

The logo for ACQF (African Continental Qualifications Framework) features the letters 'ACQF' in a bold, black, sans-serif font. The letter 'Q' is stylized with a white silhouette of the African continent inside its circular part.

African Continental
Qualifications Framework

ACQF Innovation and Technology

Key innovations for Qualifications Frameworks

In this training session participants will:

- Discuss strategies for innovating
- Review different database types
- Discuss the role of digital credentials and flexible learning pathways
- Review and reflect on new tools for qualifications frameworks

Innovation and Technology Considerations

Why Innovate

Act: New opportunities, efficiencies, improved effectiveness, etc.

React: Changing labour market, need for improved information and systems, etc.

Risks of Innovation

Cybersecurity: Need for **enhanced cybersecurity**, physical security

Increasing inequality: Consider carefully **equality of access** to and the **distribution of benefits** of innovation

Data privacy: **Self-sovereign identity** – individuals should be the owners and controllers of their own data

Loss of livelihood: **Upskilling** and reskilling **incentives** for individuals, employers, training institutions

Innovation Processes

The **Innovation Design Cycle**

Innovation Readiness: Enabling Policies and Environment; Infrastructure; Human and Technical Capacity

Databases

Ethical management of data

Database Types: Relational, non-relational; centralized, distributed and cloud; open-source and commercial; operational

The Innovation Design Cycle

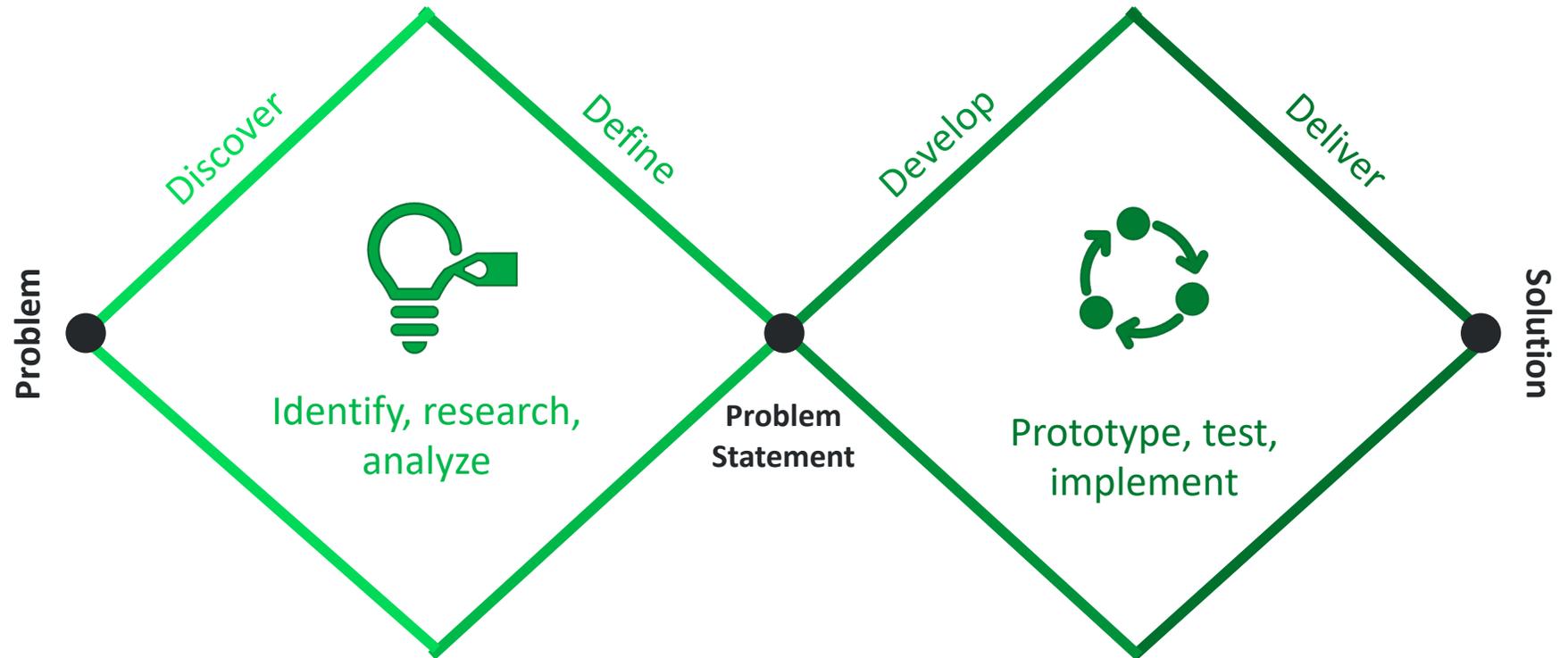
The Innovation Design Cycle

Discover: Identify and thoroughly research an area of need

Define: Crystalize research into a **problem statement**

Develop: **Brainstorm** and **research** a broad range of solutions. Which are **relevant, feasible,** and **ethical**? Create a **prototype** of viable/selected solution.

