ProctoGo

Co-funded by the
Erasmus+ Programme
of the European Union

Framing the Microcredentials Landscape

Carlos Delgado Kloos
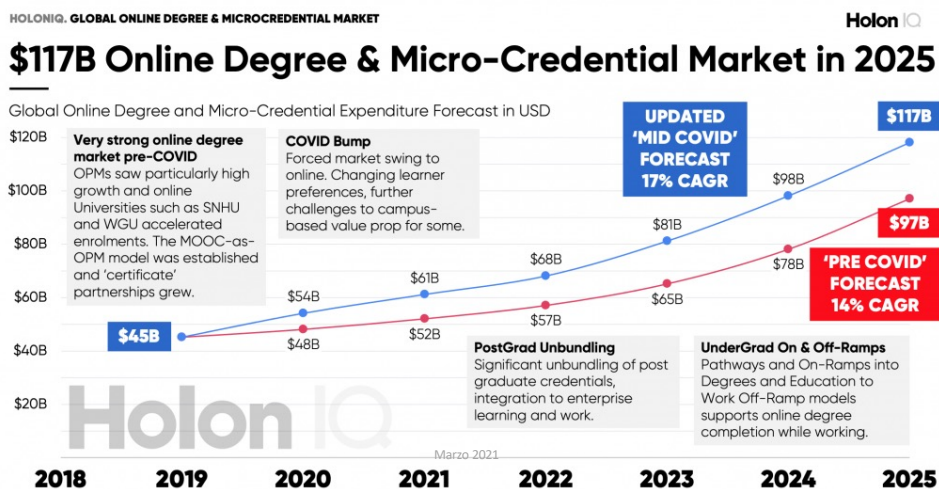Universidad Carlos III de Madrid
`it.uc3m.es/cdk`, `@cdkloos`

What is a Microcredential?

- "The **record** of the **learning outcomes** that a learner has **acquired** following a **small** volume of learning," and where
  "these learning outcomes have been **assessed** against transparent and clearly defined **standards**".

Expected Market

HOLONIQ. GLOBAL ONLINE DEGREE & MICROCREDENTIAL MARKET

$117B Online Degree & Micro-Credential Market in 2025

Global Online Degree and Micro-Credential Expenditure Forecast in USD

Very strong online degree market pre-COVID
OPMs saw particularly high growth and online Universities such as SNHU and WGU accelerated enrolments. The MOOC-as-OPM model was established and 'certificate' partnerships grew.

COVID Bump
Forced market swing to online. Changing learner preferences, further challenges to campus-based value prop for some.

UPDATED 'MID COVID' FORECAST 17% CAGR

$45B · $48B · $52B · $54B · $61B · $57B · $68B · $65B · $81B · $78B · $98B · $117B

'PRE COVID' FORECAST 14% CAGR $97B

PostGrad Unbundling
Significant unbundling of post graduate credentials, integration to enterprise learning and work.

UnderGrad On & Off-Ramps
Pathways and On-Ramps into Degrees and Education to Work Off-Ramp models supports online degree completion while working.

Marzo 2021

2018 2019 2020 2021 2022 2023 2024 2025

Urgent Action Required

THE STRAITS TIMES   SINGAPORE

Universities must change or lose their place to alternative education providers: OECD education chief

Sandra Davie
Senior Education Correspondent

PUBLISHED 30 JAN 2022, 8:00 PM SGT

In the third of a four-part series on the changing role of universities, OECD's education chief Andreas Schleicher talks to The Straits Times' senior education correspondent Sandra Davie on how universities have to evolve to stay relevant.

For some time now, people have been questioning the value of universities. The challenge became more robust in the last two years as the Covid-19 pandemic hit and universities began to deliver their programmes online, said a global education expert.

Microcredentials integrate into the Bologna Process and therefore everything is set!

From Bologna to Microcredentials

Change?

- Bologna process tools
- Microcredentials are part of the
  EHEA (European Higher Education Area)
- Many of the Bologna process principles are still valid
  - ESG (European Standards and Guidelines)
  - ECTS (European Credit Transfer System)
  - QA (Quality Assurance)

Change?

- However, some aspects change because of the size of the credentials!

OF COURSE
SIZE MATTERS
no one wants a small glass of wine

unesco
Chair *Scalable Digital Education for All*

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Duration

- Harmonization (more or less)

- Bachelor's degree program: 180-240 ECTS (3-4 years)

- Master's degree program: 60-120 ECTS (1-2 years)

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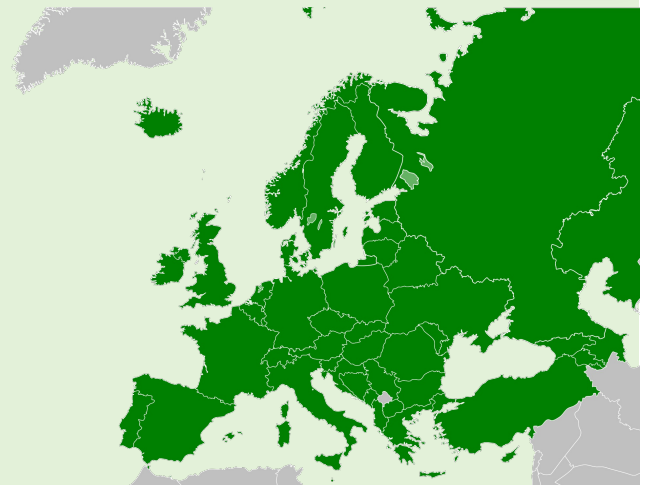
Duration

