



PaNOSC Closing Event

Paving the way towards the PaN FAIR Data Commons

29-30 November 2022

Grenoble - France

Welcome address

Andy Götz – PaNOSC Coordinator

ESRF

29 November 2022



PaNOSC has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 823852

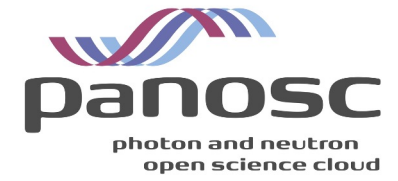


GRENOBLE
winner 2022



**EUROPEAN
GREEN CAPITAL**
PaN EOSC

An initiative of the
European Commission



Welcome !

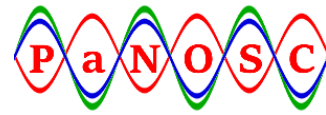
To the PaNOSC Closing Event in Grenoble

We are very pleased to welcome all partners + stakeholders:

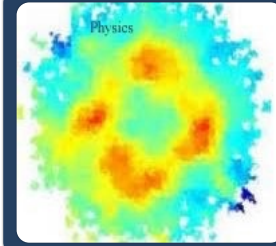
- PaNOSC project members
- ExPaNDS project members
- Science Cluster coordinators
- EOSC-Association directors
- National projects – HMC, DAPHNE, NFFA, E-RIHS, ...
- Learned societies – IUCr CommDat
- e-infrastructures, collaborators, friends, ...



Photons and Neutrons cover Broad time and length scales



PHYSICS



ANGSTROMS AND PICOSECONDS

- electronic and magnetic structure
- strongly correlated electron systems

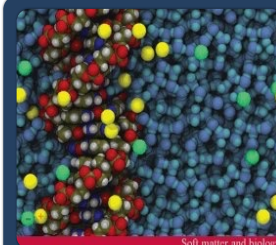
CHEMISTRY



NANOMETRES AND NANOSECONDS

- chemical structure and dynamics
- structure/property relationships

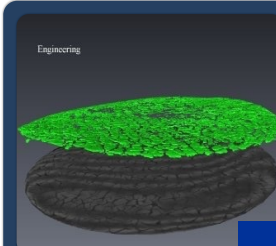
SOFT MATTER & BIOLOGY



MICRONS AND MICROSECONDS

- interfaces, micelles, etc.
- protein structure and dynamics

ENGINEERING & MATERIALS SCIENCE



METRES AND MONTHS

- engineering measurements, heritage science
- Imaging, tomography, strain & stress, etc.



Data Analysis as a Service – PaNDAAS meeting at ESRF (July 2016)

The Fourth Paradigm: Data-Intensive Science <i>Auditorium, ESRF</i>	<i>Dr Tony Hey</i>	<i>14:00 - 14:40</i>		
Life Sciences Perspective <i>Auditorium, ESRF</i>	<i>Prof. Dave Stuart</i>	<i>14:40 - 15:00</i>		
Progress report - ESRF <i>Auditorium, ESRF</i>	<i>Andy Gotz et al.</i>	<i>15:00 - 15:20</i>	European Open Science Cloud <i>Auditorium, ESRF</i>	<i>Dr Brian Matthews</i> <i>08:30 - 08:50</i>
Progress report - STFC <i>Auditorium, ESRF</i>	<i>Mr Frazer Barnsley</i>	<i>15:20 - 15:40</i>	Indigo-DataCloud <i>Auditorium, ESRF</i>	<i>Dr Davide Salomoni</i> <i>08:50 - 09:10</i>
Progress report - PSI <i>Auditorium, ESRF</i>	<i>Dr Mirjam van Daalen</i>	<i>15:40 - 16:00</i>	HNSciCloud <i>Auditorium, ESRF</i>	<i>Bob Jones</i> <i>09:10 - 09:30</i>
Progress report - DLS <i>Auditorium, ESRF</i>	<i>Dr Alun Ashton</i>	<i>16:00 - 16:20</i>	CERN cloud experience <i>Auditorium, ESRF</i>	<i>Tim Bell</i> <i>09:30 - 09:55</i>
Coffee <i>ESRF entrance hall, ESRF</i>		<i>16:20 - 16:40</i>	Coffee <i>ESRF entrance hall, ESRF</i>	<i>09:55 - 10:10</i>
Progress report - DESY <i>Auditorium, ESRF</i>	<i>Frank Schluenzen</i>	<i>16:40 - 17:00</i>	Panoramic and links to RDA projects <i>Auditorium, ESRF</i>	<i>Dr Brian Matthews et al.</i> <i>10:10 - 10:30</i>
Progress report - SOLEIL <i>Auditorium, ESRF</i>	<i>Mr Majid Ounsi</i>	<i>17:00 - 17:20</i>	DAAS @ ALS <i>Auditorium, ESRF</i>	<i>Alexander Hexemer</i> <i>10:35 - 11:00</i>
Progress report - MAXIV <i>Auditorium, ESRF</i>	<i>Krister Larsson</i>	<i>17:20 - 17:40</i>	How to make PaNDaaS2 a successful collaboration <i>Auditorium, ESRF</i>	<i>Rudolf Dimper</i> <i>11:00 - 12:00</i>
Progress report - KIT <i>Auditorium, ESRF</i>	<i>Andreas Kopmann</i>	<i>17:40 - 18:00</i>		
Progress report - ALBA <i>Auditorium, ESRF</i>	<i>Mr Antoni Perez Font</i>	<i>18:00 - 18:20</i>		

