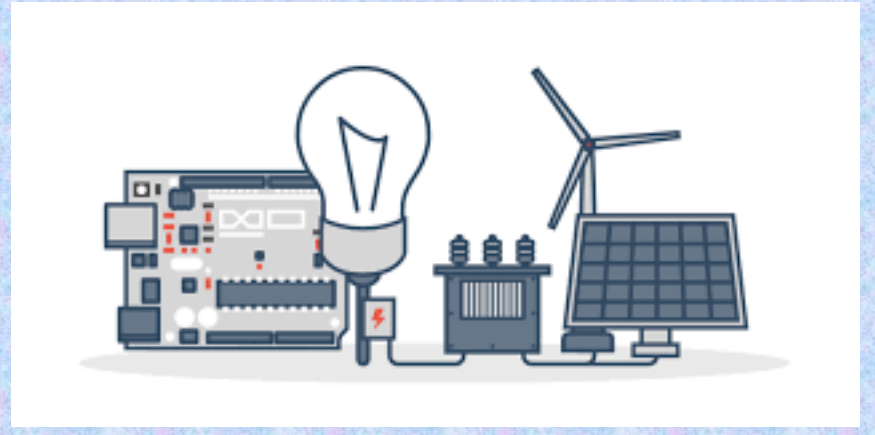
CHALLENGING
CONVENTIONAL
THINKING

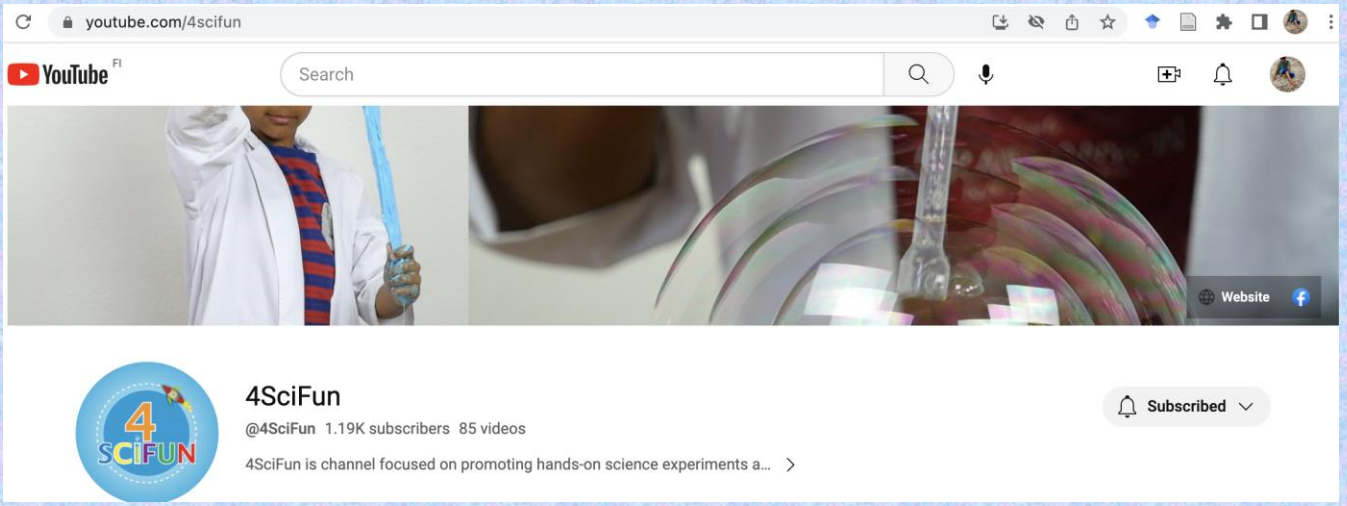
Lifelong learning, Micro-credentials & ECIU

Padmasheela Kiiskilä, Tampere University

23.10.2024

Electrical engineer (power systems)





