Minimum Viable Skillsets and Fair By Design – methodologies for effective training

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On behalf of WP2 with slides developed by Angus Whyte, Sonja Filiposka, Dominique Green

Digital Curation Centre

Skills 4 eosc

Supporting eosc

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UK Research and Innovation

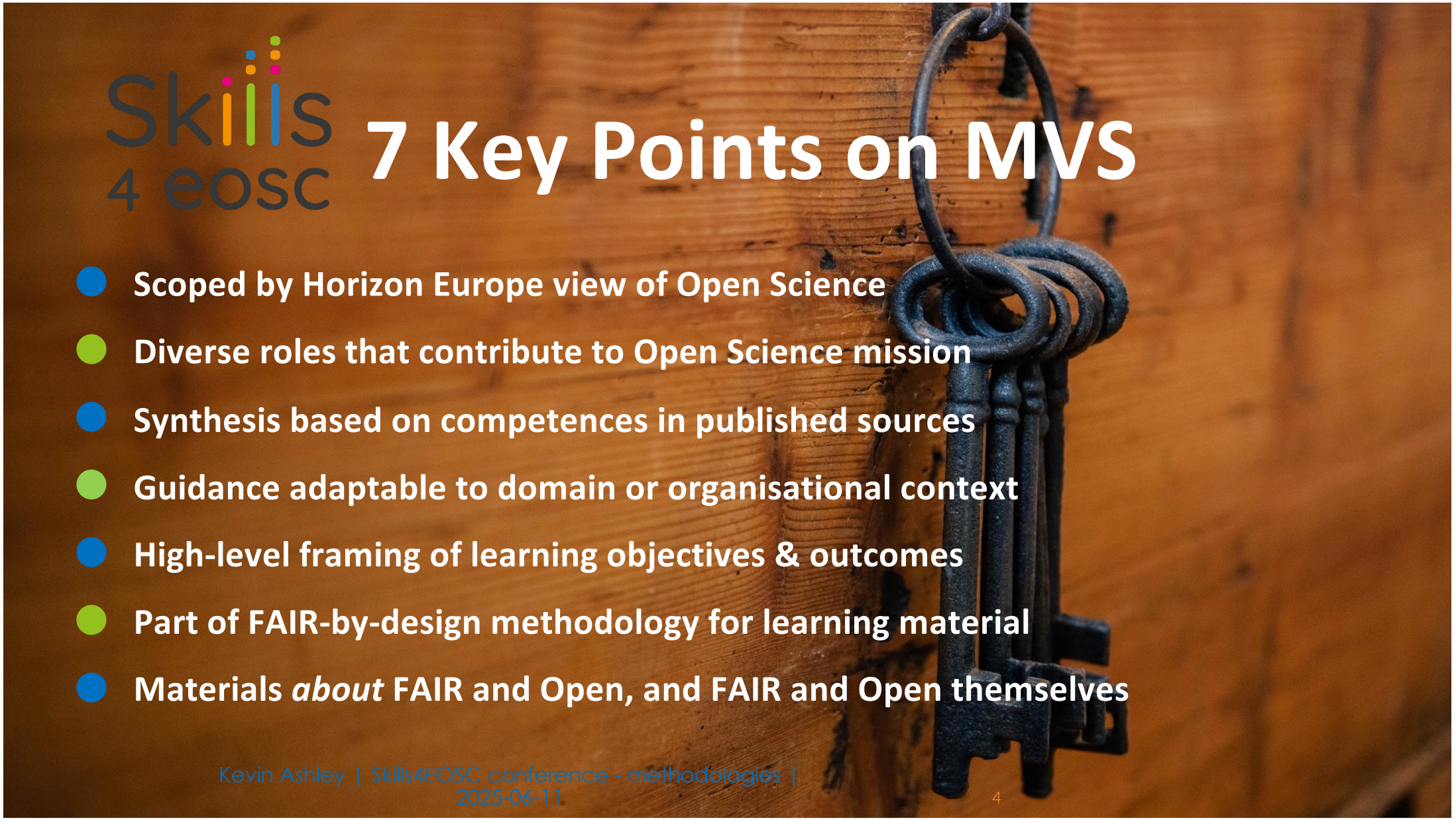
Two Skills4EOSC outputs

1. Minimum viable skillsets (MVS)
   - Defining roles and associated skills and capabilities
   - Multiple uses – I'll describe some
2. FAIR-by-design methodology

   A means of ensuring that learning materials are intrinsically FAIR

MVS approach to profiling essential skills

- Profile EOSC actor roles, considering how they ‘typically’ are expected to contribute
- Based on review of relevant sources e.g. competence frameworks, policy statements



7 Key Points on MVS

- Scoped by Horizon Europe view of Open Science
- Diverse roles that contribute to Open Science mission
- Synthesis based on competences in published sources
- Guidance adaptable to domain or organisational context
- High-level framing of learning objectives & outcomes
- Part of FAIR-by-design methodology for learning material
- Materials *about* FAIR and Open, and FAIR and Open themselves

MVS – content and purpose

What is in the MVS?