PaNOSC @ EOSC Stakeholders meeting in Brussels (November 2018)



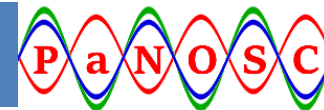
Photon **a**nd Neutron **O**pen **S**cience **C**loud

A. Götz
on behalf of the PaNOSC consortium

22 November 2018



PaNOSC Goals



Data Stewardship

- Generalise the adoption of **FAIR** open data principles

EOSC

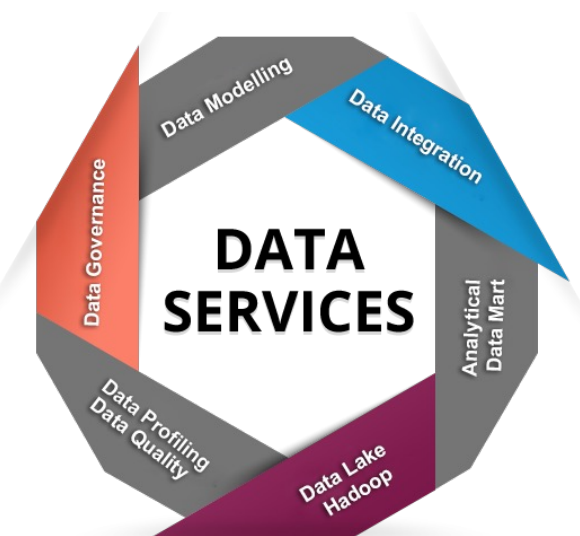
- Federate data catalogs and integrate in EOSC and OpenAire meta-catalog, AAI, download services

Data Services

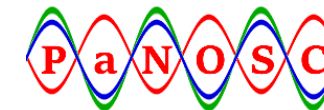
- Develop new data analysis, modelling and simulation services

User Training

- Train users how to write Data management plans, improve metadata, using DOIs, manage data better











Conclusion @ EOSC Stakeholders meeting



PaNOSC is a joint effort to help the ESFRI Photon and Neutron sources to **adopt and implement data management, simulation and analysis services** for dealing with the increasing data rates and volumes and making **Open Data** available to the **EOSC**



PaNOSC Kickoff meeting at ESRF (January 2019)

Welcome address <i>Auditorium, ESRF</i>	11:00 - 11:15	Jupyter latest developments		
PaNOSC overview <i>Auditorium, ESRF</i>	Andrew Goetz 	<i>Auditorium, ESRF</i>		
EC view of EOSC <i>Auditorium, ESRF</i>	Dr Geert Vancraeynest 	<i>Auditorium, ESRF</i>		
PaNOSC + national RIs <i>Auditorium, ESRF</i>	Rudolf Dimper 	Coffee break		
EOSC-hub <i>Auditorium, ESRF</i>	Tiziana Ferrari 	<i>Entrance hall</i>		
Coherent diffraction + training <i>Auditorium, ESRF</i>	Vincent Favre-Nicolin 	Executive Board <i>Room 500, ESRF</i>	Rudolf Dimper	WP6 (EOSC Integration) <i>Auditorium, ESRF</i>
A Neutron User's View of Data and Metadata <i>Auditorium, ESRF</i>	Dr Andrew Jackson 	11:00 - 12:30		WP8 (User Training) <i>Room 126, ESRF</i>
Laser users - vision for ELI <i>Auditorium, ESRF</i>	Mr Florian GLIKSOHN 	12:35 - 12:50		11:00 - 12:30
		WP2 Data Policy <i>Room 137, ESRF</i>		WP7 (Sustainability) <i>Room 337, ESRF</i>
		12:30 - 13:00		WP9 (Outreach & Communication) <i>Auditorium, ESRF</i>
		WP4 (Data Analysis as a Service)	WP3 (Metadata Catalogues)	WP5 (Simulation)

