

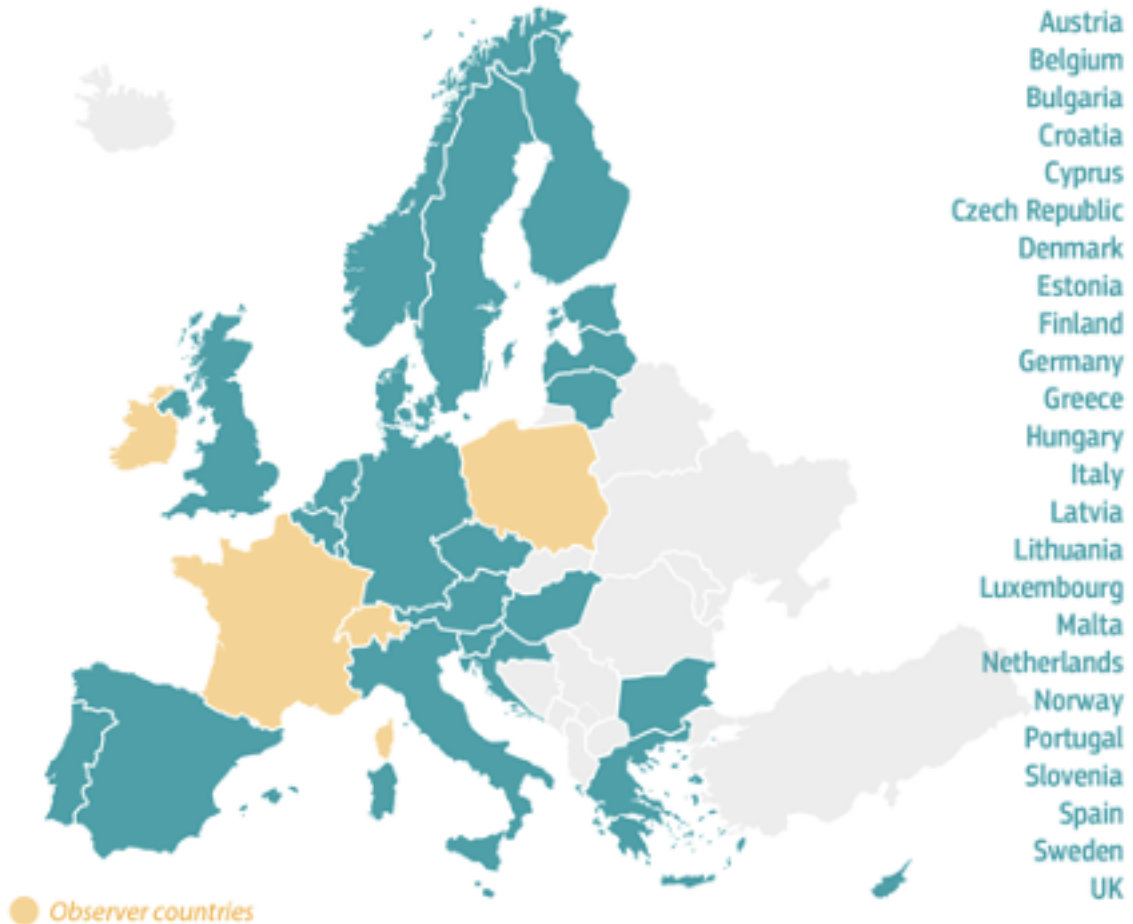
# European Genomic Data Infrastructure & EHDS

Juan Arenas Márquez, Head of ELIXIR PMO  
14 November 2022



# 1+MG initiative

“ 1+MG facilitates countries to realise a practice of personalised medicine and health, based upon a shared ‘trust framework’ and the infrastructure to safely access and integrate high quality genomic data and other health data across borders ”



updated on 18 December 2020



Funded by  
the European Union

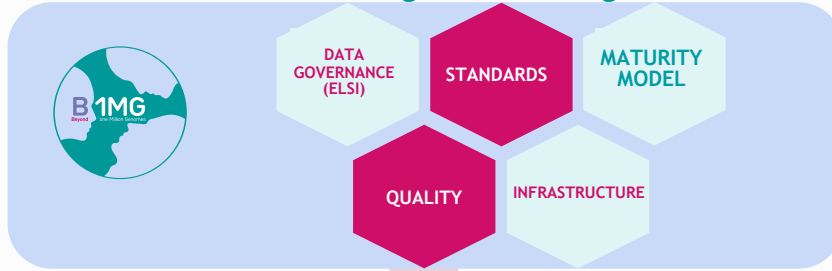


# Realising a practice of personalised medicine & health



Long-term strategy: cross-border access to genomic data, implementation of genomics-based health  
1+MG Group, National Mirror Groups and Thematic Working Groups, Use Cases Working Groups: cancer, infectious diseases, rare diseases, common complex diseases, industry  
*Genome of Europe (GoE)*

