Science Clusters & EOSC

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with contributions from and on behalf of all Science Clusters

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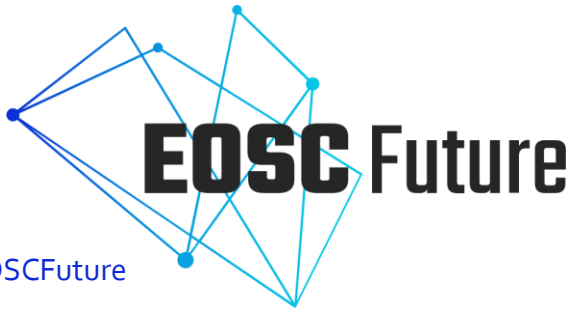
Who are we?

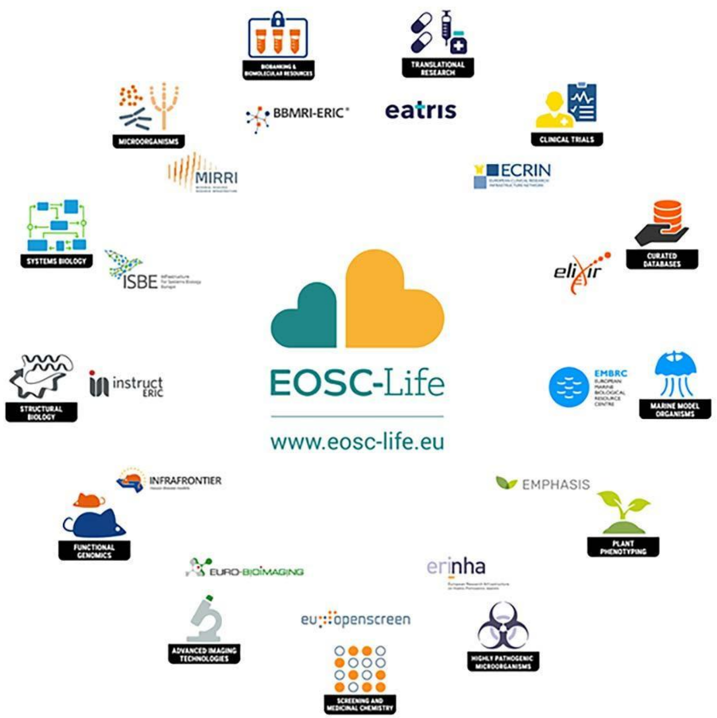
Projects from the INFRAEOSC-04 call for connecting ESFRI roadmap and landmark projects to the EOSC

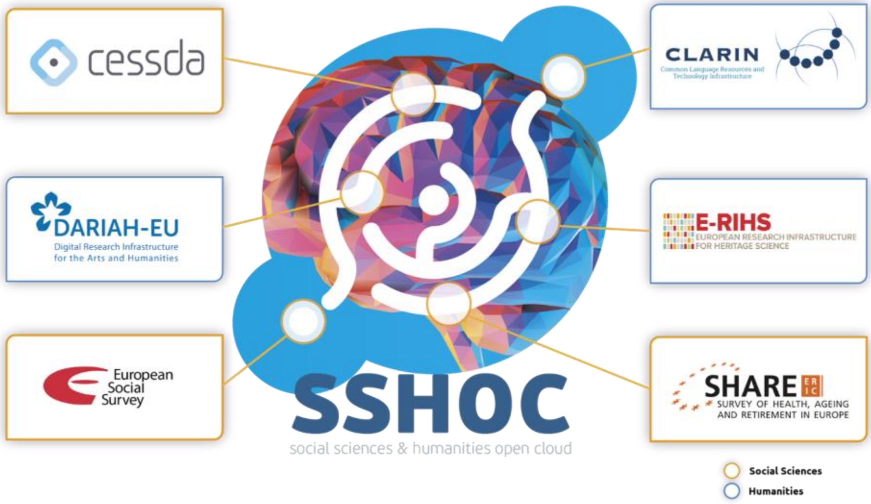
Five Science Cluster projects were launched in late 2018:

- ENVRI-FAIR - environmental sciences
- EOSC-LIFE - life sciences
- ESCAPE - physical sciences & astronomy
- PaNOSC/ExPaNDS - structure and function of matter
- SSHOC - social sciences and humanities



