Power (or weakness) of Distributed Infrastructures

Session 4
Clustering of large research infrastructures of the Czech Republic

4th National Day of Large Research Infrastructures of the Czech Republic

www.elixir-europe.org

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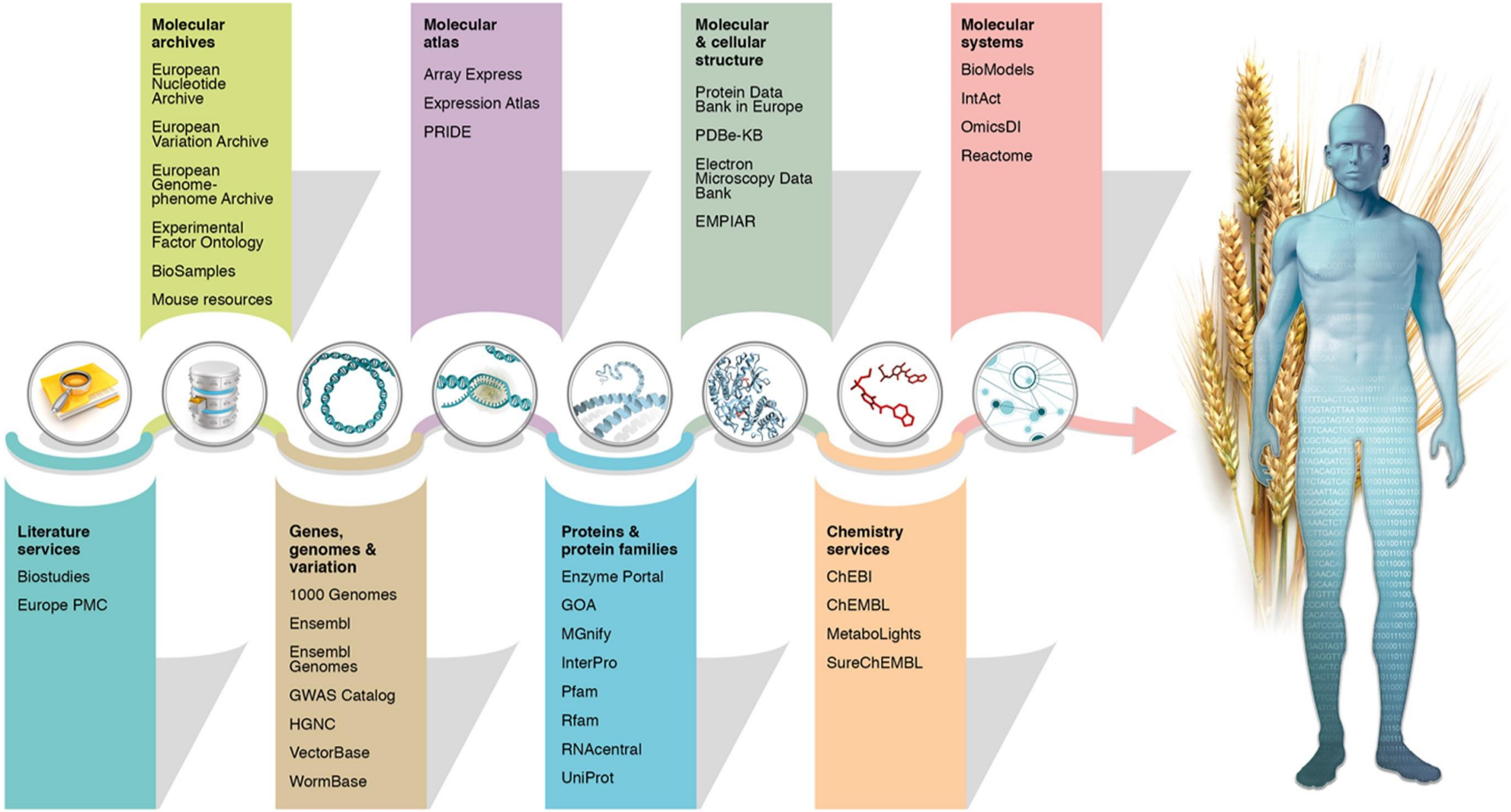
*Head of **ELIXIR CZ***

Life Sciences – Data Types



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ELIXIR CZ - Infrastructure for Biological Data

