

# DiSSCO

Distributed System of Scientific Collections



## Connecting the dots... for museum specimens

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**Natural Science Collections are smaller  
and larger pieces of the planet's  
understanding of biological and  
geological diversity**

## A vast network of natural history collections globally



# 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

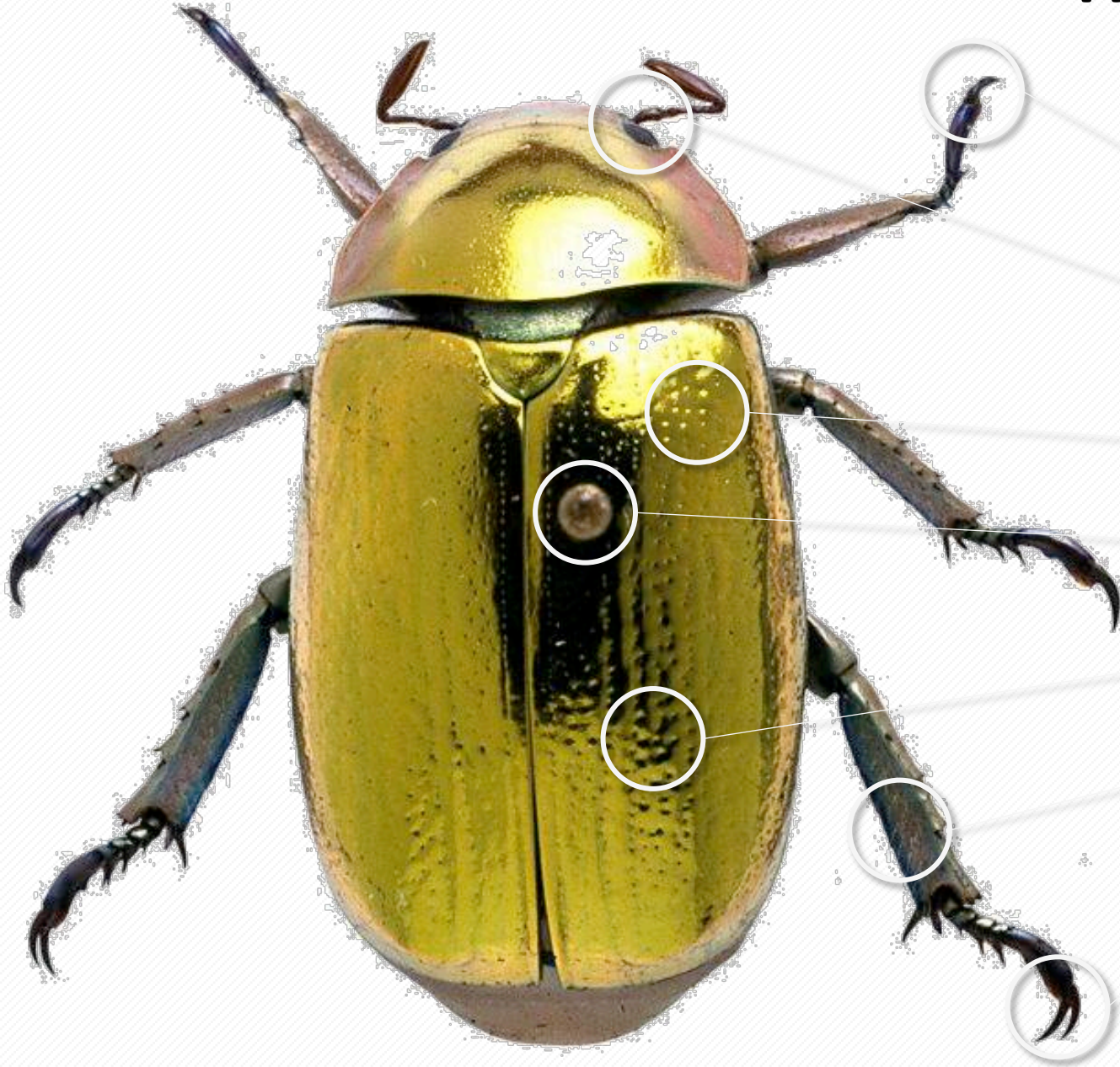
5,000 Full Time Scientists

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

# GBIF



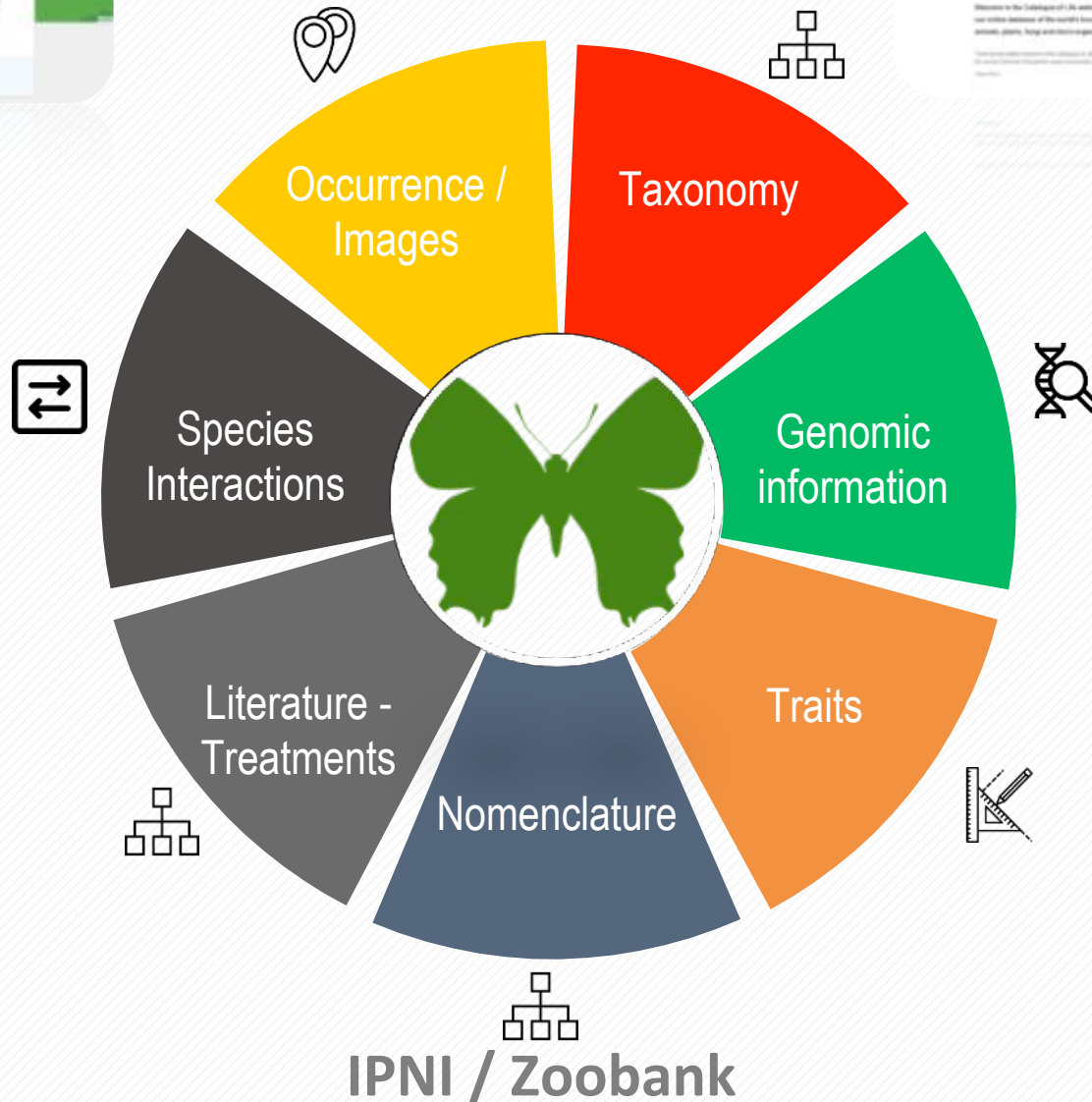
# Catalogue of Life



# GloBI



# Plazi – TreatmentBank



# INSDC databases



# EoL - TraitBank





Distributed System of Scientific Collections