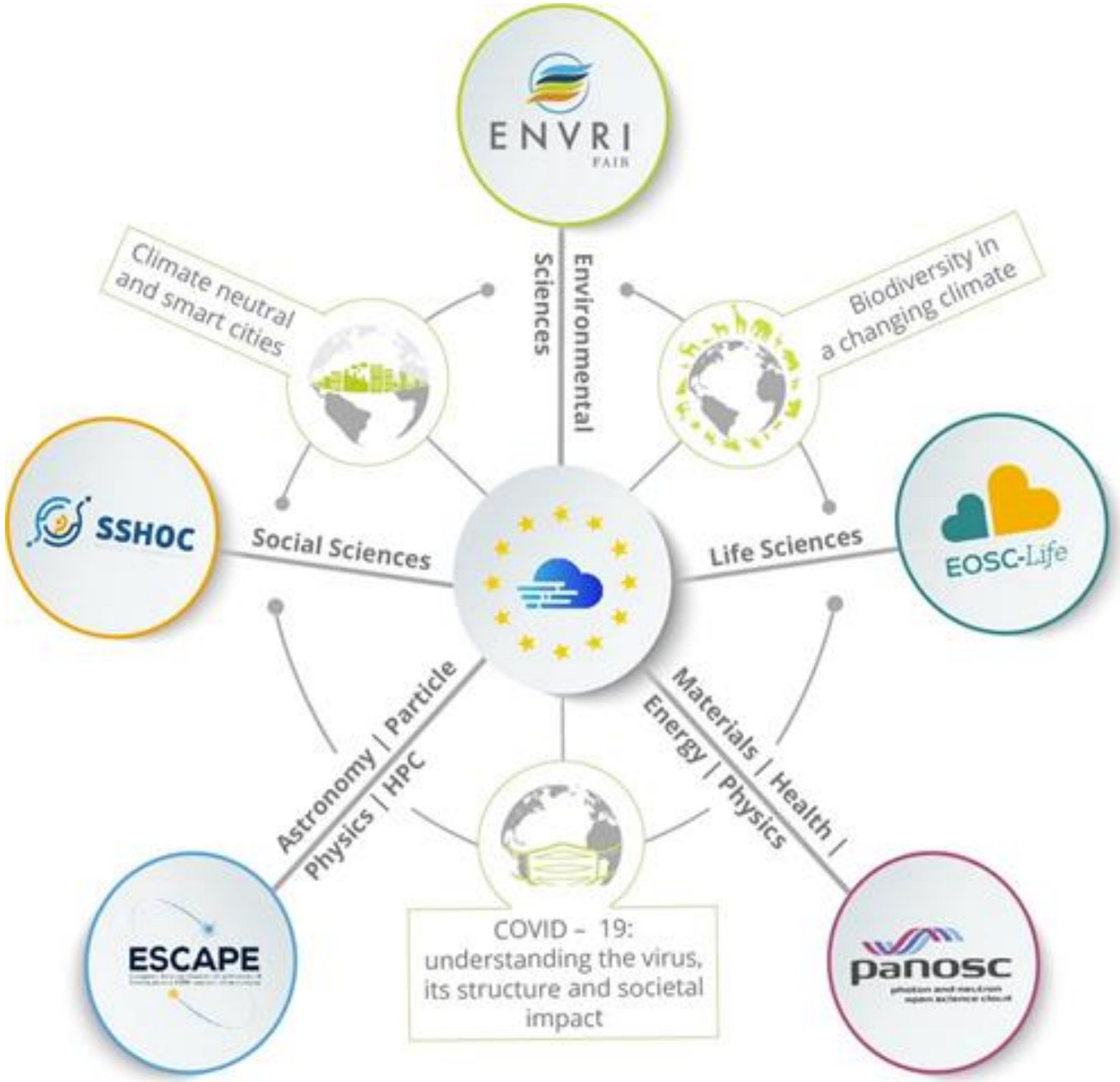

ENVRI FAIR
Life
Air
Land
Water


EOSC-Life
www.eosc-life.eu
BBMRI-ERIC
eatris
ECRIN
elixir
EMBRC
instruct ERIC
ISBE
MIRRI
INFRAFRONTIER
EMPHASIS
EURO-BIOIMAGING
erinha
eu-openscreen
MICROORGANISMS
TRANSLATIONAL RESEARCH
CLINICAL TRIALS
SYSTEMS BIOLOGY
CURATED DATABASES
STRUCTURAL BIOLOGY
MARINE MODEL ORGANISMS
FUNCTIONAL GENOMICS
PLANT PHENOTYPING
ADVANCED IMAGING TECHNOLOGIES
SCREENING AND MEDICINAL CHEMISTRY
HIGHLY PATHOGENIC MICROORGANISMS


cessda
CLARIN
DARIAH-EU
Digital Research Infrastructure for the Arts and Humanities
E-RIHS
EUROPEAN RESEARCH INFRASTRUCTURE FOR HERITAGE SCIENCE
European Social Survey
SHARE
SURVEY OF HEALTH, AGEING AND RETIREMENT IN EUROPE
SSHOC
social sciences & humanities open cloud
Social Sciences
Humanities


