

ETH ORD Measure 2

Workshop on Technical Interoperability between ORD Services and Repositories in the ETH Domain

Thursday, 29th June 2023

Agenda

| | | | |
|---|--|---------------|----------------------|
| 1 | Welcome & Introduction | 10:30 – 10:45 | Alun Ashton, PSI |
| 2 | Plenary Talk: Materials Cloud as an incubator for future digital infrastructures | 10:45 – 11:15 | Nicola Marzari, EPFL |
| 3 | Presentation of selected EG-SI ideas | 11:15 – 12:15 | Contributors |
| 4 | Lunch & Networking | 12:15 – 13:30 | All |
| 5 | Presentation of ideas contd. / Q&A | 13:30 – 15:00 | Contributors, All |
| 6 | Coffee Break & Networking | 15:00 – 15:30 | All |
| 7 | Plenary discussion and expression of interest for presented ideas | 15:30 – 16:00 | All |

Open Research Data – Position of the ETH Domain

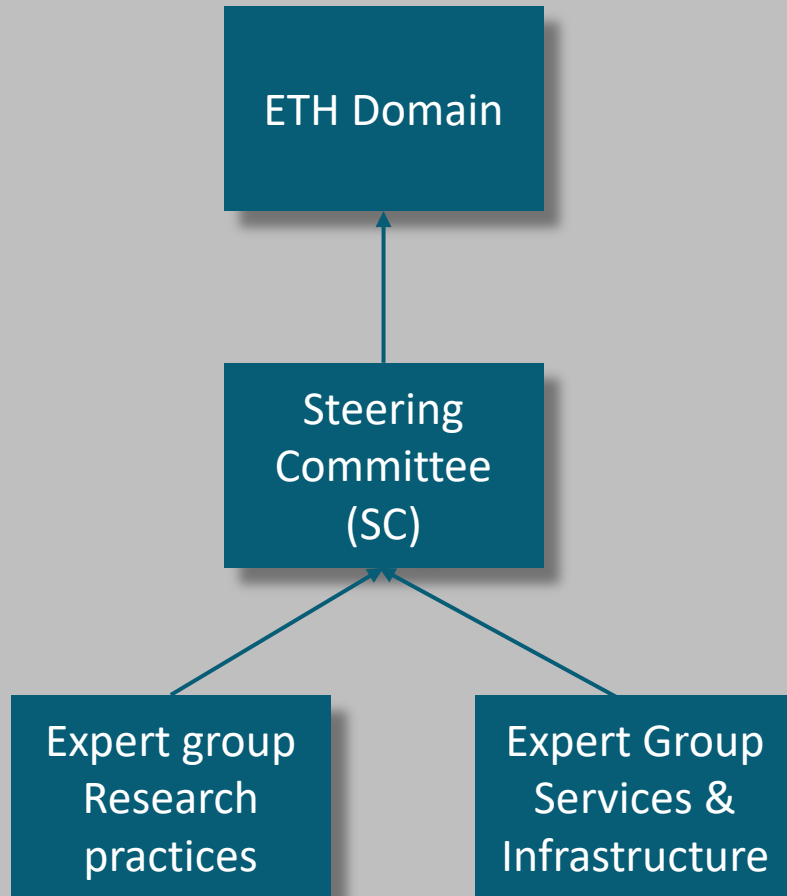
“Science often benefits from multiple evaluations of the same data sets by researchers with different backgrounds, perceptions and ideas. ORD allows – and stimulates – new research and discoveries”

“A governance framework that defines the rights and duties of data producers, data owners and data users is needed. Indeed, a culture that gives proper credit to data producers needs to be promoted, along with the requisite tools; and research communities need to develop best practices for data citation.”

“A strategy should be formulated for the development of ORD-related infrastructure and services that responds to future demands and to develop funding schemes in order to support these infrastructures and services in the long-term.”

