



International  
Labour  
Organization

## ► Skills harmonization and partnerships

Think piece prepared for the 1<sup>st</sup> meeting of the Employment Working Group under Indian presidency



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## ► Introduction

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The 21st century has been marked by several megatrends and developments that impact both labour markets and education systems. Globalisation and changes in value chains, digitalization, climate change and demographic developments have caused increased mobility of labour and jobs, accompanied by the emergence of new occupations in the digitized world. COVID-19 and other recent developments add to the complexity and in some cases accelerate trends. Education and training follow a trend of internationalisation and personalisation with aspects of digital adaptation and in some cases transformation in terms of institutions, programmes, learning pathways, provision, and credentials. Yet, skills systems are not keeping pace fast enough, which often results in a mismatch between talents and employment, at home and abroad. Growing numbers of people are also involved in cross-border work through internet and online platforms.

When people are on the move, they rely on their skills and qualifications to be employable on the labour market. Yet, if their skills are not recognized in their destination country, it is difficult for them to access employment and new learning opportunities. Furthermore, as the range and type of learning institutions, qualifications and other credentials increases, there is often a lack of clarity about the level, nature and quality of qualifications and skills obtained.

**There is an increasing call for international dialogue and cooperation on skills harmonization and partnerships – to strengthen national skills systems while improving comparability with others. This requires taking stock of the available instruments and mechanisms and developing upgraded and/or new instruments that can take forward regional and international partnerships on skills and qualifications’ transparency, harmonization and recognition for the benefit of workers, economies and societies.**

## ► Part I. Understanding of skills partnerships and skills harmonization

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### I.1. What is the rationale for skills partnerships and skills harmonization?

**Understanding:** In general terms, the discussion on skills partnerships and harmonization is about transnational cooperation between qualification systems for improving transparency, quality, comparability, and portability<sup>1</sup> of skills and/or qualifications between partnering countries. ‘Skills partnership’/‘skills harmonization’ are mainly understood as generic terms of skills cooperation, aiming at creating a better ‘understanding’ and convergence among each other’s systems, creating ‘transparency’ and enabling transferability and comparability of skills and qualifications. Skills harmonization and partnerships also build trust between different skills systems. There is also a more limited understanding of the terms that refers to a formalized cooperation between countries of origin and countries of destination, often referred to as ‘skills mobility partnerships’, when certain criteria and rules are applied to a specific group of migrant workers. This paper adopts a broader understanding of the issue.

Skills partnerships are regulated in a variety of **international normative documents** that call for international cooperation to “promote recognition and portability of skills, competencies and qualifications nationally and internationally” (ILO R195, Art. 21). The Convention on the Recognition of Qualifications concerning Higher Education in the European region, 1997, introduces basic definitions, principles and modalities of “recognition of qualifications and skills”. The Global Compact for Safe, Orderly and Regular Migration (Global Compact) of 2018

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<sup>1</sup> See also more in detail in Part II; See also in [Portability of skills \(ilo.org\)](https://www.ilo.org/).

promotes the approach for “mutual recognition” and encouraged States to “build global skills partnerships amongst countries...” (Objective 18).

Based on the international normative framework and existing practices around the world, skills partnerships have taken different formats, depth and level of synchronization or harmonization.

***In terms of level of intensity and depth, skills partnerships can offer:*** information sharing; increasing transparency and readability; collaboration on skill needs identification, quality assurance, skills governance and the development or updating of skills standards.

***In terms of types and size, skills partnerships can take the form or lead to:*** comparability, harmonization, mutual recognition, bilateral and multilateral agreements that are stand-alone or part of trade agreements, regional qualification frameworks, sectoral frameworks among the main important ones, discussed in detail in part II.

### ***Role of skills harmonization and partnerships***

**In a national context,** skills partnerships and skills harmonization can be used:

- as an international framework or a stimulus for national **skills or qualifications development and updating occupational and qualification standards;**
- **as a catalyst for taking forward skills and lifelong learning strategies,** as learning outcomes, qualification standards and mechanisms for validation of non-formal and informal learning should be able to support learning across different areas and throughout life;<sup>2</sup>
- for **strengthening skills systems, training capacities** of national authorities and relevant stakeholders, including employers and trade unions;
- in **recognizing** skills acquired informally and confirming possession of skills, including in cases when workers have lost their physical certificates;
- for **talent testing and recruitment;**
- to prevent youth unemployment and loss of **jobs** and to support **productivity and growth;**
- to enhance **economic efficiency and support social equity and sustainable development.**

**Internationally** skills partnerships and harmonization can:

- aid transparency and mutual understanding among qualification systems, support **portability of skills and qualifications** across countries, facilitate mobility within regional economic communities, and recognize professional qualifications;
- contribute to improving opportunities **for jobseekers to find work in national and international labour markets;**
- **decrease shortage of professionals, eliminate brain waste;**
- **strengthen connection between migration and use of skills development** as a proactive strategy (PwC, 2022), incl. with the aim of lowering the cost for training;
- **improve comparability and relations between education and labour markets at a global scale;**
- **promote regional and global cooperation**<sup>3</sup>, including through fair regulation of international trade in services.

<sup>2</sup>Cedefop, ETF, UNESCO, UIL (2017). Global inventory of regional and national qualifications frameworks, p.9

<sup>3</sup> Cedefop, ETF, UNESCO, UIL (2017). Global inventory of regional and national qualifications frameworks, p. 8

## I.2. Recent developments: Digitalization and credentialing

There are new developments in the qualifications' domain, linked first and foremost to *credentialing and digitization*, that should be taken into consideration when advancing globally on the topic of 'skills partnerships' and 'skills harmonization'.

### **Credentialing**

Countries are putting increasing emphasis on credentials, linking them to qualification systems and frameworks, developed as a 'technology' to improve recognition of different forms of learning and transferability of skills and qualifications. This process is not a static achievement, as 'the qualification technology' evolves, gaining in scope, but also in coverage. This includes credentials<sup>4</sup> (incl. – non-degree credentials) understood as electronic or paper-based representation of the different types of learning, twenty-first-century skills, and the digitization of credentials.

### **Digitization**

Alternatives to traditional credentials are directly associated with digitization. While traditional credentials were used to signal and record major skills achievements (a vocational qualification or a college diploma, for example), technology seems to be accelerating the push to recognize and 'credential' more minor achievements and learning outcomes. This seems to address many of the concerns raised by employers and to correspond to the need of providing a key to a more visible and granular system that is extensible and adaptable to changing labour markets and to new, more flexible study options and improved forms of recognition of acquired specific skills. **The growing move towards digital credentialing, and specifically - micro-credentials - is expected to have critical implications on harmonization and recognition of learning across borders.** Researchers argue that we are standing "on the brink of revolutionary change".<sup>5</sup>

## I.3. Discussions under the G20 Presidencies and the Indian perspective

The topic of "internationalization of education", as well as the need for skills harmonization was discussed during the Education Ministers' Meeting under [Saudi Arabia's G20 presidency](#). Education Ministers Meeting highlighted to share information for the facilitation of cross-border recognition of qualifications amongst the G20 member countries.<sup>6</sup>

Under [India's presidency](#), skills harmonization is identified as a key theme for the development of pathways for skills recognition across G20 countries, potentially guided by a collaborative roadmap for the development of an agile and adaptive skills harmonization framework. Common occupational/skills taxonomies for mutual reference of all countries could become a valuable element of the work on such a framework with the aim to facilitate labour mobility.<sup>7</sup>

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<sup>4</sup> Credentials are understood as certificates issued by educational organizations as records of Achievement. They may include micro-credentials that could be smaller, like for example badges, and focus on modules of learning, smaller than those covered by school diplomas or academic degrees.