Making FAIR data a reality for the PaN community

Full FAIR compliance of PaN scientific data

Support in shaping EOSC services for users needs

Increase of RIs' impact by encouraging data reuse

Innovative data services at RIs and as part of the EOSC

Sharing of best practices for open data policies

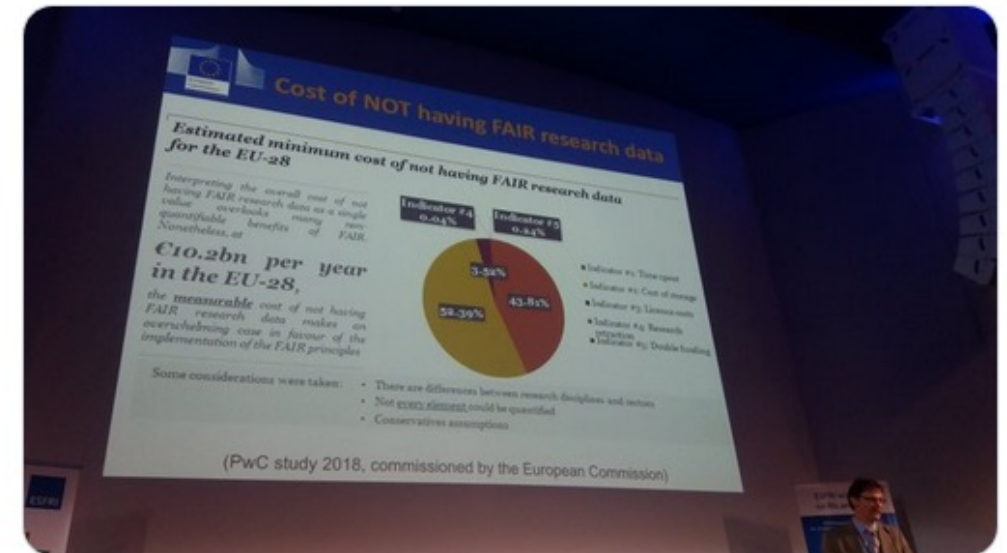
Collaboration with EOSC projects to share outcomes

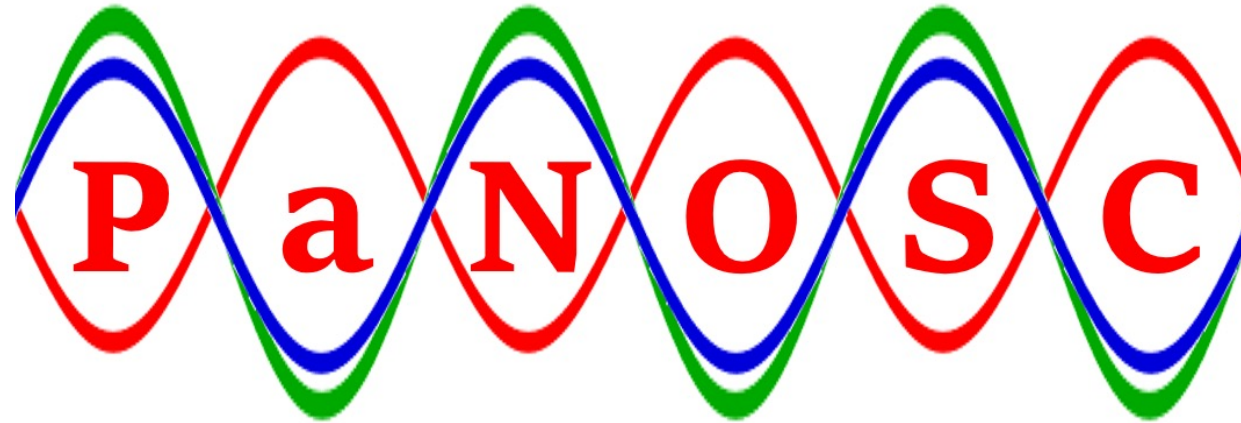
PaNOSC works closely with the PaN sources in Europe to develop common policies, strategies and solutions in the area of FAIR data policy, data management and data services, integrating them into the EOSC.



Andy Gotz @andy_gotz · Jan 30, 2019

Very interesting study for @Panosc_eu presented at #ESFRImeetsEOSC .Not having FAIR data costs 10+ billion euros per year for the EU.