<https://ethrat.ch/en/eth-domain/open-research-data/>, May 2020

The ETH-board together with the ETH domain have committed 15 MCHF for the promotion of open research data (ORD) research practices and services.



ETH ORD Steering Committee

| | | |
|-----------------------------|--|-------|
| Alun Ashton | <i>Head of Science IT Infrastructure and Services (AWI) Department</i> | PSI |
| Georg Fantner | <i>LBNI-Laboratory for Bio- and Nano-Instrumentation</i> | EPFL |
| Gian-Kasper Plattner | <i>Senior Scientist, Office of the Director, Head Program EnviDat</i> | WSL |
| Gilles Dubochet | <i>Head of Open Science (VPA-OS), Advisor to the President & Provost</i> | EPFL |
| Carsten Schubert | <i>Group leader "Biogeochemistry"</i> | EAWAG |
| Robert Finger | <i>Agricultural Economics and Policy Group</i> | ETHZ |
| Rui Brandao | <i>Director of IT Services</i> | ETHZ |
| Eleni Pratsini | <i>Head of Scientific IT</i> | EMPA |

Measure 1: Call for Field-Specific Actions

Measure 2: Coordination of Access to
Research Data Management
(RDM) Services & Infrastructures

Measure 3: Development of Online Course
Material for RDM Training

Measure 4: Information on Legal Questions
related to ORD

Measure 5: Career Paths for ORD
Professionals

5 Measures to foster and improve ORD Practices

Measure 1: Call for Field-Specific Actions

Measure 2: Coordination of Access to Research
Data Management (RDM) Services &
Infrastructures

Measure 3: Development of Online Course Material
for RDM Training

Measure 4: Information on Legal Questions related
to ORD

Measure 5: Career Paths for ORD Professionals

Expert group – Research practices (EG-R)

Expert group – Services & Infrastructure (EG-SI)

5 Measures to foster and improve ORD Practices

EG-SI Members

| | | |
|------------------------|---|-------|
| Carlo Pignedoli | Senior Scientist | EMPA |
| Isabelle Eula | Head of EPFL Library | EPFL |
| Guilaine Baud-Vittoz | Head of Education & Research Services, EPFL Library | EPFL |
| Maria Grazia Giuffreda | Associate Director | CSCS |
| Christoph Berner | Head of IT Services | EAWAG |
| Henry Lütcke | Scientific Computing Lead, Scientific IT Services (SIS) | ETHZ |
| Ionut Iosifescu Enescu | Technical Coordinator EnviDat | WSL |
| Khadidja Malleck | Head of IT – School of Engineering | EPFL |
| Gaël Anex | Head of IT – School of Life Sciences | EPFL |
| Leonardo Sala | Data Analysis Research Infrastructure Group Head | PSI |
| Matthias Töwe | Group Leader Research Data Management and Digital Curation | ETHZ |
| Nicola Marzari | Faculty Member | EPFL |
| Patrick Pedrioli | Senior Scientist | ETHZ |
| Rafael Corvalan | Director of the department of Information Systems | EPFL |
| Rok Roskar | Chief System Scientist & Head of Engineering | SDSC |
| Spencer Bliven | Scientist, High Performance Computing and Emerging Technologies Group | PSI |
| Urs Beyerle | Head of IT, Institute for Atmospheric and Climate Science (IAC) | ETHZ |

Measure 1: Calls for Field-Specific Actions

- To **support ETH researchers** to engage in, and develop ORD practices and **to become ORD leaders** in their fields
- To **strengthen the connections** between research communities and services and infrastructures providers
- 50% of project's budget **co-funded by ETH Board** + 50% covered from within institutions (in cash or in kind)
- **Three different tracks**
- Website:

<https://ethrat.ch/en/measure-1-calls-for-field-specific-actions/>



- **Exploring, prototyping, building up** ORD practices.
- **Paving the way**, inside and outside the ETH Domain for ORD practices sustainable in the future and with potential to be adopted in many research and societal communities.
- Duration: up to **18 months**
- Budget: up to **CHF 150'000** (50% co-funding from ETH Board)
- **1st call** in 2022
- **2nd & final call** to be launched in October 2023 (deadline expected: Feb 2024)

Explore – 1st call



Deadline: 15 April 2022



No. of applications: 48



No. of financed projects: 13



EPFL: 4, ETHZ: 5,
EMPA: 2, PSI: 1, EAWAG: 1



ETH contribution allocated:
CHF 964'022



Success rate: 27%

Establish Projects (Track B)

- **Establishing** promising ORD practices once their scientific value is demonstrated and they have attracted sizable and international communities.
- **Bringing** their infrastructure, community management, and scientific vision to the next level, further grow their community.
- **Creating Open Science Leaders** of highly innovative research communities with exceptional scientific impact in the ETH Domain.
- Duration: up to **36 months**.
- Budget: up to **CHF 1,500,000** (50% co-funding from ETH Board)
- **1st & only call** in 2022.

Establish – 1st and only call



Deadline stage 2:
28 July 2022



No. of applications:
7 pre-proposals (Stage 1),
5 proposals (Stage 2)



No. of financed projects: 2



2 multi-institutional projects
(1 x led by EPFL, 1 x led by PSI)



ETH contribution allocated:
CHF 1'396'050



Success rate: 29% (Stage 1)

Contribute Projects (Track C)

- **Contributing** a piece of software, data, hardware, etc., which simplifies an established ORD practice.
- **Curating** or otherwise improving available ORD.
- **Providing community services**, organization of workshops, training.
- Duration: up to **12 months**
- Budget: **CHF 30'000** (50% co-funding from ETH Board)
- **5th call currently open:** with deadline on 27 July 2023 (17:00 CEST)
- Guidelines & application: <https://ethrat.ch/en/measure-1-calls-for-field-specific-actions/>