<sup>5</sup> UNESCO (2018), Digital Credentialing. Implications for the recognition of learning across borders, p. 9

<sup>6</sup> PwC (2022), Note on strategy and roadmap for Skills Harmonization in G20 Countries.

<sup>7</sup> Idem

## ► Part II. Skills partnerships and harmonization – a technical approach

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Historically, skills partnerships and harmonization are based on creating or referencing to common or similar *standards* to enable transparency and comparison between skills and qualifications.

### II.1. Approaches to standardization

There are two main aspects in terms of standardization: labour market input and requirements and learning outcomes. Labour market requirements for employability in many countries are reflected in the “occupational standards” that describe the professional tasks, activities and competencies typical of an occupation. A basic assumption for skills harmonization is that labour market requirements are comparable and that skills related to these are transferrable.

Learning outcomes in terms of what a learner/worker knows, understands and is able to do upon completing a learning process have gradually developed as a ‘common language’ of education and training systems in a lifelong learning perspective. The learning outcomes approach offers an alternative to the traditionally strong emphasis on learning inputs and process where a qualification is judged according to time spent in education, subjects studied and the location of the learning.

A theoretical model of using labour market requirements and learning outcomes in an international perspective, based on existing practices so far, could be presented the following way: Once countries agree to work towards skills harmonization, they would align their requirements to deliver similar labour market outcomes and hence influence in a synchronized way the process of benchmarking/updating occupational, education and training (qualification) and assessment standards, as well as (usually – to a more limited degree) - education and training provision in the partner countries. Since national contexts and institutional arrangements of skills and qualifications systems usually differ, cooperation might become administratively heavy, sometimes creating new transnational bodies, developing new procedures etc. A key ingredient for successful examples is the creation of trust through social dialogue and multi-stakeholder involvement. There are arguments that credentialing, digitizing and use of new technologies may help and atomize processes, though.

Aspects of the above-described theoretical model are being used across different approaches with a different level of ‘synchronisation’ and ‘harmonization’, presented below.

#### II. 1.1. Developing joint minimal (occupational) standards between partner countries

Joint minimal standards **are bottom-up, very often - emergency-driven flexible and short-term responses to usually local or regional skills and qualification recognition partnerships.**

*Examples:* **The ILO** is supporting Nigeria, Ghana, and Togo in strengthening mutual recognition of each other’s qualifications in the agriculture and construction sectors. In 2020, a mapping of national qualification systems was followed by an online consultation with national tripartite constituents to prioritize the creation of harmonized minimal occupational standards. (ILO, 2019b)

**In Central America**, national training institutions have developed regional standards, allowing each country to adapt the standards to their own requirements by keeping the minimum standards equal and then changing up to 20 per cent of the profile.

## II.1.2. Professional/Educational and Qualification Standards

Learning outcomes have underpinned the development of **educational / qualification standards**. They are different from but corresponding to the 'occupational standards' and refer to the expected outcomes of the learning process (the learning outcomes), leading to the award of a qualification.<sup>8</sup>

International cooperation can clearly advance in this area. The learning outcomes approaches should be generally applicable to the wide diversity of education and training systems and the standards developed within them, yet should be operationally flexible and adaptable enough to address demands that vary widely across contexts. The efforts of Cedefop (2017) in producing guidelines and tools for the use of learning outcomes for the European context can be shared and expanded to other regions.

## II.1.3. International standards and sectoral frameworks

The international sectoral frameworks of occupational standards can be relevant when taking forward global efforts on skills harmonization. In recent years there has been a number of widely recognized certificates and diplomas awarded at international level, outside the jurisdiction of public authorities: for example, international qualifications, provided for specific sets of skills considered 'universal' by multinational private companies such as Microsoft, SAP, Intel (in IT), but also in other sectors like transport, ICT, construction, trade and welding.

### ► Box 1: The International System for Education and Qualification (ISEQ) for welding personnel

The European Welding Federation (EWF) and the International Institute of Welding (IIW) signed a contract in 1998 for the development of an International System for Education and Qualification (ISEQ) for welding personnel. EWF system started with 15 countries and with an international and national structure of an International Authorisation Board, Authorised Training Bodies (ATBs) and Authorised National Bodies. Standard requirements for the respective bodies, procedures and courses are the cornerstone of the operational model. After 2000, 42 countries have joined the system as full-time members and 7 have applicant status. There are 600 approved ATBs and 150,000+ diplomas awarded.<sup>9</sup>

## II.1.4. Other approaches to standardisation

**WorldSkills International (WSI)** offers a different perspective, in which skills competitions are used to determine the level of competence. A *WorldSkills Standards Specification (WSSS) framework* has been developed based on a Nordic inclusive professionalized model of education and training to provide the conceptual basis for the competitions. This framework is linked to Level 5 of the EQF and the Australian Qualifications Framework. Key features comprise the requirement for each standards specification to be based on an occupation or work role; and the inclusion of high-level skills, which feature prominently in the level descriptors. Another key aspect is the accent on 'the standards' ability to support competence as a baseline in order to focus on excellence as a key differentiator in intermediate technician work roles. An extensive consultation process underpins the WSSS framework and includes international as well as individual and small group workshops. (Keevy and Chakroun, 2015). WSI standards are now being used in benchmarking skills standards within mutual recognition of skills pilots in ASEAN (The Association of Southeast Asian Nations), supported by ILO. (A. Sakamoto Interview)

## II.2. From standardization to comparability and recognition. Modes and methodologies

The process of "*standardization*" is supposed to increase transparency and comparability. Usually, the *comparison process* consists of describing a country's qualification system to the extent to which it meets the agreed quality

<sup>8</sup> Cedefop, ETF, UNESCO, UIL (2017). Global inventory of regional and national qualifications frameworks, p. 100

<sup>9</sup> PwC. Note on strategy & roadmap for Skills Harmonization in G20 Countries, December 2022, p. 7

criteria. Credential evaluation, benchmarking and referencing are discussed as the most common modes and methodologies.

