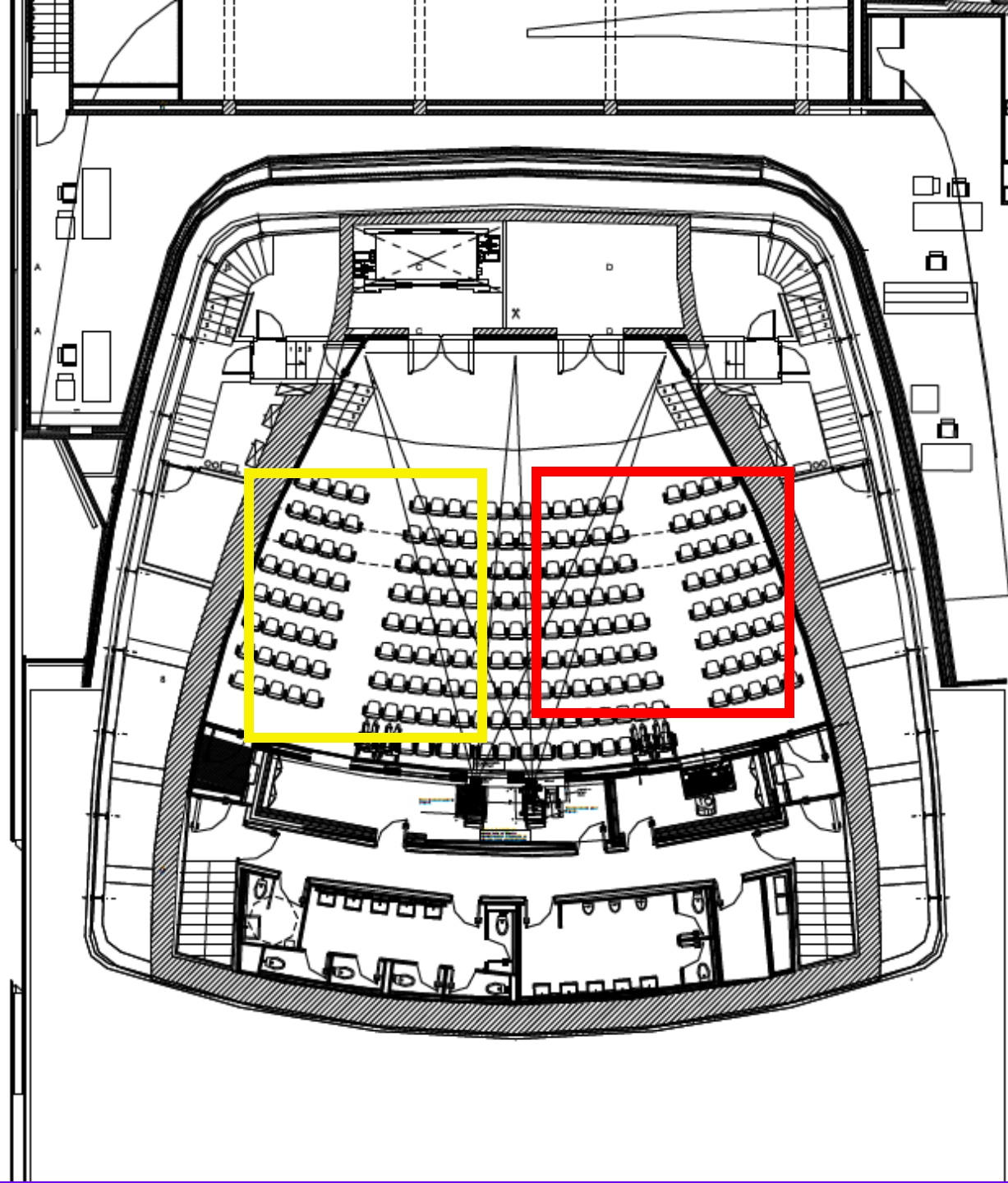# DIGITAL SKILLS FOR FAIR AND RESPONSIBLE OPEN SCIENCE

