



Open Science Trails

Machine-actionable DMPs - for controlling and empowering support for research

17.5.2024

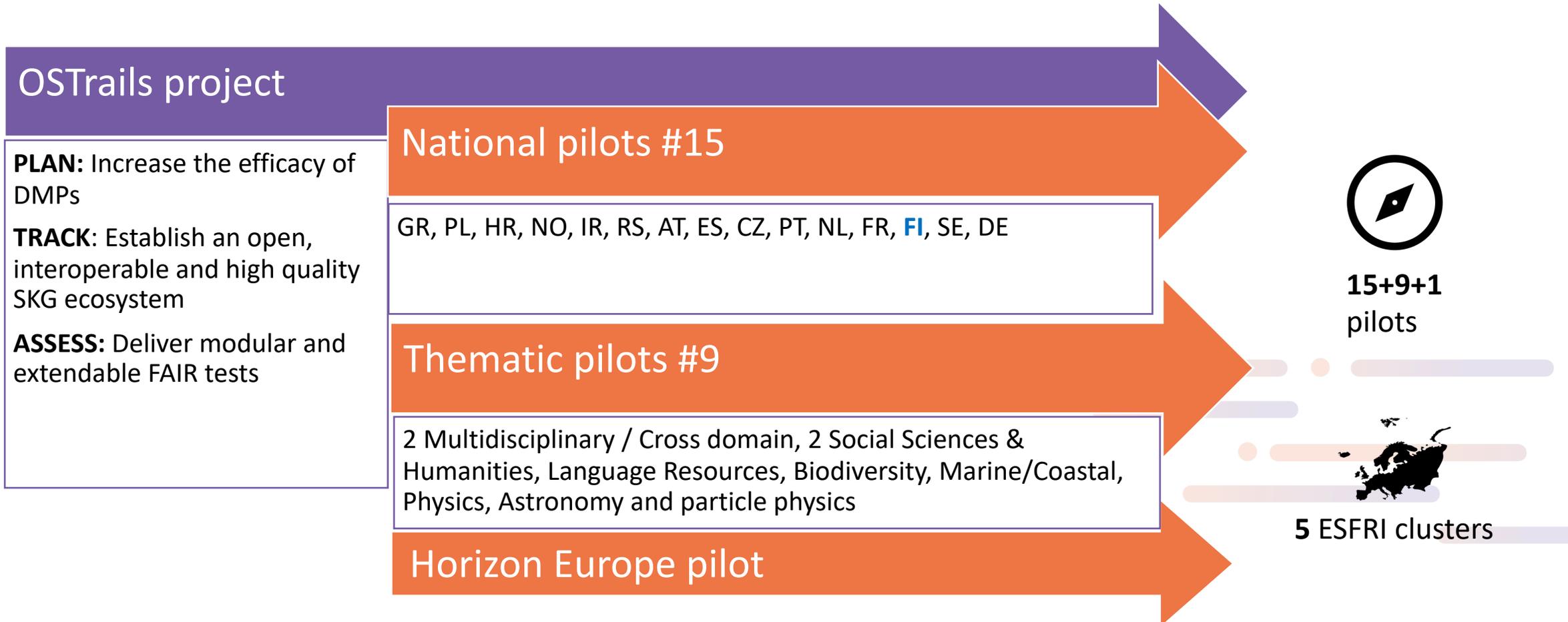
