



DiSSCO

Distributed System of Scientific Collections



Progress report & next steps

Dimitris Koureas
DiSSCO coordinator



A turning point for European Natural Science Collections

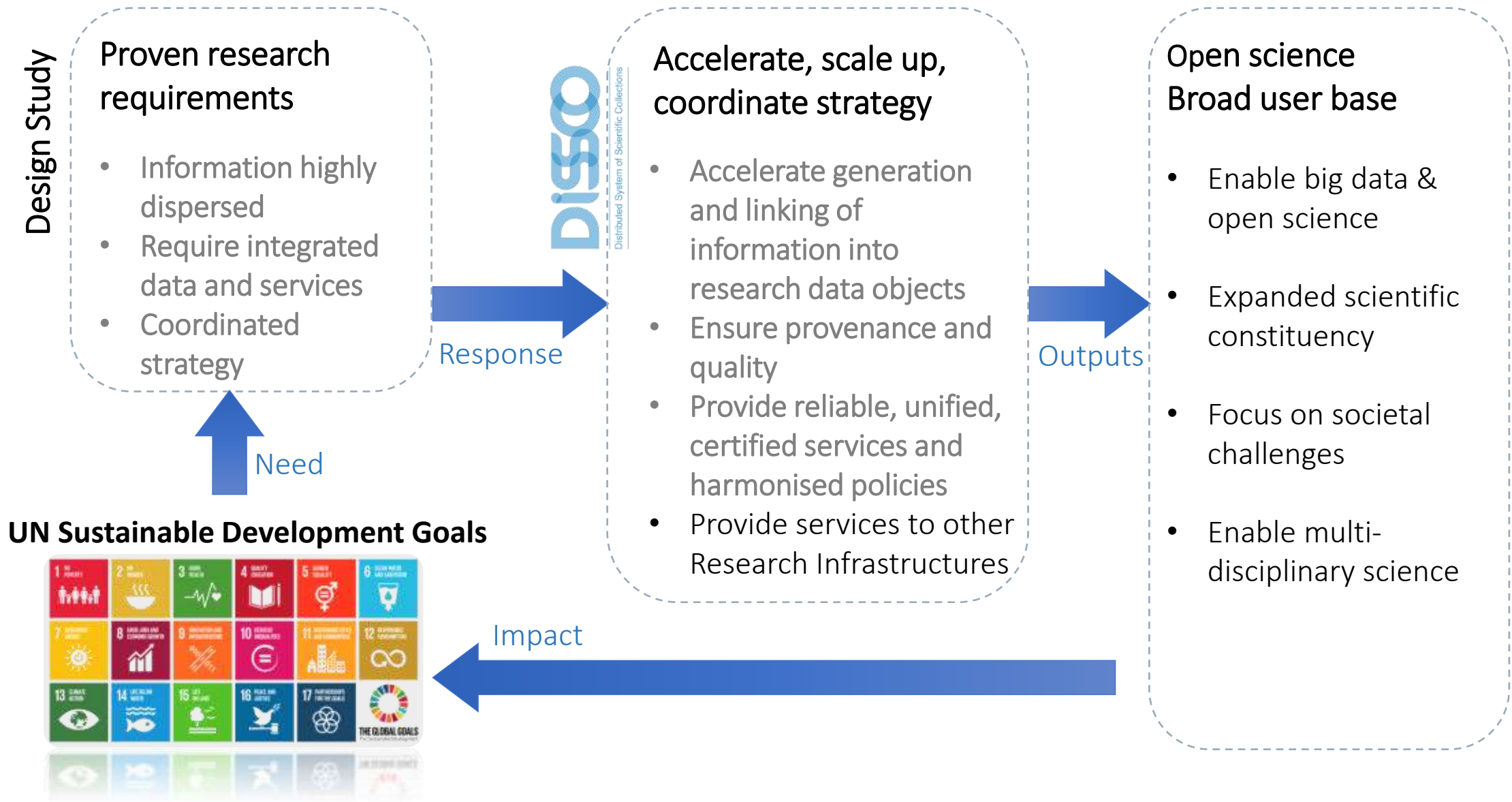


- 2018 ESFRI update (6 new projects)

