



# Open Science & the COVID-19 Pandemic

*– role and implications for the future*

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\* The views expressed are those of the interviewed person and do not necessarily represent the official view of the European Commission on the subject.

# The EU response to the coronavirus crisis

1. Health and emergency response
2. Economic response
3. Research and funding
4. Coordinated exit
5. Recovery plan



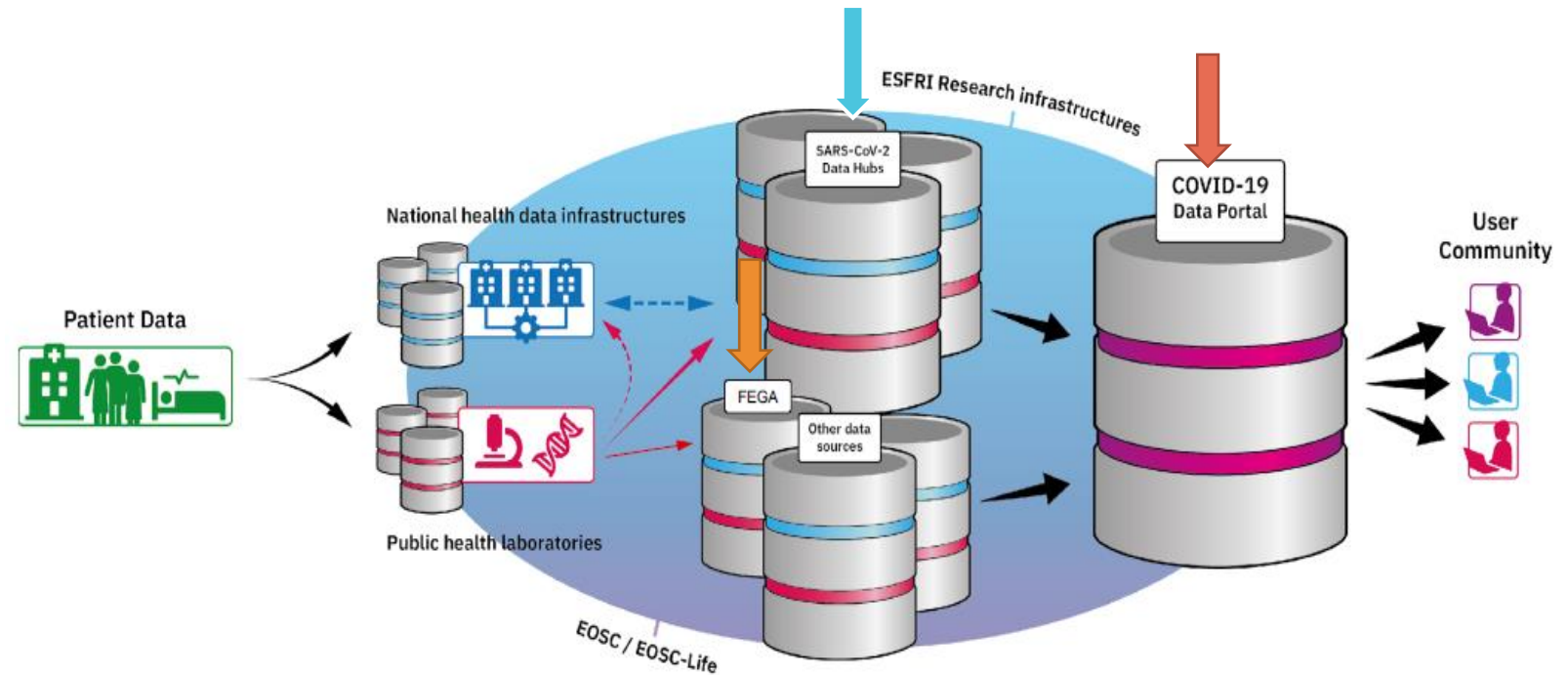
# European COVID-19 Research Data Platform

## Key components:

- SARS-CoV-2 Data Hubs
- Federated EGA
- COVID-19 Data Portal

## Portal Stats (16 June):

- ~2M total web requests
- ~57K unique hosts/IPs
- ~15K raw viral sequence data sets (Platform's Data Hubs)
- ~6K viral sequences
- ~200 structures
- ~90K literature publications



## Data flows:

- Omics (genomics, proteomics, etc.)
- Epidemiological data
- Clinical research data
- Clinical patient data
- Social Sciences and Humanities data

# COVID-19 knowledge sharing

In addition to the platform, the Commission promotes knowledge and data sharing through:

- **Special grant conditions** for research data in case of public health emergency
- Detailed guidelines to research **projects**, encouraging beneficiaries to go beyond their contractual obligations
  - The guidelines include **best practices on FAIR, open access, data management**, and provide links to standards, relevant repositories, and an overview of ongoing efforts
  - Communicated to EU Member States, WHO, ECDC, Wellcome Trust, Gates Foundation, CEPI etc.
- **OpenAIRE** launched a COVID-19 gateway to **aggregate and enable discovery** of relevant publications, datasets, other research outputs

The **Research Data Alliance (RDA)** set up a COVID-19 Working Group to deliver detailed guidelines on data sharing under a health emergency

# Global Response: 'share and open'

wellcome

Press release | 31 January 2020

**Sharing research data and findings relevant to the novel coronavirus (COVID-19) outbreak**

**#EUvsVirus**  
Matchathon & Hackathon

NEWS | 31 March 2020 | Brussels, Belgium | Research and Innovation

**European Commission signs letter to scholarly publishing community in the fight against coronavirus**

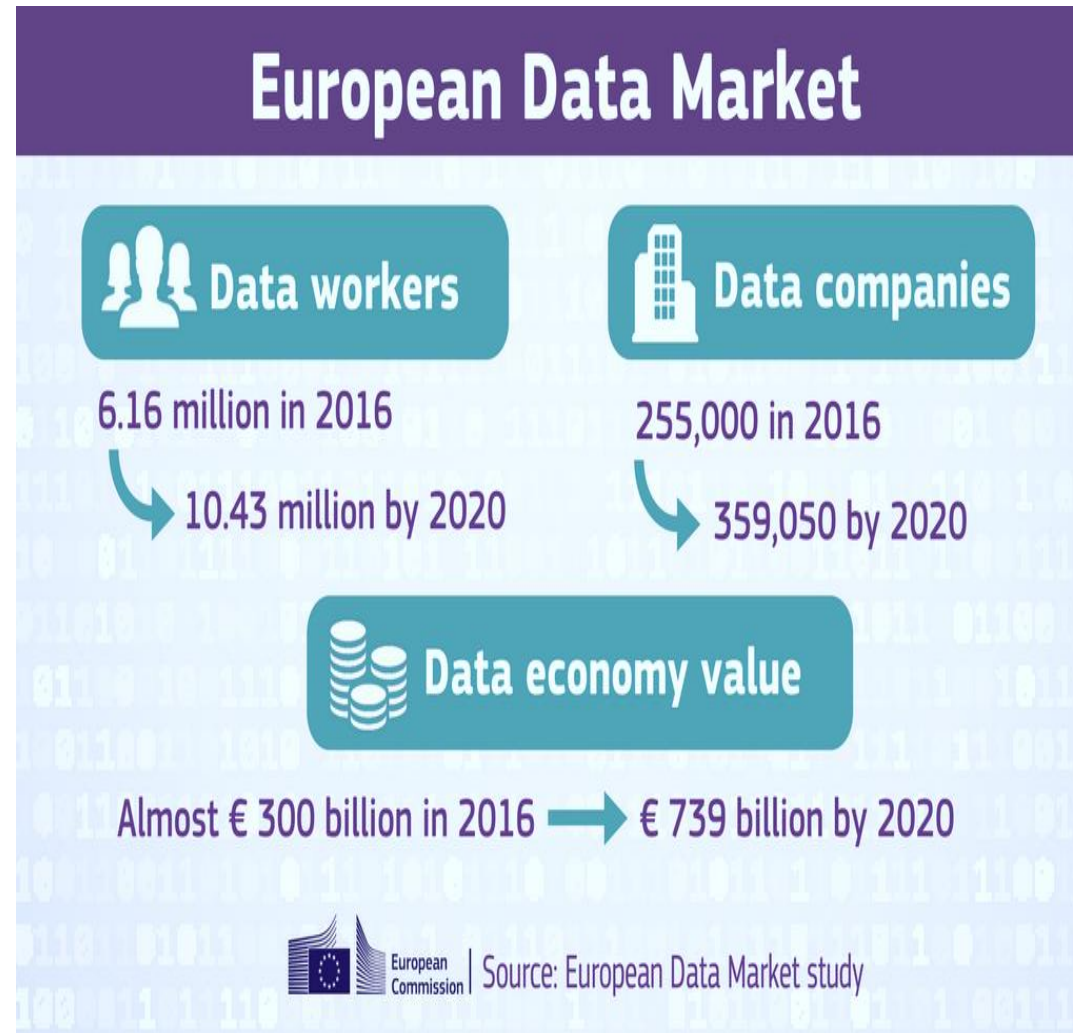


**Coronavirus Global Response: €7.4 billion raised for universal access to vaccines**

Today, the Commission registered €7.4 billion, equivalent to \$8 billion, in pledges from donors worldwide during the Coronavirus Global Response...

