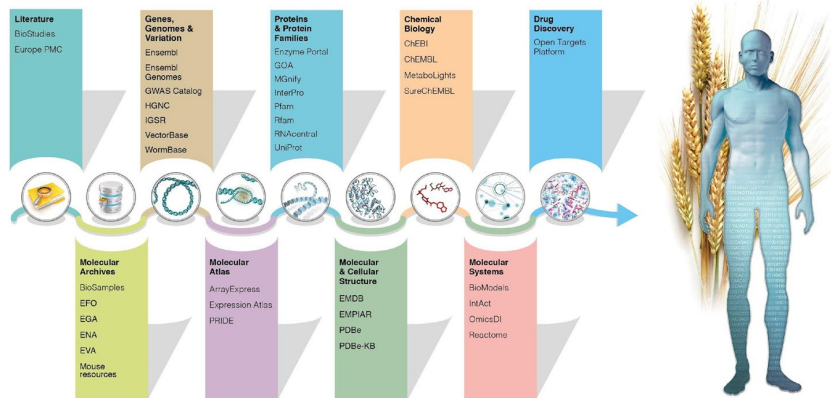


The European COVID-19 Data Platform

Rolf Apweiler, Director, EMBL-EBI

Foundations and partners



ELIXIR Members



ELIXIR Observers



**EUROPEAN OPEN
SCIENCE CLOUD**



Erasmus Medical Centre, the
Netherlands



Technical University of Denmark
(DTU)