Photon **a**nd Neutron **O**pen **S**cience **C**loud

The PaNOSC Project

R. Dimper – on behalf of the Consortium
30 January 2019



PaNOSC aim - link all scientific data + output together

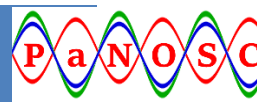
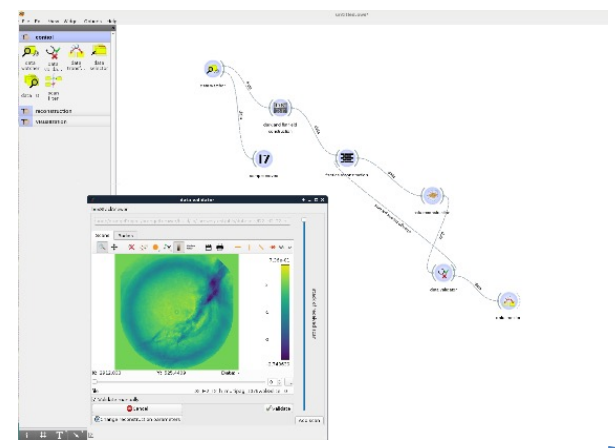


Image Source: <http://michaelnielsen.org/blog/the-future-of-science-2/>



```
File Edit View Run Kernel Tabs Settings Help
In [10]: show_img(img, False, 'none')
```

```
In bash kernel this is done with:
hdh@esr data/cvlib-21-run0131\data\CLS_2013_Mar23_10131_003823_b32b.h5

Same thing with a geometry file:
In [10]: img = reconstruct(img, 'SH128-Lite-2013.geom')
In [11]: show_img(img, False, 'null')
```

ABSTRACT INTRODUCTION PROTOCOL RESULTS DISCUSSION

CHEMISTRY

An Experimental Protocol for Femtosecond NIR/UV - XUV Pump-Probe Experiments with Free-Electron Lasers

Daniel Rolles¹, Rebecca Boll^{2,3}, Benjamin Erk², Dimitrios Rompotis², Bastian Manschuetz²
¹U. R. Macdonald Laboratory, Department of Physics, Kansas State University, ²Deutsches Elektronen-Synchrotron DESY, ³European XFEL GmbH

VIEWERS 3,065 CITE THIS SHARE

Daniel Rolles
Kansas State University

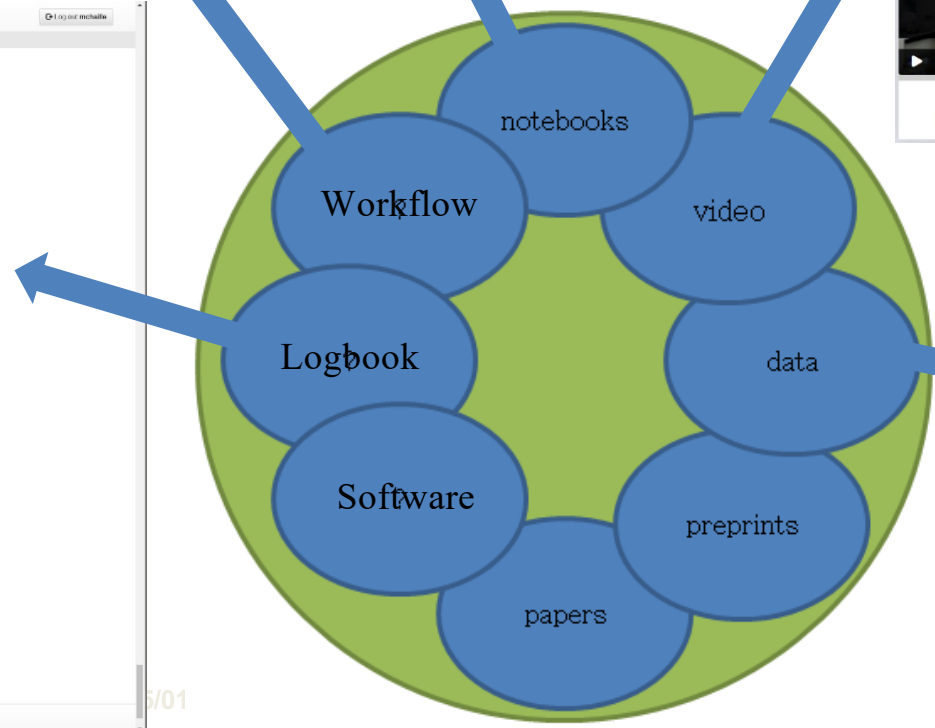
ISSUE 148
DOI: 10.2731/17055
PUBLISHED: 10/23/2016
COMMENTS