- Diversity

- ES: <=15 ECTS (RD 822/2021)
- NL: 3-30 ECTS
- BE: 3-20 ECTS
- DE: 1-9 ECTS (recomm.)
- IT: <= 60 ECTS (recomm.)?
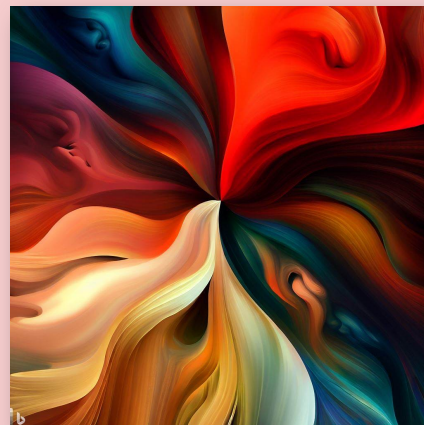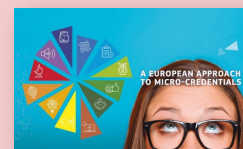
Duration

- Chaos

- ES: <=15 ECTS (RD 822/2021)
- NL: 3-30 ECTS
- BE: 3-20 ECTS
- DE: 1-9 ECTS (recomm.)
- IT: <= 60 ECTS (recomm.)?
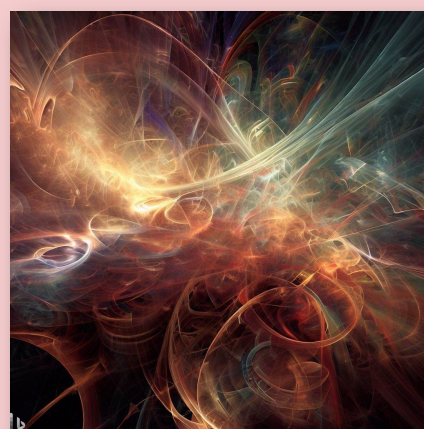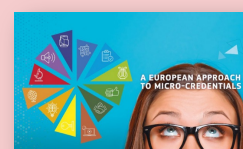
Spain: R.D. 822/2021, article 37

1?-15 ECTS

BOLETÍN OFICIAL DEL ESTADO

Núm. 233 — Miércoles 29 de septiembre de 2021 — Sec. I. Pág. 119537

I. DISPOSICIONES GENERALES

MINISTERIO DE UNIVERSIDADES

15781 Real Decreto 822/2021, de 28 de septiembre, por el que se establece la organización de las enseñanzas universitarias y del procedimiento de aseguramiento de su calidad.

8. Igualmente, las universidades podrán impartir enseñanzas propias de menos de 15 ECTS que requieran o no titulación universitaria previa, en forma de microcredenciales o micromódulos, que permitan certificar resultados de aprendizaje ligados a actividades formativas de corta duración. En ningún caso estas enseñanzas podrán confundirse con las titulaciones ofertadas por los centros de Formación Profesional de Grado Medio o Grado Superior.

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The Netherlands

3-30 ECTS

Wat zijn microcredentials?	Waarom microcredentails?	Hoe gaan we aan de slag tijdens de pilot?	Kwaliteitskader	Wie zijn er betrokken bij de pilot?

Een digitaal certificaat voor een zelfstandig af te ronden onderwijseenheid met een grootte van 3 – 30 EC met *accreditatiewaardig* niveau, kwaliteitskeurmerk en een erkende waarde voor de doelgroep *professionals*.

De microcredential is een betrouwbaar certificaat waarmee professionals kunnen aantonen wat ze weten, kunnen en begrijpen na succesvolle afronding van een onderwijseenheid. De microcredential geeft met andere woorden een zelfstandige waarde aan een kleinere onderwijseenheid (bij de pilot gaat het om een grootte tussen de 3 en 30 EC). De microcredential staat voor accreditatiewaardig onderwijs en voegt een kwaliteitskeurmerk toe: de (betalende) deelnemer/werkgever kan erop aan dat de cursus zo is opgezet dat leeruitkomsten bereikt worden. Het behalen van deze leeruitkomsten is herleidbaar en controleerbaar. Bij een microcredential gaat het echter niet alleen om het eindresultaat. Het gehele proces, inclusief de leeractiviteiten en bijbehorende toetsing van leeruitkomsten, geeft waarde aan een microcredential, die wordt erkend binnen en buiten onderwijsinstellingen. Daarnaast zal er landelijk geregistreerd worden wie welke microcredential heeft behaald. De vraag 'Wat zijn microcredentials?' wordt in onderstaande video in het kort beantwoord.
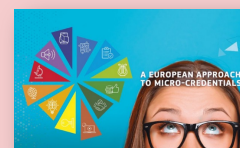
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Level

