

Swiss Institute of  
Bioinformatics

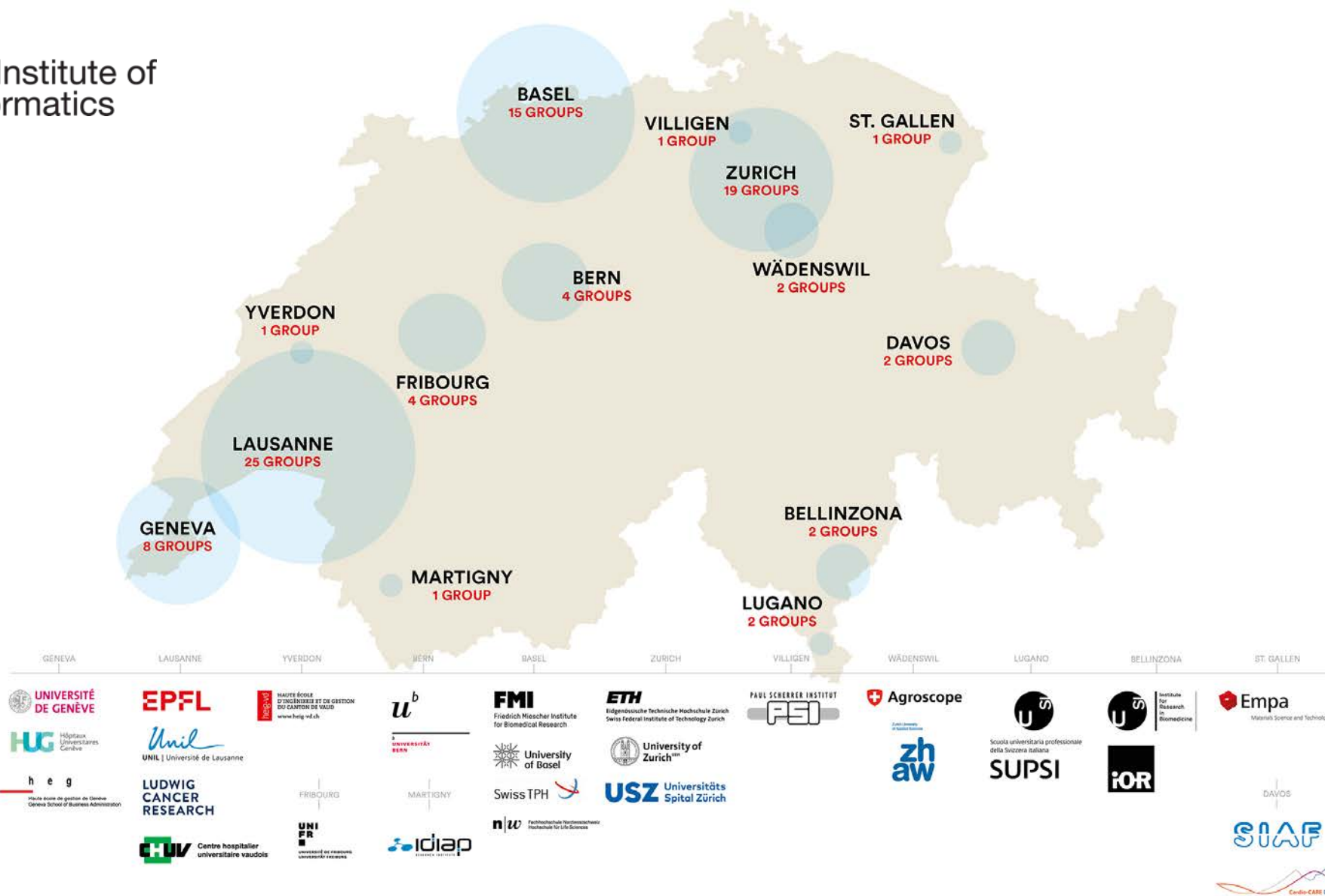
# Why is Open Research Data important?

ORD & SIB

*Valeria Di Cola, Training Manager*



Swiss Institute of  
Bioinformatics



# Outline

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- Open Science
- Open Research Data
- ORD in Switzerland
- SIB and ORD
- Why is ORD important?

# What is Open Science?



Keeping your research data freely available is crucial for open science - and your funding could depend on it



## **Data management made simple**

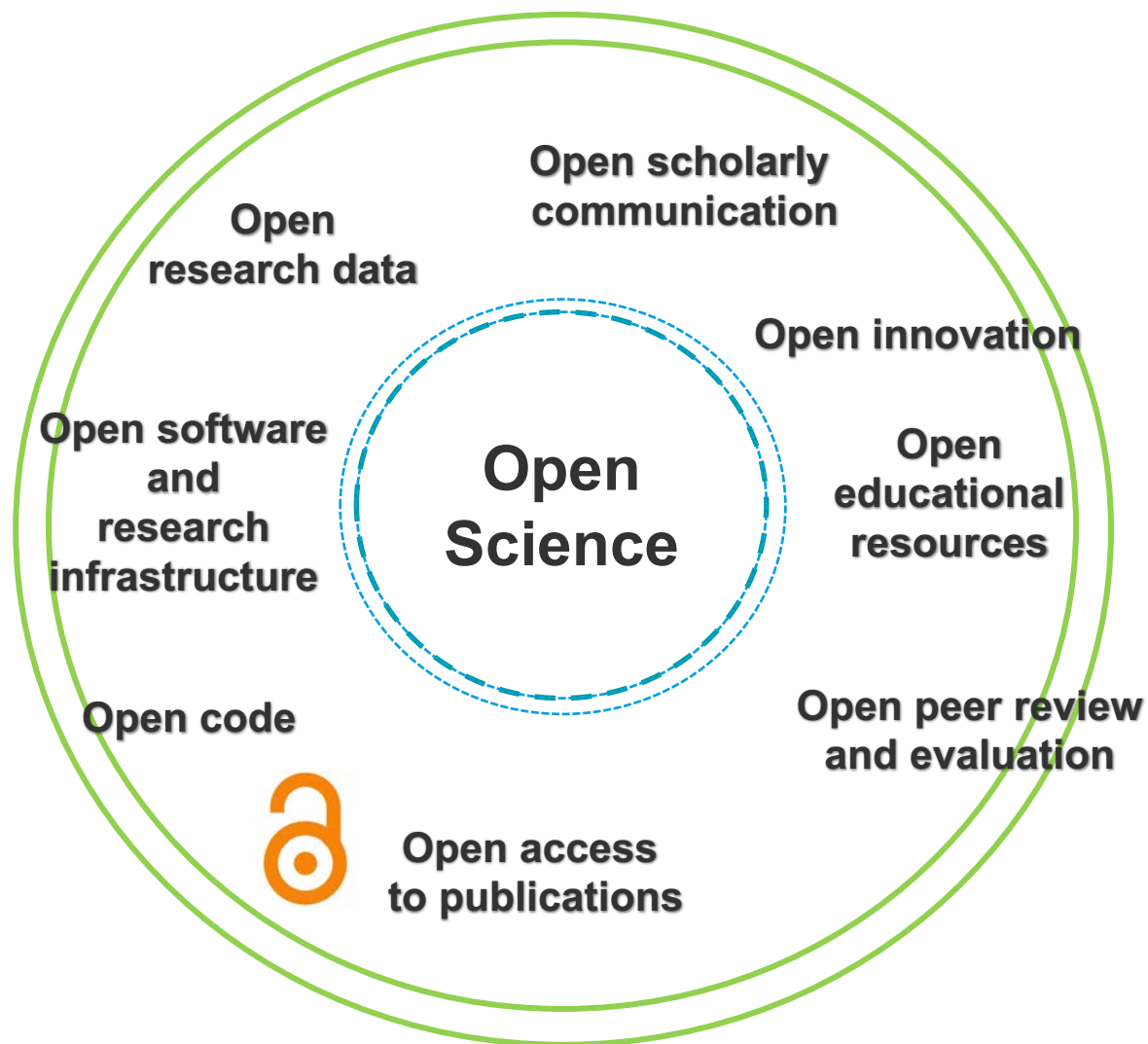
Keeping your research data freely available is crucial for open science — and your funding could depend on it.