Particle Physics
Astrophysics
FAIR
HiLumi
cta
SKA
LSST
VIRGO
ESCAPE
European Science Cluster of Astronomy & Particle physics ESFRI research infrastructures
KM3NeT
ESO
JIVE
EST
european solar telescope


Making FAIR data a reality at Photon and Neutron facilities
HZDR
ess
ESRF
DESY.
CERIC
HZB
ILL
NEUTRONS FOR SOCIETY
ExPaNDS
panosc
photon and neutron open science cloud
European XFEL
SOLEIL
diamond
MAX IV
ALBA
PSI
eli



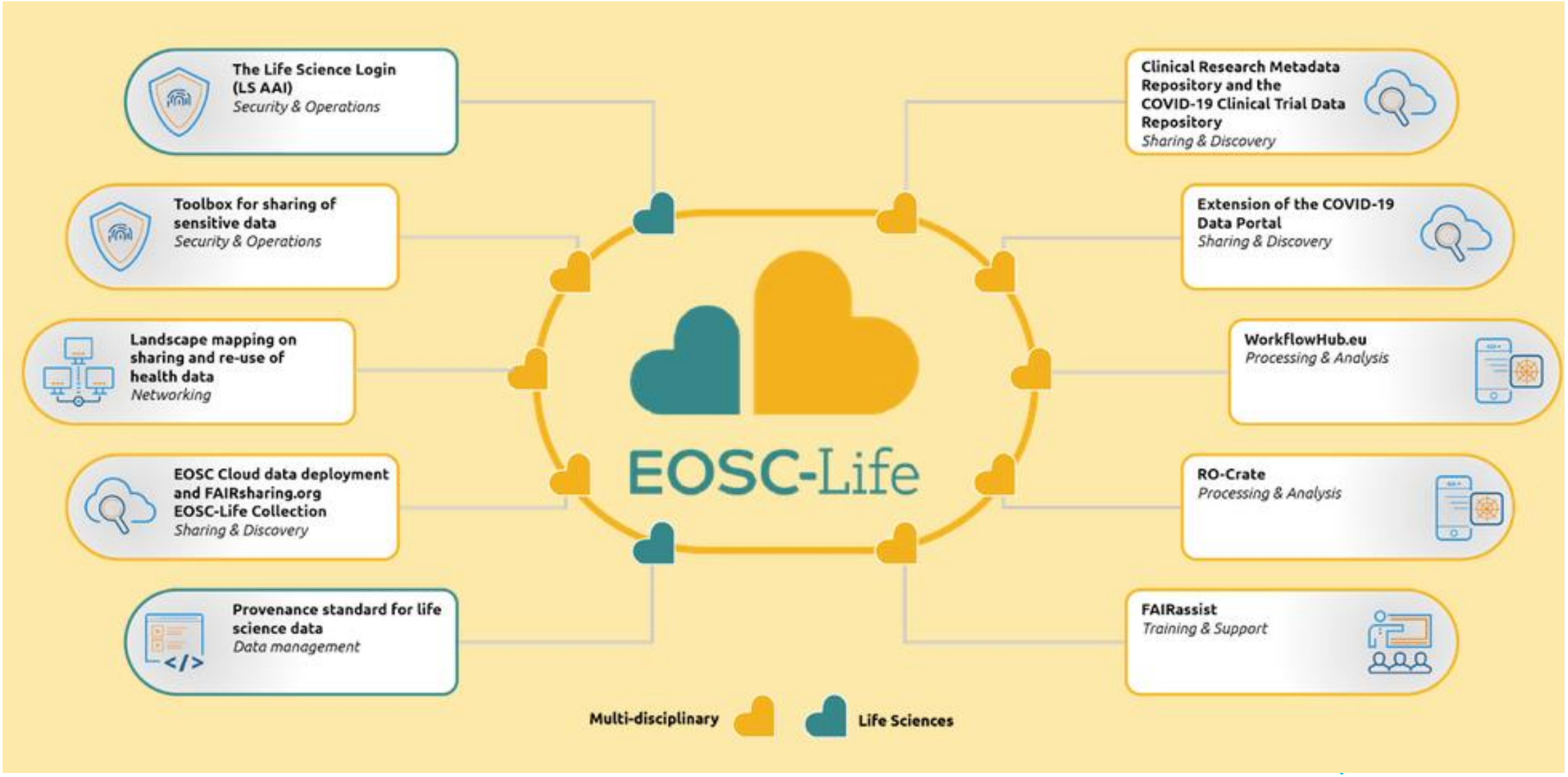
Each of the Science Cluster projects is about building a mini EOSC!

