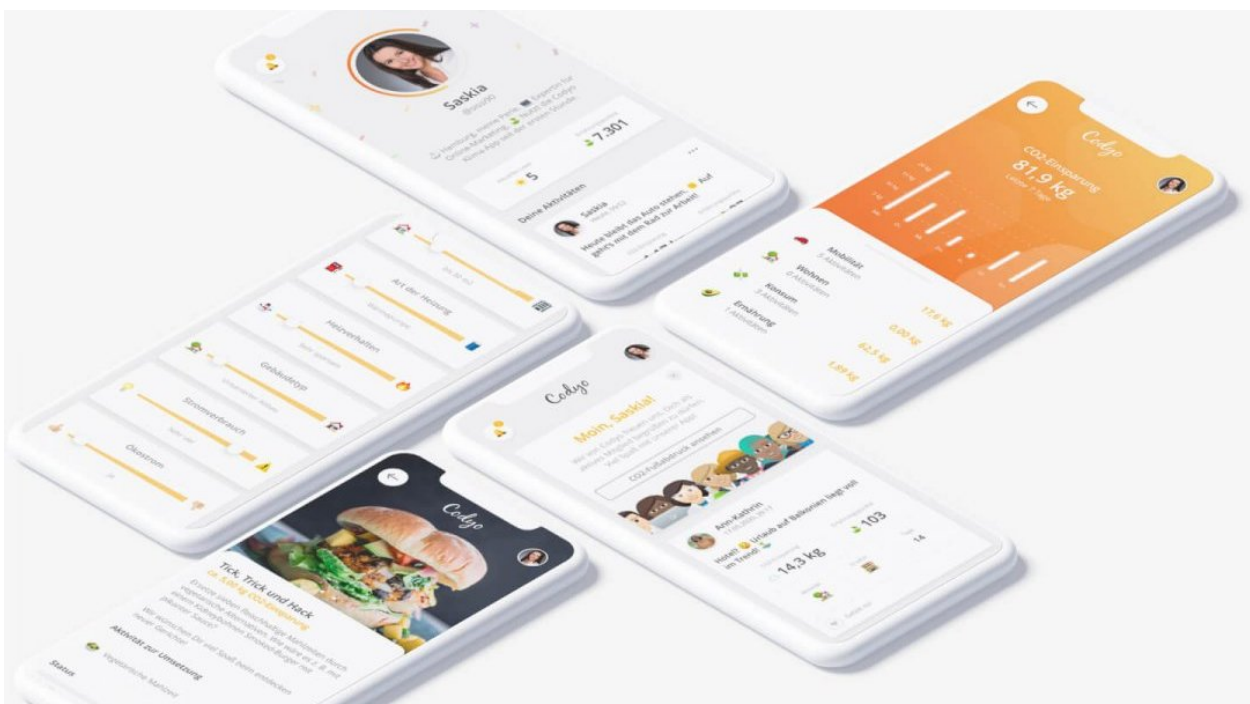
2.1 DIGITAL TRANSFORMATION: STRATEGIES AND SUSTAINABILITY

Facts & Main Elements

- Introduction of the new module "Digital Transformation: Strategies and Sustainability"
- Module was conducted two times
- University of Oldenburg: 2 lecturer, 98 students
- Business partner EWE: 7 coaches, 3 Intrapreneurs
- Online tools (miro, xd adobe, BigBlueButton, Microsoft-Teams)
- Online Pitches in front of a jury (EWE (VC, Head of HR) and University of Oldenburg)
- Term paper: process of the practical projects and general implications for the integration of social and ecological criteria in the context of digitalization
- Dissemination of the results within organization
- Use of the results for the validation and development of the sustainability-driven business model of an internal start-up Codyo

What's new? / Assessment

- A unique feature of the module is the role of the business partner. The business partner is both a challenge provider and a coach/teacher.
- Fully digital cooperation: teaching and collaboration
- Students learn and apply new agile methods, which are latest best practice methods
- Very positive evaluation of the result by the business partner. Recommendations of the students were taken up directly by the internal start-up and have been considered in strategic decisions.



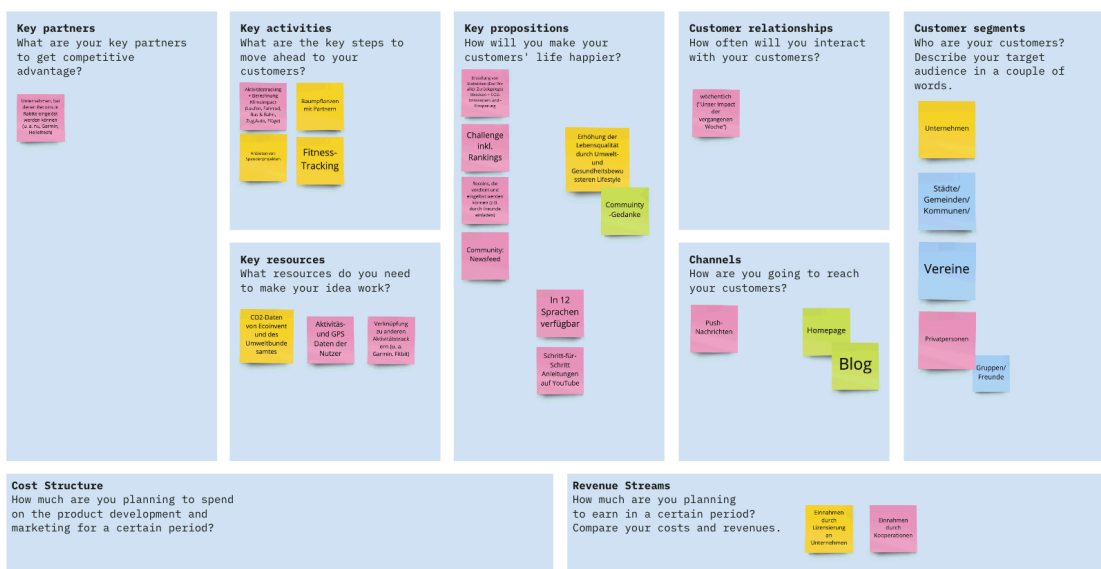


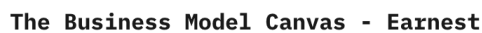
Main outcomes

- Students gain practical experience in use of agile methods e.g., design thinking, prototyping, lightning demos and market research methods e.g., interviews, panel survey in collaboration with a business partner.
- Students learn how digital business ideas are developed and validated.
- Students gain experience in using digital tools
- Students learn how sustainability criteria can be integrated into an ideation and business modelling process.
- Business partner gets a new perspective on its innovation process, new ideas for sustainable and digital ventures, and insights for the validation and development of the business model of an internal start-up
- Placement of internships of interested students



The Business Model Canvas - Changers



[illegible]

- In times of the corona-pandemic the digital implementation of the module was very successful. In the long term, offline events should also be integrated into the module.
- The personnel capacities are very high for the business partner. It is reduced in the second round and should be continued in the following rounds.
- The shift from ideation to the validation/implementation of the new ventures in the second round of the module leads to more directly usable results for the business partners.



- The difference between the project presentation and the scientific term paper could be clarified for the students in the future.
- Continuation of the business partner participation is conceivable due to the less personnel capacities and better usable results.

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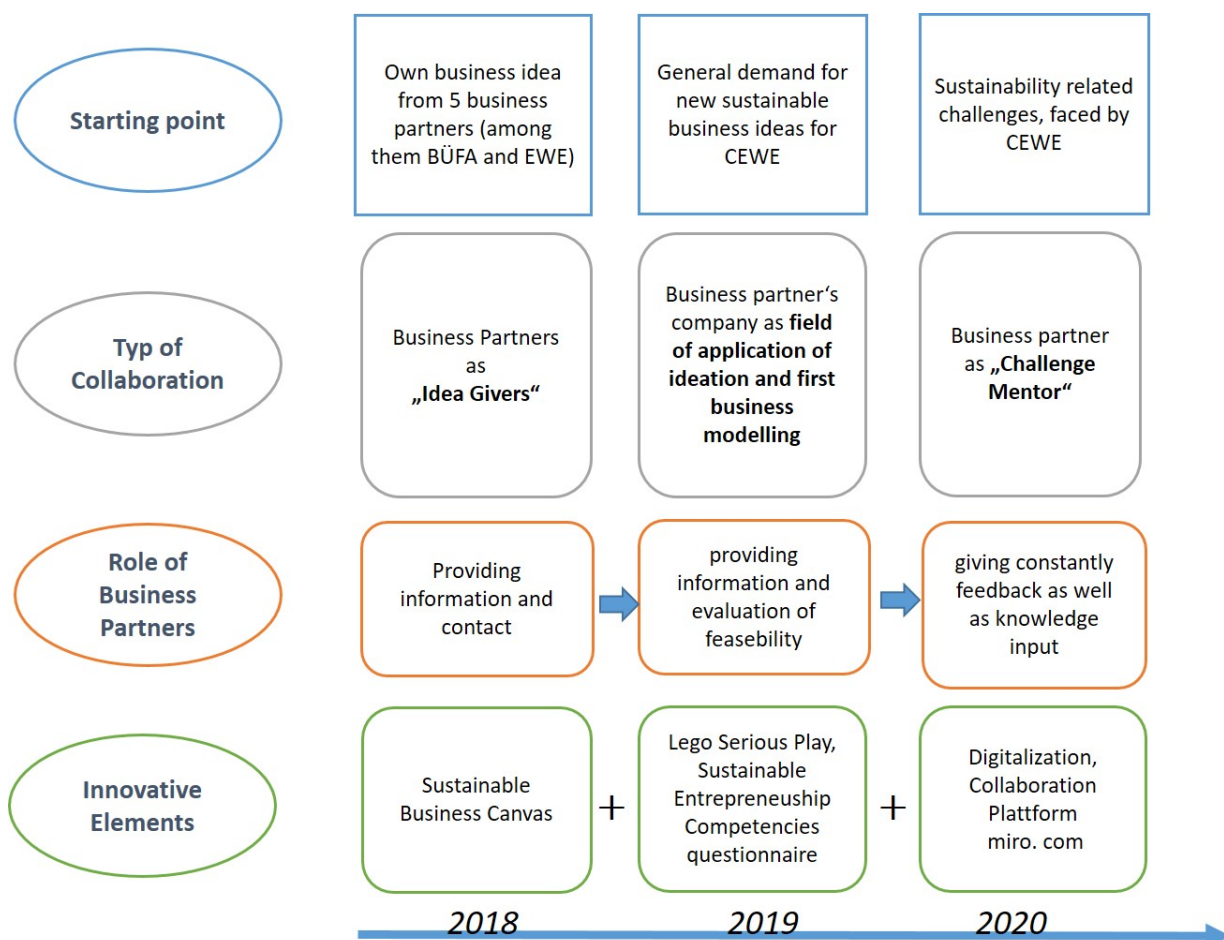
2.2 ECO-VENTURING: IDEATION & BUSINESS MODEL DEVELOPMENT

Facts & Main Elements

Revision of Master module, conducted by UOL since 2009

Implementation of extended version in 2018, 2019, 2020

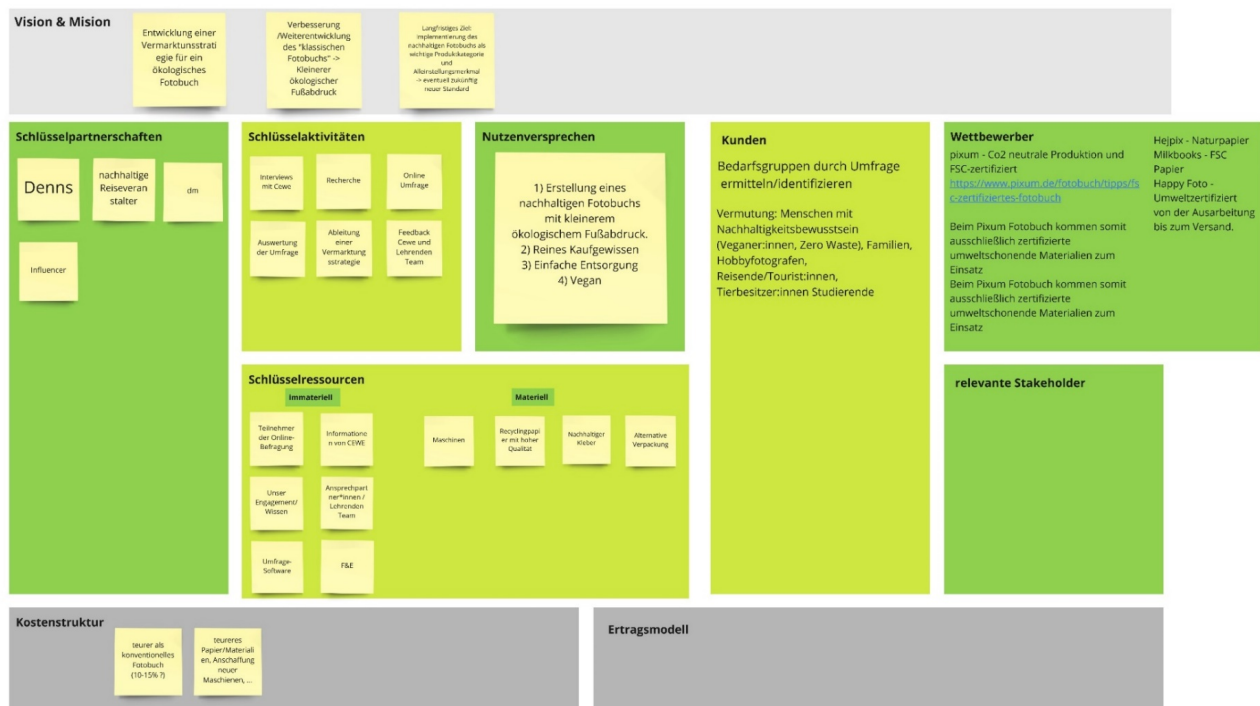
- **45 students, 4 lecturers and 6 business partners**
- **12 business ideas** have been developed

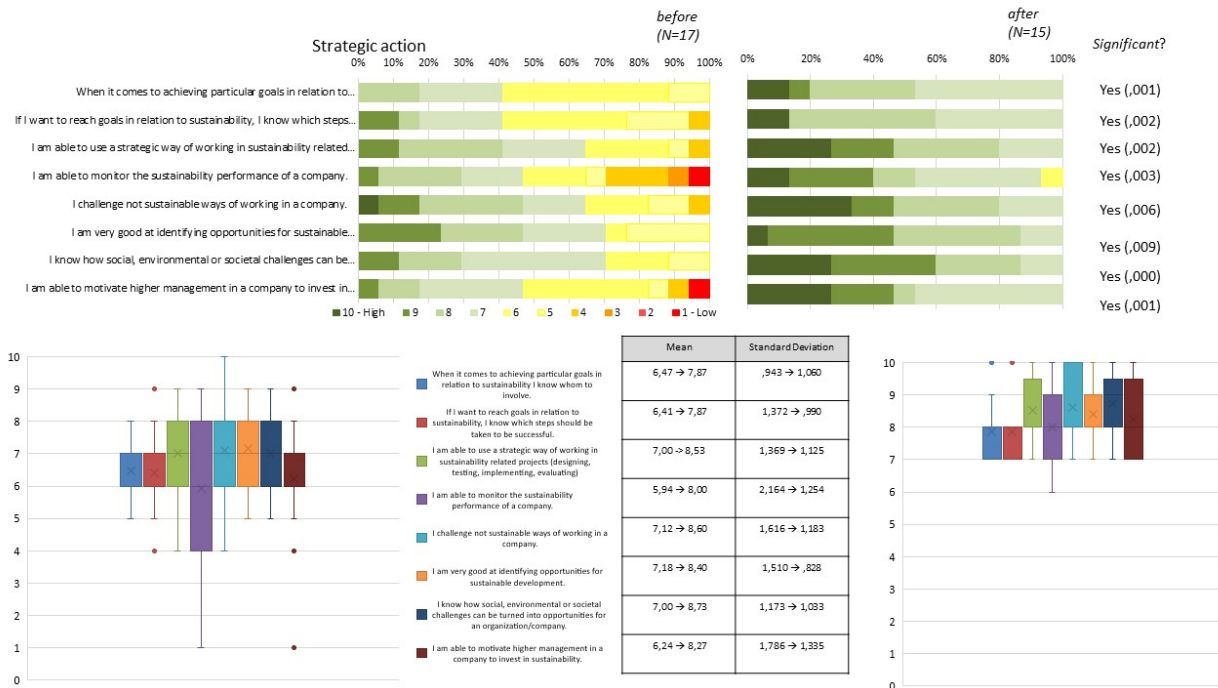




What's new? / Assessment

- 2019 /2020 Collaboration with just one business partner, but several challenges (CEWE), mentored by various managers from different areas of the company
- 2019 we tested to integrate more ideation tools than before, also Integration of Lego Serious Play for enhancing creativity and idea presentation
- Teaching input from business partner (2020)
- Online-Collaboration Board (miro) for working within project groups and for coaching process
- Introduction of Sustainable Entrepreneurship Competencies Questionnaire in 2019 and 2020





Main outcomes

- High satisfaction among students, business partner and lecturers (in the online version 2020 as well)
- Learning locations outside the university are motivating
- Focus on ideation can create good ideas, but implementation of this ideas by business partners is unlikely: Business ideas of the students in 2019 had been very welcomed at CEWE. In part, they had strengthened already existing considerations within the company, in part they have given new impulses. None of the developed ideas had been implemented.
- Solutions for business challenges of CEWE in 2020 have been more customized, though are not implemented in detail by now.
- Students developed their sustainable entrepreneurship competencies (at most in the area of strategic competences)
- New structure of course plan, detailed playbooks for every session: Facilitates the preparation effort for lecturers





Lessons learned & Plans for Future

- Module will be continued with new elements and new title: Sustainable Venturing
- High interest of business partners to participate
- Need to standardize structures and content on one side and staying flexible and individualize support appropriate to offered challenges on the other
- Challenge-based Learning-approach: forming projects that are challenging for students but doable AND innovative AND of high implementation interest to business partners
- „Expectation management“: defining and documenting the role of business partners and lecturers
- Going ahead with (a) international student competitions (e.g. European Sustainable Innovation Contest); (b) international exchange of teaching experiences; and (c) collaboration on the Sustainable Venturing Platform.

