

Case studies from Spain

Carlos Alario Hoyos y Carlos Delgado Kloos

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@calahoy

Outline

1. **Current Legislation**
2. Quality assurance
3. Technological support
4. Two use cases at UC3M

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.

Publicado en: «BOE» núm. 233, de 29/09/2021.

Entrada en vigor: 19/10/2021

Departamento: Ministerio de Universidades

Referencia: [BOE-A-2021-15781](#)

Permalink ELI: <https://www.boe.es/eli/es/rd/2021/09/28/822/con>

Seleccionar redacción: Última actualización publicada el 19/10/2022



PDF



ePUB



Diccionario Panhispánico del Español Jurídico

Article 37. Lifelong Learning

8. Likewise, universities may provide their own courses of less than 15 ECTS that may or may not require a prior university degree, in the form of microcredentials or micromodules, which allow certifying learning results linked to short-term training activities. In no case may these teachings be confused with the degrees offered by the Intermediate or Higher Level Vocational Training centers.

Organic Law 2/2023, of March 22, of the University System.

Published in: «BOE» number. 70, dated 03/23/2023.

Entry into force: 04/12/2023

Department: head of state

Reference: [BOE-A-2023-7500](#)

Permalink ELI: <https://www.boe.es/eli/es/lo/2023/03/22/2/con>

Select wording:

[PDF](#)[ePUB](#)

Pan-Hispanic Dictionary of Legal Spanish

Article 7. University degrees.

5. Lifelong learning may be developed through different teaching modalities, including microcredentials, micromodules or other short-term programs.



- 50M€ and 41 actions aimed at developing micro-credentials in Spain
- To be developed between 2023-2026
- Different levels of implementation depending on the Autonomous Communities
- Single platform with the national offer of micro-credentials
- Promotion of collaborative projects among several universities to co-produce micro-credentials

2023

PLAN DE ACCIÓN
PARA EL
DESARROLLO DE
MICROCREDENCIALES
UNIVERSITARIAS
EN ESPAÑA

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1. Current Legislation
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Short definition*

“A micro-credential is (the record of the results of) a short learning experience, the reliability of which is supported by transparent quality assurance procedures.”

Una propuesta de definición resumida

Una microcredencial es (el registro de los resultados de) una experiencia de aprendizaje breve, cuya fiabilidad está respaldada por procedimientos transparentes de aseguramiento de la calidad.

* *“Aligned” with the EU definition*



ANECA

Documento marco para el aseguramiento de la calidad de las microcredenciales

FORMACIÓN INCLUSIVA EN TODOS LOS FORMATOS Y PARA TODAS LAS EDADES

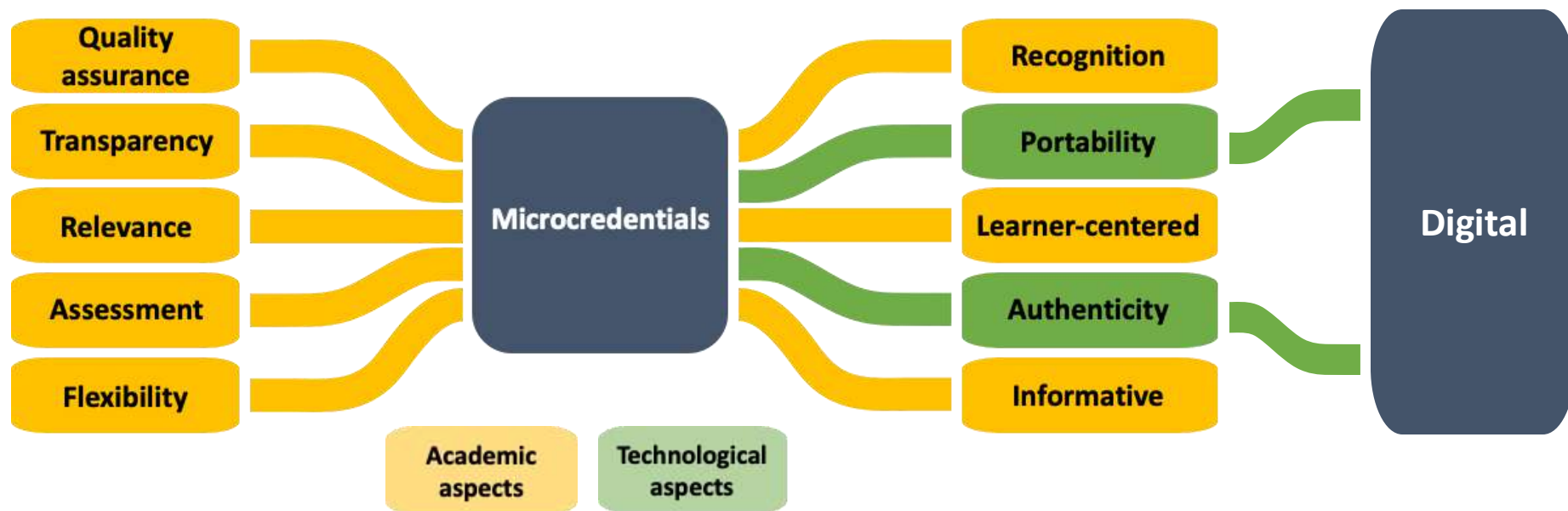
Medidas para impulsar las microcredenciales como fórmula de aprendizaje permanente, innovadora, inclusiva e interconectada

