MELODI

MELODI

Modular Ecosystem for Linked Open Data Infrastructure

why?

Semantic Interoperability

TDCC-NES

Natural & Engineering Sciences

Every day we encounter researchers and data stewards who want to adopt LOD, but don't know how

LODI

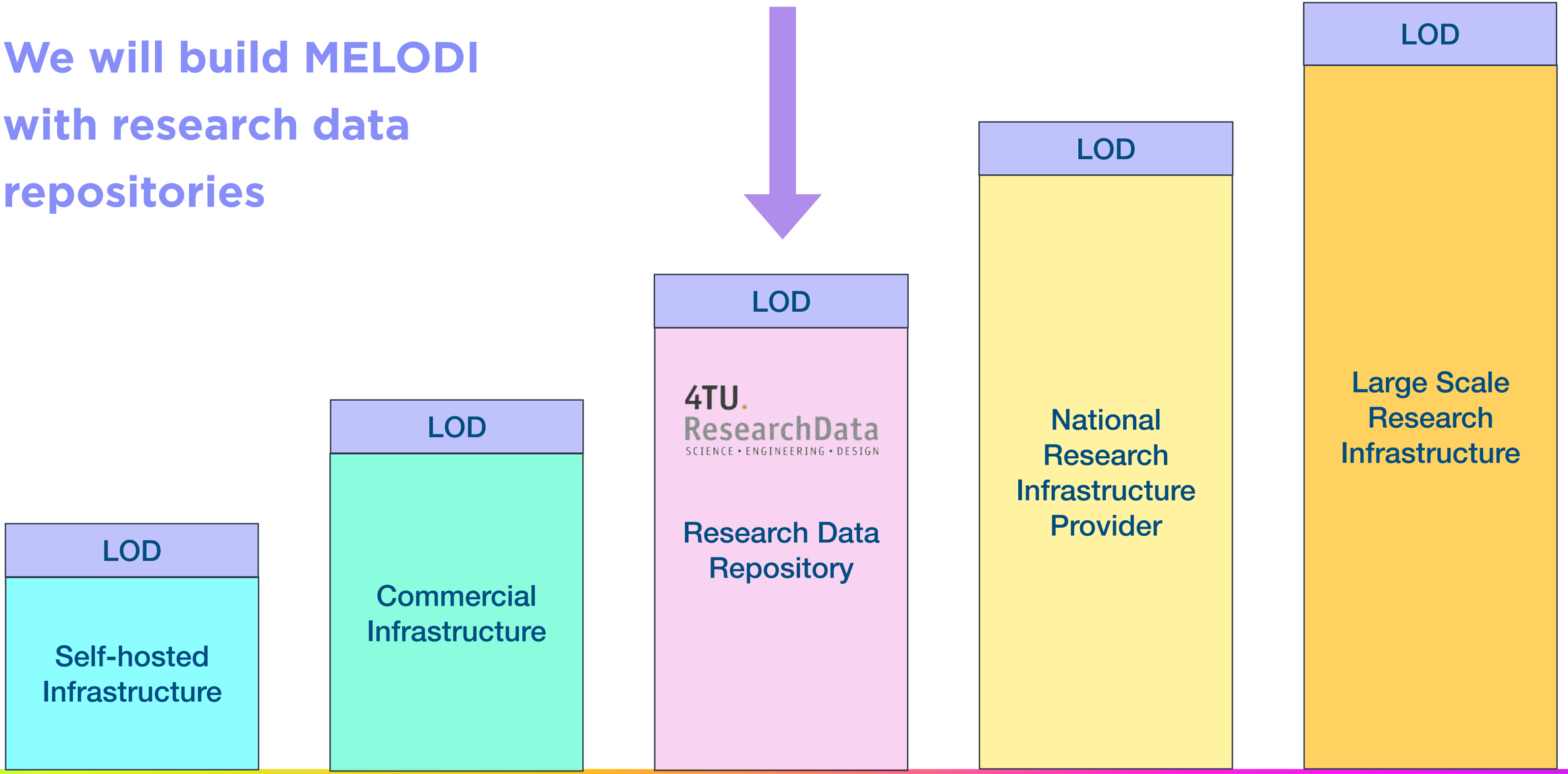
Linked Open Data Infrastructure

Training and support is not enough

Without infrastructure, there is no LOD