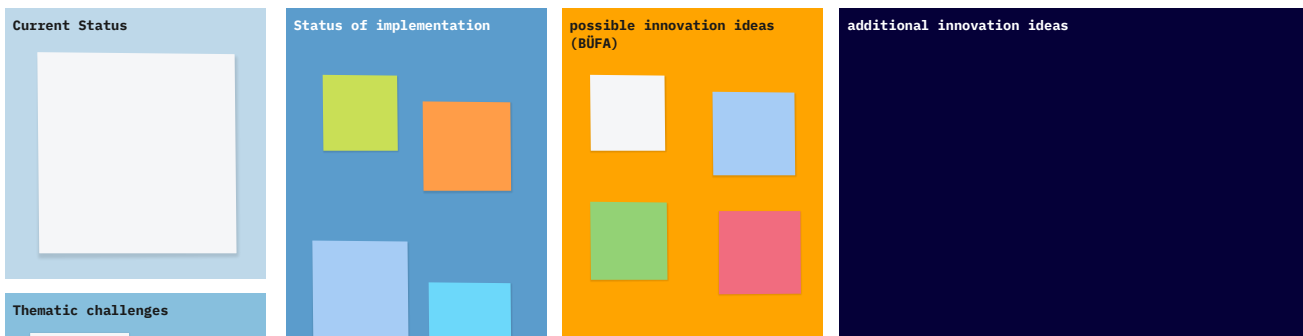
More information: prof.dr. Klaus Fichter (klaus.fichter@uni-oldenburg.de)

2.3 GREEN BUSINESS IDEA JAM

Facts & Main Elements

Responsible:	University of Oldenburg + BÜFA
Time:	Online kick-off and one-day face-to-face event (10h, October 2020)
No. of students:	11
No. of business personnel:	7
No. of teaching personnel:	3
Topics:	mobility, energy and carbon-offsetting

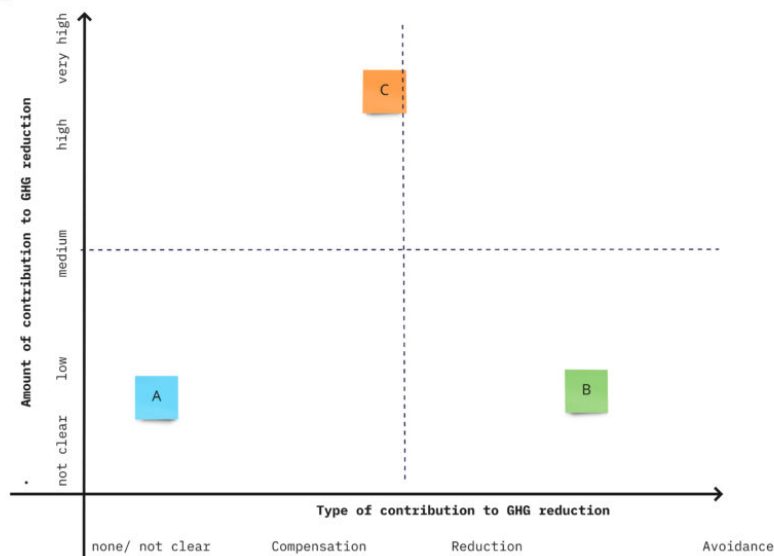




What's new? / Assessment

- New format of an ideation workshop
- Online kick-off-topics:
 - BÜFA's strategy for becoming carbon neutral
 - Factsheets with potential climate-challenges and first innovative ideas
- Face-to-face event with moderated sessions:
 - Discussion of existing ideas in the company and adding new ideas related to the specific challenge
 - Clustering of ideas by type of contribution to GHG reduction and amount of contribution to GHG reduction
 - Multi-point assessment to narrow down ideas for follow-up activities
 - Assessment of selected ideas by using an innovation radar method and guiding questions
 - Presentation of ideas and their assessment to BÜFA top management
 - Evaluation and feedback by the top management
- For the ideation process, the online collaboration tool miro was used.

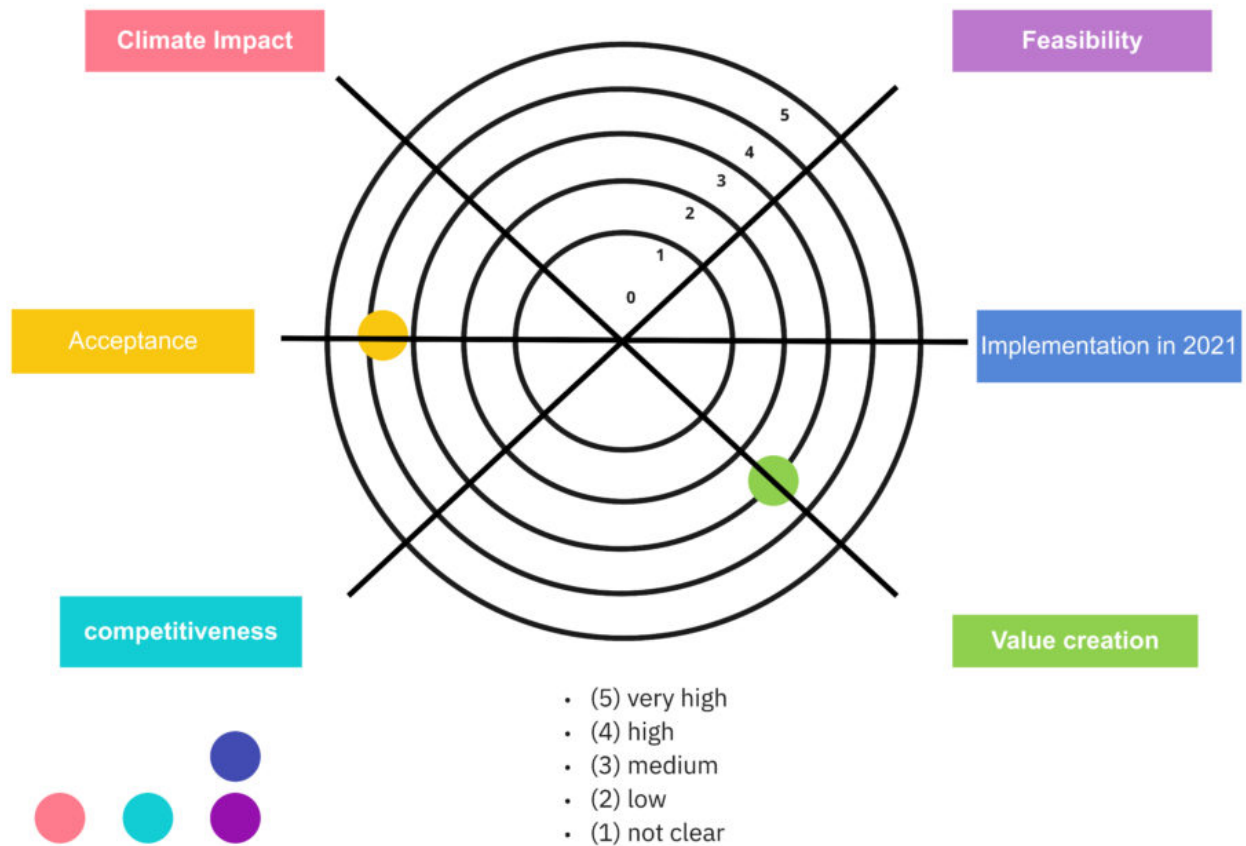
Climate potential





Main outcomes

- 7 new and sustainable innovative ideas to reduce BÜFA's carbon footprint in the areas of mobility, energy and carbon-offsetting. Assessment of the selected ideas with an innovation radar:



- Competence enhancement for BÜFA staff and students
- Follow-up of the developed approaches in a "Climate Challenge Seminar" as part of the curricular master's module "Innovation Management" in 2020/21

Lessons learned & Future plans

- The heterogeneous mix of students with different academic backgrounds was very helpful for idea generation. Recruiting students for an extra-curricular module is time-consuming
- High preparation effort: identifying relevant topics, coaching mentors, developing templates for miro collaboration tool
- Scalability depends on the number of company representatives who can support the process as mentors.
- The workshop is designed as a one-day event. Therefore, it should not be overloaded with too many topics.



- The combination of miro with a face-to-face workshop generated very good results.
- The Green Business Idea Jam can be adapted to other sustainability-oriented co-ideation formats with business partners and students.



Information at: prof.dr. Klaus Fichter (klaus.fichter@uni-oldenburg.de)

2.4 SUSTAINABLE ENTREPRENEURSHIP COMPETENCIES ASSESSMENT TOOL

Facts & Main Elements

- Student self-assessments (ex-ante and ex-post) to evaluate if Sustainable Entrepreneurship Competencies have developed during the module.
- Online-questionnaire
- Theoretical foundation: Ploum et al. 2018. Towards a Validated Competence Framework for Sustainable Entrepreneurship. Organisation & Environment 31 (2), p. 113-132.
- Implemented at UOL and LiU
- Complementary to central module evaluation and formative evaluation/feedback.
- Correlation between competence development and assessment of examination performance was not verified (before-after questionnaires could not be individually assigned).

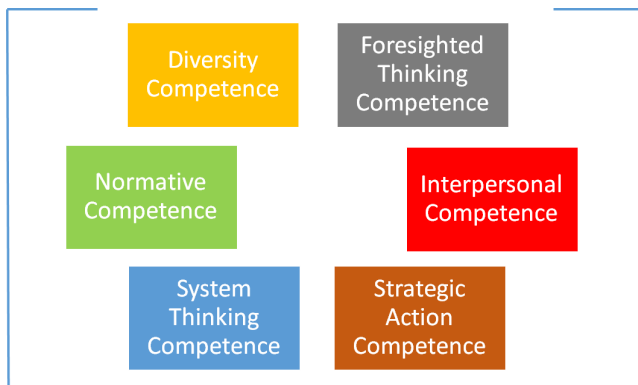


What's new? / Assessment

Focusing on the development of competencies complements the focus on business model development within the modules. It can provide good guidance for the development of teaching content and support within the respective modules.

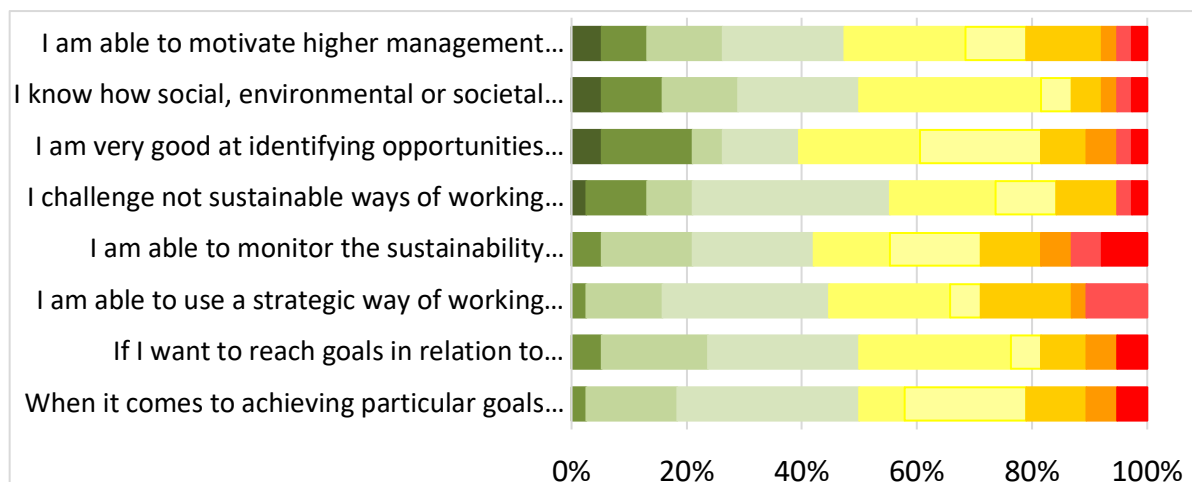
To consider:

- significance of self-assessment;
- influences of other parallel modules on the competence development cannot be isolated.



Main outcomes

- the development differs between the modules/universities.
- Competence development differs between fields: the area with the lowest rating at the beginning and then the greatest development in the area of Strategic Action Competence and System Thinking Competence (UOL)
- Example: Strategic action competence development in Environmentally Driven Business Development (LiU, 2020)
- Some parameters of importance (prel.):
- Study program
- Study course/module





Lessons learned & Plans for Future

- To ensure high response rate, integrate the survey into the module.
- Students have not been interested in learning about their own development (so far). Increased interest could lead to a higher motivation to respond.
- To fully evaluate the development linking of individual questionnaires (before-after) is crucial.
- A tool that can be used to also indicate previous knowledge – of value both for teachers and students.
- Not suitable for evaluation of short-term activities.
- Plans and ideas for the future
 - Identify the key questions and simplify
 - Personal tokens to link the individual questionnaires
 - Integrate the assessment as part of the feedback system in the modules

More information: Madeleine Larsson, Linköping University (SE) mail: madeleine.larsson@liu.se & Anne Seela, University of Oldenburg (GER), mail: anne.seela@uol.de

2.5 IMPROVING CORPORATE VENTURING PROCESSES – INCUBATOR ROLE

This project is conducted by 4 employees of Tekniska Verken: Emelie Detert, Matilda Skeppsby, Ingela Lindahl, and Erik Olsson.

Facts & Main Elements

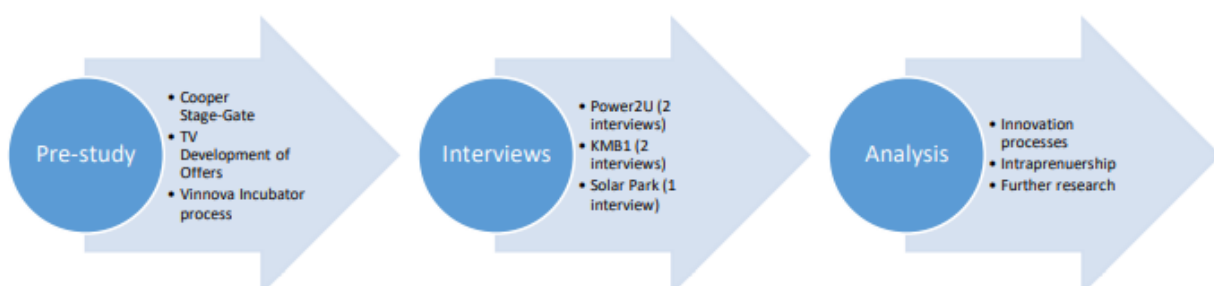
RQ 1. How and why were the different ideas initiated?

RQ 2. How were the different ideas financed?

RQ 3. How did the decision-making look like?

RQ 4. What was the key factors for the success?

In this project, the following work process and theoretical model has been used:





Theory - Stage-Gate model

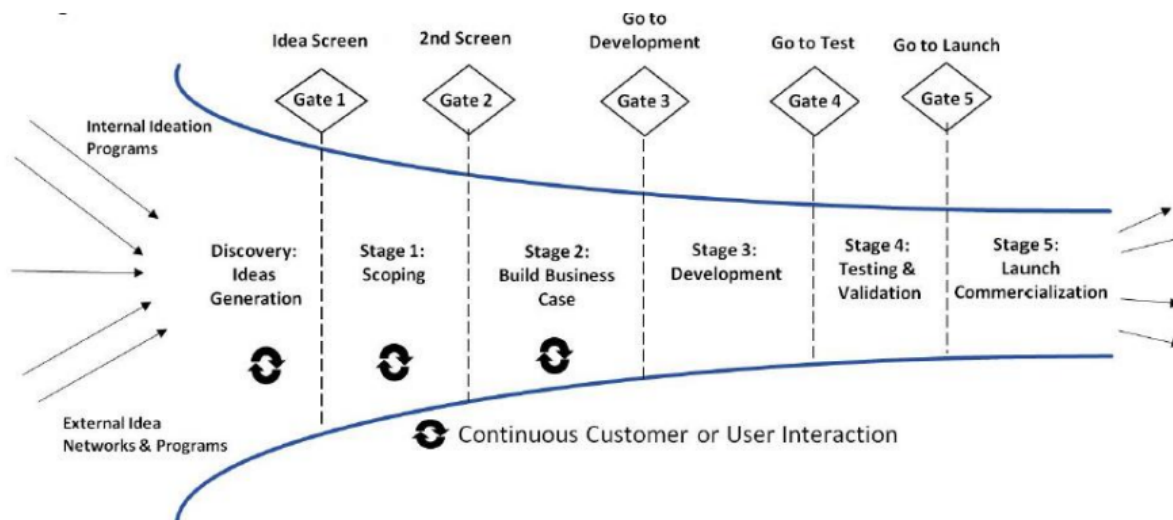
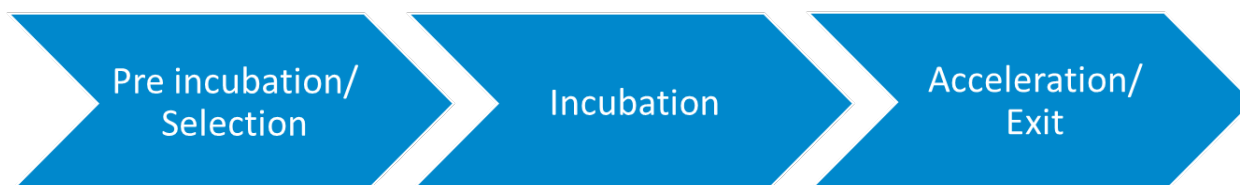


Figure 1. Typical Stage-Gate (Edgett, 2015).

Vinnova model of Incubation



What's new? /

Scoreboards were developed to track the development of the incubation projects:

Infrakulvert

BESKRIVNING AV AFFÄR

- Leverera en infrakulvert av plast och betong för underjordisk samförläggning**
- Tillsammans leverantören - Uponor - levereras en infrakulvert av plast och betong för underjordisk samförläggning av rör- och trådbunden infrastruktur.
 - Uponor erbjuder en komplett prefabricerad infrakulvert anpassad efter kundens behov. Tekniska verken bidrar med råd och insikter från egen verksamhet samt visning av befintlig kulvert i Vallastaden.
 - En infrakulvert underlättar nydragning, underhåll och förnyelse av infrastruktur, ger minskade störningar på samhället och möjliggör nya ytor ovan jord



STYRMODELL OCH PRODUKTÄGARSKAP

Tekniska verken äger produkten och patentet

- Uponor är säljande part och TvAB ger försäljningsstöd
- Uponor har licens att använda patentet under avtalstiden mot royalty, därefter förfogar TvAB fritt över hela konceptet

Beslut tas på styrgruppsmöten

- Ca 2 månaders mellanrum
- Varje part står för sina kostnader

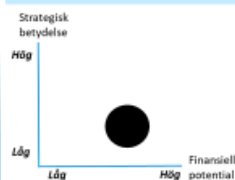
STRATEGISK RATIONAL

- Skapa framtida intäkter**
- Återbetala utvecklingskostnader
 - Generera stabilt kassaflöde genom att sätta ny branschstandard
- Möjliggöra framtida affärer**
- Tex uthyrning av yta för 6G, fjärrkyla, rörpost etc

INTÄKTER OCH KOSTNADER

- Investerat kapital**
- ?
- Nedlagd egen tid**
- ?
- Intäkter & Kostnader**
- Tekniska verkens kostnad 2020 = 640 tkr
 - Uponors budget är okänd
 - Försäljningsprognos 2025 = intäkter för Tekniska verken på 1,8 Mkr

KATEGORISERING



STRATEGI FRAMÅT

- Kommun och Industri strategi**
- Identifiera och prioritera kunder
 - Förbättrat presentationsmaterial, utbildningspaket
 - Bjud in till Vallastaden/event
 - Genomför event Vallastaden
 - Respondera reaktivt på intresse från konsult och internationella aktörer



Bee charging solutions

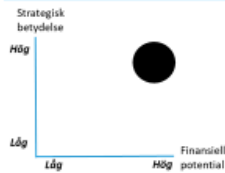
BESKRIVNING AV AFFÄR

- Laddoperatör - erbjuder laddlösningar för företag och privatpersoner**
- Laddning för hemmet, företaget, fastigheten och publikt
 - Installation, övervakning, service och UH, statistik, betalningslösning
 - Egna publika laddare, men ansluter också andra aktörers laddare till sitt publika nätverk, som är det största i Sverige
 - Löser administration kopplat till laddning för företag och fastighetsägare

"Vi gör det lätt att köra elbil"



KATEGORISERING



STRATEGI FRAMÅT

STYRMODELL OCH PRODUKTÄGARSKAP

Samägt AB med Jämkraft och Öresundskraft

- Fristående AB. Egen personal, vd och styrelse. Klas Gustafsson och Charlotta Sund med i styrelsen
- Formar egen affärsplan, äger sina egna produkter och produktstrategi

Elbilsaddning är en del av Tekniska verkens koncernerbjudande

- Bees erbjudande marknadsförs och säljs av koncernsäljare, men Bee ansvarar för leverans, fakturering

STRATEGISK RATIONAL

Infrastrukturbyggande

- Ny samhällsbarande infrastruktur?