20 de julio de 2022

MI
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LES

2022

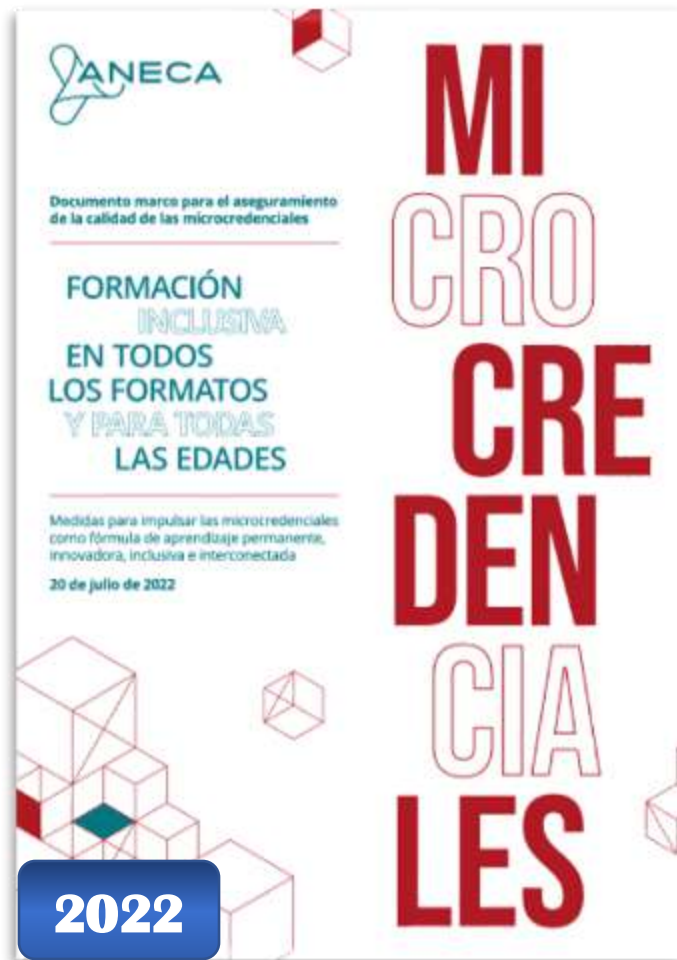
Detailed definition*



* Aligned with the EU definition

Internal quality

- Based on the **effectiveness of providers' internal quality assurance procedures**, including:
 - Standards established by the EU
 - Other established principles or standards
 - Quality of the learning experience
 - Feedback from learners on the learning experience
 - Feedback from stakeholders and others on the learning experience



External quality

- Based primarily on the **assessment of providers' internal quality assurance systems**:
 - Not on the external QA of each micro-credential

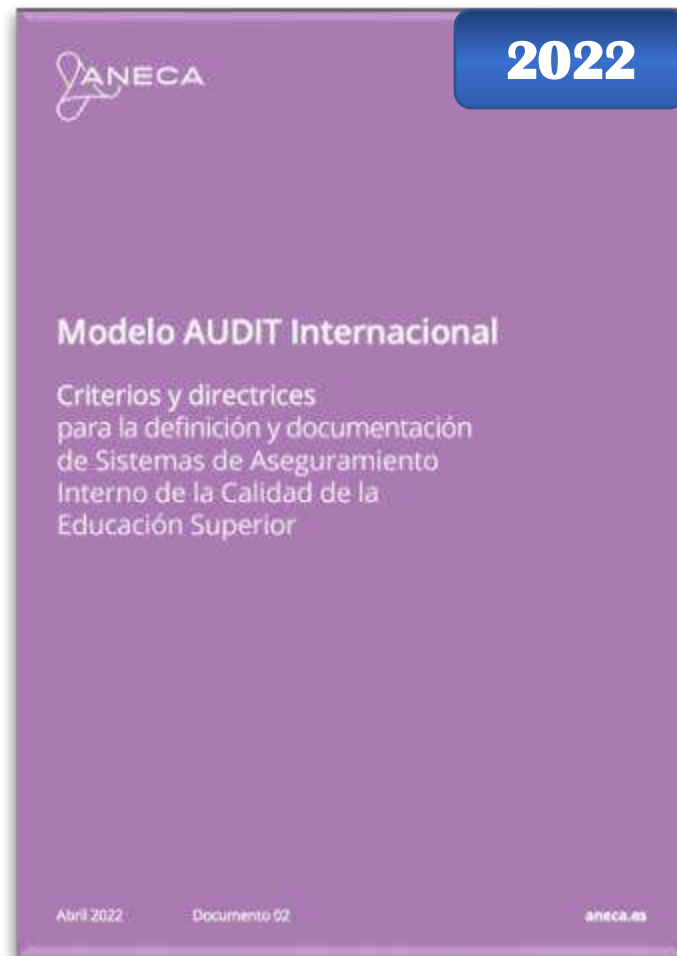


Guidelines for Internal QA*

AUDIT certificate

- Applied to the **whole institution** of to **specific centers** within the institution
- Including bachelor's, master's and doctoral degrees, and, where appropriate, **lifelong learning and micro-credentials**

* *Beyond microcredentials*



Potential micro-credential providers

- Education and training institutions
- Research, development, and innovation institutions
- Public and private bodies
- Employers, companies and industries.
- Public employment services.
- National, regional and local authorities.
- Professional associations.
- Civil society organizations.
- Community centers.
- ...



Guidelines for the Design and Accreditation of Micro-credentials

RUE-PEP - University Network of post-graduate studies and continuing education

- Proposal of an extensive list of 24 elements to be considered when designing university micro-credentials (clustered in 3 categories)
 1. Identification of the micro-credential
 2. Description of the learning experience
 3. Assessment and certification

ORIENTACIONES PARA EL DISEÑO Y ACREDITACIÓN DE LAS MICROCREDENCIALES UNIVERSITARIAS

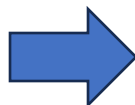
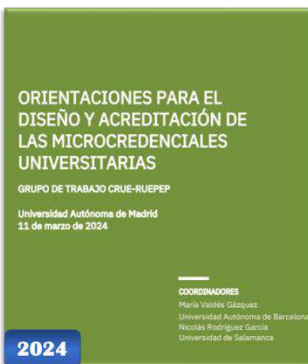
GRUPO DE TRABAJO CRUE-RUEPEP

Universidad Autónoma de Madrid
11 de marzo de 2024

COORDINADORES

María Valdés Gázquez
Universidad Autónoma de Barcelona
Nicolás Rodríguez García
Universidad de Salamanca