Johanna Laiho-Kauranne



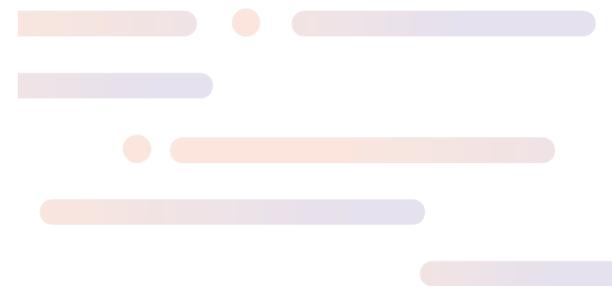
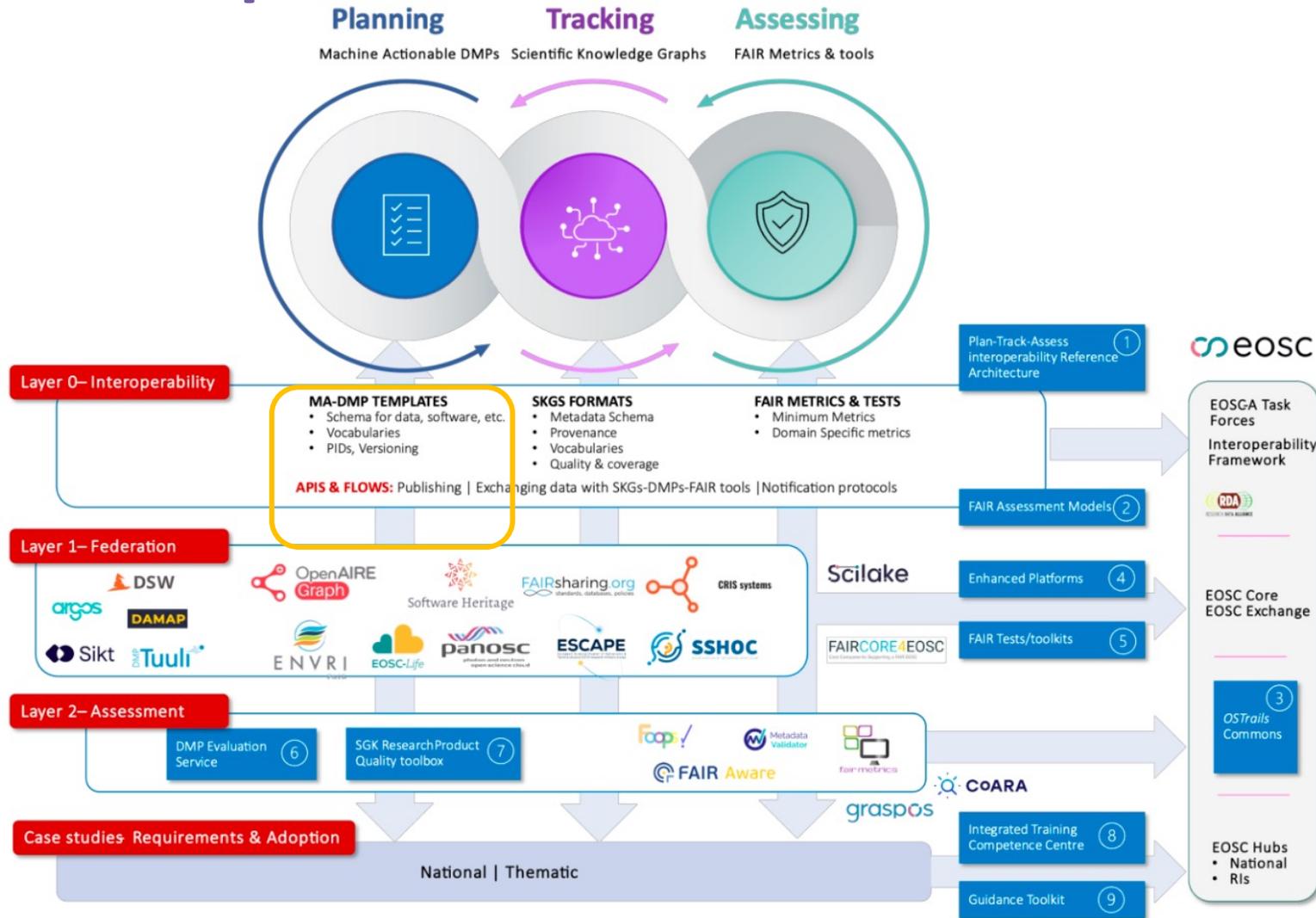
Walking the pathways together