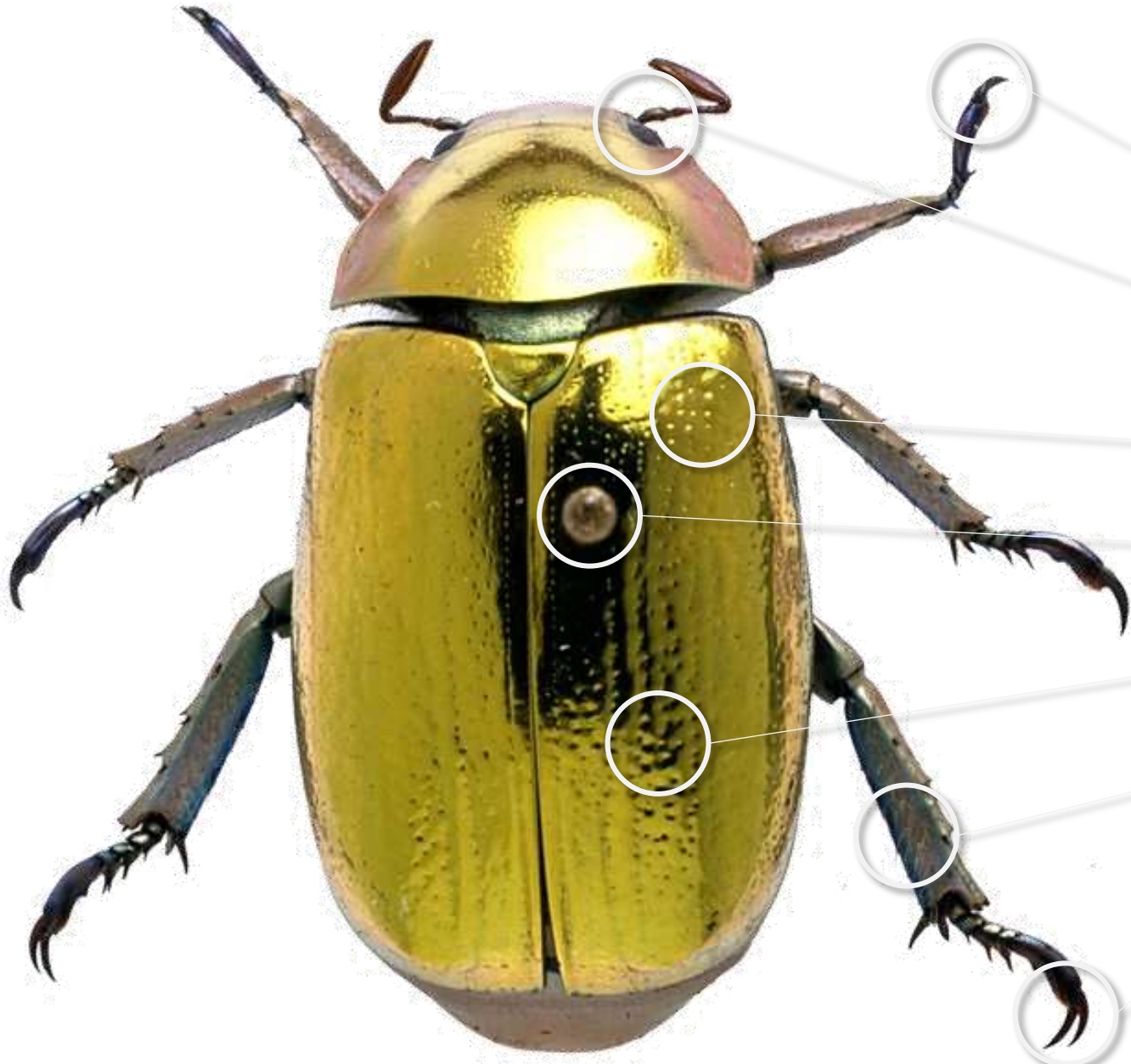


DiSSCo is recognized as a priority RI for European Research Area

DiSSCo driver: Accelerating scientific research



What's in a Museum specimen?



Genomic data



Biochemical data



Morphological data



Geographical data



Taxonomic Information



Species Interactions data

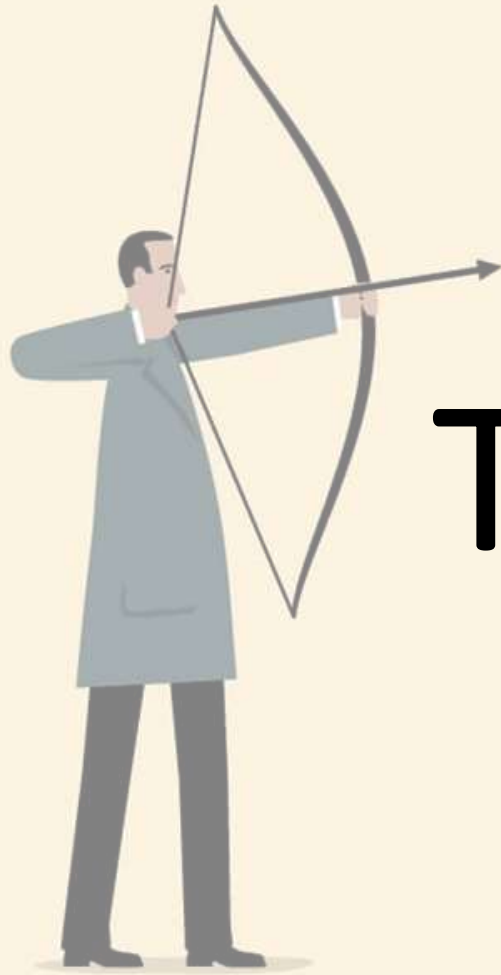


Ecological data



HM BOT 0025

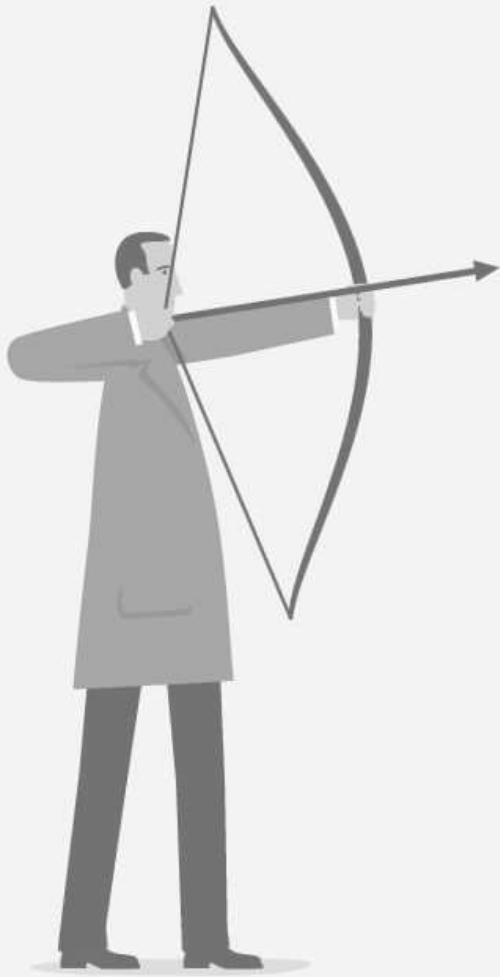
Ex Libris
Lund
Lund



TRUST

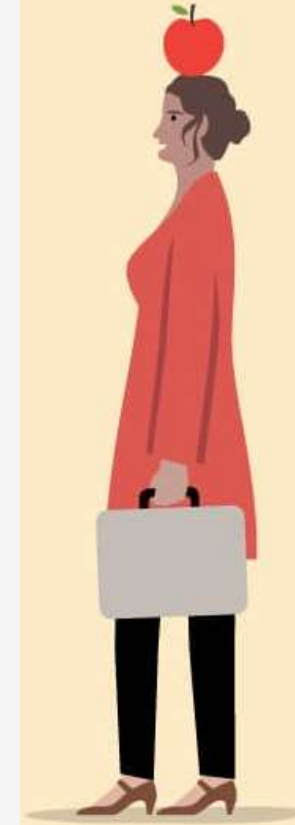
Practices
People
Data





Trust lost when datasets
disconnect from:

context in which they were created,
or
communities who created them.



