

# The Spanish National Bioinformatics Institute (INB/ELIXIR-ES)



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The **Spanish National Bioinformatics Institute (INB)** is the **ELIXIR Node in Spain (ELIXIR-ES)**. The INB was founded in 2003 as a distributed network of nodes with a central coordination hub. Since its renewal process (2018 - 2020), the INB/ELIXIR-ES has increased the participant nodes to 19 research groups distributed across 13 institutions in Spain, and it has become the bioinformatics platform of Institute of Health Carlos III (ISCIII). The two main overarching objectives are: deepen its alignment with ELIXIR and its communities with a strong focus on human data related activities; and increasing its translational medicine ties with the Spanish National Health System (SNS).

## Core Resources

Strong focus on Biomedical activities including the controlled access to human data through the **European Genome-phenome Archive (EGA)**, jointly managed by EMBL-EBI and CRG with the technological support of BSC. EGA is part of the **ELIXIR Core Data Resources** as well as the **ELIXIR Recommended Deposition Databases**. ELIXIR-ES is also supporting Rare-diseases research by contributing towards the sustainability of the **RD-Connect platform** leading the RD-Connect Genome-Phenome analysis Platform (GPAP), key component of the EJP-RD and the Beyond 1 Million Genome (B1MG) project.

## Alignment and involvement in ELIXIR

- Co-leadership of the **ELIXIR Tools platform**.
- Co-leadership of the **ELIXIR Federated Human Data** and **Rare-diseases communities**.
- Development of the benchmarking platform **OpenEBench**
- Designation of ELIXIR-ES resources 3D-Bionotes and DisGeNET as part of the ELIXIR **Recommended Interoperability Resources (RIR)**.

Moreover, groups from INB/ELIXIR-ES have also an intense activity across different **platforms, communities, focus groups** and **implementation studies**.

- **Communities**: Federated Human Data, Human Copy Number Variation, Rare Diseases, Metabolomics, Galaxy, Proteomics, 3D-BioInfo, Intrinsically Disordered Proteins.
- **Platforms**: Compute, Training, Interoperability.
- **Focus Groups**: Machine Learning (ML), Cancer, Health Data.
- **Strategic Implementation studies**: ELIXIR Beacon, Rare Diseases Infrastructure, ELIXIR Federated Human Data, Deploying Reproducible Workflows Across Cloud Environments and 4 other implementation studies.

INB/ELIXIR-ES are also active in relevant activities for ELIXIR and the whole community:

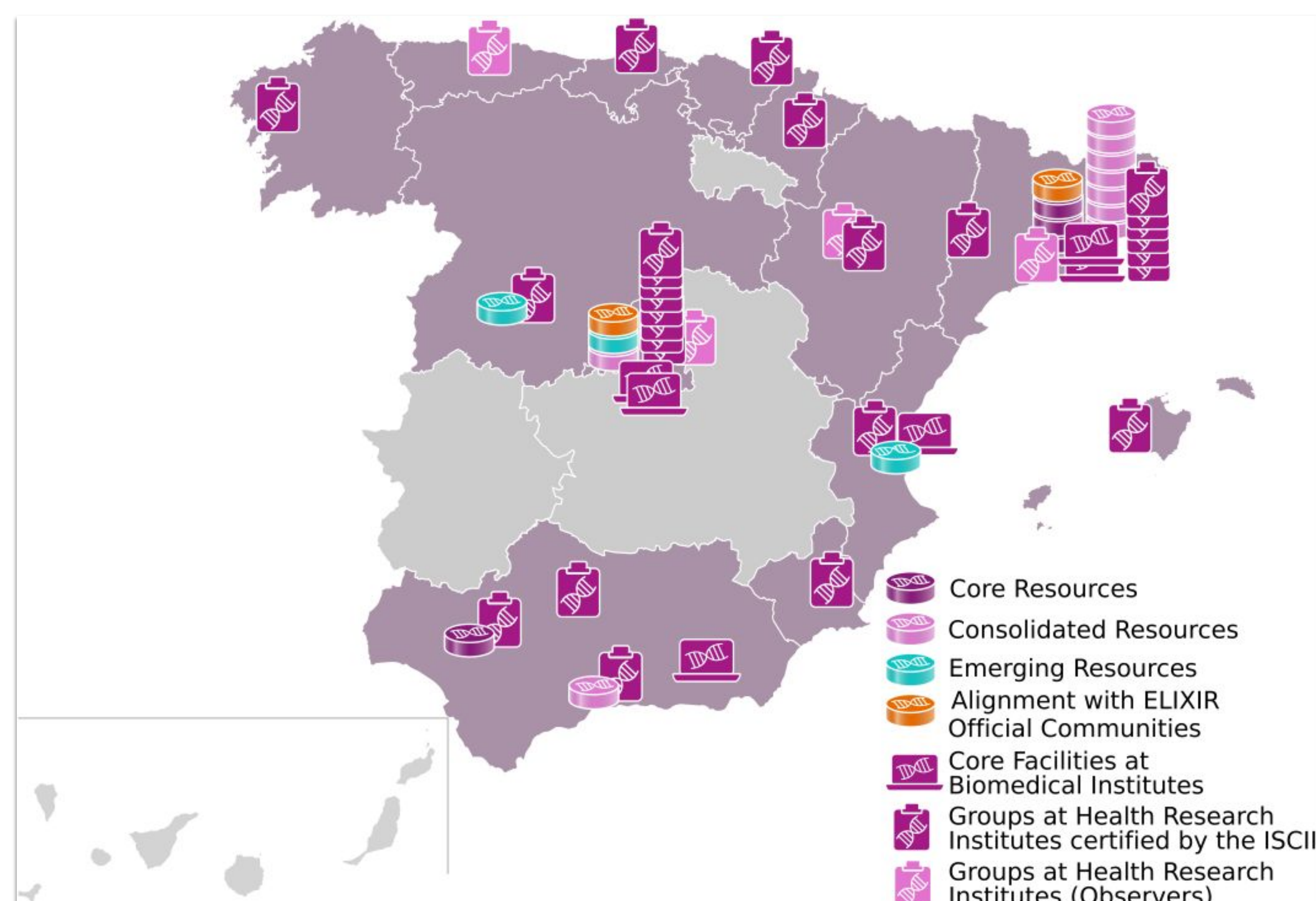
- Promotion of **FAIR data principles** and scientific software development best practices.
- Organization of **training activities** e.g. Galaxy Admin Training Week, GATK workshops.
- Involved in defining **impact assessment** actions at the Node level.
- Support for **gender equality** in bioinformatics within the **Bioinfo4Women** programme.

BSC leads the Spanish participation in **ELIXIR-Converge** across the whole project. BSC co-leads WP5 on Demonstrators Projects with the relevant participation of CRG (Federated access of sensitive human data), UPF (FAIR encoding and access to Toxicology data) and IRB Barcelona (FAIR organisation of biomolecular simulation information).