## Research Infrastructure

**121** National Facilities  
**21** Countries

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

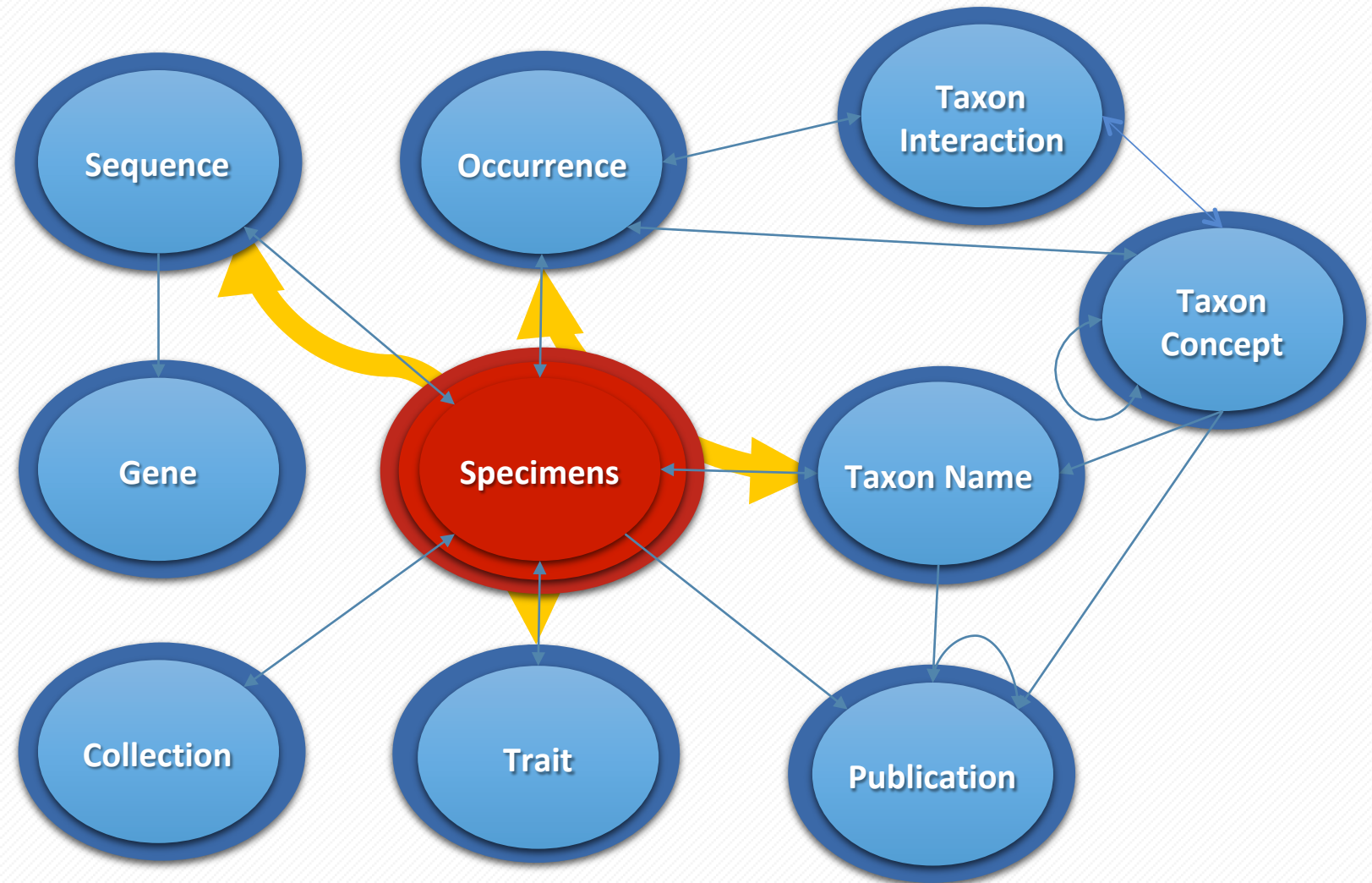




All data classes unambiguously linked to the physical objects they derive from



# Extended Specimens (Digital Specimen Objects)






## Process of creating electric butterflies

Physical Object



Digital Surrogate  