Deliver: Use of **agile** and **participatory development** processes. **Organizational efforts** such as identifying champions, development or changing of processes etc.





What steps does your government take in the ethical management of data? What further steps should be taken?

Ethical management of data

1. Manage data with integrity. Officials should ensure trustworthy data management. Officials must not access, share or use data for personal profit or goals that do not serve the public interest, or that undermine human rights.
2. Be aware of and observe relevant government-wide arrangements for trustworthy data access, sharing and use. Officials should be trained on roles and responsibilities, and governments should ensure expertise is available to manage data ethically.
3. Incorporate data ethical considerations into government decision-making. This includes considerations such as government planning, funding, ensuring unbiased sources of data and government contracts related to data.
4. Monitor and retain control over data inputs, particularly for AI systems. Further, public officials should be the decision-makers on issues that require human insight or may have adverse impacts on human rights, democracy or the rule of law.
5. Be specific about the purpose of data use, especially in the case of personal data. Ensure that there is a legitimate reason for collecting and using data. Place the needs of citizens at the centre of data activities. Ensure data is representative and fit for purpose.
6. Define boundaries for data collection, access, sharing and use. In the case of personal data, the minimum amount of data necessary for the defined purpose should be collected.
7. Be clear, inclusive and open. Governments should be transparent about what data is collected, when and how it is collected, and for what purpose. Governments should take steps to ensure data literacy among the population so that they may be educated consumers and understand the implications of data use.
8. Publish open data and source code. Open government data policies support socio-economic benefits, foster citizen engagement and ensure transparency, accountability, and public scrutiny of governments' decisions and policy outcomes.
9. Broaden individuals' and collectives' control over their data. Individuals and communities should have decision-making power and agency over their data, including to freely give or withdraw content to its use. This links to the principles of self-sovereign identity.

Case Study SSI: DigiLocker, India

Explore at: <https://www.digilocker.gov.in/>

Key Features:

- A 'digital wallet' stores credentials
- Multiple access and identification verification options
- Linked data exchanges
- Verification or authentication by issuing organisations
- Consent of the individual for exchanges

Poll 1

Introducing some Innovations in Qualifications, Frameworks and Standards

Overview of Technology-based Innovations in QFs

INNOVATIONS LIKE...

Qualifications Passports	Stackable Credentials
Personalized Learning	Stealth Assessment
Credit Banks	Micro-credentials
Digital Credentials	Virtual Assessment
Enhanced Labour Market Intelligence	Learning Management Systems

CONTRIBUTE TO...

Skills identification and the development of qualifications
Comparison and analysis of QFs
Registration and management of QFs