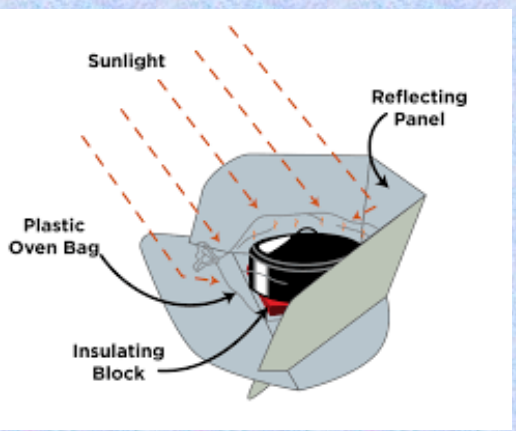
Wireless routing engineer

LifeLong Learning

Tampere University

LEARN REFLECT PRACTICE SHOW MASTERY DISPLAY

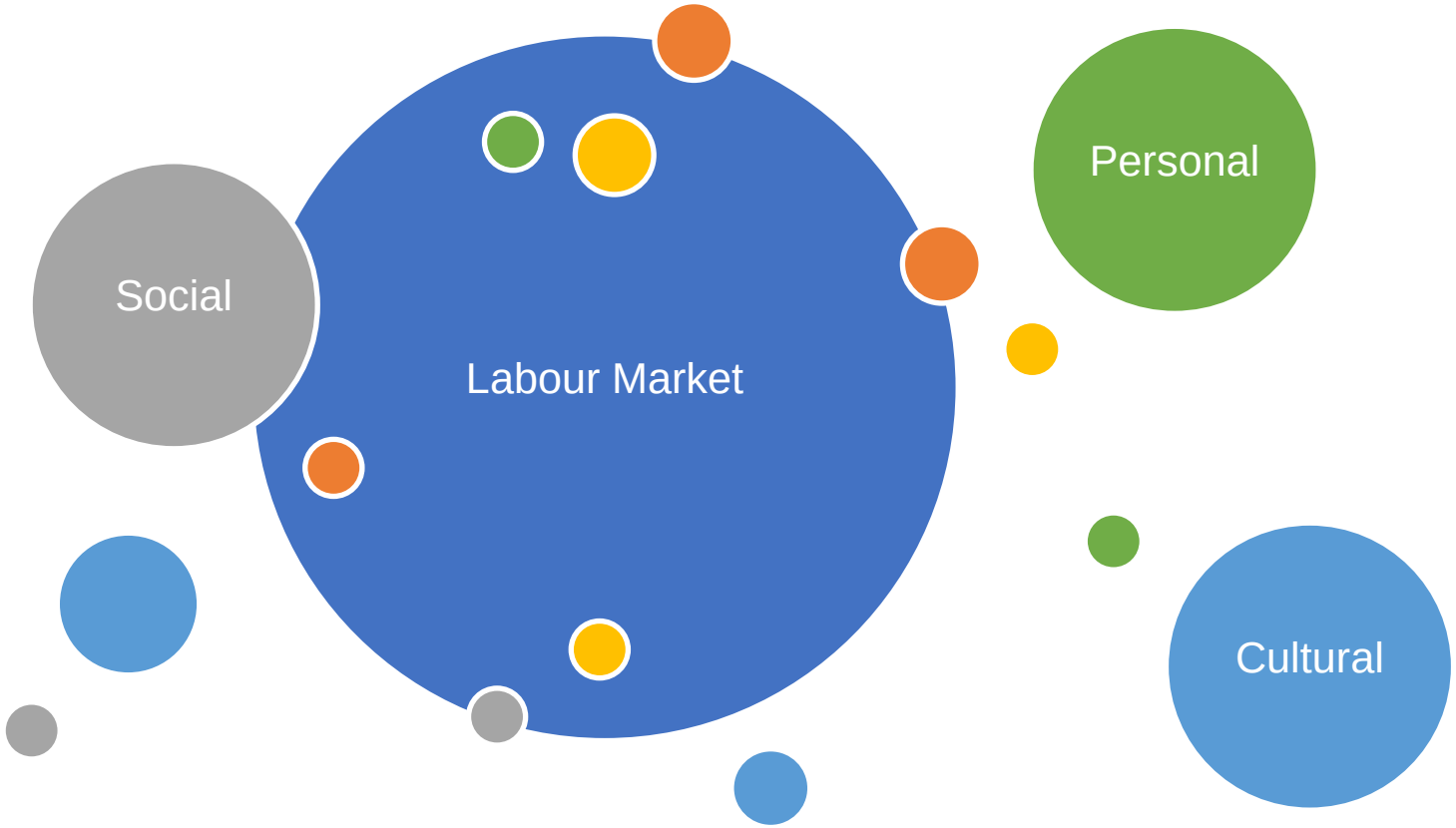
MICROCREDENTIALS