• Clearly defined levels of NQF/EQF
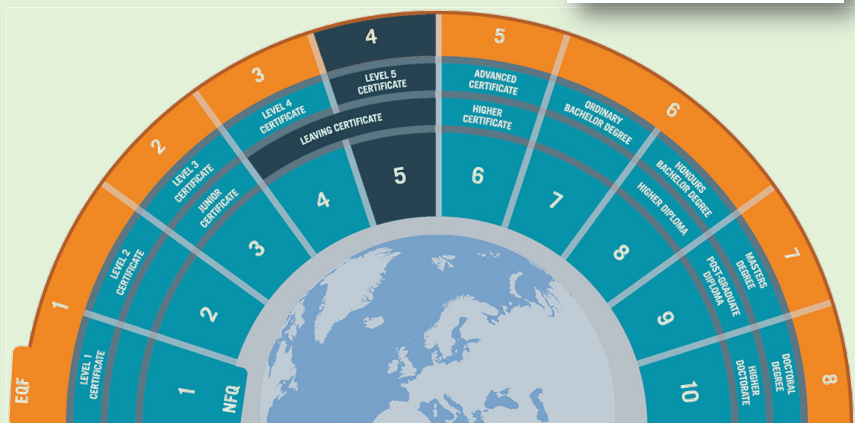
Level

• No clear differentiation in name
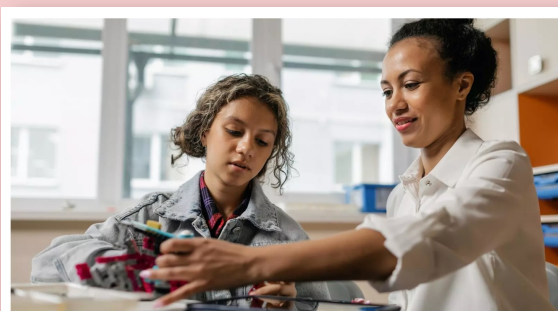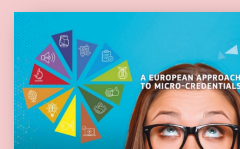
Goal: Bachelor & Master

- Fundamentals

Goal: Microcredential

- Reskilling/upskilling

FUTURE OF WORK

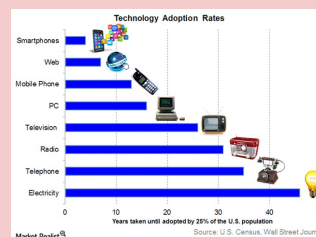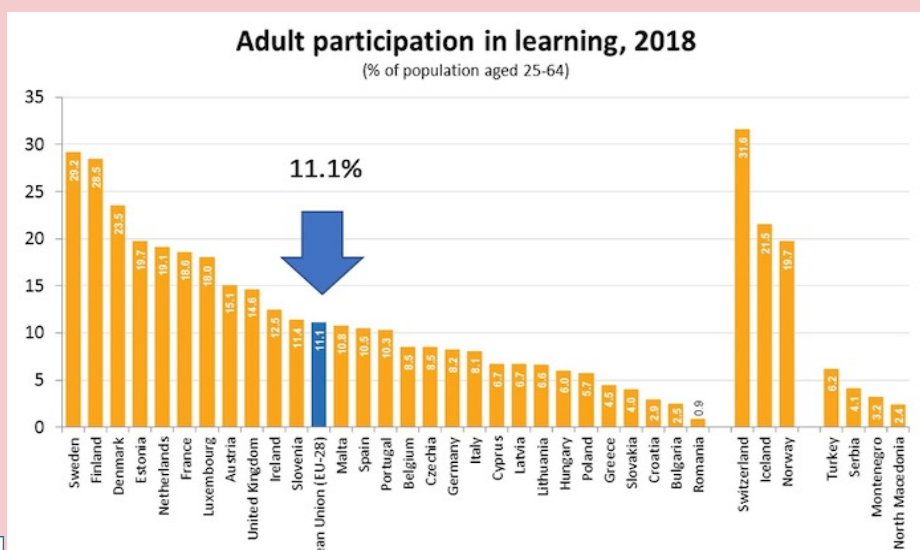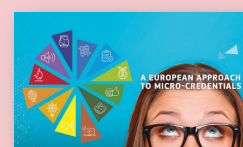**Reskilling Revolution: Preparing 1 billion people for tomorrow's economy**

09 Jan 2023

Need for a Frequent Requalification

- Exponential technological change

- Frequent change of job

- Continuous transformation of industries

- Longer life

Reskilling/Upskilling

Students

- Young people
- With more or less similar knowledge (somehow known)
- Captive

Students

- Mature people
- With fundamental knowledge, but diverse
- To the point

Competition

- Monopoly

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bologna process

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Competition

- Open market with many different players

Telefónica

Universitas Telefónica

Deloitte. University

MICROCREDENTIALS
A MASSIVE LIST

MASTERTRACK PROGRAM MICROMASTERS
NANODEGREE SPECIALIZATION XSERIES
MICROMASTERS XSERIES
SPECIALIZATION NANODEGREE
PROGRAM XSERIES