Contribute – first four calls



Deadlines:
1 April 2022; 28 July 2022;
12 December 2022; 31 March 2023



No. of eligible applications:
61* across 4 calls



No. of financed projects:
29** across 4 calls



EPFL: 14, ETHZ: 10,
EMPA: 1, PSI: 2, WSL: 2



ETH contribution allocated*** :
CHF 415'829



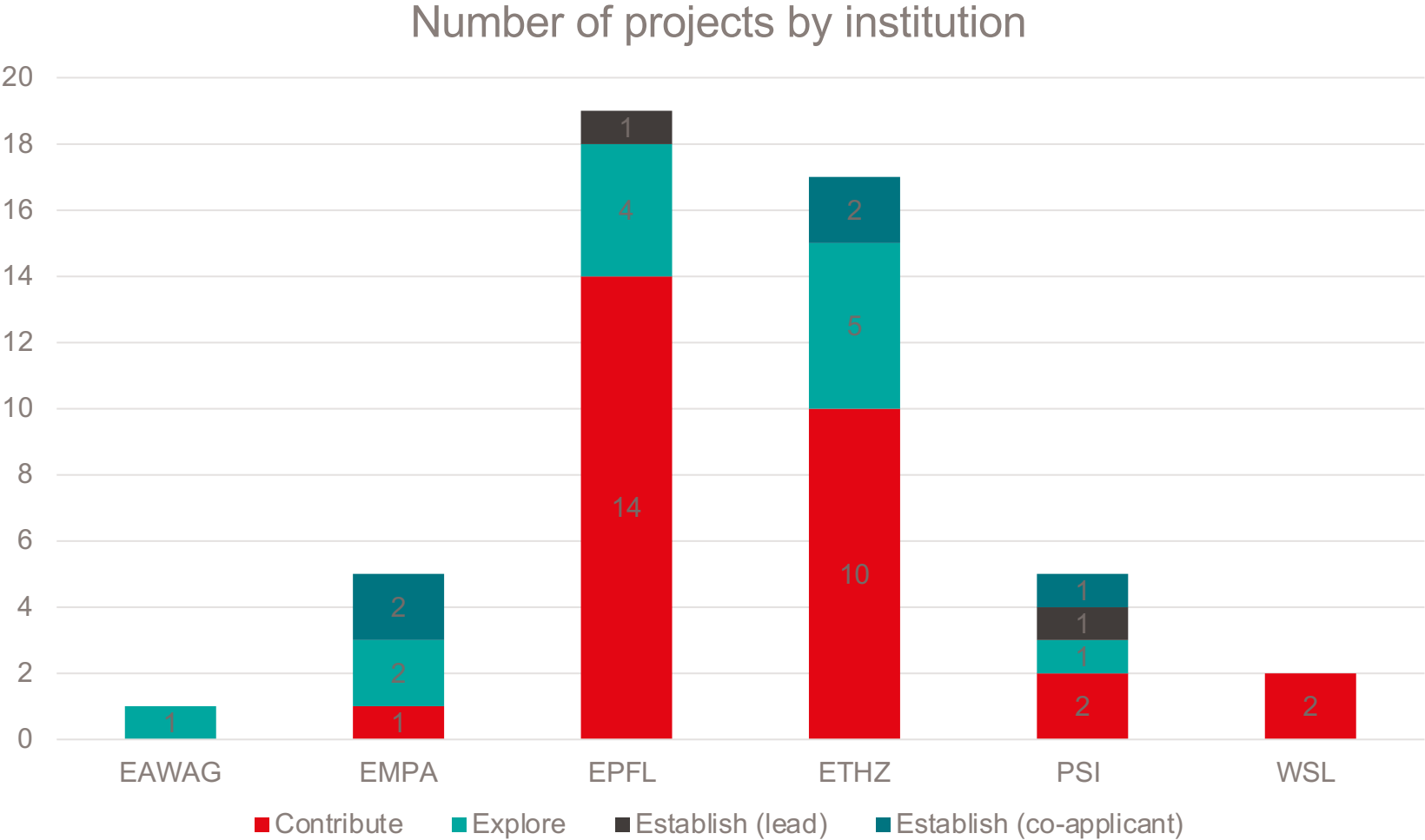
Success rate overall:
Around 64%

*60% of applications from EPFL applicants

**One project was withdrawn in call 1

***This is not the full budget but just the ETH Board contribution

Overall by institution



Funding allocated to date (44 projects)

| | Contribute (4 calls) | Explore | Establish* | Total |
|------------------|-------------------------|----------------|------------------|------------------|
| EPFL | 225'000 | 290'527 | 213'000 | 728'527 |
| ETHZ | 119'852 | 374'995 | 406'000 | 900'847 |
| PSI | 26'000 | 75'000 | 450'000 | 551'000 |
| EMPA | 15'000 | 148'500 | 327'050 | 490'550 |
| WSL | 29'977 | - | - | 29'977 |
| EAWAG | - | 75'000 | - | 75'000 |
| Allocated | 415'829 | 964'022 | 1'396'050 | 2'775'901 |

*NOTE: For Establish, the amount does not refer to the amount allocated to the main leading institution. It refers to the amount allocated to each partner in the original application.

Example M1 projects

<https://ethrat.ch/en/measure-1-calls-for-field-specific-actions/>

- Establish

- Explore

- Open and Reproducible Materials Science Research
- Open EM Data Network
- Initiative for primary bioNMR open research data
- Development of Open Research Data Analysis Services supplementing astronomical Open Research Data
- Explore AiiDA for Regional Inverse Modelling of Greenhouse Gases
- The Imaging Plaza: A Curated Online Catalog of FAIR Imaging Software.
- A FAIR metadata standard for observation data from urban drainage systems
- Open WASH data by building Open Science Competencies and Community
- An ecosystem for community driven scanning probe microscopy research and development.
- Next-generation structural biology: An open atlas of insitu protein structural dynamic
- Interfacing Natural Language Processing (NLP) Tools with Open Access Publications
- Instant and versatile data visualization during the current dark period of the life cycle of FAIR research.
- A Toolbox for Providing Open Data on Chemical and Material Uses
- COmmunity Needs of Open Research Data Practices iN FibEr-Optic Sensing - Leading by Example
- Cloud and web based platform for dissemination of computational solid mechanics