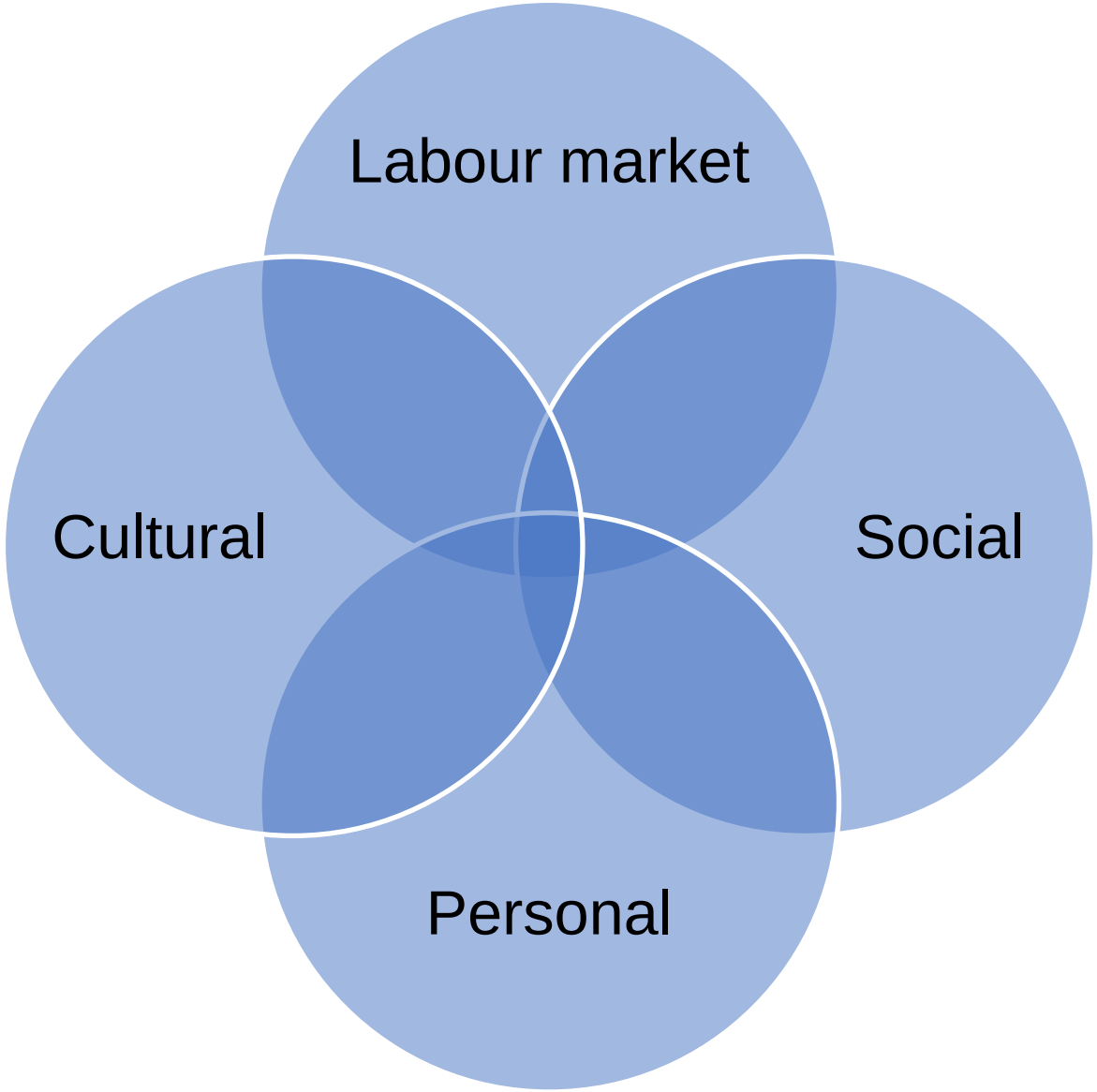


Discovery Museum of Tampere

Drivers for Life Long Learning

Voluntary
Self-motivated
Desire to learn
Expand one's mindset




Labour market
Cultural
Social
Personal

To this..