[nature.com](https://www.nature.com)

## Open Science:

- movement that advocates for the openness and transparency of scientific research
- involves sharing scientific knowledge, data, and tools without restrictions or fees
- promote collaboration
- accelerate progress in science.

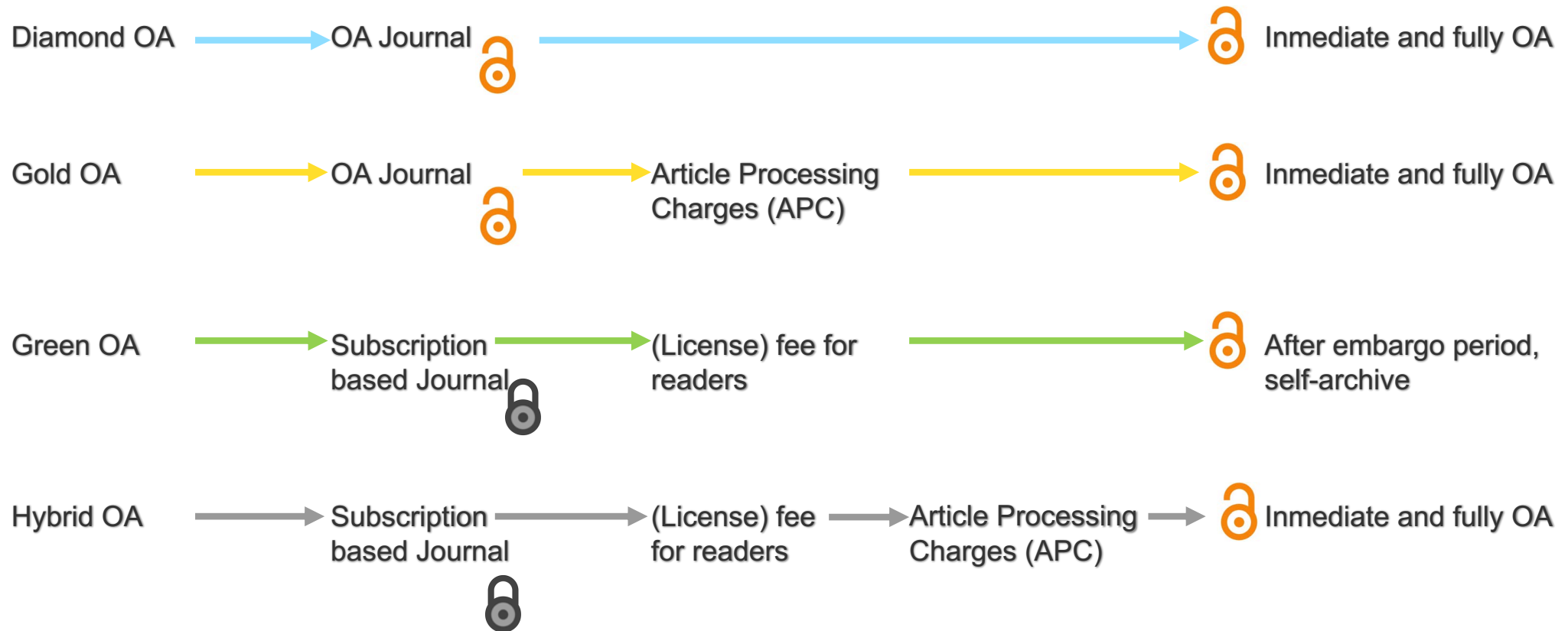




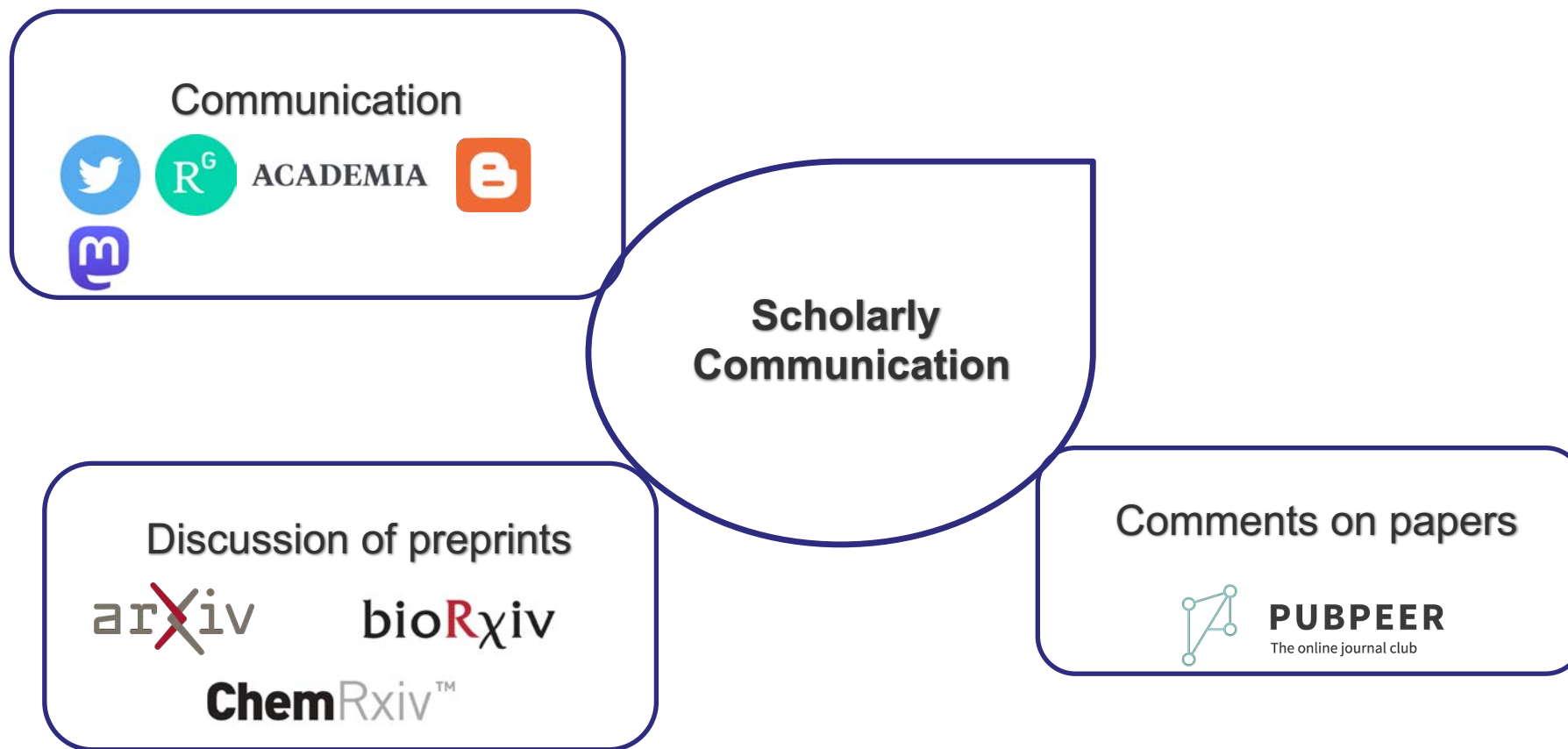
# Open Access



When researchers share knowledge and data as early as possible in the research process with all relevant actors it helps diffuse the latest knowledge.