EOSC Future

@EOSCFuture

Science Cluster Services - ENVRI-FAIR Environmental Science

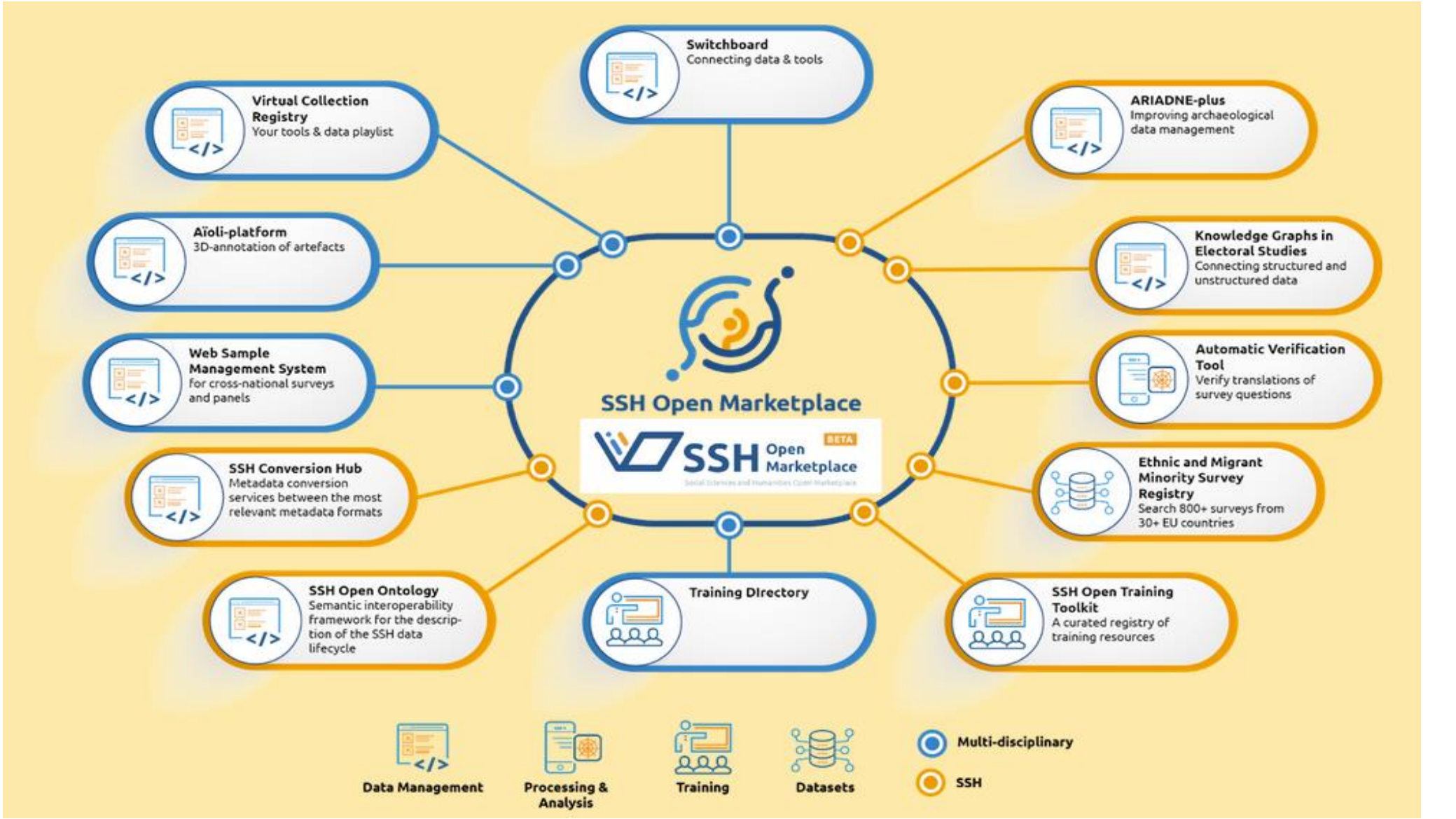
Science Cluster Services - EOSC-Life Life Sciences