Data/Service Heterogeneity reflected by ELIXIR CZ distributed character

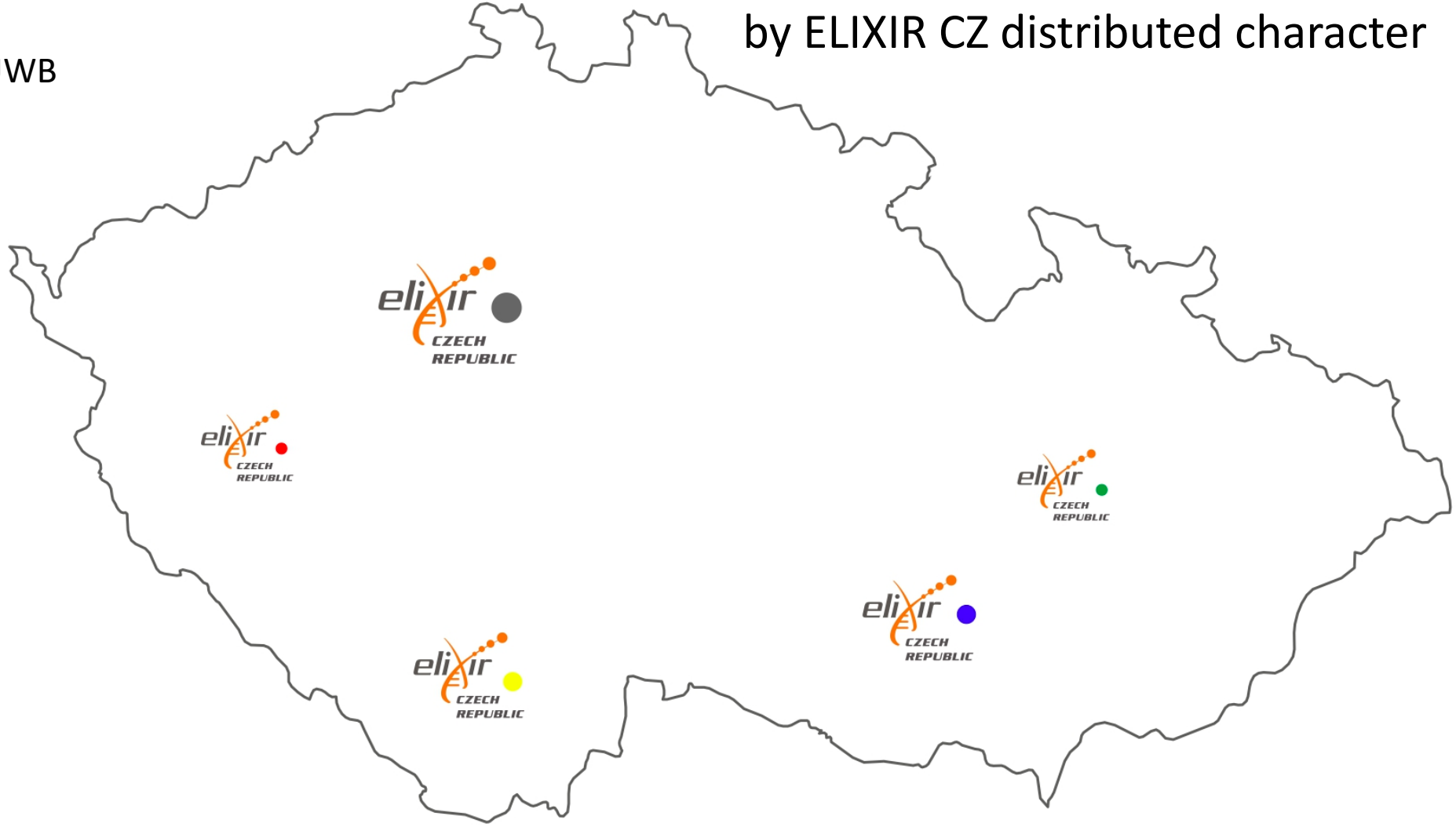
IOCB
IMB
IBT
IMG
ICT
UK
CESNET

UWB

CEITEC
MU – CERIT SC
FNUSA

USB
BC AS CR

UPOL



ELIXIR CZ Distributed Infrastructure

Power

More members more knowledge

Integration and Interoperability of archives

Interoperability of resources

Accepting heterogeneity of user needs/communities

Natural clustering of knowledge/fields

Weakness

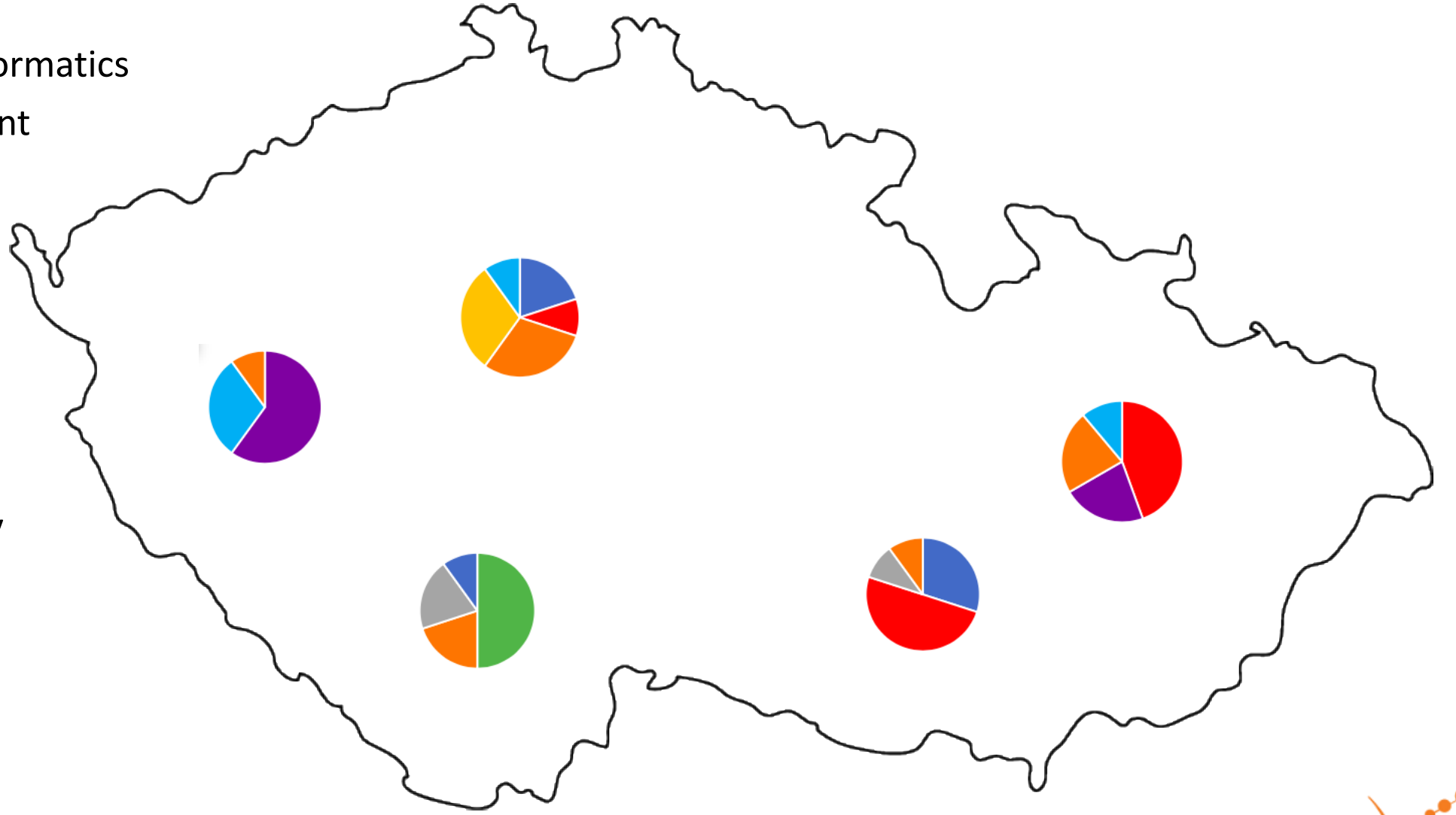
Funding

Governance models (country dependent, institution dependent)

Communication

Clustering of ELIXIR CZ Areas of Expertises – Clustering of the Infrastructure

- Structural Bioinformatics
- Data Management
- Human Data
- Plant Genomics
- Genomics
- Compute
- Proteomics
- Chemical Biology



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ELIXIR is distributed Infrastructure of Nodes (22 Nodes)

Each **ELIXIR** Node has distributed character - about 10-20 Research Institutions per country

How to reach a synergy between **ELIXIR** Nodes?

How to establish vital network between Research Institutions at different National Nodes?