cc class central

ACADEMY

Academy
Federgon

code|cademy

A EUROPEAN APPROACH TO MICRO-CREDENTIALS

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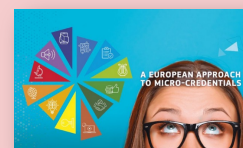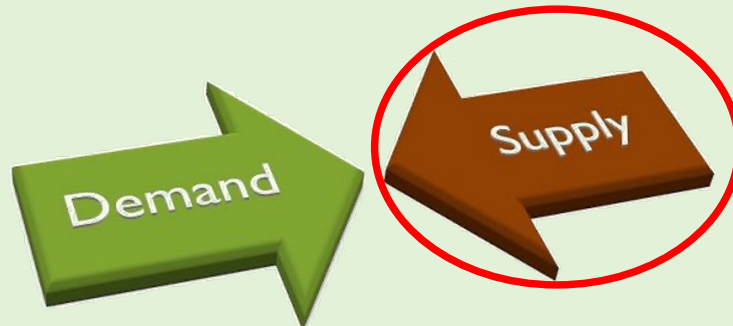
Educational Offer

Supply-driven

Educational Offer
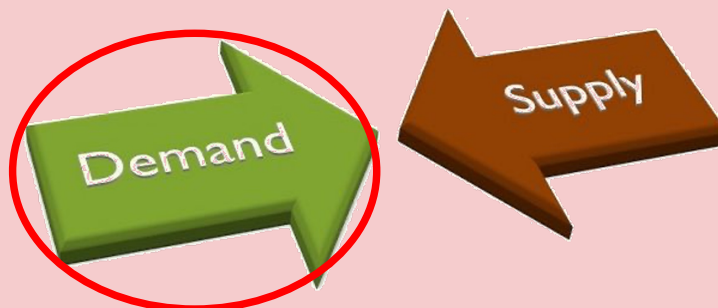
Demand-driven

Teaching Assignment

- Top-down
- Assignment of subjects to departments
- Departments manage teaching
- Discipline-oriented
- Slow change in educational offer

Teaching Assignment

- Supra-departmental organization
- Multi-disciplinary
- Incentives
- Agile and dynamic educational offer

Quality Assurance

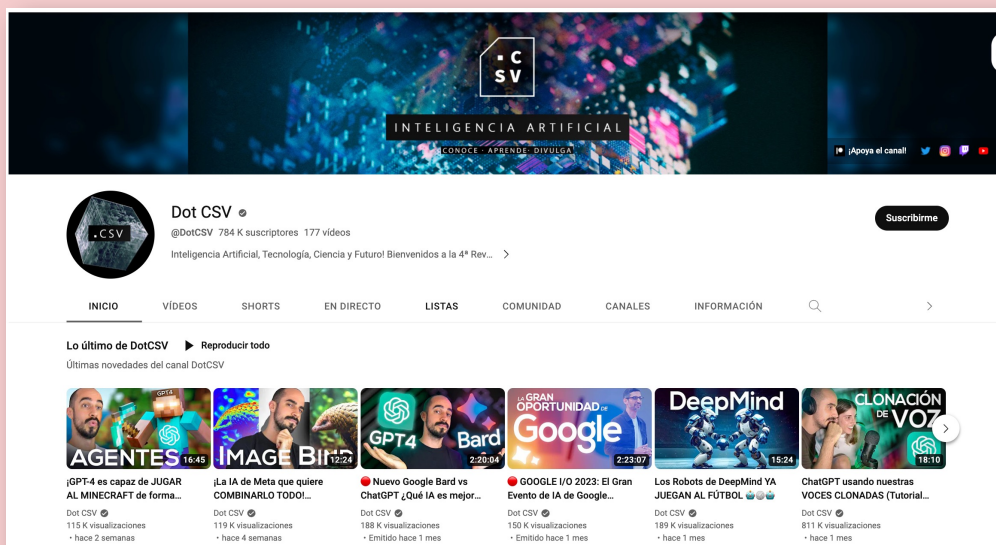- Regional, national, and European level
  assurance quality agencies

Quality Assurance

- Impossible to assure quality for each microcredential individually
  (too small to be cost effective)

Quality Assurance?

Quality Assurance?

- Content
  - complete
  - deep
  - entertaining
  - up-to-date
- Edutainment?

facilitar un audio como este que estoy grabando y él responderá

Certification

- Paper-based

Diploma Mills
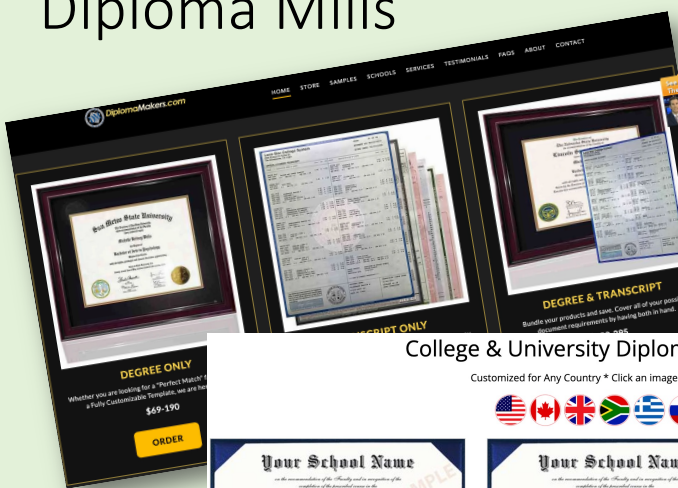
College & University Diplomas from $150