Expected
Needed
Desired

Life long learning

Why

- **Skills needed to do current job**
- **Need to change job**
- **Want a new career**
- **Prospects in a new field**
- **Employer requires new training**

- Technological developments, AI changing job descriptions and skills needed

How

- **Micro-credentials**
- **MOOCs**
- **Nano-degrees**
- **Flexible learning pathways**
- **Industry offered training programmes**

EU competitiveness: Looking ahead

To do so, we will establish a **Union of Skills** – focusing on investment, adult and lifelong learning, skill retention and the recognition of different types of training to enable people to work across our Union.

Central to this will be **embedding lifelong learning into education and careers** and supporting the training and the career prospects of teachers.

- Von Der Leyen

- Refocus its collective efforts on closing the innovation gap with the US and China, especially in advanced technologies.
- Joint plan for decarbonisation and competitiveness.
- Increasing security and reducing dependencies

- Mario Draghi report

It is also important to give vocational education and training (VET) the prominence it deserves. It prepares people for work and gives them the skills that companies are looking for. This is why I will propose a **European Strategy for Vocational Education and Training**, notably to boost the number of people with a secondary VET degree.

What are the strategic drivers for micro-credentials?

Figure 2. Examples of context in which micro-credentials are expected to play a role

Source: OECD (2023), "Micro-credentials for lifelong learning and employability: Uses and possibilities", OECD Education Policy Perspectives, No. 66, OECD Publishing, Paris, https://doi.org/10.1787/9c4b7b68-en.

https://www.eciu.eu/about-eciu

THE EUROPEAN CONSORTIUM OF INNOVATIVE UNIVERSITIES

Top news

BIG MILESTONE FOR THE EUROPEAN EDUCATIONAL COMMUNITY: EU COMMISSIONER OPENED THE ECIU EXTENDED REALITY CAMPUS

learn more

ECIU

SINCE 1997

Our collaboration is firmly based on expertise in innovative education, research, and knowledge exchange. We pride ourselves on being entrepreneurial, and on maintaining an innovative culture in our institutions, as well as providing a catalytic role for innovation in society.

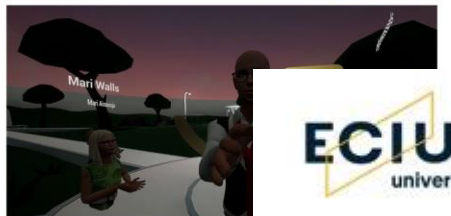
We are ECIU, the European Consortium of Innovative Universities, a network of 13 universities united since 1997 by a common profile of shared beliefs, interests, and mutual trust.

ECIU university

NOW

Together, we will create, test and evaluate a whole new educational pedagogy. This will help to focus all the university activities from education, research, administration and support through to innovation and valorisation.

The ECIU University is an EU-funded European University that will create a completely new educational model on a European scale. The ECIU University gathers together learners, teachers, and researchers to cooperate with cities and businesses and solve real-life challenges.



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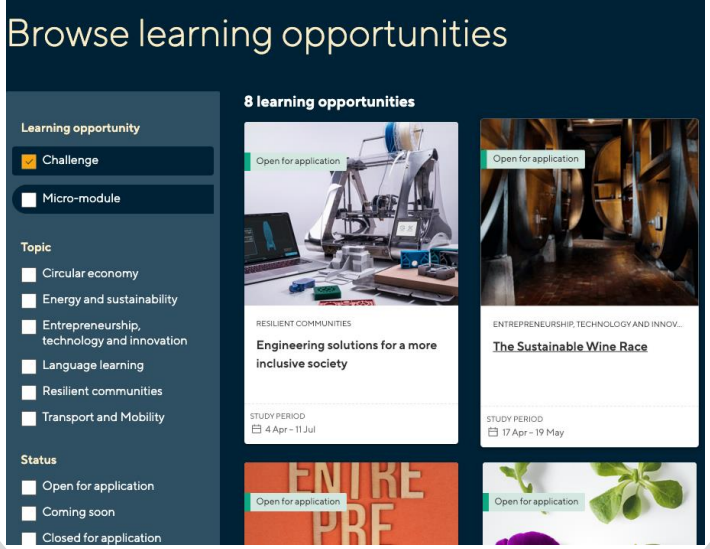