OTrails project – Putting FAIR into practise

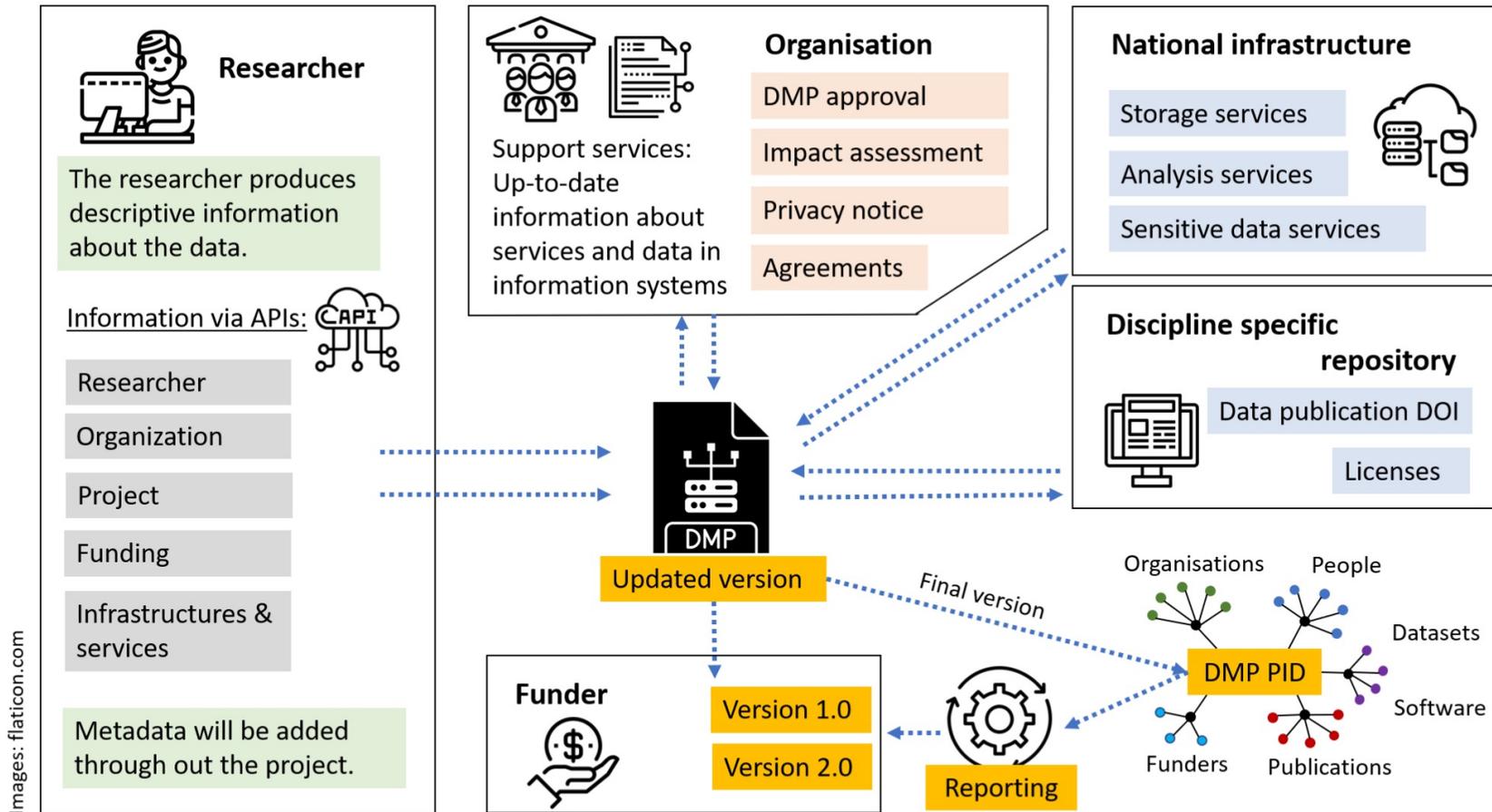
OTrails FI Pilot in co-creation with other pilots



OStrails - Open Science Plan-Track-Assess Pathways



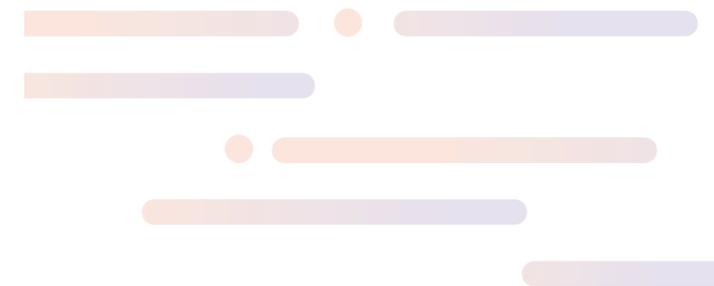
Core idea of the machine actionable Data Management Plans - maDMPs