*What builds
TRUST
in data?*

Relevance

Provenance

Attribution

Completeness

Fitness-for-purpose

Agility

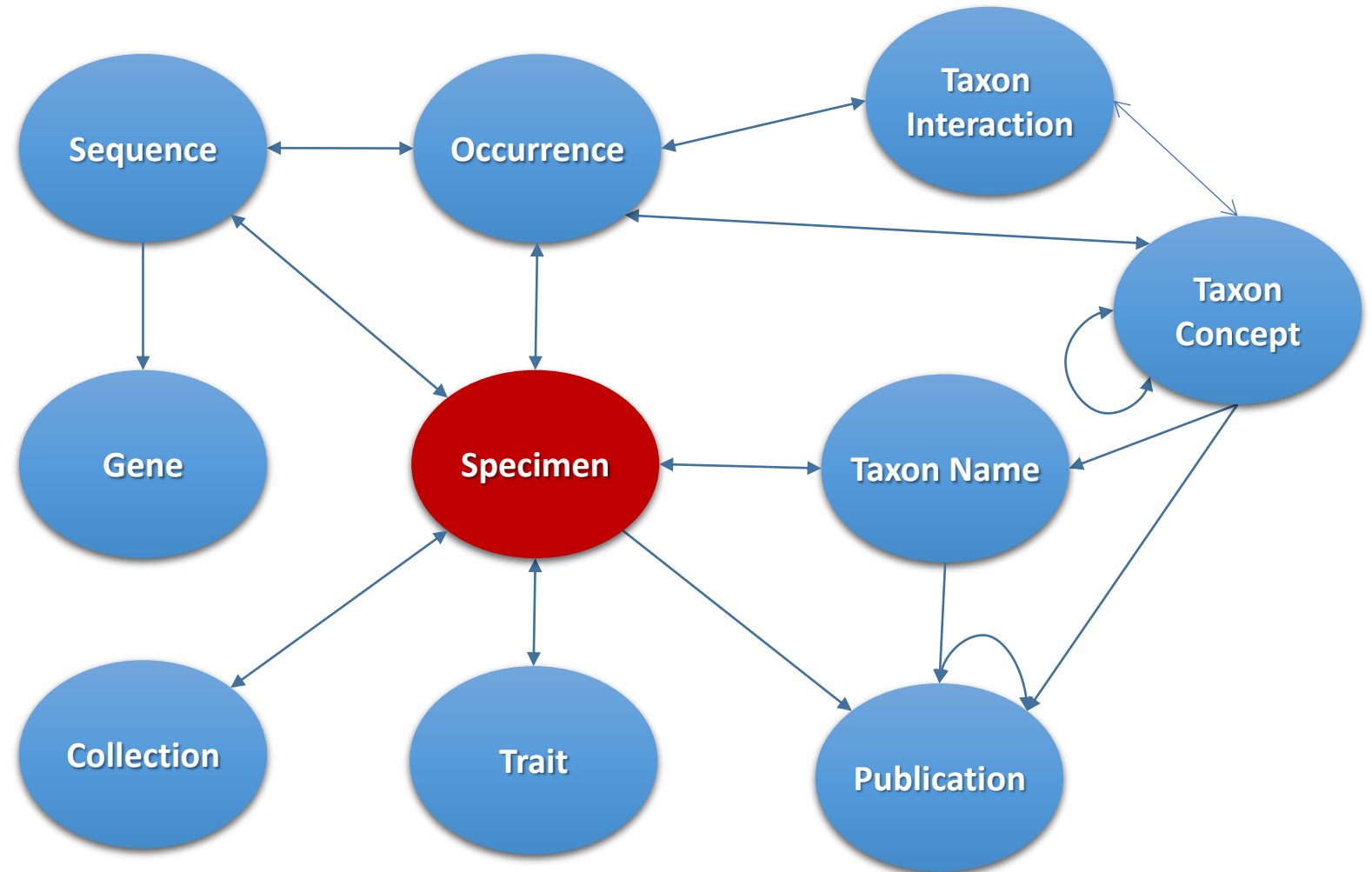
Branding (Datatyping)



All data classes **unambiguously linked** to the **physical objects** they derive from



