



FAIRsFAIR

Fostering Fair Data Practices in Europe

How to get FAIR into university curricula and teaching – A handbook to support higher education institutions

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18 November 2021, FAIRsFAIR National Roadshow in Estonia

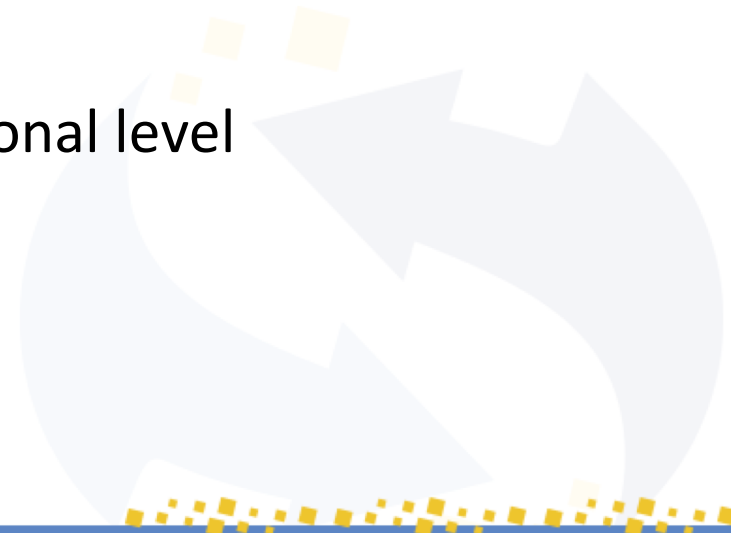


FAIRsFAIR "Fostering FAIR Data Practices In Europe" has received funding from the European Union's Horizon 2020 project call H2020-INFRAEOSC-2018-2020 Grant agreement 831558

#FAIRsFAIR

Overview

- FAIRsFAIR work to support universities
- FAIR Competence Adoption Handbook – overview
- Content of the handbook
 - Skills and competences
 - Teaching and training designs
 - Lesson Plans
 - Implementing FAIR at the institutional level