Linked Open Data Infrastructure

We will build MELODI with research data repositories



Repository-managed

Repository-agnostic

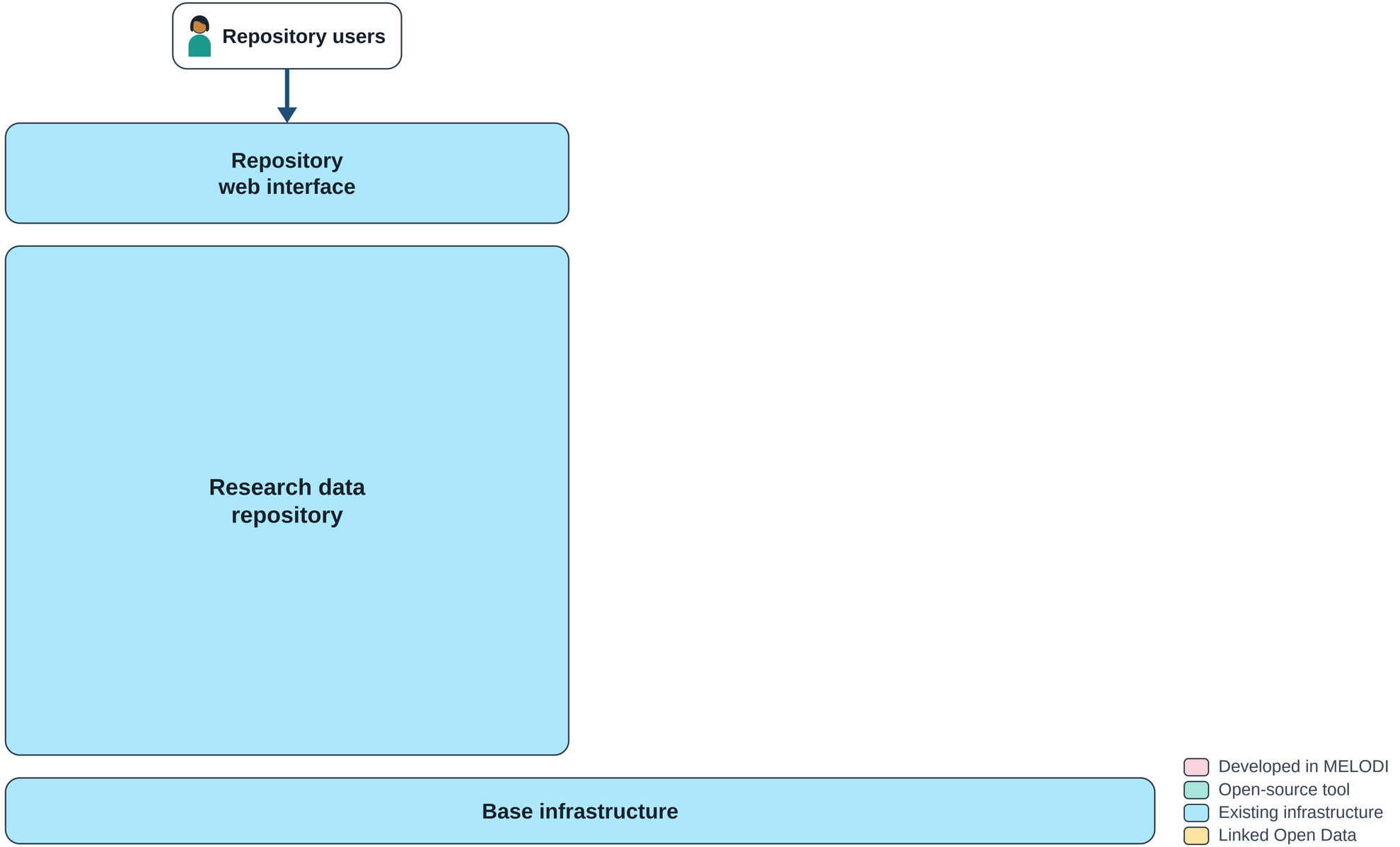
Cross-domain