ENERGY AND SUSTAINABILITY

709A06 Strategic Planning - Regions and EU

ENERGY AND SUSTAINABILITY

Consumer Digital Engagement for Energy Sustainability

Broad range of learning Offerings leading to Micro-Credentials

Current offers drawn mostly from existing study programs

- ECIU Challenges
  - Challenge-based learning
  - Learners team up
  - Typically practitioner collaboration with cities and companies
- Micro-modules
  - Mainly self-paced learning
  - Co-created by partners for ECIU
  - Micro 1-3 ECTS, standard up to 8ECTS
  - Online or hybrid setting
  - Instruction in English

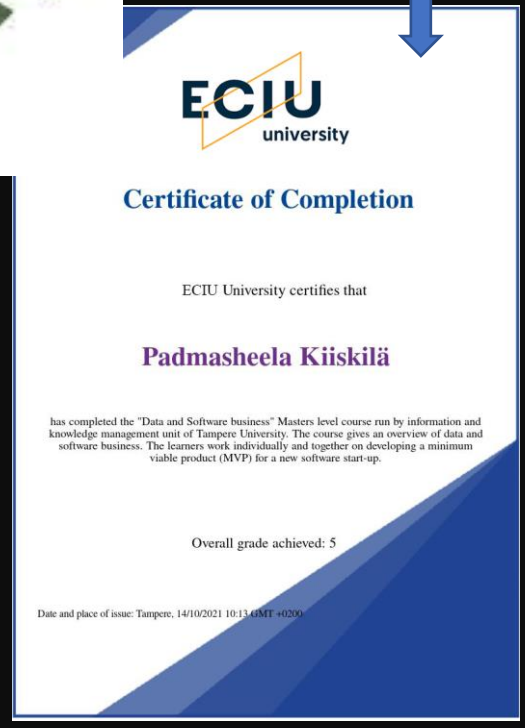
https://engage.eciu.eu/browse

ECIU university

Micro-credentials in ECIU University

Learning Experience

Digital Credential



A record of the learning outcomes that a learner has acquired following a small volume of learning which have been assessed against transparent and clearly defined criteria

- EU commission

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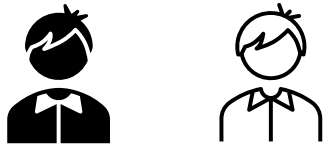
Industry – Universities – Learners

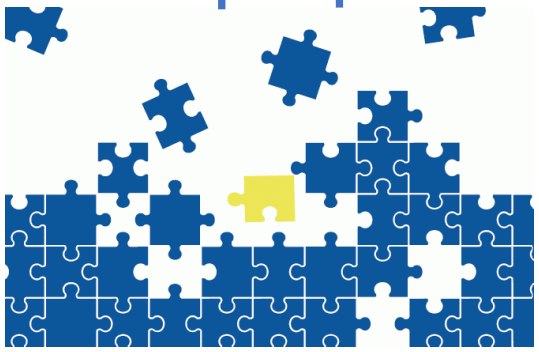
Learners



Learning Pathway assessment

Current skills

Skills acquired



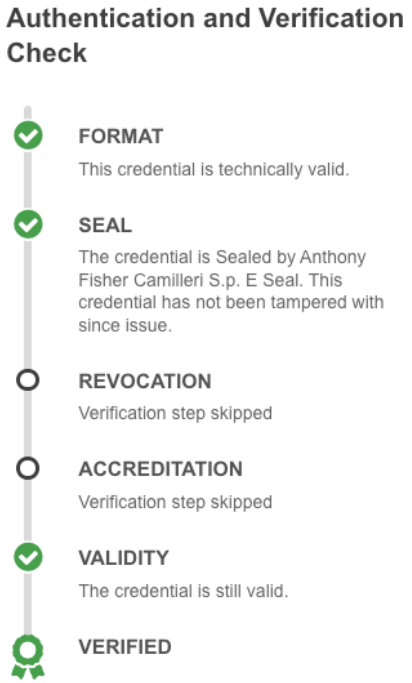
Micro-credentials

Job skills needed – current skills

ECIU chose EDC / Europass for Micro-Credentials as the current solution

ECIU required a solution that

- High level of authenticity: Self-sovereign and verifiable (non-forgeable) MCs
- Aligns with EU's mandatory elements
- Includes rich metadata
- Can potentially be customized for stackability purposes
- Can be crafted and co-created with EU