Customized for Any Country * Click an image for more designs

Buy Replacement and Novelty Fake College &
University Diplomas

Buy Replacement and Novelty Fake College &
University Diploma and Transcripts

Buy Replacement and Novelty Fake College &
University Transcripts

Certification

- Digital

Superficial vs. Deep Digitalization

PDF

sig

Certificate of Completion

The EDC Support Team certifies that

Carlos Delgado Kloos

has attended the Europass Digital Credentials Live Webinar

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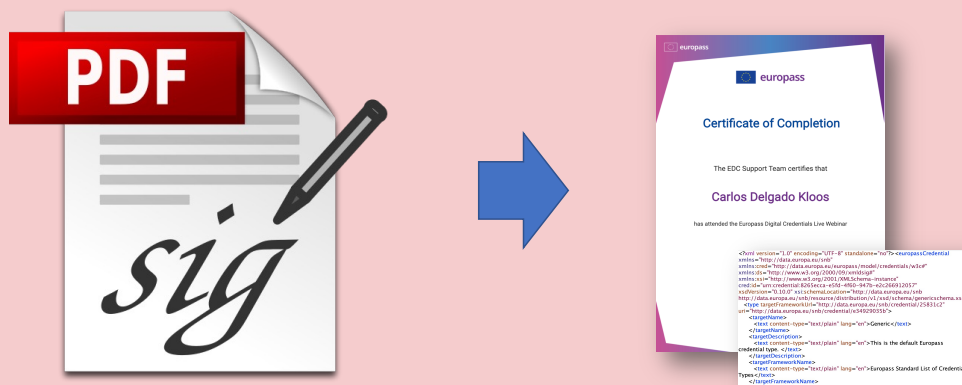
Verifiable Presentations

Verifiable Credential 1

Context
Type
ID
Issuer
Issue Date
Expiration Date

CredentialSubject:
GivenName
FamilyName
Birthdate

Proof:
Signature
Proof of Correctness
Attributes

Verifiable Credential 2

Context
Type
ID
Issuer
Issue Date
Expiration Date

CredentialSubject:
University
Department
DegreeAwarded

Proof:
Signature
Proof of Correctness
Attributes

Presentation

Context
Type
ID

VerifiableCredential:

Derived Credential 1

Context
Type
ID
Issuer
Issue Date

CredentialSubject:
AgeOver18

Proof:
Knowledge of Signature

Derived Credential 2

Context
Type
ID
Issuer
Issue Date

CredentialSubject:
Degree

Proof:
Knowledge of Signature

Proof:
Common Link Secret

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Centralized vs. Decentralized Management

vs.

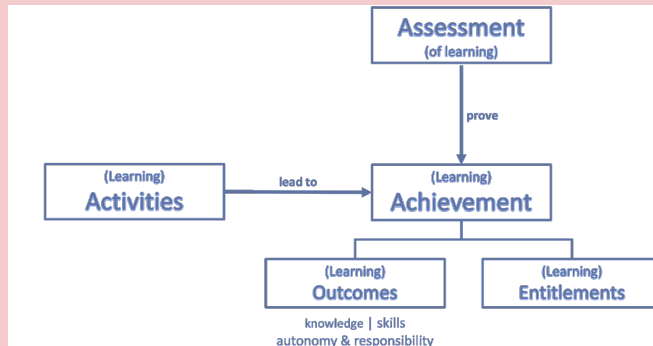---

Description

- Diploma Supplement

DECISIÓN N º 2241/2004/CE DEL PARLAMENTO EUROPEO Y DEL CONSEJO

de 15 de diciembre de 2004

relativa a un marco comunitario único para la transparencia de las cualificaciones y competencias (Europass)

Description

- European Learning Model (v3)

DECISIÓN (UE) 2018/646 DEL PARLAMENTO EUROPEO Y DEL CONSEJO

de 18 de abril de 2018

relativa a un marco común para prestar mejores servicios en materia de capacidades y cualificaciones (Europass) y por la que se deroga la Decisión n.º 2241/2004/CE
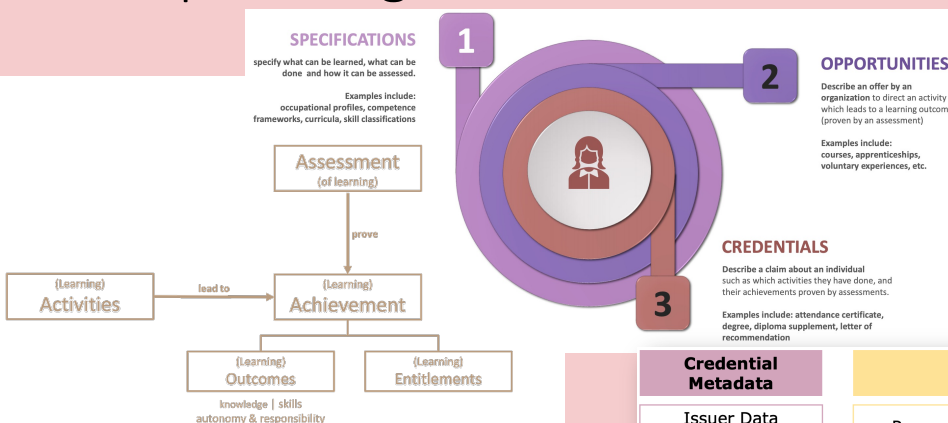