## II.2.1. Credential evaluation

Credential evaluation is regarded as the simplest way for skills recognition: a competent body evaluates the content of a foreign qualification and then (sometimes another body) takes a decision to recognize it (partially or fully). It is rooted in international documents and practices, such as the Convention on the Recognition of Studies, Diplomas and Degrees in Higher Education in the Arab States (UNESCO, 22 December 1978), the Convention on the Recognition of Qualifications concerning Higher Education in the European Region (often called the Lisbon Convention (1997) etc.<sup>10</sup> The Lisbon convention, for example, has been signed by 50 countries and international organizations, such as the European Union (EU), USA, Australia, Canada, Israel, New Zealand, Ukraine, Turkey and Russia. The aim of the convention is to facilitate the recognition of foreign studies among the signatory countries. A national Information Centre (ENIC or ENIC-NARIC) is an entity established by each Party to the Convention, which main function is to give advice and information on recognition matter and evaluate foreign qualifications. A second type of institutions – the Competent Recognition Authorities (CRAs) make binding decisions on recognition. A European Recognition Manual was developed to provide commonly agreed *standards and guidelines* to ensure similar methodologies. (OECD, 2017) Unless a substantial difference is observed, a qualification issued by one of the signatory parties is recognized by the others. This process of comparing qualifications unearths differences and therefore has the potential to lead to harmonization in the medium term.

## II.2.2. Benchmarking

Benchmarking is the most commonly used term applied when establishing the level of a given qualification by comparing it with an identified benchmark, after an analyses or mapping of the qualification's content. In some contexts, the usage of the term 'benchmarking' implies an unequal relationship: one side has set the standard, against which the other is measured.

### ► Box 2: Examples of benchmarking

- The ILO Skills 21 Project has undertaken a comparison between the TVET/Skills qualifications of Bangladesh as a country of origin (COO) and the Kingdom of Saudi Arabia, as a country of destination (COD) on three selected occupations in the construction sector. Comparability Methods considered are credential evaluation, recognition by prior agreement and benchmarking.

The Steps of benchmarking, identified in a Manual, are as follows:

- Step 1: Comparing Qualification Framework: (a) collect referencing levels of COO and COD; (b) collect level descriptors of COO and COD; (c) establish a technical working group for a review and categorizing the level of matching (low, medium, high).
- Step 2: Occupational/Qualification Mapping, consisting of: (a) identification of other countries' competency/occupational standards; (b) setting up criteria for comparison (levels, number of training hours, entry level requirements, exit level outcomes etc.); (c) set up a focus group to validate and decide on the level of matching. When gaps are identified, recommendations are provided for additional training. (ILO, 2020a)

Examples of countries, referencing their NQFs to other countries with the objective to benchmark levels/ level descriptors can be found in the Arab countries and Southeast Asia. The institutions in India and UAE worked to benchmark qualifications, assessment, and certification - 13 UAE Qualifications were benchmarked with 15 Indian Qualification Packs. During the hiring process of workers, those went through a recognition procedure on benchmarked qualifications and the successful ones received dual certificates. (PwC, 2022).

<sup>10</sup> The Convention applies to higher education in Europe, but has an equivalent in Africa, the Arusha Convention for Africa (1981), which was renamed and updated to the Addis Convention in 2014.



### II.2.3. Referencing

'Referencing' is a specific form of benchmarking that has emerged in recent years and is associated with the introduction of qualifications frameworks. It is a process that results in the establishment of a relationship between the levels of a regional meta-framework (like EQF, AQRF or SADCQF) and the national qualifications framework (NQF) or system, making the regional framework a 'translation device' for qualifications. Globally, there is a trend of 'referencing' between countries and regions, by comparing national qualification levels to those of another country/region.

The rationale behind the referencing process lies in the variety in the design of the RQFs building blocks, such as learning outcomes, levels, level descriptors and credits, between countries and regions. These differences in design, notably in the number of levels used, but also in terms of qualifications design and quality assurance systems, require an agreed, reliable and transparent process to make the similarities and differences understandable for policymakers and the broader public.

#### ► Box 3: Examples of referencing

- **New Zealand** can be regarded as one of the most active countries using a great level of detail in the referencing/mapping – pathways, credits, inputs, outputs.<sup>11</sup> Its qualifications recognition service uses referencing reports to support approval of individual qualifications.
- Within **ASEAN**, the participating member states reference their NQF level descriptors to the AQRF levels. Countries without an NQF, reference key qualifications to the AQRF. There are 11 referencing criteria. By 2021 four ASEAN Member States (AMS) have successfully submitted referencing reports (Malaysia, Philippines, Thailand and Indonesia). The AQRF is supported by Referencing Guidelines (2020), two concept notes (related to nonformal and informal learning and learning outcomes) and a briefing paper on qualifications frameworks and quality assurance. The referencing activity includes responding to criteria, procedures and to a recognized quality assurance framework (ETF, 2020).
- In the case of **EQF**, a 'referencing' methodology has been developed to define the correspondence between the eight levels of the meta-framework (the EQF) and NQFs.
- There are as well examples of peer referencing between NQFs, and even between an NQF and an education and training system where no NQF has been developed. Examples include New Zealand and China, New Zealand and Malaysia, New Zealand and Ireland, and Malaysia and Taiwan.

The experience gathered from the formats and mechanisms of recognition of qualifications has been considered in the recent work on developing **world reference levels (WRL)**. WRL is a new tool developed by UNESCO and an international working group of qualification experts to facilitate international comparison of learning outcomes, following the Shanghai Consensus Recommendation of 2012<sup>12</sup> and supporting the implementation of the Global Convention on the recognition of qualifications concerning higher education adopted by UNESCO member states in 2019. WRL are based on research of level descriptors in a wide range of qualification frameworks and job evaluation programmes. Three 'domains' of learning are included: knowledge, skills and competencies, plus global citizenship as a focus area that covers all three domains. The WRL are designed to be used with the help of a **digital tool** that helps assess how far a qualification, credential or other outcome specification matches the WRL elements and stages, allowing the WRL to be used as a *reference point* to benchmark qualification systems. 10 countries and 2 global organizations piloted the WRL tool. In partnership with UNESCO, the WHO Academy is investigating how WRL can support global recognition/reference framework for health care professions. (UNESCO, 2020).

<sup>11</sup> Cedefop, ETF, UNESCO, UIL (2017). Global inventory of regional and national qualifications frameworks, p. 117

<sup>12</sup> The Third International Congress on Technical and Vocational Education and Training (TVET), in Shanghai in 2012, recommended, a set of world reference levels (WRLs) to be identified, to facilitate the international comparison and recognition of TVET qualifications.; [https://unevoc.unesco.org/fileadmin/user\\_upload/docs/Shanghai\\_Consensus.pdf](https://unevoc.unesco.org/fileadmin/user_upload/docs/Shanghai_Consensus.pdf)

## II.3. Formats and mechanisms of the implementation of skills harmonization

There are different harmonization formats and mechanisms for mapping, comparing and recognizing skills and qualification at bilateral, regional or international level.

### II.3.1. Bilateral and multilateral agreements

Under **mutual recognition (agreements)**, two or more countries accept the fulfilment of certain requirements in another country as **equivalent** to its own requirements on a mutual and reciprocal basis. *Automatic recognition*, full or partial, 'allows' holders of qualifications from a partner country to automatically "access" the territory of the host country, just by notifying the host authorities that they are duly licensed and thus authorized to operate in its territory. This implies a de facto *harmonization* of qualifications, as standards and procedures are also automatically recognized – while not necessarily being absolutely identical.