How to coordinate and collaborate with other BMS Infrastructures

Solution:

Via **ELIXIR** Platforms

Via **ELIXIR** Communities

Via **ELIXIR** Projects (H2020 – ELIXIR Excelerate, ELIXIR-Converge, Internal ELIXIR Projects)

Via **BMS Consortia** Projects

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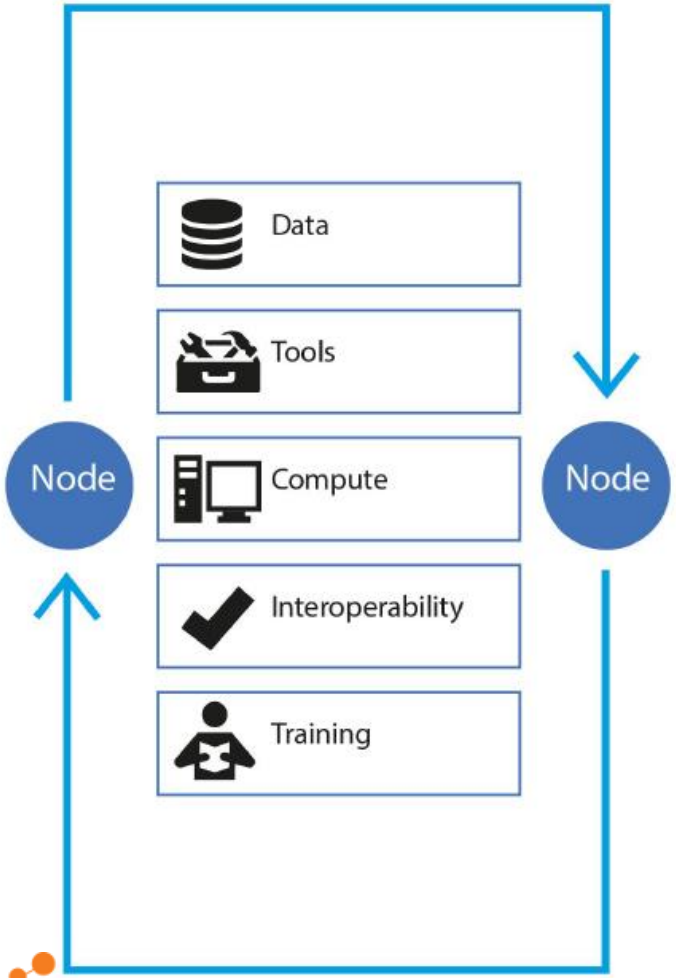
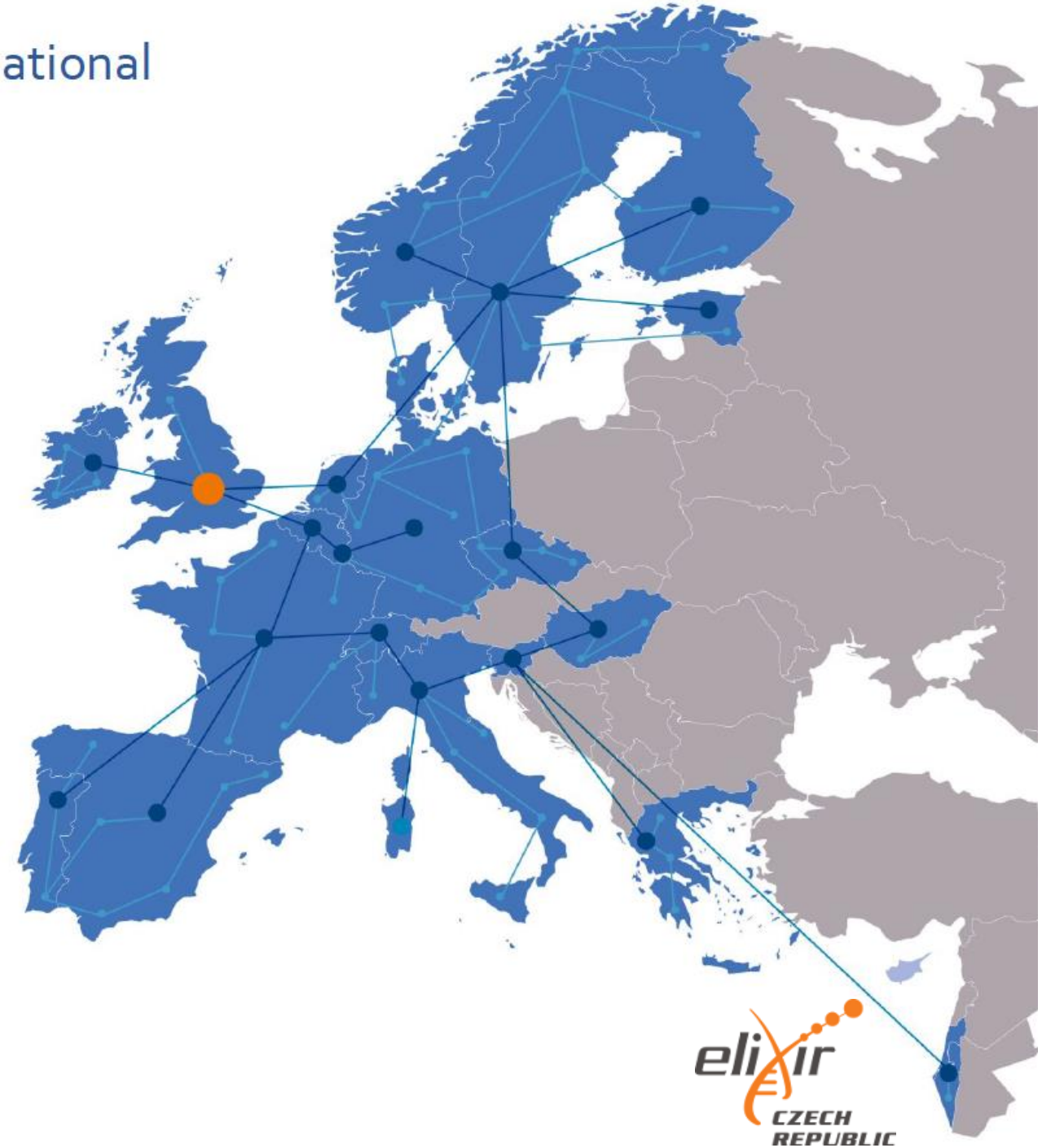
ELIXIR Strategy: Connect national and international services into a Europe-wide federation