2024



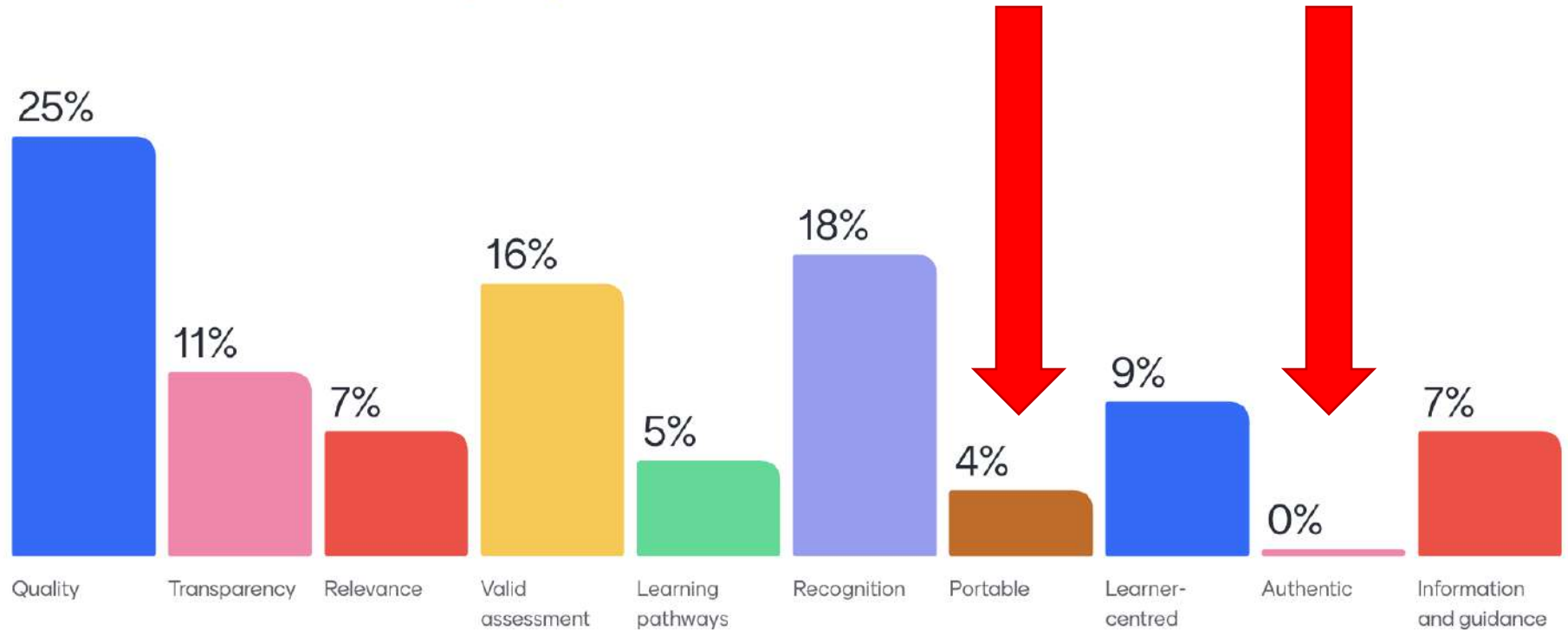
1. Identification	
Identification of Recipient	Name of the individual receiving the certification.
Supervision and Verification of Identity	Type of identity verification during the course and evaluation (e.g., unsupervised, supervised online/in-person with identity verification).
Name of the Micro-credential	Title or denomination of the university micro-credential.
Issuing University	The university or universities offering the micro-credential.
Entity for Learning Experience	If different from the issuing university, name of the organization or institution where the learning occurs.
2. Description of the Learning Experience	
Start and End Date	The beginning and completion dates of the educational activity.
Language	Language of instruction.
Admission Requirements	Prerequisites for access and criteria for admission (e.g., level of prior education or knowledge).
Learning Objectives	Clearly defined objectives based on the target audience and the purpose of the training.
Content Description	Detailed description of the educational content.
Mode of instruction	In-person, online, or hybrid.
Learning Outcomes	Expected learning outcomes and type of achievement (e.g., skills, knowledge, competencies).
Level of Experience	Qualification level as per frameworks like EQF and the Spanish MECU
Competency Frameworks	Competency frameworks used (e.g., ESCO, DIGCOMP, or others).
Learning Activities	Types of learning activities (theoretical and practical).
Workload (Theoretical)	Volume of theoretical work required to achieve the learning outcomes (in ECTS and hours, if applicable).
Workload (Practical)	Volume of practical work required to achieve the learning outcomes (in ECTS and hours, if applicable).
3. Assessment and Certification	
Assessment Methods	Type of assessments validating learning outcomes (e.g., skill application, video presentation, portfolio).
List of Trainers	Qualifications and professional experience of trainers.
Stackability Options	Possibility of integration with other micro-credentials (independent, integrated, stackable).
Outcome or Rights for the Student	Resulting credential, badge, program admission, or qualification earned.
Quality Assurance	Type of quality assurance or validation procedure used.
Certifying University	The legal name, mandatory legal identifier, and country/region of the university issuing the certification.
Date of Issue	Date on which the micro-credential is issued.