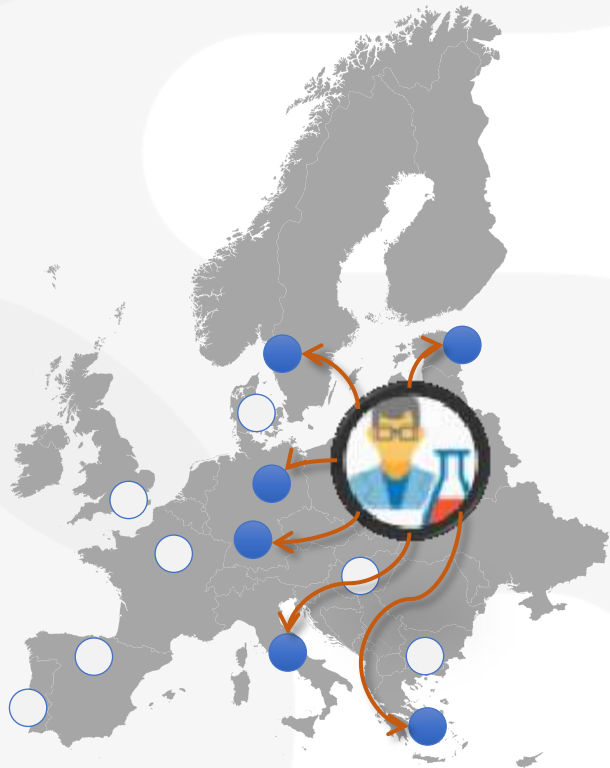
Specimens at the centre



Link dispersed information & Lower access barriers

Current model

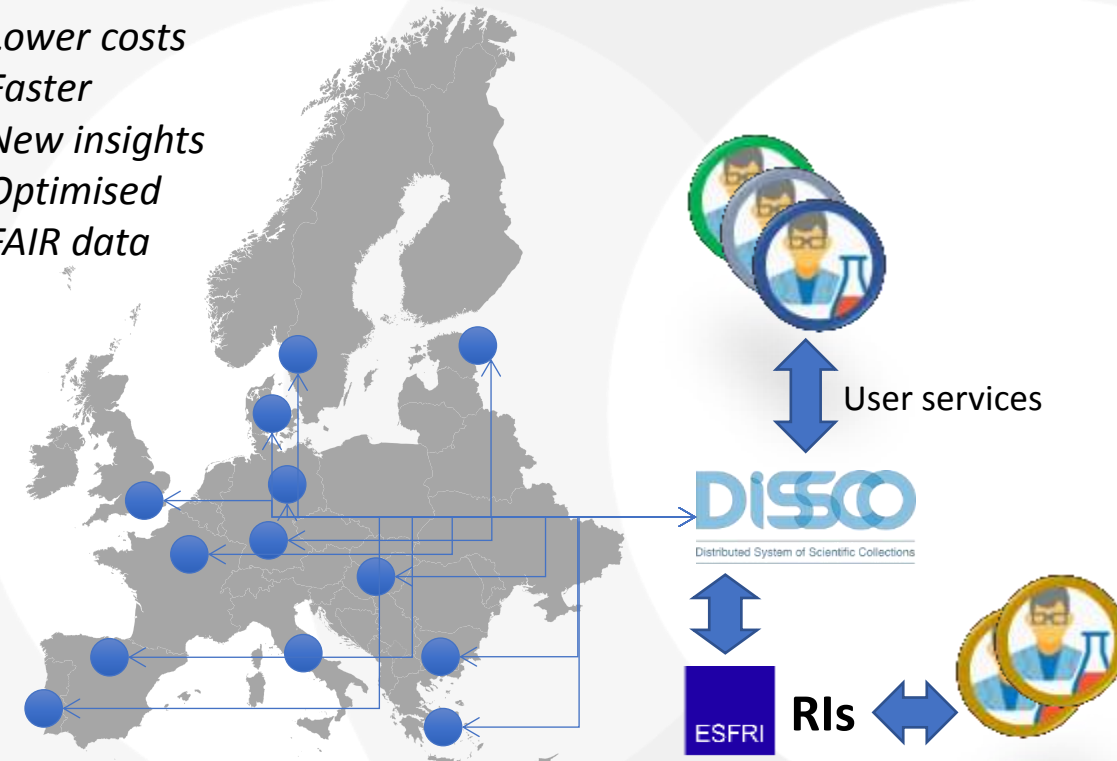
Slow
Expensive
Inefficient
limited



Example of current modus operandi
25,000 researchers travel every year to physically access scientific collections and **800k objects** are packed and shipped (at an annual public cost of more than €70M)

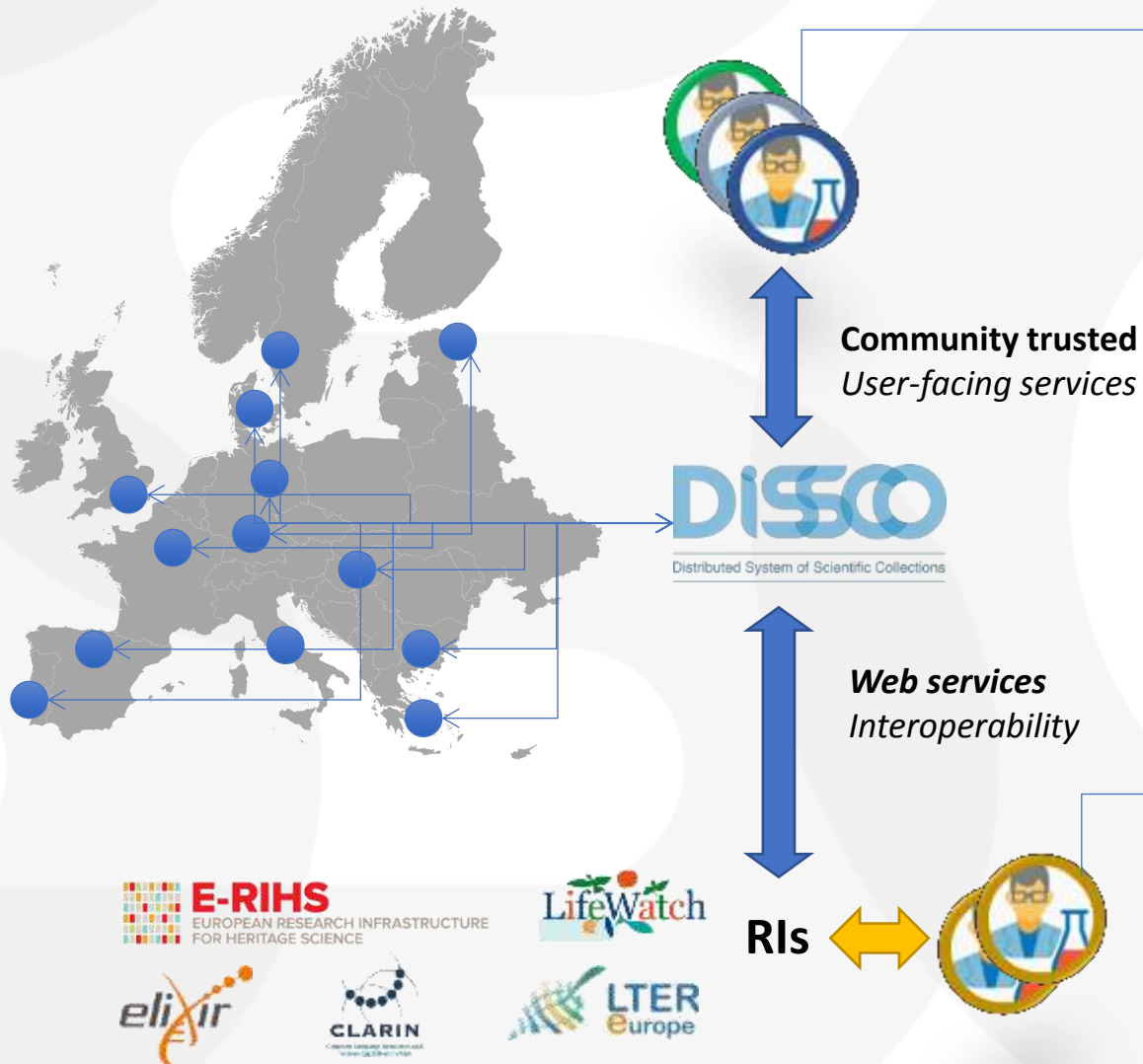
Integrated RI model

Wide access
Lower costs
Faster
New insights
Optimised
FAIR data



The **first mass scale initiative to re-unite and serve** genomic, chemical, geographical, morphological and taxonomic information by link it to collections' objects

Disciplinary pillars

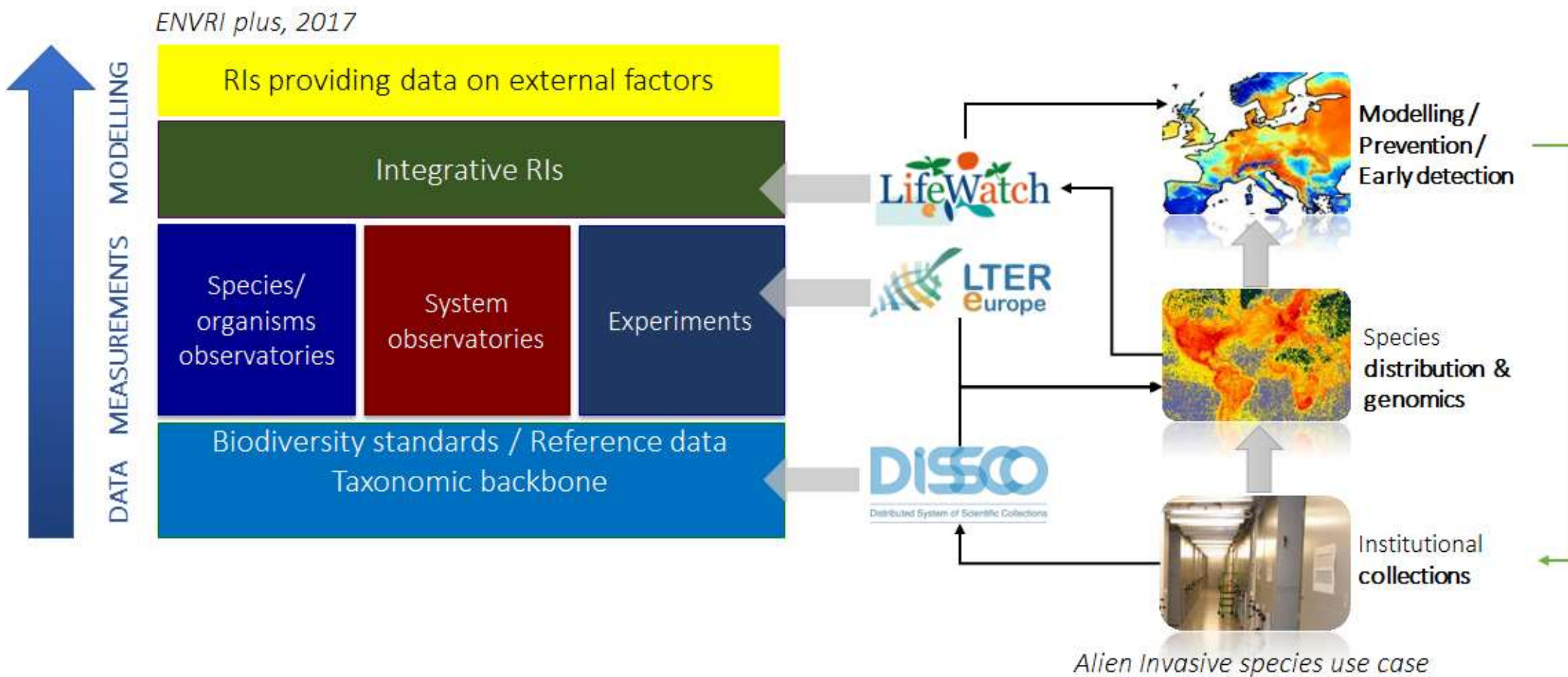


Main Disciplinary Pillars

1. Taxonomic gap (*ESFRI 2016 roadmap*)
2. Bio- and geo-diversity discovery
3. Environment monitoring
4. Sustainable land use

Additional inter-disciplinary pillars

- Ecological research and modelling
- Health and Food
- Cultural heritage
- Arts & Humanities
- Social Sciences





115 National Facilities

21 Countries

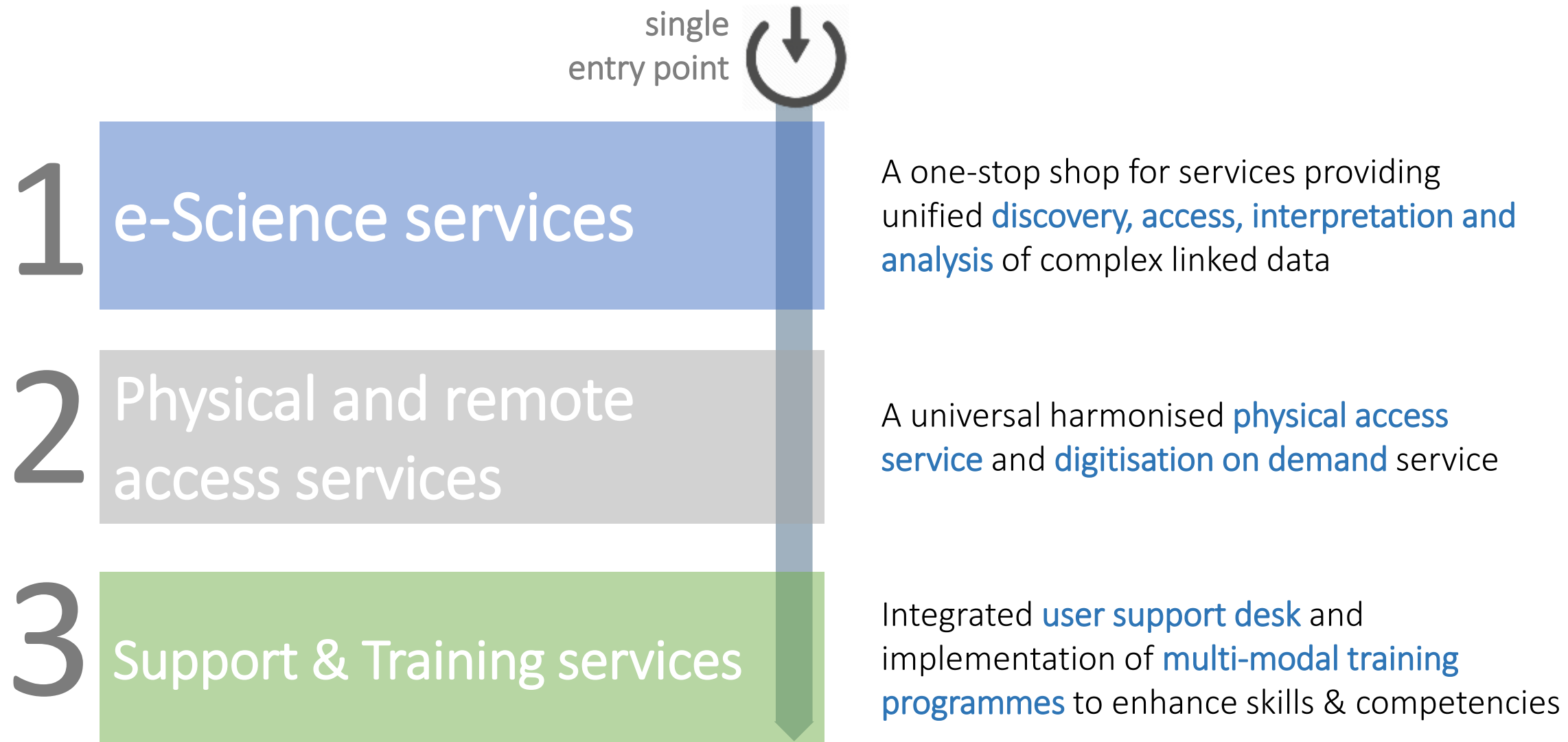


a new business model: ONE EUROPEAN COLLECTION

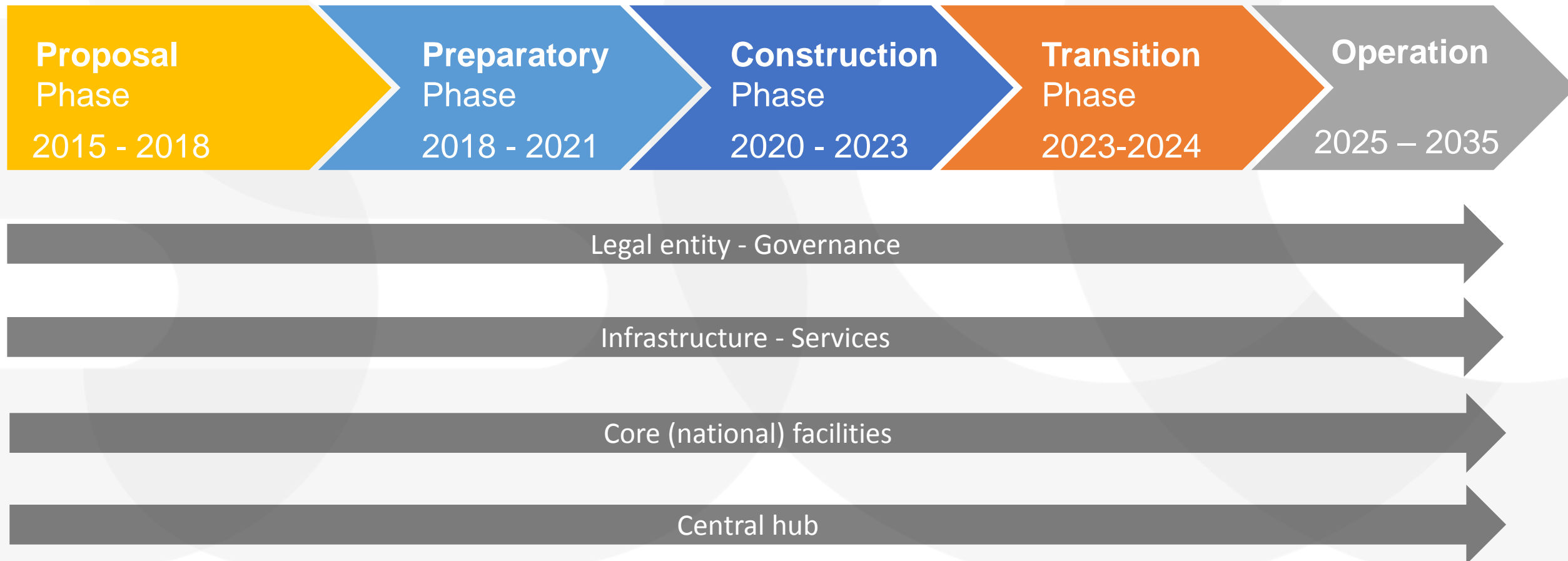
- Largest ever formal agreement between natural science collection facilities
- **A system of distributed facilities**
- Centralised shared governance model

- One European Collection of scientific assets
- Common Collections development strategy
- Economies of scope and scale
- Monitoring impact of collections (documenting ROI)
- Specialisation strategies (e.g. in alignment with national priorities, e.g. Smart Specialisation Strategies)
- Joint Research Agendas

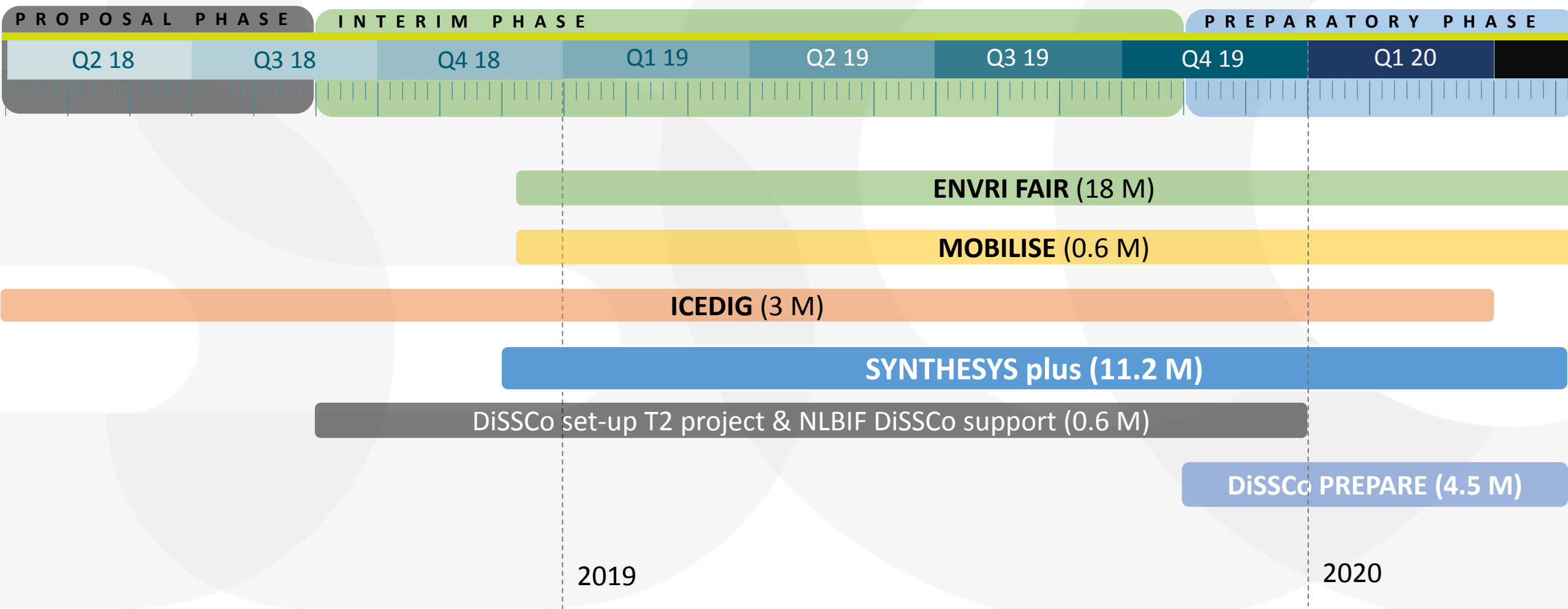
DiSSCo service portfolio by 2025



Simple DiSSCo implementation timeline



DiSSCo-linked projects timeline



DiSSCo Funding Framework



SAP

Strategic
Alignment
of Projects

*Keeping the projects
synchronised at a Task
level is of high priority*

ICEDIG



€3M | 2018-2020

CoL+



€0.75M | 2017 - 2020

SYNTHESYS+

€11M | 2019 - 2021

MOBILISE

€0.6M | 2018 - 2022

DiSSCo Prepare

€4.5M | 2019 - 2022

DiSSCo Construct

2021 - 2024

DiSSCo Deploy

2024 - 2025

DiSSCo Design Study

€10M | 2014 - 2017



DiSSCo portfolio of projects

> EUR 20 Million (2018-2022)



*DiSSCo programme challenge:
get our ducks in a row*

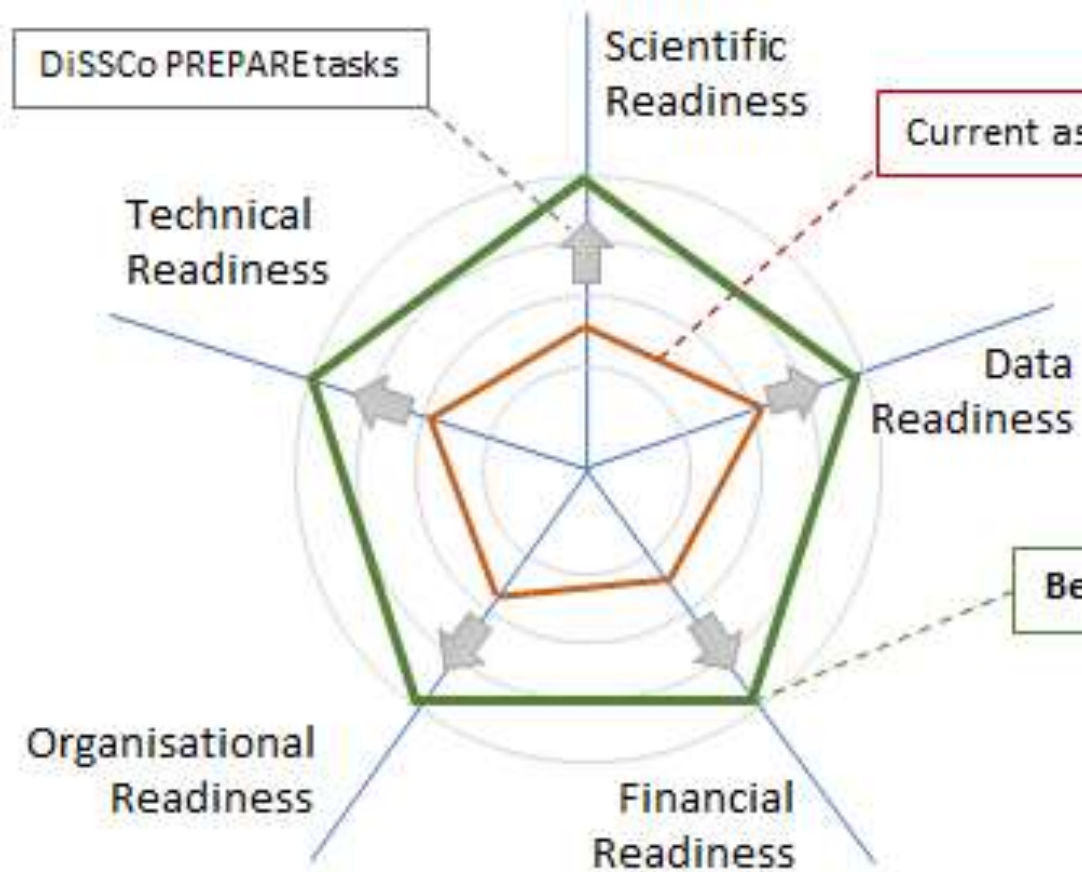
DiSSCo Prepare aspirations

Improve the
Implementation
Readiness Level
(IRL) of the
Infrastructure

Ability to embark on specific implementation actions based on **clear, actionable and with minimum risk guidelines** and across all the aspects of the construction

Deliver the DiSSCo
Construction
masterplan

Build and hand-over the necessary **knowledge base**



Current assessment

ICEDIG
SYNTHESYS +
Mobilise
ENVRI FAIR
CETAF relevant groups
International commons