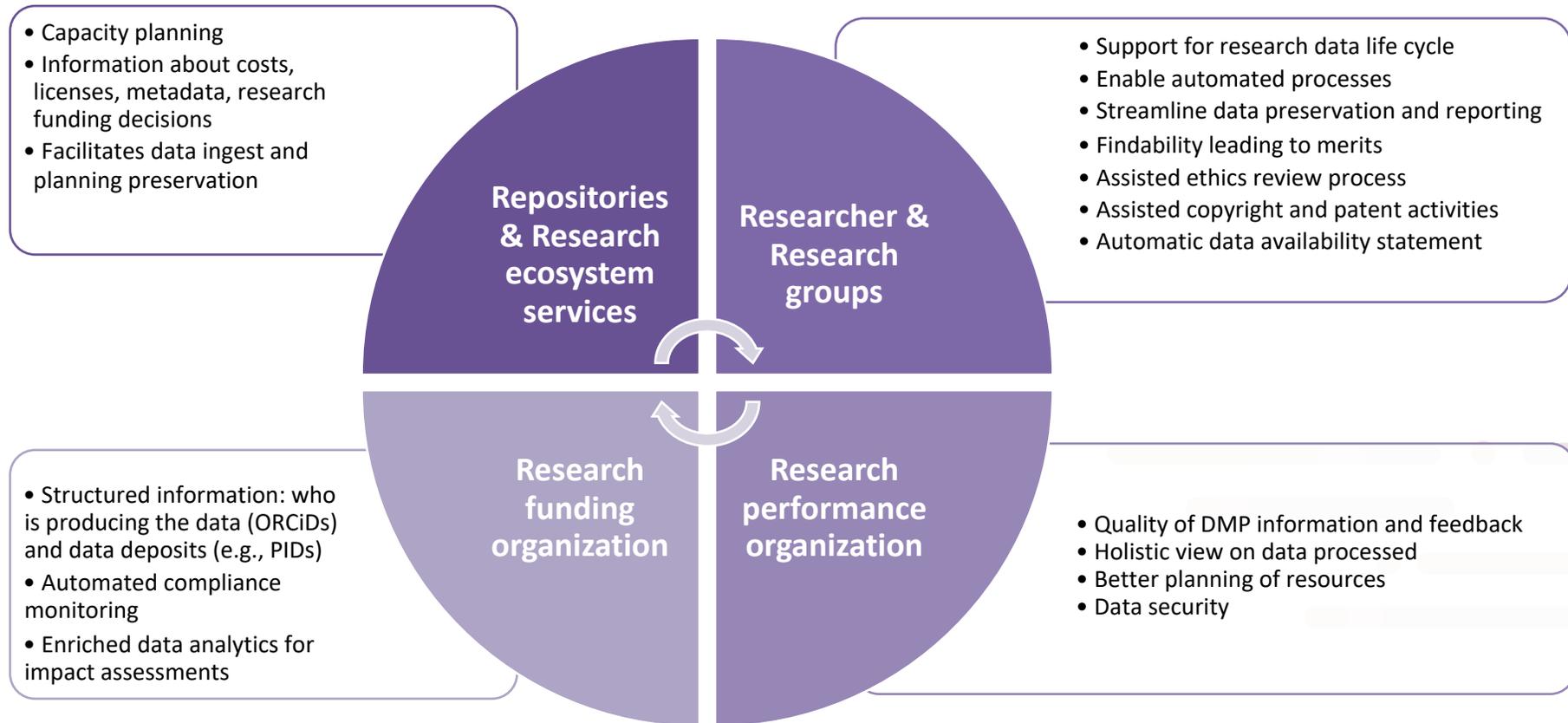
Our aim in OStrails
Turning DMPs from static narratives to living, interconnected resources

Making DMPs the instrument of choice for assessing and improving quality of RDM

Images: flaticon.com



Benefits of machine actionable data management plans (maDMPs) - as integral part of research practise



Improve the experience for all involved by exchanging information across research tools and systems and embedding DMPs in existing workflows

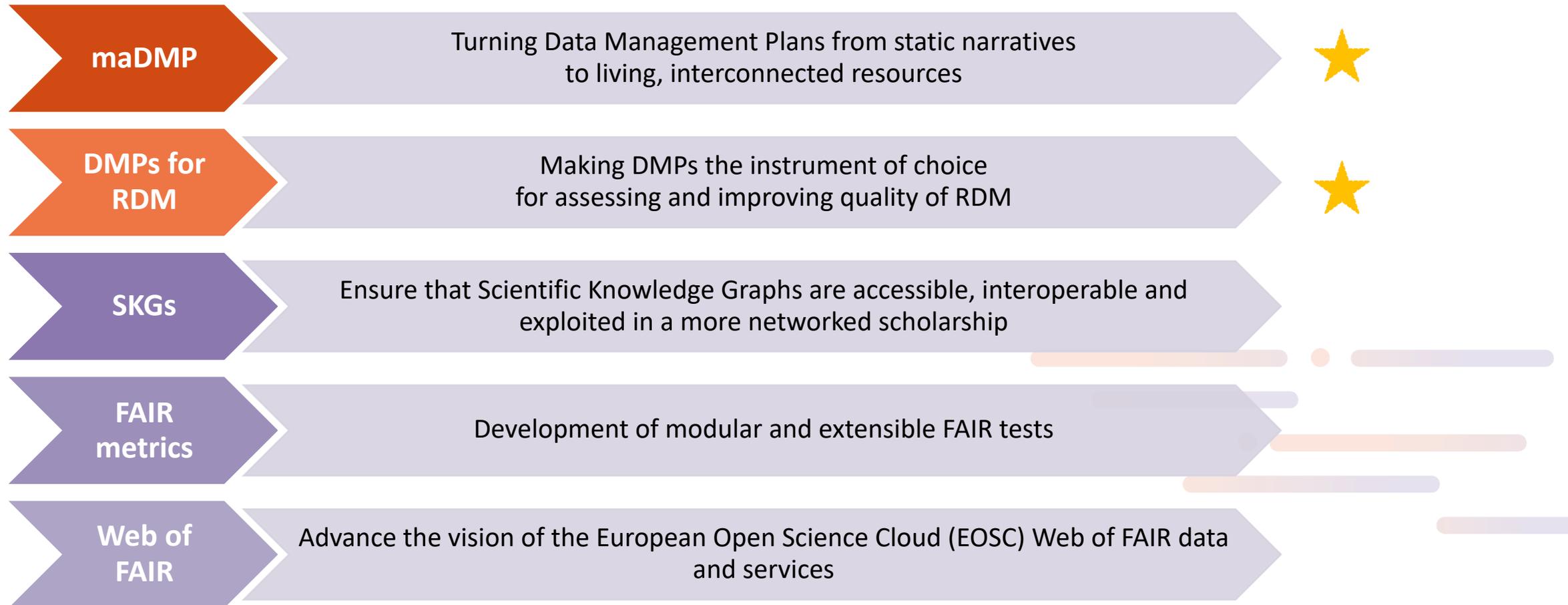
Source: (Miksa & al, 2019; <https://doi.org/10.1371/journal.pcbi.1006750>)