Outline

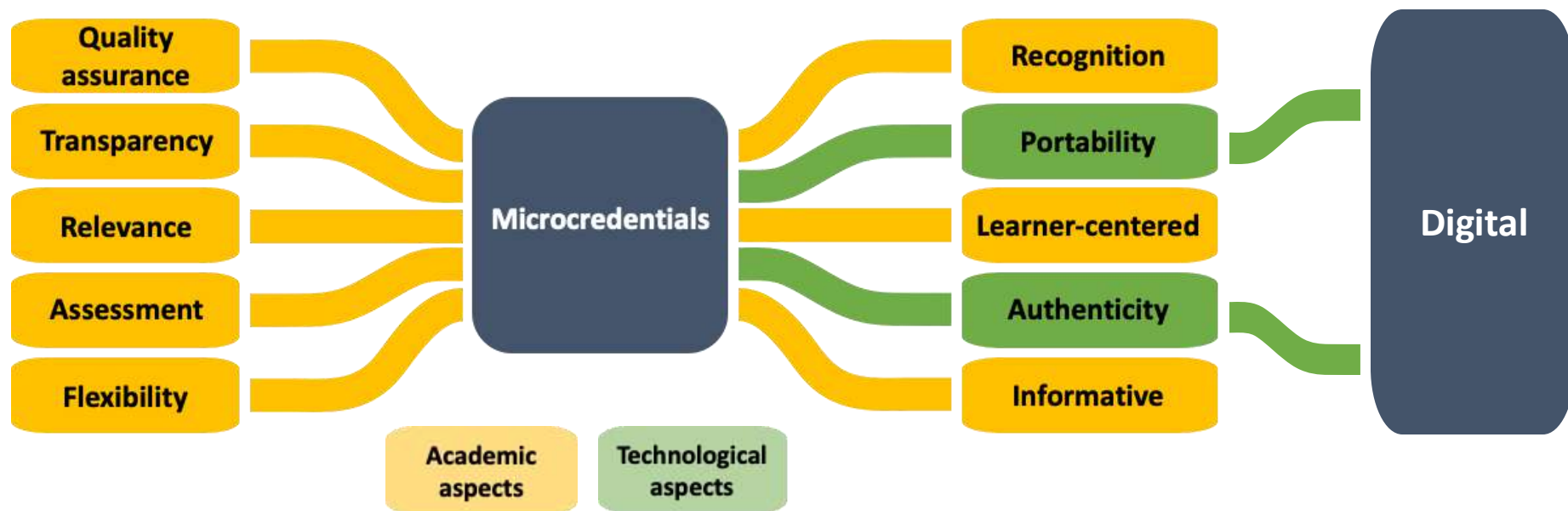
1. Current Legislation
2. Quality assurance
- 3. Technological support**
4. Two use cases at UC3M

Survey from this very morning!!

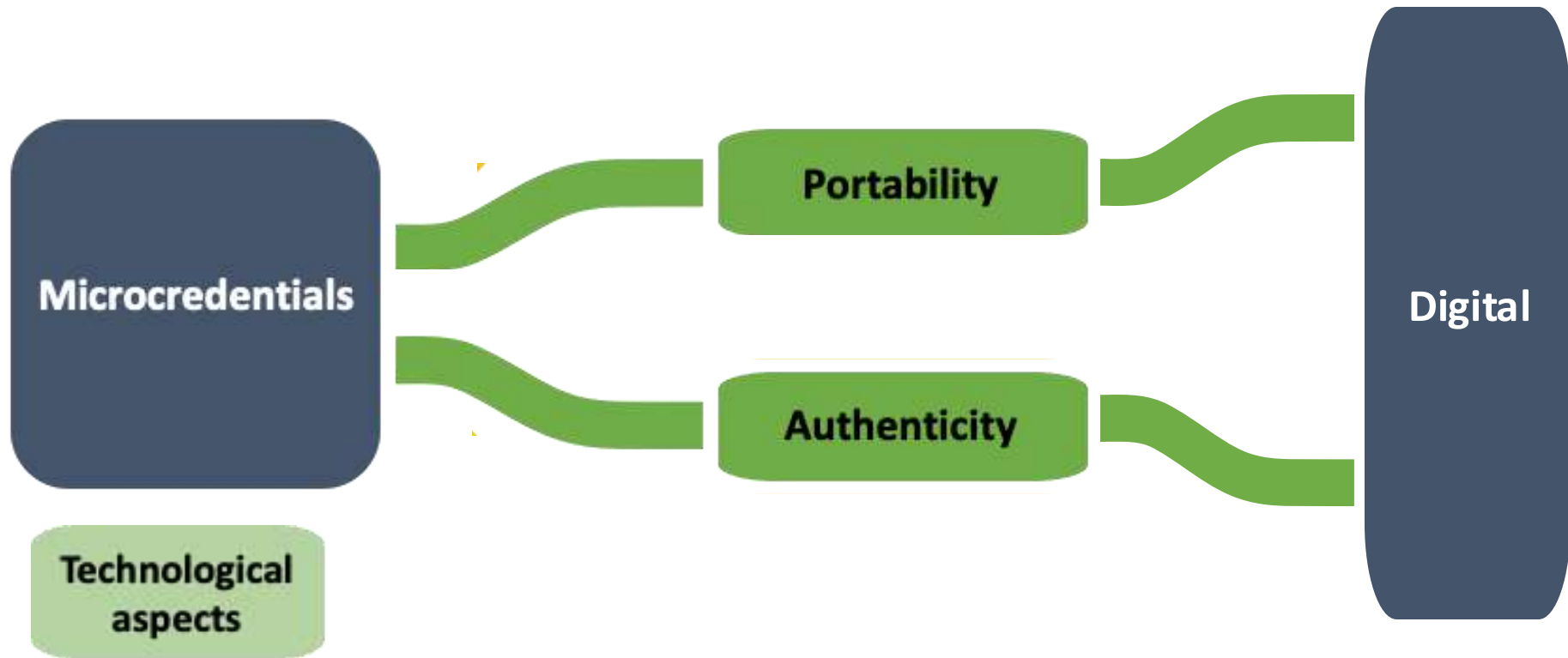
Which principles of the Annex II for the design and issuance of MCs and systems **are well-developed** in your country? *Select max 4 principles*