## Design and testing



## 1+MG Trust Framework

- Data governance
- Standards and Quality
- Infrastructure
- Maturity model

## Scale up and sustainability



Healthdata@EU Pilot

1+MG Cancer Use Case



European  
Genomic Data  
Infrastructure





# GDI participation in numbers

**44** project beneficiaries

**4** Affiliated Entities (AEs)

**6** Associated Partners (APs)

**20** countries (all European)

At least **6** countries operational by **2024**

At least **15** countries operational by **2026**

TOTAL: **54** project partners

(**2** Research Infrastructures)

Budget: €**40**m co-funded **50**%





# Project structure

**ELIXIR**

**Coordination and Support:** Project mobilisation, monitoring and control. Communications, Stakeholders, Genome of Europe coordination

## **Pillar 1 - Long-term sustainability** LU, ES

Provide the 1+MG Group and committed countries with models and frameworks on which they can agree to develop a sustainable, European genomics data infrastructure to support better healthcare and research

## **Pillar 2 - 1+MG infrastructure deployment** FI, SE

Incrementally increase the interoperability of technical services and readiness levels of European, national and regional data hubs

## **Pillar 3 - Application and innovation solutions** ES, BE, DE

Develop the technical solutions required to tackle disease scenarios.





# Pillar I Long Term Sustainability LU, ES

DATA GOVERNANCE  
(ELSI)

## Governance Model

What needs to be sustained and what structures have to be in place to operate 1+MG and its Data Infrastructure beyond 2026

## Legal entity

Which is the most appropriate legal instrument to enable it

## Business Model

Which is the cost and how it will be funded

**Member States representatives direct involvement is crucial to:**

- Define solutions
- Promote adoption
- Sustainability



# Pillar II 1+MG infrastructure FI, SE

1+MG Trust Framework

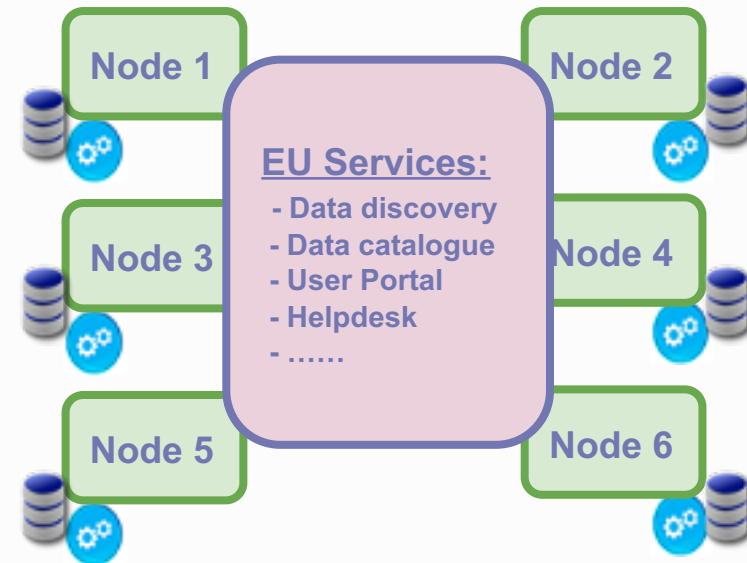


+  
Real PoCs: RD, Cancer  
(<https://tinyurl.com/B1MGRD>)

+  
CO-DevOps starter kit  
(based in community open standards)