Further reading: Marttila, J., Manninen, S., Ahokas, M., Hindersson-Söderholm, T. (2022) Dynaamiset DMP:t -työryhmän loppuraportti (in Finnish)

<https://doi.org/10.5281/zenodo.6601258>

F-I Roadshow 17.05.2024

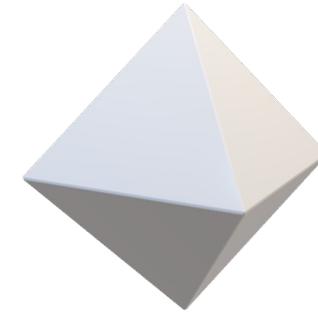
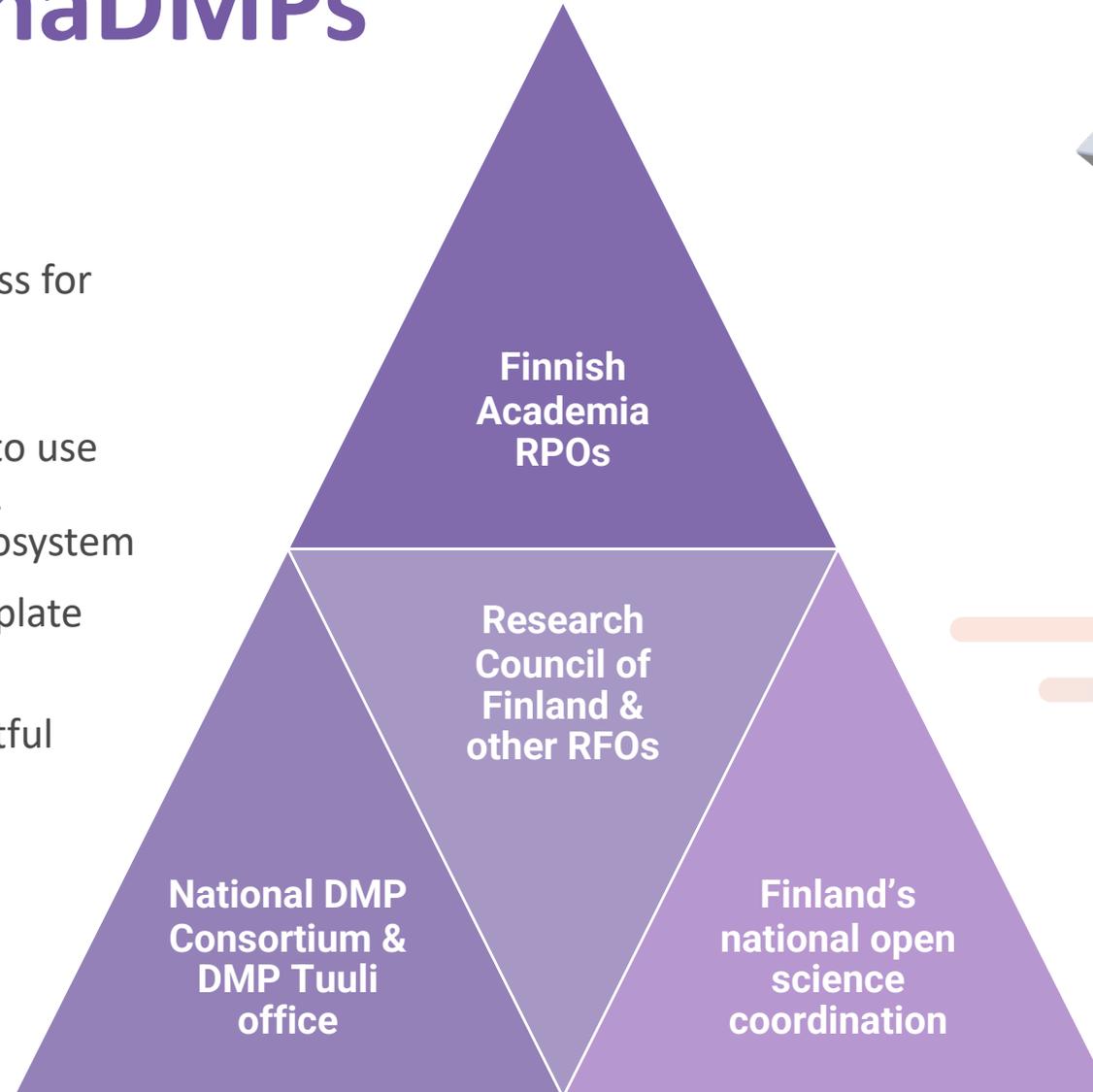
Objectives of OStrails FI Pilot as part of entire OStrails project objectives



