

Facilitating a European brand of trustworthy, stackable and functional transmission of digital and micro-credentials

**Online event, Ljubljana, Slovenia, 28 May, 2020
Report (draft version)**

Annexes to this report:

- 1. List of participants**
- 2. Agenda**
- 3. Onboarding into the Credentify clearing house for digital credentials**

The meeting was delivered [online](#) and started at 9:30 on Thursday, 28th of May. There were 19 participants from 11 institutions, including NAKVIS, CMEPIUS and Slovenian universities, see Annex 1 to this report. As intended, the participation was diverse: There were representatives from both operational and strategic levels, specialists as well as generalists, representatives from various work fields (e.g. policy, European funding) and from various functional groups, including the NAKVIS on standardisation.

The goals of the national workshop were to:

1. Communicate to the relevant policy makers and stake-holders the road towards making the above vision of an online clearinghouse of a trustworthy, transparent European brand of credentials a reality.
2. Get feedback from relevant players on how the project vision and especially the online clearinghouse (<https://credentify.eu/>) should be refined and improved to be best aligned with European policy goals.
3. Define a way forward to ensure that the vision gets implemented and contributes to Europe's educational stakeholders' long term competitiveness on the world stage and to maintaining and disseminating core European values.
4. Send a strong public message about the commitment of all involved to take all the steps necessary to ensure a strong positive impact of policy-designed technology on European Education area and economy and society.

The following documents were sent to the participants before and after the meeting:

- Agenda
- Consultancy for the micro-credentials consultation group – Background Report for the first meeting of the consultation group
- List of participants
- The presentations of the workshop and other relevant material can be accessed at the K4A website, see [here](#).

The meeting concluded with a set of decisions:

- Setup a "Working Group on Digital Credentials" with all relevant Slovenian stakeholders
- Setup a telco to present the developed digital credentials clearinghouse ([Credentify](#))
- Create a presentation for on-boarding and testing the developed technologies ([here](#))

Session 1: The current landscape of micro-credentials and digital credentials

Micro-credentials – current status

- A growing number of adults, with a higher education degree or lower, will need to reskill and upskill through more flexible alternatives than a full degree in order to overcome the gap between the learning outcomes of initial formal qualifications and emerging skills needs in the labour market. Furthermore, the current COVID-19 crisis illustrates the urgency of creating more transparency in the continuing education and training offer. There is emerging evidence that the demand for online learning will continue after the COVID-19 crisis.

Micro-credentials – current definitions

- A shared definition of micro-credentials in the EU is key to further the development and provision of micro-credentials, as discussed in the previous chapter. Transparent and scalable recognition and quality assurance processes can accelerate uptake and further the trust of micro-credentials in the EU. Our definition is "A micro-credential is a sub-unit of a credential that could accumulate into a larger credential or a degree or be part of a portfolio. Examples are Digital Badges, Verified credentials, MicroMasters, Nanodegrees". Source: (MicroHE Consortium, 2019)

European approach to micro-credentials

- In line with Commissioner Mariya Gabriel's mission to "plan and look at how we can increase the take-up of massive open online courses", the updated Digital Education Action Plan and the updated Skills Agenda, together with the Communication on the European Education Area, will equally look at the improvement of skills and competences through the promotion of equal access to flexible and continuous learning. A European approach for micro-credentials will help to widen learning opportunities on an unprecedented scale, stimulate a larger uptake of micro-credentials which can ultimately serve social, economic, and pedagogical aims.

Micro-credentials – potential building blocks of a European approach

- Common and transparent definition
- Link to the European Qualification Framework (EQF): defined levels, learning outcomes (please see following section for further elaboration)
- Quality assurance standards for providers and courses
- ECTS: defined learning outcomes and workload
- Recognition: for further studies and/or employment purposes
- Digital tools: issuing credentials, offering access to micro-credentials, storage of credentials, sharing of credentials, guidance
- Business model(s) and engagement of practitioners

Session 2: The technology developed in Slovenia for micro-credentials and digital credentials

Storage and portability of micro-credentials

- The European Commission is currently developing the new Europass framework for digitally-signed credentials, the Europass Digital Credentials Infrastructure (EDCI). The EDCI will offer free tools for institutions across the EU to issue credentials as well as diplomas and certificates at all levels in a tamper-proof, digital format with automatic verification of their authenticity.

Our technology

- The MicroHE consortium has developed Credentify which is a blockchain-based cloud service which enables universities and students to issue and receive micro-credentials that can be stacked into ECTS. It is at present being piloted by four European universities, in Slovenia it partnered with Doba. The consortium is composed of Duale Hochschule Baden-Württemberg (DHBW), Vytauto Didziojo Universitetas (VMU), Tampere University (TAU), two research institutes, Fondazione Politecnico di Milano (FP), Institut Jozef Stefan (JSI), Knowledge Innovation Centre (KIC) and European Distance and E-Learning Network (EDEN), and Knowledge 4 All Foundation.