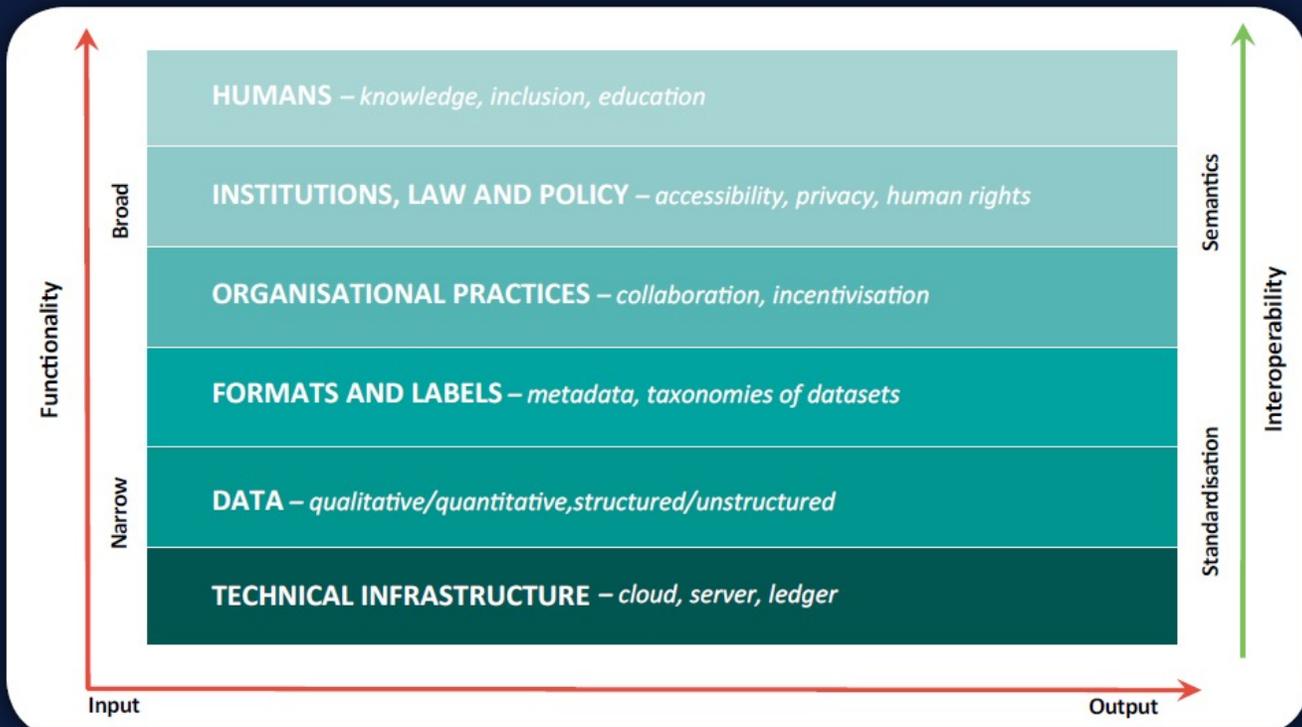
USING INNOVATIONS LIKE...

Flexible Credential Pathways	Recognition of Prior Learning
Competency Based Education/ Assessment	Self-sovereign Identity
Interoperability	Credential Fluency
Artificial Intelligence	

Databases and Database Management Systems

Interoperability

Figure 8: The Data Commons Framework (adapted from Goldstein et al., 2018)



Adapted from the Berkman Klein Center, 2018

Activity

The Cedefop Skills and Labour Market dashboards are based on the interoperability of different databases and data sources including surveys, internet data and official statistics. This is an example which shows some of the things that can be achieved through interoperability and the advantages to qualifications and associated processes.