Science Cluster Services - ESCAPE
Physics & Astronomy

Science Cluster Services - PaNOSC
Structure and function of matter science

Science Cluster Services - SSHOC
Social Sciences and Humanities



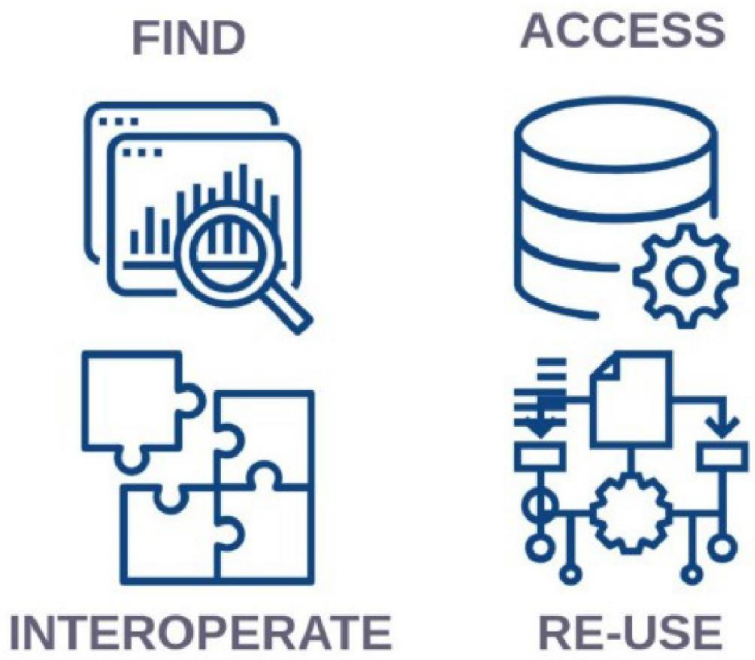
ESFRI Science Clusters & EOSC Future

Science Clusters …

- act as the key interfaces between the scientific communities, their infrastructures, and the EOSC;
- provide FAIR data and build and maintain key community services;
- make cluster community services available to the scientific community at large;
- apply community services across clusters for novel research and important societal challenges;
- provide platforms for scientific interoperability in EOSC;
- assist researchers in their exercise of Open Science in/with EOSC.

What we provide: FAIR Data

- Find the data and metadata in our Catalogues of Services.
- Freely access, use and share large datasets of different types and sources.
- Work with interoperable data, thanks to our standards, thesauri and ontologies.
- Reuse and combine data for different research questions, generating new services and meet community standards.
- Cluster data repositories are minting identifiers for the community.



What we provide: Open Data and …

- Continuous, trusted working environments and networking opportunities for the research community
- Long-term open data archives with high performance storage and computing services, to enable sustainable use of data
- Open data and a virtual research space for open science where scientists can create content and collaborate

EOSC Future

ESFRI Science Clusters & EOSC Future

- **Scientific areas** range from the impacts of climate change on biodiversity, environment and societies to an improved understanding of our universe and finally to all aspects of COVID-19 research.
- **Scientific added values** are provided by new and beforehand not possible interdisciplinary analyses coming from complementary RIs.
- **Innovative algorithms and methods** will be shared with other scientific communities and society within the EOSC platform:
  - innovative access management
  - novel approaches for sharing, analysing and reusing imaging data
  - machine learning

Sustainability of Science Clusters?

The Science Clusters are H2020 projects which will end in 1.5-2 years

Many outputs from the projects need to be sustained, i.e. further developed and operated, after the projects

Discussions are now starting how to setup cost sharing mechanisms between RIs (MoU and SLAs) to ensure sustainability

Representatives of the Science Clusters will continue after the projects to coordinate their actions, developments and best practices

What we need from the EOSC

- An open ear for **listening to our communities** to make EOSC useable and useful for researchers
- Reliable and user-friendly **basic services such as AAI, data search, data transfer, access to storage and compute**, which work seamlessly across disciplines
- **A sustainable platform** which researchers can trust and rely on for investing time (and money) to build their workflows

Many thanks for your attention!

Time for questions?