# Communication activities related to open science

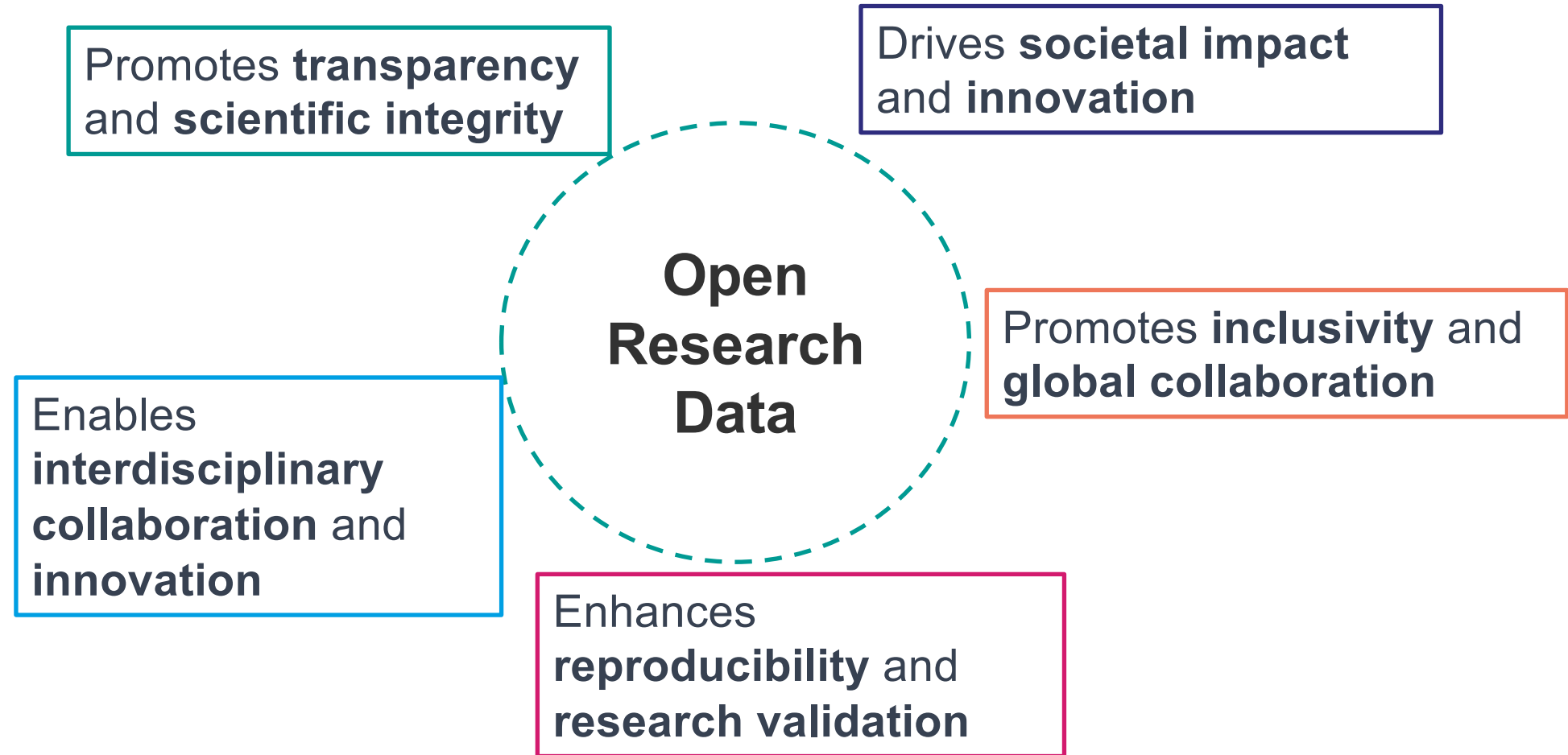


# Open Research Data















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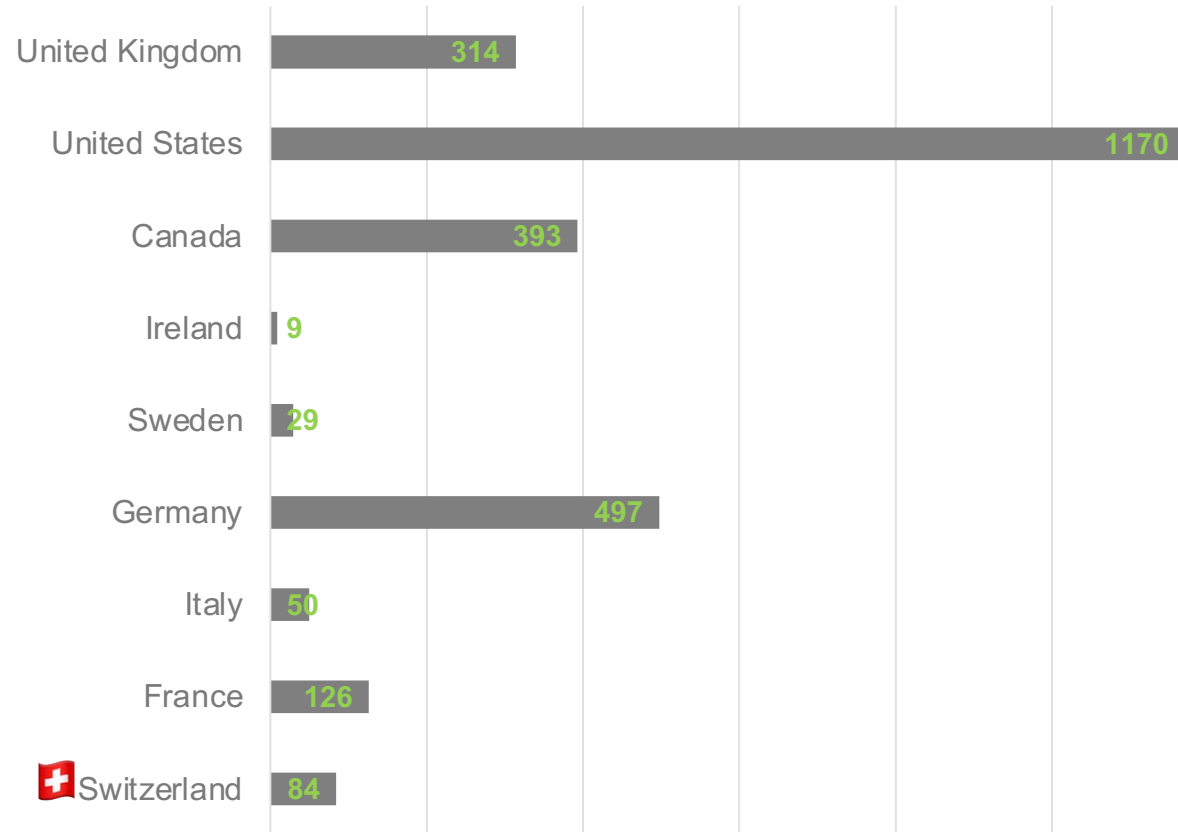