From paper to paperless to unique digital assets

- Credentials are one-of-a-kind collectables. They are indeed unique assets, originals with a time stamp issued by a trusted institution and we must be able to track the ownership of each one separately. Credentials need to be paperless and reflect sustainable principles and offer a safe placeholder for hundreds of them as people reskill during their career. With our prototype infrastructure we want to accommodate with a solution for this challenge, namely a clearinghouse to store and exchange digital credentials.

Keeping all the data in a digital format

- The development of the technical infrastructure has occurred in a context of increasing requests from graduate students to recognize learning achieved online and elsewhere. It provides the opportunity to get credentials from multiple universities recognized as part of educational studies, and it supports portability and storage of digital student and educational institutions data. A major advantage is that we offer a standard format for documenting credentials in terms of ECTS, using existing recognition tools (ESCO, EQF).

Benefit for issuers, students, workers and employers

- The technology therefore empowers institutions to design, prepare and issue any type of digitally created credentials to students. The added value is that it's the first issuer of credentials in the form of unique (non-fungible) assets on the blockchain – this way we prevent data mismanagement, frauds, or authenticity abuse and enable GDPR compliant public access and verification of issued credentials. We use the widely adopted ERC721 standard allowing credentials to become smart contracts. Credentials are issued, encrypted by our algorithms and stored with all the data that Universities use to describe credentials.

Annex I: List of participants

Peter Purg, Slovenian Quality Assurance Agency for Higher Education
 Klemen Šubic, Slovenian Quality Assurance Agency for Higher Education
 Davor Orlič, K4All foundation
 Anthony Camilleri, Knowledge Innovation Centre
 Mihajela Črnko, Institut Jožef Stefan
 Dusa Marjetic, Ministry of Education, Science and Sport
 Vesna Kolenc Potočnik, DOBA
 Robert Marinšek, CMEPIUS
 Polonca Miklavc Valenčič, Univerza v Ljubljani
 Sergeja Mitič, Univerza v Ljubljani
 Tomaž Klojčnik, Almamater
 Tatjana Mikelić Goja, Univerza na Primorskem
 Matej Mertik, Almamater
 Primož Kos, Ministry of Education, Science and Sport
 Uroš Kugl
 Sonja Mavsar, Ministry of Education, Science and Sport
 Marko Radovan, University of Ljubljana
 Tomi Dolenc, Arnes
 Marko Bencak, Almamater

Annex II: Agenda

1. MODERATOR: Mihajela Crnko, Jozef Stefan Institute
 09:30-09:45 **Introduction**
2. MODERATOR: Klemen Šubic, NAKVIS
 9:45-11:30 **Presentations and feedback sprint:**
 - Digital Credentials 101: European context of digital credentials by Anthony F. Camilleri, Knowledge Innovation Centre
 - European Clearinghouse for Micro-credentials and more by Mihajela Crnko, Jozef Stefan Institute and Davor Orlič, Knowledge 4 All Foundation

Annex III: Onboarding into the Credentify clearing house for digital credentials

Step 1 - Registration instructions

- Open your Chrome browser
- Register into Credentify at <https://credentify.eu/>
- Click on "Get Started"

- Click on "Sign up"
- Check for an email from hello@0xcert.org
- If you haven't received it, check your spam folder
- Follow the link to your browser
- Go to your profile

Step 2 – Choosing roles and institutions

1. Find your institution – project partners onboarding:

- Click on it and chose your role as "Admin"
- Click on "Request Membership"
- Super Admin at K4A/JSI will add you
- This setup will happen only once

Now follow this example for real-life scenario:

2. Find Tampere University:

- Click on it and chose "Student" role
- The Tampere University Admin will add you
- This setup can happen by institutions N times

Step 3 - Wallet registration and setup

- Make sure to use your Chrome browser
- Log into Credentify
- Go to "My profile" on the top right corner
- Click on the wallet button
- Click on the Metamask link or go here <https://metamask.io/download.html>
- You'll be directed to a new page
- There you'll need to install a new Chrome plugin
- Follow the instructions and create your wallet
- Make sure to write down the 12 seed words and your username and password
- Come back into the Credentify
- Connect your wallet in Credentify

Step 4 - Requesting a digital credential

- Open your Chrome browser
- Log into Credentify at <https://credentify.eu/>
- Make sure your Wallet is installed
- Click on "Achievements" on your left hand side
- You will see achievements in the institutions you are part of
- Click on "Request a credential"
- Wait until your institutions Admin accepts the request
- Once its approved, you will be able to see it under the "Credentials" tab