CHALLENGING CONVENTIONAL THINKING

Challenge-based learning and impact

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## ECIU Network

**Uniting Over**

<table>
<thead>
<tr>
<th><strong>298,000</strong></th>
<th>STUDENTS</th>
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</thead>
<tbody>
<tr>
<td><strong>46,688</strong></td>
<td>STAFF incl. 27,182 Academic Staff/Researchers</td>
</tr>
<tr>
<td><strong>489</strong></td>
<td>RESEARCH GROUPS</td>
</tr>
<tr>
<td><strong>147</strong></td>
<td>FACULITIES</td>
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## ECIU Members

- University of Twente *(The Netherlands)*
- Aalborg University *(Denmark)*
- Dublin City University *(Ireland)*
- Hamburg University of Technology *(Germany)*
- Kaunas University of Technology *(Lithuania)*
- Linköping University *(Sweden)*
- Tampere University *(Finland)*
- Universitat Autònoma de Barcelona *(Spain)*
- University of Aveiro *(Portugal)*
- University of Stavanger *(Norway)*
- University of Trento *(Italy)*
- Institut National des Sciences Appliquées *(France)*
- Lodz University of Technology *(Poland)*
- TEC de Monterrey *(Mexico)*
The European Universities Initiative

European Universities are transnational alliances that will become the universities of the future, revolutionising the quality and competitiveness of European higher education. In order to achieve this major step forward, the Commission is testing different cooperation models for European Universities.

The alliances

• are based upon a co-envisioned long-term strategy focused on sustainability and excellence
• adopt a challenge-based approach according to which students, academics and external partners can cooperate in inter-disciplinary teams to tackle the biggest issues facing Europe today
• offer student-centred curricula jointly delivered across inter-university campuses, where diverse student bodies can build their own programmes and experience mobility at all levels of study
• 21st century skill set: creative thinking, inter-cultural communication, inter-professional learning, teamwork ...
Societal Challenges are the backbone of our initiative and are translated into our curriculum supported by challenge-based learning pedagogies

PILOT FOCUS : SDG11
Challenge-based learning
It’s an inductive method!
Prince & Felder (2006)

- Starts with challenges to be interpreted, questions to be answered, problems to be solved
- Student centred method – i.e. the knowledge is created by the student – not transferred by the teacher
- Includes active and collaborative learning
CBL enhance...

- Innovative thinking abilities (Martin et al 2007)
- Improves interaction in the group (Mahoney et al 2012)
- Makes students more involved (Baloian, Nelson, et al. 2006)
The Challenge-based Learning and Innovation Cycle

1. **Local Partnership Arenas (LPA)**
   - Triple (quadruple) helix settings for 'local' key actors discussing and refining the contemporary SDG11 challenges of the future – setting the agenda for CB Learning, Research and Innovation

2. **Challenge Databases**
   - European hubs of innovation support which contributes to the development and diffusion of new ideas – transnational innovation vouchers (TIVs).

3. **Team Assignment**
   - European hubs of innovation support which contributes to the development and diffusion of new ideas – transnational innovation vouchers (TIVs).

4. **Activities**
   - **Taking Micro-modules**
   - **CBL/Innovation Activities**
   - **Connecting Research Capacity**

5. **Outputs**
   - **Start-ups**
   - **Solutions**

**Handshake procedure**: Quality Assurance + offers of nano, mini, standard or strategic activities and modules

**Society Quests** - a structured methodology for the purpose of refining challenges and initiating joint development projects.
Challenge-based Impact Process

PART 1: “DO THE RIGHT THING”
UNDERSTAND THE CONTEXT

Learning Objectives
Enhance Social & Cultural Intelligence

PART 2: “DO THINGS RIGHT”
DESIGN THE SOLUTION

Educate in Critical Thinking
Train in 21st Century Skills
Meet society's challenges

Learning Objectives
Enhance Social & Cultural Intelligence
Educate in Critical Thinking
Train in 21st Century Skills
Meet society's challenges
### Challenge (Crowd)Sourcing

**Objective**: An open, inclusive and transparent process to surface local challenges.

**Actors**
- ECUI: Coordinator, marketing dept, students
- External: Civil society, public sector, industry, community

**Input**: A simple online concept note template to facilitate a public call for challenges.

**Activities**: 6 weeks: Online open call promoted through external networks and university channels.

**Desired Output**: A broad range of challenges identified and surfaced by different sectors of society.

- Raise awareness of local university's involvement in ECUI and the challenge-based learning approach.
- Enhance university reputation and deepen engagement with external stakeholders as the broader public becomes aware of the university's ambition to solve problems raised by the local community.
- Provide a platform for multiple voices within society to surface challenges that may have previously not been heard.