European Digital Credentials

| Credential Metadata		Claim		Proof	
Issuer Data (eIDAS Legal Person & **Accreditation** association)		Person (eIDAS Natural Person)	Person (Other Identifiers)	eIDAS eSeal (as per directive on qualified eSeals)	
Issuer Data Other Identifiers		Activity Specification + History	Assessment Specification + History + Grades	Other Proofs (accepted but not legally admissible)	
Credential Type **Qualification Award** Enrolment; Participation Exam Result;		Achievement Specification + History + Grades			

Specification: What was done Grade: To which level was it done?
History: Where, When, How was it done and who directed it?

joinup.ec.europa.eu/sites/default/files/release/documentation/2019-11/Europass%20Learning%20Data%20Model.pdf
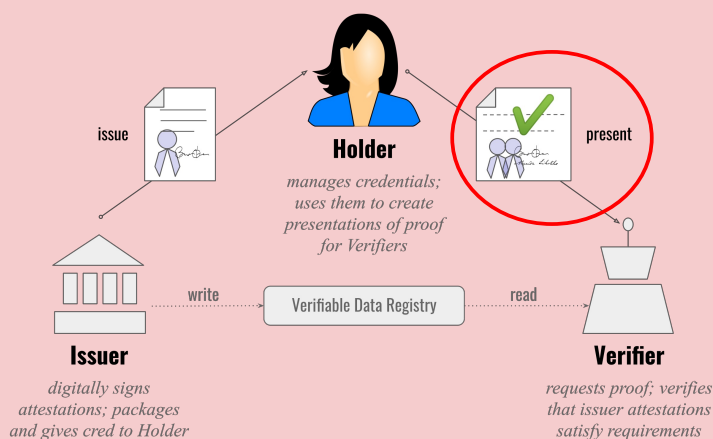
Digital Credential…
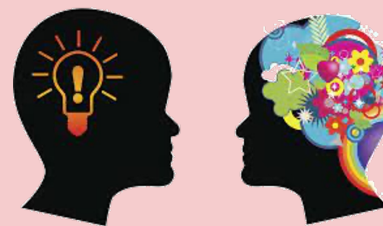
- Other and more aspects can be certified
- Competences vs. knowledge

Curricular and Co-Curricular Outcomes

Through the Clarke Compass, you will personally achieve the following eight outcomes:

- **Spiritual growth:** Discover a spiritual center that guides you in respecting and understanding self and other, as rooted in the BVM tradition and practices of Catholic Social Teaching.
- **Communication:** Strengthen and expand your reading, writing, listening and oral expression skills in individual, collaborative and technological settings.
- **Critical thinking:** Engage in critical and creative inquiry that leads to informed, researched and ethical judgments.
- **Integration of knowledge:** Connect ideas across the disciplines as you seek solutions to local, national and global problems.
- **Intercultural engagement:** Collaborate and interact meaningfully in diverse, real-world experiences that enrich your understanding of others' perspectives and impact the Common Good.
- **Leadership:** Lead and serve others in the classroom, on campus and in real-world contexts as you help shape the Common Good.
- **Professional preparedness:** Apply knowledge and skills in career experiences that set you apart from other graduates.
- **Self-sufficiency:** Acquire life-management skills that help you adapt and achieve in a rapidly changing world.

Better Sharing

issue

Holder
manages credentials; uses them to create presentations of proof for Verifiers

present

Issuer
digitally signs attestations; packages and gives cred to Holder

write

Verifiable Data Registry

read

Verifier
requests proof; verifies that issuer attestations satisfy requirements

Verifiable Credentials Data Model v1.1
Expressing verifiable information on the Web
W3C Recommendation 09 November 2021

Better Verification

issue

Holder

*manages credentials;
uses them to create
presentations of proof
for Verifiers*

present

write   Verifiable Data Registry   read

Issuer

*digitally signs
attestations; packages
and gives cred to Holder*

Verifier

*requests proof; verifies
that issuer attestations
satisfy requirements*

Verifiable Credentials Data Model v1.1
Expressing verifiable information on the Web
W3C Recommendation 09 November 2021

W3C

Better Employability

- Matching of job searches and offers

.ıl∙ **Emsi** | **burning ⚙glass**

Supply & Demand
Matching Service

Bologna

- *Just-in-case learning*
- Harmonized length in Europe
- Goal: fundamentals
- Students with known knowledge
- Slow change of offers
- Complex updating process
- Rigid teaching assignment
- Disciplinarity
- Paper certification
- Quality assurance by program

Microcredentials

- *Just-in-time learning*
- Length not harmonized in Europe
- Goal: re-/up-skill
- Students with basic but diverse knowledge
- Fast demand-driven offering
- Fast updating
- Agile and flexible teaching assignment
- Multidisciplinarity
- Digital certification
- Impossible to assure quality for each microcredential individually