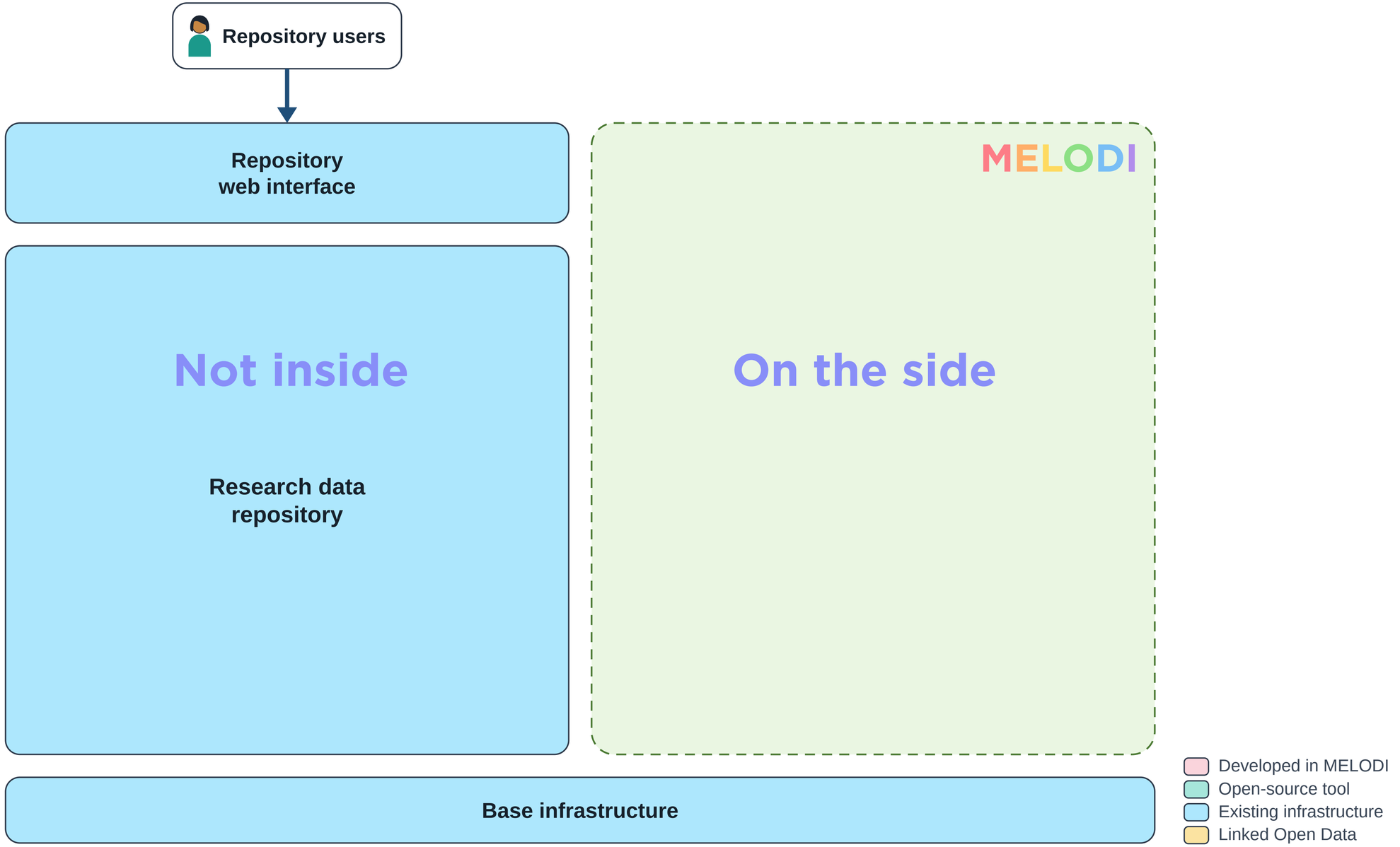
User-centred

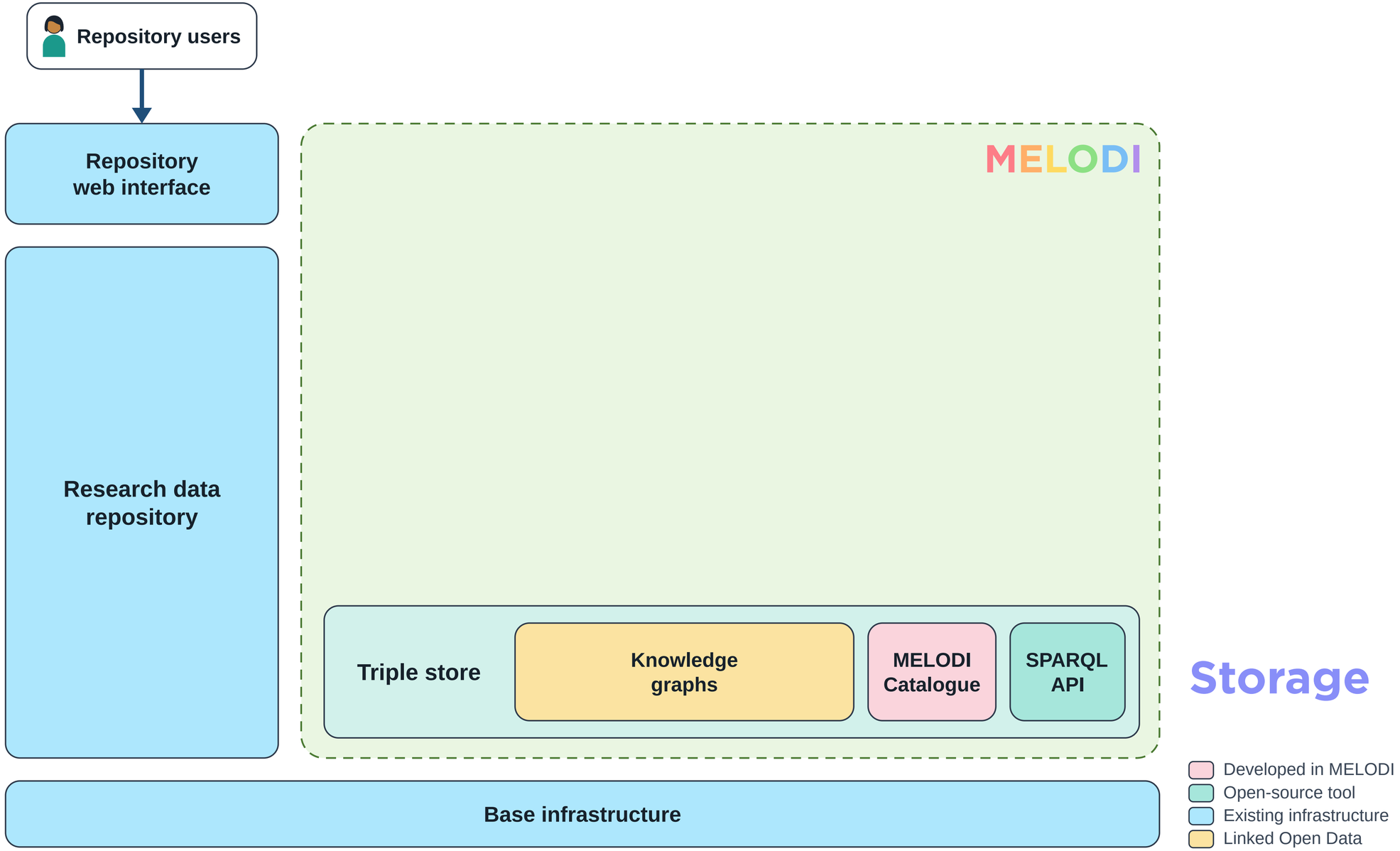
Federated

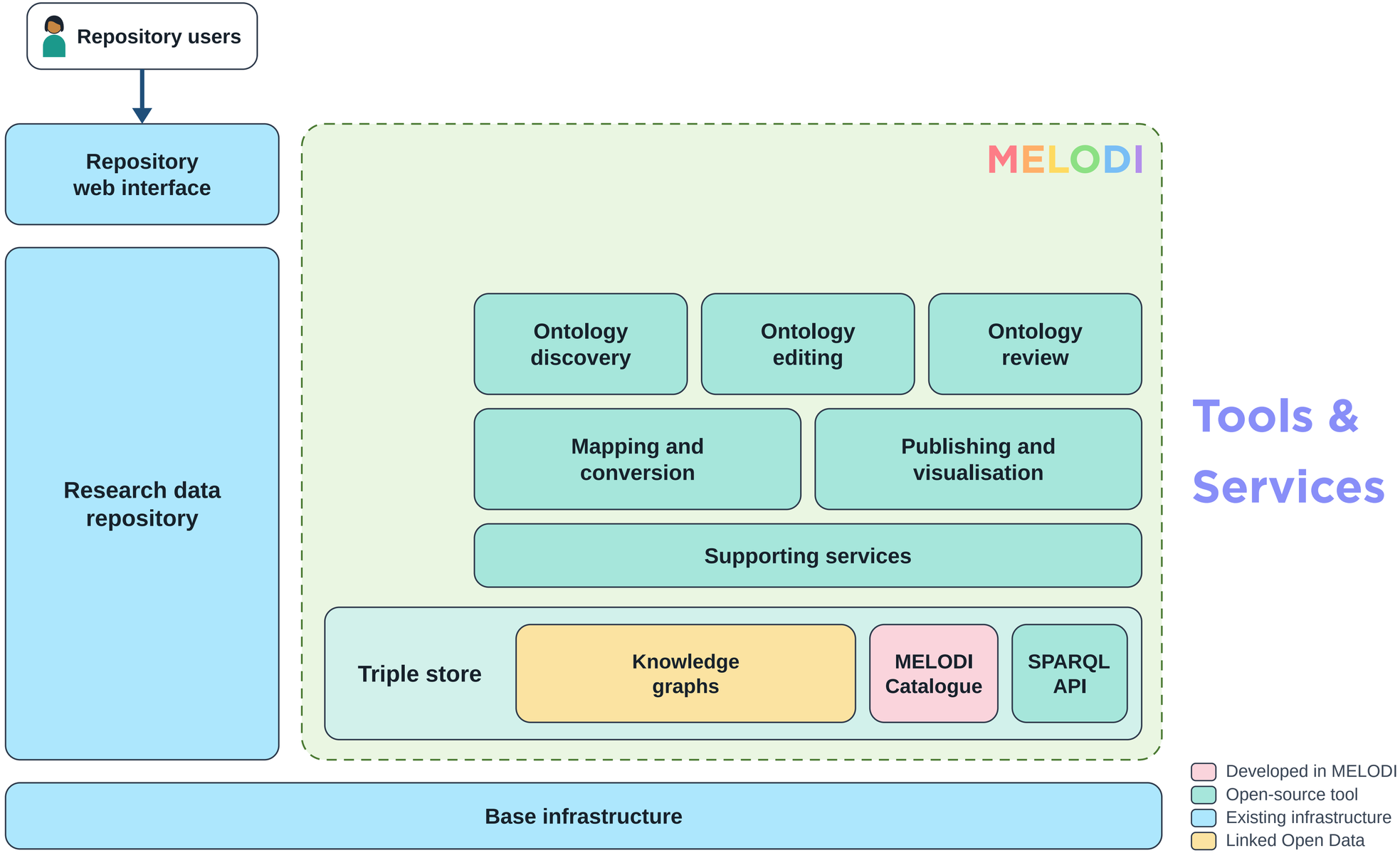
Modular

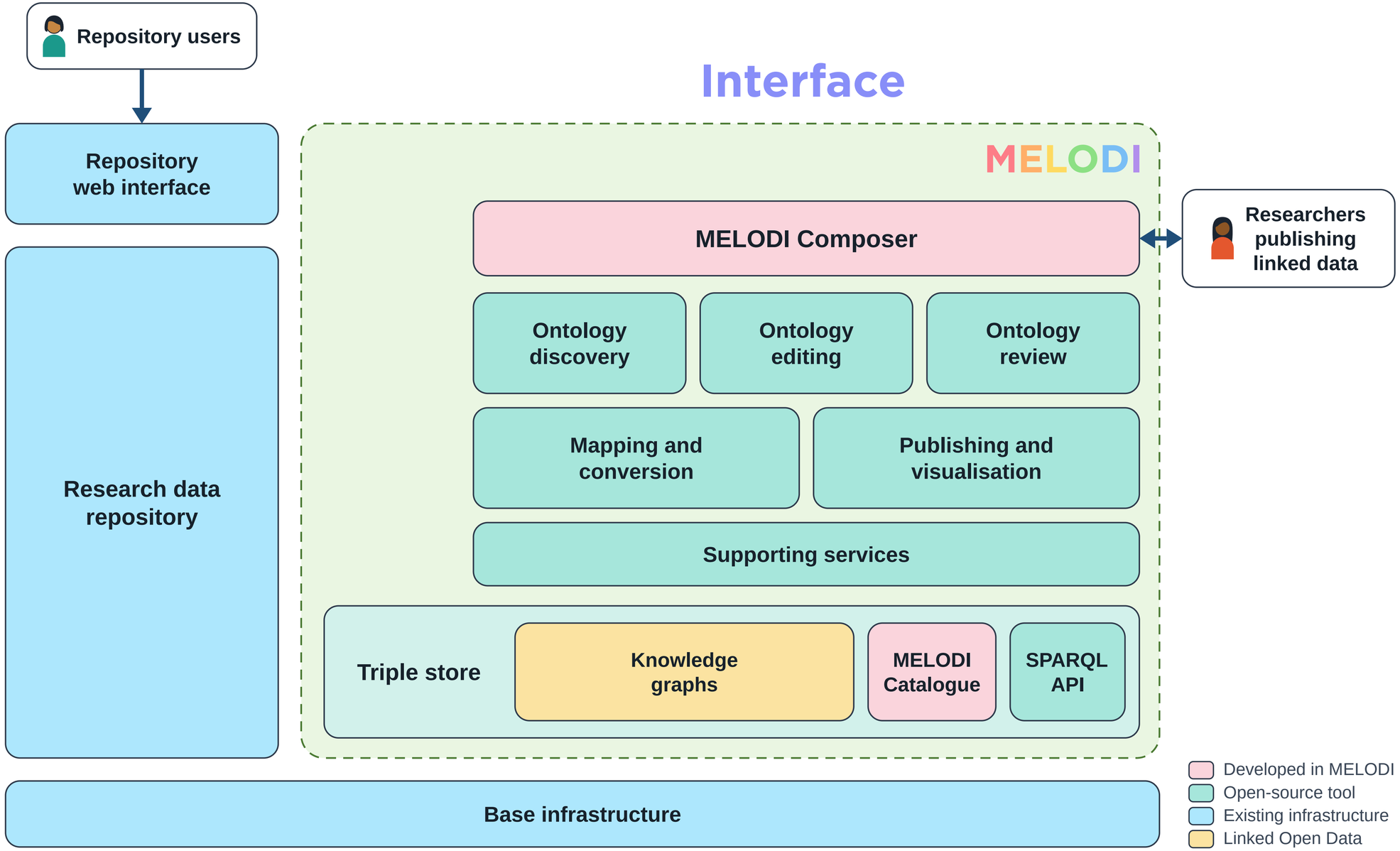
MELODI