Skala och spridning

- Inte lokalt - större geografi krävs

Intressant och relevant

- Gör Tekniska verken mer attraktivt och kan öppna dörrar

Disruption av elmarknaden

- Nytt sätt att sälja el

Effektstyrning

- Laddinfrastruktur kan användas för flexibilitet på elmarknaden

INTÄKTER OCH KOSTNADER

Investerat kapital

- Köp av aktier

- Aktieägarlån

-

Nedlagd egen tid

- Affärsutveckling

- Försäljning/kommunikation

- Styrelse

- ...

Intäkter

- Aktieutdelning

- Försäljnings-kickback

- Annan merförsäljning

- Goodwill

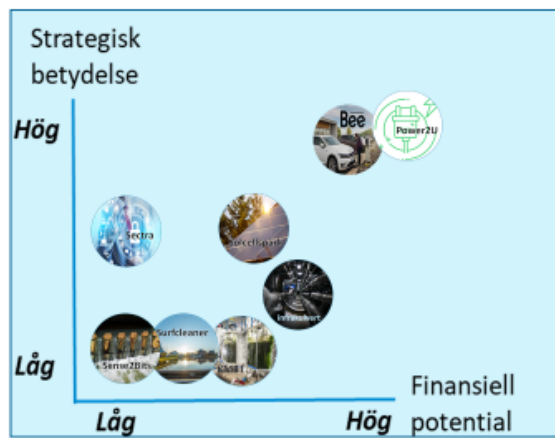
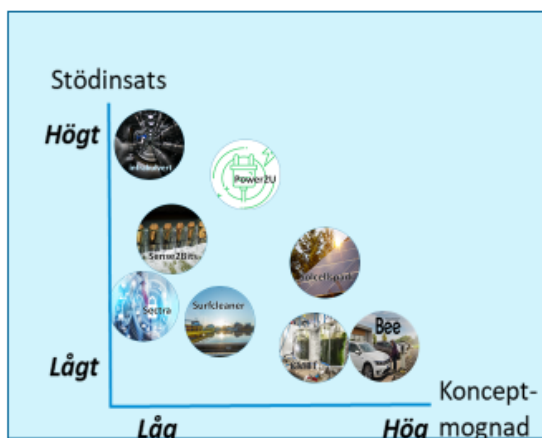


The Dual Dimensions of incubation

A framework that helps evaluate existing and potential incubation projects and determine when and how to use investment in projects as an instrument of strategic growth. Incubation defined by two characteristics: Main objective (Strategic or financial) and the degree it links (tight or loose) to the operations capabilities of the company. Clearly, neither of these two dimensions of corporate investing—strategic versus financial and tightly linked versus loosely linked—is an either-or proposition. Most investments will fall somewhere along a spectrum between the two poles of each pair of attributes. Still, overlaying the two dimensions creates a useful framework to help a company assess its current and potential investments.

In the project, a new structure and new tools were developed to track status of incubator projects:

The Incubator Projects





Three tools for building new business

	Build	Buy	Partnership
Level of risk	Low	Low - Medium	High - Medium
Speed of growth	Slow	Medium	Fast
Access to resources	Good	Good - Medium	Medium - Low
Link to current operation	Tight	Tight	Loose
External change	Small/Slow	Medium	Fast/Big

Main outcomes

RQ 1. How and why were the different ideas initiated?

The ideas have been initiated and motivated by needs or requests from customers and the internal organization but not as a part of a business expansion or development process. Overall, what could be said regarding the Idea generation is thus that the ideas have been initiated in an ad hoc way, rather than being planned or associated with a strategy development. The ideas have further been initiated by individual employees.

RQ 2. How were the different ideas financed?

The business models for the ideas are all different. One is based on a part ownership of the Energy Cluster that co-owns the initiative. Another is based on a Power Purchase Agreement, where TV AB owns 20 percent and an infrastructure fund the other percent. And a third is financed through R&D development, Patent fees and recruitment of a new employee, the business model is moreover based on a license agreement with partnership company as a license holder.

RQ 3. How did the decision-making look like?

The decision-making process have in detail been different for the different ideas. However, on a higher level two projects could be said being similar as they were based on internal decisions whether the ideas should be taken action on, then the TV AB board and the Municipal Council had to agree on the decision. What can be mentioned about the decision-making process is that it was slowed down by the fact that it had to go through the Municipal Council. In order to speed up the process, the ideas could be managed and owned by an owner structure similar to the Energy Cluster instead. Although for the third case, the decision was made in the Patent Council and partly by the former CEO. Further in regards of the project's time frames, the ideas show similarities.

RQ 4. What was the key factors for the success?

The ideas can be said being very different in their nature, they were initiated through different needs,



they have different business models and the process of the development of the ideas is differing. Moreover, it is difficult to evaluate whether the business ideas have been successful or not, since not all of them are commercialized and their success have not been analyzed and evaluated. More important, the ideas have mainly been driven by individuals with personal interest in the specific field or business model. This has most likely been crucial for the idea's success. For the different ideas, the preconditions for an efficient intrapreneurial activity have been different. Support from management, Goals and Values of the Company, Inner motivation and knowledge of the employees have been important. Sometimes intrapreneurs also expressed a resistance against Intrapreneurship in the organization and that the employee instead has to fight for the projects, something he claims not all employees can handle. This confirms the suspicions that there are low rule breaking tolerance, low support from management and that the working conditions do not favour Intrapreneurship. Moreover, what can be concluded is that the analysis model of Stage-Gate was not so applicable to analyse this type of radical ideas that are developed iterative and without any governing process surrounding. The Incubation Process from Vinnova however, is better suited to analyse these, more iterative processes.

Lessons learned & Plans for Future

How can one further develop the working process and thus accelerate the "Incubation role"?

In order to develop the working process of the Incubator role, the right preconditions need to be in place. By fostering a good working culture where the employees become the right tools and coaching so that the employees possess the right knowledge, skills and creativity. Additionally, the inner motivation and the attitude of the employees are important, which could be displayed clearly in several cases of success. In order to strengthen and improve these preconditions even more, it is important to attract suitable resources, establish networks, training and mentor sessions for the potential intrapreneurial employees.

Moreover, the goals and the values can as in the examples, be of importance to foster Intrapreneurship and by communicating and integrating these in the organization. Additionally, what is crucial for generating Intrapreneurial activities and thus accelerate the Incubation role, is support from the management in combination with an agility and rule breaking tolerance. This could in the interviews, be very important and is something that has been working well, but in some cases needs to be even better.

To improve this, a combination of "carrots and sticks" could be implemented. In order to speed up the processes, there also must be a clear and efficient decision-making process and what can be concluded from the projects is that the process, including decision-making both in the board and the Municipal Council, was rather slow. Moreover, the decision-making process must be clear and well known, so the Intrapreneur and other employees easily can navigate through the process. In those cases, where investments can be done outside of the company, the investments should be done in the way the Energy Cluster was done.

Plans - accelerate the "Incubation role"!

- Doing more and becoming better



More information: Erik Olsson, Tekniska Verken (Erik.Olsson@tekniskaverken.se)



Feedback on “The Incubator Role – Improving corporate venturing processes”

Blue - What would a student think? (both good and bad)

- As a student, I would love to be in an incubator company working on an idea that was spun out of Tekniska into the incubator
- Which student competences are needed?
- Will the event continue and how can more students get opportunity to participate?
- I have a revolutionary energy business idea. Can I apply to be part of the incubation program, even if my team comes from the outside. What incubation services could you offer to us?
- what does attract us students to give our great ideas?

Yellow - What would a business partner think? (both good and bad)

- It has value to boost innovation within the company - interesting to see what elements can be replicated to other businesses
- Can students be used more in line with how Fujifilm is working?

Green - What was good?

- Very interesting with the concrete tools that you can use!
- Good that you are trying to improve and systematize the venturing process and more importantly you use different strategies.
- Good, that you systematized all the ideas and approaches within your company to give them what they need and to clear your interest and objectives while incubating them.

Red - What can be done better?

- how do you attract and organize radical innovative ideas?
- Good idea to include students over the whole process but maybe you can gain from short workshops with groups of students with the basic questions to get information about what is are the most interesting approaches.
- It is not clear how the incubator stimulates sustainable innovation which has quite different business models and ecosystems requirements
- Difficult to answer. I didn't get the whole picture, e.g. the students get involved (probably my fault...). Question: will you cooperate with other organizations in the ESBK (East Sweden Business Region)-system in your role as an incubator? For example, with LiU Student Innovation?
- How do you organize knowledge and experience sharing between the start-up of your incubator?
- open up, be more unlimited, have more students



2.6 INTERNATIONALISATION STRATEGIES OF A CLEANTECH START-UP



Facts

- curricular module with 14 hours workload
- 165 Bachelor students (50% Dutch / 50% International)
- 1 academic partner (7 staff)
- 1 business partner (3 staff)
- 3 Bachelor theses
- 1 Bachelor studies project
- 2 Master's studies projects
- 1 international students collaboration project

Main elements

In Sweden:

- Technologies for electricity generation from industrial excess heat (Bachelor thesis).
- Drying and combustion of sewage sludge (Bachelor thesis).
- The European ORC-market – A study of the market's driving forces and obstacles, stakeholders, and potential future development (Bachelor thesis).
- General market and competition analysis (Bachelor studies project).
- Investigation of expansion of Againity into east European countries and the waste to energy market (Masters studies projects).
- Upscaling upcycling business - A study of support business ecosystems for upscaling upcycling businesses (Masters studies projects).

Swedish-Dutch knowledge exchange project:

- internationalization cleantech mini-case Againity in minor International Business of Avans UAS (3rd year program)
- individual work
- B2B focus (usually B2C-cases)
- delivery of one-pager with chosen go-to-market approach
- tutor feedback



What's new?

- real small-scale company, huge differentiated international market
- many individual assignments "business expansion" project
- digital exchange of knowledge with the company
- high level of technology for business students

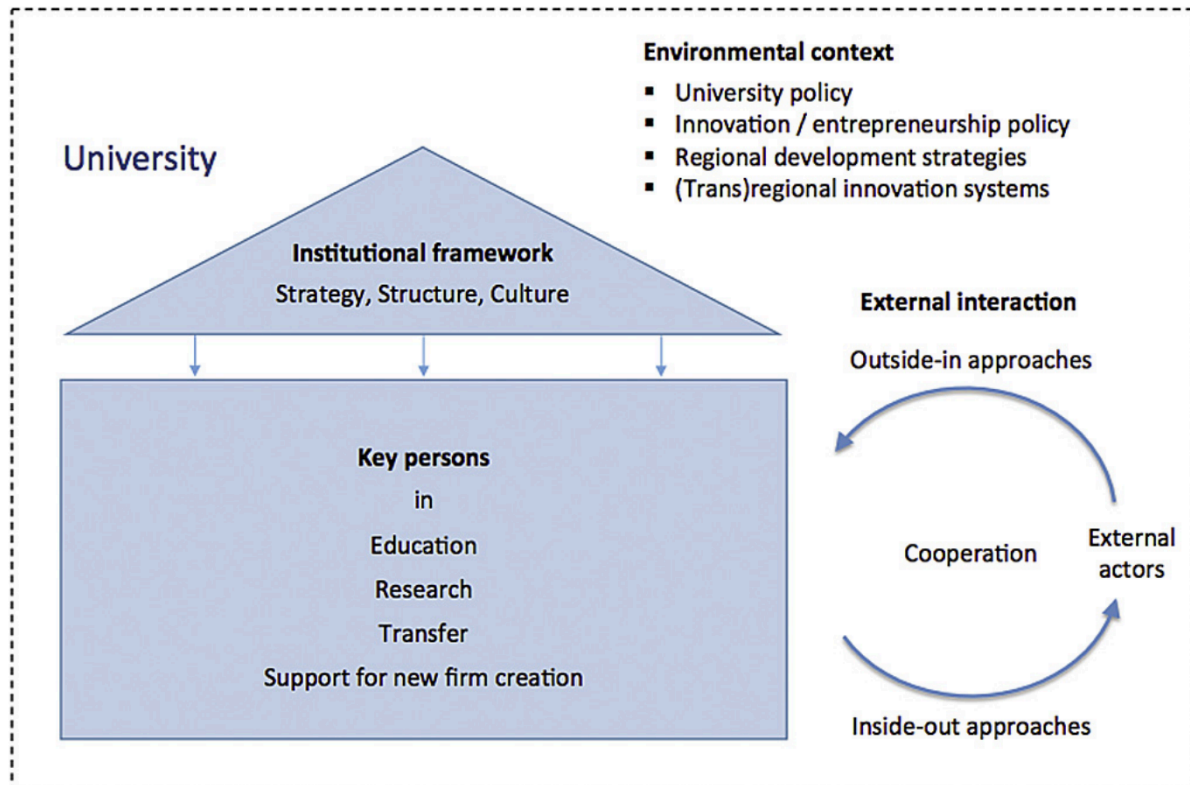


Figure 1: Potential areas influencing university collaboration with industry (Fichter and Tiemann, 2018)

In Sweden:

Againity's internationalization strategy

- Grow on the north European market (Baltic countries, Finland, Poland, Great Britain) by own sale personnel and sales agents/partners.
- Get closer to the industrial waste heat market.
- A long-term focus on waste-to-energy applications.
- Building strategic alliances with boiler manufacturers and consulting firms in the energy sector.





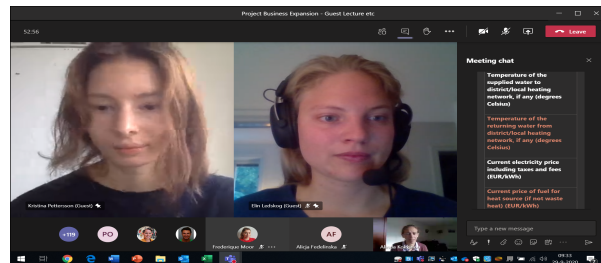
Swedish-Dutch knowledge exchange project:

- not formally at the activity level within the program
- students appreciated cleantech product/services internationalization from a B2B perspective (almost all cases used in the program are B2C)

Main outcomes

In Sweden:

- Overall analysis of the European ORC market.
- Alternative technologies and competition in northern Europe.
- Mapping of heat producers, including yearly production (GWh heat/year) and installed power (MW).
- Regulatory aspects, electricity prices, taxes.
- Specific projects on waste-to-energy in south-eastern Europe and electricity production from sewage gas.



Swedish-Dutch knowledge exchange project:

- 165 identified go-to-market opportunities / potential partners to work with focusing on a wide range of different countries and sectors
- better understanding of the complexity of real international business expansion of a (clean)tech case

Lessons learned & Future plans

- Challenging for students to meet both academic and company requirements.
- Composition of the student teams influenced their focus on either ORC technology or internationalization.
- more attention should be given to the feedback loop from students to company (time-plan, expected deliverables etc.)
- organizing a best-off presentation and feedback session with the company
- involving tutors more in the preparations helps increase the quality of their guidance and students' learning/end-product
- improve case introduction through recorded video followed by Q&A session



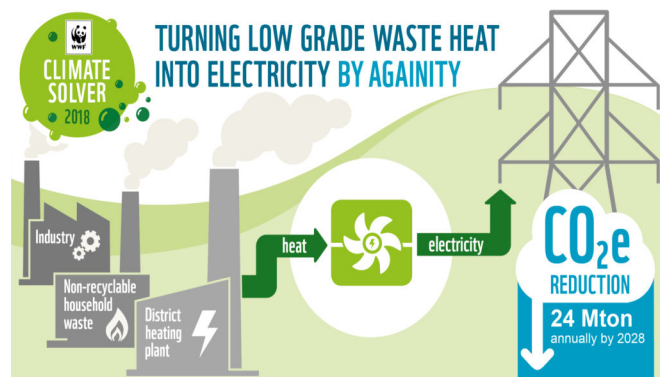
Information at:

Joakim Wren (joakim.wren@againity.com)

&

Rogier de Jong MBA

(rogieredejongmba@yahoo.com)



Feedback - Internationalization Cleantech

Blue - What would a student think? (both good and bad)

- It seems that you might be in the need of cross disciplinary student teams - i.e. both engineering skills and business skills, how can you improve the setup to reach this?
- It is a great opportunity and much fun to work on the challenge of internationalizing Againty products. It would be great to hear what happened with our student reports at Againty and how Againty could use our findings.
- The process is important!
But as a student, and in a course, how do I get graded for what I achieve on process level?
- Feedback Loops with the company could be useful to increase alignment
- I think that this format is not challenge-based learning, but research-oriented learning by students.

Yellow - What would a business partner think? (both good and bad)

- Collaboration between Avans (NL) - Againty (Swedish company). The challenge was not limited: students could pick up any sector, market segments, develop relevant channels, choose the target groups/customers. Outcome: report elaborating on the company's technology and its market strategy/route to market. Intake: important mapping of the company's opportunities based on the requirements (technical, engineering) of the company, very beneficial for the company and fun for the students that were used to standard case studies, they enjoyed the complex environment. Good preparation on the side of the organizers for the 'before/during', but points of improvements for the 'after'
- Great idea to create so many different channel judgements and ideas for your product
- I speak as a "stakeholder". This would be an interesting project for inGenious and ECIU, I think. Could this be something for Againty in the future?