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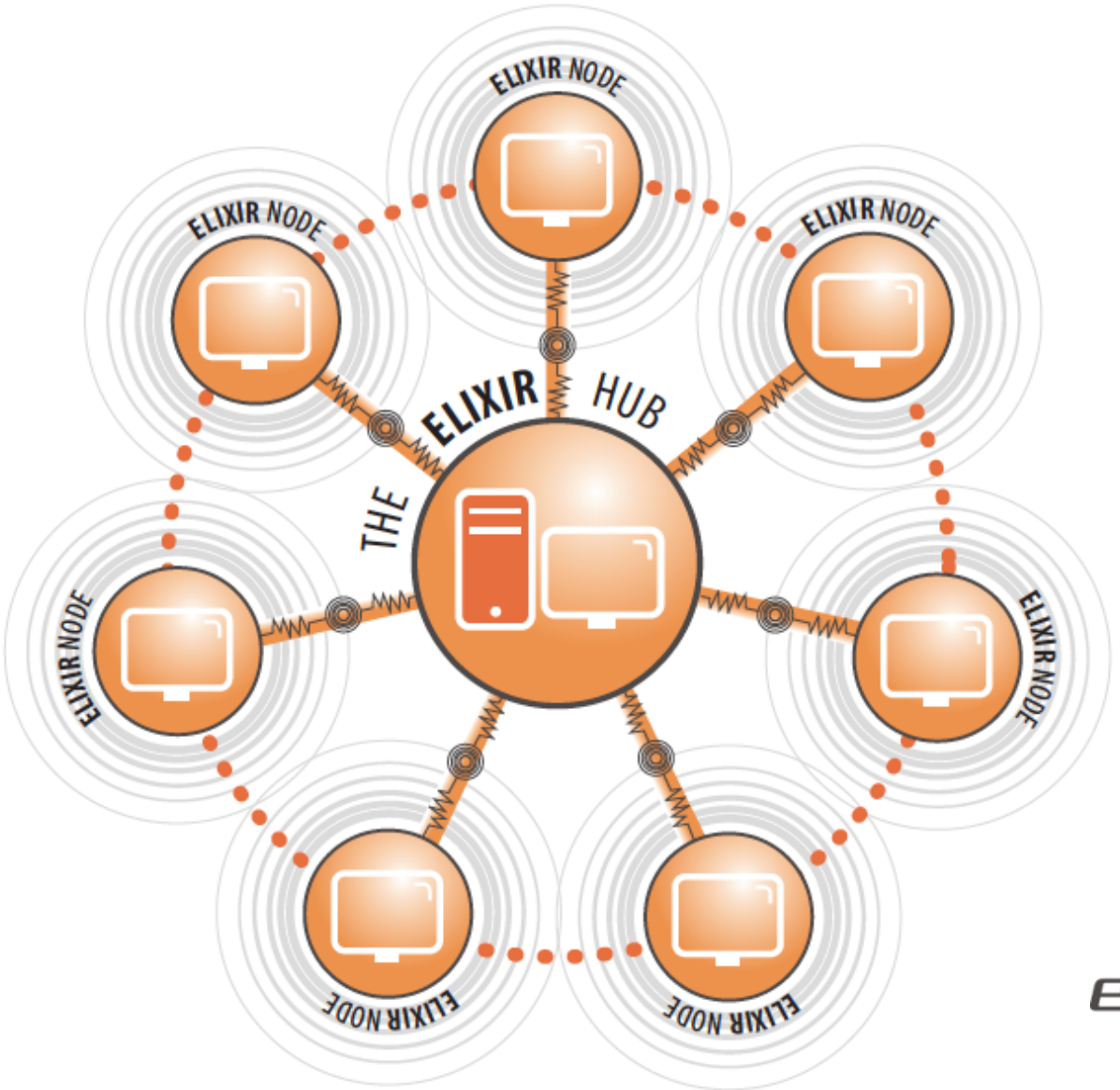
A distributed infrastructure to scale with the challenge