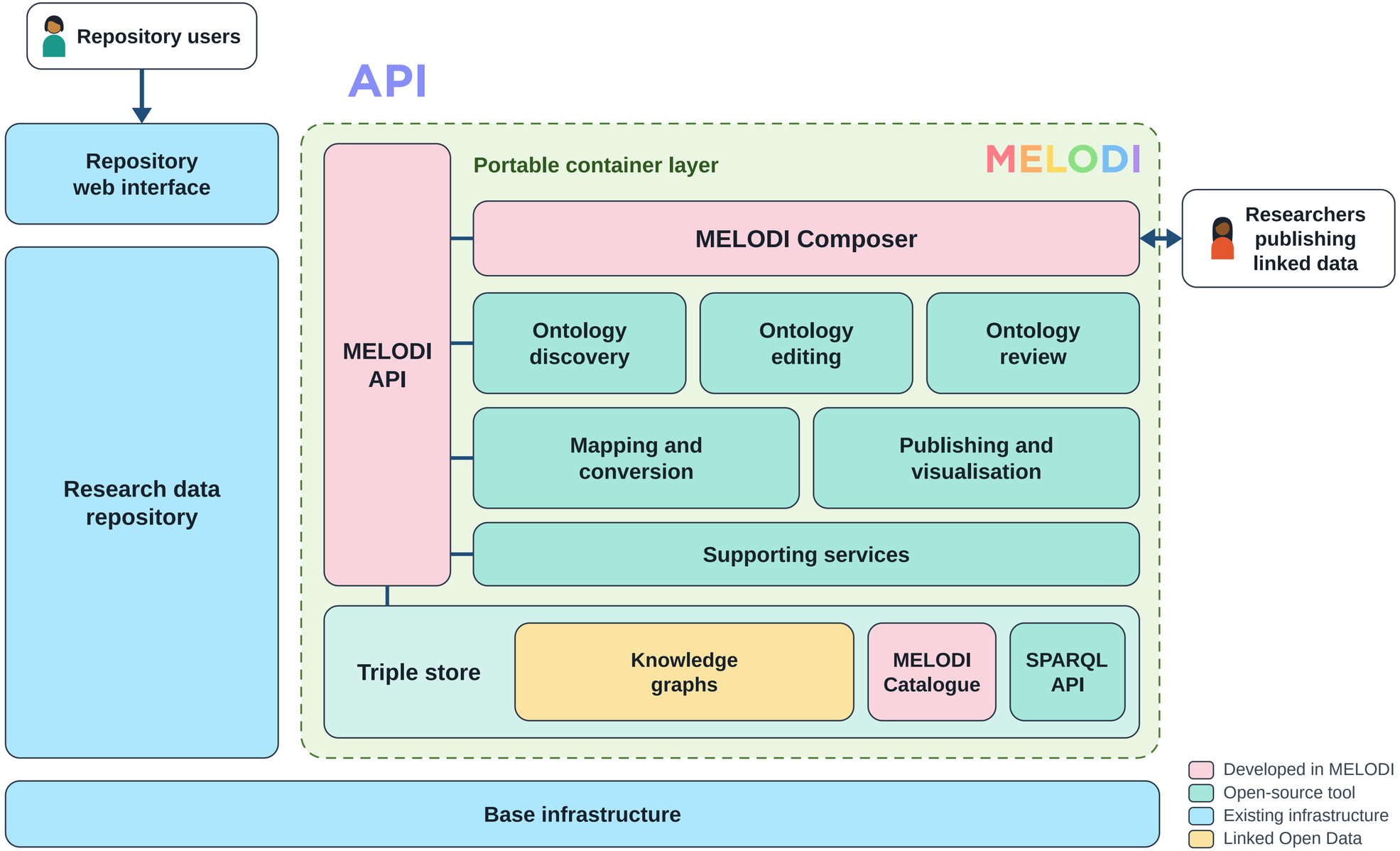

Repository users
Repository
web interface
Research data
repository
Base infrastructure
Developed in MELODI
Open-source tool
Existing infrastructure
Linked Open Data

