

e-IRG Workshop – e-Infrastructures for Climate Change and Digital Transitions



Report of Contributions

Contribution ID: 1

Type: **not specified**

Opening and Welcome

Tuesday 25 May 2021 14:00 (10 minutes)

- Paolo Budroni (e-IRG chair)
- João Pagaime (Portuguese e-IRG delegate)
- Paulo Quaresma (FCT board member)

Moderator: Maria-Luisa Lavitrano (UNIMIB, EOSC Association director)

Presenters: PAGAIME, Joao; LAVITRANO, Maria-Luisa (Moderator); BUDRONI, Paolo (e-IRG Chair); QUARESMA, Paulo (FCT board member)

Session Classification: Session 1 - EOSC and data interoperability

Contribution ID: 2

Type: **not specified**

Europe's Recovery leveraged by climate and digital transitions

Tuesday 25 May 2021 14:10 (20 minutes)

Towards an Integrated and Interoperable Data Domain at the example of Climate Research

Presenter: WITTENBURG, Peter (Max Planck Data Facility, RDA, EUDAT)

Session Classification: Session 1 - EOSC and data interoperability

Contribution ID: 3

Type: **not specified**

Demo

Tuesday 25 May 2021 14:30 (20 minutes)

Demo, which will include a few data centers in EU and US to show the potential of FDOs and demonstrate that DOIP is useful indeed as a generic interface (comparable to TCP/IP).

Session Classification: Session 1 - EOSC and data interoperability

Contribution ID: 4

Type: **not specified**

PID architecture for the EOSC

Tuesday 25 May 2021 14:50 (20 minutes)

Report from the EOSC Executive Board Working Group (WG) Architecture PID Task Force (TF).

Main messages:

- 1) There is a need for easy-to-use and free at-point-of-use services to assign PIDs to digital objects
- 2) These digital objects are of many different kinds (data & metadata, instruments, physical samples, variable definitions, ..) and while there are many commonalities, there will be a need for dedicated services
- 3) Different research disciplines will want to leverage different parts of the “PID service ecosystem”—giving opportunities for innovation and tools building also for SMEs etc.

Presenter: HELLSTRÖM , Maggie (Lund University)

Session Classification: Session 1 - EOSC and data interoperability

Contribution ID: 5

Type: **not specified**

The Semantic Mapping Framework (SEMAF) initiative

Tuesday 25 May 2021 15:10 (20 minutes)

Science for a large part based on measuring and describing phenomena using schemas and concepts that are often discipline-specific. For Open Science, sharing and transparency these schemas and concept/vocabulary definitions need to be as FAIR (open registries) as the data itself. When integrating data from different communities –also mappings are required. Spending many resources & time on deep ontological work does not make sense. Mapping needs to be driven by concrete data cases and purposes only a pragmatic approach will help researchers already do this, but mappings are hidden in texts, software, spreadsheets, etc. thus, they are not explicit, reusable (not FAIR). Therefore a flexible Semantic Mapping Framework which should be FAIR and persistent (it includes part of our scientific knowledge to be captured).

Recommendations:

Flexible pragmatic Semantic Mapping is essential for semantic interoperability, within disciplines and between disciplines. Semantic mappings are everywhere in data and metadata are part of our scientific knowledge, processes and key for reproducibility need to become FAIR and need to be stored, shared and managed.

SEMAF proposal essentials:

Invest in a framework with as basis an open registry specification, an API and a reference implementation to create interoperability

Invest in smart tools created by smart young developers that make use of specs and offer high usability

SEMAF integrated in EOSC for sustainability and governance

SEMAF requirements and construction proposal available in the final report at <http://doi.org/10.5281/zenodo.4651421>

Presenter: BROEDER, Daan (CLARIN ERIC)

Session Classification: Session 1 - EOSC and data interoperability

Contribution ID: 6

Type: **not specified**

Q&A

Tuesday 25 May 2021 15:30 (30 minutes)

Session Classification: Session 1 - EOSC and data interoperability

Contribution ID: 7

Type: **not specified**

Wrap-up

Tuesday 25 May 2021 16:00 (10 minutes)

Session Classification: Session 1 - EOSC and data interoperability

Contribution ID: 8

Type: **not specified**

Opening and Welcome

Wednesday 26 May 2021 10:00 (10 minutes)

- Paolo Budroni (e-IRG chair)
- João Pagaime (Portuguese e-IRG delegate)
- Paulo Quaresma (FCT board member)

Moderator: Irina Kupiainen (CSC –IT Center for Science Ltd.)

Presenters: KUPIAINEN, Irina (Moderator); PAGAIMÉ, Joao; BUDRONI, Paolo (e-IRG Chair); QUARESMA, Paulo (FCT board member)

Session Classification: Session 2 - Addressing climate change - the digital aspects

Contribution ID: 9

Type: **not specified**

Chalmers implementation of the e-Infrastructure Commons

Wednesday 26 May 2021 10:10 (30 minutes)

Chalmers e-Commons is a recently initiated university-wide initiative to further empower researchers and innovators at Chalmers University (Sweden) by providing support and collaborative projects for the full range of digital aspects of research. Building on several earlier efforts and a top-level strategic decision, e-Commons will provide an expert hub and integrated entry point for researchers and innovators.

The activities of Chalmers e-Commons are based on a data-centric perspective, covering all phases of the research data life-cycle, from planning, management and large-scale computing/analysis in active projects, to long-term preservation, data sharing and data publishing. e-Commons also provides and facilitates access to a span of local, national and international e-Infrastructure resources for large-scale computing and data storage/management. Here, e-Commons coordinates Chalmers participation in national e-Infrastructures such as SNIC and SND as well as in European initiatives like EOSC and access to computing resources in EuroHPC.