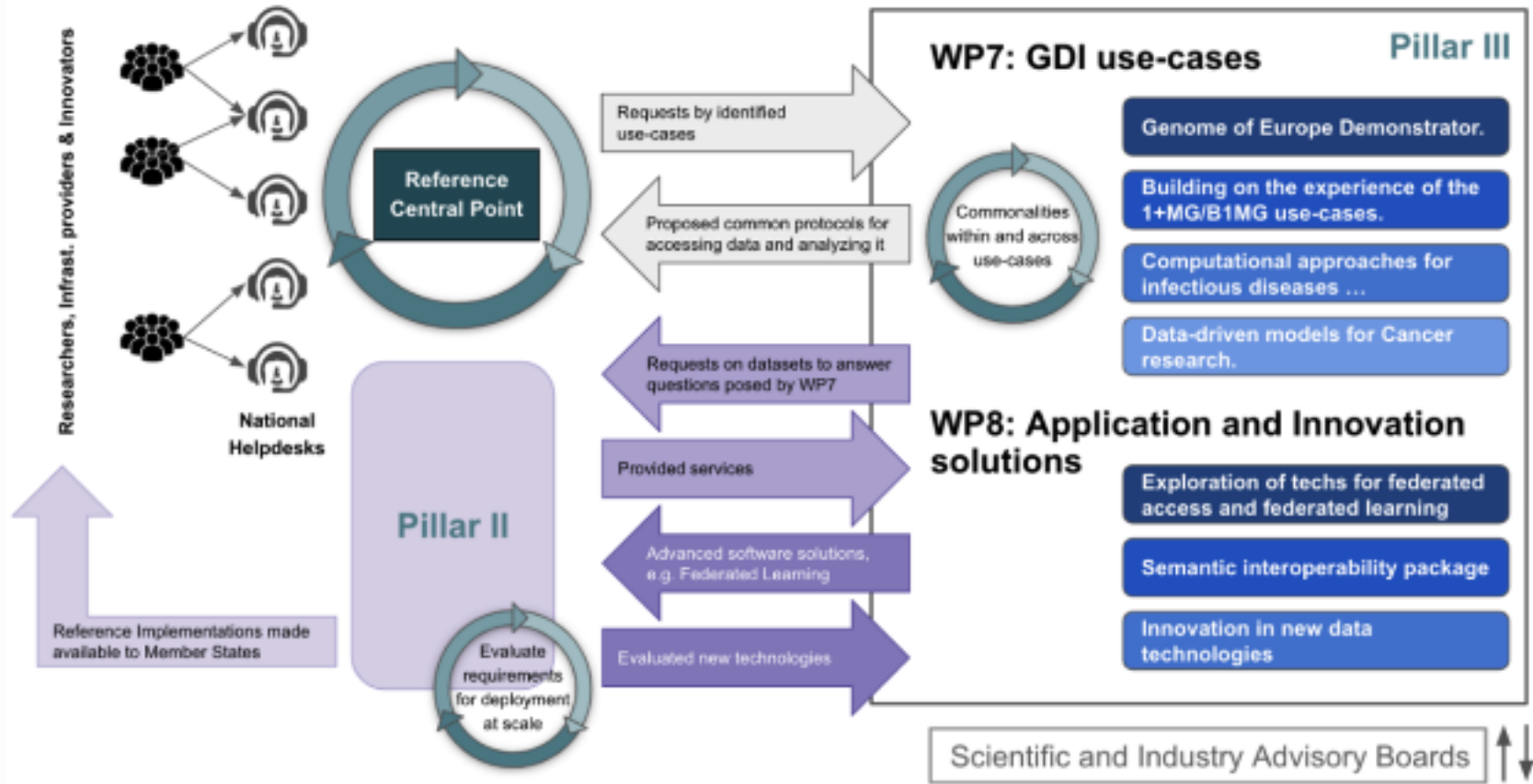
Infrastructure Services and Components	Product Owner	DevOps 1
LifeScience AAI - Access management	Country 1	Country 2
Synthetic Data - Data reception	Country 2	Country 3
User Portal - Access Management	Country 4	Country 5
Beacon Network - Discovery	Country 5	Country 1
Federated EGA - Storage and Interfaces	Country 1	Country 4
Federated Workflows - Processing	Country 4	Country 5
Beacon V2 - Discovery	Country 5	Country 1
Packaging and deployment of the Reference Implementation	Country 1	Country 4
hitsget - Data Reception	Country 4	Country 5
User Portal - Data Catalogue	Country 5	Country 1
REMS - Access Management	Country 1	Country 4
Containerised computation - Processing	Country 4	Country 5