The skills recognition takes place according to a governments' decision accepting the equivalence of the counterpart's standards/systems. Verification may be needed by providing proof (documents), issued by the home country. This leads to a dialogue between professional organizations in each country in order to investigate the nature of the professional activities, the professional qualifications, and the details of pre- and post-qualification education and training. The two or more jurisdictions agreeing to the mutual recognition agreement, need to come to terms on the methodologies for mutual recognition, such as the recognized qualifications, registration procedures, professional practice, and employment law issues, such as insurance, trust funds, and registration fees. For the recognition mechanisms to work, they should be transparent and non-discriminatory.

Another important aspect is linked to *regulated trades and professions* (e.g., accountants, nurses, architects), where a wide range of MRAs exists, some of them through trade/regional integration agreements, which thereby encourage the development of mutually accepted standards, and criteria for licensing and certification and provide recommendations on mutual recognition.

Examples to be considered are with regions where arrangements are agreed or intended to go beyond trade in goods and incorporate the free movement of labour – EU, efforts in Africa underway – for example in Southern African Development Community (SADC), the Economic Community of West African States (ECOWAS), and also in the East African Community (EAC), where member countries agree regarding each other's requirements, certificates, and licenses, as they are harmonized, considered equivalent, or adhere to an international standard. (ILO, 2020b).

#### ***Bilateral partnerships and agreements***

Some countries foster skills partnerships, harmonization of qualifications and mutual recognition agreements with partner countries, in order to facilitate the supply of skilled workforce abroad. In other cases, the partners' regime covers student or trainee exchanges or issuing double diplomas.

► **Box 4: Bilateral Agreements.**

1. **In India**, Ministry of Skill Development & Entrepreneurship (MSDE) and other implementing organizations in coordination with the Ministry of External Affairs (MEA) has signed **11 Government to Government (G2G) MoUs** in the field of skill development and vocational education training and **Business to Business (B2B) MoUs**, which facilitates recruitment, migration and training services for many countries.

2. Bilateral agreements can happen also within bigger scope agreements like **CETA** – between the EU and Canada<sup>13</sup>. CETA contains provisions on the mobility of professionals from the standpoint of the liberalization of the services they offer. When the practice of a profession in Canada and Europe requires an authorization issued by a relevant authority on the basis of specific qualifications (evidence of formal qualification, professional experience), Chapter 11 of CETA establishes “a framework to facilitate a fair, transparent and consistent regime for the mutual recognition of professional qualifications by the Parties and sets out the general conditions for the negotiation of MRAs”. This regime follows the approach of the Québec-France Agreement on the Mutual Recognition of Professional Qualifications from 2008.

3. The TTMRA participating countries, Australia and New Zealand, follow the principle of automatic recognition, which means that they have established a system of international or regional licensing.

**Regional or sub-regional and multilateral agreements** take place when a group of countries and their qualifications agencies, professional bodies and education providers in a region agree on qualifications to be recognized and standards' procedures applied, including for professional recognition and mutual access to the labour markets. Main regional partnerships are the ones within the ASEAN, the European Union (EU), the Caribbean Community (CARICOM), the Southern African Development Community (SADC), and the Small States of the Commonwealth. Characteristics of the multilateral agreements that have contributed to the harmonization effort for crossborder labour mobility and could be considered for further activities, are linked to the availability of: *institutional structures, related legislature, operating model, and industry incentive structure*. (ILO, 2019) Inter-regional partnerships also take place. In the Asia-Arab migration context, potential linkages between SAARC QF and GQF are being explored.

► **Box 5: Regional and multilateral recognition agreements (MRA)**

ASEAN has formed the foundation for the recognition of skills, starting with the ASEAN Framework Arrangement on Services, 1995. It developed and adopted MRAs for eight professional categories between 2007 and 2013, with tourism being the only one that includes TVET qualifications. While ASEAN MRAs adopt different modalities in the service sector, three important professions (engineers, accountants, and architects) employ the so-called hub-and-spoke model. Under this model, professionals in one ASEAN country cannot be directly recognized in other ASEAN Member States, but need to obtain the “ASEAN qualification” first, which then allows ASEAN qualification holders to be registered in other ASEAN Member States as foreign professionals to supply services. In the tourism sector, the MRA also established regional level Common Competency Standards for Tourism Professionals (ACCSTP). Implementing offices and bodies at regional and national levels were created and MRA principles were integrated into national laws. The ASEAN Qualifications Reference Framework/AQRF was developed in 2015.

## II.3.2. Regional Qualifications Frameworks (RQFs)

RQFs are relatively new methodologies. In some regions, recognition agreements/conventions and qualifications frameworks relate to each other, yet also exist independent of each other.

RQFs are usually designed as a ‘translation device’, contributing to increasing the transparency between the compared national qualification systems. In some regions, such as CARICOM, the framework was designed to host regional qualifications designed for the new framework rather than acting as a translation device. Since their success depends on trust and transparency, they include both technical and operational aspects: clearly articulated

<sup>13</sup> Comprehensive Economic and Trade Agreement (CETA) between Canada and the European Union, Office de Professions, Quebec, 2018, p. 3

purpose and scope, underpinning principles, governance arrangements and common tools: a set of level descriptors, referencing criteria, specified linkages to quality assurance criteria or arrangements (usually without having their own quality assurance regime) plus guidelines, including regional guidelines for the recognition of prior learning etc. Formulating *level descriptors* using learning outcomes is an important technical aspect to be considered when advancing in standardization efforts.

Inspiration and learning could be drawn from the existing RQFs in a global perspective. There are challenges though when using them for international standardization, as there is a different level of abstraction at national and transnational level, and a need to consider levels' progression.

#### ► **Box 6: Regional qualification frameworks in SADC and Europe**

Following the signing of the **Southern African Development Community (SADC) Protocol on Education and Training in 1997** a technical committee was established to oversee harmonization and standardization of education and training systems in the SADC region, including the development of an RQF. The **SADCQF was established in 2011 and launched in 2017** with the aim to facilitate comparability, harmonization and recognition of qualifications, as well as credit transfer - for easier movement of people (learners and workers). The SADCQF is an inclusive ten-level reference framework, with level descriptors based on learning outcomes, regional SADC standards developed, and qualifications harmonized, where possible. In 2020 new revised SADC 'Guidelines on Credit Accumulation and Transfer', and 'Guidelines on Recognition of Qualifications' were presented and an e-certificate is being piloted. (ETF, 2021).

At **European level**, countries have been working on the comparability of their qualifications, qualifications recognition, and periods of learning undertaken in different countries to make possible the portability of learner and worker qualifications between EU countries. The EU initially pursued recognition via a similarity assessment that can only be achieved by the harmonization of standards (until mid-1970s) and then recognition via a comparability assessment that can be achieved by the harmonization of curricula (from the mid-1970s to the early 1980s).