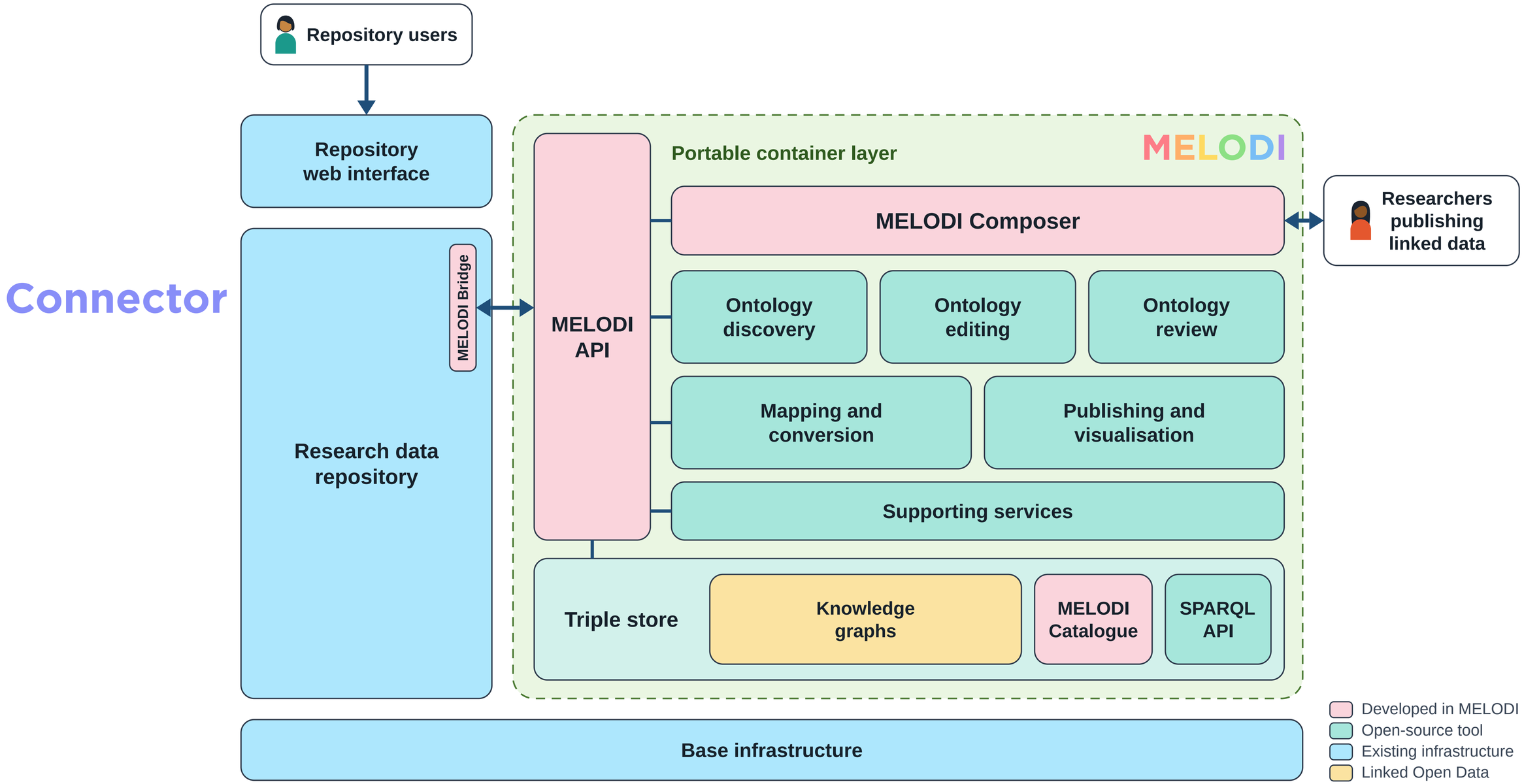

Repository users
Repository
web interface
Not inside
Research data
repository
MELODI
On the side
Base infrastructure
Developed in MELODI
Open-source tool
Existing infrastructure
Linked Open Data

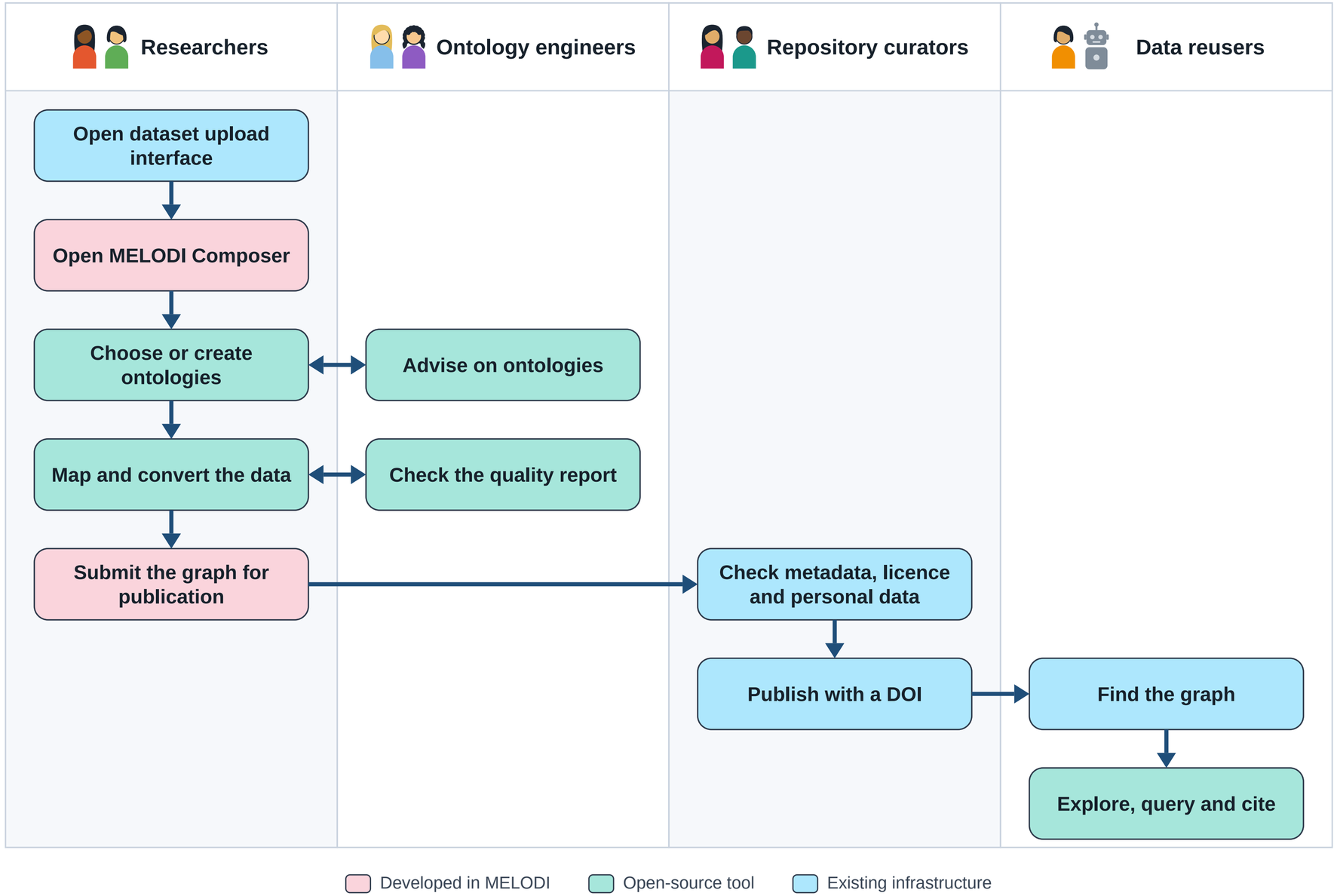

Repository users
Repository
web interface
Research data
repository
MELODI
Triple store
Knowledge
graphs
MELODI
Catalogue
SPARQL
API
Storage
Base infrastructure
Developed in MELODI
Open-source tool
Existing infrastructure
Linked Open Data