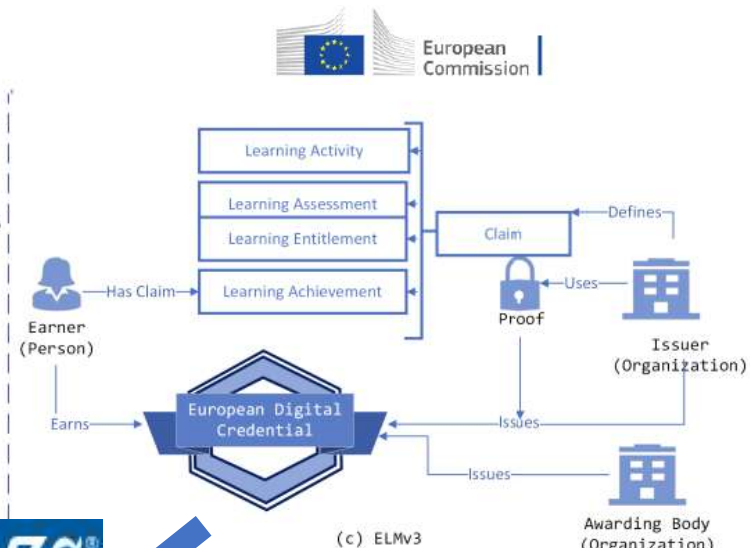
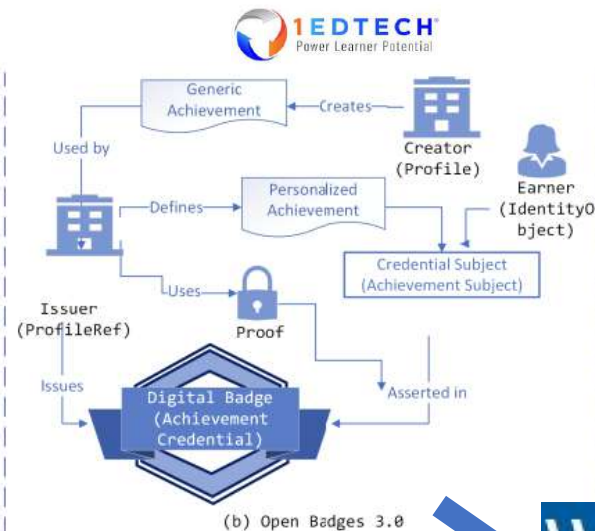
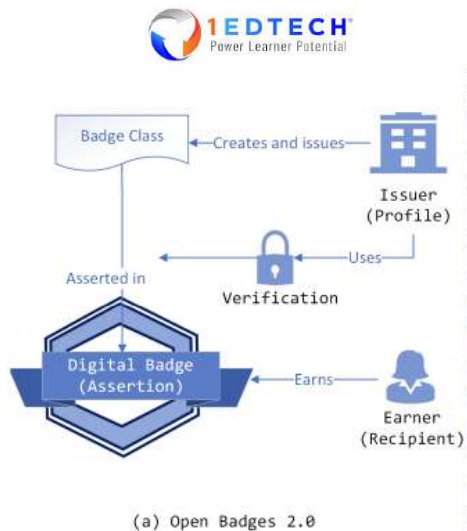
Detailed definition*



* Aligned with the EU definition



Data model for Digital (Micro)-Credentials



 **Verifiable Credentials Data Model v2.0**
W3C Candidate Recommendation Draft 19 October 2024

(Public) Infrastructure for Digital (Micro)-Credentials

Centralized

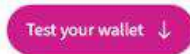


Distributed



Conformant Wallets

Welcome to the EBSI conformant wallets page! Here, you will find information about the different types of digital wallets that are available and conformant with EBSI specifications. The three main types of wallets include Holder, Issuer, and Verifier wallets, each with their own unique capabilities.



(Public) Infrastructure for Digital Credentials

Centralized

European Digital
Credentials



Improvement of EU Public
Technological Solutions in Spain

← **CertiDigital**  →

2022-2024



<https://certidigital.es>

Distributed



Conformant Wallets

Welcome to the EBSI conformant wallets page! Here, you will find information about the different types of digital wallets that are available and conformant with EBSI specifications. The three main types of wallets include Holder, Issuer, and Verifier wallets, each with their own unique capabilities.

Test your wallet ↓

Find your wallet ↓

Outline

1. Current Legislation
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4. **Two case studies at UC3M**
 - a) **Case Study I (2022): Diploma on Sustain. Applied to the Fashion Industry**
 - b) Case Study II (2023): University Digital Backpack

UC3M School of Continuing Education

- Diploma
- Blended delivery mode
- 120 hours (3 months)
- Course 2020/2021
- 9 students
- Data model and Infrastructure: **ELM and EDC**

Diploma on
Sustainability
applied to the
Fashion Industry

VOGUE
ESPAÑA

uc3m

Universidad
Carlos III
de Madrid

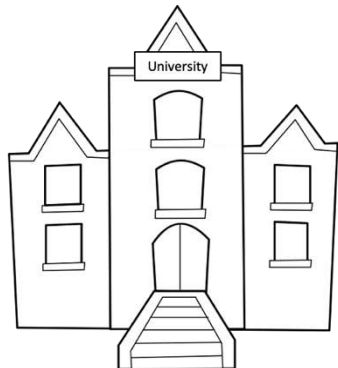
1. Issuance



2. Storage in
wallet



3. Visualization
and validation



Issuance

Prepare **eSeal** protected by PIN (FNMT)

1

+ Smart card reader (or local installation on PC)

+ Some software (NexU – Java Exec. File)

NexU : Browser Signing

Digital Trust and Interoperability
Technology leader



Issuance

Build Online credential builder

2

+ ELM

+ ESCO / EQF



[Credentials](#)
[Achievements](#)
[Learning Outcomes](#)
[Activities](#)
[Assessments](#)
[Organisations](#)
[Entitlements](#)

[Custom HTML Templates](#)

This tab is where you assemble and issue your credentials. Before you proceed to creating your first template, please make sure to provide details of the issuing organisation under the **Organisations** tab. If you wish to describe a learners achievements, activities, or other relevant aspects, please enter these under the respective tabs. You will need to provide references to these entries when you build your credential.

[New Credential Template](#)

Issuance

Build Online cred. builder

2

+ ELM

+ ESCO / EQF

(Learning)
Achievement



Qualification

EQF Level ⓘ

NQF NQF Level ⓘ

Accreditation

Partial Qualification ⓘ Is it a partial qualification? ~

Create Achievement

Title*

EN English ▾

Achievement

Achievement Title*

Awarding Date ⓘ

Awarding Body ⓘ +

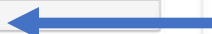
Description ⓘ

Proven by ⓘ +

Influenced by ⓘ +

Entitles owner to ⓘ +

Sub-Achievements ⓘ +



Issuance

Build Online cred. builder

2

+ ELM

+ ESCO / EQF

(Learning)
Outcomes



Create Learning Outcome

Title*

EN English

Learning Outcome Title *

Learning Outcome Type Please select one option Reusability Level Please select one option

Description

Related ESCO Skill(s)

Cancel Save

Issuance

Upload

Data validation

3

+ Application of the e-seal

+ Automatically sent to learners' email and wallet (if *eulogin*)

Send

Send credentials to the recipients' mailboxes or credential wallets.