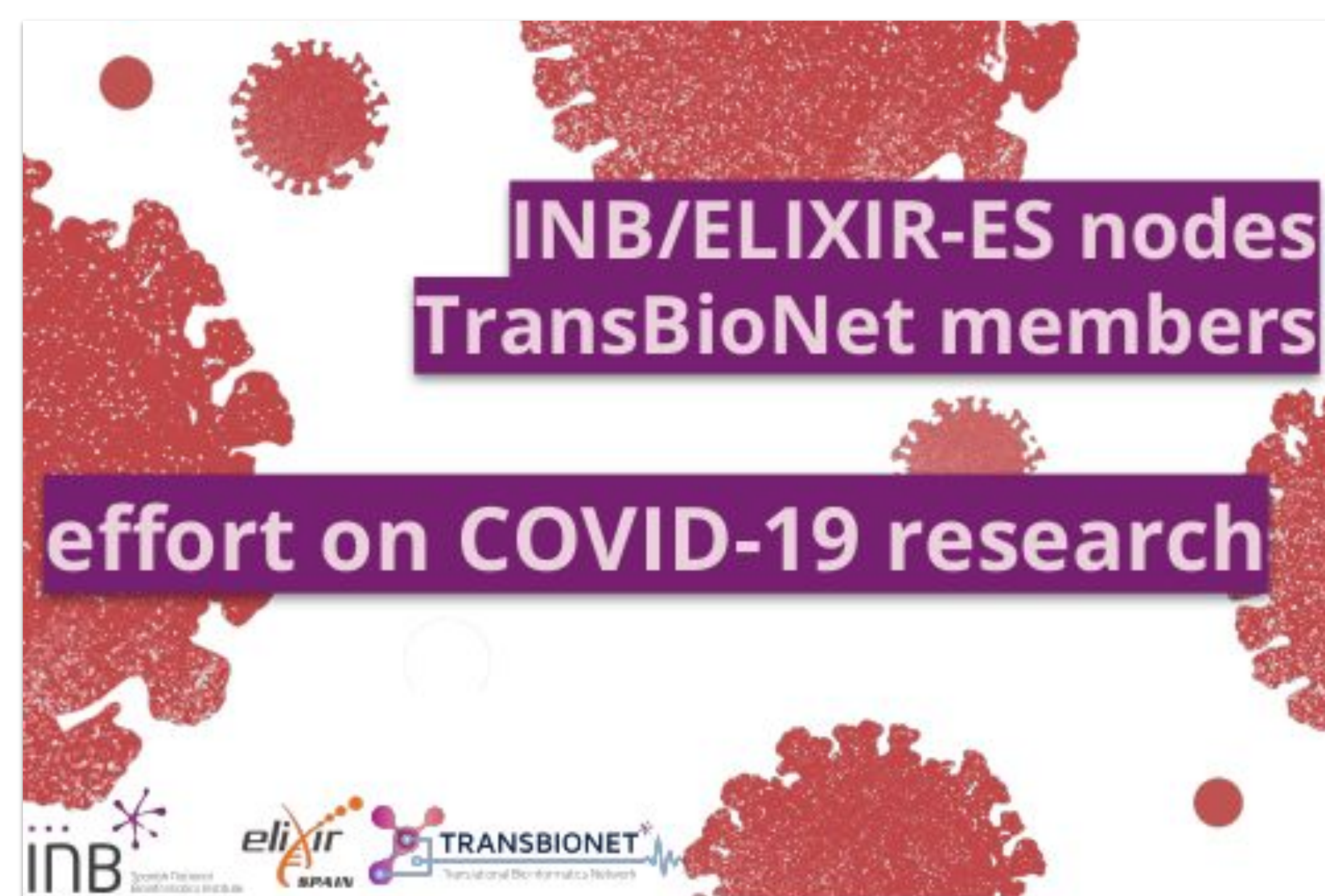
Finally, groups from INB/ELIXIR-ES actively participate in relevant projects e.g. EOSC Life, EJP-RD, EUCANCan, euCanSHare, CINECA, as well as in international initiatives like IRDiRC and GA4GH. The later includes leading efforts in the Beacon and its associated network, and the Beacon specification version 2 includes the use of text-mining extraction and partial manual curation of results by DisGeNET.

## Translational Bioinformatics

- Creation and coordination of **TransBioNet** (Translational Bioinformatics Network), an open experts forum which aims to bring together bioinformatics groups working at Health Research Institutions of the Spanish National Health System.
- TransBioNet is currently formed by 38 members across Spain.
- Share best-practices and experiences, have early access to standards, protocols and best practices by ELIXIR and GA4GH, benefit from access to the computational infrastructures provided by the INB and ELIXIR, and training activities, altogether can have a **direct impact on researchers working closely to clinicians**.



INB Nodes and TransBioNet Members as of June 2020 including the alignment with ELIXIR



Supporting global SARS-CoV-2 and COVID-19 research and knowledge



## Contact:

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