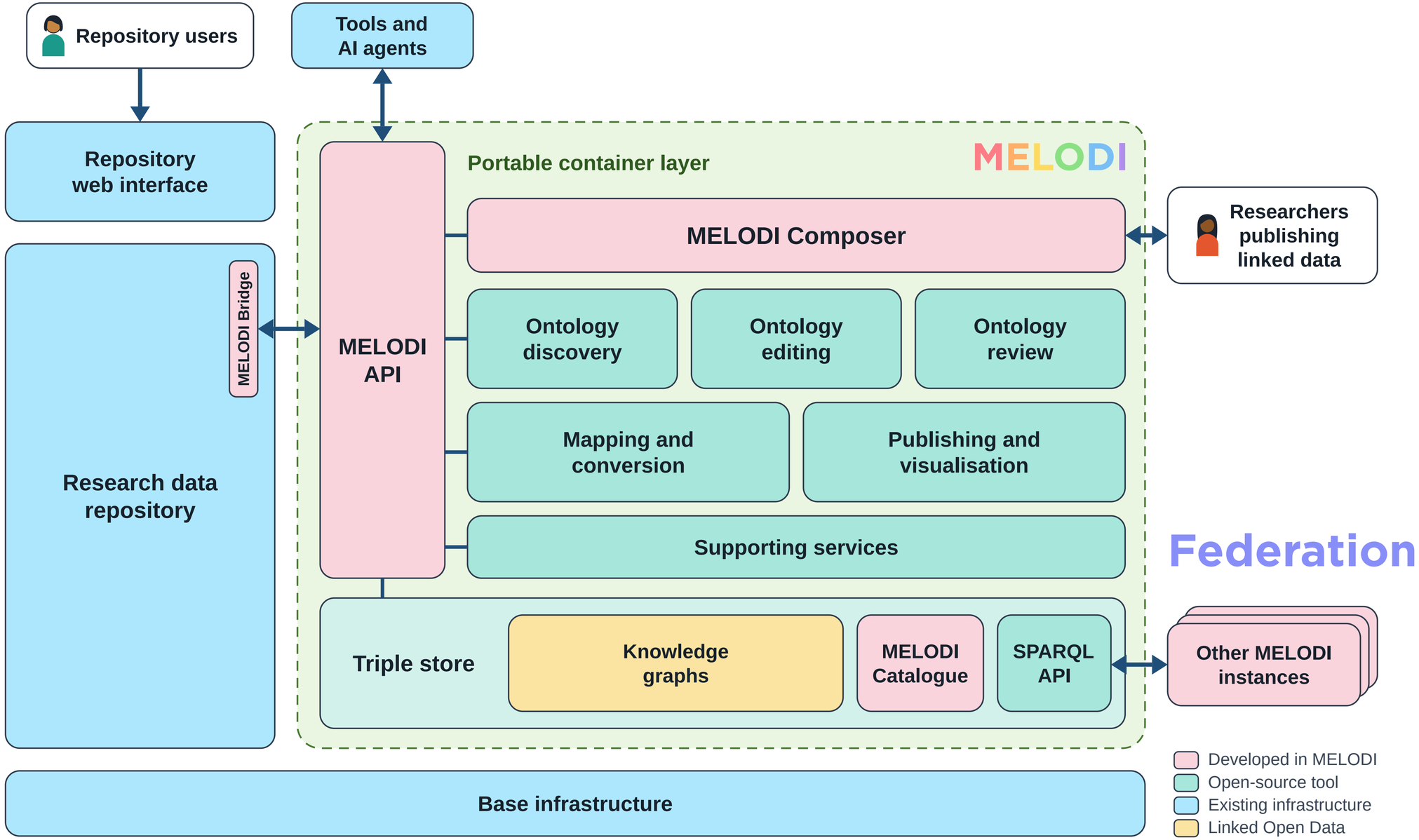

Repository users
Repository
web interface
Research data
repository
MELODI
Ontology
discovery
Ontology
editing
Ontology
review
Mapping and
conversion
Publishing and
visualisation
Supporting services
Triple store
Knowledge
graphs
MELODI
Catalogue
SPARQL
API
Base infrastructure
Tools &
Services
Developed in MELODI
Open-source tool
Existing infrastructure
Linked Open Data


Repository users
Interface
Repository
web interface
MELODI
MELODI Composer
Researchers
publishing
linked data
Ontology
discovery
Ontology
editing
Ontology
review
Research data
repository
Mapping and
conversion
Publishing and
visualisation
Supporting services
Triple store
Knowledge
graphs
MELODI
Catalogue
SPARQL
API
Base infrastructure
Developed in MELODI
Open-source tool
Existing infrastructure
Linked Open Data