European Standards

European Digital Credential

(based on European Learning Model ELM)

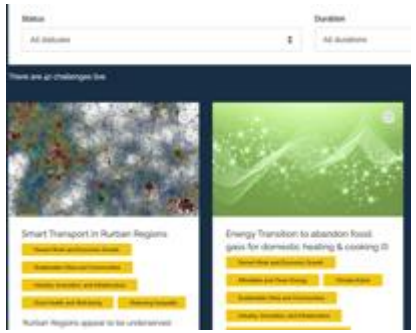
W3C VC datamodel

Qualified eSeal

Aligns with ESCO framework

Micro-Credentials from all ECIU learning opportunities

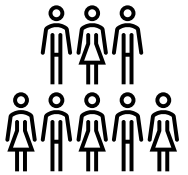
ECIU micro-modules



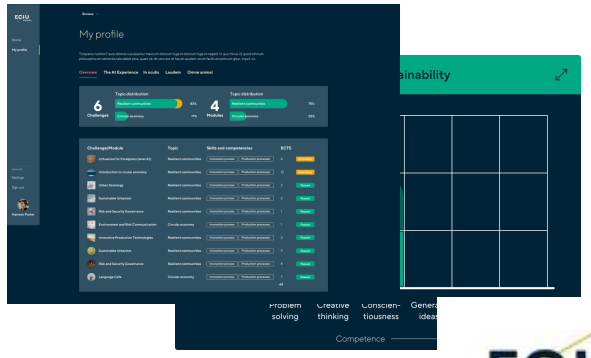
ECIU challenges

Issuing a verifiable digital credential (MC) From Engage.eu –platform after successful completion of learning

Learners store Micro-Credentials in their Europass wallet (issued from Engage with EDC)



Learners can monitor and steer their learning from Engage-profile



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European standard elements to describe a micro-credential (Annex I)

-the information we capture in each MC

Mandatory elements:	Identification of the learner
	Title of the micro-credential
	Country(ies)/Region(s) of the issuer
	Awarding body(ies)
	Date of issuing
	Learning outcomes
	Notional workload needed to achieve the learning outcomes (in ECTS credits, where possible)
	Level (and cycle, if applicable) of the learning experience leading to the micro-credential (EQF, QF-EHEA), if applicable
	Type of assessment
	Form of participation in the learning activity
	Type of quality assurance used to underpin the micro-credential
Optional elements, where relevant (non-exhaustive list)	Prerequisites needed to enrol in the learning activity
	Supervision and identity verification during assessment (unsupervised with no identity verification, supervised with no identity verification, supervised online, or onsite with identity verification)
	Grade achieved
	Integration/stackability options (stand-alone, independent micro-credential/integrated, stackable towards another credential)
	Further information

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Summary Journey & Systems of Micro-Credentials

ECIU Institutions add micro-module/challenges details into DXP – including EQF Level

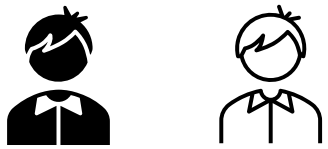
Learner Successfully Completes

DXP / Engage (Central platform)

Create MC

eSeal and Issue thru EDC Issuer platform with all information passed from DXP, compliant with Annex 1 of MC recommendation

Learner receives email from EDC



Learners can open wallet and store/share their credentials

Europass

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ECIU eSealed Micro-credentials

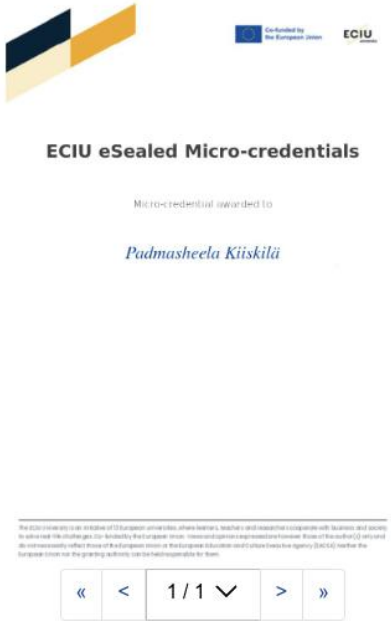
Issuing date: 24/11/2023 | **Valid from:** 21/11/2023 | **Type:** Generic,Mandated Issue | **Credential id:** urn:credential:a257f086-3a3f-426d-b831-f5192010fd41

Credential summary | Export | Upload another credential | Share | English

Padmasheela Kiiskilä

Stichting European Consortium of Innovative Universities

ECIU eSealed Micro-credentials



Authentication and Verification Check

FORMAT
This credential is technically valid.