ELIXIR data infrastructure for Europe's life science research sector

ELIXIR Nodes build local bioinformatics capacity throughout Europe

ELIXIR Nodes build on national strengths and priorities



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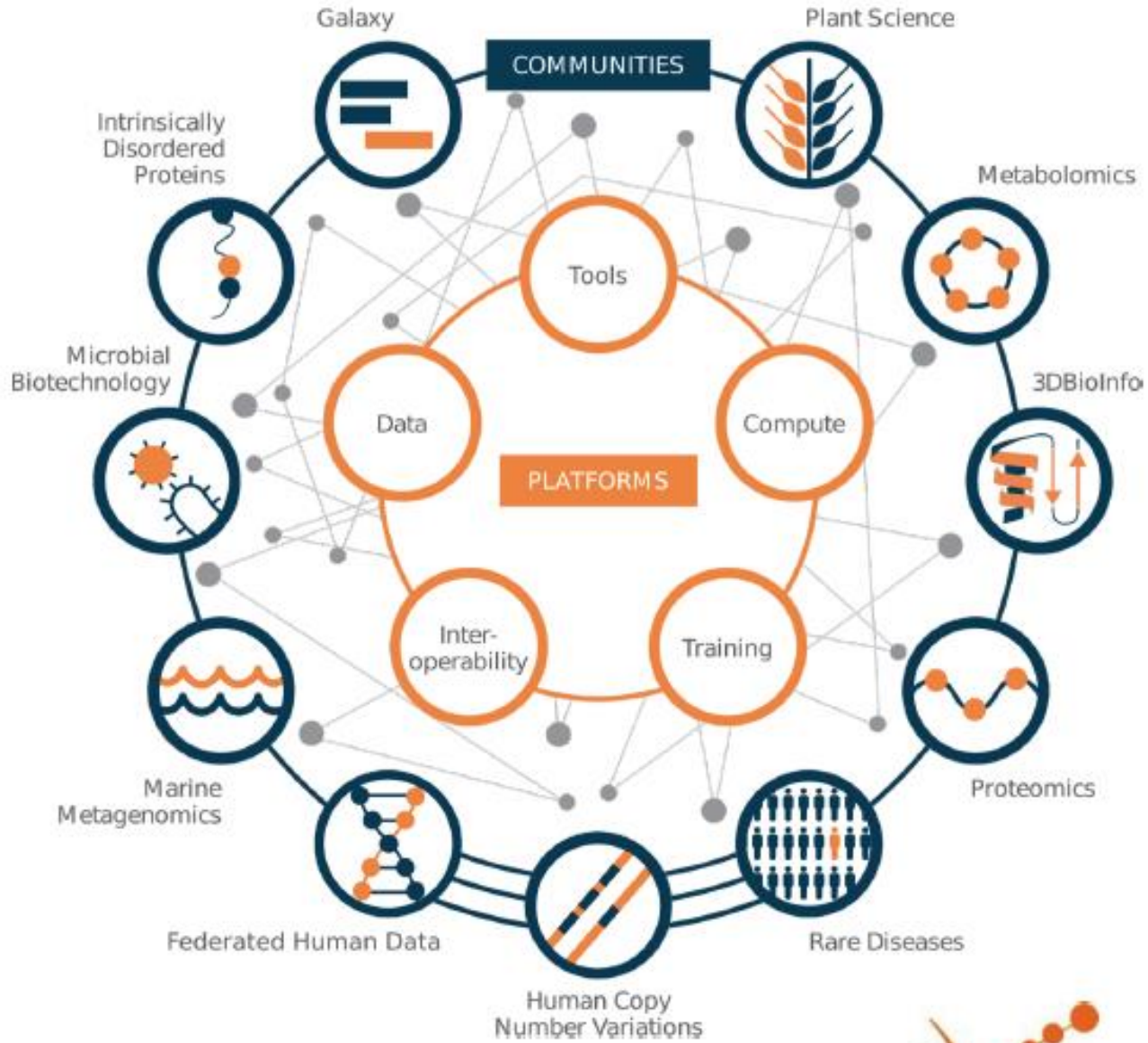
ELIXIR Structure