The Bologna process, involving 47 countries, started in 1999 as an intergovernmental process aiming to restructure higher education in Europe and to establish Qualifications Frameworks in the European Higher Education Area (QF-EHEA) through the introduction of a three-cycle degree system guided by a set of level descriptors referred to as the Dublin descriptors. In a parallel development, the EQF for primary, secondary, vocational and higher education was established in 2008. It provides the central point of reference in using a translation device of eight European generic levels of learning to make qualifications systems more transparent to employers, learners, qualifications authorities, and education and training providers.<sup>14</sup> The EQF involves 27 EU member states as well as other countries.<sup>15</sup>

**A new generation of frameworks** emerges from 2014 on, showcasing some features that might be interesting to consider from an international point of view: continued shift to learning outcomes, more inclusive of non-degree credentials; sectoral frameworks gaining importance. Between 2015-2017 there is a trend towards strengthening the regional cooperation between NQFs, observed in Europe (adoption of the revised EQF recommendation) and in the South-African Region (SADC). This trend is linked to the intensified dialogue on cross-border transfer and recognition of qualifications and learners' and workers' mobility. There are also trends observed, emphasizing communication and transparency rather than regulation.

**Recent developments** in Canada and the USA demonstrate some characteristics related to non-degree credentials, sectoral frameworks and viewing learning domains in a broader sense, including 'citizenship, global participation and life'. In Canada the development of a sectoral International Events Qualifications Framework (IEQF) has been under way since 2011. *The IEQF is based on a set of internationally agreed competence standards.* It also includes aspects of *professional standards, with clearly defined industry roles that progressively become more complicated.* A recent development is the initiated American Credential Framework (ACF) by the Lumina Foundation, which

<sup>14</sup> Cedefop, ETF, UNESCO, UIL (2017). Global inventory of regional and national qualifications frameworks, p. 44

<sup>15</sup> In 2014 a decision was taken to allow countries outside of Europe to reference their NQFs to the EQF.

attempts to develop an overarching reference instrument to promote transparency, comparability, mobility and quality assurance for all kinds of credentials including non-degree credentials beyond the academic oriented degree qualifications profile (DQP) approach.<sup>16</sup>

### II.3.3 Qualification supplements and skills and qualification passports

Qualification supplements are the easiest instrument to record benchmarked international standards or references to regional qualification frameworks and make them visible to potential employers.

Skill logbooks have been a feature of many national skills systems for years. They are typically used to record the skills, competencies, and qualifications, achieved by learners as part of individual qualifications or programs of learning. By comparison, skill passports, whilst a similar concept, often act as a summary of competencies or qualifications held by an individual and achieved across multiple programs. However, this distinction not always applies.<sup>17</sup> The important question with credentials recorded in the passport or logbook is whether they are recognised and/or verified by a national or international entity.

**UNESCO Qualifications Passport** for Refugees and Vulnerable Migrants describes the highest achieved qualification(s), subject field, other qualifications, relevant job experience and language proficiency, as well as information that helps in the job-seeking and further studies.

**In Norway**, a Qualification Passport<sup>18</sup> was developed, using the following methodology: assessment of available documentation; analysis of the qualification; written self-assessment by the individual; structured interview by professional evaluators.

**Council of Europe: European Qualifications Passport for Refugees – 2018-2020:** A project was designed with nine national participating information and recognition centers, tested in small-scale in different context in Turkey, Lebanon, Armenia and Germany with arranging collective action and developing capacity. It demonstrates a potential to become the global assessment and mobility tool for forced migrants, especially with the digitization of the passport.

Within the European cooperation, **the Europass** model is a good example that could be considered at an international level. Initially the Europass CV, the diploma supplement (for higher education qualifications), a certificate supplement (for TVET qualifications), and a language passport (as a self-assessment tool) were developed. In July 2020 the Europass platform was launched, including an e-profile, the possibility to issue digital credentials and to assess digital skills. Europass offers the most up to date and rich repository of high-quality data on qualifications, national qualification systems and learning opportunities in Europe, helping learners to find a course in another country and employers to grasp the value of a qualification from a different EU Member State. Credentials stored are however not automatically recognized by other EU member states.<sup>19</sup>

## II.4. Enabling conditions and instruments

### II.4.1. Quality assurance

There is a common understanding that quality assurance (QA)<sup>20</sup> is critical for ensuring trust and enhancing the value and relevance of qualifications. From an international perspective, skills harmonization is supported if countries have trust in the quality of other countries' qualifications and qualifications systems they benchmark. QA is also used to ensure that national qualifications meet regional and international standards and that holders of the same qualification have achieved the learning outcomes required for it and therefore qualifications can be "trusted" (Cedefop, 2015 and 2017).

<sup>16</sup> [connecting-credentials.pdf \(luminafoundation.org\)](#)

<sup>17</sup> ILO, 2022, available at: [wcms\\_840276.pdf \(ilo.org\)](#)

<sup>18</sup> Stig Ame Skjerven Director of Foreign Education, NOKUT (Norway), Qualification Passport, PPP at UNESCO Information meeting, 2018

<sup>19</sup> <https://europa.eu/europass/en>

<sup>20</sup> Quality assurance is understood as planned and systematic processes that provide confidence in services by providers under the remit of responsible bodies.

**Transnational or regional quality assurance dimensions** are becoming increasingly important for supporting skills partnerships. The Shanghai consensus recommended exploring the possibility of developing quality assurance (QA) guidelines for the recognition of qualifications, based on learning outcomes.<sup>21</sup> Coordinated approaches/frameworks accompany regional qualifications frameworks, such as the East Asia summit (EAS) TVET QA framework and the Pacific QA framework. In the EU, QA is a key principle of the EQF and important element in the referencing process. It calls for national QA systems to be aligned with the relevant European principles and guidelines in vocational training and higher education<sup>22</sup>.

Several tools and mechanisms have been identified by researchers and practitioners to further enhance regional cooperation and policy learning in this respect. **Regional guidelines** and other support materials for QA of TVET qualifications are already being used as an approach for participating countries to develop common understanding of QA systems and provide a basis for enhancement. Creating a **Community of practice and/or Regional collaboration platforms** can build on the range of existing cross-national TVET networks.

## II.4.2. International credit transfer

Credit accumulation and transfer (CAT) is another approach to be considered when working towards skills harmonization. In Europe, in addition to the EQF, the European Commission has put two mechanisms in place: the European Credit System for Vocational Education and Training (ECVET) and the European Credit Transfer and Accumulation System (ECTS) for Higher Education. The approach is intended to facilitate the transfer, recognition and accumulation of assessed learning outcomes of individuals who are aiming to achieve a qualification, to improve transparency, transnational mobility and skills portability in a borderless lifelong learning area, and to improve the mobility and portability of qualifications at national level between various sectors of the economy and within the labour market.<sup>23</sup> Experiences are mixed and there is a strong indication that quality assurance concerns are among the main obstacles to transfer (Cedefop, 2014).