OStrails National pilot in Finland – towards maDMPs

Strategic importance

- Facilitate greater impact & success for the Finnish research community with digitalizing & FAIR by design
- Engage researchers and experts to use maDMPs for their own success & RPOs to use APIs for research ecosystem
- Test DMP tools and maDMP template in various settings for higher UX
- Indicate needs and define impactful use cases for maDMP template
- Participate to co-development

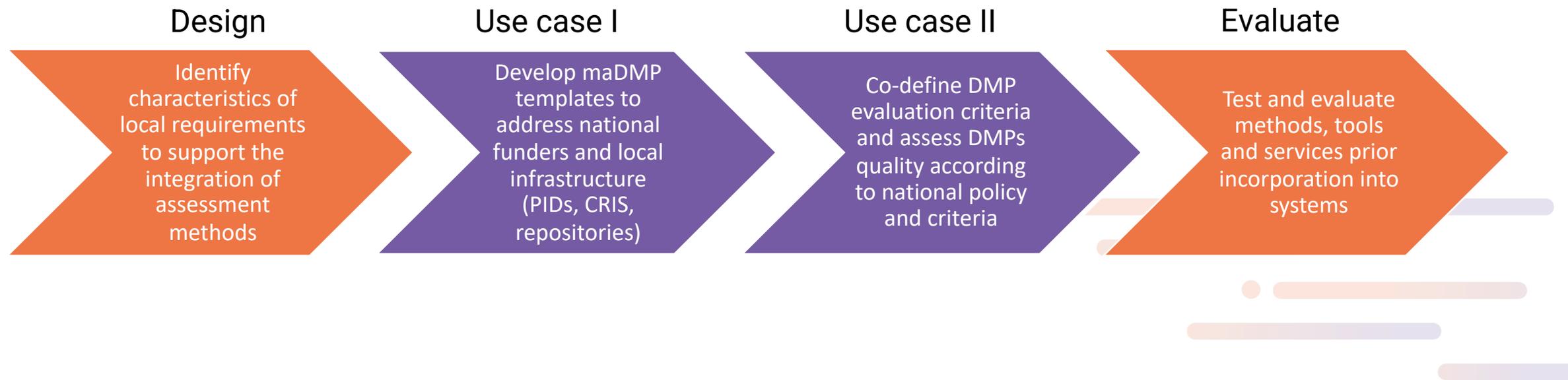


Focus in KPI

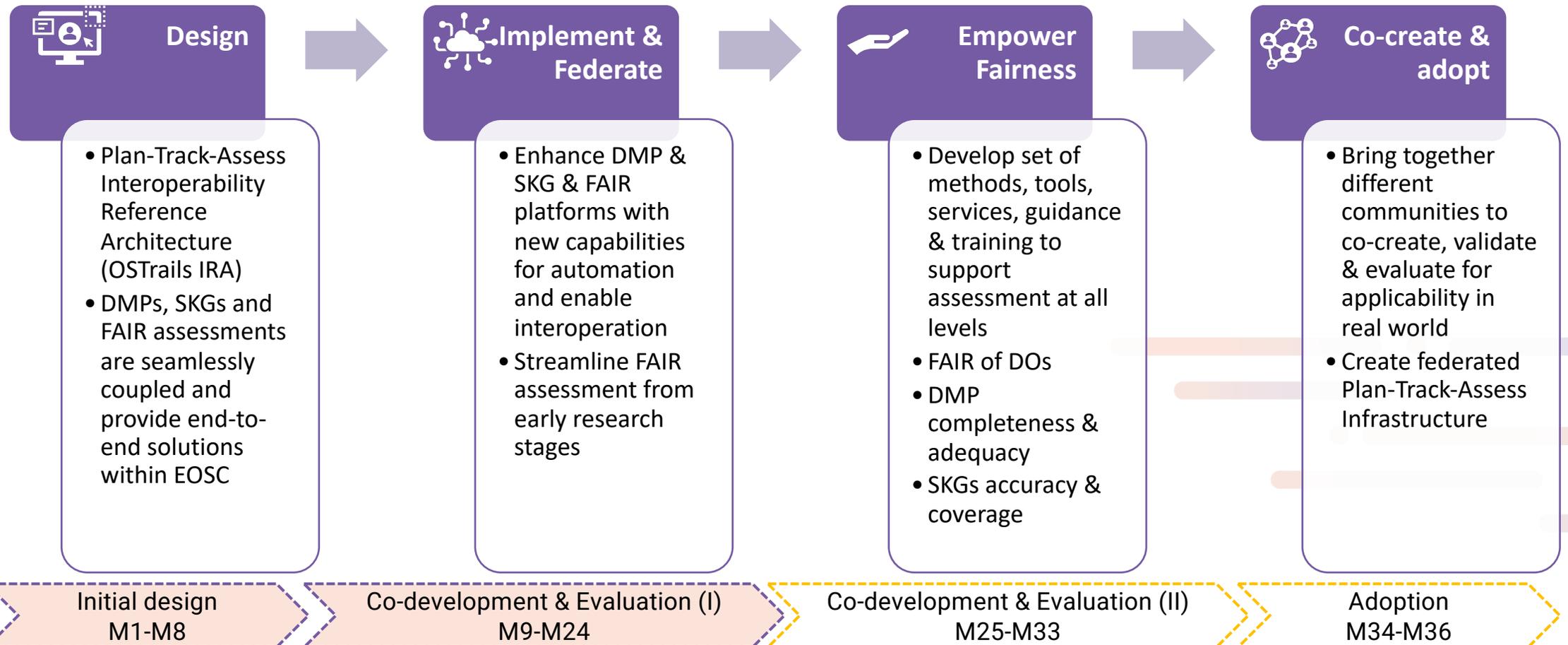
- 1 maDMP useful for #60 RPOs & RFOs



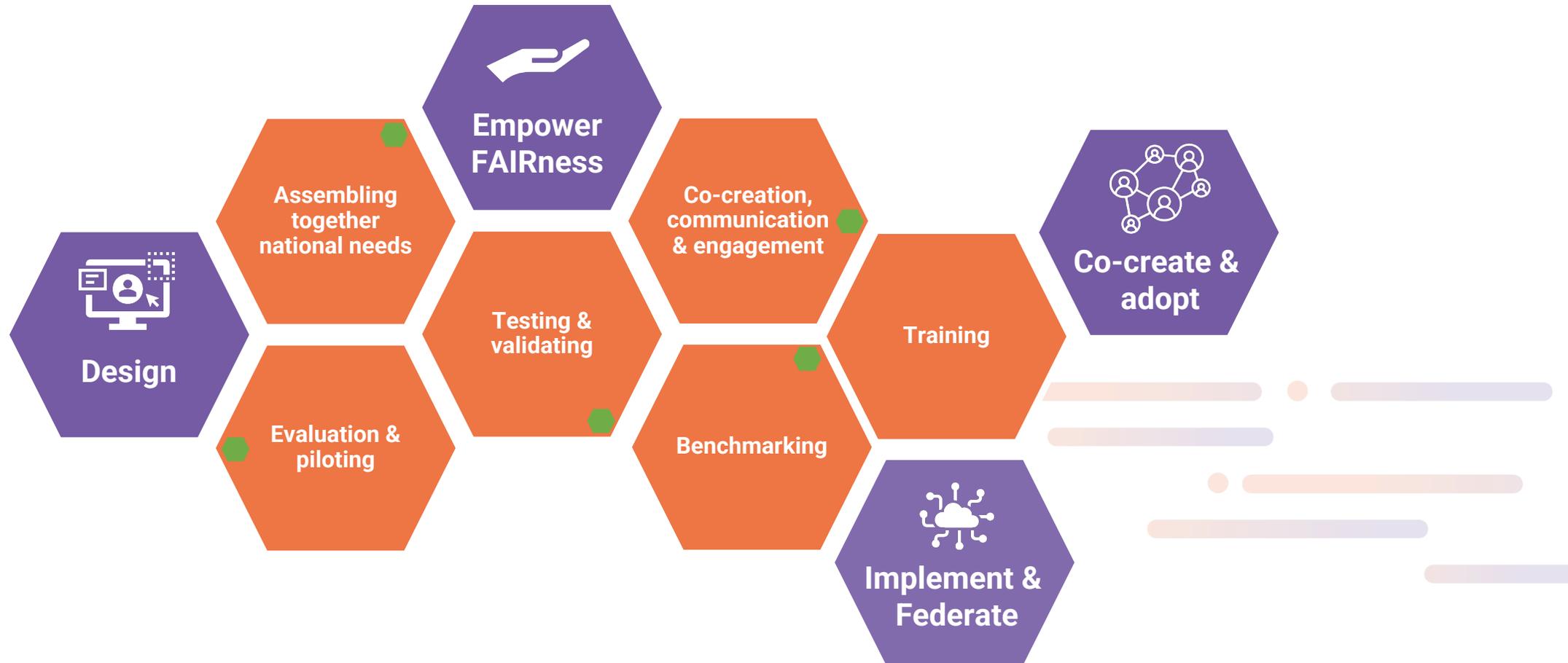
OStrails FI Pilot – Use cases



Timeline & Objectives : Streamline FAIR by embedding connectivity & actionability



Way of working in the OStrails FI Pilot



Target stages by 10 maDMP principles outcome OStrails FI Pilot from WS1 04/2024

1. **DMP integration:** Ethical valuation, Data protection, Agreements, Thesis writing & supervision (incl. PhD), Data storage, Data publishing
2. **Automated systems:** Evaluation service, maDMP commenting automatically, AI assisted, Activate data protection process, Automatic risk notifications
3. **Policies:** Data protection policies, Data storage policies (during & after research project), Data publishing and sharing policies, a lot of work ongoing – monitoring of policies needed