Measure 2: Coordination of Access to RDM S&I

Goal

Standardization, federation, or mutualization of existing services across the ETH Domain and the **improvement of interoperability of existing services** and filling of gaps in services.

- The full data lifecycle will be considered:
 - (1) Data management planning
 - (2) Data acquisition
 - (3) Data processing and analysis
 - (4) Data publication and re-use
 - (5) Long-term preservation
 - (6) Data disposal after retention period
- Also envisioned to increase standardization, federation and mutualization of hardware infrastructures and services
- Total funding of 3.8 MCHF available

Measure 2: Coordination of Access to RDM S&I

Work status

- **Landscape analysis of ORD S&I in the ETH Domain**
 - Analysis performed and report written in 2021 – 2022
 - Report published in June 2023 (<https://ethrat.ch/de/ord-measure-2/>)
 - Basis for identification of gaps and opportunities for action in M2
- **Focus topics for Measure 2 implementation**
 - Selected in joint workshop with SC-ORD in Dec. '22 and based on ORD report
 - Topic 1: Central Info Point for ORD S&I
 - Topic 2: Interoperability between ORD Services and Repositories
 - Topic 3: Interoperability between ELNs in the ETH Domain
 - Topic 4: Identity and access management for ORD S&I in the ETH Domain

Measure 2: Coordination of Access to RDM S&I

Work status

- **Topic 1: Central Info Point for ORD S&I**
 - Goal: *create a central, easily findable resource referencing existing S&I*
 - Status: *draft of project concept in progress*
- **Topic 2: Interoperability between ORD Services and Repositories**
 - Goal: *improve interoperability and seamless integration between different systems, both within and between the different institutions and tools at different stages of the data life cycle, through the use of clearly defined and commonly-agreed open APIs and (meta)data standards*
 - Status: *today's workshop to identify relevant ideas and projects*

Measure 2: Coordination of Access to RDM S&I

Work status

- **Topic 3: Interoperability between ELNs in the ETH Domain**
 - Goal: *Implementation of solutions that support exchange of data and metadata between different ELNs currently being used in the ETH Domain*
 - Status: *Call for proposals has been launched (deadline: Aug. 31st)*
- **Topic 4: ID and access management for ORD S&I in the ETH Domain**
 - Goal: *Develop recommendations for ETH S&I regarding IAM technologies and policies*
 - Status: *Draft of guideline document in progress*

Measure 2: Next Steps for Interoperability Topic

| When? | What? | Who? |
|--------------|---|------------------------------------|
| Jun. 29 | <ul style="list-style-type: none"> API workshop – Discussion & pre-selection of ideas | SC, EG-SI, Contributors |
| Jul. 3 | <ul style="list-style-type: none"> EG-SI Meeting – Define projects & contributors | EG-SI |
| Jul. – Aug. | <ul style="list-style-type: none"> Contributors develop project proposals Suggestion for review process | EG-SI, Contributors |
| Aug. 17 | <ul style="list-style-type: none"> SC Meeting – Validation of proposals & review process | SC |
| Sept. – Oct. | <ul style="list-style-type: none"> (External) review of project proposals | Reviewers, EG-SI (coordination) |
| Nov. – Dec. | <ul style="list-style-type: none"> Selection of successful projects | SC |
| Jan. 2024 | <ul style="list-style-type: none"> Start of successful projects | Contributors |