- The MVS lists skills and competencies needed by someone in a particular open science role
- Also includes assumptions about the organisational context and mission
- Uses skills terms from existing taxonomies (include ESCO)

What is it for?

- Producing training materials
- Finding appropriate training
- Career development
- Writing job descriptions
- Building a team
- .....

How the Profiles have Evolved

- Initial profiles developed in WP2 of Skills4EOSC – building on work going back to EOSCPilot
- New profiles co-created with other parts of project - Digital Collections Curator and Scholarly Communications Professional
- Structure and content evolved through feedback:
  - Existing MVS format re-structured to put essential skills first
  - Edited to respond to feedback from use in training tasks, as well as edits for clarity and length
- Open Science Skills Terms include terms from ESCO ontology, aiming to match essential skills, and prompt trainers' thinking about learning outcomes
- Recent evaluation survey provided very positive feedback

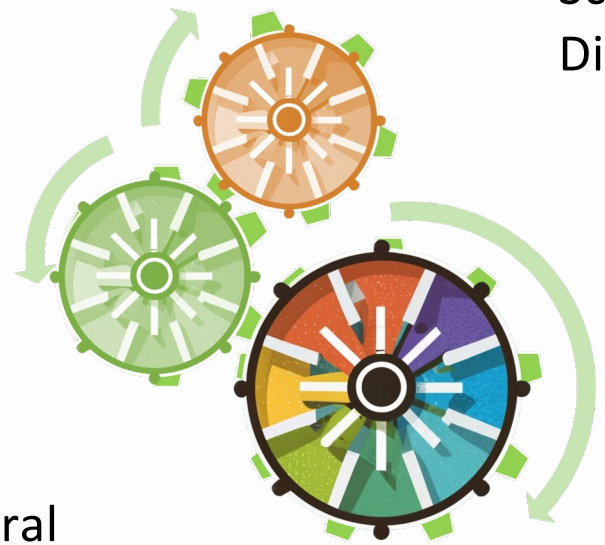
Open Science Roles Targeted

- Span different contexts
- Organisational
- Domain
- Career stage
- Others also relevant!

MVS Describe Diverse Roles

Available since 2023*

Data Steward
Legal Expert
Ethics Advisor
Knowledge Broker
Masters Student
Undergrad Student
Senior Researcher
Early Career Researcher
Policymaker – Research/ General
Research Infrastructure Professional



Upcoming June 2025

Scholarly Communications Specialist
Digital Collections Curator

* Currently published MVS are here: https://zenodo.org/records/8101903

A closer look – (Policymaker)

Describe their job

Research Policy/Decision Maker Facilitating Open Science

Research Policy/Decision Makers act as facilitators for the development and promotion of Open Science policies. They create frameworks and provide the necessary support to promote the adoption of OS practices at national and international levels. This includes mobilizing resources, building partnerships, and ensuring policies align with OS principles like FAIR.

•**Associated function titles:** Research Policy Maker, Science Policy Facilitator, Strategic Policy Advisor.

Evidence-informed Policy and Decision maker

Evidence-informed Policy and Decision Makers gather, assess, and synthesize credible research data to design policies addressing specific societal or scientific issues. They ensure that policy decisions are data-driven and aligned with the principles of Open Science, considering the relevance and quality of evidence to inform their decisions.

•**Associated function titles**: Policy Designer, Open Science Data Analyst, Policy Advisor.

Example 1) Policymaker–contribution to OS outcomes

Describe what outcomes they contribute to

Contributes to which Open Science outcomes? – Research role	Contributes to which Open Science outcomes? – Decision-maker role
• Frameworks and incentives are established to enhance the implementation of Open Science, with the financial commitment to ensure its continuous support. • Appropriate partnerships with key stakeholders are established. • A team of Open Science experts is built up to inform policy implementation	• Thorough research is carried out of of available open data to identify information that is timely, relevant and credible. • Citizens and researchers are consulted appropriately considering the specificity of their activity (scientist vs. politician) and role (honest broker vs. issue advocate). • Gathered information is synthesised to enable design of a policy relevant to the specific issue.

Policymaker–activities

Describe their activities

Main activities – Research role	Main activities – Decision-maker role
• Promotes and supports OS. • Engages all the appropriate target audiences & key stakeholders. • Identifies actions to advance policies on FAIR and OS at the relevant level (e.g. national, thematic). • Understands the importance of addressing gaps in provision of digital skills for FAIR and OS. • Promotes digital skills for data intensive science transferable across different sectors. • Sets up policies or a strategic framework which serve to promote a preferred course of action and could include financial support research.	• Identifies available OS outcomes relevant to an issue that requires a policy. • Collaborates with expert communities for elicitation, review and evaluation of data and design of a policy. • Deploys appropriate policy outcome monitoring and evaluation designs based on OS evidence. • Ensures inclusiveness in evidence's production and evaluation. • Promotes and supports OS as a source of evidence.

