



# Navigating the Micro-Credential Landscape: A Global Mapping Initiative

Micro-credentials are innovative, stackable credentials that incrementally document what a person knows and can do. Flexibility and shorter time commitments are typical advantages of micro-credentials. But there are many different definitions of micro-credentials, making it harder to understand their meaning and value, and consequently, people lose out on opportunities. Credential Engine's [Credential Transparency Description Language \(CTDL\) Advisory Group](#) has initiated a schema mapping project that aligns different micro-credential definitions from around the world in order to facilitate understanding and comparison. This mapping and the Advisory Group are open to everyone, and we thank those who are already participating. Others are welcome to contribute to the mapping, the dialogue about the comparisons, and the many uses of rich data about micro-credentials.

## ***What is the Global Micro-Credential Schema Mapping Project?***

Because micro-credentials have different definitions in different places and contexts, they are less portable, because it's harder to interpret and apply them consistently, accurately, and efficiently.

The Global Micro-Credential Schema Mapping project helps to address this issue by taking different schemas and frameworks for defining micro-credentials and lining them up against each other so that they can be compared. Schema mapping involves crosswalking the defined terms that are used in data structures. The micro-credential mapping does not involve any personally identifiable information about people or the individual credentials that are issued to them— the mapping is done across metadata structures. This project has been initially scoped to include schema terms defining the micro-credential owner or offeror, issuer, assertion, and claim.

The mapping is documented using Credential Engine's [Data Ecosystem Schema Mapper Tool](#), developed in collaboration with the T3 Innovation Network. This open source tool enables creating, editing, maintaining, viewing, and sustaining crosswalks between data structures, and it can be used with many different types of schemas beyond credentials.

## ***What Schemas are Included in the Initial Global Micro-Credential Schema Mapping Project?***

The CTDL Advisory Group identified this project as an important credential transparency opportunity, particularly since it has been scoped to include schemas from different parts of the

world that can be mapped by experts in the Advisory Group. This project involves a facilitator and a team of mappers who have expertise with the schemas being mapped. The initial scope of this project is designed to illustrate the benefits of global micro-credential crosswalks that can be expanded to include additional schemas, defined terms, and uses for the data.

Relevant terms from the following schemas were scoped for inclusion in this initial mapping:

- [Credential Transparency Description Language \(CTDL\)](#) - The Credential Transparency Description Language (CTDL) is the family of linked open data standards built for making descriptions of credentials and related resources available as data for search, discovery, and cross-system interoperability. Developed and managed by Credential Engine.
- [European Learning Model \(ELM\)](#) - Multilingual Data Model for the Interoperability of Learning Opportunities, Qualifications, Accreditation, and Credentials in Europe. Developed by the European Commission.
- [Australia National Microcredentials Framework](#) - A nationally consistent framework for defining microcredentials across higher education, vocational education, and industry. Published by the Australian Government, Department of Education.
- Open Badges [v2.0](#) and [v3.0](#) - Specifications to assert a verifiable achievement. Assertions are specific to one earner and are a claim that the earner has made a particular achievement with metadata about the achievement, the issuer, and the earner, including possible evidence that provides support for the claim. Managed by 1EdTech.
- [MyCreds Canada](#)- Specifications for secure digital wallets for sharing transcripts and credentials, built on PESC standards. Managed by the Association of Registrars of the Universities and Colleges of Canadas.

Figure 1: Screenshot of the initial Micro-Credential schema mapping.

The screenshot displays a web interface for mapping micro-credential schemas. At the top, there is a 'Choose Configuration Profile' section with a dropdown menu set to 'Microcredential Mapping' and a 'Submit' button. Below this is the main title 'Synthetic Spine Property Mapping By Category'. There are several tabs: 'Assertion', 'Micro-credential Claimed', 'Micro-credential Specified', 'Identical', and 'Cross-Claimed'. The 'Micro-credential Specified' tab is active. Below the tabs are search and filter options: 'Search for an Element / Property', 'Sort Spine By' (set to 'Overall Alignment Score'), 'Sort Aligned Items By' (set to 'Organization'), and a checkbox for 'Hide spine items with no results'. A 'Show Filters' button is on the left. The main content area shows a table of mappings. On the left, there are two panels for 'Alternate Name' and 'Description' from the 'Credential Engine' schema, each with a 25% progress bar. The table on the right shows mappings to the 'ELM' schema. The first row shows 'Alternate Name' mapped to 'Alternate Name' with an 'Identical' status. The second row shows 'alternate label' mapped to 'alternative label' with a 'Reworded' status. The third row shows 'Description' mapped to 'Description' with an 'Identical' status. The fourth row shows 'Description' mapped to 'Description' with a 'Reworded' status.

Organization	Element/Property	Definition	Status
Credential Engine	Alternate Name	Alias for the entity including acronyms, alpha-numeric notations, and other forms of name abbreviations in common use such as PhD, MA, and BA.	Identical
ELM	alternate label	An alternative lexical label for a resource.	Reworded
Credential Engine	Description	Statement, characterization or account of the entity.	Identical
ELM	Description	An account of the resource.	Reworded

## **What are the Benefits of the Global Micro-Credential Schema Mapping Project?**

The CTDL Advisory Group has identified numerous benefits resulting from this work, including:

- **Applying the Mapping:** Aiding transfer, credit recognition for admissions, and guidance for policymakers.
- **Defining Regional Processes and Regulations:** Understanding regional differences, establishing shared language, considering regulatory impacts, and building trusted processes across jurisdictions.
- **Facilitating Comparisons and Compatibility:** Detailed mapping quantifies compatibility, aids transferability between regions, and fosters collaboration between different credentialing systems.
- **Enhancing Global Portability:** Schema mapping enables interoperability, supports regional nuances, and enhances recognition and application of micro-credentials across diverse regions and organizations, promoting mobility and breaking down silos.

The Global Micro-Credential Schema Mapping project offers valuable opportunities to streamline the understanding and comparison of micro-credentials on a global scale. By fostering collaboration, this initiative aims to enhance the portability and recognition of micro-credentials, ultimately benefiting individuals and organizations worldwide.

Credential Engine highly values the many subject matter experts who define, lead, and support initiatives like this one- thank you!

To learn more about the Global Micro-Credential Schema Mapping project, participate in mapping additional micro-credential schemas, or [join the CTDL Advisory Group](#), contact us at [info@credentialengine.org](mailto:info@credentialengine.org).

Publicly shared mapping via Credential Engine's DESM Tool

<https://desm.credentialengine.org/mappings-list>

- Select "Microcredential Mapping" and "Submit." The mapping is organized via the tabs labeled as "Assertion", "Micro-credential Claimed", "Micro-credential Specification, "Issuer," and "Owner/Offeror."

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