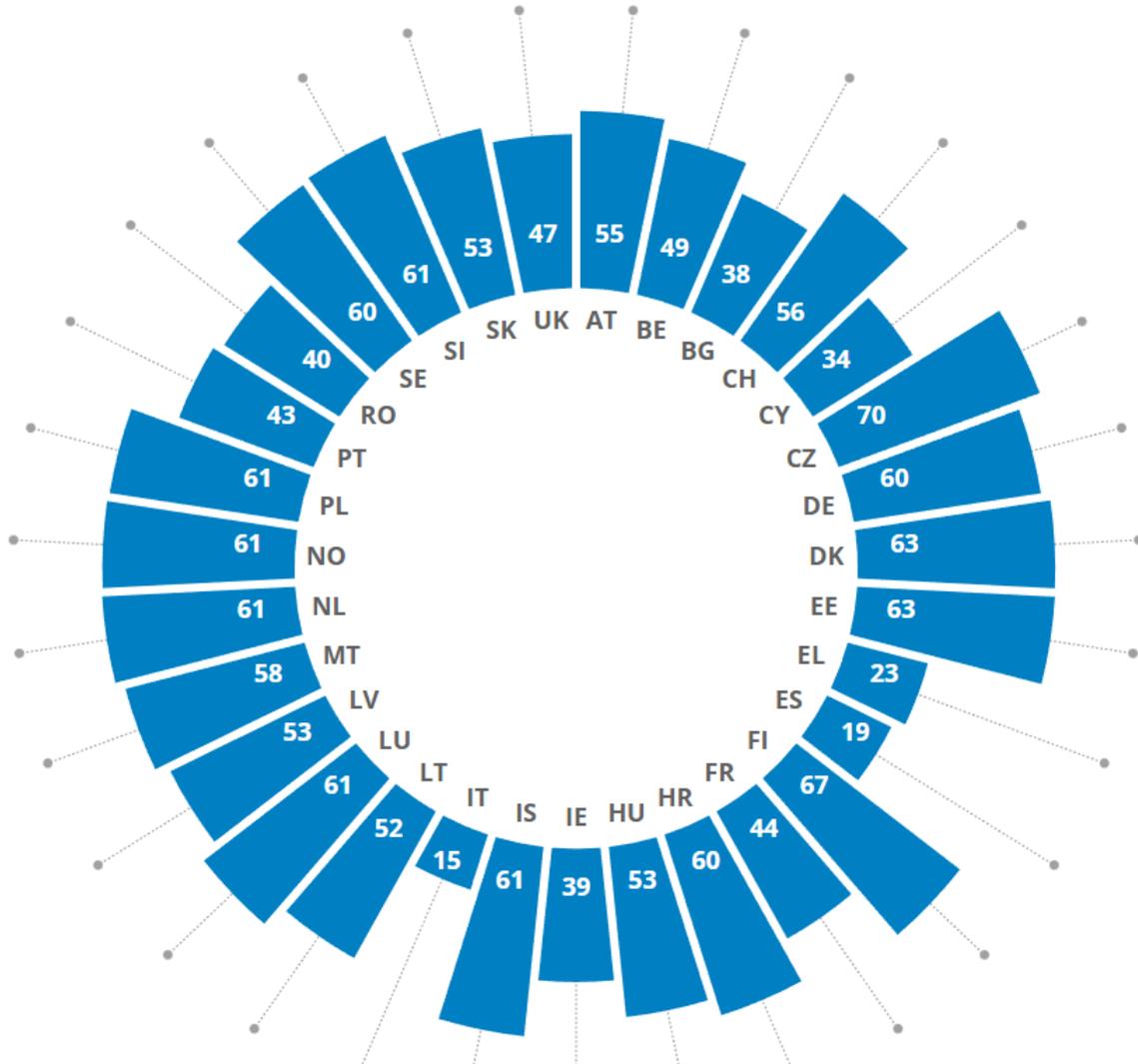
Click on the following links to explore some of the dashboards and uses of data by Cedefop.

- <https://www.cedefop.europa.eu/en/tools/european-skills-index> - performance of countries
- <https://www.cedefop.europa.eu/en/tools/skills-intelligence/digital-skills-use?year=2019#1> - percent of individuals by country with digital skills
- <https://www.cedefop.europa.eu/en/tools/skills-online-vacancies> shows a new method of labour market intelligence gathering using aggregated data from online job adverts

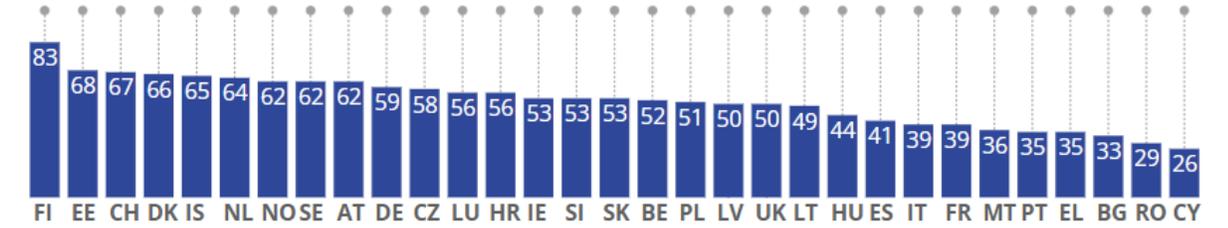


1. What are the benefits to interoperable data ecosystems?
2. How can interoperable data systems assist in your own country context?