SEAL
The credential is Sealed by Stichting European Consortium of Innovative Universities. This credential has not been tampered with since issue.

REVOCATION
Function under development. Contact the awarding body for information about this credential's revocation status.

ACCREDITATION
Accreditation does not apply to this Credential

VALIDITY
The credential is still valid.

VERIFIED

Learning Outcomes

Basic principles of data and software business

Student understands the basic principles of data and software business, and the special characteristics of software industry

Related ESCO Skills

identify opportunities, evaluate information, business knowledge

Show less

Collaboratively develop a data or software concept

He/she can analyze the feasibility of software business models. Student can apply theoretical knowledge and understanding of the data and software business characteristics to collaboratively create a solid lean canvas model for a software start-up.

Related ESCO Skills

work in teams, interact with others, perform business analysis

Show less

Monetizing with data and software

He/she can critically analyse how it is possible to monetize with data and software

Related ESCO Skills

think creatively

Show less

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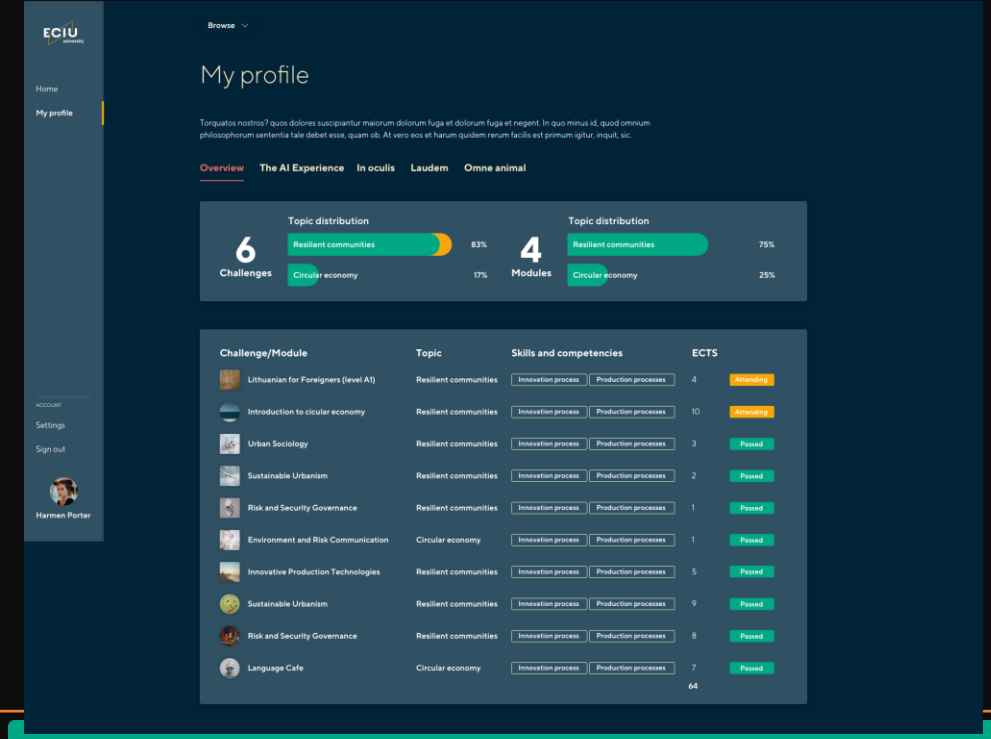
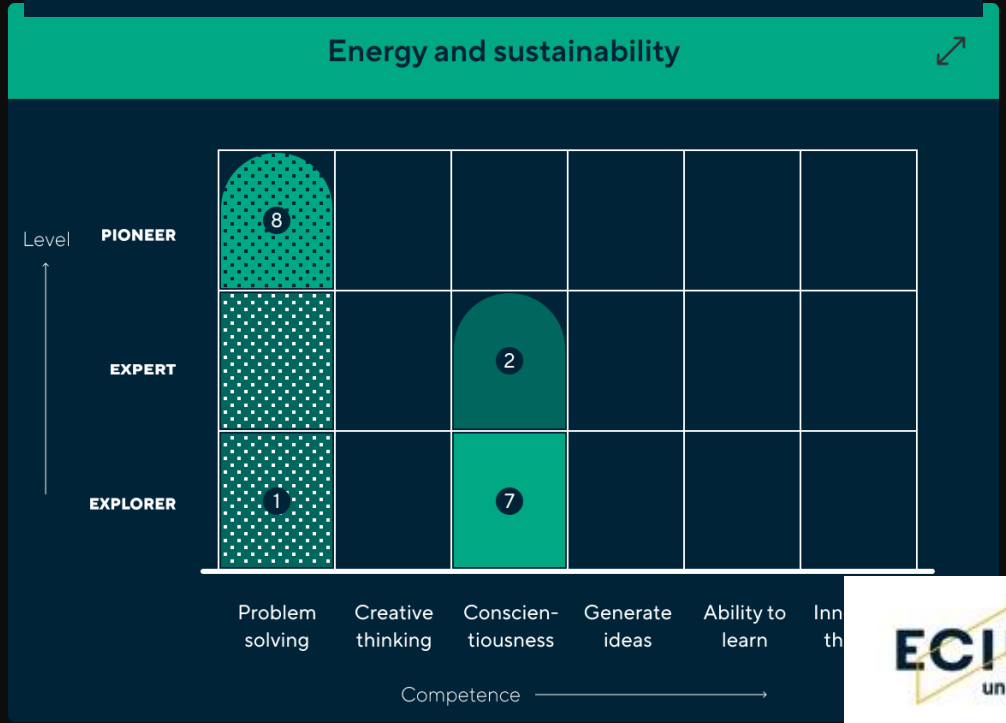
MCs can be accessed and compiled in Learner's (Engage.eu) profile