Green - What was good?

- Great flexibility for students to choose the market for their essay, good digital involvement.
- Nice to see how cross-border exchange could be organized between a large group of students and a business
- Good way of both a case story from the real world of a start-up as well as an academic approach of understanding the real obstacles. Cleantech, as in this case means bio-based electricity production, that require specific requirements of external energy systems. Using international students must be a great way of getting boots on the ground and understand the local market.
- Great idea to make use of students abroad when focusing on internationalization. Could you involve teams in different countries looking at their own market?

Red - What can be done better?

- Is there really a difference between Cleantech internationalization and the internationalization of other startups? Sounds a little bit like the usual procedure - finding a niche market on a foreign market.
- How to scale up this format? Could it be a possibility to bring more "regional" cases into studies? How could be a pool of regional case studies look like?
- How do you scale up the process to more students, cases/companies?
- Missing out on the real outcomes of the project. Could be better presented. Upscaling and upcycling are extremely important and would require further research and activities for development.
- How do students deal with national factors such as language culture regulation industry structure competitors?

2.7 INGENIOUS: CROSS-DISCIPLINARY CHALLENGE-BASED LEARNING

Facts

- 8 hp – equals around 216 hours/ individual
- Part time, covering one semester
- Cross disciplinary teams (minimum 90hp of previous studies)
- International network and cooperation, ECIU
- English if English speaking students
- Two times per year and in total 60-80 students
- 10-14 groups solving external challenges annually

Main Elements

- Cross disciplinary work and cooperation
- Sustainable development – Agenda 2030, UN SDGs
- Challenge-based learning



- Idea development and conceptualization
- Communication - pitches

What's new?

- *CBL pedagogics: Inductive and student-centered method has been refined and developed further. But CBL is a new method, which requires a lot of development work to become perfect!*
- *External sharp real-life challenges recognized by openness, by means of that it could be adapted by the students to fit the group*
- *Searching for "a" solution rather than "the" solution*
- *Challenge providers takes the role of a "speaking partner" rather than being a customer and also participates more throughout the course*
- *Able to "own" by the students*
- *External stakeholder has been more involved, e.g. science parks and incubators etc.*
- *Interactive seminars such as Shitty prototyping, Responsible innovation, Pitch trainings*
- *Online and hybrid solutions has been developed*

Assessment

- *"Working with this team and project has brought me invaluable lessons about myself, teamwork and entrepreneurship"*
- *[...] "Due to my lack of experience of collaborating with interdisciplinary teams, I unintentionally developed negative feelings and thoughts of the future teamwork."*
- *[...] "However, as I grew into my role and found out more about entrepreneurship and my teammates, my perspective completely changed. At that point, I perceived uncertainty as an opportunity, rather than an obstacle."*

Main outcomes

1. *Equipped students with self confidence*
2. *The course has been developed further especially regarding sustainability and regarding ethics.*
3. *The pandemic situation has also given us valuable insights since we were forced into a distance mode. Several new platforms have been explored and used. Running the course in hybrid mode allows us to take on ECIU students from other universities also in the future.*

Lessons learned & Future plans

- *Lots of VUCA (volatility uncertainty ambiguity complexity) => needs to be handled.*
- *Students need to operate outside their comfort zone = Growth on individual level*
- *Student centered = lots of own responsibility*



- *21st century skills = Cross disciplinary teamwork entails that students have to interact, contribute and communicate. It also enables innovative thinking,*
- *We will write papers on How to work with external challenge providers and create great challenges for students; How to develop the role of teachers, teachers and facilitators*
- *We will participate in pedagogic activities and conferences.*

Learn more: <https://youtu.be/UT8vs2xxC5Q>

More information: Dr. Charlotte Norrman (charlotte.norrman@liu.se)

Feedback - InGenious

Blue - What would a student think? (both good and bad)

- I think it is really difficult to reflect and assess my own competencies and knowledge, how do you support me on that?
- If we get to keep the idea, are there any courses where we can continue to work with our ideas?
- I like the buy-back offer for business partners. Puts a price on valuable ideas and makes it "valued".
- I think creativity online is difficult, how do you support that processes?
- Seems like a nice program gaining 7etc and develop my entrepreneurial capabilities. Sounds like a poor outcome of new companies and hard to understand the process of what happens with the idea afterwards. How do I know the team is right for me?
- Really love this study course and that we could own our idea and decide whether to sell it to the challenge provider or pursue it by our own. I really would like to continue with a second run. Am I allowed to?

Yellow - What would a business partner think? (both good and bad)

- As a company I would like to bring a business partner into the course - as a joint effort. Is that possible? Who would own the idea?
- How much time do I have to invest as a business partner?
- How and do you at all want to attract more international businesses while you consider the online format?
- How do you prepare the companies so that they know what to expect in such collaboration with students?

Green - What was good?

- It's impressing that you involve students from 4 different departments
- It's excellent that the LiU-team implements this project jointly with the InGenious team. Excellent co-coaching!
- I like the buy-out process of the ideas, so that business can possess the idea without interference of patent rights etc.



- The buyback option is great! Adds a lot of relevance and motivation for the students.
- Great idea to make the ideas buyable so students feel their work is worth something for the company. Also mixing students from different disciplines is a good way for them to learn how work in a company team would look like.
- Hybrid participation is great for international students.

Red - What can be done better?

- The follow up after the course would be very valuable; understanding that this is an academic course, still the link to the upscaling of ideas would be a great added value. You mentioned stakeholders' involvement: they can buy back what the students' developed, is there a mechanism to rate the % of successful ideas that are pursued by the companies?
- Great but how do you select the challenges and do you ask students to use design thinking approach to challenge the challenge? Which is a weakness of CBL based on given narrow problems.

2.8 DATABASE OF TOOLS FOR COLLABORATIVE GREEN VENTURING

Facts & Main Elements

- 67 different approaches and tools for teaching sustainable entrepreneurship has been gathered from our respective educational programs. (Full list on team site.) These 67 consist of:
- 5 kinds of Lectures - Definition: "A discourse given before an audience or class"
- 7 kinds of Methodologies - Definition: "A body of practices, procedures, and rules used by those who work in a discipline or engage in an inquiry; a set of working methods."
- 11 Pedagogic Methods - Definition: "Parts of the pedagogic strategy of a course."
- 7 Toolboxes - Definition: A set of different models. Distinguished by each model in the toolbox.
- 26 Models - Definition: "A model demonstrates the researcher's interpretation of how concepts are related to one another and is developed based on qualitative research."
- 11 Workshops - Definition: "Self-contained, participatory lecture, aiming to practice techniques / skills that are under discussion"



Toolbox and Competence Framework

Mapping the collected Toolbox, focusing on Models and Workshops, with the Competence Framework:

Comp.	Description	# of Models	# of Workshops
1.1	Use your imagination and abilities to identify opportunities for creating value	5	1
1.2	Develop creative and purposeful ideas	0	3
1.3	Work towards your vision of the future	3	6
1.4	Make the most of ideas and opportunities	14	2
1.5	Assess the consequences and impact of ideas, opportunities and actions	4	1
1.6	Value chain and stakeholder analysis	8	1
2.1	Believe in yourself and keep developing	0	4
2.2	Stay focused and don't give up	0	4
2.3	Gather and manage the resources you need	0	2
2.4	Develop financial and economic know how	12	2
2.5	Inspire, enthuse and get others on board	1	5
3.1	Go for it	0	5
3.2	Prioritize, organize and follow-up	16	1
3.3	Make decisions dealing with uncertainty, ambiguity and risk	0	4
3.4	Team up, collaborate and network	1	7
3.5	Learn by doing	2	3



Entrepreneurial Skills and Competences - a proposal

Combining the The EntreComp Framework 2016 with the research from Ploum et.al. (2017¹ and 2018²) we create a list of entrepreneurial competences for the sustainable entrepreneurship education:

Areas	Competences	Description
1. Ideas and opportunities	1.1 Spotting opportunities	Use your imagination and abilities to identify opportunities for creating value
	1.2 Creativity	Develop creative and purposeful ideas
	1.3. Vision	Work towards your vision of the future
	1.4 Valuing ideas	Make the most of ideas and opportunities
	1.5 Ethical and sustainable thinking	Assess the consequences and impact of ideas, opportunities and actions
	1.6 Value chain and stakeholder analysis	Ability to identify and analyse strengths and weaknesses the whole value chain and relevant stakeholders
2. Resources	2.1 Self-awareness and self-efficacy	Believe in yourself and keep developing
	2.2 Motivation and perseverance	Stay focused and don't give up
	2.3 Mobilizing resources	Gather and manage the resources you need
	2.4 Financial and economic literacy	Develop financial and economic know how
	2.5. Mobilizing others	Inspire, enthuse and get others on board
3. Into action	3.1 Taking the initiative	Go for it
	3.2 Planning and management	Prioritize, organize and follow-up
	3.3 Coping with uncertainty, ambiguity and risk	Make decisions dealing with uncertainty, ambiguity and risk
	3.4 Working with others	Team up, collaborate and network
	3.5. Learning through experience	Learn by doing



Questions for discussion

As presented, we have a good variety of Models and Workshops covering all of the desired Competences to train in sustainable entrepreneurship education.

These parts of a course setup can be communicated to teachers who want to expand and develop their courses.

- *Q1: How should we disseminate this Toolbox to our colleagues at our (and other) universities?*

As we can see, there are gaps and weaker parts of our offering to our students.

- *Q2: Should we aim to develop our own Toolbox further?*

More information: Wisdom Kanda, PhD (wisdom.kanda@liu.se)

2.9 “ENVIRONMENTALLY DRIVEN BUSINESS DEVELOPMENT”

Facts & Main Elements

- The module aims to develop the capabilities to formulate and plan a business solution for an environmental problem.
- It is 6 ECTS and has been offered since 2013.
- Approximately 250 students (50 yearly) from two engineering programmes (Energy and Environmental Engineering, Industrial economics).
- Students work with own ideas sometimes suggested by external actors such as companies.
- Idea generation, Shitty prototyping, Value creation forum and final exhibition are central activities on top of lectures and workshops.
- NABC, BMC, Porters five forces are central frameworks





What's new?

- Involvement of a business partner (Tekniska verken) throughout the module. Previously, business partners had mainly been involved at the start of the module and in a guest lecture.
- New format for idea generation seminar
- Improved format for feedback on project reports.
- Increased focus on sustainability dimensions of entrepreneurship.
- Digitalization due to pandemic



New business areas for biogas

One of the most environmentally friendly fuels available today faces major market challenges. Identify new business opportunities for future marketing of this resource-efficient product.



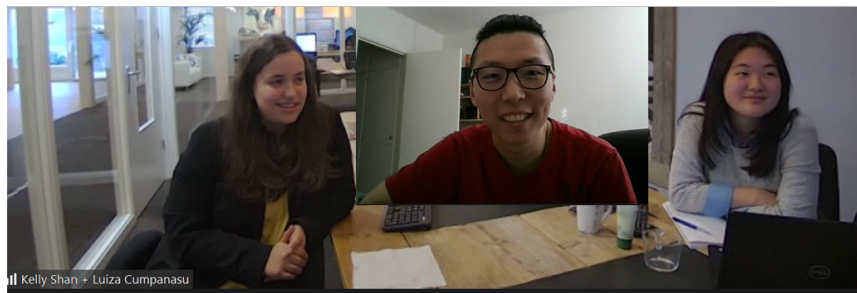


Assessment

- Students liked the developments.
- Business partner noted that many ideas generated from students were not in line with Tekniska Verken's mission. Could perhaps be influenced by even closer participation in the module.

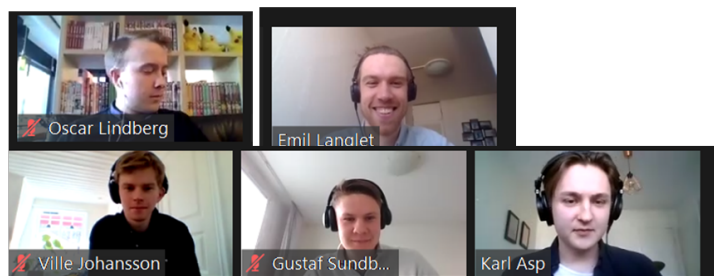
Main outcomes

- Approximately 40 business plans.
- Three student start-ups developing their own ideas in the module.
- One start-up recently awarded for their innovation.
- One university start-up helped in drafting their first business plan.
- New digital formats such as at the European Sustainability Innovation Contest.



Above: Team **Imprimis**, Auxulus sustainable lenses .Winners in two categories: Most Original Idea and Best Movie

To the right: **GOLOWCO2** (Linköping): App for Climate Footprint of Food. Winner in the category: Most Sustainable Idea.





Lessons learned & Future plans

- Well-functioning module with an indicative impact on students' skills and attitudes
- We will keep the focus on students own idea. Mainly since it would require too much work to scout for external ideas. That approach is used for other modules offered to the same students.
- Digital tools such as Mural for documenting workshops and pre-recorded lecturers will be further developed and used even in on-campus mode.
- Digitalization on focus of students' own ideas makes the module scalable and transferable.
- Development of individual reflection portfolio:
- My development journey as an environmentally driven entrepreneur

More information: prof.dr. Olof Hjelm (olof.hjelm@liu.se)

2.10 COCREATE WORKSHOPS "CIRCULAR CHALLENGE"

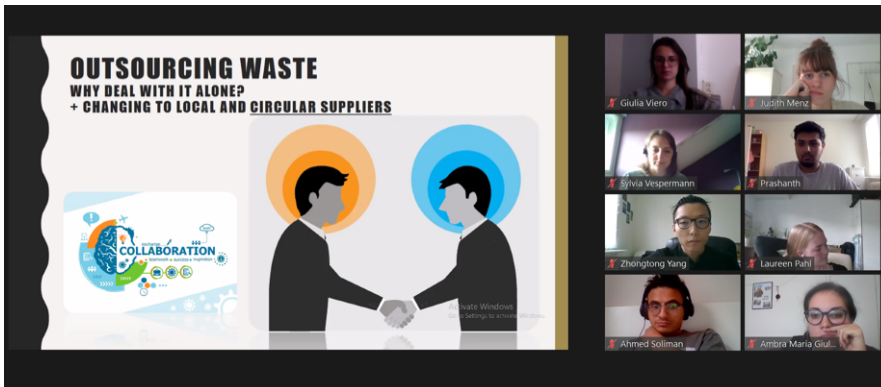
Facts

- 1 or 2 day (8-16 hours workload)
- extracurricular
- 56 Master students
- 4 academic partners (10 staff)
- 5 business partners (10 staff)



Main Elements

- student teams developed innovative & feasible ideas and presented these to expert juries
- sustainable innovation process instead of supplying content
- different backgrounds (acad. / national) interdisciplinary teams
- companies & coaches assisted the teams on demand
- discussion of results with jury of circular experts
- use of Mentimeter (barriers, drivers)
- certificates of participation / winning



What's new?

- new educational format of Student / business collaboration in green venturing
- digital or on campus
- students organize, S4S-facilitate
- businesses provided coaching during the sessions
- *"The counselors where helpful"*

Assessment

- overall rating 8.9
- commitment 8.7
- enough time 6.6





What are the most important barriers to adopting a circular business approach?



Main outcomes

- 7 new business ideas
- students with high entrepreneurial attitude
- "Learning how to work with people from different backgrounds and solving real case studies is fun"
- "Useful, enjoyable, helps you gain lots of experience and a deeper understanding of circular business"
- "Circular challenges can be solved with out-of-the-box creativity"
- "In a short time creating innovative and real solutions is possible"





Lessons learned & Future plans

- "Well-establish companies struggle with implementing circularity"
- although time pressure is part of the challenge, more time is appreciated - > more attention towards time management is needed
- supply more content: add toolkit to structure ideas,
- add more aspects: detailed company information, consumer viewpoint, possibility to network with companies
- Challenge-for-Impact short-term programs (2022 – 2024)



More information: Dr. Frans Stel (f.g.stel@utwente.nl)

Feedback - Circular Challenges

Blue - What would a student think? (both good and bad)

- what methods do I learn, what is my benefit as a student, how does it fit into my curriculum
- Nice, but how does this experience help me in my study and/or in my future career? Nice answer deliberate practice, connections with industry/new network and learning to deal with failure and yet persevere.
- How do you continue with our ideas? Is the end of the project the end of the idea? Knowing this will really help me with motivation.
- Green - What was good?
- It's very interesting that a startup takes this role and the challenges that you addressed in that. Will it be published somehow?
- Great that you have managed to develop this to a real center where you can continue the work! valuable both for your company and for students.
- I really like the idea that the business partners are challenge providers and coaches at the same time. Did you train the business partners to act as coaches?
- one day, short, very effective



Red - What can be done better?

- What have been the impact for Ecor so far? Hard to understand from the presentation. Good emphasis of the issues that it looks different over the world and the disposal system process flow is very different over the world. Think you should make the program larger and deeper to increase the outcome for both the students and Ecor.
- Please expand time for the challenge a bit so that all can work a bit more in details than sticking on the surface!
- Yellow - What would a business partner think? (both good and bad)
- Is there a structure, toolbox etc. for companies to establish spin-off experiences?
- Business partners should be prepared to formulate their challenges well to give the necessary information for the students to get started and not spend too much time on having to understand the challenge. I think that takes quite a lot of time and the challenges shouldn't be too specific.
- How can I as a company leader become part of this?
- A good answer about what I as a stakeholder/business partner can get out of a challenge-day like this. To get emails from students that had joined the challenge-day is a great response - especially if they want to do master thesis :-)

Feedback - Sustainable Entrepreneurship Collaboration

Blue - What would a student think? (both good and bad)

- wow, so this module really improves my skills, when can I take it
- Is the grading part of a workshop or reflection seminar? Or is it just a survey?
- As a student, I would like this assessment to be part of the evaluation of my examination of the course. Could you grade my thesis/report with these questions? Are they a tool for the teacher to grade our competences?
- It would be great as a student to get kind of certificate on the entrepreneurial skill development that I achieved.
- Nice, but as a student do I get feedback after the 1st and 2nd assessment - how does it help me with my goals and how should I interpret the results? Can this help me with creating teams with a mix of competencies?

Yellow - What would a business partner think? (both good and bad)

- As a business partner I am also interested in my own sustainable entrepreneurship competencies. Can I also take part at the evaluation?
- I am a business. I want to support/encourage sustainability in my company. Can I work with these same skills?

Green - What was good?

- The focus is on diversity: background, study course, skills. And there is a (to be fine-tuned) framework behind it: It is a great recipe for learning
- Good condensed graphical overview that helps to get a quick impression of the results.
- Good combination of teaching self-reflection to the students and using the results to reflect on the effect of teaching methods on the university side.