National Institute for Public Health
and the Environment (RIVM), the
Netherlands



UNIVERSITÄTS
KLINIKUM
HEIDELBERG

Universitätsklinikum Heidelberg,
Germany




Eötvös Loránd
University

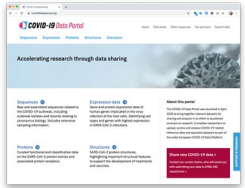


Eötvös Lorand University, Hungary

Re CoD ID



Organisation




**EMBL-EBI**



European Research Infrastructures



National Infrastructures



**COVID-19 Research**

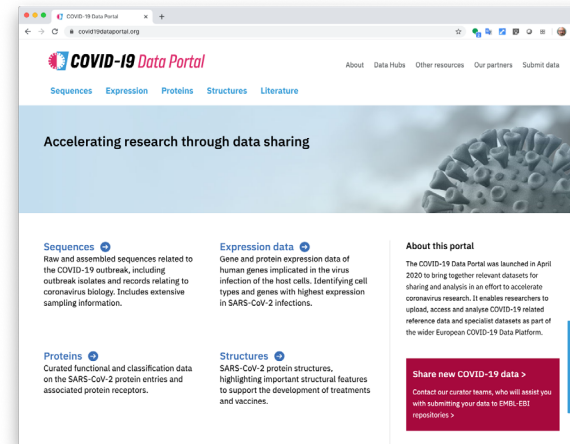
International initiatives



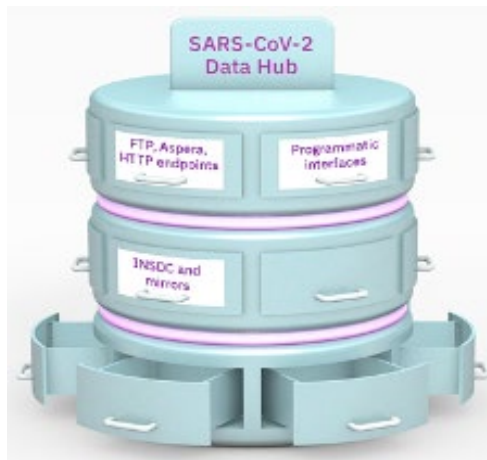


Components

COVID-19 Data Portal



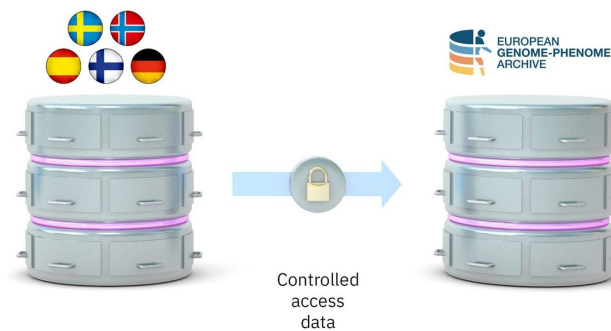
SARS-CoV-2 Data Hubs



Engagement & Coordination

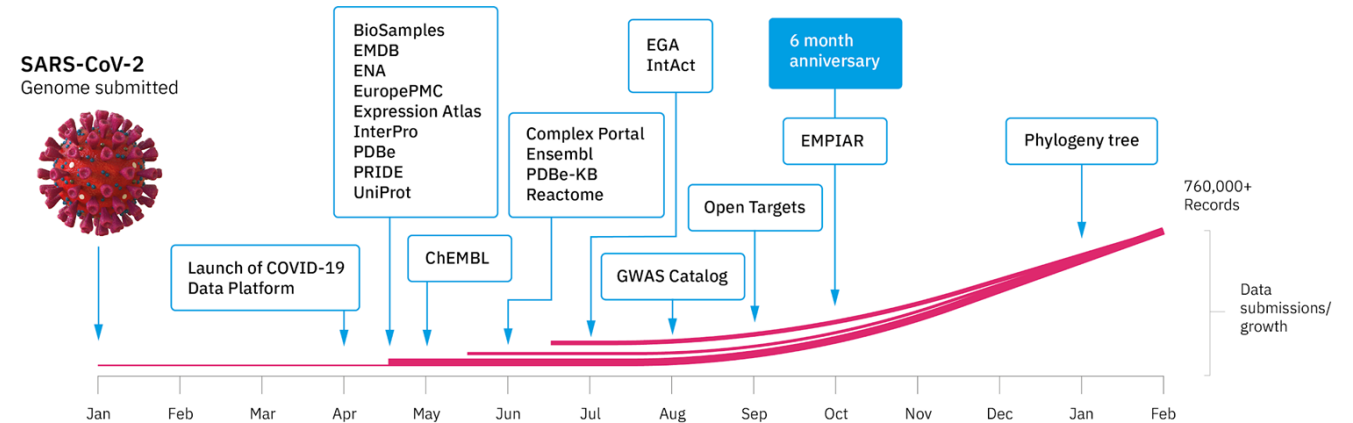


Federated European Genome-phenome Archive



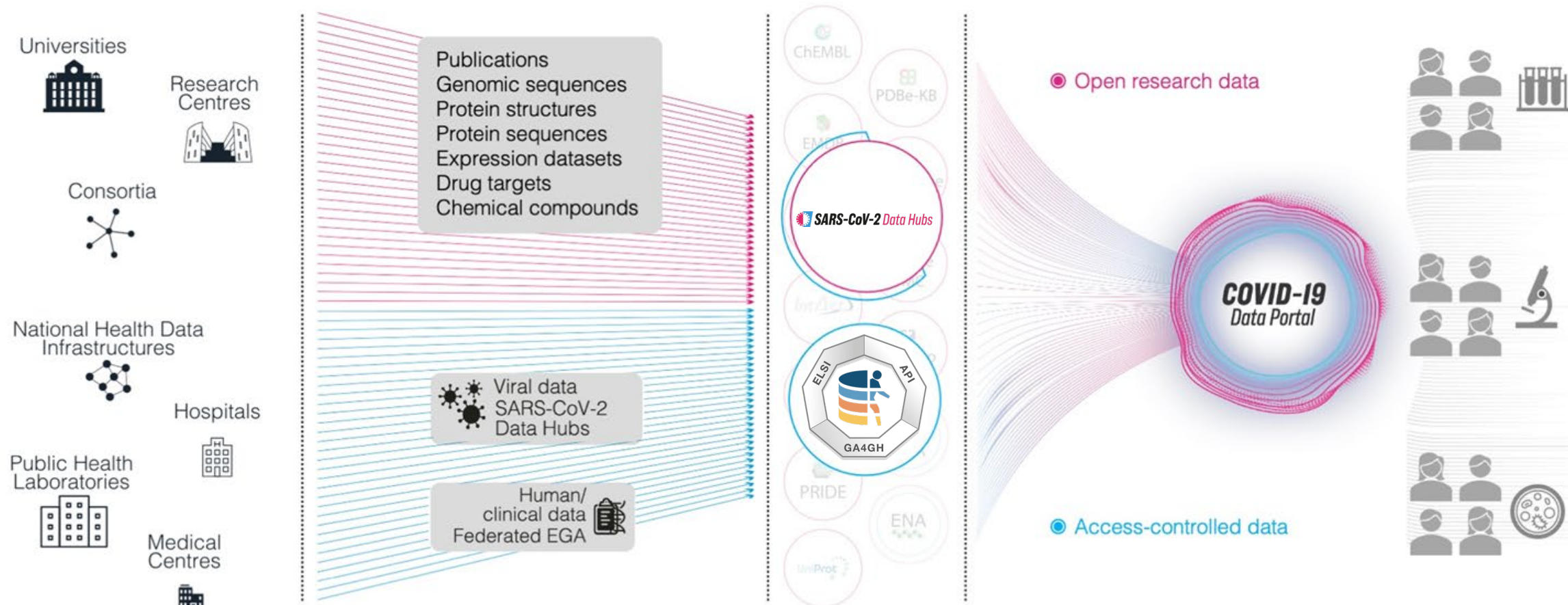
COVID-19 Data Portal

- Over 2,000,000 records across molecular platforms and literature
- Access to data resources and tools
- 70 linked “related” resources
- Web, API and download



Viral sequences		Host sequences		Expression		Protein	
All	1,719,048	All	16,527	All	97	All	1,709
Sequences	454,495	Human studies controlled access)	14	Gene expression	4	Protein sequences	106
Reference sequences	2	Human reads consented for full access)	8,804	Gene expression experiments	24	Protein families	315