# Need to structure and articulate data spaces

- Data is the **main asset** of the digital economy
- Data production continues to **grow exponentially** → from 33 zettabytes in 2018 to 175 zettabytes in 2025
- Poor data management incurs **opportunity cost** in the billions of euros

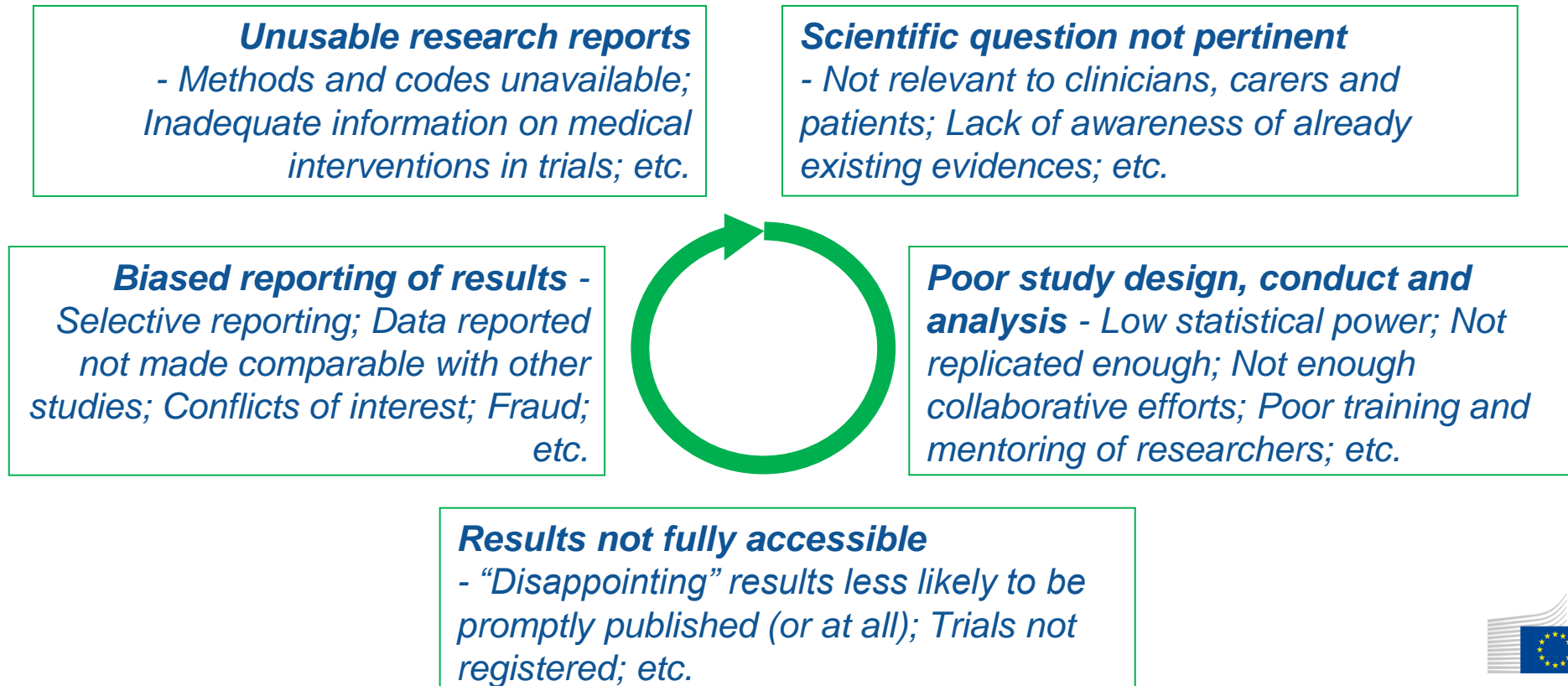


- **Research/Science** is one of the main data producing/consuming domains
- **Articulation** needed
  - cross-data type
  - cross-discipline
  - cross-sector

# Need to improve reproducibility

## – the example of health R&I

- Close to €300 billion/year for Health R&I (worldwide)
- A large share of the research investment may be wasted: potentially as much as 85%, according to Chalmers & Glasziou 2009, Lancet; Macleod 2014, Lancet



# Towards a new *modus operandi* for Science

– to accelerate earlier and more open knowledge and data sharing

Current System (dominant)		Open Science	
Rewarding individual competing scientists - gaining scientific prestige		Rewarding collaboration and sharing to achieve societal impact (e.g. Covid-19)	
Publish as much and as fast as possible ( <i>publish or perish!</i> )		Share knowledge/data as early and as openly as possible	
Excellence defined largely on the basis of <i>where</i> scientists publish		Composite definition of excellence	
Incentivises researchers to <i>produce specific outputs</i> (mainly publications)	Use of quantitative metrics	Incentivises researchers to share, collaborate, increase quality and impact; while considering diversity of outputs and research cultures	Use of qualitative and quantitative metrics