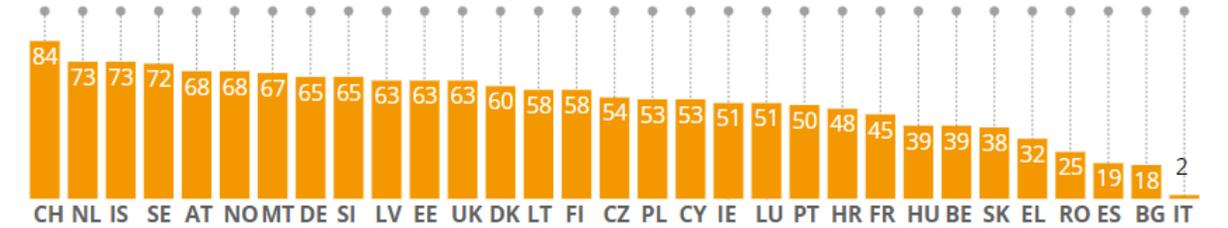
Performance of countries



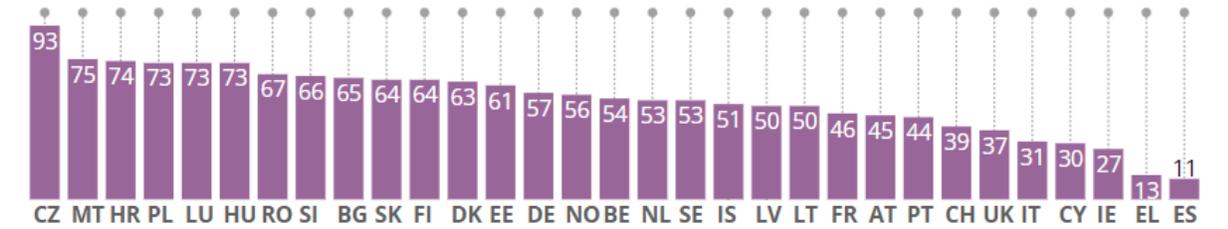
Skills Development



Skills Activation



Skills Matching



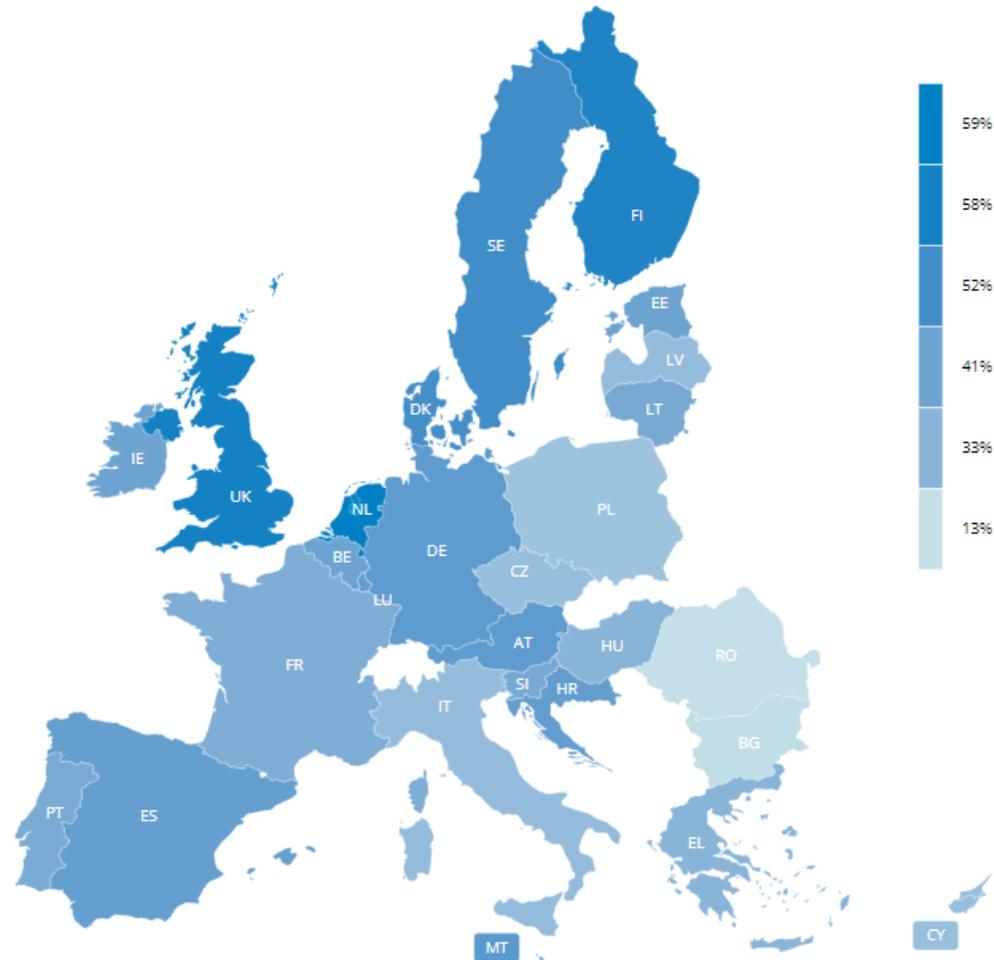
<https://www.cedefop.europa.eu/en/tools/skills-intelligence/digital-skills-use?year=2019#1>

Percent of individuals by country with digital skills

Year

2019

Share of All in employment in 2019 with above basic digital skills across European countries



Data insights

LIST ALL 155

Digital skills use

Digital skills: Challenges and opportunities

Developing digital - or ICT - skills has been a policy priority in the past years, given rapid technological change in sectors and occupations. But the contribution of digital skills goes far beyond this. Digital skills are an enabler of citizenship in societies and a driver of efficient and just...