**FAIR Digital Object**

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

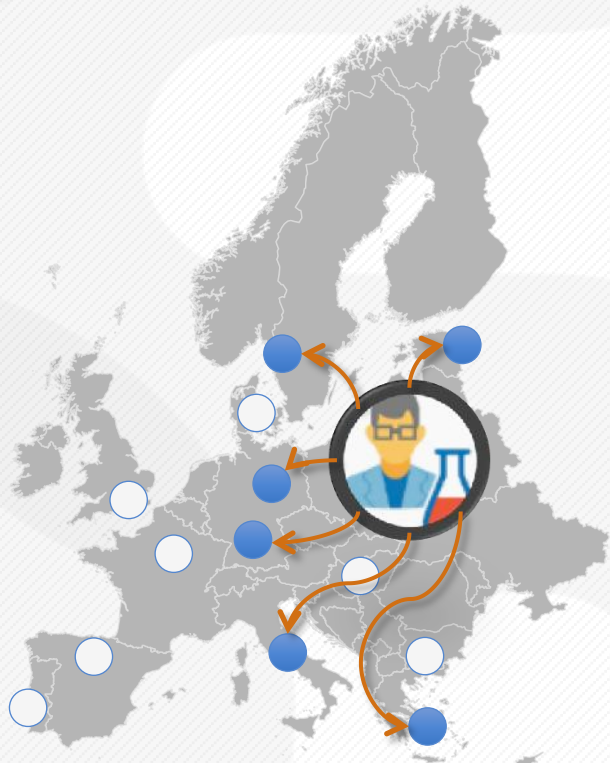


An actionable knowledge unit

# Streamlining access to European collections

## Current model

*Slow*  
*Expensive*  
*Inefficient*  
*limited*

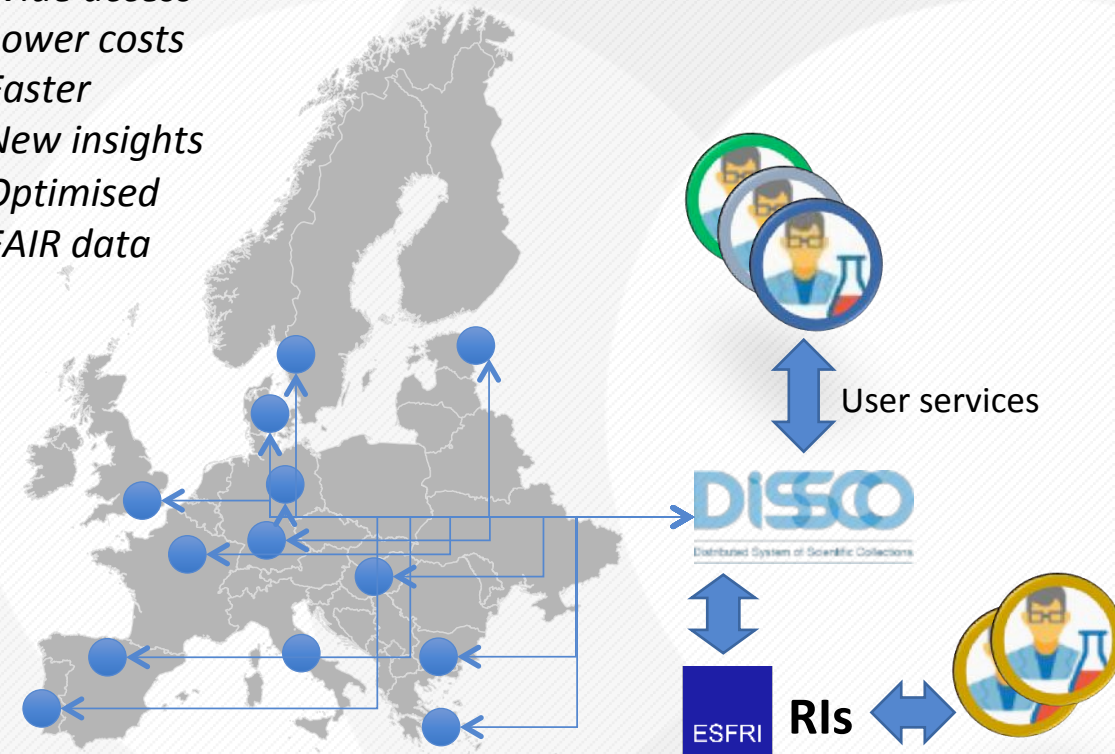


25k researchers access annually European collections  
800k specimens shipped annually across the world