Policymaker– essential skills

List their skills

Essential skills and competences – Research role	***Essential skills and competences – Decision maker role***
• In-depth understanding of science practice, OS and FAIR principles and practices. • Expertise in establishing appropriate strategies, frameworks and courses of action to foster and enhance OS. • Ability to relate OS practices to the interests of Research Performing Organisations, Funders, and other stakeholders. • Ability to assess the financial sustainability of policy outcomes. • Knowledge about Intellectual property rights and non-personal data management. • Knowledge of Ethical principles, frameworks and codes of conduct applicable to research. • Knowledge of legal issues related to data governance including data use agreements	• Basic understanding of OS/ FAIR principles. • Knowledge of OS services, resources and research practices that produce evidence relevant to the decision-making context. • Expertise in applying evidence from OS to the decision-making context, considering the opportunities, limitations, and constraints. • Knowledge management: synthesising outputs of research and consultation, identifying their relevance to specific issues and stakeholders. • Basic knowledge of research integrity principles, frameworks and ethical codes. • Knowledge of the responsible use of data-driven technologies.

Why FAIR Learning Materials?

Enhanced discoverability	• Easily find learning materials
Improved accessibility	• Makes learning more inclusive
Increased reusability	• Saves time and resources
Facilitates collaboration	• Promotes sharing and adaptation
Supports open education	• Contributes to a global learning community

The result is Fair For All – both learners and educators

Minimum FAIR Requirements

F

- **Metadata** is provided in human- and machine-readable format
- Resource is **indexed** in at least one searchable repository

A

- **Accessibility** of all learning resource files checked
- **Access rules** (authentication & authorisation) defined for the learning resource

I

- The RDA minimal (or domain specific) **metadata schema** is used
- Resource is available in **open file formats**

R

- Clear **attribution** is provided for all reused resources with compatible licenses
- Resource has a **permissible license** that allows derivations

Methodology again

FAIR-by-Design Methodology

Backward Instructional Design Empowered with FAIR principles

Focusing on both learners and peer instructors

01/PREPARE | **02/DISCOVER** | **03/DESIGN** | **04/PRODUCE** | **05/PUBLISH** | **06/VERIFY** + CONTINUOUS IMPROVEMENT

1. Do you understand FAIR and its implications?
2. Define purpose, learning objectives, target audience.

1. Find existing resources.
2. Identify potential for reuse:
   - attribution;
   - tools & format.

1. Define syllabus and structure:
   - facilitation materials;
   - granularity.
2. Decide on licence.

1. Develop content:
   - compatibility.
2. Define metadata.
3. Internal QA check.

1. Release to public:
   - for learners & instructors.
2. Ensure accessibility:
   - define attribution.
3. Enable feedback gathering.

1. Final QA check.
2. Add to training catalogue.
3. Use gathered feedback for continuous improvement.

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FAIR-by-D

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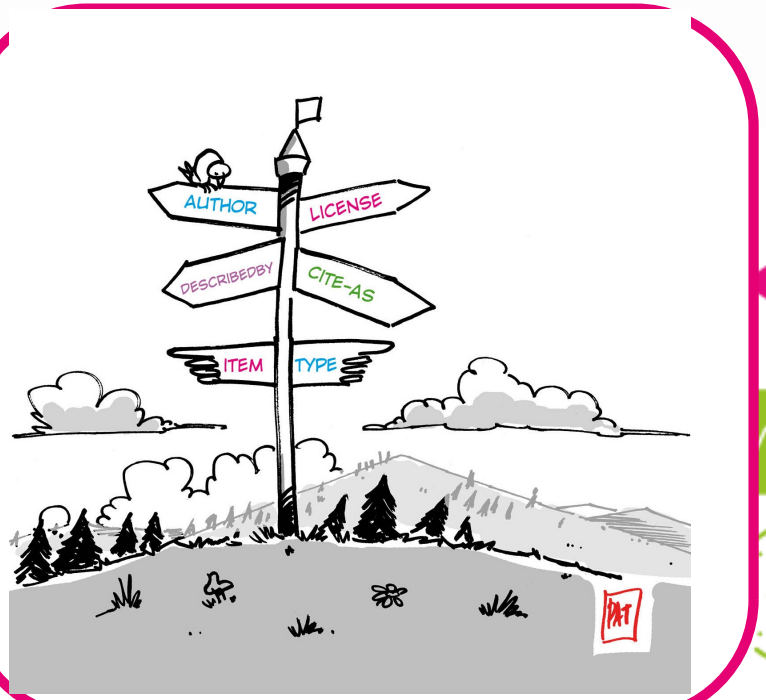

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Questions, comments?

Thank you!

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