Impact of COVID-19 on the use of Europass

Do enterprises use training to support their technological innovations?

Blog article

LIST ALL 35

Digital skills use

Impact of digitalisation and AI on skills

Automation of work and skills

Jobs and skills: An online match

Online job vacancies (OJV) have become a key channel for employers to attract talent.



Select a country:

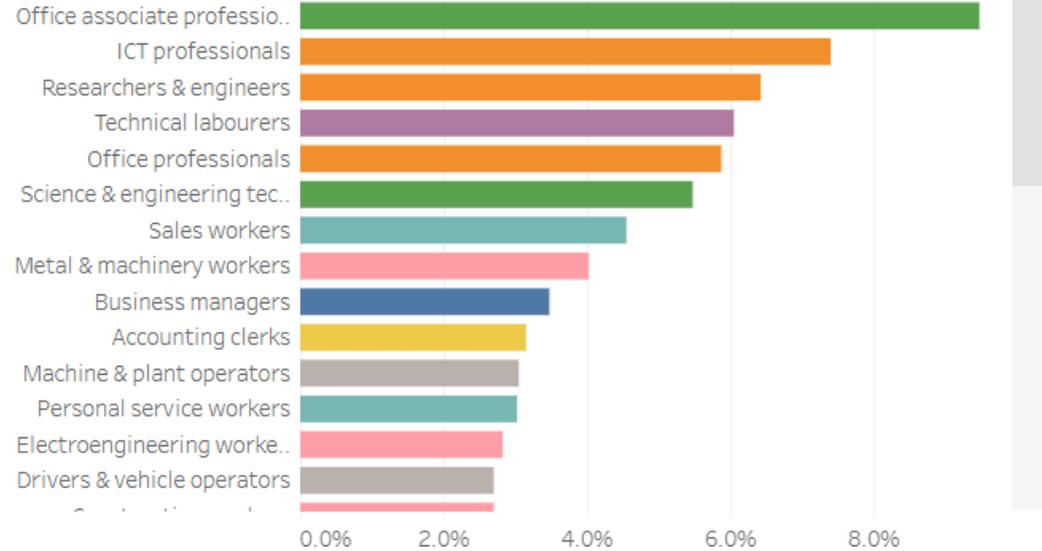
Select a skill classification:

Data on: Q3 2020 – Q2 2021

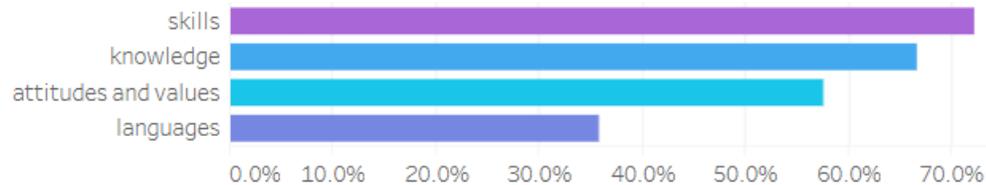
OJAs by sector



OJAs by occupation (2-digit ISCO)



Most requested skills: level 0 ESCO



Most requested skills: level 3 ESCO





1. What are the benefits to interoperable data ecosystems?
2. How can interoperable data systems assist in your own country context?

Poll 3



How do open badges leverage interoperability?
How can open badges contribute to skills recognition?
How can digital credentials contribute to self-sovereign identity?

Digital Credentials

Digital credentials are digital forms of any kind of credential or certification, and include formal and non-formal learning, macro and micro-credentials. Digital credentials can include things like licenses, certifications, season tickets and of course qualifications.

Advantages of Digital Credentials:

- Security
- Flexibility
- Mobility

An *Open Badge* contains verifiable metadata about achievements according to a common data format. Open Badges can be combined by an individual and shared, and can be verified by any compatible system.

Introduce Guest Speaker...

Thank you!

Your feedback is appreciated at any time

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