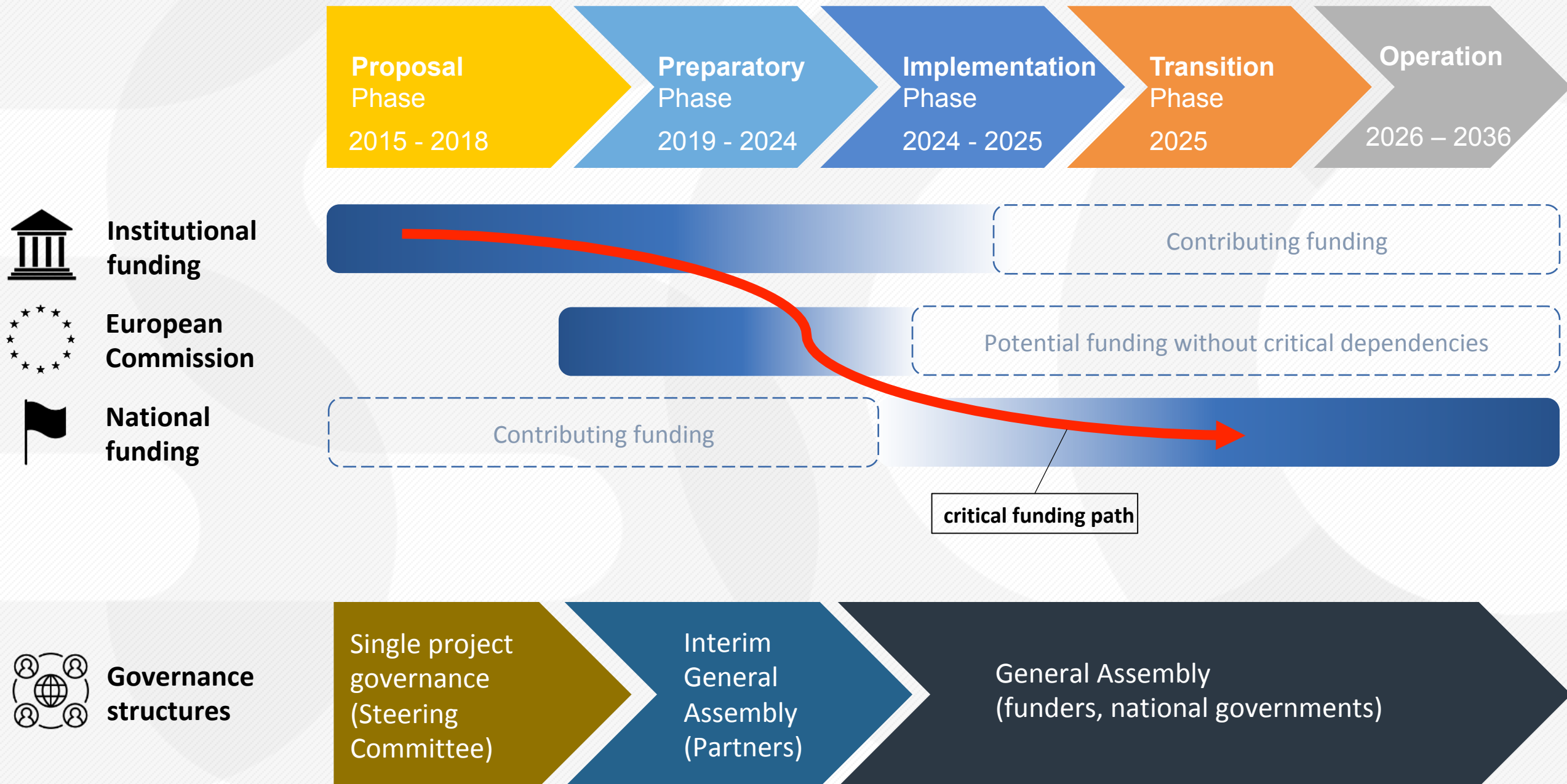
## Integrated RI model

*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 Development Framework



# DISSCO

Distributed System of Scientific Collections