Upload Again

Maximum file size: 5 MB

Accepted file formats: XLS, XLSX, XLSM

<input checked="" type="checkbox"/>	RECIPIENT	CREDENTIAL TITLE	VALID	SEALED	SENT	RECEIVED	ACTIONS
<input checked="" type="checkbox"/>	Johanna Marie Smith	Certificate of Excellence					

Items per page: 10 | 1 - 1 of 1 | << < > >>

Seal

Send

Lessons learned: *issuance*

01 to adapt the *internal regulation of the educational institution*

02 to define the process and the key personnel involved for issuing digital credentials

03 to work closely with the academic coordinator of the short program

04 to take examples from several use cases when building digital credentials

05 to align with existing frameworks, such as ESCO or EQF

Storage in wallet

List of digital credentials in Europass

+ CVs (with attached credentials)

+ Job offers

+ Learning opportunities

My Library

Exit

Certificates and diplomas Your wallet ID address is: europa.eu/europass/wallet/nalarica

Add

The screenshot displays a grid of six digital credentials in the Europass wallet. Each credential is represented by a card with a 'CertiDigital cD' logo and a vertical ellipsis menu icon. The credentials are:

- Diploma e...:** Issued by UC3M, titled 'Diploma en Sostenibilidad aplicada a la Industria de la Moda'.
- Reunión d...:** Issued by Carlos Alario Hoyos, titled 'Reunión de arranque del proyecto CertiDigital'.
- Reunión d...:** Issued by Carlos Alario Hoyos, titled 'Reunión de arranque del proyecto CertiDigital'.
- I Jornada ...:** Issued by Carlos Alario Hoyos, titled 'I Jornada CertiDigital: Casos de uso de credenciales digitales universitarias'.
- Training S...:** Issued by Carlos Alario Hoyos, titled 'Training Session "How to design a digital university badge with EDC Online Builder"'.
- II CertiDigi...:** Issued by Carlos Alario Hoyos, titled 'II CertiDigital Conference: "The end-user journey of university digital credentials"'.

Utiliza la Biblioteca de Europass para guardar y organizar tus documentos.

CV Añadir Crear un CV

Cartas de presentación Añadir Crear una carta de presentación

Actualmente no hay ninguna carta de presentación añadida a tu biblioteca.

Certificados y títulos La dirección de la id. de tu cartera es: europa.eu/europass/wallet/notarica Añadir

Storage in wallet

Customized CVs with the certificates in my wallet



Certificates in the wallet



Lessons learned: *storage in wallet*

01 to understand the *implications* of EDC from the point of view of *data protection regulations*

02 to *properly inform students* of the advantages of using EDC for the storage of digital credentials and to raise awareness about the creation of an EU Login

Visualization and validation

Viewer + Renderer

+ Share with third-parties (link) with expire date

+ Export as XML / PDF

View Credential

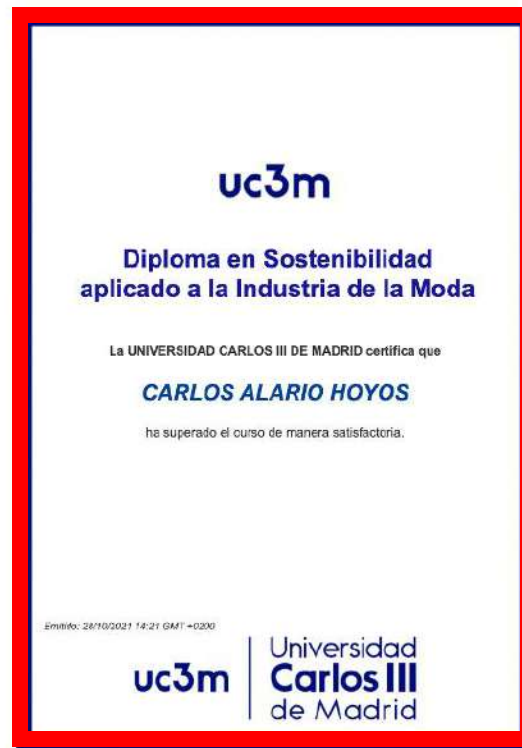
Credential Details

Export

Upload another credential

Share

español



Visualization and validation

Viewer + Renderer

+ Customizable presentation (background)

View Credential

[Credential Details](#)[Export](#)[Upload another credential](#)[Share](#)

español

CertiDigital ^{cD}

Plan de Recuperación,
Transformación
y ResilienciaFinanciado por
la Unión Europea
NextGenerationEU