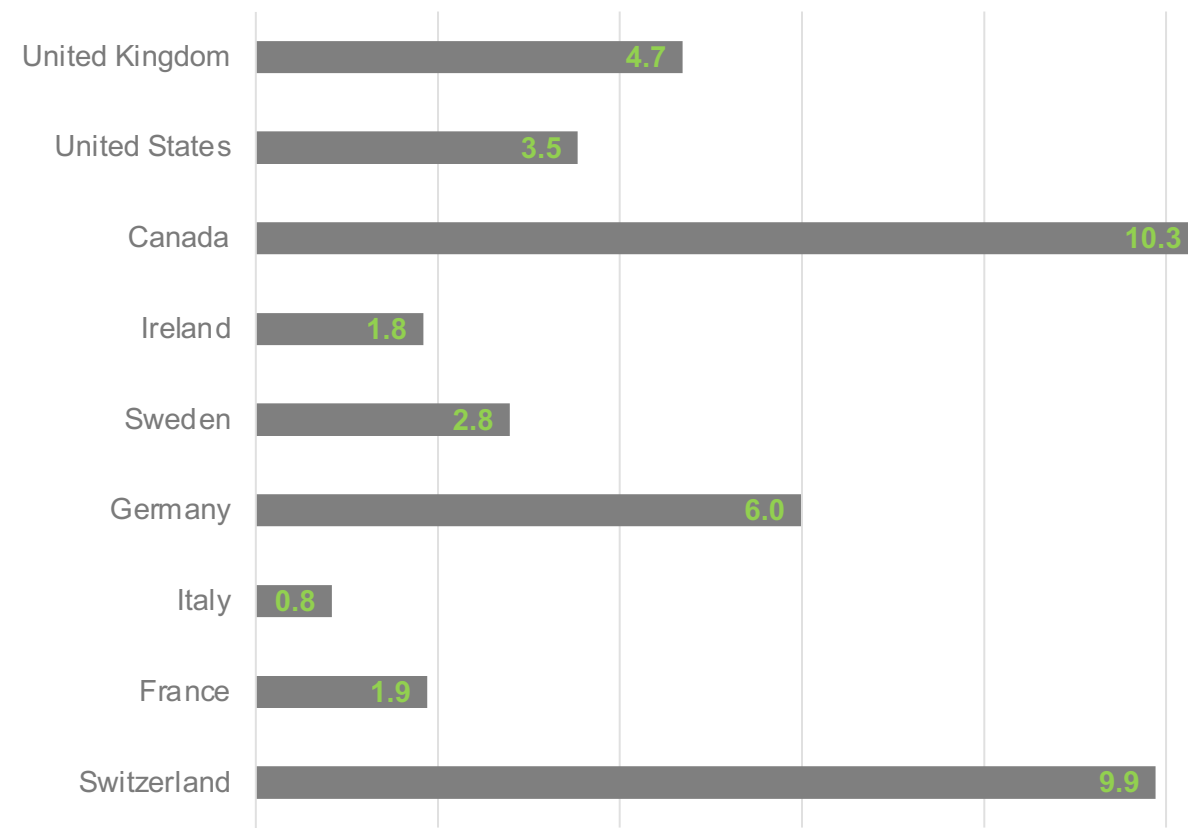
# Data repositories

NAME	DISCIPLINE	NON-PROFIT / INSTITUT.	COUNTRY	FREE	MAX VOLUME	LICENSING
	Generic	✓ (CERN)		✓	50GB/dataset ∞ datasets	CC, GNU, BSD
 MATERIALSCLOUD	STI / Materials	✓ (EPFL)		✓	5GB General / 50GB AiiDA DB	CC – BY (MIT for AiiDA)
	Generic	✗ (Holtzbrinck Group)		Freemium	1TB/dataset	CC0, CC - BY
	Bio / Medical	✓ (NESCent)		✗	300GB/data publication	CC0
	Generic	✓ (Harvard University)		✓	2.5GB/dataset	CC0
	Generic	✓ (Horizon 2020)		✓	10GB/file 20GB/record	CC (DARUP)

# Data repositories by Country

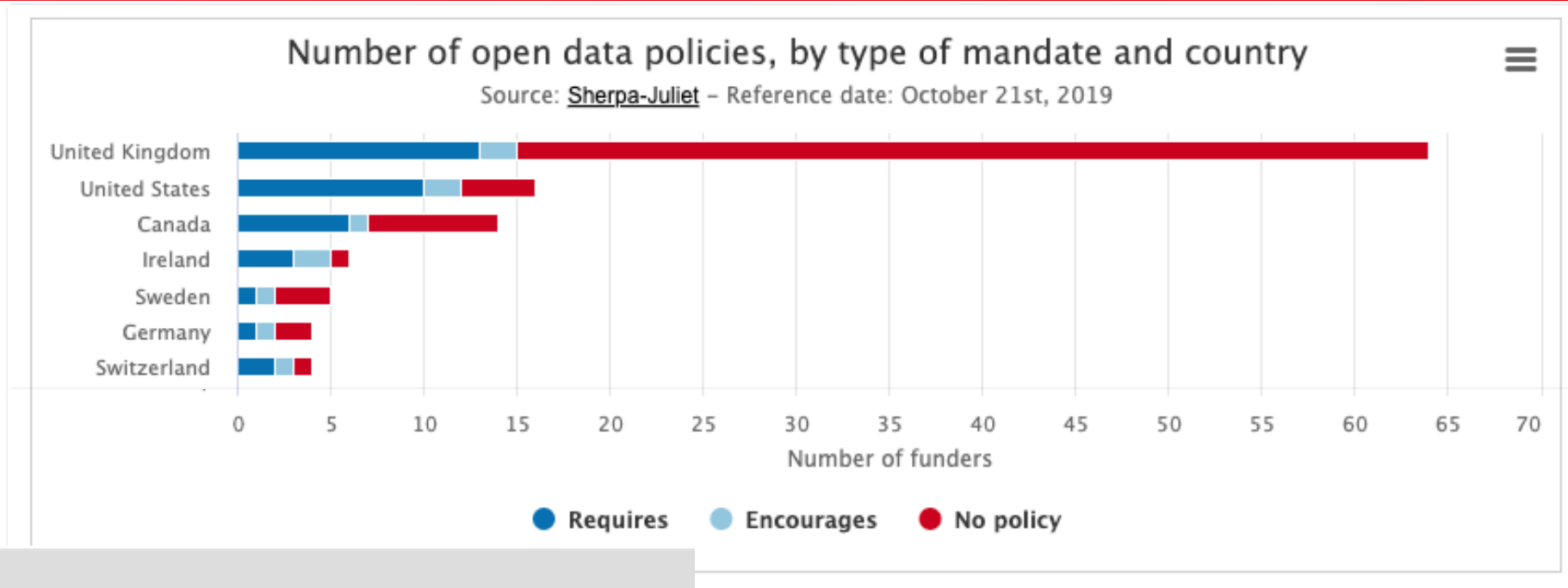


Number of Data repositories



Data repositories per million inhabitants

# Policies of research funders



## Switzerland

CERN	Encourages OA Archiving	Requires OA Publishing	Requires Data Archiving
Schweizerische Akademie der Geistes- und Sozialwissenschaften	Encourages OA Archiving	No policy for OA Publishing	No policy for Data Archiving
Schweizerischer Nationalfonds zur Förderung der Wissenschaftlichen Forschung	Requires OA Archiving	Requires OA Publishing	Requires Data Archiving
WHO	Requires OA Archiving	Requires OA Publishing	Encourages Data Archiving



[https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/open-science/open-science-monitor/facts-and-figures-open-research-data\\_en#funderspolicies](https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/open-science/open-science-monitor/facts-and-figures-open-research-data_en#funderspolicies)

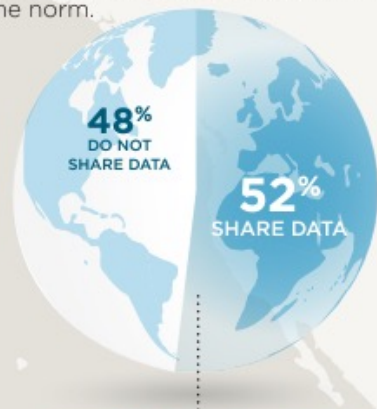
<https://v2.sherpa.ac.uk/juliet/>



# Researchers' attitude towards data sharing

## GLOBAL DATA SHARING TRENDS

Data sharing practices vary widely across research fields and geographic areas. Just over half of researchers report making their data publicly available, though archiving results in repositories is not yet the norm.