Ok, I understand something fundamental is changing. Are there some initiatives?
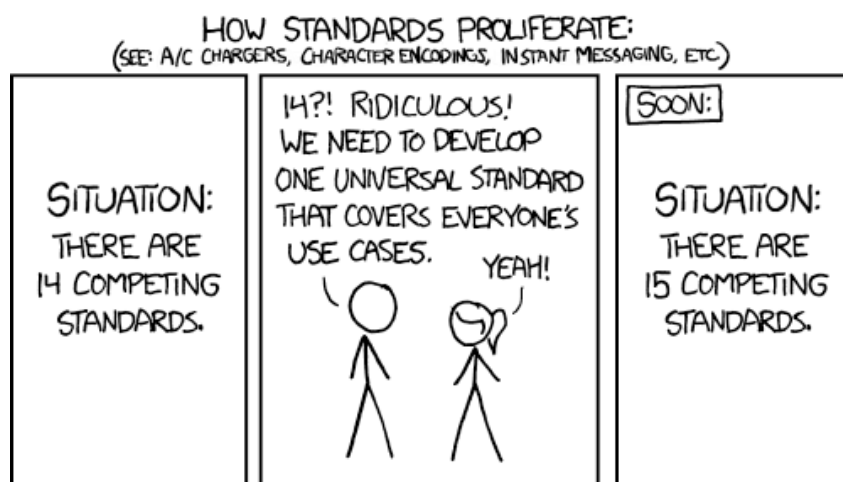
Many Providers
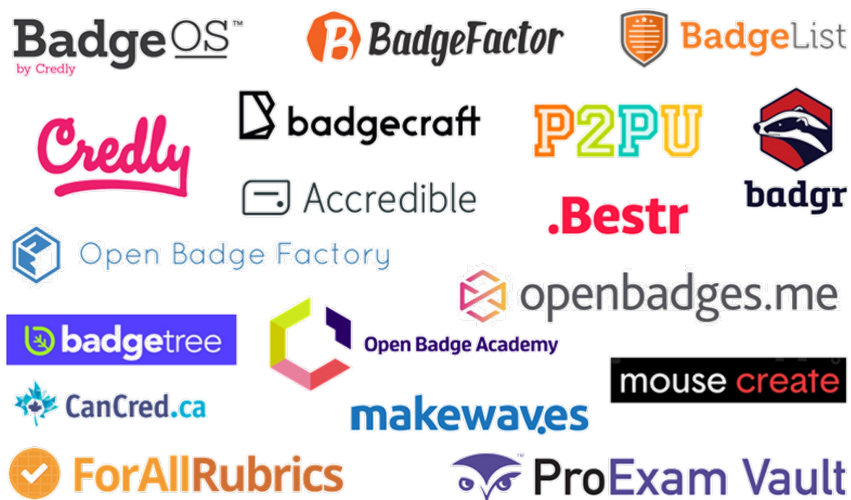
Quote

*The good thing about standards
is that there are
so many to choose from.*

Sarcasm on!

-- Andrew S. Tanenbaum

Standards

European Formats

- ELM (European Learning Model) is the format proposed by the EU

- It is based on the W3C format of Verifiable Credentials (VC)

- It is used both at the EDC and EBSI frameworks

EBSI:
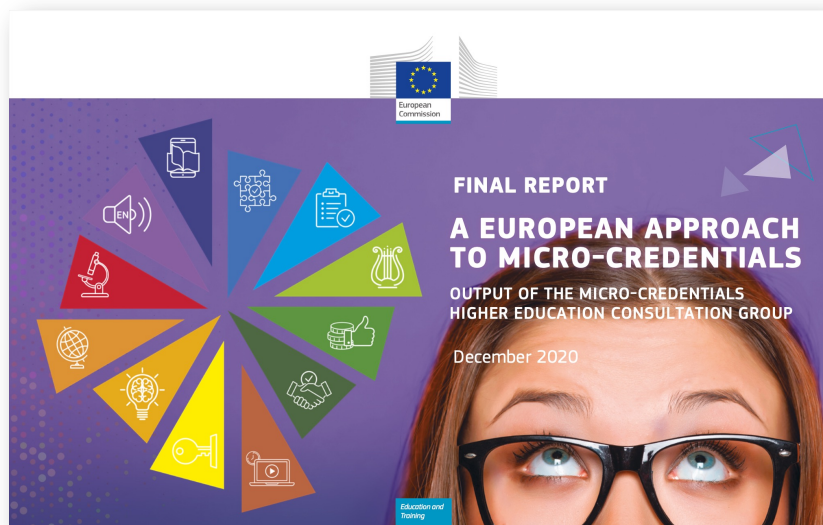# European Blockchain Services Infrastructure

European Approach

European Recommendation

- **Recommendation of the Council of the EU, 2022/C 243/02 of 16 Jun**:

CertiDigital

Despliegue de un **servicio de certificación digital para el Sistema Universitario Español** en el marco del Espacio Europeo de Educación Superior como iniciativa del Plan *UniDigital* del Ministerio de Universidades

certidigital.es

- Adecuación de la legislación
- Conocimiento de la tecnología (APIs, wallet, formato de datos)
- Despliegue de servicios (afecta a distintas unidades de la organización)
- Adecuación de la organización a este nuevo conjunto de tecnologías/paradigmas
- Formalización y reconocimiento de cursos y programas de diferente duración
- Definición y evaluación del nivel de soporte que genera este tipo de servicios y los conocimientos y competencias necesarios por parte de la organización
- Coordinación con organizaciones a nivel internacional y en especial europeo