Carlos Alario Hoyos

ha asistido el día 13 de Enero de 2022 a la

***Reunión de arranque del
proyecto CertiDigital***

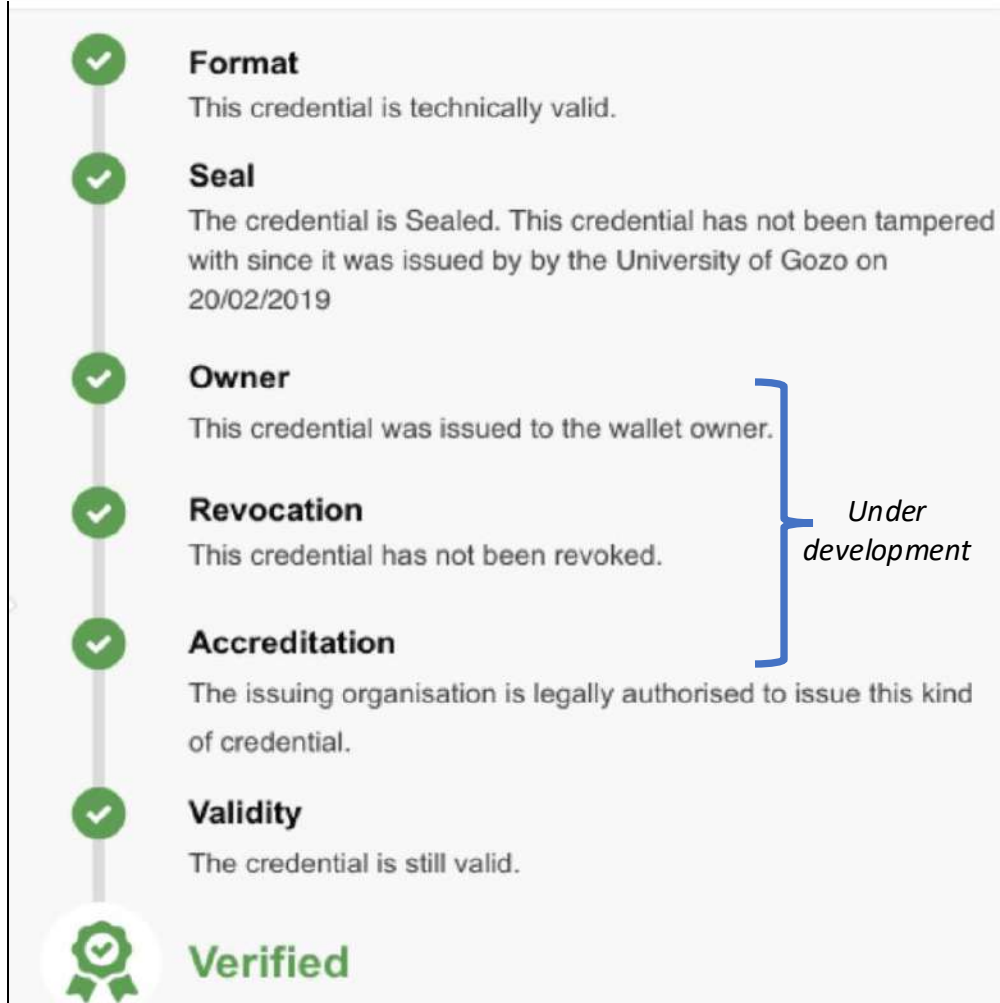
CertiDigital es un proyecto nacional financiado por el Ministerio de Universidades en el marco de la iniciativa UniDigital. Su objetivo último es el despliegue de un servicio de certificación digital para el Sistema Universitario Español.

Legado: a fecha de firma electrónica: 04/02/2022 09:56 GMT +0100

Universidad
Carlos III
de MadridUNIVERSIDAD
DE SEVILLAUNIVERSIDAD
DE GRANADAUNIVERSIDAD DE
MURCIAUNIVERSIDAD DE
OVIEDOUNIVERSITAT
ROVIRA I VIRGILI

Visualization and validation

Viewer + Verified



A vertical checklist of six verification steps, each with a green checkmark icon in a circle. The steps are: Format, Seal, Owner, Revocation, Accreditation, and Validity. A blue bracket on the right side groups the Owner, Revocation, and Accreditation steps under the text 'Under development'. At the bottom of the list is a larger green checkmark icon with a ribbon, followed by the word 'Verified' in green.

- Format**
This credential is technically valid.
- Seal**
The credential is Sealed. This credential has not been tampered with since it was issued by by the University of Gozo on 20/02/2019
- Owner**
This credential was issued to the wallet owner.
- Revocation**
This credential has not been revoked.
- Accreditation**
The issuing organisation is legally authorised to issue this kind of credential.
- Validity**
The credential is still valid.

Under development

Verified

Visualization and validation

Issuing organization

Achievements

Outcomes

(ESCO skills)

Workload

CARLOS ALARIO HOYOS

UNIVERSIDAD CARLOS III DE MADRID

Diploma en Sostenibilidad aplicado a la Industria de la Moda

UNIVERSIDAD CARLOS III DE MADRID

Overall grade

Módulo 1: El contexto sostenible

Módulo 2: Economía sostenible

Módulo 3: Marketing y comunicación sostenible

Módulo 4: Experiencia slow fashion

Módulo 1: El contexto sostenible

Módulo 2: Economía sostenible

Módulo 3: Marketing y comunicación sostenible

Módulo 4: Experiencia slow fashion

Diploma en Sostenibilidad aplicado a la Industria de la Moda

Awarding Body: UNIVERSIDAD CARLOS III DE MADRID

Proven by

Title	Grade
Overall grade	8.9

Sub-Achievements

Módulo 1: El contexto sostenible, Módulo 2: Economía sostenible, Módulo 3: Marketing y comunicación sostenible, Módulo 4: Experiencia slow fashion

Specification

Learning Outcomes:

Identify the context and history of sustainable change in Fashion Industry

Type: capacidad

Related ESCO Skills: trabajar eficientemente

Apply the concepts of circular and sustainable economy in Fashion Industry

Type: capacidad

Related ESCO Skills: mostrar voluntad de aprender

Develop good and sustainable practices and skills in marketing and communication

Explore the new challenges of slow fashion experience

Language(s) of Instruction: español

Volume of Learning: 120 hours

Maximum Duration: 6 months

ECTS Credit Points: 9

Learning Settings: Aprendizaje formal

Mode of Learning: Mixto

Learning Opportunity Type: Módulo de un programa, Programa de aprendizaje corto

Thematic Area: Programas y certificaciones genéricos sin mayor definición, Programas y certificaciones genéricos sin mayor definición

Entry Requirements: Bachelor level

Lessons learned: *visualization and validation*

01 to think *about who learners want to share each digital credential with*

02 to make employers aware of the potential of this type of digital credentials as a complement to the official academic degrees

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University Digital Backpack

- Short program for university students on digital competences (2022/2023)

PROGRAMAS | ADMISIÓN | MATRÍCULA | AYUDAS | ESTUDIA EN INGLÉS | INFORMACIÓN GENERAL | CONTACTO

MOCHILA DIGITAL UNIVERSITARIA
Másteres / Escuela de Formación Continua / Cursos / Mochila Digital Universitaria

mochila digital
universitaria

PROGRAMA | DOCENCIA Y HORARIOS | ADMISIÓN Y MATRÍCULA | @CONTACTANOS

Escuela de Formación Continua UC3M

Entidades Promotoras

Las entidades promotoras son aquellas universidades públicas o privadas o centros adscritos que operan en la Comunidad de Madrid y que voluntariamente ofertan cursos en el marco del Programa Mochila Digital Universitaria. A continuación puedes ver todas las entidades participantes en el programa.