- So interesting! If I want to use this in my courses - How long (many ECTS) does a course have to be, to see that the students developed entrepreneurial skills/understandings?
- With this type of course, you develop skills in students, not stuff. Isn't that a wonderful advantage to advertise such a format for many students
- good idea to use self-assessment as tool to show the students what progress they make.
- This is great! We should make an assignment when a course starts, when students fill in a forum and reflect about their knowledge and what they think they have to develop during the course. Good for the "technical students" that generally are not good and reflect upon their knowledge and skills. And in the end of the course implement these kinds of questions in a reflection paper. Make it standard in Entrepreneurship courses!
- Great presentation of a very important topic. Complex issue described in an easy to understand and positive way. What is the difference of "sustainable" compared to general entrepreneurial skills? I believe the entrepreneurship competence is the same regardless of the market. However, you need to understand your product and market delivering a product for, and sustainability is a macrotrend looking for many new solutions?
- Continuation of the assessment will in the long run help to identify the improvement of the performance/effectiveness of the modules.

Red - What can be done better?

- why stay subjective with the self-assessment - and try to assess the students' ability with the business partner and the academic partners
- The competence framework is rather complex and entails many, too many questions! I think it needs to be streamlined and leaner.
- The survey with the sustainable entrepreneurship competencies is valuable for short term outcomes, but not for assessing long-term outcomes. We also need a tool for monitoring/assessing long-term effects.
- Are the questions clear (=not too abstract) for students?

More information: Dr. Frans Stel (f.g.stel@utwente.nl)

Follow up and spin-off effects of the Circular Challenges for ECOR

S4S-partner ECOR benefitted from and contributed to knowledge exchange and cross-pollination of learnings. We describe some spin-off and follow up effects. ECOR's knowledge has been increased how to implement sustainable business, and how to structure relationships with the academic world.

ECOR has supplied the following sustainable challenges in the S4S-project:

- low availability of healthy, clean, transparent, simple materials
- limited application of theoretical frameworks circularity/sustainability-innovation-route to market/business
- supply chain and transportation disruptions



Added value of students for ECOR

Student teams and Individual students provided solutions towards:

- understanding drivers and barriers to the above elements - involving a wide spectrum of stakeholders
- tailoring applications of ECOR's business models to local environments (e.g. India)
- bringing in fresh ideas, while ECOR's experts facilitate (co-creation).



Added value for ECOR

- By developing and experimenting with new business models ECOR has increased its network of universities, research institutions, and other sustainable businesses

Contribution of ECOR to S4S:

- S4S-project # 11: Increased focus on Sustainability in cross-disciplinary modules
- S4S-project # 12: negotiation festival
- S4S-project # 15: Ecosystem as enablers of upscaling business (ECOR supplied a case)

Lessons learned & Future plans

- S4S as the launching platform and starting network that fosters students-business collaboration
- Due to S4S, ECOR has more cross-pollination with more universities and partners
- After S4S, ECOR aims to further develop guidelines and a toolbox to organize follow-up activities with stakeholders (incl. students, young professionals)
- ECOR includes the S4S-findings in policy-making and sustainability & circularity standards development

More information: Giulia Viero (GiuliaViero@ecorglobal.com)



2.11 NEGOTIATION FESTIVAL

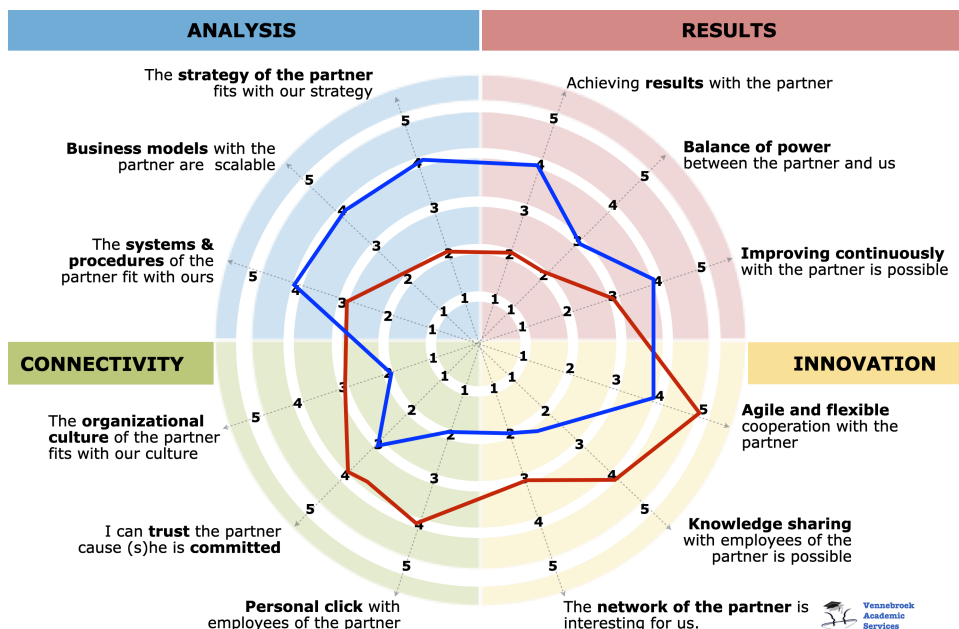
Facts

- extracurricular 1-day (8 hours workload) workshop
- 72 Bachelor & Master students
- 8 academic partners (8 staff)
- business partners (6 staff)



Main elements

- Global collaboration - different time zones
- Presentation of negotiation research
- Testimonials of cross-cultural negotiation experiences
- HR-manager tips of do's & don'ts regarding job interviews
- Tool kit of partner assessment
 - Practicing the selection process of foreign alliance partners: strategizing, speed dating, negotiating, selection & choice



What's new?

- ## Assessment

- # About negotiations, I like to know...

When recruiting someone, what are the most important aspects?

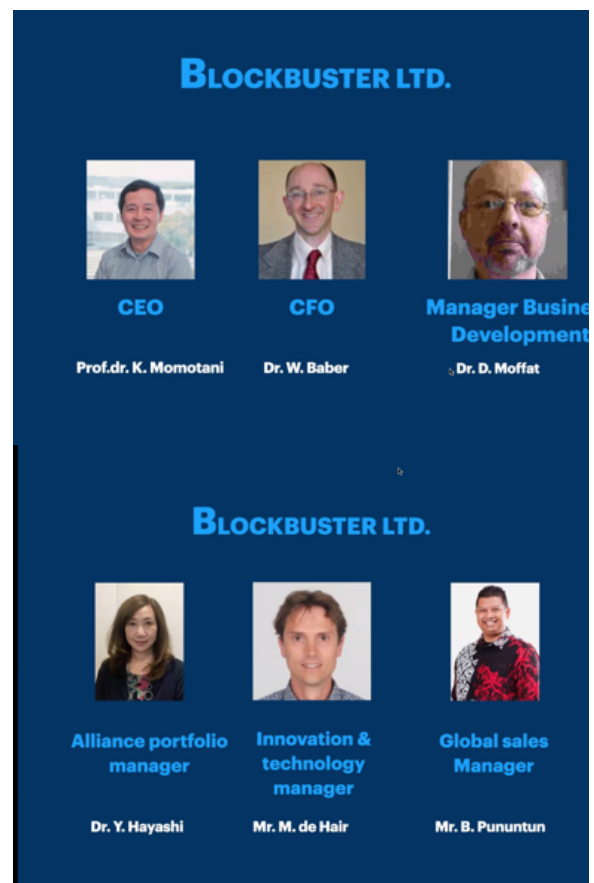
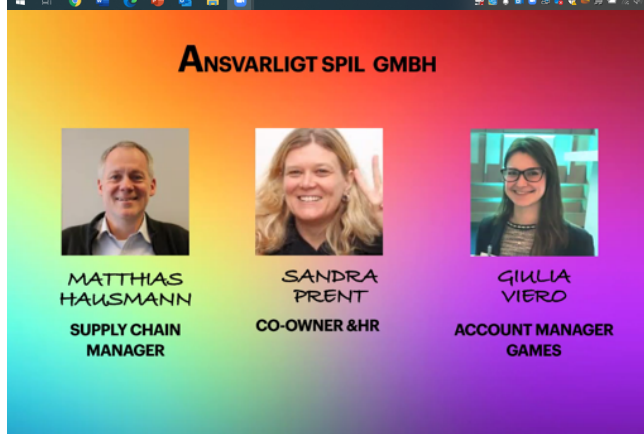
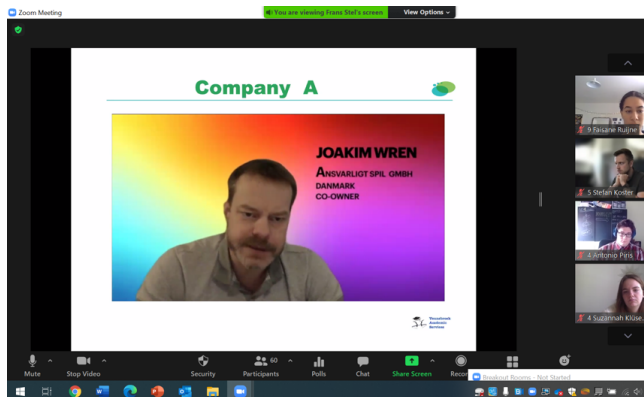




Main outcomes

- improvement of negotiation skills in international business setting
- increased understanding of the dynamics of negotiations task & relationship related issues
- more awareness and skills concerning distributive ("zero sum") and integrative ("win-win") contexts
- insights in drivers & blockers of international partnerships

Representatives from various nationalities played roles as potential partners:





Lessons learned

- content relevant and appreciated
- organizational changes required
- program 9:00-17:00 CEST too long -> impossible in different time zones
- cultural / religious aspects deserve more attention (prayer time etc.)

Future plans

The Negotiation festival will be repeated in a different form: alliance game, cross-cultural negotiation exercises etc.



More information: Dr. Frans Stel (stel@createnewbusiness.com)



2.12 "GREEN CREATIVITY" WORKSHOPS

Facts

- curricular 1-day (8 hours workload) workshops
- 6 Master theses (30 ECTS, 840 hours workload)
- 299 Master students (Twente) (up to Sep. 2021)
- 20 Master students (Oldenburg)
- 3 academic partners (6 staff)
- 1 business partners (15 staff)



university of
 groningen

Main Elements

- literature review, transcription, coding and qualitative analysis of creative processes in teams.
- quantitative analysis of personality, team climate and team creative performance.
- shared story telling using Lego Serious Play (LSP): video pitch
- measuring arousal levels during creativity



Shared story telling with LSP

Theoretical constructs

Personality (Big-6 – Ashton & Lee, 2009); Team Psychological Safety (Edmondson, 2009); Participative decision-making (Muehlfeld, et al. 2011); Voice (Zhou & George, 2001); Commitment (Carson et al., 2007); Collaboration Styles - Dual concern theory (De Dreu et al., 2001); Self-Efficacy (Chen, Gully & Eden, 2001); Emotional intelligence (Wong & Law, 2002); Team performance (Gibson et al., 2009).

What's new?

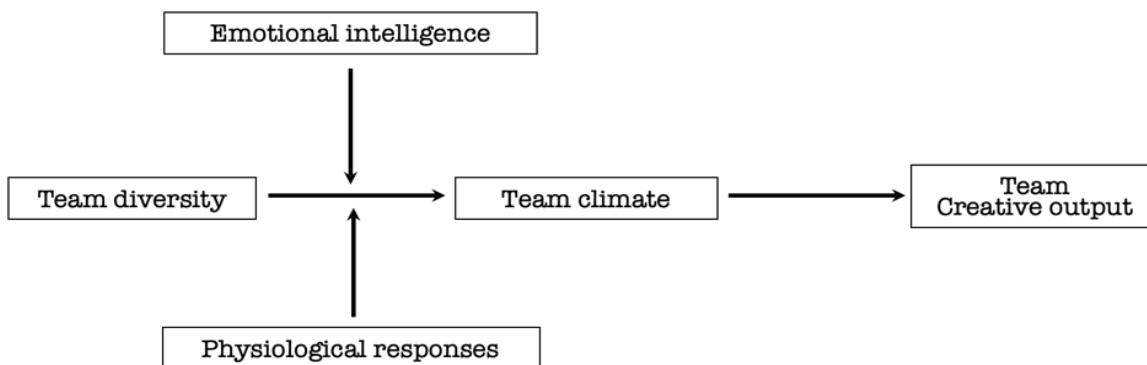
Applying social psychology, biology & innovation theory simultaneously to solve sustainability problems



Video pitch with solutions

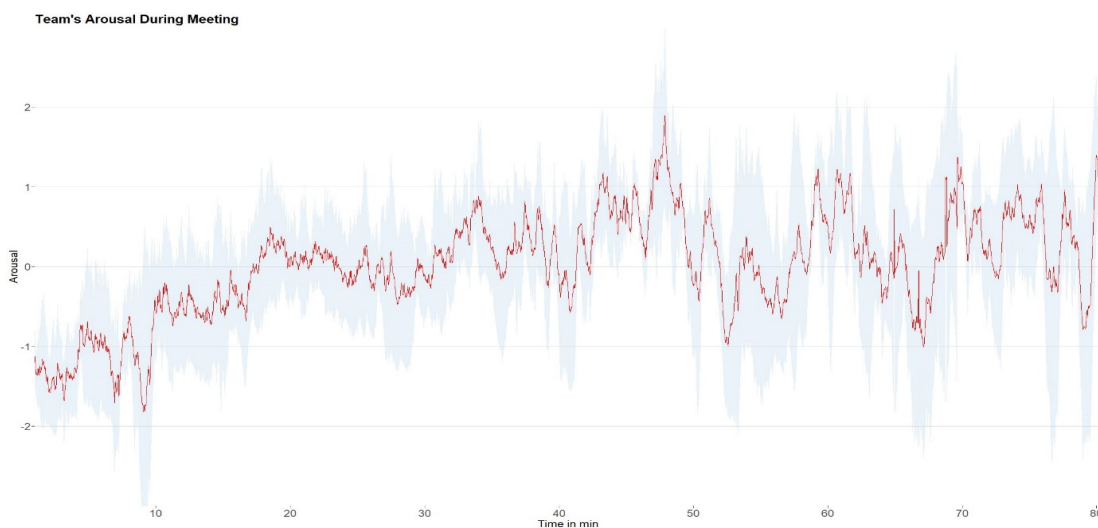


Research model



Measuring arousal levels

Arousal levels will be related to the above-mentioned theoretical constructs in relation to team creative output.



**SUSTAINABLE
DEVELOPMENT GOALS**

**“Develop an innovative and feasible solution
to the accessibility of education for
all boys and girls
in low-income countries”**



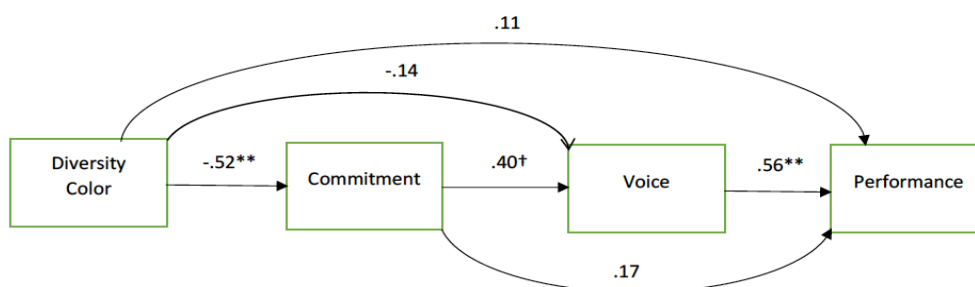
Main outcomes

- 5 new business ideas for Cewe
- 6 Master theses (2022)
- insights in drivers & blockers of creative team performance (team composition, personality, team climate)
- increased understanding of the dynamics of task & relationships
- improvement of creative problem solving in sustainable settings



Lessons learned & Future plans

- team diversity influences indirectly team performance because it correlates highly negatively with someone's commitment to a team.
- lower levels of commitment lead to less "voice" in a team
- voice is a strong predictor for team performance.



** $p < .01$; * $p < .05$; † $p < .10$

More information: Dr. Frans Stel (f.g.stel@utwente.nl)



2.13 DIGITALIZING & UPSCALING FUJIFILM FUTURE CHALLENGE

Facts & Main Elements

- 10 week 110 hours (4 ECTS)
- 222 Bachelor & Master students
- 5 academic partners (40 staff)
- 1 business partner (29 staff)
- co-creation with Fujifilm's open innovation hub to develop new sustainable business models with Fujifilm's technologies
- substantial award: trip to Barcelona
- 3 plenary sessions: kick-off, midterm, endgame
- weekly coaching - progress monitoring
- international interdisciplinary teams
- per team: 2 video pitches (team, solution) and 2 business models (initial, validated)
- research: impact of entrepreneurial traits and innovators DNA on new venture creation





Examples of new business ideas:

FUJIFILM Regenerantia

All-In-One Solution for Burn Wounds

- Doesn't stick to the wound
- Easy to use
- Relieves pain
- Little care necessary
- Protection against external influences
- Helps the body to heal faster

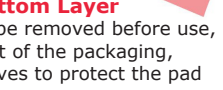
Top Layer

part of the pad, protection against clothing, dirt and other external influences



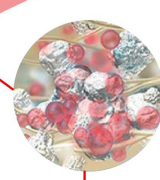
Bottom Layer

To be removed before use, part of the packaging, serves to protect the pad

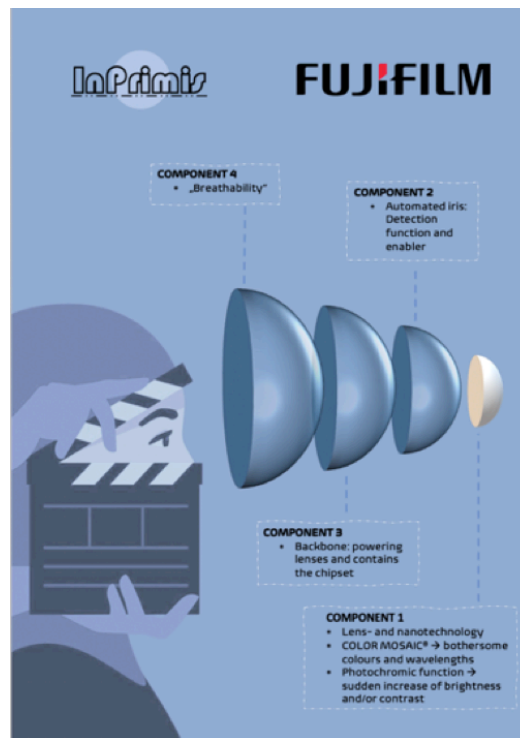


Main Layer

Hydrogel mixed with Astaxanthin and local numbing agents



created by THE FUTURIOUS



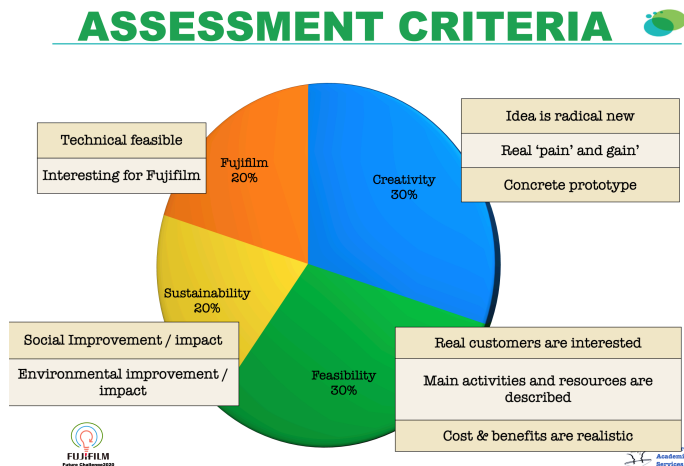
What's new?