Raw reads	645,456	Other species reads	7,669	Single cell expression	4	Protein structures - Knowledge Base	12
Sequenced samples	606,010	Association studies	40	Single cell expression experiments	22	Protein structures	737
Studies							523
Genes		Biochemistry		Imaging		Literature	
Browser		All	4,717	All	18	All	403,193
Variants		Pathways	16	Images	2	Coronaviruses	203,278
		Interactions	3,297	Electron microscopy public image archive	16	Diseases	189,782
		Complexes	31			Related viruses and diseases	2,501
		Compound document	10			Genes, receptors and antibodies	7,627
		Drug targets	1,361			Supplementary material	5
		Metabolomics experiments	2				

Infrastructure . Data . People . Trust



Value for the scientific community and the public

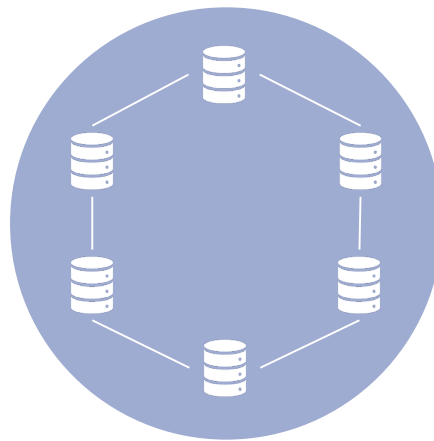
- Mobilised open data
- Ease of access to multiple, integrated sources of data
- European coordination
- Centralised data
- Connectivity
- Data standards

A component of the future European Health Data Space

connecting across
countries



connecting across
diverse data types



connecting open &
access-controlled data



Looking forward - challenges and opportunities



Challenges

- Diverse domains with diverse goals and priorities
- Incoherent standards
- Lack of cross domain coordination