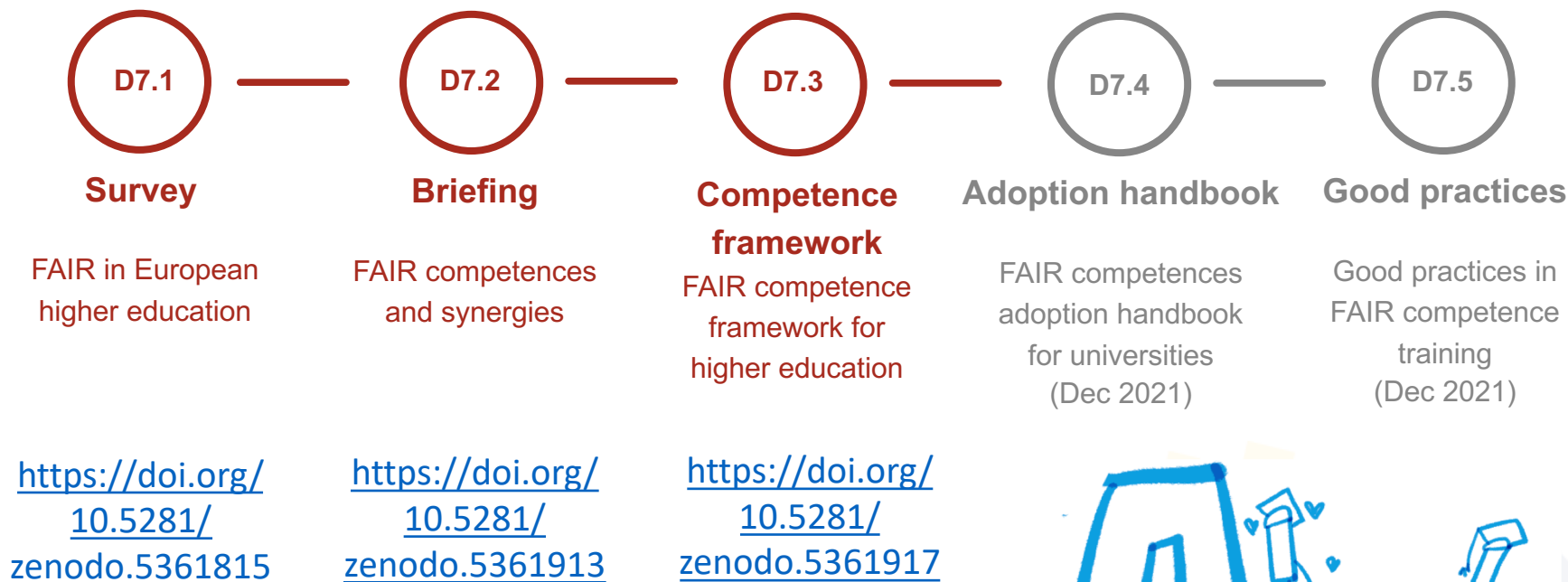


FAIRsFAIR work to support the integration of FAIR-related content in curricula & training

- Map the current integration of FAIR principles in university curricula and teaching and **analyse the landscape of available FAIR data trainings** in Europe
- Deliver a **FAIR data competence framework** for higher education and professionals to support the development of a FAIR data culture and the uptake of FAIR data principles
- Translate the competence framework into **model curricula and university courses**
- Support **embedding of FAIR data education in university programmes and doctoral training** through a series of workshops and knowledge-sharing activities



Progress



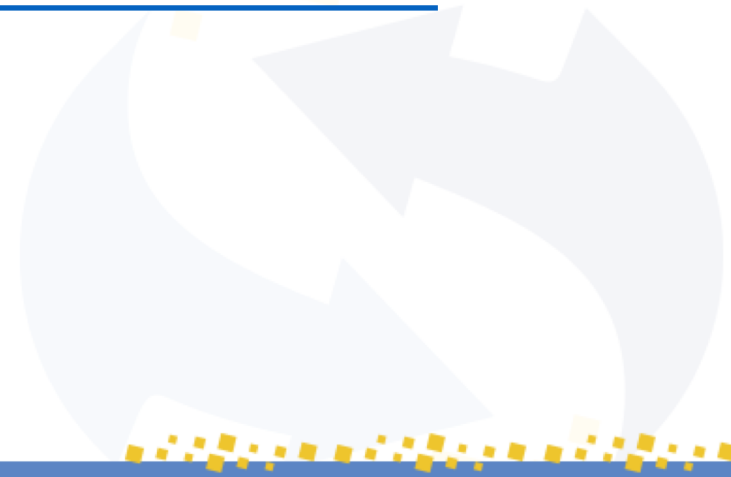
How to be FAIR with your research data – A teaching and training handbook for HEIs

■ **Purpose:**

provide guidance and practical support with integrating the FAIR principles and related content into curricula and teaching