=  
1+MG Technical Infrastructure  
Operational by 2024

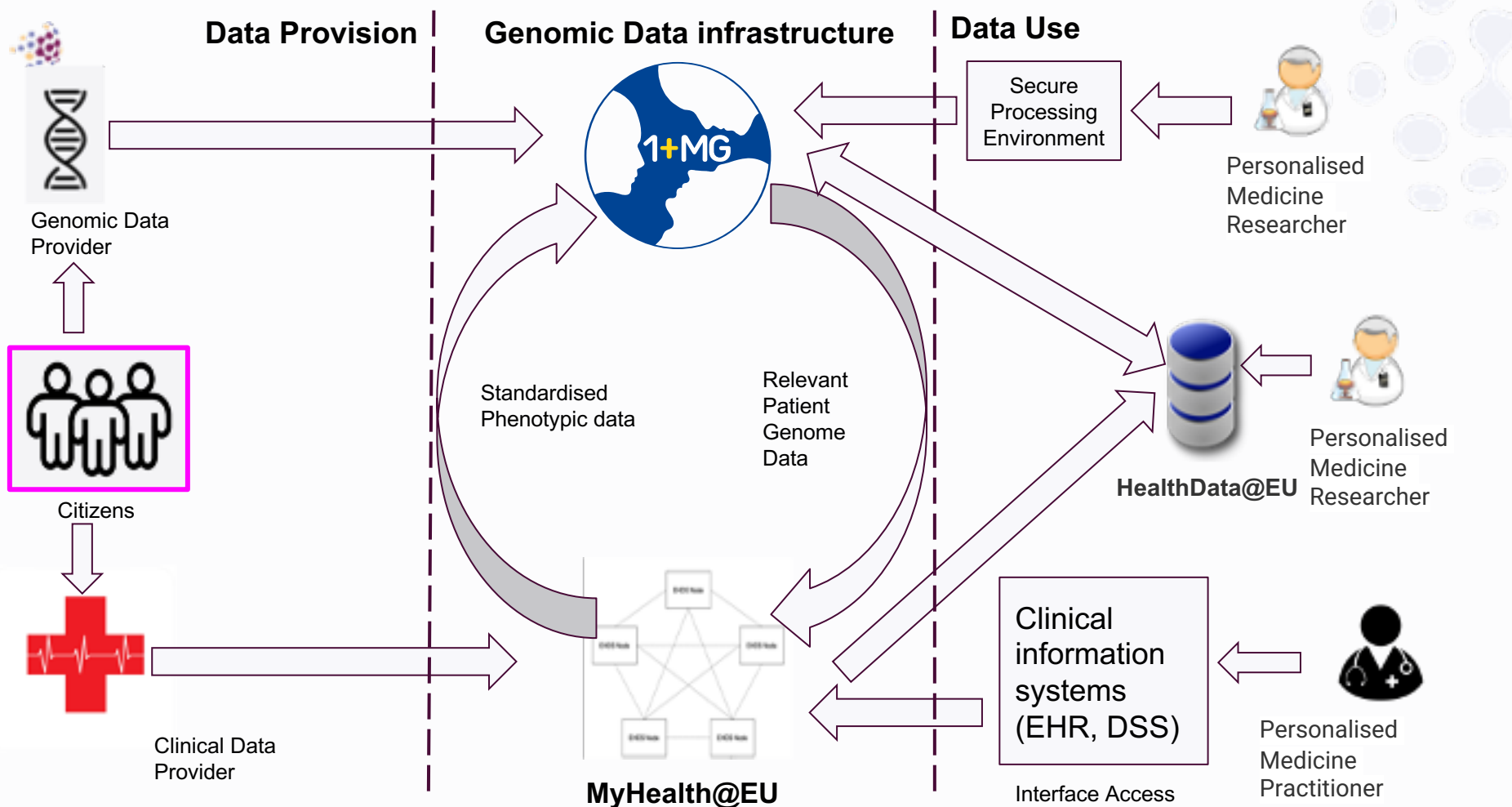




# Pillar III Application & innovation solutions ES, BE, DE









# 1+MG Cancer Use case (Healthdata@EU)

- Data providers
  - **EHDS Healthdata@EU nodes**
    - Belgium, Denmark, Hungary and Norway
  - **Non EHDS nodes**
    - BBMRI-ERIC
- Data
  - **Genomic (WGS, WES), phenotypic and socioeconomic data**
- 1+MG & ELIXIR experts (ELSI, Data Standards, Infrastructure)
  - **ELIXIR Hub, Finland, Luxembourg, Spain, Sweden and The Netherlands**
- Demonstrator
  - **Data discovery**
  - **Data access**
  - **Federated analysis**





# Consortia





# Consortia (continue)





**European  
Genomic Data  
Infrastructure**

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Thanks!

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GDI website



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