- Lower drop-out ratio of student teams (coaching)
- Improved innovativeness of ideas (training, tools)
- More in-depth analysis of the business ideas
- Learning communities
- larger international scale
- digital format
- new tools (checklists, templates, progress monitor)



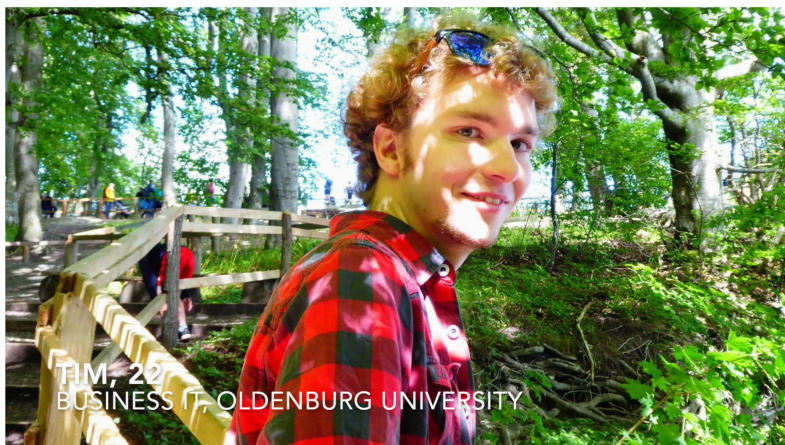
Assessment

- Interest > complexity:
 - Ideation (8.0 > 5.2)
 - Customer development (7.1 > 5.1)
 - Team (8.1 > 6.9)
- Commitment: 8.4
- Overall rating: 8.1
- Recommend to others 94.4%



In the Fujifilm Future Challenge international teams of multiple universities participate:

TEAM INTRO 7: Virtual Brainz



Main outcomes

- 47 new business ideas
- new detailed organizational playbook, new scripts,
- templates of business models,
- checklists of ideation and customer validation
- students developed their innovative skills in a real high-tech setting





Lessons learned & Future plans

- commitment and team processes are a strongest predictors of new venture performance
- more attention towards team building, before program
- more (formalized) coaching
- intensify communication
- supply content on demand: substitute the plenary sessions to small instruction modules (videos + exercises)
- focus on highly entrepreneurial / highly motivated students => motivation interviews
- more team diversity and larger scale adds to impact (business/tech/creative disciplines, nationalities)

More information: Dr. Frans Stel (stel@createnewbusiness.com)

Feedback - Fujifilm Future Challenge

Blue - What would a student think? (both good and bad)

- They want to suck our ideas for nearly free. They can do the business which I could have done had I not offered them my idea. What is in it for us? Money, Presents, ...? Hope they recruit me afterwards.
- Can I work at Fujifilm after the Fujifilm Challenge?
- It's cool to work on a project for such a long time and mix with students from different universities and different study topics.
- Sorry, I didn't get the challenge. As a student a challenge should be open, so I can see myself helping solving a problem, finding a solution. To concrete I can feel unsure to help the group out. Can students choose their project? Also, important to be engaged a feeling involved in a project. That's why I want to participate in a course and a project I choose, not "forced" into.
- The outcomes of this challenge would be a great start for students taking an entrepreneurship course at the Uni

Yellow - What would a business partner think? (both good and bad)

- If we as a company want to do this, how do we start up a collaboration like this? Have your engagement led to real, new products? How to make sure that we get real motivated students?
- Great program that has seems to have had good development during the project. Question is the business impact? What numbers of new ventures or what happened to the ideas after the educational program. Facing a common problem of training entrepreneurs or making entrepreneurs of "regular people".
- good to have ideas from outside the company; thinking out of the box
- If a good idea is rejected and the idea cannot be worked with by the students, can other companies come in and by the idea or will it just get lost? Or can it be used in another course?



- Green - What was good?
- Great commitment from the company
- Nice that it is international
- Multi-background international teams: surprising ideas come to life; 10 weeks program allows enough time for students to internalize the challenge; results achieved despite it had to be online, this is a great starting point for a hybrid or physical forms next
- Real contribution to providing students with insights into the innovation process and challenges them to be creative, it is also energizing for educators, researchers and business
- Great involvement of students in the most realistic setting possible, also good use of digital and international coworking. Students helped to overcome creative dead ends, combination of ideas that were not thought of before.

Red - What can be done better?

- What happens with the ideas that are not picked up by the company? Is there a "way forward" for them? For startups for example?
- Think very carefully how to design the hybrid programs -physical and also online to make it work well.
- Curricular Integration
- You supplied us with a lot of information that was leveraged very fast and rather unstructured. This makes it hard to follow so a nice summary of what principally has been done and can be learned would have been nice. You also made an overdue of the time given.
- Feedback to Student on Idea Pick-up
- Build an online community during the challenge! Provide a platform as a basis for collaboration. Could be accompanied by social online activities to form the teams. Think about "book a coach", not linking one coach to one team. Go forward with internationalization within the challenge!
- A monitoring process investigating what happens with the ideas/concepts generated by the students after the challenge and investigating the actual innovation/business impact.
- You should consider to test mixed teams by students and Fujifilm employees/managers jointly working on the challenge.
- How is the ideation process structured? Do you supply tools

2.14 ECOSYSTEMS AS ENABLERS OF UPSCALING BUSINESS - JOINT RESEARCH

Facts

- 40 - 840 hours workload (0-30 ECTS)
- curricular / extracurricular
- 6 Master students (3 teams of 2 st.)
- 4 academic partners (6 staff)
- 6 business partners (20 staff)





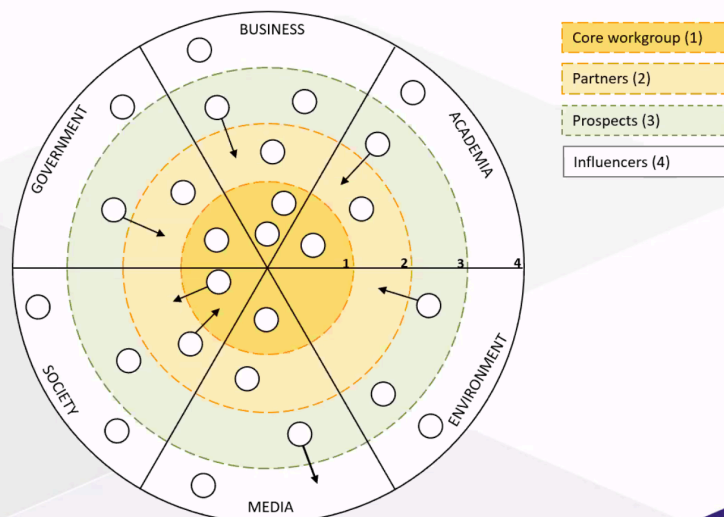
Main Elements

- 3 teams of students (Netherlands & Sweden) conducted case studies, presented their findings and exchanged knowledge
- cross-country student / business research & workshops
- research manual
- discussion of tools

THE DEGREE OF ENGAGEMENT DIAGRAM

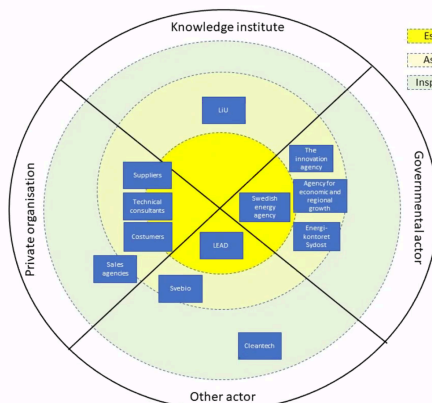
It consists of **three elements**:

1. **Six segments** representing main stakeholder groups
2. **Four concentric circles** representing different degrees of engagement
3. **Inward and outbound movements** of stakeholders between circles of engagement

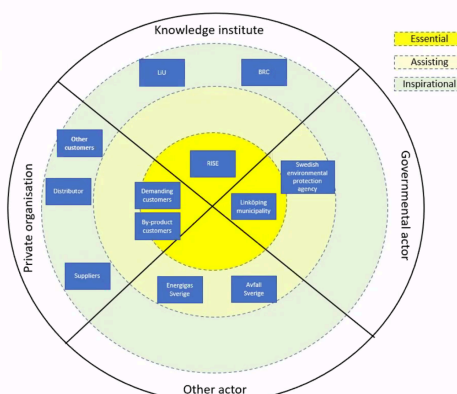


Key actors

Againity



Tekniska Verken





What's new?

- local cases studies, international discussion
- cross-country & cross-case analysis

Assessment

- very satisfied and motivated students
- self-starting student teams
- grades "excellent" (Sweden); 8 - 8.5 of Master theses (NL)

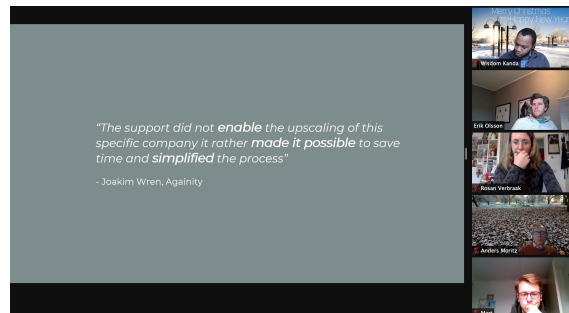
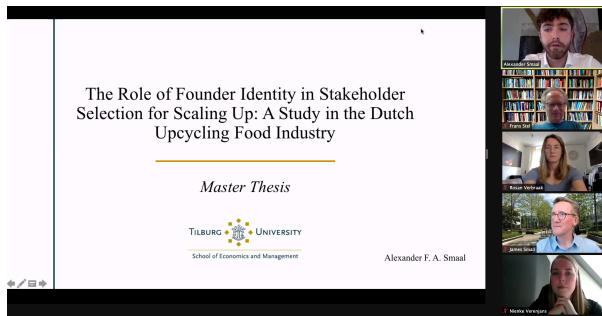
Discussion

- Degrees of Engagement Diagram useful for mapping key actors in ecosystem of both companies
- Two crucial categories for upscaling
 - Prototyping and piloting
 - Fostering networks and partnerships
 - Twence less active in those area → Already established company
- Media can help with creating more awareness for company
- Academic institutions may help to quicker innovations
- Different type of key actors in Twente versus Swedish case
- Amount of support differs in Twente case versus Swedish case



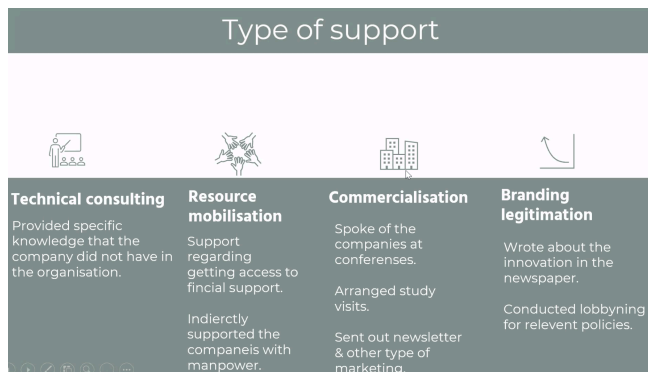
Main outcomes

- refinement of the engagement diagram
- upscaling is firm specific
- support from external actors sometimes crucial for upscaling e.g. trade organizations, academic institutions
- upscaling depends upon entrepreneurs' vision on circularity
- general growth strategies are rare, organic growth is the norm



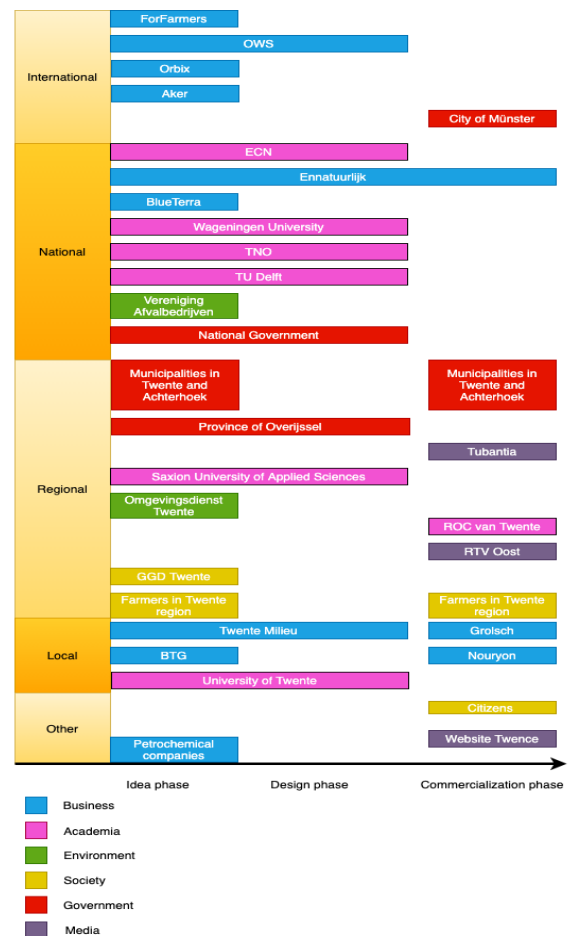
Lessons learned

- collaboration concept appreciated
- drive is important to organize this educational concept
- mainly suitable at Master level?
- sometimes limited upscaling is desired
- optimal scale varies – big is not always beautiful
- entrepreneurs create like-minded partners in their eco systems. This partner selection limits upscaling.
- awareness purpose driven vs scale driven business



Future plans

1 scientific paper



More information: Dr. Frans Stel (f.g.stel@utwente.nl)

Feedback - Ecosystem Upscaling Upcycling

Blue - What would a student think? (both good and bad)

- really challenging to have a case study where I am not familiar with the technology of the company. Nevertheless, it is really valuable to work in a business-to-business-environment. Also, great to have the research-based learning approach!

Yellow - What would a business partner think? (both good and bad)

- Circular challenges, workshops and student-business activities to become replicable experiences and integrated into a continuous improvement process to truly move towards 'upscaling'

**Green - What was good?**

- Very interesting findings - and I wonder if there is a difference between the team setting in purpose-driven startups and "normal" startups?
- Great approach that students get involved in the processes that start-ups have to go through and are involved with different companies to learn different ways of dealing with situations.

Red - What can be done better?

- What is value and how can value be added and captured?
Based on the presentation there are several aspects of value. How can you elaborate on this to make the students aware of that there are several angles or perspectives that?
- The unit of analysis has to be clarified. Either the entrepreneur the company/business or both.
- I think the unit of analysis is not only the individual firm (micro-level), but also the ecosystem which the individual firm is embedded (meso level).

2.15 CLIMATE CHALLENGE – PART OF INNOVATION MANAGEMENT MODULE**Facts**

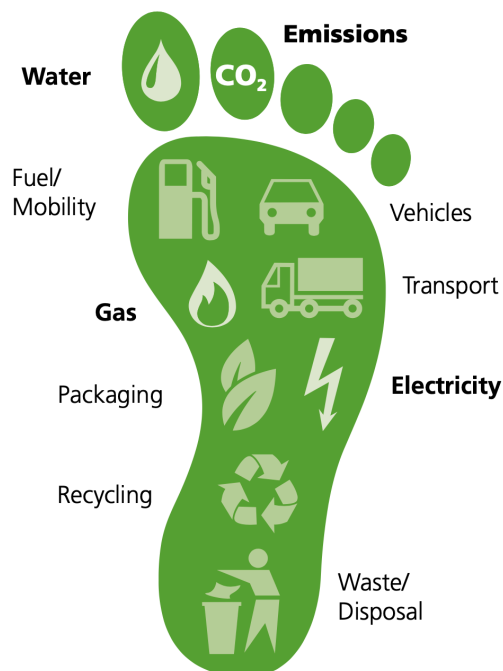
- Responsible: University of Oldenburg + BÜFA
- Time: 1 semester (2020/21)
- No. of students: 35
- No. of business personnel: 10
- No. of teaching personnel: 2



Main Elements

- The Climate Challenge Seminar is part of the master module „Innovation Management“. In the new challenge-based learning format, students develop sustainable innovative solutions that have the potential to contribute to BÜFA's strategy of carbon neutrality.
- In the first part of the module, the basic theoretical concepts of innovation management are taught in an online lecture. The students have to solve two online assignments per lecture.
- In the second part of the module, the Climate Challenge Seminar takes place. Student teams collaborate with company mentors to develop Climate Challenge Solutions for BÜFA.

The BÜFA Climate Task Force



What's new? / Assessment

Lectures

- Lectures to discuss key concepts and frameworks related to innovation management
- Introduction: carbon neutrality of companies

Climate Challenge Seminar

- Challenges identified in the extracurricular "Green Business Idea Jam" are integrated into the seminar.
- Student teams develop innovative solutions for BÜFA's carbon neutrality strategy
- Individual coaching session of the 7 student teams by lecturers and BÜFA staff
- Writing of a term paper (Climate Challenge Solution Paper) that summarizes the process of the practical projects and derives general conclusions for the implementation by BÜFA

Methods

- Short online assignments with reference to the respective lecture
- Fact sheets with BÜFA Climate Challenges
- Guidelines and criteria for pitches and term papers
- Individual coaching sessions for the student teams
- Online collaboration with business partners and students





Main outcomes

- 35 students work in teams of 5 on the following **challenges**:
 1. Strengthening climate awareness among company employees (company site)
 2. Strengthening climate awareness among company employees (mobility)
 3. Innovative logistics solutions for the company
 4. Promotion of sustainability innovations by the company
 5. Regional company's carbon offsetting project
 6. Digitalization of the company's customer service processes
 7. Intelligent energy management for a new PV system of the company
- Several Climate Challenge Solutions of the student teams are implemented by BÜFA.
- Students and business partner get to know each other.
- Business partner gets a new perspective on its carbon neutrality strategy.

Lessons learned & Future plans

- Implementation of the seminar requires a high level of human resources on the part of the business partner.
- Individual coaching offered by the teachers requires a high level of personnel involvement. Guiding questions for the coaching sessions could be developed.
- The development of fact sheets for the individual challenges requires close coordination between the business partner and the teaching team.
- Students team have been highly motivated and the business partner is very satisfied with the results. It is planned to continue with the new challenge-based learning format in the future.
- If Climate Business Idea Jam and Climate Challenge are combined, there is a risk that the innovative ideas generated in the Green Business Idea Jam may not be suitable for the Climate Challenge seminar.