## WAYS DATA IS SHARED

- 67% As supplementary material in a journal
- 37% Personal, institutional or project webpage
- 26% Institutional data repository (i.e. university or institute-sponsored)
- 19% Discipline-specific data repository
- 6% General-purpose data repository (e.g. Dryad, figshare)
- 5% Other

## RESEARCHER MOTIVATIONS FOR SHARING DATA



**- 35% did not share data from their last project**

# ORD in Switzerland

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## National Strategy and Action Plan

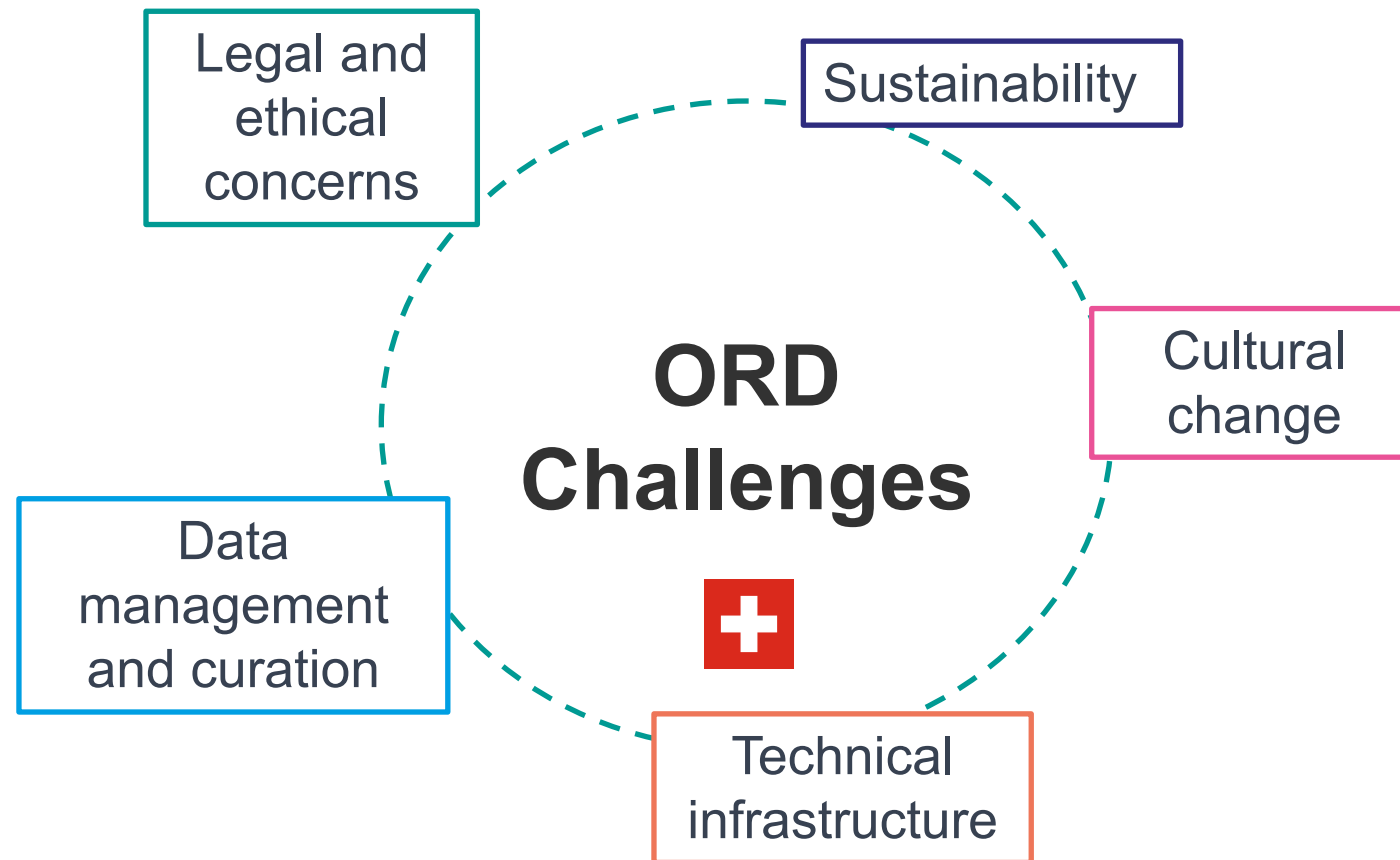
In January 2020, the State Secretariat for Education, Research, and Innovation (SERI) commissioned swissuniversities to develop a **Swiss National Open Research Data Strategy**, an associated **action plan**, a **background report** as well as a mandate for **project-related contributions for Open Research Data** activities from 2022–2024. This mandate is part of the **Open Science programme** and complements the activities in the **Open Access** field.

The plan aims to **promote open and FAIR research data practices** and outlines **specific actions** that can be taken to achieve this goal:

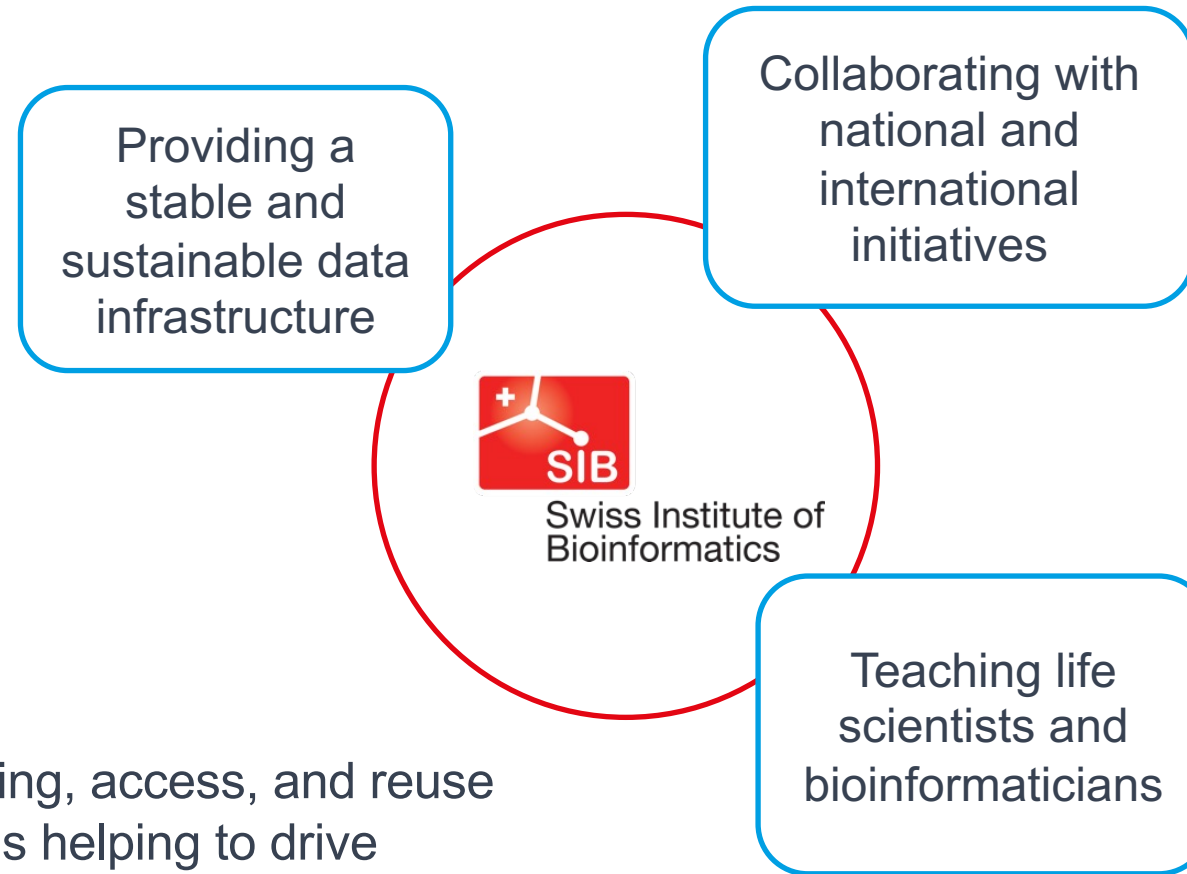
- *providing training and support for researchers,*
- *promoting the use of standardized metadata and data formats,*
- *establishing sustainable and interoperable data infrastructures.*