A main goal of e-Commons is to host a vibrant community of Digital Research Engineers and Data Champions, collaborating with researchers, research initiatives and research infrastructures to advance research and innovation in all areas at Chalmers. Complementing the Digital Research Engineers, e-Commons also hosts a group of computer system experts, developing, building and managing the local e-infrastructure resources for large-scale computing and data storage and providing user support.

Presenter: HOLMGREN, Sverker (Chalmers University of Technology Country)

Session Classification: Session 2 - Addressing climate change - the digital aspects

Contribution ID: 10

Type: **not specified**

The Green IT aspects of Supercomputing

Wednesday 26 May 2021 10:40 (20 minutes)

Update on supercomputer CSCS in Lugano Switzerland and their policies for lowering computing costs and a lighter carbon footprint. A potential European strategy for lowering cost and carbon footprint will also be proposed.

CSCS provides the supercomputers and expertise that help keep Swiss science at the forefront of development worldwide. Supercomputers are the tools of today's inventors. With them, researchers can demonstrate science that was never possible with theory and experimentation alone.

The centre operates the very latest supercomputers and works with the world's leading computing centers and hardware manufacturers. This enables the centre to be the driving force behind innovation in computational research in Switzerland: the very latest computer architecture helps to ensure that users' codes run quickly so they can focus more on their scientific results.

CSCS houses a diverse pool of supercomputers and these are dedicated to national and custom services. The supercomputers are in the machine room, which measures 2000 square meters with no single supporting pillar or any partitioning; this all to minimize restrictions to the installation and operation of supercomputers in the future.

Presenter: SCHULTHESS, Thomas (CSCS, Switzerland)

Session Classification: Session 2 - Addressing climate change - the digital aspects

Contribution ID: 11

Type: **not specified**

The European Fire Integrated management pLAtform EFIIA

Wednesday 26 May 2021 11:00 (20 minutes)

The EFIIA ("intelligence" in Greek) platform introduces an ecosystem for the holistic management of forest fires. This ecosystem brings together domain experts and technological advances in an effort to address the three important pillars of fire management: i.e. i) Prevention and preparedness, ii) Detection and Response iii) Restoration and Adaptation.

Therefore, EFIIA aims to address the complex problem of dealing with forest fires by employing state of the art technologies that interconnect and interoperate assisting in the three faces of a fire management incident.

Presenter: HADJIEFTHYMIADES, Stathes (University of Athens, Coordinator of EFIIA)

Session Classification: Session 2 - Addressing climate change - the digital aspects

Contribution ID: 12

Type: **not specified**

Climate change and forest fires - the Portuguese case

Wednesday 26 May 2021 11:20 (20 minutes)

Forest fires can be seen as endemic in Portugal and climate scenarios show that conditions will favor forest fires in the country. Policies, prevention and firefighting need to cope with future changes. Digital tools, like the ones proposed in the European Fire Integrated management platform (EFIA platform) or in the Portuguese Institute for Sea and Atmosphere - IPMA's climate portal, will contribute to mitigate these future hazards.

Presenter: LOPES, Nuno (Instituto do Mar e Atmosfera, (IPMA) Portugal)

Session Classification: Session 2 - Addressing climate change - the digital aspects

Contribution ID: 13

Type: **not specified**

EMODnet: Open Source Marine Data, Digital Products and Services for Europe and beyond

Wednesday 26 May 2021 11:40 (20 minutes)

Presenter: GORRINGE, Patrick (SMHI, EMODnet Physics)

Session Classification: Session 2 - Addressing climate change - the digital aspects

Contribution ID: 14

Type: **not specified**

Q&A

Wednesday 26 May 2021 12:00 (20 minutes)

Session Classification: Session 2 - Addressing climate change - the digital aspects

Contribution ID: 15

Type: **not specified**

Wrap-up

Wednesday 26 May 2021 12:20 (10 minutes)

Session Classification: Session 2 - Addressing climate change - the digital aspects

Contribution ID: 16

Type: **not specified**

Opening and Welcome

Wednesday 26 May 2021 14:00 (10 minutes)

- Paolo Budroni (e-IRG chair)
- João Pagaime (Portuguese e-IRG delegate)
- Paulo Quaresma (FCT board member)

Moderator: Konstantinos Repanas (EC, DG Research & Innovation Unit G.4 –Open Science)

Presenters: PAGAIME, Joao; REPANAS, Konstantinos (Moderator); BUDRONI, Paolo (e-IRG Chair); QUARESMA, Paulo (FCT board member)

Session Classification: Session 3 - Going beyond: How policies can shape the development of research infrastructure facilitating data sovereignty, innovation and cultural change

Contribution ID: 17

Type: **not specified**

Ideas for future developments in e-Infrastructure on technical, policy and social aspects.

Wednesday 26 May 2021 14:10 (1h 40m)

Three contributors will provide ideas for future developments in the realm of e-Infrastructure on technical, policy and social aspects to stimulate a discussion with the audience.

Presenters: DE JONG, Franciska; STRAWN , George; GYÖRKÖS, József

Session Classification: Session 3 - Going beyond: How policies can shape the development of research infrastructure facilitating data sovereignty, innovation and cultural change

Contribution ID: **18**

Type: **not specified**

Q&A

Wednesday 26 May 2021 15:50 (25 minutes)

Session Classification: Session 3 - Going beyond: How policies can shape the development of research infrastructure facilitating data sovereignty, innovation and cultural change

Contribution ID: 19

Type: **not specified**

Wrap-up

Wednesday 26 May 2021 16:15 (15 minutes)

Session Classification: Session 3 - Going beyond: How policies can shape the development of research infrastructure facilitating data sovereignty, innovation and cultural change