Home My Selection

22:08:32 @ iwick show wcd21d
22:08:20 @ iwick_show wcd21d
22:05:28 @ wcd21d show wcd21d

22:05:28 @ New dataset: ble_Cd_middles
21:12:52 @ zoomimage samey 7.728 0.24 124 samez 25.156 26.428 106 100 0 (exp: #1, spec: #1)
21:06:26 @ zoomimage ble_Cd1 wheat grain 15um thick CIF coarse
21:05:24 @ New dataset: ble_Cd_coarse
21:06:26 @ New sample: ble_Cd ("wheat grain 15um thick CIF")
21:05:25 @ New spec file: Natas/Vision/lev355cd21Lole Cdble_Cd_spec01ble_Cd_spec01.dat

ESRF European Synchrotron Radiation Facility



My Dashboard

Summary

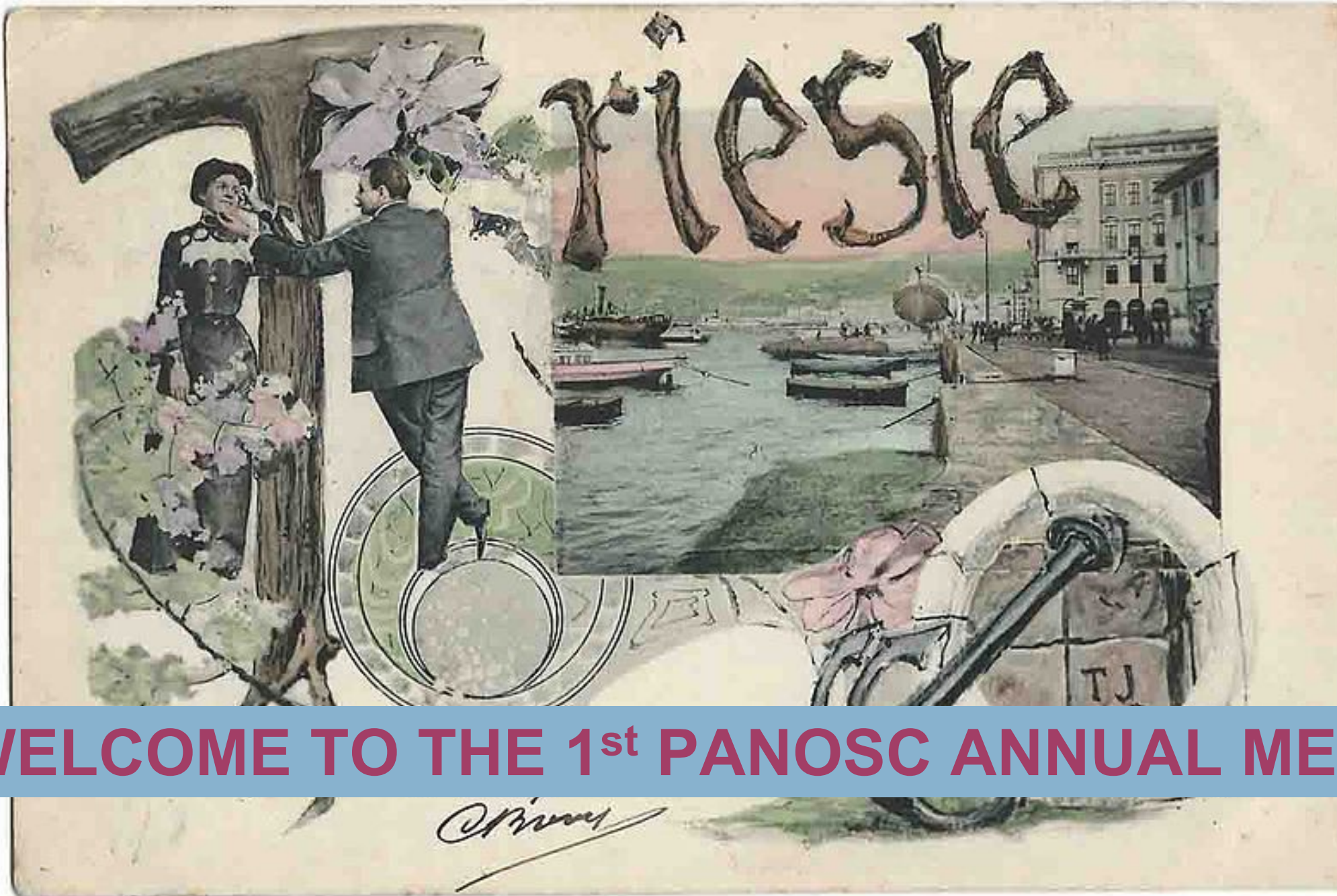
Table

Figure

Figure

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**PaNOSC First
Annual Meeting
organized by
CERIC-ERIC in
Trieste in
November 2019**

WELCOME TO THE 1st PANOSC ANNUAL MEETING !