Bienvenido!
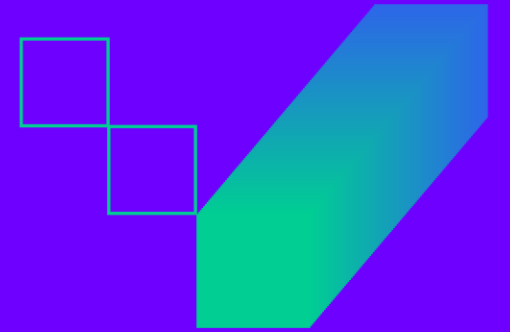
Please take you seat

Yellow: PATTERN learning engagement group work (left)
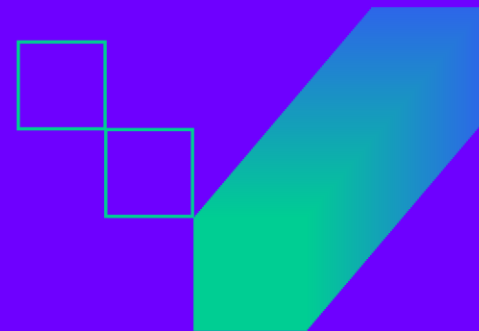
Red: PATTERN quality group work (right)

DIGITAL SKILLS FOR FAIR AND RESPONSIBLE OPEN SCIENCE

PATTERN and Skills4EOSC with EOSC-A Data Stewardship Curricula and Career Paths Task Force

Our goals:

promote new approaches to address competence gaps in Open Science (OS) and Responsible Research and Innovation (RRI)

clarify the role profiles and career paths of data professionals

help design high quality FAIR learning resources for learners and educators

What would you like to see happening in Open and Responsible Science in the next 5-10 years?


SCAN THIS CODE or
Go to

https://ahaslides.com/JTUR3

Mapping of training in Open Science and RRI and Quality criteria PATTERN

Promoting the practice of **Open and Responsible Research and Innovation (Open RRI)** amongst researchers at all stages of their careers by:

❖ **developin**g and **piloting** training activities

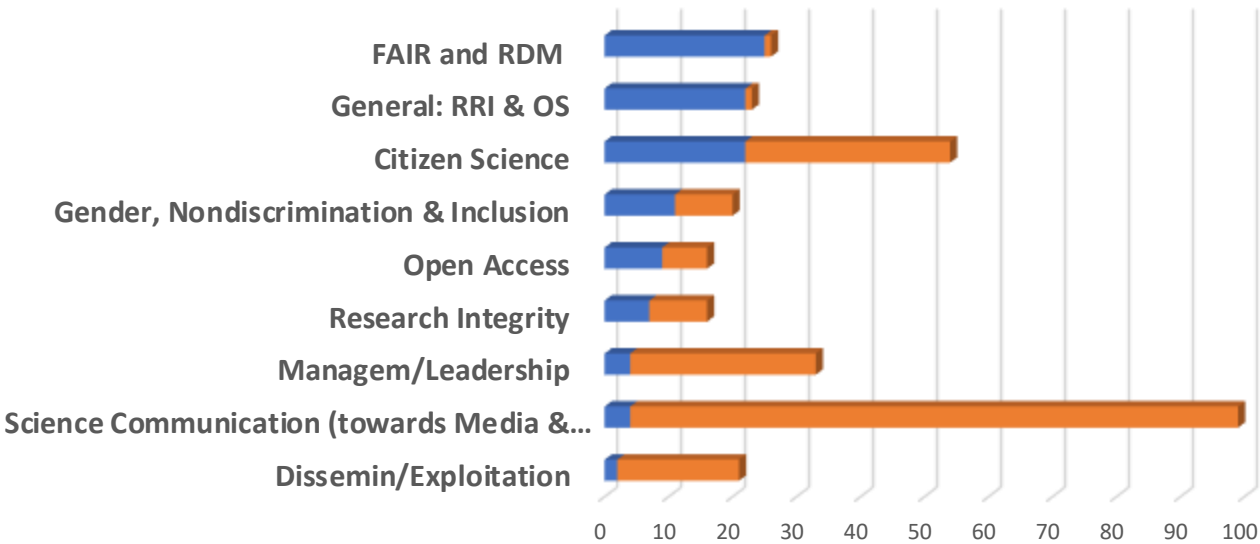❖ creating a **platform** to track **learning paths** of researchers