- CEU Universidad San Pablo
- CUNEF UNIVERSIDAD
- LASALLE centro internacional
- UNIVERSIDAD NEBRIJA
- UAM Universidad Autónoma de Madrid
- uc3m Universidad Carlos III de Madrid
- UNIVERSIDAD COMPLUTENSE MADRID
- ue Universidad Europea MADRID
- Universidad Francisco de Vitoria UFV Madrid
- POLITÉCNICA UNIVERSIDAD POLITÉCNICA DE MADRID
- Universidad Rey Juan Carlos
- Universidad Villanueva

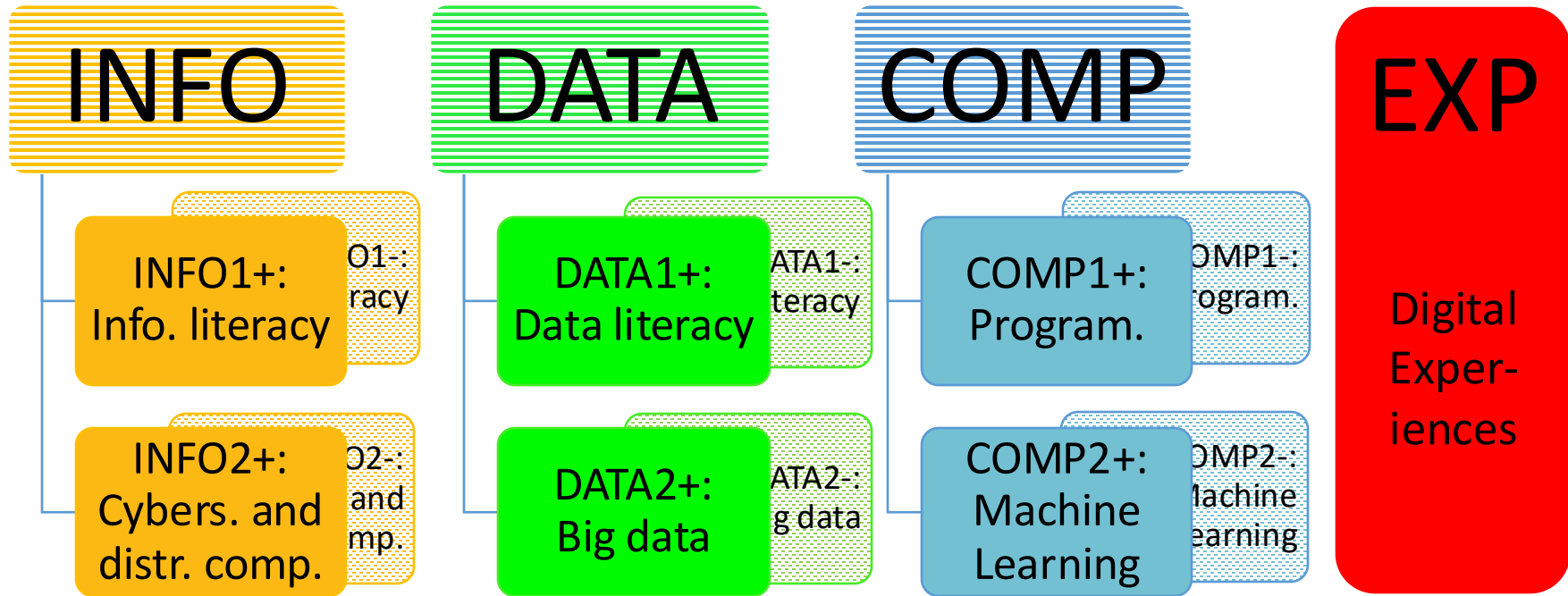


University Digital Backpack: Objectives

- To increase the **employability** of university students
- To increase the **competitiveness** of our business network
- Expand the possibilities for employers to **hire the profiles in demand**
- To foster **training in digital skills and competences**
- **Promote lifelong learning** in universities



Courses



1. Within the course: *badges*

Internal

External

Participation



Engagement



Transversal competences



Specific competences



1. Within the course: *badges*

 moodle

+

 1EDTECH
Power Learner Potential

Open Badges v2.0

- Moodle (v3.9-v4.2) is Open Badges v2.0 and v2.1 certified



<https://site.msglobal.org/certifications/moodle/moodle>

Lessons learned: *badges*

01 to *involve all course coordinators* so that they can define the digital badges for their courses

02 to *build a community with the course coordinators*

03 to *agree on the technology to be used (e.g., Open Badges and Moodle)*

04 to *associate students' traces in the with the automatic or semi-automatic awarding of badges*

05 to *consider learners' motivation on digital badges* and to inform learners appropriately



2. Per course: *micro-credentials*

- Passing a course (2-3 ECTS) means getting a micro-credential
- Data model and infrastructure: ELM and EDC





Lessons learned: *micro-credentials*

01 to *adapt the internal regulation of the university* to issue digital credentials with EDC

02 to *work with the course coordinators so that they understand the ontology* (achievements, assessments, activities, outcomes, entitlements) and their benefits

03 to *raise awareness among students of the importance of the micro-credentials obtained*



3. U. Digital Backpack. *University Diploma*

- After passing the 20 ECTS a University Diploma is obtained issued by UC3M
- Meets the requirements of the ANECA (Accreditation Agency)





Lessons learned: *University Diploma*

01 *to adapt to the legislation imposed by each country in relation to the characteristics and issuance of micro-credentials*

02 *to have a combination of digital credentials and paper-based diplomas*

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