- Also referred to as Competence passport
- Stacking MCs based on the competence areas associated with the learning opportunity
- Learner's first do a Motivation scan to point out interest areas
- Monitoring progress and basis for Personalized recommendations / Flexible learning pathways
- *NOTE: Fixed bundles-type of stacking is currently not applied in ECIU University*





Challenges

- Recognition of MCs
- Employers awareness of MCs
- Local regulation changes in individual countries
- Availability of right MCs
- Incentive for learners to pursue

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PAVING THE ROAD FOR THE MICRO-CREDENTIALS MOVEMENT

ECIU UNIVERSITY WHITE PAPER ON MICRO-CREDENTIALS

Access our 1st Micro-Credential white paper: https://www.eciu.org/news/micro-learning-varies-from-online-courses-to-study-packages

Access our 2nd Micro-Credential white paper: https://www.eciu.org/news/paving-the-road-for-the-micro-credentials-movement

Access our 3rd Micro-Credential white paper: *https://www.eciu.org/news/presentation-of-the-third-eciu-university-micro-credentials-paper-a-vision-for-european-learners-values-and-priorities*

Reading materials_

Kiiskilä, P., Kukkonen, A., & Pirkkalainen, H. (2023). Are Micro-Credentials Valuable for Students? Perspective on Verifiable Digital Credentials. *SN Computer Science*, *4*(4), 366.

SN Computer Science (2023) 4:366
https://doi.org/10.1007/s42979-023-01797-y

ORIGINAL RESEARCH

Are Micro-Credentials Valuable for Students? Perspective on Verifiable Digital Credentials

Padmasheela Kiiskilä[1] · Arttu Kukkonen[1] · Henri Pirkkalainen[1]

Kiiskilä, P., Hanafy, A., & Pirkkalainen, H. (2022). Features of Micro-credential Platforms in Higher Education. In CSEDU (1) (pp. 81–91).

Features of Micro-Credential platforms in Higher Education

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Association for Information Systems
AIS Electronic Library (AISeL)

14th Scandinavian Conference on Information Systems | Scandinavian Conference on Information Systems

9-22-2023

HOW CAN EUROPEAN BLOCKCHAIN SERVICES INFRASTRUCTURE BE USED FOR MANAGING EDUCATIONAL DIGITAL CREDENTIALS?

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