



ESFRI

2018 Roadmap Launch

DiSSCO

Distributed System of Scientific Collections



Dimitris Koureas
DiSSCO Coordinator

*Director of International Biodiversity Infrastructures
Naturalis Biodiversity Center, Netherlands*

@DimitrisKoureas

Natural Science Collections support
discovery and modelling of all life on earth



Europe: the global leader

55% of the world's assets with rich historical and global
distribution

*European
Collections:*

1.5 billion specimens

80% of world's species

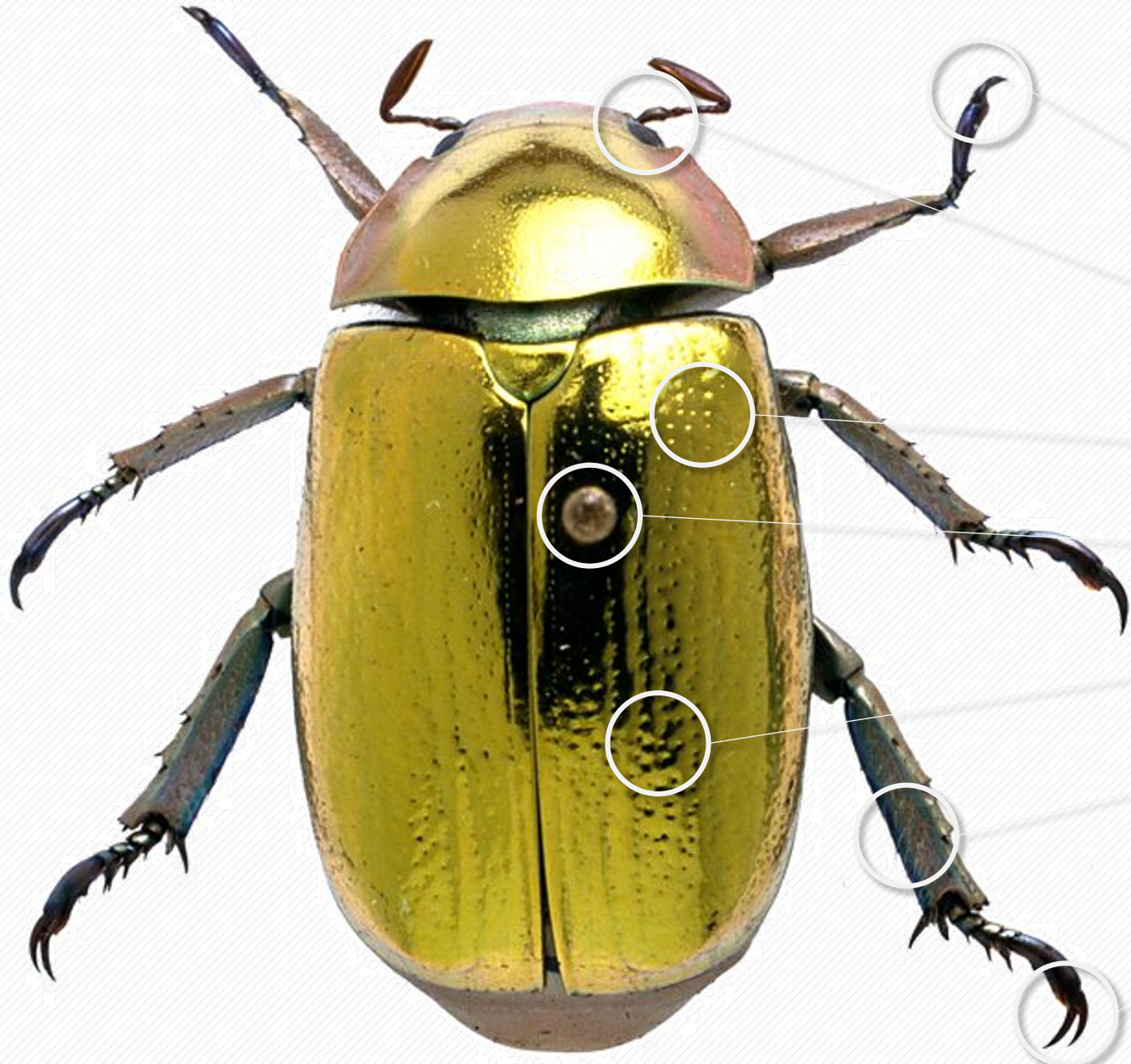
5,000 Full Time Scientists

25,000 scientific visitors pa

10 million public visitors pa

25 million web visitors pa

What's in a Museum specimen?



Genomic data



Biochemical data



Morphological data



Geographical data



Taxonomic Information



Species Interactions data



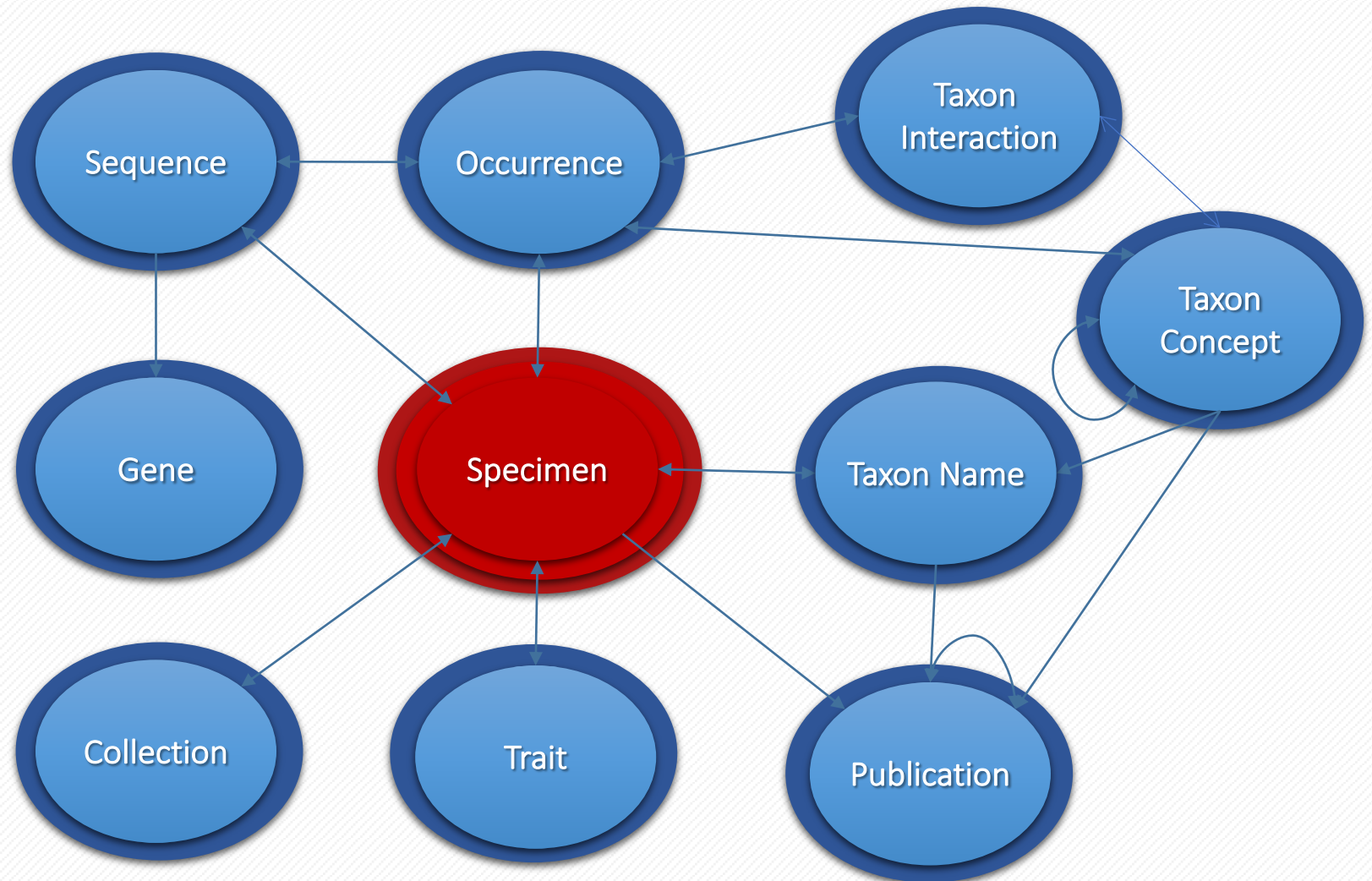
Ecological data



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










Extended Specimens (Digital Specimen Objects)



Physical Object



Digital Surrogate FAIR Digital Object

-  Genomic data
-  Biochemical data
-  Morphological data
-  Geographical data
-  Taxonomic Information
-  Species Interactions data
-  Ecological data



An actionable knowledge unit

Physical scientific curation



Limited to physical access
Expensive
Slow
Incompatible with current scale of needs

DISCO
Distributed System of Scientific Collections



Digital scientific curation



Community curation (annotations)
Better provenance / transaction registry
More responsive to urgent needs
More efficient
Able to accelerate biodiversity discovery

120 National Facilities
21 Countries

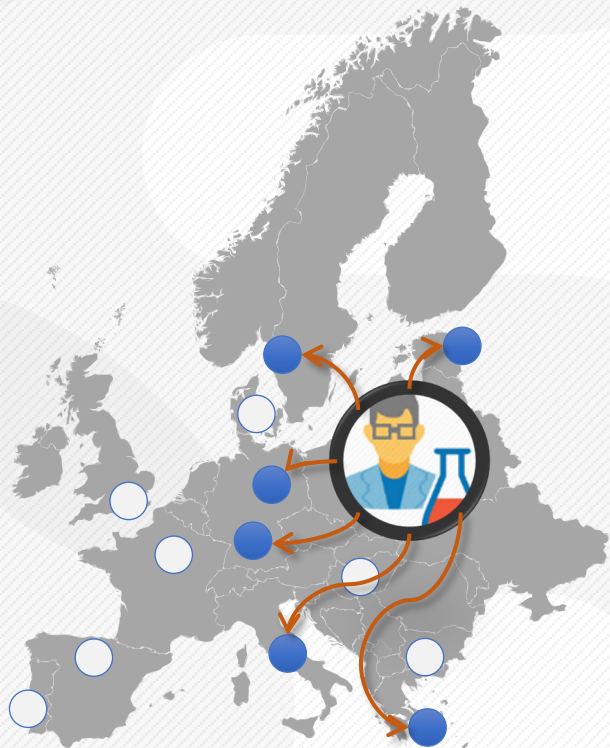
- Largest ever formal agreement between natural science collection facilities
- Centralised shared governance model already in place
- Synchronisation of facilities at acc data and policy level

a new business model:
ONE EUROPEAN COLLECTION

- 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

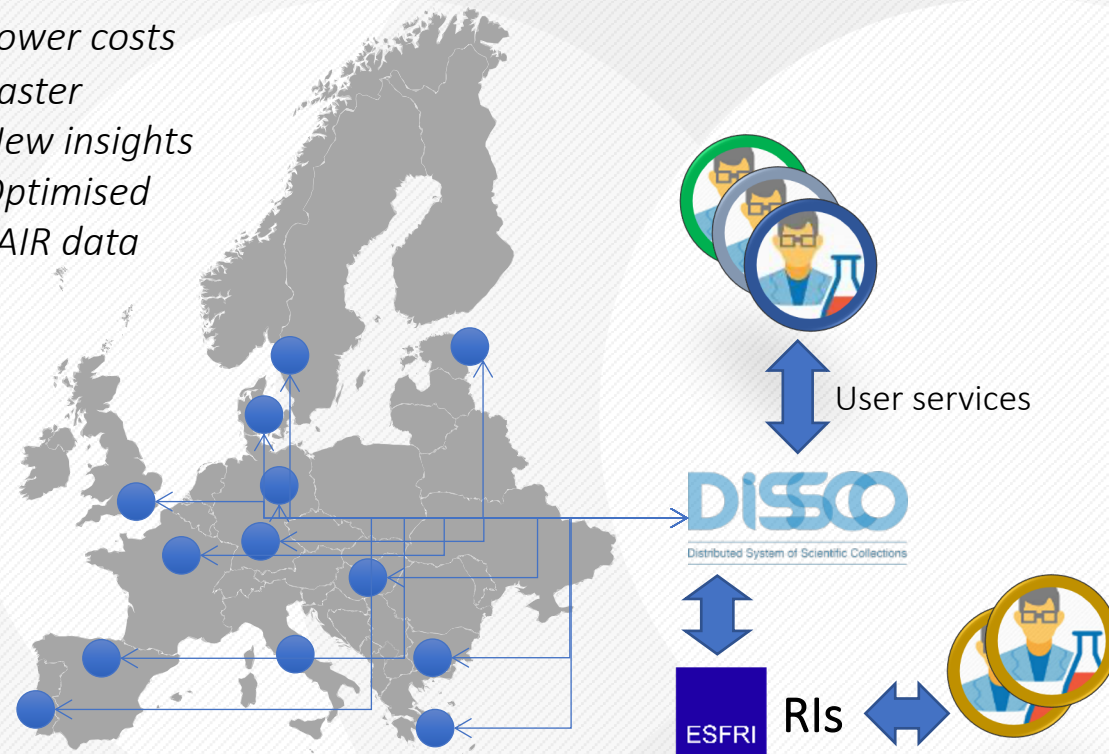
Current model

Slow
Expensive
Inefficient
limited



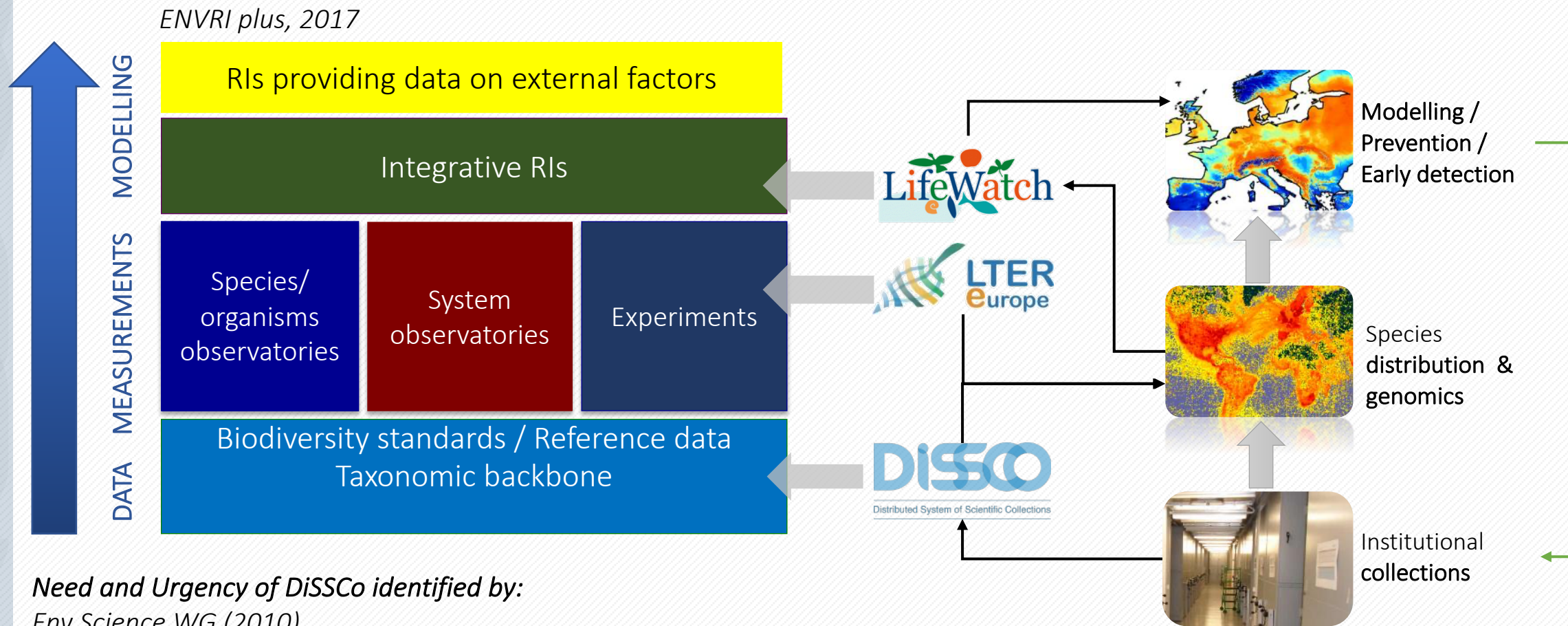
Integrated RI model

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 and link it to collections objects

DiSSCo services to other infrastructures



Need and Urgency of DiSSCo identified by:

Env Science WG (2010)

OECD SciColl (2013)

ESFRI roadmap (2016)

Alien Invasive species use case

- DiSSCo delivers services on bio- and geo- diversity reference data to other RIs (especially in the Environmental domain).
- DiSSCo occupies a foundational layer in the Research Infrastructure landscape

DiSSCo service portfolio by 2025

single
entry point 

1

e-Science services

A one-stop shop for services providing unified **discovery, access, interpretation and analysis** of complex linked data

2

Physical and remote
access services

A universal harmonised **physical access service** and **digitisation on demand** service

3

Support & Training services

Integrated **user support desk** and implementation of **multi-modal training programmes** to enhance skills & competencies

Simple DiSSCo implementation timeline



Governments political and financial commitments

Optimum Implementation Readiness Level (IRL)

Infrastructure in place

Legal entity in place

Full Service portfolio

ELViS

European loans and visit system

ELViS support loans, visits, applications for Access, and track outputs. Smoother, faster, and better access to natural history collections across Europe.

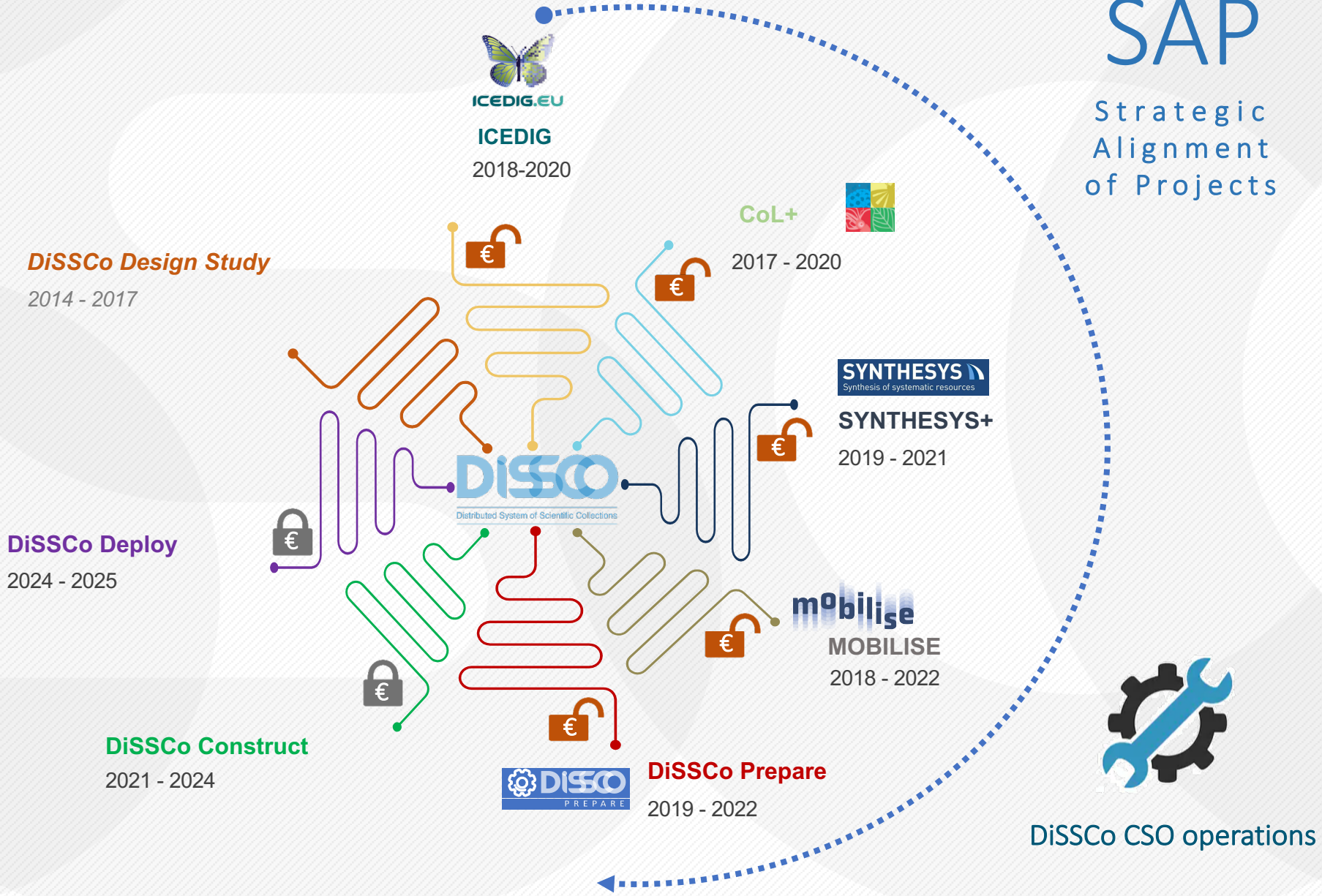
[Register now](#)



Preparing through a complex programme
(EUR 20 million)

SAP

Strategic
Alignment
of Projects



DiSSCo Funding Framework



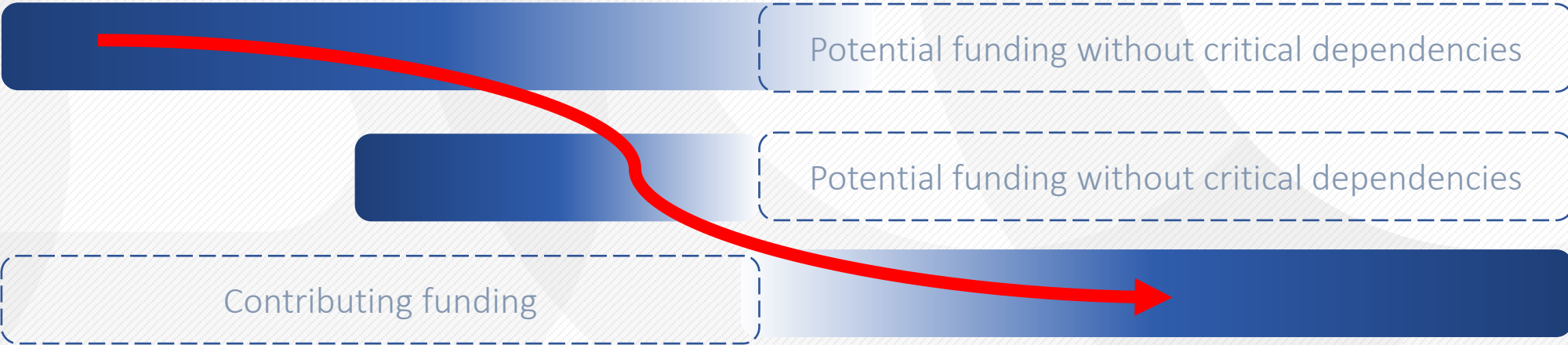
Institutional funding



European Commission



National funding




14 countries already committed

All facets of Partnerships



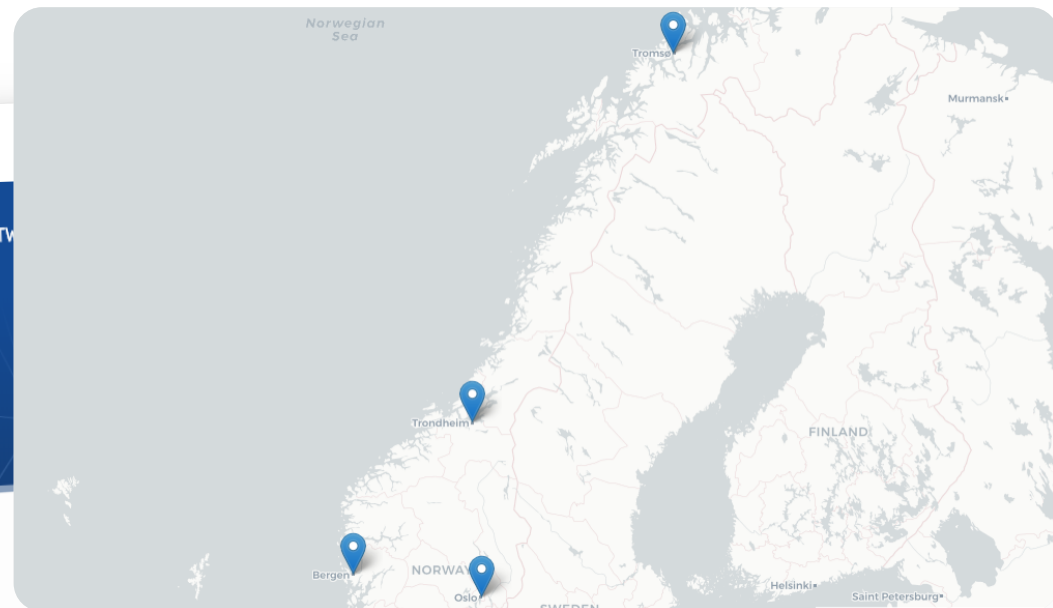
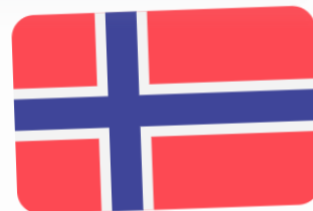
Norway

 This page is also available in English >

General information

About this country

Biologisk mangfold er sentralt i all vår forskning. Dette inkluderer biologisk og geologisk forskning som beskriver mangfold og variasjon i naturen og søker forklaringer på prosessene som leder frem til dette mangfoldet. Våre vitenskapelige samlinger er grunnlaget for museet vårt, og vår forskning søker å bruke og utvikle samlingene våre. Magasinene våre inneholder Norges største samling av naturvitenskapelige gjenstander, omtrent 6,2 millioner totalt, som er samlet inn i løpet av de siste 200 årene. Det meste av materialet er uerstattelig, ikke minst fordi det stammer fra områder som er ødelagt, utviklet eller endret. Av denne grunn har Naturhistorisk museum ved Universitetet i Oslo et stort ansvar for håndtering av materialet.



One world – One collection

Find out more at www.dissco.eu