Coordinating Universities

Other Partners *(Early Adopters)*

3 Main Components

1. EDC

2. EBSI

3. Use Cases and Community building

DC4EU

Digital Credentials for Europe (DC4EU)

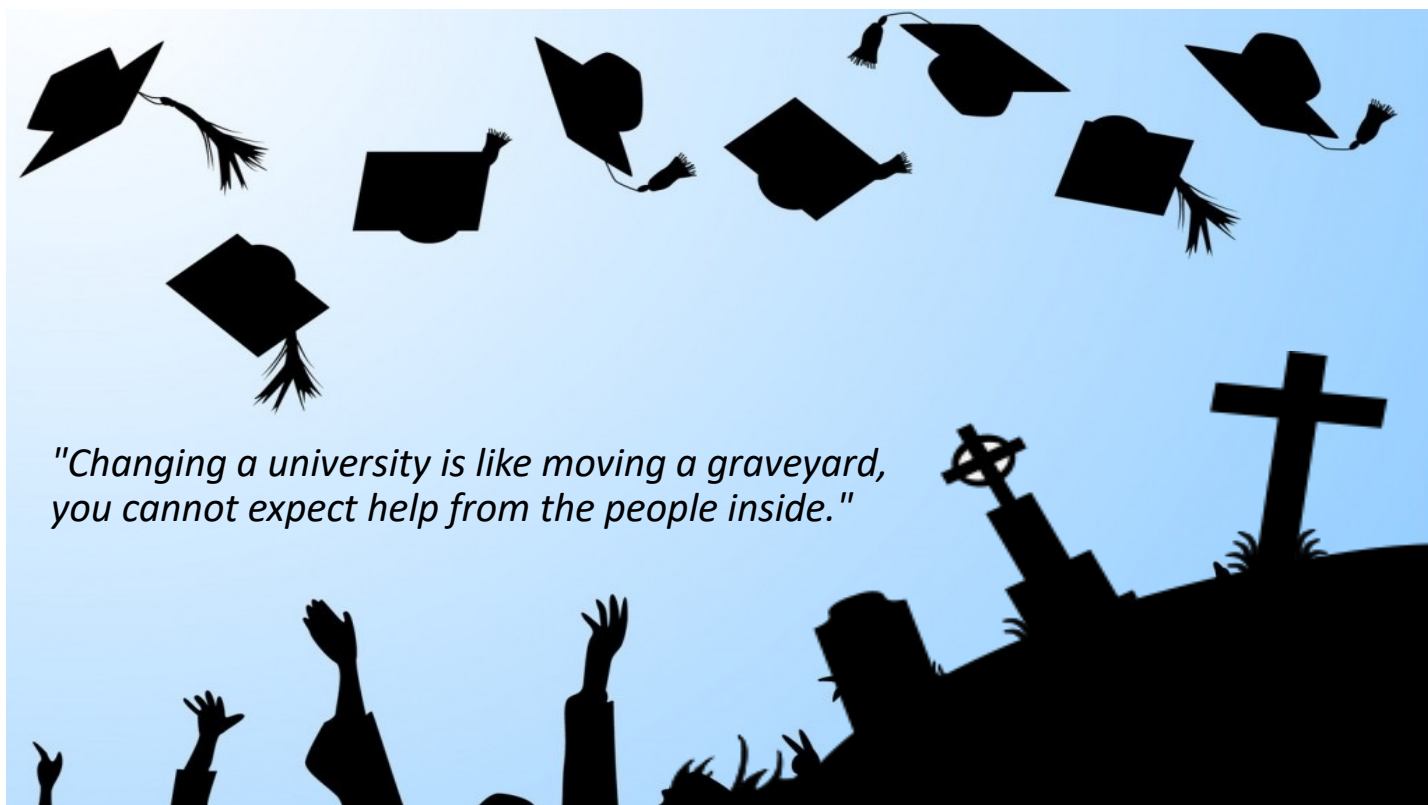**Enabling a new paradigm where citizens are in full control of their identity(ies) and data**

- Digital Europe Program
- 80 institutions from 22 countries (20 member states, Norway, Ukraine)
  - Leader: Spanish Ministry of Economic Affairs and Digital Transformation
- 2 application fields:
  - Education (educational credentials, professional qualifications)
  - Social Security
- Based on
  - eIDAS (identity and electronic attestation of attributes)
  - EU Digital Wallet
- `dc4eu.eu`

Urgent Action Required

- Acknowledging the need for
  a profound change to convert
  Universities in
  Leading Educational Institutions
  throughout life
  - Agile identification of training offer
  - Adaptation of teaching formats
  - Collaboration with the productive fabric (PPP: public-private partnerships)
  - Internal organization (FFF: form follows function)
  - Incentive mechanisms
  - Digital Certification
  - External support

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"Changing a university is like moving a graveyard, you cannot expect help from the people inside."

Merci! Thank you! Bedankt!