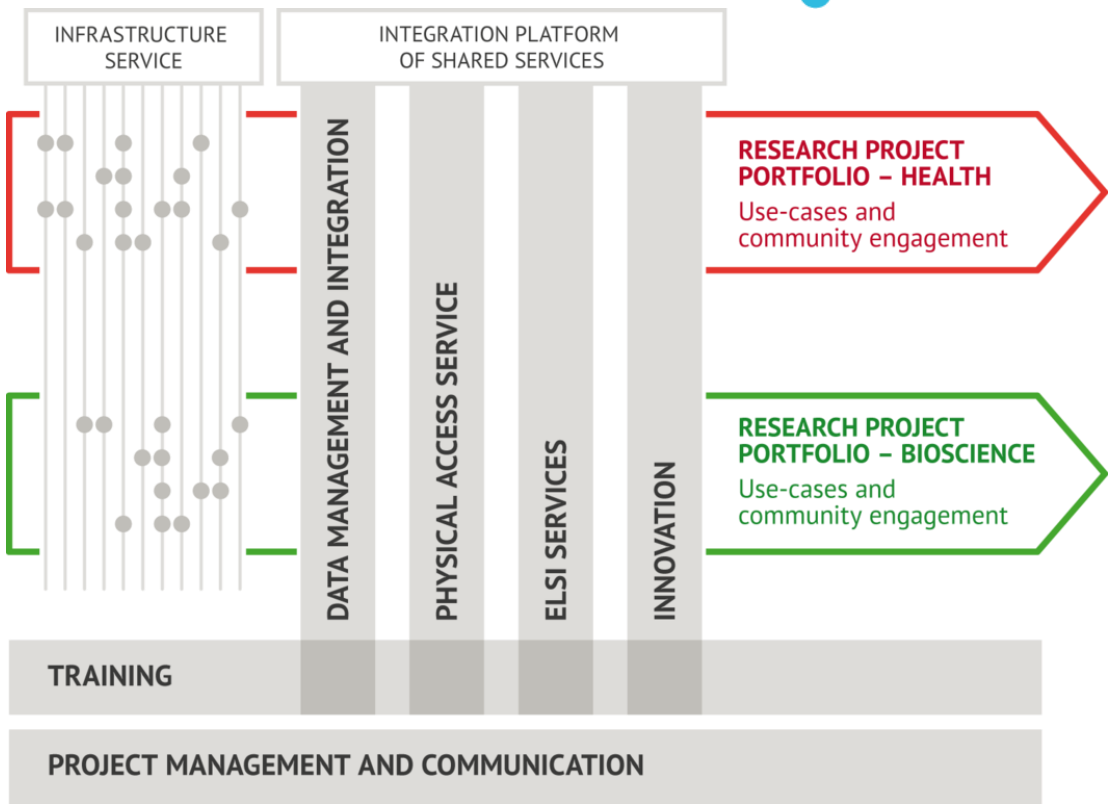
ELIXIR coordinates activities through at least one of the five 'areas of activity' called Platforms:

- Compute
- Data
- Interoperability
- Tools
- Training

These Platforms are driven by eleven ELIXIR Communities which develop standards, services, and training within their life science domains.