swissuniversities



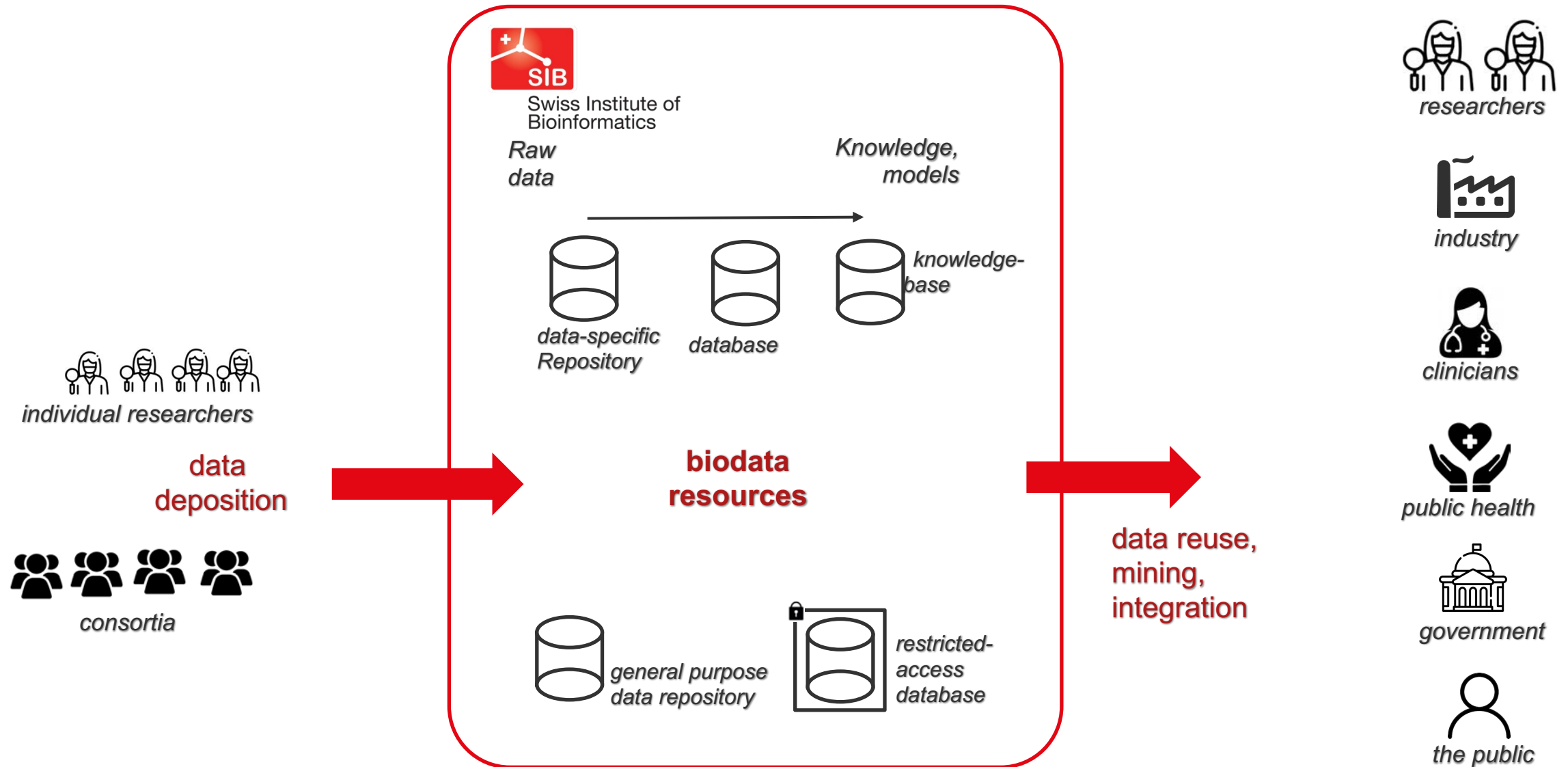
# SIB and ORD



By promoting the sharing, access, and reuse of research data, SIB is helping to drive innovation and discovery in the field of bioinformatics, which ultimately benefits society as a whole.