Best-of-breed

Ready to embark on
implementation of DiSSCo
Services

<i>Dimension</i>	<i>Acronym</i>	<i>Definition</i>
Scientific Readiness	SR	Capacity of the RI to respond to/adjust against current and anticipated user needs
Data Readiness	DR	Capacity of the RI data producers and stewards to serve FAIR data
Technological Readiness	TR	Capacity of the RI to meet the functional requirements of its user audience through comprehensive and sustainable technological solutions
Financial Readiness	FR	Capacity of the RI to put in place and implement a comprehensive business model
Organisational Readiness	OR	Capacity of the RI to set and implement fit-for purpose governance and management policies as well as strategic and operational plans

Dimensions of the DiSSCo IRL

DiSSCo Prepare
Work Programme
In relation to the IRL dimensions

SR

WP 1 - User needs & socio-economic impact

WP 2 - Human Resources, Training & Users Support

DR

WP 3 - Capacity enhancement (Facility-level)

FR

WP 4 - Business framework

TR

WP 5 - Common resources & Standards

WP 6 - Technical architecture & Service provision

OR

WP 7 - Governance, Policy & Legal frameworks

WP 8 - Stakeholder engagement & Communication Strategy

DiSSCo Prepare profile

Consortium

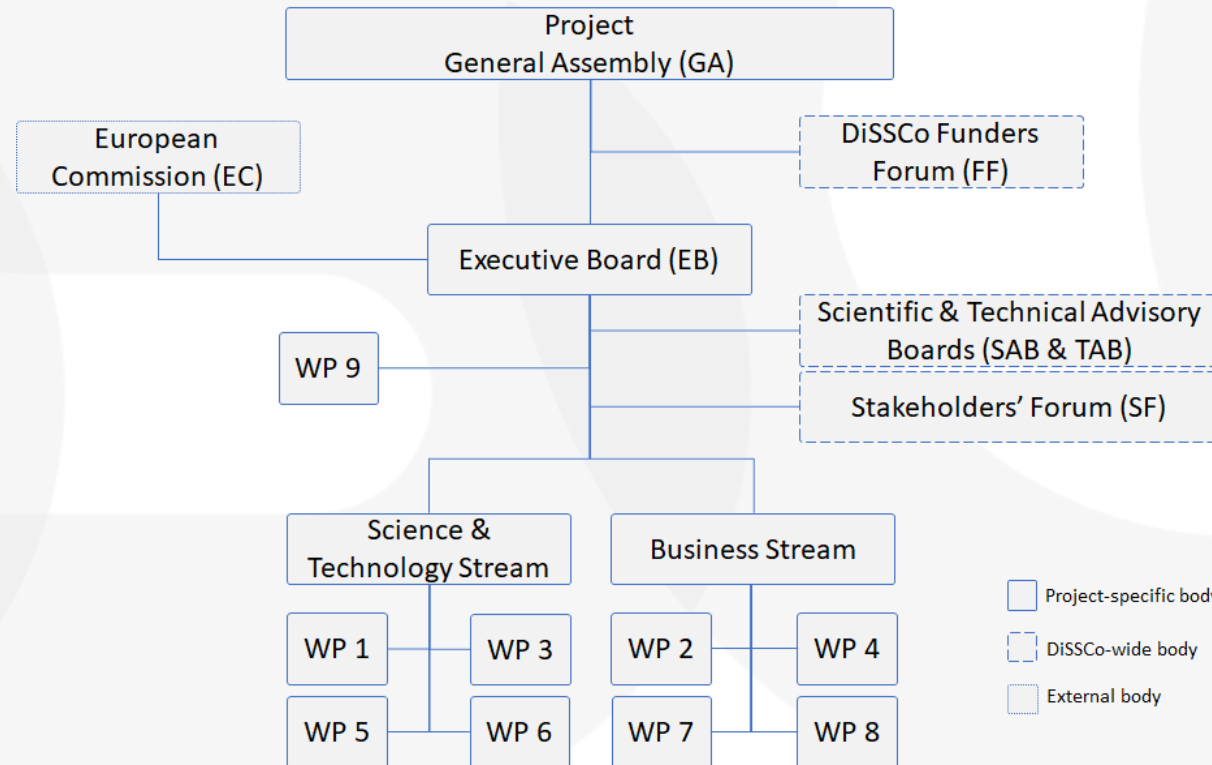
16 core beneficiaries
21 national representatives (incl. NTFs)
2 technical partners

Budget

EUR 4.6 Million
Incl. ca. 15% of in-kind contributions


Duration

36 months
Starting Jan 2020



SAP

Strategic
Alignment
of Projects

ICEDIG 
€3M | 2018-2020

CoL+ 
€0.75M | 2017 - 2020

SYNTHESYS+
€11M | 2019 - 2021

MOBILISE
€0.6M | 2018 - 2022

DiSSCo Prepare
€4.5M | 2019 - 2022

DiSSCo Construct
2021 - 2024

DiSSCo Deploy
2024 - 2025

DiSSCo Design Study
€10M | 2014 - 2017



DiSSCo Coordination & Support
Office

SAP

Strategic
Alignment
of Projects

**Policy harmonisation &
International coordination**

**Standards and other
common resources**

**Data models,
management, publishing
pipelines & services**

Digitisation

**Training & capacity
enhancement**

Synchronisation Groups

	Policy harmonisation & International coordination	Standards and other common resources	Data models, management, publishing pipelines & services	Digitisation	Training & capacity enhancement
CETAF WG	Strategy L&R CCG EIAG	CCG ISTC Earth	E-Pub L&R BioMON	Digi	DEST
ICEDIG	WP7 WP9	WP4	WP5 WP6 / WP8 WP2	WP3 WP4	WP8
SYNTHESYS+	NA2 NA5	NA3 NA4 NA5 JRA3	JRA1 NA5	JRA3 JRA2 NA4	NA2
MOBILISE	Coordination	WG1 WG3 WG4	WG3 WG4 WG5	WG1 WG2 STSM	WG6 /TS
DiSSCo Prepare	WP3 WP4 WP7 WP8	WP5 WP6	WP1 WP3	WP5 WP6	WP2 WP3