More information: Dr. Karsten Hürrelmann, University of Oldenburg (karsten.hurrelmann@uol.de)



Feedback - Climate Challenge

Blue - What would a student think? (both good and bad)

- All our student ideas are already out there manifold. The company seems to be unable to read. But I got my credits, so what
- Great to be in a position with an external company that is open to change and wants ideas to become "greener". This is inspiring for our students.
- For me as a student, it was great to learn something about innovation in a company without having to create a new idea but to apply things out there already. So that I could concentrate on the skill and knowledge development about company and business
- The ambition was also to create an environment for discussion and sharing of ideas, but also raising awareness on compelling topics like the climate emergency. Perhaps the expectations of the students were different, being from different backgrounds

Yellow - What would a business partner think? (both good and bad)

- Very interesting - do you have internal funds ready to work with the ideas, or how do you arrange the work with the ideas afterwards?
- As a representative of a company in the same industry as you ... how can I benefit from your results? Is there any report? Are you sharing the concept in any other way?
- With your business perspective, what could you have done differently?
- Great idea, not new things but also things out and discussed can be given to the students, so I save on personnel costs

Green - What was good?

- I like that there was a clear concrete challenge and that we as students had a challenge coach from BÜFA
- Great feedback loop. from idea to implementation.
- I think the pick-up rate of the developed solutions is rather high, because the BÜFA coaches are also promoters to follow up on the suggestions by the students.
- Nice that students get insights into problem from industry and are able to bring relevant innovations to a new setting and provide novel solutions

Red - What can be done better?

- When are you going to be co2 neutral and how are you going to be that? Innovation is maybe not the right word when rather developing a roadmap and detecting processes that can be changed to more sustainable /fossil free alternatives.
- How to find interesting business partners to continue with this nice teaching approach?



3 World café results

In the so-called “World Cafés” format, we discussed in small groups of changing composition. World Café is a brainstorm technique aimed to generate and integrate new insights in small groups (or “tables”). Per group a facilitating host, who remained at the same table, explained the results of previous rounds and encouraged the participants to discuss. The hosts summarized and reported the conclusions. During the brainstorm discussions, the small groups of different composition connected different perspectives, built upon each-others viewpoints and integrated these into new insights. We focused on four themes: personal eye openers, lessons learned (do's & don'ts), improvements, and upscaling. The results were summarized by the table hosts: Madeleine Larssen (LiU), Wisdom Kanda (LiU), Karsten Hürrelmann (UOL), and James Small (Tilburg University).

3.1 PERSONAL EYE OPENERS

Many challenge-based learning (CBL) formats have been developed in the S4S project. The personal eye openers are surprisingly similar. The following personal eye openers were discussed:

1. *VUCA / wicked problems.* In many cases the challenges have a **VUCA** character; they represent aspects of volatility, uncertainty, complexity and ambiguity. Feeling comfortable with VUCA-character of challenges can be connected both to personality of participants. VUCA-aspects in S4S workshops complicate grading of students. VUCA is as part of life, and therefore important to highlight as a step towards accepting uncertainty.
2. *Creativity & innovation.* Ideation methods and entrepreneurial thinking are important elements in the S4S modules and workshops. Students are creative in their ability to take an abstract defined challenge and break it down into operational units which they can tackle with their given resources. New **tools** such as Lego Serious Play and its positive effect on team building and the creative process.
3. *Competences.* At student-business collaboration, developing technical and methodological knowledge are important aspects. However, most of all we train students' skills. Skills development is an important aspect in addition to knowledge. Skills development requires attention towards (1) self-reflection of participants; (2) teamwork and the different roles of individuals in a team; (3) effective facilitation. No longer only about the individual entrepreneur but rather about the entrepreneurial team and the different roles people can play in such a team.
4. *Organization & methodology.* Challenge-based learning workshops should be integrated early in modules for self-awareness and development.
5. *Managing expectations.* Sometimes, teachers, companies, and students have different expectations of the CBL-programs. Expectations should be properly managed at the start of the collaboration to have a fruitful process. Expectations of teachers, students and companies should be realistic, open minded, critical, and reflexive in their approach to student-business collaboration.
6. *Essential conditions.* Qualifiers of CBL- programs are student engagement / commitment and the collaboration process between students and companies. Student enthusiasm can also motivate business partners. It is important to select students before or in the beginning of S4S-modules.
7. *Digitalization.* Digitalization brings possibilities and challenges to student-business collaboration (e.g., more international teams, less impact from travelling but also different with creativity and



team building). Online collaboration is possible but it cannot replace face-to-face meetings. Space and location are important. Digitization did work and allows for internationalization and upscaling.

3.2 LESSONS LEARNED (DO'S & DON'TS)

The S4S Final Conference presented the possibility for a meta-analysis to get an overview of the different activities during the project. The following aspects were highlighted:

1. *Transparency.* Sometimes, business partners did not know what to expect from CBL-programs. Define clearly the benefit for students participating in the S4S formats. Do not promise too much in the project proposal or to business partners. More effective ways to share information and learnings from the activities is desirable and that this / these learnings are available more quickly to all partners/participants. It is important to communicate a transparent time management plan to students and business partners. Make expectations clear before activities/modules/collaborations. This goes for all (teachers, students and companies). Expectation management is key for the success of the collaboration.
2. *Innovation & creativity.* Important with openness – all questions should be allowed!
3. *Organization.* Direct feedback from business partners or co-creation between businesses and students are recommended. Module design is challenging when the module is a curricular module for some students and others take it as an extracurricular module. Structure important information to all partners in the CBL-program. Innovative ideas are easier to do in an extra-curriculum setting.
4. *Success factors.* Commitment is central – from all parties! The engagement from the company is also key for the students to succeed. It is not enough to engage in such collaborations with just passion and motivation. Resources need to be allocated. As a business partner it is important to integrate the whole company in the collaboration. Both in terms of involving key personnel but also raise awareness in the whole company.
5. *Sustainability.* There can be a better alignment with the activities and the SDG-goals – a better fit. Don't underestimate sustainability – both in terms of its complexity as well as its possibilities.
6. *Skills.* Challenge-based-learning is very important for skill development. Students are more attracted to real business challenge than to teacher-oriented challenges. Encourage experimentation. Students and companies should care about skills acquired not grades. Highlight/Enforce in communication with companies and students: "Outcomes are skills and experience rather than products and innovations." There is a very low pick-up rate of ideas from the student business collaboration. This is not strange and applies even to ideas generated within companies. Educators also need to develop capabilities to work with challenge-based learning: entrepreneurial skills.

3.3 WHAT MISSED? IMPROVEMENTS



1. *Learning goals.* The learning goals could be better defined beforehand. Better visibility as to the longer-term goals and plans for what happens after the project funding ends, thus, how to transfer knowledge, both internationally and locally and thus more structural ways of doing this.
2. *Networking.* Broaden the base for coloration to include public /private combinations, involving for example regional developments agencies engaged in sustainable projects and innovation development. Involvement of our official network partners. "Open-festival" with more network partners that are outside the S4S project. Collaborative platform incl. tools to use. Platform for exchange of knowledge between companies. A place to discuss challenges and to solutions applied for increased sustainability. Getting the opportunity to go out in industry and get some hands-on practice. Spreading the word about the S4S project even broader. More exchanges between project partners earlier in the project e.g., study visits.
3. *Skills.* More work could be done to upscale entrepreneurial knowledge on sustainability, upscaling, and entrepreneurship amongst teachers at higher education institutes. In particular, the skills and capabilities required to interact with business and other external partners.
4. *Research.* A more integrated research project approach will be appreciated e.g., the platform development could have been better connected to the other work packages. Measuring long-term outcomes and impacts of S4S formats for students and business partners. Evaluate the cooperation.
5. *Diversity.* Diversity of business partners: e.g., more start-ups for a sustainability push and to encourage comparison and peer-to-peer learning.
6. *Policy & Strategy.* Political agenda-setting, e.g., recommendations for policymaking to support challenge-based learning activities.
7. *Problem solving.* Sometimes a "company-hands-on mentality" was missing in some S4S formats.
8. *Relation to existing curricula.* Activities/modules often extracurricular => important to embed in study programs. Design activities in such a way so that ECTS can be given.
9. *Feedback and reporting.* Improve feedback from company to students and vice versa. Was the results/process valuable. We need more KPIs for our final report
10. *Tools.* Develop an app./tool for students' self-assessment. This could be used throughout the module and support reflection and development.

3.4 UPSCALING

Upscaling of student-business collaboration will influence the context in various ways: more international teams, more diversity in teams, more students, more teachers, more companies, more sustainable aspects. In order to increase the impact of S4S-activities and safeguard its results, the following suggestions were made:

1. *Expansion of activities, larger scope and timeframe.* The following venues were discussed: funding for a longer time. International corporate training for students. Upscaling in terms of longer timeframe of activities or an increased number of students; the gains will vary (e.g. more in-depth results vs. more diverse activities). Involve more business partners from the value chain in the S4S

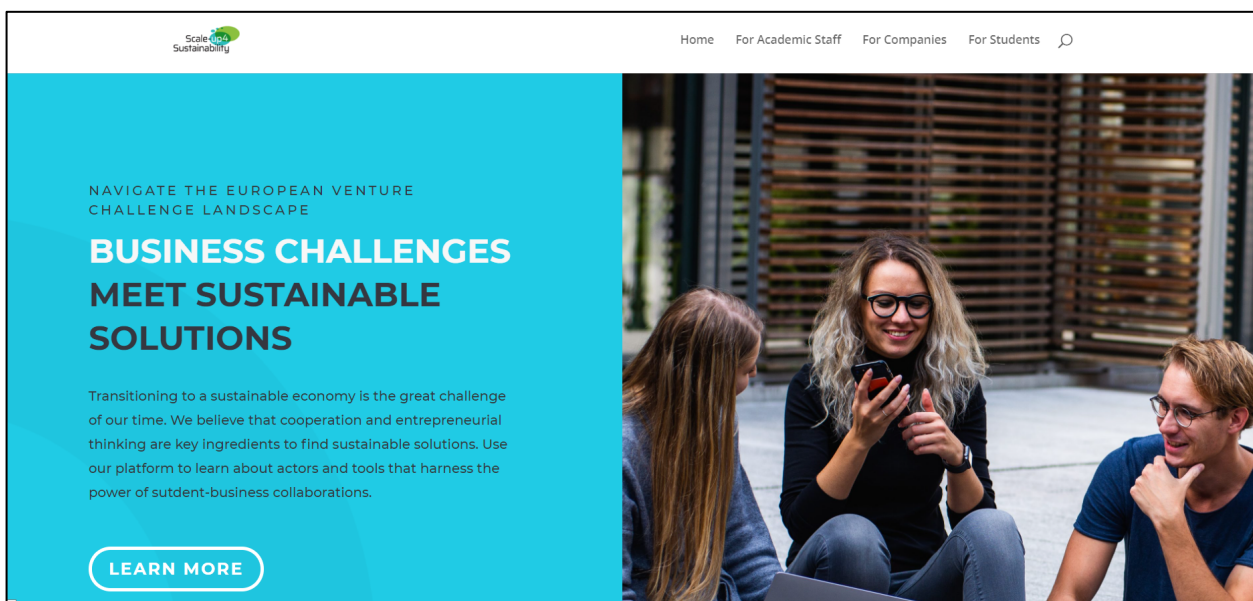


projects. international expansion will incorporate more perspectives and more knowledge into S4S-formats. Increased collaboration between companies and universities. Learning from different personal networks. More incubation projects as a direct result of the S4S projects.

2. *Networking.* Create long-lasting company-networks for exchange of knowledge and to be seen as a pool of resources to invite for collaboration. Exchange with young professionals in the S4S projects. Expand the S4S-project to a long-term collaboration, not only a project. Growing/strengthening ecosystems of entrepreneurs will accelerate sustainable change. Upscaling sustainability is not always about the size of a project/implementation but also about increasing its impact.
3. *Digitalization.* Online activities can support upscaling. Scale up can also mean more resource efficient use of digital resources to reach a wider group of students and companies. Digital platform should also present the learnings from the S4S project.
4. *Promotion & PR.* The benefits of the student-business collaboration should be clearly marketed to be able to "scale-up".

4 Platform of challenges (Borderstep)

Alexander Schabel of the Borderstep Institute presented the highlights and functionalities of the S4S-Platform: "Sustainable Venturing Challenges". On businesses can present their challenges to be solved by (teams of) students. The platform contains a database of challenge platforms, testimonials, challenge examples, and specific resources. To further improve the platform, all consortium members gave their comments.





S4S Platform – Survey results

Key take-aways:

	Room for improvement	Positive
Visual design	<ul style="list-style-type: none"> Room for improvement mostly regarding alignment of individual elements + types of images/graphic material used Tone down colour brightness Remove number counters (too braggy) 	<ul style="list-style-type: none"> Clean, appealing design, especially with regard to typography and colour scheme
Usability (how well features accommodate users' needs)	<ul style="list-style-type: none"> Suggestion: add map with locations of challenges Place challenge database at the top of the page 	<ul style="list-style-type: none"> 94% rate the usability as being very good to good 94% rate navigation as being very easy to easy
Content	<ul style="list-style-type: none"> Textual content: not relevant to users, especially academic staff companies Language and messaging need to be adjusted to fit the respective target groups (more need-focused content) Landing page: better answer "what is this about" + "for whom" 	<ul style="list-style-type: none"> Story focus Number counters - KPIs, showing outputs

→ All suggestions collected and checked for implementation in Excel-document: "S4S Platform survey results action items"

Q1. First impression:

Strengths	Weaknesses
Design: clean, structured, fresh, appealing, etc. (13x)	Refine to increase relevance for companies
Stories	Adjust start pages for students and academic staff (more need-focused title + content)
Good messaging	Unclear target group (2x)
	Thin mock-up/WIP; add more info about general concept of challenge-based learning



Q2. Usability in desktop view:

- 63% - good
- 31% - very good
- 6% - rather poor

Q3. Navigation:

- 56% - easy to navigate
- 38% - very easy to navigate
- 6% - very difficult to navigate

Suggestion: map with locations of the challenges

Q4. Visual appeal of the platform:

Typography	94% very appealing/appealing
Colour scheme	94% very appealing/appealing
Types of images and graphic material used	81% very appealing/appealing
Alignment of individual platform elements	75% very appealing/appealing

Q5. Suggestions to increase the website's visual appeal

- 1: Tone down colour brightness, too intense (2x)
- 2: Remove animations such as number counter (too braggy) to seem more professional

Comments not related to visual design:

- 1: Index page: better answer the questions "what is this about" and "for whom"
- 4: Place the database at the start, as this is the key offer to the visitor
- 5: How to attract traffic? Links to other media

Q5. Textual content:

Relevance of textual content for respective user:

- For students: 62% very relevant to relevant, 38% neutral to not relevant
- For companies: 56% relevant, 38% neutral to not relevant
- For academic staff: 25% relevant, 75% neutral to not relevant

How clear in language (word choice, sentence fluency, structure)?

- 75% very clear to clear (31% very clear, 44% clear)
- 25% neutral



Q6/Q7. Ideas for further content pieces + any other comments/suggestions

<i>Textual content</i>
<ul style="list-style-type: none"> • Trainer guidelines/playbooks/open educational resources, own Challenge4Impact content • Give students the chance to contact companies/business leads directly (not just apply for challenges via platforms) • S4S Tool Box, S4S WP2 Documents, S4S projects • Outcomes: what has happened to the student ideas? • Links to relevant publications, academic papers, white papers • Project examples (stories are too subjective) -> have this already? • Build on great KPIs (good start to assess what has been achieved) and add section on the spin-offs that have been created (as outcome of S4S)
<i>Visual:</i>
<ul style="list-style-type: none"> • Video content (2x) • Add more images • An interactive element to communicate with people of interest -> chat? • Establish graphic profile, use same kind of picture design, e.g. person in the foreground and more "blurry" background etc.
<i>Other:</i>
<ul style="list-style-type: none"> • In general: richer in content (2x) • Website setup: Skip the "intro page" - visitors have a very short attention span - catch them by presenting the database first and then indulge them to click further on the "for staff, for companies, for student" options • About us section to add background + legitimacy • Maybe a News section where the latest challenges are named that are in Progress • Platform database: add a need-focused layer on the database selection. You are now focusing on "who are you (visitor)". Try to move to "What do you as a visitor want?". • Calendar function for upcoming events • General: communication, marketing and management strategy for the website
<i>Already planned:</i>
<ul style="list-style-type: none"> • More "what's in it to me"-content • Info on how companies can set up challenges, how much time needed for challenge, realistic outcomes • Info for students on expected workload, how to prepare for a challenge, checklists for preparation, do's and don'ts • More info about the challenges



5 ECIU Challenge-based learning at LiU & Twente

In the S4S- project, LiU collaborated with the universities of Twente, and Stavanger within their ECIU collaboration in the the InGenious cross disciplinary project course (see Section 2.7). During the past years, Twente University and LiU have collaborated in multiple course plans and modules.

On Wednesday 13th several representatives from LiU shared their experiences with your counterparts at Twente University. From the S4S-LiU team Charlotte Norrman, Madeleine Larsson, Wisdom Kanda, Olof Hjelm, Cia Lundvall, and Karl Eldebo participated. From Twente University, Raymond Loohuis, Mieke Boon, Leonie Bosch-Chapel, Margoth Gonzales Woge and Marike Boertien participated. Raymond is a senior lecturer in strategic business marketing & service innovation and a senior fellow teaching & learning; Mieke Boon is the dean of ATLAS University College Twente (part of Twente University); Margoth Gonzales Woge is a lecturer involved in CBL; Leonie Bosch-Chapel is an educational expert on Challenge-based Learning within ECIU; and Marike Boertien is an innovation expert at the Twente University incubator.

The meetings were fruitful, and the following items were discussed:

Raymond and Charlotte explained why we had decided to meet and then we went around the table and all participants presented themselves. We realized that a lot of competence was gathered around the table.

During next point we discussed the Ingenious course, how it is set up at our sites respectively and how we work with it. A major point in this discussion was the **role of ethics** in challenge-based courses. In the InGenious course in Linköping we have developed a module labelled as **responsible innovation**. During a previous meeting Charlotte shared her workshop material with Raymond and Margot, who promised to elaborate on the material and come back. We had a fruitful discussion where Mieke contributed with valuable insights. We also had a general discussion on CBL and how this approach could be used in courses. It appeared that Twente had worked a lot with this issue and had developed a handbook that is almost ready.

Another point that was discussed was training and assessment in challenge-based courses. We discussed our experiences from discussions within the ECIU and also from practice. Working with formative assessments seem to be a key path here (as in using assessment for learning, instead of using assessment for measurement purpose only). We also agreed upon that formal and clear assessment criteria were important – especially in graded courses.

In addition, this implies that more attention should be paid to **assessing the process** and less to the end result. The CBL approach supports this. As an example, you can think about getting your driver's license. The simple fact that someone can reach endpoint X does not mean that he can drive (after all, many things could have gone wrong along the way). The process of how he drove from start to finish gives much more information about how well someone can drive. Also, getting your driving license does not mean that you know everything and will never make a mistake in traffic again, it just means that you have the skills to develop further and to be able to correct any mistakes. Solid subject knowledge is still needed as part of the learning process and should be assessed in the usual way.



Another area that was discussed was challenges and **challenge providers**. Marike works a lot with this from an ECIU perspective and gave valuable insights. Besides this, we shared experience.

Challenges and sustainability are an area that also were covered during the discussion. Twente is developing a course similar to the Linköping course “environmentally driven business development”. Course plans were exchanged and we discussed this item based on our experiences.

Finally, and after having realized that sharing experiences is very fruitful and that we have a lot to learn from each other's, we discussed to join forces and make an application for funding together and in this work also include Stavanger university. After the meeting we contacted Stavanger and this is where we stand now. Hopefully an application could be created during the spring of 2022.

Frans Stel and Cia Lundvall conducted a **green creativity workshop** in which a student team generated novel ideas to solve SDG 4 (education for all): they discussed how to increase the accessibility of education to boys and girls in low income countries. They used Lego Serious Play to build 3-D models of their solutions. For research purposes, the team was videotaped; in addition, their arousal levels were measured (see Section 2.12).



6 Attachments

6.1 CONFERENCE PROGRAM

Thursday 14 October 2021 - Room: IDEATE room

<u>Start</u>	<u>End</u>	<u>Duration</u>	<u>Agenda</u>
09:00	09:15	0:15	Opening and welcome by host Greenhub Twente; introduction of first day
09:15	09:35	0:20	Poster pitch & forum (1) Digitalizing & upscaling Fujifilm Future Challenge
09:35	09:55	0:20	Poster pitch & forum (2) Improving Corporate Venturing Processes TVAB
09:55	10:10	0:15	COFFEE BREAK
10:10	10:30	0:20	Poster pitch & forum (3) Challenge-based learning: InGenious
10:30	10:50	0:20	Poster pitch & forum (4) Circular Challenge
10:50	11:10	0:20	Poster pitch & forum (5) Mapping of students' experience and abilities
11:30	11:45	00:15	COFFEE BREAK
11:45	12:05	0:20	Poster pitch & forum (6) Internationalization cleantech - business expansion & student involvement
12:05	12:25	0:20	Poster pitch & forum (7) Ecosystems as enablers of upscaling business - joint research
12:25	12:45	0:20	Poster pitch & forum (8); Climate Challenge
12:45	14:00	1:15	LUNCH & FAIR (quiz)
14:00	14:10	0:10	World café instruction
14:10	14:40	0:30	World café 1: <i>personal eye openers</i>
14:40	15:10	0:30	World café 2: <i>lessons learned (do's & don'ts)</i>
15:10	15:40	0:30	TEA / COFFEE BREAK - FAIR (quiz)
15:40	16:10	0:30	World café 3: <i>What missed? Improvements</i>
16:10	16:40	0:30	World café 4: <i>Upscaling</i>
16:40	17:00	0:20	Reporting back
17:00	17:10	0:10	Organizational & financial matters
17:10			Plenary conclusions up of 1st day - photo
18:30			END of DAY -> to hotel

Conference diner in "Het paradijs"

<https://www.hetparadijs.com>

Friday 15 October 2021 - Room: Learn-X

<u>Start</u>	<u>End</u>	<u>Duration</u>	<u>Agenda</u>
08:30	08:40	0:10	Opening and welcome
08:40	09:10	0:30	Summary of results of day 1 incl. results of the quiz
09:10	09:40	0:30	Sustainable Venturing Platform: presentation, self-testing and feedback
09:40	10:10	0:30	World café 5: <i>what remains?</i> The use of the S4S-results by HEIs and businesses after the project
10:10	10:40	0:30	World café 6: <i>dissemination & exchange</i>
10:40	11:00	0:20	COFFEE BREAK
11:00	11:30	0:30	Wrap up & conclusions regarding future actions to increase sustainable impact.
11:30	11:50	0:20	Farewell. End of formal program
11:50	12:50	1:00	Swedish delegates to train station; LUNCH at University lunch at Incubator Novel-T
12:50	14:30	1:40	Excursion to to Nano-lab and sustainability campus walk (optional)
			https://novelt.com/en/ https://www.utwente.nl/en/mesaplust/infrastructure/nanolab/
14:30			END of PROGRAM



6.2 STUDENT PERSPECTIVE

- As a student, I would love to be in an incubator company working on an idea that was spun out of Tekniska into the incubator
- Which student **competences** are needed?
- Will the event continue and how can more students get opportunity to participate?
- I have a revolutionary energy business idea. Can I apply to be part of the incubation program, even if my team comes from the outside. What incubation services could you offer to us?
- what does attract us students to give our great ideas?
- I think it is really difficult to reflect and assess my own competencies and knowledge, how do you support me on that?
- If we get to keep the idea, are there any courses where we can continue to work with our ideas?
- I like the buy-back offer for business partners. Puts a price on valuable ideas and makes it "valued".
- I think creativity online is difficult, how do you support that processes?
- Seems like a nice program gaining 7etc and develop my entrepreneurial capabilities. Sounds like a poor outcome of new companies and hard to understand the process of what happens with the idea afterwards. How do I know the team is right for me?
- Really love this study course and that we could own our idea and decide whether to sell it to the challenge provider or pursue it by our own. I really would like to continue with a second run. Am I allowed to?
- what methods do I learn, what is my benefit as a student, how does it fit into my curriculum
- Nice, but how does this experience help me in my study and/or in my future career? Nice answer deliberate practice, connections with industry/new network and learning to deal with failure and yet persevere.
- How do you continue with our ideas? Is the end of the project the end of the idea? Knowing this will really help me with motivation.
- wow, so this module really improves my skills, when can I take it
- Is the grading part of a workshop or reflection seminar? Or is it just a survey?
- As a student, I would like this assessment to be part of the evaluation of my examination of the course. Could you grade my thesis/report with these questions? Are they a tool for the teacher to grade our competences?
- It would be great as a student to get kind of certificate on the entrepreneurial skill development that I achieved.
- Nice, but as a student do I get feedback after the 1st and 2nd assessment - how does it help me with my goals and how should I interpret the results? Can this help me with creating teams with a mix of competencies?
- It seems that you might be in the need of cross disciplinary student teams - i.e. both engineering skills and business skills, how can you improve the setup to reach this?
- It is a great opportunity and much fun to work on the challenge of internationalizing Againty products. It would be great to hear what happened with our student reports at Againty and how Againty could use our findings.
- The process is important! But as a student, and in a course, how do I get graded for what I achieve on process level?
- Feedback Loops with the company could be useful to increase alignment
- I think that this format is not challenge-based learning, but research-oriented learning by students.



- really challenging to have a case study where I am not familiar with the technology of the company. Nevertheless, it is really valuable to work in a business-to-business-environment. Also, great to have the research-based learning approach!
- All our student ideas are already out there manifold. The company seems to be unable to read. But I got my credits, so what
- Great to be in a position with an external company that is open to change and wants ideas to become "greener". This is inspiring for our students.
- For me as a student, it was great to learn something about innovation in a company without having to create a new idea but to apply things out there already. So that I could concentrate on the skill and knowledge development about company and business
- The ambition was also to create an environment for discussion and sharing of ideas, but also raising awareness on compelling topics like the climate emergency. Perhaps the expectations of the students were different, being from different backgrounds
- They want to suck our ideas for nearly free. They can do the business which I could have done had I not offered them my idea. What is in it for us? Money, Presents, ...? Hope they recruit me afterwards.
- Can I work at Fujifilm after the Fujifilm Challenge?
- It's cool to work on a project for such a long time and mix with students from different universities and different study topics.
- Sorry, I didn't get the challenge. As a student a challenge should be open, so I can see myself helping solving a problem, finding a solution. To concrete I can feel unsure to help the group out. Can a student choose their project? Also important to be engaged and feeling involved in a project. That's why I want to participate in a course and a project I choose, not "forced" into.
- The outcomes of this challenge would be a great start for students taking an entrepreneurship course at the Uni

6.3 BUSINESS PERSPECTIVE

- It has value to boost innovation within the company - interesting to see what elements can be replicated to other businesses
- Can students be used more in line with how Fujifilm is working?
- As a company I would like to bring a business partner into the course - as a joint effort. Is that possible? Who would own the idea?
- How much time do I have to invest as a business partner?
- How and do you at all want to attract more international businesses while you consider the online format?
- How do you prepare the companies so that they know what to expect in such collaboration with students.
- Is there a structure, toolbox etc. for companies to establish spin-off experiences?
- Business partners should be prepared to formulate their challenges well to give the necessary information for the students to get started and not spend too much time on having to understand the challenge. I think that takes quite a lot of time and the challenges shouldn't be too specific.
- How can I as a company leader become part of this?



- A good answer about what I as a stakeholder/business partner can get out of a challenge-day like this. To get emails from students that had joined the challenge-day is a great response - especially if they want to do master thesis :-)
- As a business partner I am also interested in my own sustainable entrepreneurship competencies. Can I also take part at the evaluation?
- I am a business. I want to support/encourage sustainability in my company. Can I work with this same skills?
- Collaboration between Avans (NL) - Aginity (Swedish company). The challenge was not limited: students could pick up any sector, market segments, develop relevant channels, choose the target groups/customers. Outcome: report elaborating on the company's technology and its market strategy/route to market. Intake: important mapping of the company's opportunities based on the requirements (technical, engineering) of the company, very beneficial for the company and fun for the students that were used to standard case studies, they enjoyed the complex environment. Good preparation on the side of the organizers for the 'before/during', but points of improvements for the 'after'
- Great idea to create so many different channel judgements and ideas for your product
- I speak as a "stakeholder". This would be an interesting project for inGenious and ECIU, I think. Could this be something for Aginity in the future?
- Circular challenges, workshops and student-business activities to become replicable experiences and integrated into a continuous improvement process to truly move towards 'upscaling'
- Very interesting - do you have internal funds ready to work with the ideas, or how do you arrange the work with the ideas afterwards?
- As a representative of a company in the same industry as you ... how can I benefit from your results? Is there any report? Are you sharing the concept in any other way?
- With your business perspective, what could you have done differently?
- Great idea, not new things but also things out and discussed can be given to the students, so I save on personnel costs
- If we as a company want to do this, how do we start up a collaboration like this? Have your engagement led to real, new products? How to make sure that we get real motivated students?
- Great program that has seems to have had good development during the project. Question is the business impact? What numbers of new ventures or what happened to the ideas after the educational program. Facing a common problem of training entrepreneurs or making entrepreneurs of "regular people".
- good to have ideas from outside the company; thinking out of the box
- If a good idea is rejected and the idea cannot be worked with by the students, can other companies come in and by the idea or will it just get lost? Or can it be used in another course?

6.4 GREEN PERSPECTIVE - WHAT WAS GOOD?

1. Very interesting with the concrete tools that you can use!
2. Good that you are trying to improve and systematize the venturing process and more importantly you use different strategies.
3. Good, that you systematized all the ideas and approaches within your company to give them what they need and to clear your interest and objectives while incubating them.
4. It's impressive that you involve students from 4 different departments
5. It's excellent that the LiU-team implements this project jointly with the InGenious team. Excellent co-coaching!



6. I like the buy-out process of the ideas, so that business can possess the idea without interference of patent rights etc.
7. The buyback option is great! Adds a lot of relevance and motivation for the students.
8. Great idea to make the ideas buyable so students feel their work is worth something for the company. Also mixing students from different disciplines is a good way for them to learn how work in a company team would look like.
9. Hybrid participation is great for international students.
10. It's very interesting that a startup takes this role and the challenges that you addressed in that. Will it be published somehow?
11. Great that you have managed to develop this to a real center where you can continue the work! valuable both for your company and for students.
12. I really like the idea that the business partners are challenge providers and coaches at the same time. Did you train the business partners to act as coaches?
13. one day, short, very effective
14. The focus is on diversity: background, study course, skills. And there is a (to be fine-tuned) framework behind it: It is a great recipe for learning
15. Good condensed graphical overview that helps to get a quick impression of the results.
16. Good combination of teaching self reflection to the students and using the results to reflect on the effect of teaching methods on the university side.
17. So interesting! If I want to use this in my courses - How long (many ECTS) does a course have to be, to see that the students developed entrepreneurial skills/understandings?
18. With this type of course you develop skills in students, not stuff. Isn't that a wonderful advantage to advertise such a format for many students
19. good idea to use self assessment as tool to show the students what progress they make.
20. This is great! We should make a assignment when a course starts, when students fill in a forum and reflect about their knowledge and what they think they have to develop during that course. Good for the "technical students" that generally are not good and reflect upon their knowledge and skills. And in the end of the course implement these kind of questions in a reflektion paper. Make it standard in Entrepreneurship courses!
21. Great presentation of a very important topic. Complex issue described in a easy to understand and positive way. What are the difference of "sustainable" compared to general entrepreneurial skills? I believe the entrepreneurship competence is the same regardless of the market. However you need to understand your product and market delivering a product for, and sustainability is a macrotrend looking for many new solutions?
22. Continuation of the assessment will in the long run help to identify the improvement of the performance/effectiveness of the modules.
23. Great flexibility for students to choose the market for their essay, good digital involvement.
24. Nice to see how cross-border exchange could be organized between a large group of students and a business
25. Good way of both a case story from the real world of a start-up as well as a academic approach of understanding the real obstacles. Cleantech, as in this case means biobased electricity production, that require specific requirements of external energy systems. Using international students must be a great way of getting boots on the ground and understand the local market.
26. Great idea to make use of students abroad when focusing on internationalization. Could you involve teams in different countries looking at their own market?
27. Very interesting findings - and I wonder if there is a difference between the team setting in purpose-driven startups and "normal" startups?
28. Great approach that students get involved in the processes that start-ups have to go through and are involved with different companies to learn different ways of dealing with situations.



29. I like that there was a clear concrete challenge and that we as students had a challenge coach from BÜFA
30. Great feedback loop. from idea to implementation.
31. I think the pick-up rate of the developed solutions is rather high, because the BÜFA coaches are also promoters to follow up on the suggestions by the students.
32. Nice that students get insights into problem from industry and are able to bring relevant innovations to a new setting and provide novel solutions
33. Great commitment from the company
34. Nice that it is international
35. Multi-background international teams: surprising ideas come to life; 10 weeks program allows enough time for students to internalize the challenge; results achieved despite it had to be online, this is a great starting point for a hybrid or physical forms next
36. Real contribution to providing students with insights into the innovation process and challenges them to be creative, it is also energizing for educators, researchers and business
37. Great involvement of students in the most realistic setting possible, also good use of digital and international coworking. Students helped to overcome creative dead ends, combination of ideas that were not thought of before.



6.5 RED PERSPECTIVE - WHAT CAN BE DONE BETTER

- how do you attract and organise radical innovative ideas?
- Good idea to include students over the whole process but maybe you can gain from short workshops with groups of students with the basic questions to get information about what is the most interesting approaches.
- It is not clear how the incubator stimulates sustainable innovation which has quite different business models and ecosystems requirements
- Difficult to answer. I didn't get the whole picture, e.g. the students get involved (probably my fault...). Question: will you cooperate with other organisations in the ESBR (East Sweden Business Region)-system in your role as a incubator? For example with LiU Student Innovation?
- How do you organise knowledge and experience sharing between the start-up of your incubator?
- open up, be more unlimited, have more students
- The follow up after the course would be very valuable; understanding that this is an academic course, still the link to the upscaling of ideas would be a great added value. You mentioned stakeholders' involvement: they can buy back what the students' developed, is there a mechanism to rate the % of successful ideas that are pursued by the companies?
- Great but how do you select the challenges and do you ask students to use design thinking approach to challenge the challenge? Which is a weakness of CBL bases on given narrow problems.
- What have been the impact for Ecor so far? Hard to understand from the presentation. Good emphasis of the issues that it looks different over the world and the disposal system process flow is very different over the world. Think you should make the program larger and deeper to increase the outcome for both the students and Ecor.
- Please expand time for the challenge a bit so that all can work a bit more in details than sticking on the surface!
- why stay subjective with the self-assessment - and try to assess the students' ability with the business partner and the academic partners
- The competence framework is rather complex and entails many, too many questions! I think it needs to be streamlined and leaner.
- The survey with the sustainable entrepreneurship competencies is valuable for short term outcomes, but not for assessing long-term outcomes. We also need a tool for monitoring/assessing long-term effects.
- Are the questions clear (=not too abstract) for students?
- Is there really a difference between Cleantech internationalization and the internationalization of other startups? Sounds a little bit like the usual procedure - finding a niche market on a foreign market.
- How to scaleup this format? Could it be a possibility to bring more "regional" cases into studies? How could be a pool of regional case studies look like?
- How do you scale up the process to more students, cases/companies?
- Missing out on the real outcomes of the project. Could be better presented. Upscaling and upcycling are extremely important and would require further research and activities for development.
- How do students deal with national factors such as language culture regulation industry structure competitors
- What is value and how can value be added and captured?
Based on the presentation there are several aspects of value. How can you elaborate on this to make the students aware of that there are several angles or perspectives that?
- The unit of analysis has to be clarified. Either the entrepreneur the company/business or both.



- I think the unit of analysis is not only the individual firm (micro-level), but also the ecosystem which the individual firm is embedded (meso level).
- When are you going to be co2 neutral and how are you going to be that? Innovation is maybe not the right word when rather developing a roadmap and detecting processes that can be changed to more sustainable/fossil free alternatives.
- How to find interesting business partners to continue with this nice teaching approach?
- What happens with the ideas that are not picked up buy the company? Is there a "way forward" for them? For startups for example?
- Think very carefully how to design the hybrid programs -physical and also online to make it work well.
- Curricular Integration
- You supplied us with a lot of information that was leveraged very fast and rather unstructured. This makes it hard to follow so a nice summary of what principally has been done and can be learned would have been nice. You also made an overdue of the time given.. .
- Feedback to Student on Idea Pick-up
- Build an online community during the challenge! Provide a platform as a basis for collaboration. Could be accompanied by social online activities to form the teams. Think about "book a coach", not linking one coach to one team. Go forward with internationalization within the challenge!
- A monitoring process investigating what happens with the ideas/concepts generated by the students after the challenge and investigating the actual innovation/business impact.
- You should consider to test mixed teams by students and Fujifilm employees/managers jointly working on the challenge.
- how's the ideation process structured? Do you supply tools