## II.4.3. Financing skills harmonization and partnerships

Skills harmonization and partnerships, while aiming to increase labour market efficiency and quality of skills, come with a cost. Historically, collaborative efforts on partnerships and experts' work on common tools have often been supported by regional or international organizations. Within bilateral agreements, costs are usually borne by governments, employers in destination countries or by migrant workers themselves<sup>24</sup>. If training is involved, it could occur entirely in the country of origin, or - in the countries of origin and destination. *The Global Compact* encourages "global skills partnerships amongst countries that strengthen training capacities of national authorities and relevant stakeholders... with a view to preparing trainees for employability in the labour markets of all participating countries."<sup>25</sup> All financial mechanisms require contracts, spelling out the obligations of each party, reliable payment systems, and a mutually agreed division of the financial cost.

<sup>21</sup> [https://unevoc.unesco.org/fileadmin/user\\_upload/docs/Shanghai\\_Consensus.pdf](https://unevoc.unesco.org/fileadmin/user_upload/docs/Shanghai_Consensus.pdf)

<sup>22</sup> The European quality assurance reference framework for vocational education and training (EQAVET) is a meta framework established in 2009 providing a systematic approach to quality assurance at system and provider. [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009H0708\(01\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009H0708(01)&from=EN); See Standards and guidelines for quality assurance in the European higher education area. [http://www.enqa.eu/wp-content/uploads/2015/11/ESG\\_2015.pdf](http://www.enqa.eu/wp-content/uploads/2015/11/ESG_2015.pdf)

<sup>23</sup> [https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32009H0708\(02\);](https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32009H0708(02);) <https://education.ec.europa.eu/education-levels/higher-education/inclusive-and-connected-higher-education/european-credit-transfer-and-accumulation-system>

<sup>24</sup> See ILO General principles and operational guidelines for fair recruitment and Definition of recruitment fees

and related costs [https://www.ilo.org/wcmsp5/groups/public/---ed\\_protect/---protrav/---migrant/documents/publication/wcms\\_536755.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---migrant/documents/publication/wcms_536755.pdf)

<sup>25</sup> <https://www.un.org/en/migration2022/global-compact-for-migration>



► **Box 7: Examples of financial arrangements of skills partnerships**

In **sectoral skills partnership programmes**, like in nursing, destination countries work with origin-country partner institutions or recruiters to train the workforce to match specific requirements. This has been done in Finland, Germany, Italy and Norway, for example, for vocational occupations in the country of origin, following destination-country standards (OECD, 2018). In a German pilot, called the “Triple-Win Project”, the German Society for International Cooperation (GIZ) helps arranging pre-migration professional and language training and integration assistance, fully financed by the workers’ future employers in Germany.

Under the **Economic Partnership Agreements** or EPAs (2008), a programme designed to attract nursing trainees from Indonesia and the Philippines to Japan, costs for the mobility programme were shared by the government and the employers: Japanese government paid for recruitment, travel, and living expenses of participants, while employers paid for six months of Japanese language training (Clemens, 2015)

#### II.4.4. Involvement of social partners and other stakeholders

Meaningful social dialogue with representatives of employers and workers is key for any reform of skills and lifelong learning systems. With regard to skills harmonization and/or skills partnerships, the involvement of social partners in the different stages of the process (work on occupational or qualification standards, benchmarking, level descriptors and assessment standards, etc.) (ILO 2019a, IOM unpublished) is particularly important given that

- Harmonizing occupational or qualification standards might affect business operations, availability of skilled personnel, recruitment and career development;
- It might have been employers or workers organizations expressing interest in skills harmonization processes in the first place;
- Successful reforms will need to ensure that the interests of all primary stakeholders are being met: by role-players in charge of qualifications and certification processes, but also by those using qualifications (employers and learners).
- Skills harmonization and recognition requires trust. If employers and workers are not convinced that qualifications offered from another qualification system are understandable and relevant to their needs, this will undermine the partnership process.
- Social partners and other specialized actors can also add value by reducing administrative burdens and introducing economies of scale.

Once social partners and other relevant stakeholders are identified, capacity building might be required to ensure representatives can meaningfully engage as experts in the process and different types of dialogue, covering information, consultation, cooperation or decision-making. Often, dialogue takes place through **formal or informal platforms** or committees. **Sectoral initiatives** have provided good results. Sector committees are a relevant permanent format for developing and maintaining occupational standards and qualifications for a particular sector. Sectoral bodies are a good basis for regional or global “alliances”, like the Sector Skills Alliances in the EU<sup>26</sup>, or other cooperation formats.

<sup>26</sup> See for example: [https://pact-for-skills.ec.europa.eu/stakeholders-and-business/funding-opportunities/alliances-sectoral-cooperation-skills-implementing-blueprint\\_en](https://pact-for-skills.ec.europa.eu/stakeholders-and-business/funding-opportunities/alliances-sectoral-cooperation-skills-implementing-blueprint_en)

## ► Part III. Towards a global approach? Prospective initiatives and solutions

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Accumulated experience across countries, regions and international organizations as well as new conceptual and technological developments lead to new ways in which learning and learning outcomes can be presented, compared and recognized in the context of skills partnerships and harmonization efforts.

### III.1. Taxonomies and classifications

Taxonomies and classification systems for skills and qualifications establish a common language to group skills concepts and establish hierarchical structures of categories in order to establish relations both with the world of work and with education and training systems.<sup>27</sup> They are used for assessing and measuring skill needs and mismatches; and can perform the functions of a *reference point* for comparison of national qualifications and profiles. The latter is particularly useful in the case of skills harmonization, when countries decide to benchmark or align skills standards and qualifications to standards other than their own.

The most important educational and occupational classification systems are the following:

ISCED<sup>28</sup> is the most well-known **educational classification system**, originally developed by UNESCO and the OECD in 1997. More recent versions have been broadened to include a classification of levels of educational attainment, based on qualifications. They have opened up an opportunity to move beyond the traditional time-based approach. ISCED is used mainly for statistical purposes and comprises a three-level hierarchy of broad fields, narrow fields and detailed fields, using a four-digit coding scheme.

Among **occupational classification systems**, many are based on ISCO, developed by the ILO in 1988 and updated in 2008<sup>29</sup>. Most national systems link to ISCO in order to produce internationally comparable statistics. ISCO-08 uses two basic criteria to arrange occupations into the 10 major, submajor, 130 minor and 436 unit groups (also called 4-digit) of the ISCO classification structure: skill level and skill specialization.

In Europe, **ESCO**<sup>30</sup> identifies and categorizes skills/competencies and occupations relevant for the EU labour market and education and training, available free of charge in 25 European languages. The system provides occupational profiles showing the relationships between 3008 occupations (mapped to ISCO occupations, 5- or 6-digit level), and 13890 skills/competencies.<sup>31</sup> While it doesn't list national qualifications, it provides a *common reference language* to support transparency, comparison, identification and analysis of the content of a qualification, thus helping to indicate how those relate to the skills and occupations needed across occupations and sectors.

Within ESCO, the learning outcomes statements identified at national level can be mapped to the occupation-specific lists of terms, demonstrating correspondence or lack of it.<sup>32</sup> In this way, ESCO can be applied as a sort of 'fixed' *terminological point* allowing for the analysis of national learning outcomes-based data. The combination of occupation-specific, cross-sectoral and transversal skills and competencies is crucial to the comparison.<sup>33</sup> It is explicitly designed to work at international level and aims to be relevant across national labour markets and education and training systems. One downside of ESCO is that skills and competencies are not weighted within an occupation.