PaNOSC First Annual Meeting in Trieste at CERIC-ERIC (November 2019)


ExPANDS sister project to PaNOSC

Knut Sander 

Savoy Hotel, Trieste

16:30 - 16:50

EOSC Federating Core

Dale Robertson 

Savoy Hotel, Trieste

08:20 - 08:40


Report from RDA 14

Ornela de giacomo 

Savoy Hotel, Trieste

17:45 - 18:00


FAIR Crystallographic data

Brian McMahon 

Savoy Hotel, Trieste

11:10 - 11:30

Reproducible big data analytics: the EGI solution

Giuseppe La Rocca 

Savoy Hotel, Trieste

10:30 - 10:50

Reproducible science studies (Robert, Vincent)


 6 Nov 2019, 11:30

 30m

 Basovizza (Trieste)

Speaker

 Thomas Vincent

EGI Notebooks,
DataHub, Binder
(Giuseppe Larocca) 

WP2 face-2-face

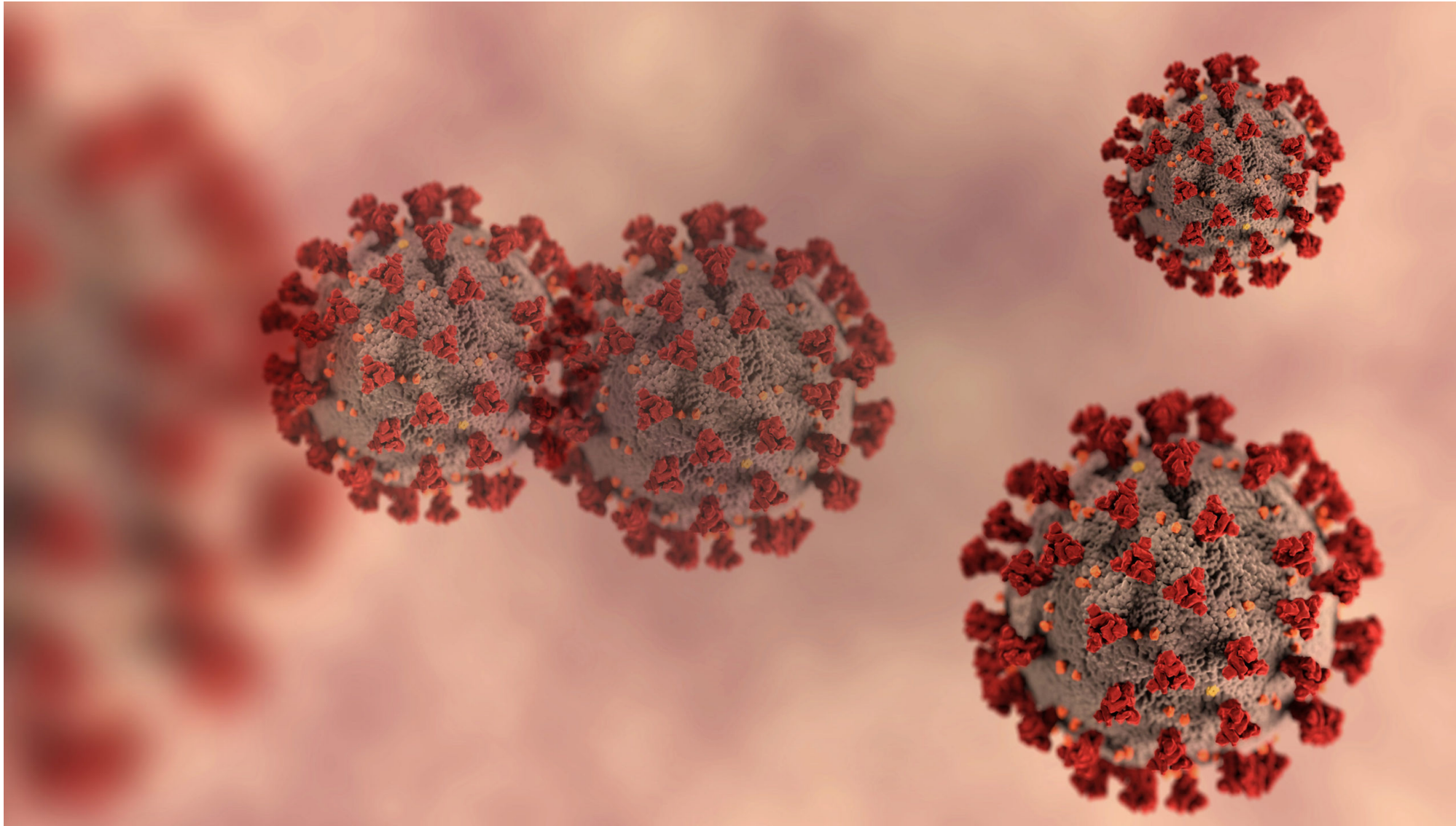
WP 6 face-2-face

WP 5-WP 8 face-2-fa 

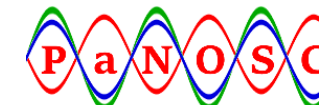
WP 3 face-2-face 

PaNOSC Portal arch...
Mr Jamie...

And then came COVID-19 ... and BOOM we moved to ZOOM for 2 years 2020+2021

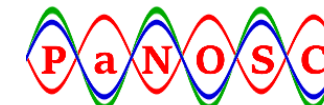


KPIs - Before PaNOSC - 2018



	ILL	ESRF	CERIC	XFEL	ELI	ESS