# Value creation through open research data




# Data Life Cycle

# SIB Resources



**Expasy**  
Swiss Bioinformatics Resource Portal  
<https://www.expasy.org/>





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Training courses

e-learning

Course materials

in silico talks

Who can benefit

Training group

Careers

Contact

Directory

CATEGORY ▾

LEVEL ▾

LOCATION/MODE 1 ▾

STATUS 4 ▾


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Q




Submitting, Finding and  
Downloading Raw Sequencing Data  
with ENA


Beginner

Omics data analysis

Data management

12 Jun 2023

 Streamed





Introduction to FAIR Research Data  
Management & Data Management  
Plan

Beginner

Data management

29 - 30 Jun 2023

 Lausanne




Version Control with Git

Beginner

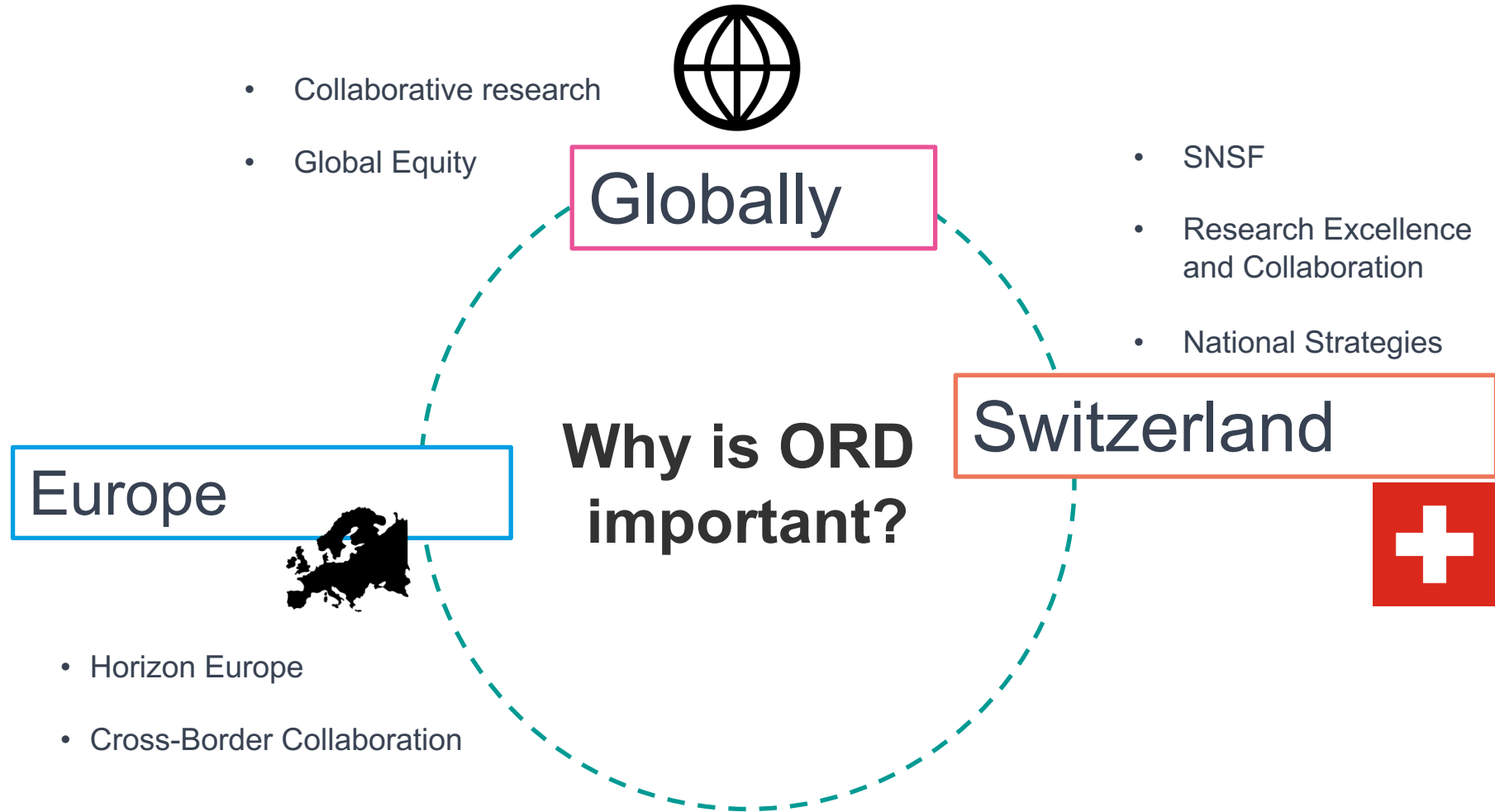
Data management

Programming and Computing Techniques

02 - 04 Oct 2023

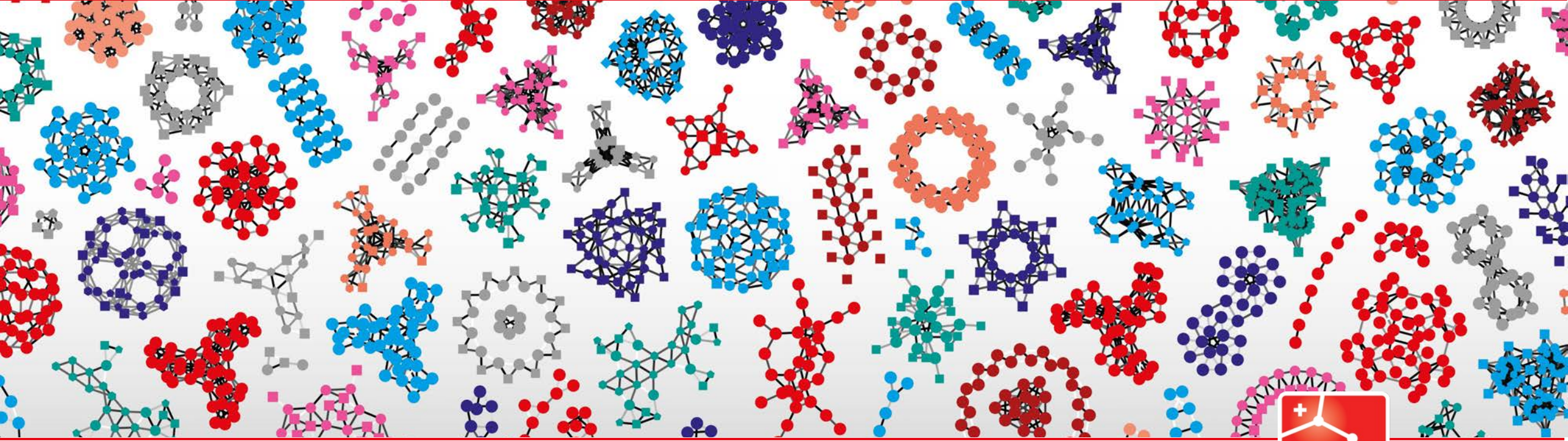
 Lausanne

# Take home message



*It promotes collaboration, transparency, and innovation in scientific research, leading to better outcomes for society as a whole.*





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# Thank you 😊

Follow our activities:

