URBAN GOODCAMP

CATALY(C)ST

City & organisation	Copenhagen, DTU: Danmarks Tekniske Universitet
Urban challenge(s) addressed	Circular Economy & Waste Management
Name/title of learning practice	CATALY(C)ST
Type of case study	Curricular/ extracurricular/ life-long learning
Programme level learning practice/ case study	Local (city level)/ regional (between cities)/ national (country ~ wide)

BACKGROUND AND HISTORY

Years of establishment: 2020
CATALY(C)ST project runs over a period of 2 years from December 2020 until December 2022.

Motivation behind intervention
The Nordic Prime Ministers have decided on a new vision for Nordic cooperation. The Nordic countries are to become the most integrated, sustainable region in the world by 2030, emphasizing green (circular and biobased), competitive and socially inclusive societies. The Nordic countries have the strongholds needed to be frontrunners in the circular economy. However, there are still issues to resolve in order to reach the climate targets and Sustainable Development Goals, especially number 12 (Sustainable production and consumption) and 13 (Climate Change).

General content of intervention
Bringing best practice from the research world, the maker communities, the youth movements and industry into one strong initiative. The main aim is to maximize value by increasing resource productivity, enhancing energy efficiency, lowering resource consumption and decreasing waste.

Target group: Students: To become Youth Change makers as catalysts for a transition to a sustainable circular economy.

Length of the course
CATALY(C)ST is a program, not a course, but the program runs a variety of courses (part of DTU), webinars, bootcamps and hackathons. Some courses are mandatory while others are optional.

Examples from DTU courses can be:
+ Design and Innovation (MSc)
+ Engineering Design and Product Development

CATALY(C)ST Webinars run on a monthly basis. They are open to externals outside the University.
Examples from DTU webinars:
+ Circular X - experimentation with circular business models
+ Using Artificial Intelligence to Achieve Sustainability in Practice

Average number of students attending: Varies

URBAN CHALLENGES ADDRESSED AND THE CONTEXT

Which urban challenge: Circular Economy & Waste Management

Why was it addressed

The main aim is to maximize value by increasing resource productivity, enhancing energy efficiency, lowering resource consumption and decreasing waste. Overall mantra; decoupling value creation from resource consumption. Bringing results from the CIRCit research project to the next level by the findings from: CE readiness & opportunity mapping, CE Business models creation & servitization, CE products by Eco-design, CE enhancement by digitalization, CE close the loop strategies.

How is it addressed

Accelerating Nordic companies' transition to a sustainable circular economy by engaging students, manufacturing companies to speed up their circular economy (CE) transition by a collaborative approach for CE development projects by activating resources from; a talent-mass of students, world-class researchers and mentor experts, Nordic innovation hubs and organizations.

ORGANISATIONAL DESIGN

Stakeholders involved:

CATALY(C)ST will apply the collective experience, competencies, research, company & talent network from excellent research and entrepreneurship institutions - with the main project partners being Technical University of Denmark (DTU), Norwegian University of Science and Technology (NTNU), KTH Royal Institute of Technology, Aalto Design Factory and EFLA Consulting Engineers.

And value partnership with:
Academia: Tallinn University of Technology; University of Southern Denmark
Industry: Alfa Laval; Science City Lyngby
Change Communities: SDG Student Ambassadors; Student and Innovation House

Resources required (human, capital, physical): Students have to be enrolled at one of the stakeholder universities.

LEARNING DESIGN

ECTS: Varies

Learning objectives

Impactful minds of tomorrow for circular economy champions and innovations: Competency and experience building of the youth and the industry champions within existing companies to become change makers.

Training methodologies

The CATALY(C)ST program looks at existing approaches from programmes. No fixed training methodologies are deployed, but generally all courses are based on Challenged-based/case-based learning.

Format

University-student-company collaboration.
Traditional on-campus class teaching and company visits.

Exam: Written examination and company reports (20-30 pages)

Student support systems

+ Each student has one supervisor from the university and the company
+ Previous CATALY(C)ST works as alumni and/or youth ambassadors (experts in circular economy, e.g.)
+ Peer-to-peer work (throughout project process and as assessment)
+ Pitch coach (techniques, do's & don'ts)

Assessment methods

+ Assessment on company level: 25 min presentation + 1-1 feedback session from company representatives
+ Peer to peer feedback
+ Pitch (train students to effectively present their research findings in front of investors/company owners)

Integration into curricula (if applicable)

Open: CATALY(C)ST looks at existing courses and sees how the program can be incorporated with the curricula.
Step 1: finding CE experts to collaborate with;
Step 2: courses with an opportunity to bring in course methods.

HINDERS

In relation to urban challenges: Companies do not know where to start when they decide to implement Circular Economy practices.

In relation to delivery of intervention: N/A

ENABLERS

In relation to urban challenges

The CATALY(C)ST-program is part of DTU Skylabs which include other projects like CIRCit and MATCHe (MATCHe is part of DTU Mechanical Engineering who developed an app where, by answering 30 questions, companies can assess which areas of their business, organisation, or product development can be improved to facilitate the transition to a circular economy).

The CATALY(C)ST program collaborates with MATCHe on their "CE readiness score" which helps CATALY(C)ST students identify ways to help companies implement CE practices.

CATALY(C)ST also builds on previous students' projects. For example by employing newly developed assessments methods from students. It could be a design card that helps students "assess a company's food waste management" or a quiz that helps assess a company's CE readiness.

In relation to delivery of intervention

The learning environment within DTU Skylab is an enabling factor in bringing in different levels of expertise and experience that allow students, companies and the CATALY(C)ST program to find common and develop relevant and realistic solutions.

The students are impelled to hand in a written report and exam paper which helps the students to deliver CE interventions.

DTU Skylab works with acceleration awards where juries hand out awards to empower student motivation.

Hackathon, webinar;
Master thesis: 1-1.

REFLECTION

Success factors

+ CE champions certification
+ Student employment

Outputs, outcomes and impact

CE champion badge: which is a certification (LinkedIn): used as a way to promote student's capabilities and expertise, and to spread awareness about the CATALY(C)ST program.

Lessons learned and recommendations: N/A

Other: https://www.skylab.dtu.dk/Programmes/CATALY-C-ST

Note: The information contained on this description was extracted from the "Case Study report" (published by the Urban GoodCamp consortium in March 2022), available at: https://www.urbangoodcamp.eu/uploads/1/6/2/1/16214540/ucamp_-_case_study_report_1.pdf)

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