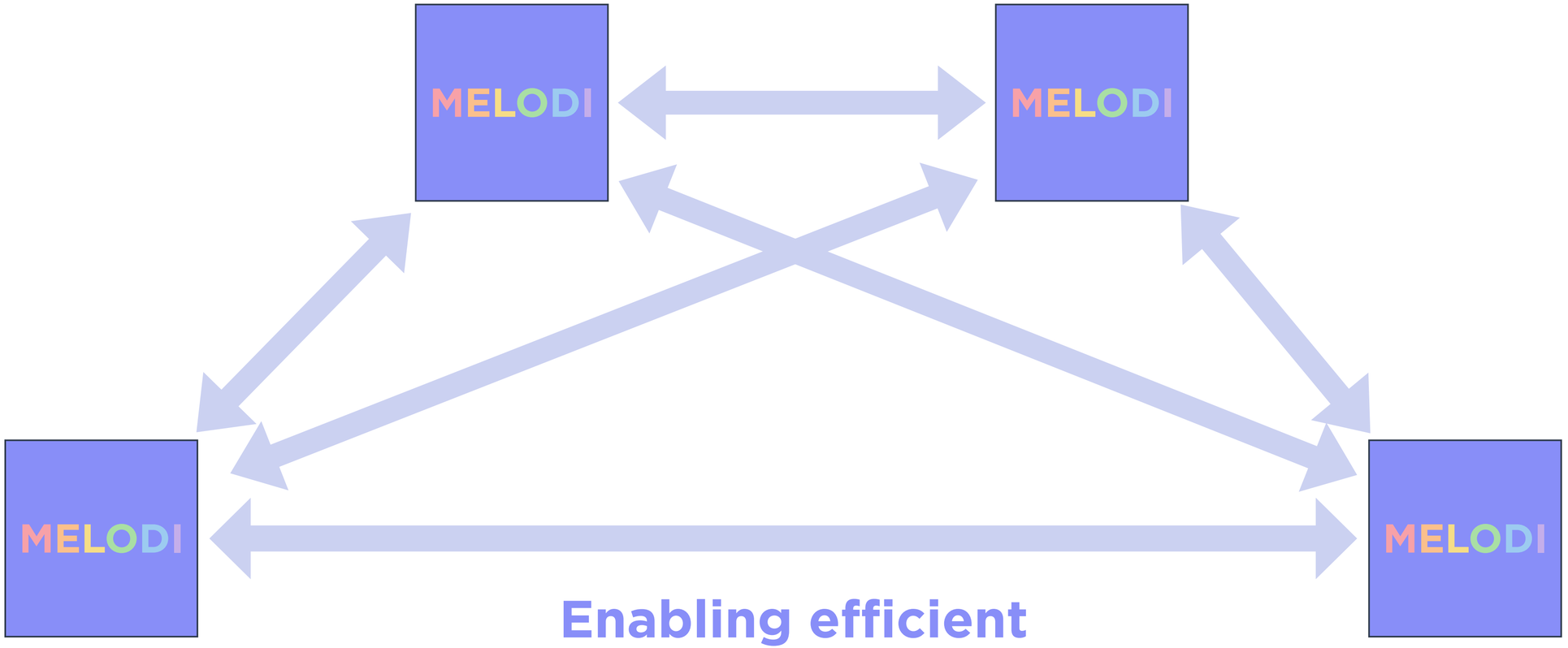

Repository users
API
Repository
web interface
Research data
repository
Portable container layer
MELODI
MELODI
API
MELODI Composer
Researchers
publishing
linked data
Ontology
discovery
Ontology
editing
Ontology
review
Mapping and
conversion
Publishing and
visualisation
Supporting services
Triple store
Knowledge
graphs
MELODI
Catalogue
SPARQL
API
Base infrastructure
Developed in MELODI
Open-source tool
Existing infrastructure
Linked Open Data


Repository users
Repository web interface
Connector
MELODI Bridge
Research data repository
MELODI API
Portable container layer
MELODI
MELODI Composer
Researchers publishing linked data
Ontology discovery
Ontology editing
Ontology review
Mapping and conversion
Publishing and visualisation
Supporting services
Triple store
Knowledge graphs
MELODI Catalogue
SPARQL API
Base infrastructure
Developed in MELODI
Open-source tool
Existing infrastructure
Linked Open Data

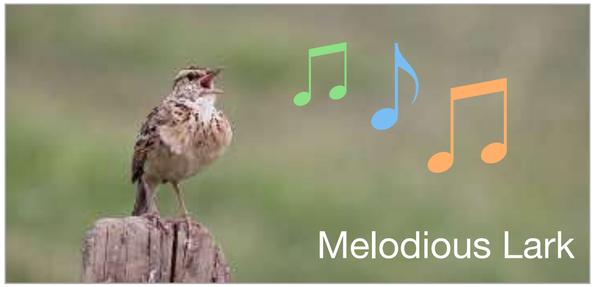

Researchers
Ontology engineers
Repository curators
Data reusers
Open dataset upload interface
Open MELODI Composer
Choose or create ontologies
Advise on ontologies
Map and convert the data
Check the quality report
Submit the graph for publication
Check metadata, licence and personal data
Publish with a DOI
Find the graph
Explore, query and cite
Developed in MELODI
Open-source tool
Existing infrastructure


Repository users
Tools and AI agents
Repository web interface
Portable container layer
MELODI
MELODI Composer
Researchers publishing linked data
MELODI Bridge
MELODI API
Ontology discovery
Ontology editing
Ontology review
Research data repository
Mapping and conversion
Publishing and visualisation
Supporting services
Federation
Triple store
Knowledge graphs
MELODI Catalogue
SPARQL API
Other MELODI instances
Base infrastructure
Developed in MELODI
Open-source tool
Existing infrastructure
Linked Open Data

MELODI Orchestra



Enabling efficient
SPARQL federation



MELODI Orchestra



MELODI

MELODI





MELODI

MELODI

New avenues for interdisciplinary and cross-domain research

MELODI

Modular Ecosystem for Linked Open Data Infrastructure

4TU. ResearchData
SCIENCE • ENGINEERING • DESIGN



Draft proposal

36 months

€ 1,5+ million

TDCC-NES
Natural & Engineering Sciences

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