Data / yr	200 TB	8 PB	1 PB	3PB	< 1 PB	0
Data Policy	2011	2016	2014 (3/8)	2017	In progress	2017
Metadata catalogue	Local	lcat	Local	myMdC	No	SciCat
Metadata definitions	Nexus	Nexus	custom	myMdC	?	Nexus
DOI	2012	2018	No	2018	No	2018
Open Data	Yes	Yes	No	Yes	No	No
Data Services	Pilot	In progress	Remote	In progress	?	In progress
Common data API	No	No	No	No	No	No
User training	No	No	No	No	No	No

KPIs - After PaNOSC - 2023



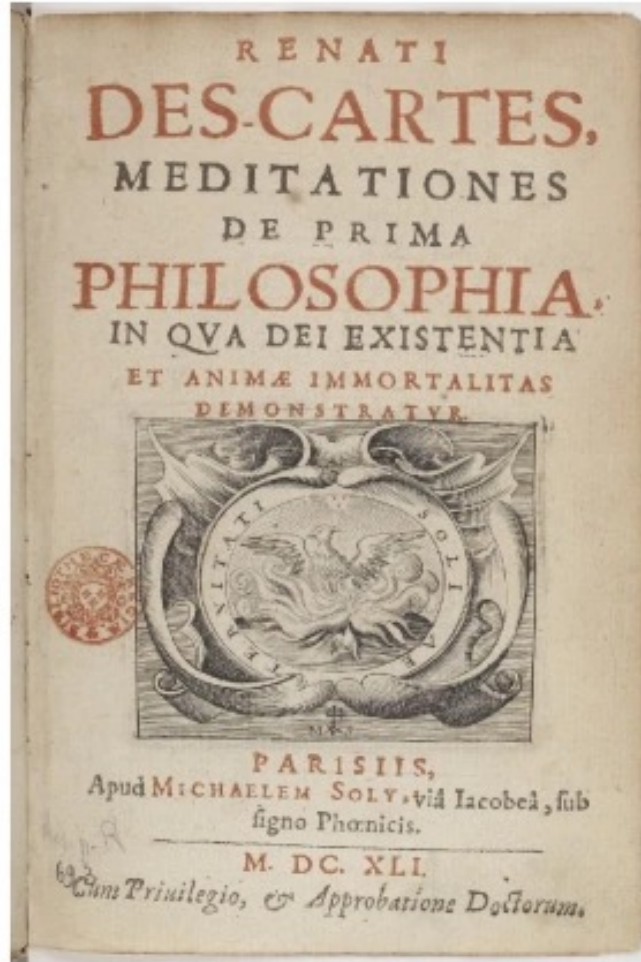
	ILL	ESRF	CERIC	XFEL	ELI	ESS
Data / yr	600 TB	50 PB	15 PB	100PB	10 PB	<1PB
Data Policy	2011	2016	2019	2017	2019	2017
Metadata catalogue	Local	Icat	Icat	myMdC	[TBD]	SciCat
Metadata	Nexus	Nexus	Nexus	Nexus	[Nexus]	Nexus
Metadata collection	All BLs	All BLs	All BLs	All BLs	All BLs	All BLs
DOI	Yes	Yes	Yes	Yes	Yes	Yes
Open Data	Yes	Yes	Yes	Yes	Yes	Yes
Common API	Yes	Yes	Yes	Yes	Yes	Yes
User training	Yes	Yes	Yes	Yes	Yes	Yes
Data Services	Prod	Prod	Prod	Prod	Prod	Prod
EOSC	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated

The world's first Open Scientist?