<sup>27</sup> See for example the reference to ESCO: ESCO Taxonomy - Classification of European Skills, Competencies, Qualifications and Occupations in: <https://www.cedefop.europa.eu/en/news/esco-taxonomy-classification-european-skills-competencies-qualifications-and-occupations-just>

<sup>28</sup> International Standard Classification of Education, <https://isc.ed.uis.unesco.org/about/>

<sup>29</sup> International Standard Classification of Occupations <https://www.ilo.org/public/english/bureau/stat/isco/>

<sup>30</sup> <https://ec.europa.eu/esco/portal/home>

<sup>31</sup> <https://www.cedefop.europa.eu/en/news/esco-taxonomy-classification-european-skills-competences-qualifications-and-occupations-just>

<sup>32</sup> See: Cedefop 2022. Comparing vocational education and training qualifications. Towards methodologies for analysing and comparing learning outcomes.

<sup>33</sup> Cedefop, ETF, UNESCO, UIL (2017). Global inventory of regional and national qualifications frameworks, p. 101



**O\*NET** is the Occupational information network used in the US and developed by the US Bureau of Labour Statistics<sup>34</sup>. It is a taxonomy for organizing occupational data. Descriptors of work and workers are organized into six predetermined domains: worker characteristics, worker requirements, experience requirements, occupational requirements, workforce characteristics and occupation specific information for more than 1,000 occupations. These domains provide information on occupations, including on knowledge, skills, abilities, education, experiences, training, interests, work values, work styles, tasks, technology skills and tools, work activities, work context, and occupation titles. Skills for each occupation are further rated by trained occupational analysts with respect to the “level” and “importance” required for an occupation. The inclusion of both cross-occupational and occupation-specific domains is also an important characteristic of O\*NET. The model is largely based on the US context, yet it is increasingly being used outside the USA.

Some sectors have also developed international taxonomies for skills and occupations: the global skills and competency framework for the digital world, developed by the Skills Framework for the Information Age Foundation (SFIA)<sup>35</sup> and the European DigComp framework<sup>36</sup> target skills and jobs in the digital economy.

## III.2. Digital solutions

Digital technologies are transforming education and training by creating new modalities in skills development and learning processes, including by building new credentialing methods that can capture, recognize and validate a broader range of learning outcomes. Internationalization and personalization of learning may permit that all aspects of a person’s learning are electronically documented, authenticated and can be assessed anytime and anywhere, shared and amended by the owner or by an authorized party. (UNESCO, 2018)

In the context of skills harmonization, potential digital solutions could be explored to i) provide reliable data on qualifications, ii) facilitate interoperability of systems and ubiquity of standards, iii) create an international repository of quality-assured providers and credentials, and iv) support access, structuring and comparison of credentials’ data at global scale. The following section discusses some digital solutions and prospective technologies, deserving further attention with regard to this.

### III.2.1. Open education/learning and open/digital badges

**Open learning** covers not just open educational resources (OER) and new technologies for teaching practices, but also new approaches to assessment, accreditation and collaborative learning. Massive open online courses (MOOCs) have emerged since 2012 based on a variety of platforms mainly across the USA and Europe, and more recently also the Arab States, South America and Asia. Examples include Coursera, Edx, FUN, futurelearn, iversity, Rwaq, veduca and XuetangX etc. They are seen as a clear disruptive challenge, able to provide learning offers without firm attachment to any particular institution. The degrees linked to MOOCs allow students the flexibility to arrange their own curriculum by combining courses. Their advantage is the flexibility according to professional needs and personal preferences, yet at the same time, there is a risk that qualifications obtained are not immediately recognizable by employers, and quality might differ.

**Digital badges** are seen as visual tokens of achievement, effectively providing a technological solution to the problem of **representing learning beyond qualifications**. Badges are associated with competency approaches to education, and as a result, claim to “help speed the shift from credentials that simply measure seat time, to ones that more accurately measure competency”.<sup>37</sup>

Badges can represent micro-credentials, representing discrete skills sets that can be grouped or ‘stacked’ to form a larger or macro-credential. They are granular and can pinpoint where skills have been demonstrated; if aligned with common standards and competencies, are personalized and machine-readable (Oliver, 2016b). For these reasons, they matter to students, employers and educators. Issues are linked to security of the learner’s identity,

<sup>34</sup> <http://www.onetonline.org/>

<sup>35</sup> [The global skills and competency framework for a digital world — English \(sfia-online.org\)](https://www.sfia-online.org/)

<sup>36</sup> [https://joint-research-centre.ec.europa.eu/digcomp/digcomp-framework\\_en](https://joint-research-centre.ec.europa.eu/digcomp/digcomp-framework_en).

<sup>37</sup> Ifenthaler et al., 2016, p. 24

access to internet, and quality assurance, as the process is much more decentralized and removed from traditional quality assurance bodies.

### III.2.2. Digital repositories

Digital repositories can be national or commercial diploma or supplement registers, linked to students' records systems, and databased, designed and administered by an education institution or consortia. Similar to skills logbooks or passports, they store information on skills and credentials, yet also issue a stand-alone certified electronic document and make it available for sharing through an online database, which makes them a user-oriented student data access solution.

Repositories are credible once they are able to provide a comprehensive dataset for the country or sector they represent. The China Higher Education Student Information and Career Center (CHESICC) has pioneered student data digitization. The National Student Clearinghouse (NSC) in the USA is another example as it includes 96 per cent of diplomas and qualifications awarded in the country. The Lumina Foundation launched a centralized credential data platform in December 2017 called the Credential Registry. It includes a common credentialing language for credential evaluation, a digital application to search for credentialing information, and an Application Programming Interface (API) tool to allow organizations to continuously upload up-to-date information to the Registry. In France, the government has launched a unique digital database for verification of qualifications from both higher and secondary education.

For skills harmonization, the following arguments should be considered:

- Digital solutions can lead to more transparent verification of skills and qualifications. Micro-credentials are better suited for designing flexible pathways that appeal to employers, compared with traditional or macro-credentials and their more static pathways which are often not well understood by employers. On the other hand – the “stacking” and the combination of micro-credentials may reduce the familiarity of the employers with them and hence limit the employability of workers.
- The ability of digital credentials to represent and measure twenty first-century skills is also a recurring theme in the research.
- Digital badges are associated with an alternative more flexible credentialing system that reflects accurately industry practice and is desirably aligned with qualification systems/ public standards.

### III.2.3. Blockchain in certification

Blockchain is a new technology that is already being used for digital credentials. Through its distributed ledger technology, it can secure, share and verify learning achievements, providing a single secure record of educational attainment, accessible and distributed across many institutions. For example, MIT Media Lab and Learning Machine have developed the Blockcerts open standard for issuing and verifying credentials. Governments and education institutions can use the base code and develop their own software for issuing and verification, which is what educational providers in Malta have done. There is also a Blockcert mobile app and wallet.