Shared services for life-science



Participants

- BBMRI-ERIC
- EATRIS-ERIC
- ECRIN-ERIC
- ELIXIR
- EMBRC
- EMPHASIS
- ERINHA
- EU-OPENSCREEN
- Euro-BioImaging
- INFRAFRONTIER
- Instruct-ERIC
- ISBE
- MIRRI

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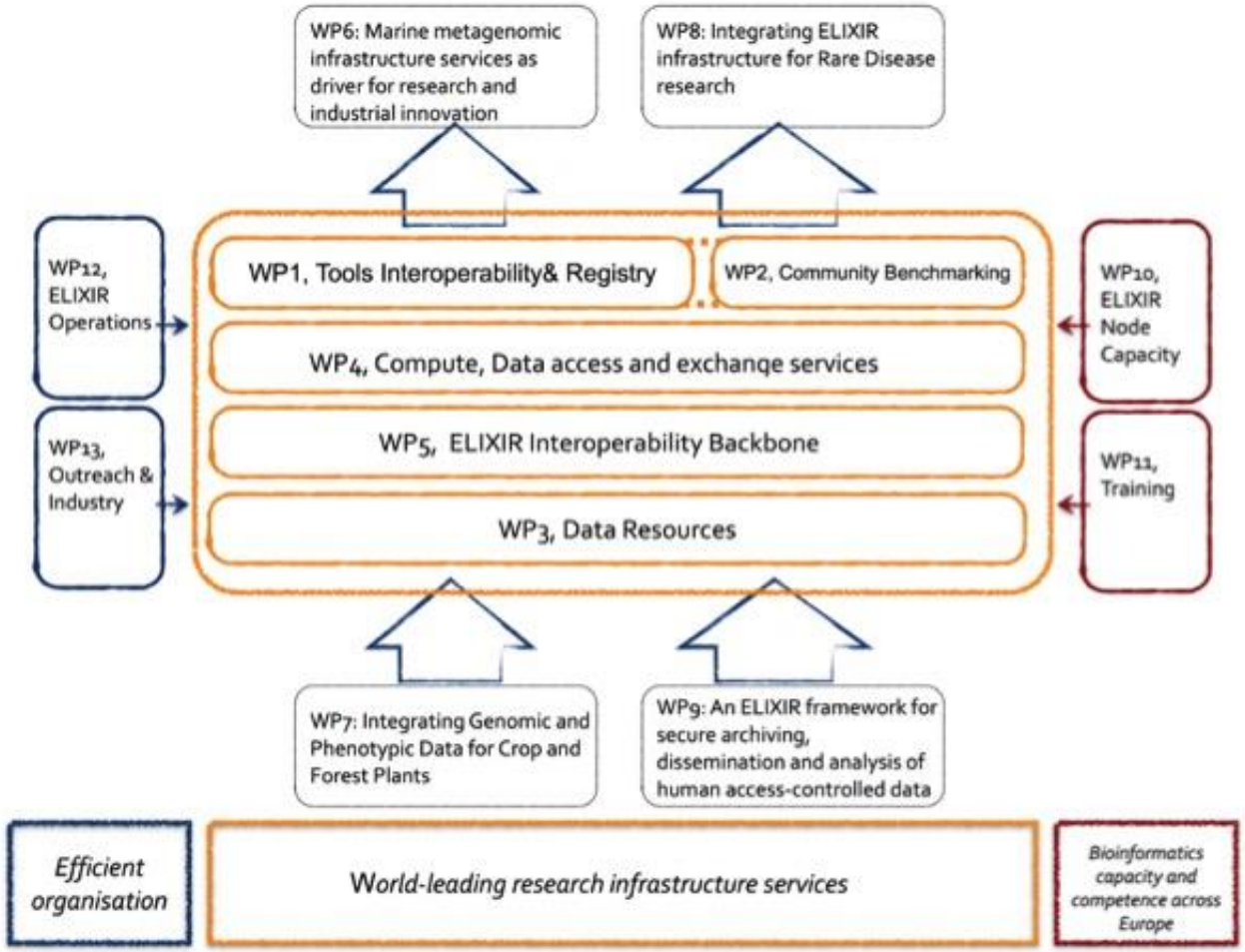

Conclusions:

- Clustering within distributed infrastructure is natural schema of operation
- Clustering makes possible to define interfaces with other BMS Infrastructures
- Distributed character of an Infrastructure is positive element of development

- Any funding application requires high level of collaboration and synergy
- Communication between partners is critical step of Infrastructure evolution
- Distributed Infrastructure needs its own „VISION“

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Thank you for your attention