1.



2.



3.

4.

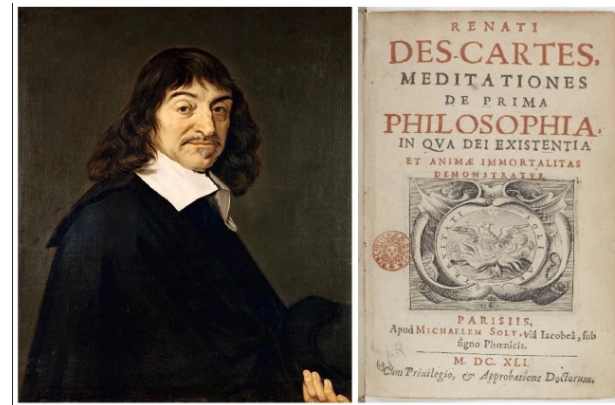
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little by little, step

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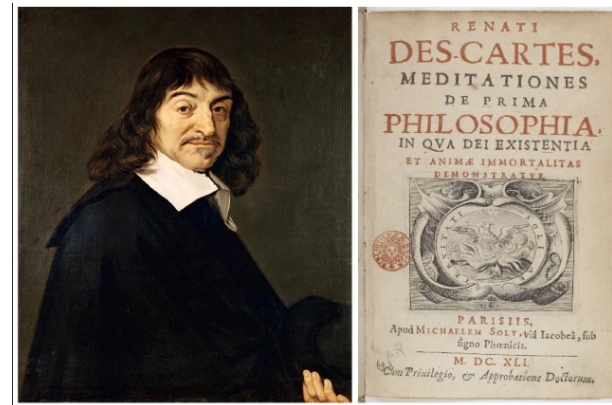
:



Open Access – problems with Elsevier already in 1636?

- to Mersenne, iii.1636:

*About five weeks ago I received your most recent letter, dated 18.1.36; I hadn't received its predecessor until four or five days before that. I postponed replying to you because I reckoned on being able to tell you soon that I had sent my work to the printer. [This refers to **Discourse on the Method, with the Optics, Meteorology, and Geometry**, published by Jean le Maire of Leiden in June 1637.] That's why I came here to Leiden, because the **Elseviers** have said they would like to be my publishers. But now that they've seen me here they seem to think that they have caught me, which has led them to make difficulties; so I have decided to drop them.*



350+ years later



INSTITUT DE FRANCE
Académie des sciences

FR

search...

ABOUT US

SCIENTIFIC
COMMUNITY

SCIENCE TEACHING

TRANSMITTING
KNOWLEDGE

INTERNATIONAL
COLLABORATION

EXPERTISE &
ADVICE

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FOR A PRACTICAL APPLICATION OF THE PRINCIPLES OF OPEN SCIENCE

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Open science

Royal Society Publishing supports [open access](#) as a means of maximising the dissemination and re-use of research outputs.

Open access is part of the wider concept of **open science** which seeks to open up the entire research and publication process even further, including open data, open protocols, open code and transparent peer review. This page outlines some of the open science initiatives at the Royal Society.

- [Open data](#)
- [Article and journal metrics \(DORA\)](#)
- [Open citations](#)
- [Preprints](#)
- [Authorship and contributorship](#)
- [Transparent peer review](#)
- [Objective peer review](#)
- [Registered Reports](#)
- [Replication studies](#)
- [The future of open science](#)

**Enjoy the Closing Event session talks +
take part in the discussions + chats!**





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Paving the way towards the PaN FAIR Data Commons

29-30 November 2022

Grenoble - France

Thank you

andy.gotz@esrf.fr



PaNOSC has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 823852

Project conclusion

Four years of PaNOSC

- Team effort has been essential
- WP leaders have been the driving force
- WP members have been the working force
- Project has achieved almost all of its KPIs
- Description of Work for the project steered the project
- COVID-19 was a challenge but also an opportunity e.g. for VISA, remote experiments, data portal, remote collaboration etc.
- Collaboration with ExPaNDS was essential, without it the PaN community would not be in a position to continue as a community