■ To be published in mid-December 2021

■ DOI: <https://doi.org/10.5281/zenodo.5665493>



Collaborative creation of the handbook

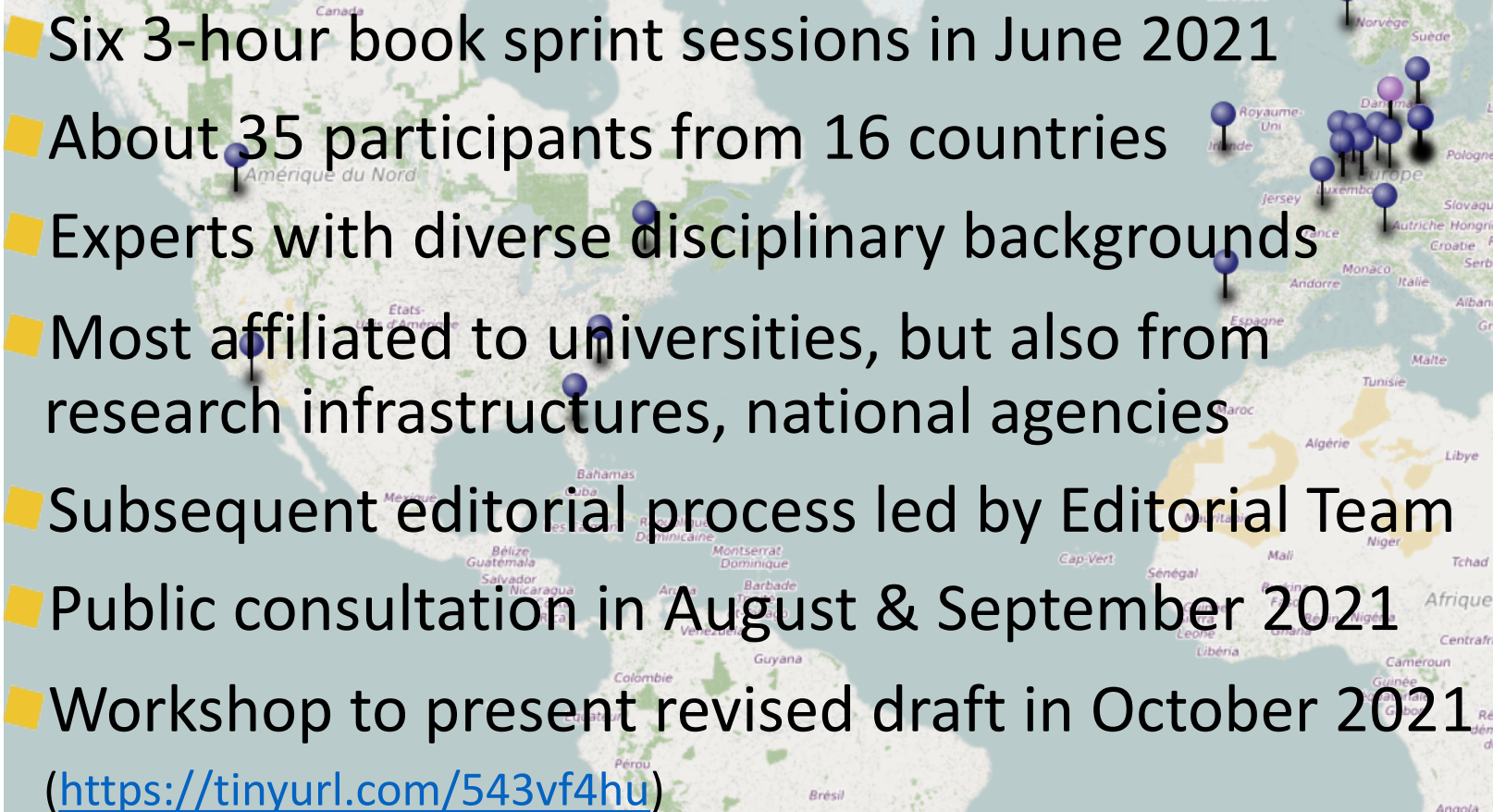
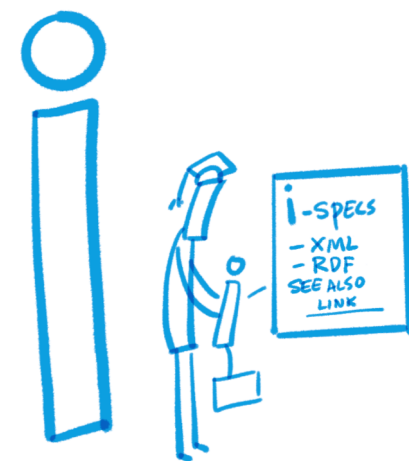
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- Six 3-hour book sprint sessions in June 2021
 - About 35 participants from 16 countries
 - Experts with diverse disciplinary backgrounds
 - Most affiliated to universities, but also from research infrastructures, national agencies
 - Subsequent editorial process led by Editorial Team
 - Public consultation in August & September 2021
 - Workshop to present revised draft in October 2021
- (<https://tinyurl.com/543vf4hu>)

Image from [OpenStreetMap](#)

Target audience(s) of the Handbook

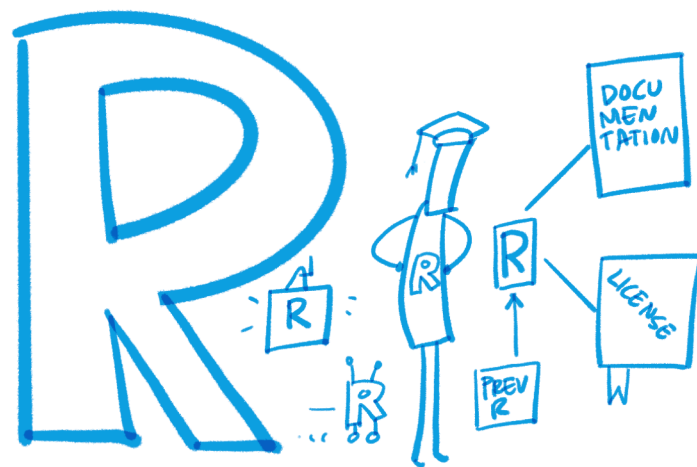
HEI staff members who

- Create and teach lessons and courses,
e.g. lecturers, professors, trainers
- Design, adapt and implement curricula,
e.g. doctoral programme managers, deans
- Train and consult PhD students and
early career researchers ,
e.g. support staff, lecturers, trainers
- Implement FAIR in institutional strategies, policies,
administrative workflows etc.
e.g. vice rectors/presidents, offices of research



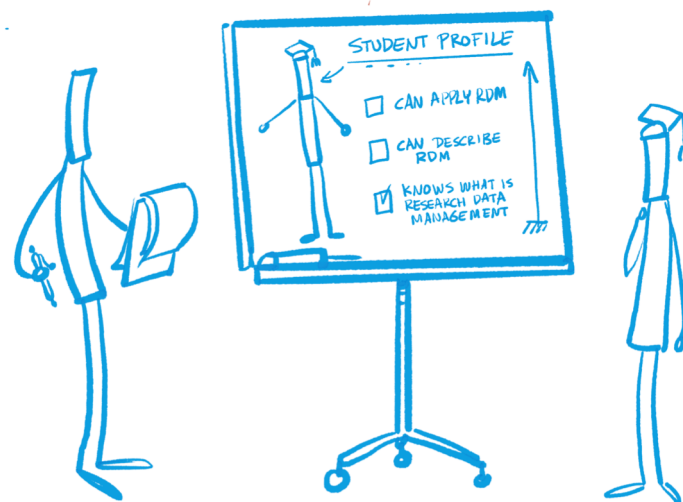
Content – overview

- 1 Motivation
- 2 About this book
- 3 FAIR Skills and Competences
- 4 Teaching and training designs for FAIR
- 5 FAIR lesson plans
- 6 Implementing FAIR



Chapter 3: FAIR Skills and Competences

- FAIR Competence Profiles
(bachelor, master and doctoral level)
- Learning Outcomes
(bachelor, master and doctoral level)
- Based on "FAIR Competence Framework for Higher Education"
(DOI: 10.5281/zenodo.5361917)
& experience and expertise
of authors



PAT.

Table 2: Competence profiles for the bachelor, master and doctoral level

Topic	Bachelor (required level)	Master (required level)	PhD (required level)	Entry-level content?
General principles and concepts in data management – overview	basic	intermediate	advanced	yes
Overview of data types, data type registries and data formats	basic	basic	intermediate	yes
Metadata, metadata formats, standards and registries	basic	intermediate	advanced	yes
Open Research, Open Access, Open Data	basic	intermediate	advanced	yes
Metadata management, registries and publication	basic	basic	intermediate	no
Persistent Identifiers (PID), Open Researcher and Contributor ID (ORCID), Research Organization Registry (ROR)	basic	basic	intermediate	yes
FAIR (Findable, Accessible, Interoperable, Reusable) principles in	basic	basic	intermediate	yes

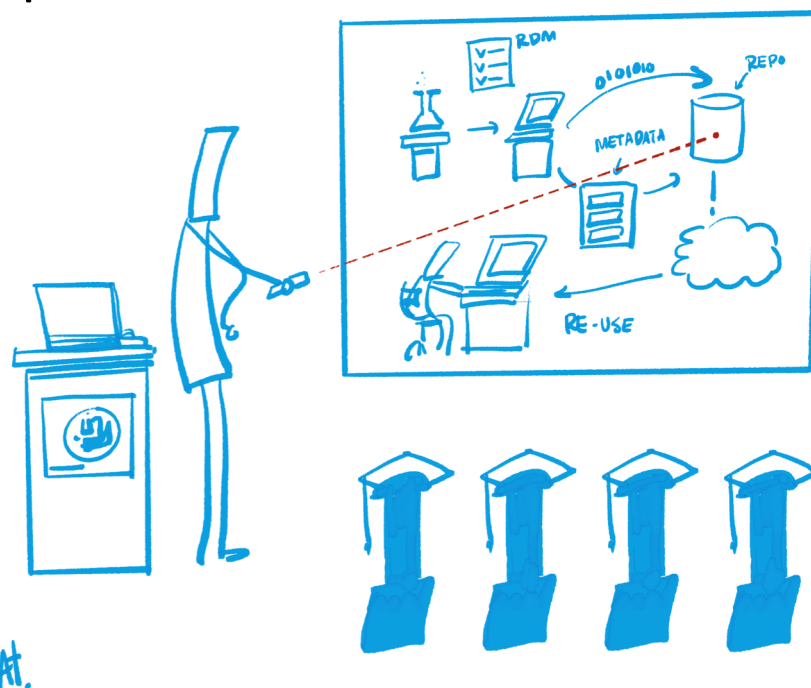
Table 5: Entry-level content including learning outcomes – doctoral level

Topic	Required level	Learning outcomes [b]=basic, [i]=intermediate, [a]=advanced]
General principles and concepts in data management – overview	advanced	<ul style="list-style-type: none"> - [b] Can define Research Data Management (RDM) and can describe its relevance and benefits. - [i] Can describe RDM measures to be taken (including explaining why) at different stages of the research process. - [a] Can practically apply theoretical knowledge about proper RDM measures to be taken at different stages to their own research process/project.
Overview of data types, data type registries and data formats	inter-mediate	<ul style="list-style-type: none"> - [b] Can describe what types of data exist (Knowledge). - [b] Can explain what data type registries are (Knowledge). - [b] Can identify data formats (Knowledge). - [i] Can determine proper data types for a resource (Analyse). - [i] Can use a data type registry (Apply). - [i] Can use proper data formats to express resources (Apply).
Metadata, metadata formats, standards and registries	advanced	<ul style="list-style-type: none"> - [b] Can describe types of metadata. - [b] Can recognise metadata formats.

Chapter 4: Teaching and training designs

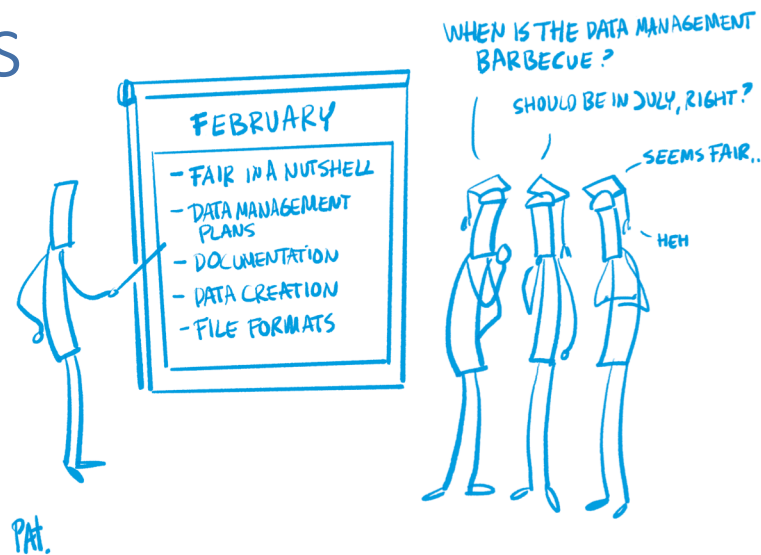
■ Phases of course design

- Select/Identify Learning Outcomes
- Select/Develop Learning Experiences
- Select content
- Identify/develop assessments
- Evaluate course effectiveness



Chapter 5: Lesson Plans

- FAIR in a nutshell
- DMPs
- Documentation
- Data Creation
- File Formats
- Data Standardisation and Ontologies
- PIDs
- Licences, Copyright, IPR
- Data reuse
- Repositories
- Sensitive data & ethical aspects



- Data Access
- FAIR Software/citable code
- RDM – overview & best practices
- Data Management and Governance in Industry and Research

Chapter 6: Implementing FAIR

- Getting to FAIR institutional policies
- Data Management Planning
- Data processing and documentation
- Support Infrastructure
- Data Publication
- Data reuse





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Thank you!
Questions?

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