Opportunities

- ELIXIR as the coordinating organisation
 - Interoperability Platform
- Bringing communities together
 - Serology expert network
- Encouraging establishment of community standards
- Integrating range of data types

Europe is leading the way



HORIZON 2020
THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

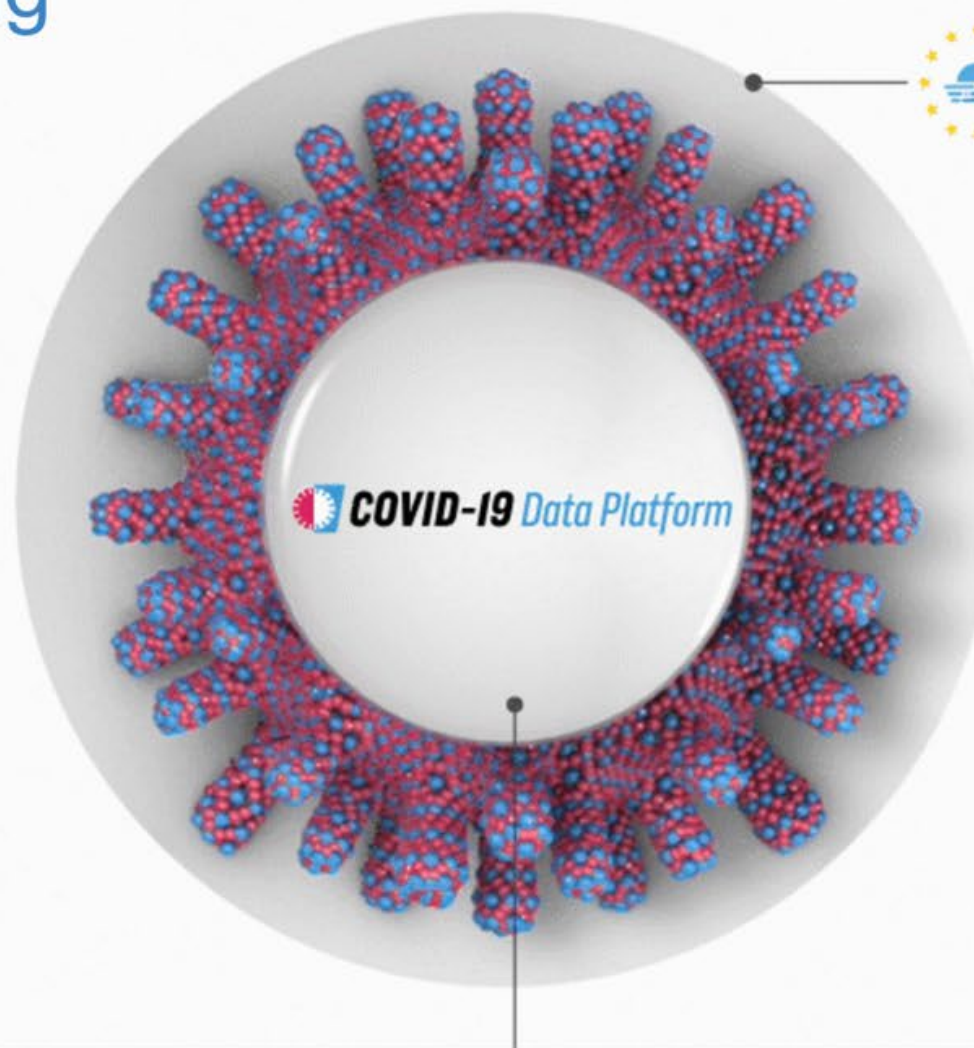


EUROPEAN OPEN
SCIENCE CLOUD



Data types:

- genes
- proteins
- viral isolates
- patients/research subjects
- cohorts
- study groups



Data types:

- epidemiology
- population clinical outcomes
- social sciences
- travel/trade
- social media content mining



Thank You