**The advantages of the technology for skills harmonization are the following:**

- Credentials can be stored as digital records in a secure and globally accessible manner – an attractive option for forcibly displaced people or migrant workers.
- Record-keeping is transparent and verifiable, and cannot be faked.
- Intermediate accrediting bodies between the holder of the credential and the hiring entity become obsolete. This saves time and fees for issuing a certificate.
- Blockchain improves trust within the education and training system by creating a cross-institutional and multilateral system of verifiable education claims.
- Re-skilling and up-skilling becomes easier, as current skills development is easily verifiable and skills earned through non-formal channels can also be recorded and used as a proof later.

### III.2.4. Artificial intelligence (AI) and big data

Another important technology that is developing at a rapid pace is artificial intelligence and the use of big data. Increased access to big data has the potential to provide a new level of insights about education worldwide. In the future, advances in natural language, virtual reality and augmented reality could expand AI's usefulness in automatically assessing different types of skills, including transferable skills and job-specific skills. **AI can also be used to automatically access, process and compare credentials at a large scale.**<sup>38</sup>

In 2019, the European Commission conducted a pilot project with its Member States to test automated linking of learning outcomes of qualifications with ESCO skills in different languages and developed a dedicated IT tool to support national authorities in this exercise. The project demonstrated the value of using the ESCO skills thesaurus to provide transparency of qualifications and better quality of data on individual learning outcomes.<sup>39</sup>

### III.2.5. Standardization and governance approaches

Despite the new opportunities, opened by digital solutions and new technologies, there are several **important prerequisites** to make them work in the context of skills harmonization:

As for any kind of credential, **standards** should be developed. These standards are more technical in nature, yet are still similar to standards used for provisioning, awarding, quality assurance, evaluation and verification. There are also interesting cross-over standards.

#### ► Box 8: Digital solutions and standards

- The Mozilla Open Badge Standard (an open technical standard), also referred to as Open Badge Infrastructure (OBI), first released in 2013 is emerging as a global standard framework for documenting and distributing badges. The OBI framework addresses issues of validity, authenticity, granularity, interoperability, flexibility and transferability and contains embedded metadata derived from this universal standard. (Ifenthaler et al., 2016, p. 61)
- The PESC Common Credential XML Data Standard (involving Stanford University, the University of Maryland University College, the University of Southern California and AACRAO) is an example of a standard that applies across data transmission, document production and learning records.
- An example from India shows that the Indian government passed new regulations for the recognition of MOOCs in 2016, following the launch of the Study Webs of Active Learning for Young Aspiring Minds (SWAYAM) MOOC platform. This new regulation differs from the more traditional standards associated with training and quality assurance in that it allows accredited Indian higher education institutions to review all MOOCs posted on the platform and decide, according to their context, which ones they would like to offer (and recognize) in addition to their local offer (UNESCO, 2018).

As part of the **governance framework**, the involvement of key actors and multi-stakeholder cooperation needs to ensure that all relevant institutions are fully credible: this includes accrediting institutions, those uploading the issued certificates, and the certifier who makes sure that credentials in the system meet quality standards and reflect skills and competencies of the student. In addition, regulatory frameworks need to be in place to ensure the cross-jurisdictional nature of the chain as well as digital identity solutions, ensuring monitoring and evaluation, digital rights, data security and safety.

**Other framework conditions** may include methodologies for comparing credentials, addressing the multilingual challenges involved in processing credentialing data at international levels, access at scale to credentialing

<sup>38</sup> UNESCO (2018), Digital Credentialing. Implications for the recognition of learning across borders.

<sup>39</sup> [Qualifications | Esco \(europa.eu\)](https://qualifications.europa.eu)

information from all types of sources, and creating and promoting an international label for 'open learning records'<sup>40</sup> among others.

## ► Part IV Conclusions and reflections

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A number of global trends have increased the demand for global instruments and approaches to facilitate skills harmonization. It is a means to enhance the quality of skills and lifelong learning systems and to improve the portability of skills. This has inspired attempts to develop systems to serve as a common reference for learning and skills, which can be used to compare and map learning outcomes – including to an internationally recognized form if this is intended. This paper presents The different approaches and instruments available.

The following emerge as lessons learnt for future initiatives:

(i) *In terms of context and enabling environment*

- Skills harmonization and partnership initiatives should be developed in the *context and pursuing the goals of the Sustainable Development Agenda 2030*, notably goals 4 and 8.
- Employers' and workers' organizations at national and international level are indispensable partners in skills harmonization and partnership initiatives to co-create, together with governments and skills providers, the enabling environment for decent jobs and sustainable growth.
- The increase in the number of credentials, primarily due to digital credentials, is likely to affect the value qualifications have on the labour market in future.

(ii) *In terms of purpose and set-up*

- Although skills partnerships and harmonization are often driven by trade and economic factors, *they should consider a human-centered and development perspective and should serve individuals and not only systems.*
- Since labour markets change at increasing speed, *approaches should not be static, rigid, and restricted by heavy administrative and financial burdens, otherwise they risk becoming obsolete very fast and not fit for purpose.*
- For all skills and lifelong learning system reforms, strong and well-capacitated institutions at national level are key factors for success

(iii) *In terms of existing and future (digital) tools and mechanisms*

- Researchers raise the question whether mega-tools and varieties of administrative bodies and procedures adequately address the needs they claim to respond to. Once global tools exist, support by powerful stakeholders and visibility to end-users are critical preconditions for them to add value.<sup>41</sup> Further research on the relevance, effectiveness and impact of existing tools and approaches is needed to clearly assess their contribution to skills harmonization so far. Other specialists argue that sometimes smaller-scale, well-targeted solutions work better. A combination of common regional standards, strengthened national systems and innovative projects could be further explored.
- Existing tools, like RQFs, could develop in different ways in combination with traditional and more recent ones. For example, RQFs could provide a platform for sharing common profiles (for occupations that are most in demand), quality assurance and recognition processes.

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<sup>40</sup> The UNESCO General Conference in its 39th session in 2017 decided to prepare a Recommendation for Future International Collaboration in the field of Open Educational Resources (OER).

<sup>41</sup> Cedefop, ETF, UNESCO, UIL (2017). Global inventory of regional and national qualifications frameworks, p. 9

- Technical developments and digital solutions have clear potential to
  - Facilitate the integration of national systems, sometimes more easily than through political means (ETF 2020), such as through linking databases of qualifications using blockchain technology – rather than only referencing level descriptors.
  - Facilitate recruitment and the validation of informal and non-formal learning based on verified information. Badges for credentials can align to taxonomies like ESCO by linking to a standard terminology.
  - Facilitate comparison of qualifications based on taxonomies like ESCO or O\*NET through machine learning and Natural Language Processing (NLP) techniques.
  - Simplify administrative processes for verification for students and education and training providers if credentials and qualifications are available digitally.
  - ...provided there are quality assurance, data security and (light) governance systems in place.
- If G20 is interested in investing in global tools, a continuation between the G20 presidencies along with monitoring mechanisms should be considered

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