14 Partners

5 Affiliated Entities

13 European countries

Funded by
the European Union
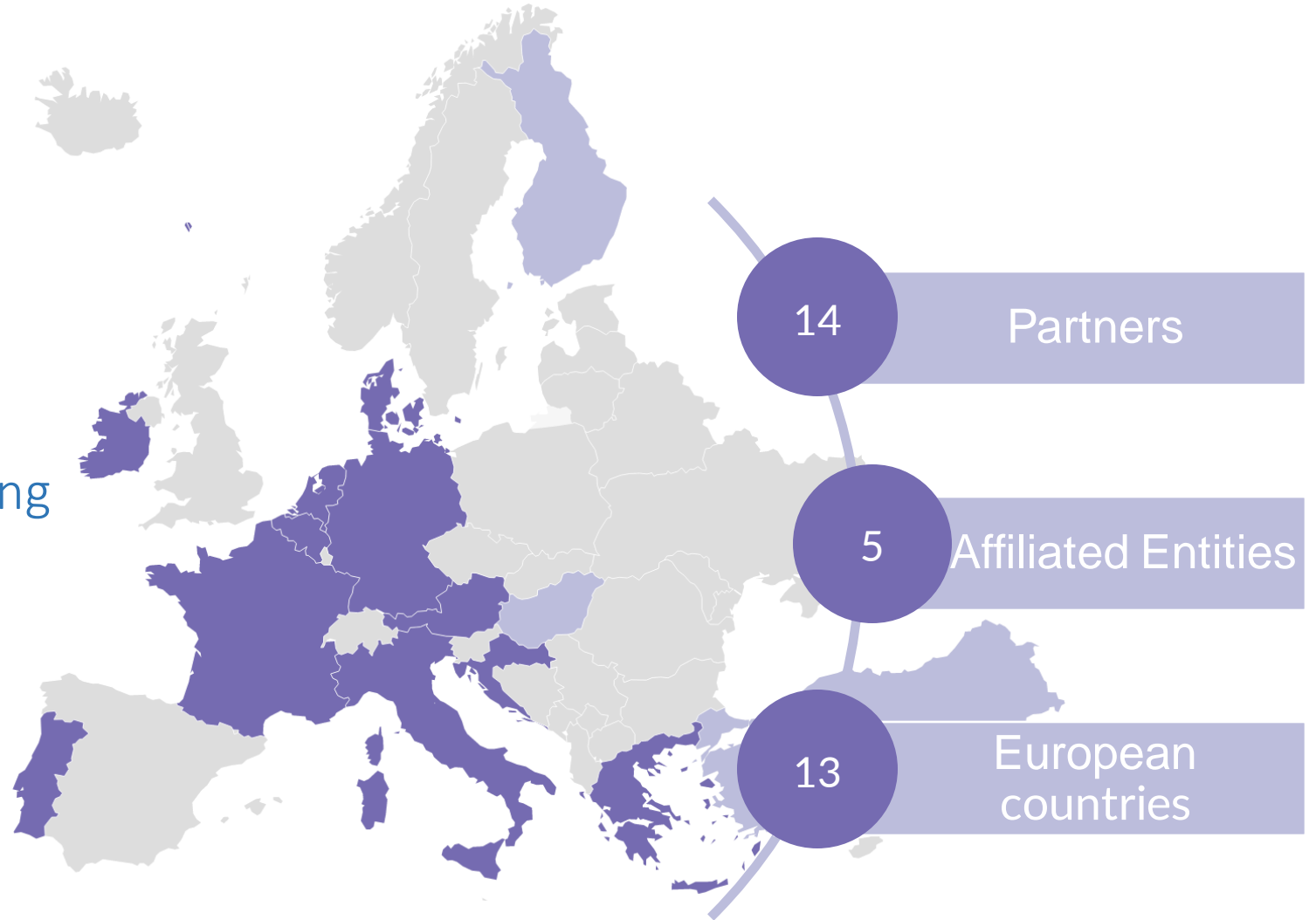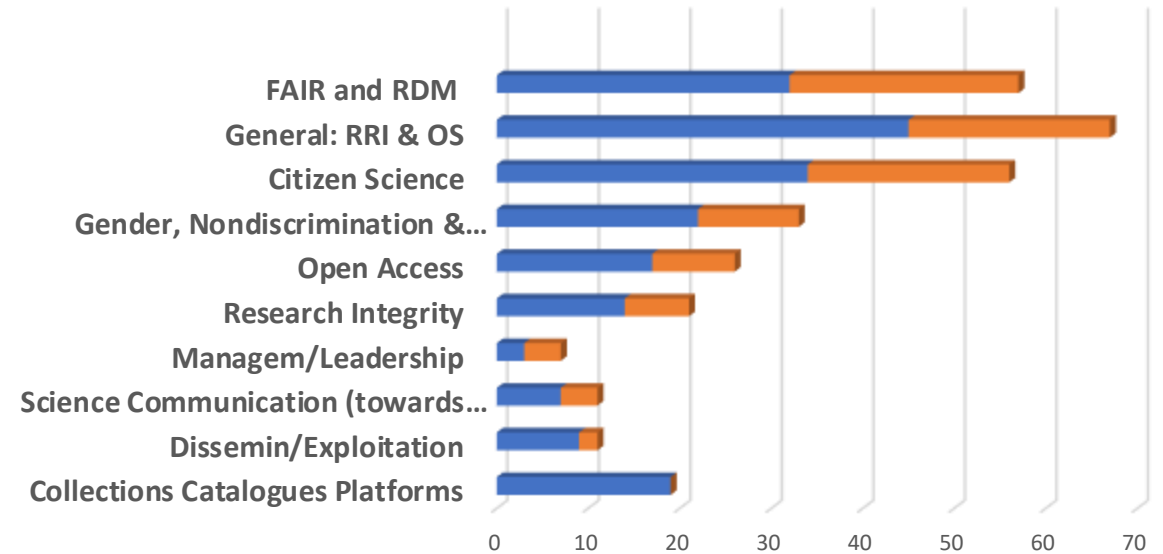
PATTERN – our mapping results

➢ **556** training resources in total, strong dominance of *English*, but some resources in *Italian, German, French, Spanish, Croatian, Portuguese, etc.*

Course, E-learning module, workshop

- FAIR and RDM
- General: RRI & OS
- Citizen Science
- Gender, Nondiscrimination & Inclusion
- Open Access
- Research Integrity
- Managem/Leadership
- Science Communication (towards Media &...
- Dissemin/Exploitation

■ open access, digital trainings for researchers
■ including in person and paid or restricted access

Non-course training material

- FAIR and RDM
- General: RRI & OS
- Citizen Science
- Gender, Nondiscrimination &...
- Open Access
- Research Integrity
- Managem/Leadership
- Science Communication (towards...
- Dissemin/Exploitation
- Collections Catalogues Platforms

■ open access, digital resources
■ including paid or restricted access

6

What is for you a good quality resource?

The resource is relevant

Metadata available

The resource is easy to access

The resource clearly describes its aims, goals and methods

The resource is easy to implement and adapt

Readability and legibility: well structured, clear language, attention to formatting

Good image and sound quality

The resource has been evaluated with good results (additional)

Source: EU-citizen.science project

Motivation, engagement and identifying pitfalls in **learning** PATTERN

Learning:
The complex and long-term psychosocial process consisting of the **individual** <u>acquisition</u> or modification of *information, knowledge, understanding, attitudes, values, skills, competencies or behaviours* <u>through</u> *experience, practice, study or instruction*.

(Adapted from: UIS 2012)

Dimensions of learning:

- Behavioral: learning environment

- Cognitive: mental structures, internal organization of knowledge, acquisition of knowledge, information processing.

- Constructivist: prior knowledge and/or experience; expected outcomes.

(Source: Kridel 2010)

Which 3 words would you use to define **Motivation**? (use 3 words)
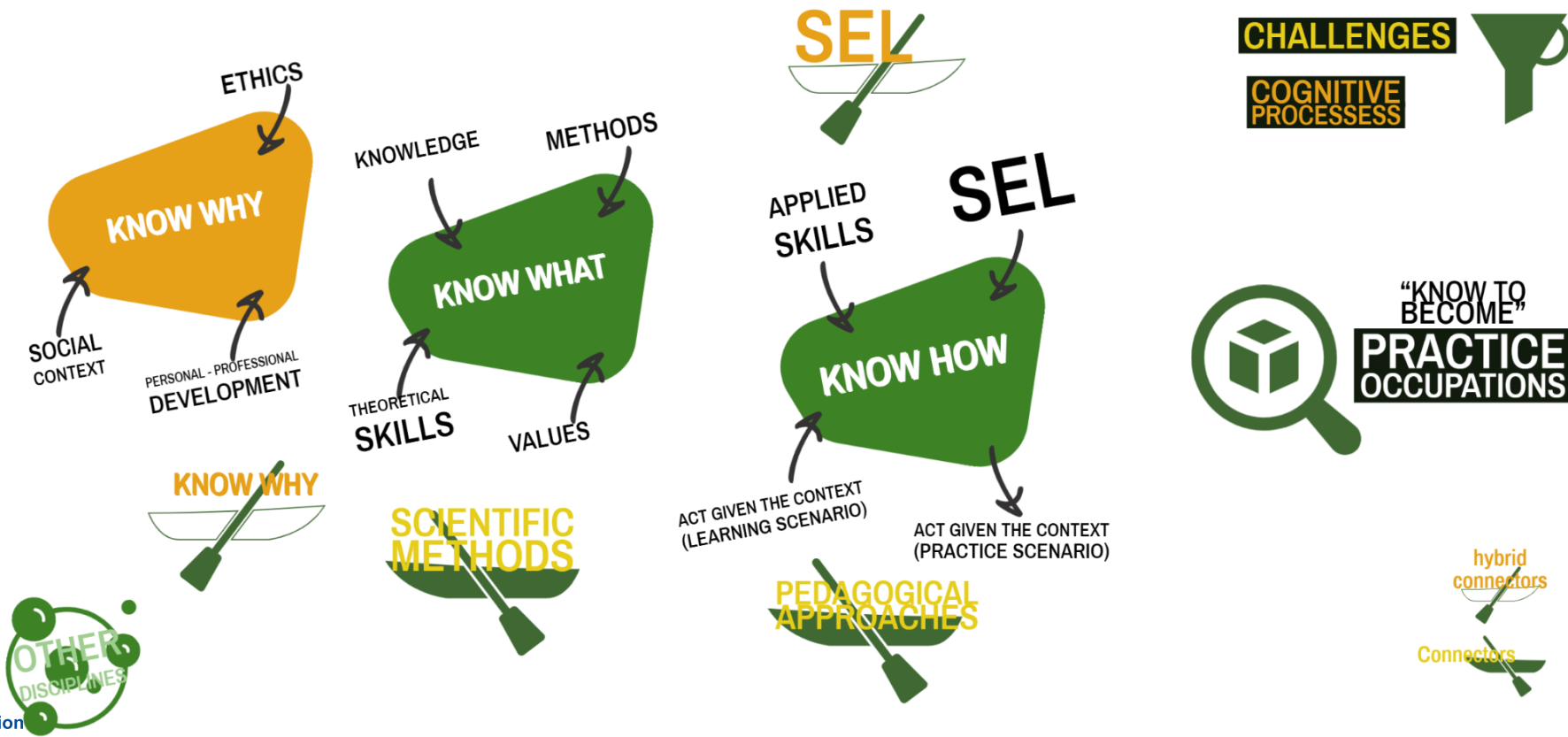

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Motivation, engagement and identifying pitfalls **in learning** PATTERN

(STEM) Competencies Model
Competencies = Knowledge, Skills, Attitudes and Values

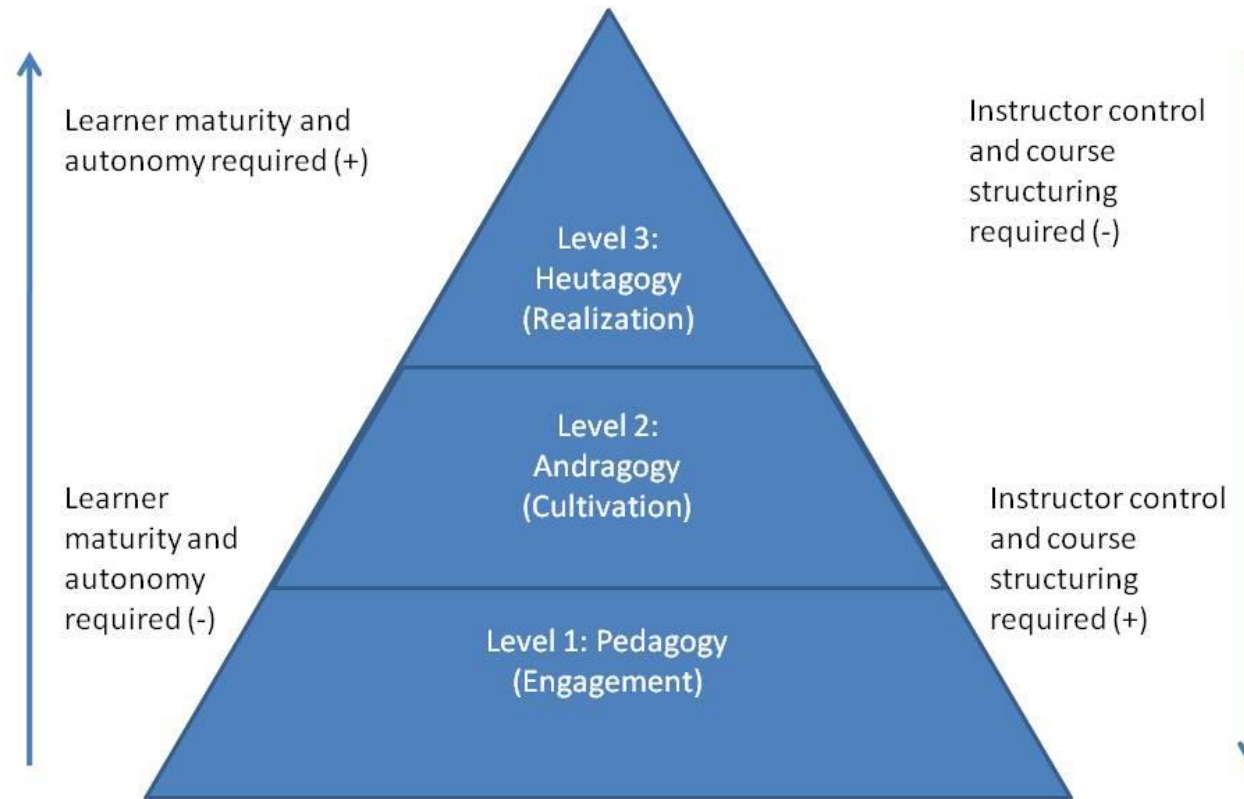# Motivation, engagement and identifying pitfalls in **learning** PATTERN

Digital Pedagogical Methods for Engagement:
Link between Andragogy and Heutagogy

Andragogy (self-directed learning)	Heutagogy (self-determined learning)
Single-loop learning: Problem -> Action -> Outcomes (Eberle & Childress, 2005)	Double-loop learning Problem -> Action -> Outcomes <-> Belief and Actions (Eberle & Childress, 2005)
Competency Development	Capability Development self efficacy / knowing how to learn and reflect on the learning process, communication and teamwork, creativity applying competences to new and unfamiliar situations, values (Cairns, 2000)
Linear design and learning approach	Non-linear design and learning approach
Instructor-learner directed	Learner directed
Getting beneficiaries to learn by knowledge and challenges	Getting beneficiaries understand how they learn (process) and for what (impact)

Motivation, engagement and identifying pitfalls in **learning** PATTERN

**Digital Pedagogical Methods for Engagement:**
Link between Andragogy and Heutagogy

Learner maturity and autonomy required (+)

Instructor control and course structuring required (-)

Level 3: Heutagogy (Realization)

Level 2: Andragogy (Cultivation)

Level 1: Pedagogy (Engagement)

Learner maturity and autonomy required (-)

Instructor control and course structuring required (+)

Source: Progression from pedagogy to andragogy then to heutagogy (based on Canning, 2010, as shown in Blaschke, 2012)

Motivation, engagement **and identifying pitfalls in learning** PATTERN

Digital Tools for Learning
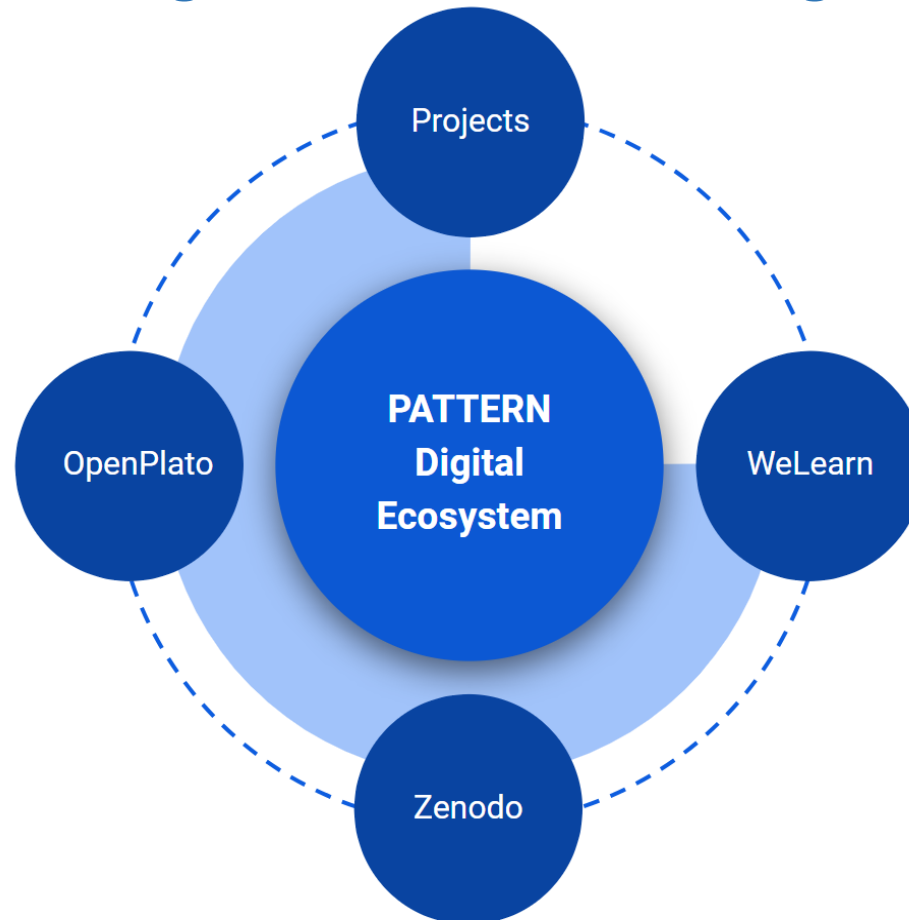
Further Work:

Inter-connection

Assessment Strategies

Analyzing Evidence

Validation and Certification

Feedback and Planning

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Mutual learning and co-creation in groups

Miro board exercise with guiding questions will take us through:
1) Challenges
2) lines of action
Followed by a discussion of:
3) methods/criteria, 4) existing projects, and 5) opportunities

Suggested participants' roles

Time management
👥 1 participant

Linking
👥 ≥ 1 participant

Moderation
👥 1 participant

Scrib
👥 ≥ 2 participants

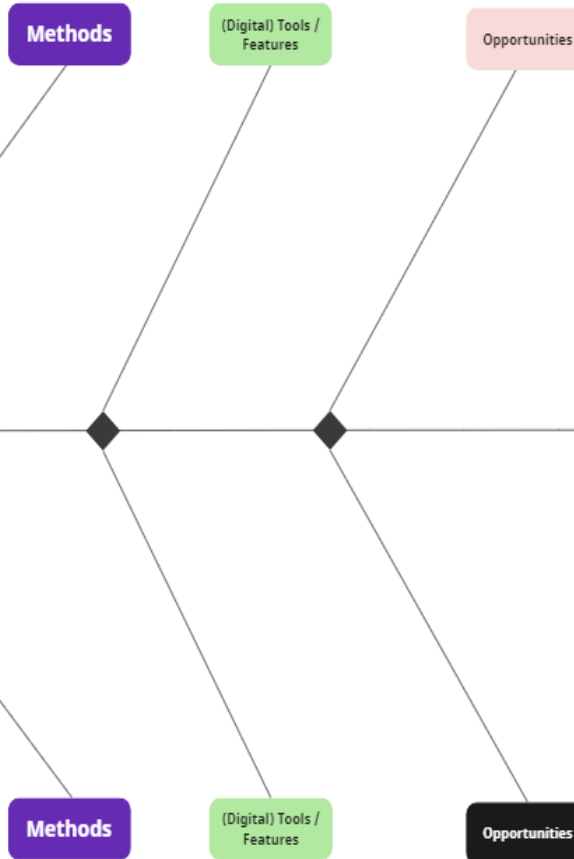suggestion: participants that have used Miro before

Miro board

Challenges, what are they?

Quality group work:
What current challenges you are facing, or are aware of, in your work regarding Open RRI and Digital training?

Learning motivation group work:
What current challenges you are facing, or aware of, regarding motivation and engagement of researchers in Open RRI digital training?

4 min

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Main Lines of Action

Considering the challenges just discussed, take a couple of minutes to identify 2-3 areas of action to work on next

2 min

Methods/criteria?

Quality group work:

Which **criteria** do you suggest for identifying good quality training resources, to address needs and challenges in training? (Add examples of good training resources if you like)

Learning motivation group work:

Map existing **methodologies** used for motivation and engagement of researchers in Open RRI digital training, could you also mention some examples?

4-5 min

Existing projects/tools?

Quality group work:
Do a group mapping of active projects working on delivering quality training on Open RRI

Learning motivation group work:
Could you share existing engaging (digital) tools for researchers training?

4-5 min

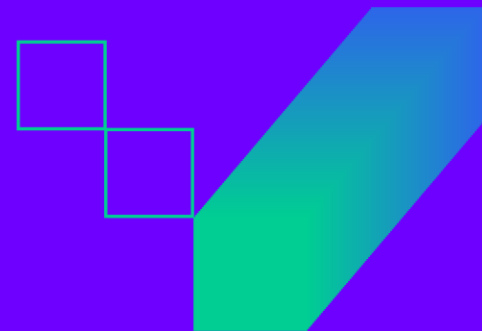# **Opportunities?**

Quality groups:
take a look at the challenges, criteria and existing projects – what are the most important unsolved questions/problems/challenges in Open RRI training in terms of:

quality?
learning motivation?

4-5 min

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Time is up, thank you!!!

Would any moderators like to say a few words?