4. **Ecosystem of DM:** Maturity, Data model, Metadata warehouse, Harvesting information, PIDs for DM, Interoperability & findability
5. **PIDs & controlled vocabularies:** Linking ontologies, ROR, Fairsharing, ORCID & integrations utilising PIDs, API

Ref. Miksa, Simms, Mietze, Jones, (2019). Ten principles for machine-actionable data management plans. PLOS Computational biology.
<https://doi.org/10.1371/journal.pcbi.1006750>

Target stages of maDMP principles outcome OSTrails FI Pilot from WS1 04/2024 II

6. **Common data model for maDMP:** Common questions; Ensuring information needed can be harvested
7. **DMPs available for human & machine consumption:** Data protection processes & Ethical review process (needs human readability) – Need shared vocabularies & APIs; agreement what information is shared/common.
8. **DM evaluation & monitoring supported:** Access to (i) DMP related information, (ii) DMPs; Objectivity of DM evaluation; Feasibility of the study; Systematic evaluation process for DMPs
9. **DMPs are livable & maintained:** Define existence of DMPs in RDM, maDMPs to make automatic processes; Process reminding at certain stages of process.
10. **DMPs are made publicly available:** DMPs should be defined as public docs; use well designed & maintained DMPs as lead to Data papers that bring merits to researcher

Ref. Miksa, Simms, Mietze, Jones, (2019). Ten principles for machine-actionable data management plans. PLOS Computational biology. <https://doi.org/10.1371/journal.pcbi.1006750>

Development towards national maDMP template FI National pilot from WS2 05/2024

- Building on the structure of the RDA maDMP Standard information model
- Developing template further to assess what information should be included and made structural
- Linking with relevant other structural DMP data models
- Identifying the relevant existing standards, and ontologies to be utilised
- Embedding ecosystem research services into maDMPs
- Evaluating in series of three workshops how to develop further for national needs the RDA maDMP standards (forthcoming 06/06/2024 & 03/09/2024)
- What information should be linked / harvested with other information systems?
- Work continues in WS3 06/06/2024 – please join co-development and the National pilot events: <https://wiki.eduuni.fi/display/csckorkeakoulut/2024-06-06+OSTrails+FI+pilot+workshop+III>

OStrails FI Pilot schedule





Thank you!



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