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### Challenge Statement

**How might** (challenge champion) **verb** (desired outcome) **by limiting factor?**

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### Society Quests - Multiple Teams, Multiple Challenges

#### Session Flow

<table>
<thead>
<tr>
<th>Session Flow</th>
<th>Details</th>
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<tbody>
<tr>
<td>Welcome &amp; &quot;who's in the room&quot; energizer exercise</td>
<td></td>
</tr>
<tr>
<td>Challenge Pitches</td>
<td>Challenge champion &amp; community member summaries challenge &amp; opportunity providing situational context [what contributing factors we should be aware of] and insights [what has been tried before, noting what worked, what didn’t and why]</td>
</tr>
<tr>
<td>Panel Discussion</td>
<td>Moderated discussion with all challenge champions on stage discussing commonalities, potential for overlap and collaboration - identify if there are shared visions or root causes</td>
</tr>
<tr>
<td>Q&amp;A</td>
<td>Audience questions with Challenge Champions &amp; Community Members (captured in shared doc, realtime and constantly updated throughout the day)</td>
</tr>
<tr>
<td>Lunch with themed tables</td>
<td></td>
</tr>
<tr>
<td>Nano Challenge: From insight &gt; idea</td>
<td>Nano challenge structure - As a multi-stakeholder team explore different angles of how you may want to address the challenge. Identify what you could contribute and what other stakeholders would need to be involved.</td>
</tr>
<tr>
<td>Presentation</td>
<td>Present 1-2 concepts you think should be explored further through CBL &amp; CBR</td>
</tr>
<tr>
<td>Wrap Up</td>
<td>After hearing all the concepts, all stakeholders sign up to work on the challenges they want to take forward. Challenge coordinator notes the project teams for future follow up.</td>
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### Discover - Society Quests

#### Root Causes & Contributing Factors

**Objective**: Generate excitement, explore and expand challenge potential, catalyze collaboration opportunities between stakeholders.

**Actors**
- ECUI: Coordinator, innovation hub rep, teachers, students
- External: Challenge champions, representatives from community, civil society, public sector, industry

**Input**: X number of Framed Challenges (with supporting data) which achieved the predetermined threshold of votes

**Activities**: 1 Day: Nano Challenge with Pitch, Panel, Q&A, Presentation & Wrap Up

**Desired Output**: Generate a pool of potential high impact CBL & CBR projects to be reviewed, refined and built upon by Local Partnership Areas.

**Desired Outcome**: Deeply defined potential challenge projects that are:
- Rooted in data
- Humanized through personal narrative
- Contextualised through root causes & contributing factors
- Reinforced/supported by identified stakeholders and resources
A good challenge is...

- Open, 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
Join forces and create real impact

Welcome to the ECIU University Challenge platform!
The ECIU University is a European university where learners, teachers and researchers cooperate with society and businesses to solve real-life challenges. Together, we create, test and evaluate a whole new educational pedagogy – challenge based learning.
Learn more about the [ECIU University](https://www.eciu.edu).

Real-life challenges are worth solving because of economic or societal leverage, they also provide a stimulating environment for in-depth learning, experimenting with problem-solving skills and innovative competences to develop practical solutions.
ECIU University provides the opportunity for challenge-based learning in a multidisciplinary international setting, imagine the possibilities!

**Engage in solving challenges**
- Work in multidisciplinary and international teams.
- Engage with business companies and societal partners across Europe.
- Tackle local, national and global problems with a help of a novel, challenge-based learning model.

**Join micro-modules**
- Fill in the skill and knowledge gap in a particular area, for example, energy and sustainability, circular economy.
- Develop transversal skills, for example, intercultural communication.
- Learn foreign languages.

**Circular economy for SME in Norrköping**
Create opportunities for small to medium enterprise (SME) in Norrköping to work with circular economy, overcoming the obstacles with not knowing how to benefit for other SME to create circular production chains...

**Civil Rights Defenders**
Civil Rights Defenders is an international human rights organization that defends people's civil and political rights. Our guiding principle is the importance of strong local human rights actors and we partner with an...

**Digital Business Model for Workwear Apparel**
Henmark Apparel AB develops functional clothing focusing on comfort, quality and longevity. Using digital sales channels, the company can cut out the expensive middleman and instead spend more money...

**ECIU Challenge platform**

- On-line [https://challenges.eciu.org](https://challenges.eciu.org)
- In total 160 challenges:
  - 40% private (80% SMEs)
  - 40% public (municipalities, regions)
  - 20% NGOs
ECIU micro-modules

- On-line https://challenges.eciu.org
- In total short learning 150 modules, micro-credentials for life-long learners
- Modules connected to challenges
Impact Management

**Impact statement**

Participation: Who we need to reach across the various parts of the pathway to make a difference

This is what we control or can influence

**INPUTS**
- Resources

**ACTIVITIES**
- What we do

**OUTPUTS**
- What we produce

**IMMEDIATE OUTCOMES**
- Capability, behaviour, etc. change by partners due to our outputs

This is what makes a difference

**MEDIUM TERM OUTCOMES**
- Capability, behaviour, etc. change by people influenced by our partners

**IMPACT**
- System level changes we want to promote

What most research organisations conventionally plan, monitor and evaluate
Impact Case Study

InGenious East Sweden

- Ranked as excellent by the Swedish Innovation Agency, Vinnova
- Listed by OECD and the Worldbank as a best practice for innovation policy-makers globally
- 140 project with a total of 800 students since 2013

“Our world is changing so fast, therefore we want to meet the students, those we call digital natives. They can find new applications because they see the world in a different way.”

[Ronald Ingman, Director, Ericsson]

“Through InGenious I discovered an entrepreneurial spirit within myself – which I never thought I had. I learned to work with people from different disciplines and cultures, with divers approaches and understandings – making ideas grow!”

[Eni Iduozee, Student]

Results

78% of the solutions are licenced back to the companies

50% of the students will be employed by the companies

15% of the students will start their own business

50% of the students will remain in the region
The ECIU University is an EU-funded initiative that creates a ground-breaking and innovative educational model on a European scale.

www.eciu.org

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