

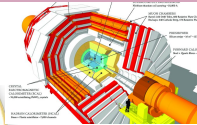
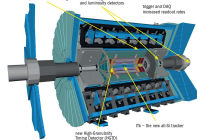
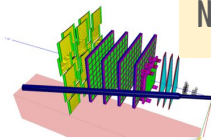
The value of Open Science collaborations in Scientific Computing

Xavier Espinal (CERN and ESCAPE)

Nuclear Physics

Particle Physics

Radio-astronomy



Astroparticle Physics



FAIR



SKAO

cta cherenkov telescope array

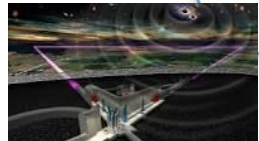
Gravitational Waves



ESCAPE
European Science Cluster of Astronomy & Particle physics ESFRI research Infrastructures

ET EINSTEIN TELESCOPE

VIRGO



KM3NeT

ESO

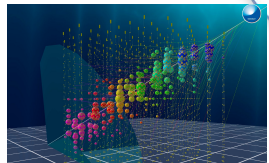
Gravitational Waves



Astronomy

JIVE Joint Institute for VLBI ERIC

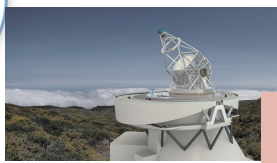
EST european solar telescope



Particle (neutrino) Physics



Radio-astronomy



Astronomy

Towards domain based EOSC thematic nodes?



Towards domain-based EOSC thematic nodes?

**ESCAPE**
OSSR

Catalogue &
Repository of
resources

Datasets
Software & services
Tutorials
Training
Publications

**ESCAPE**
VO Virtual Observatory


Astronomy Data
centres

VO Registry

VO Registry
Analysis Tools
VO Services

TSP's

RI-Specific Science Platforms

**ESCAPE**
ESAP Science Platforms

Workflows, notebooks, deployment platforms,
packaging

**ESCAPE**
CS Citizen Science



**ESCAPE**
DIOS Data Lake

FAIR data management
Content discovery and delivery



HPC



PRACE



EuroHPC
Joint Undertaking

HTC

Grid clusters,
etc

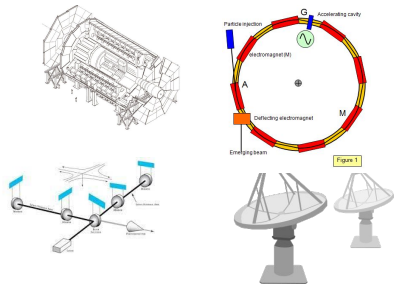
Private/public
clouds

Commercial
clouds

**GÉANT**

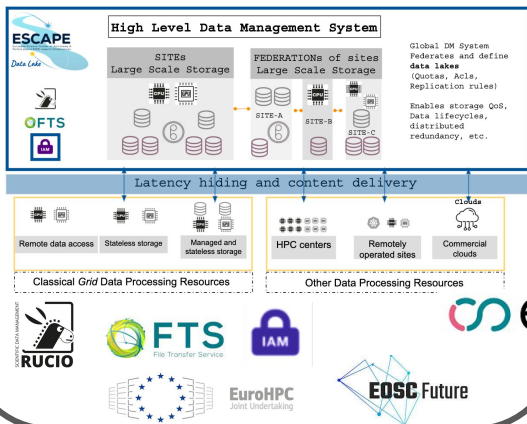


Research Infrastructures



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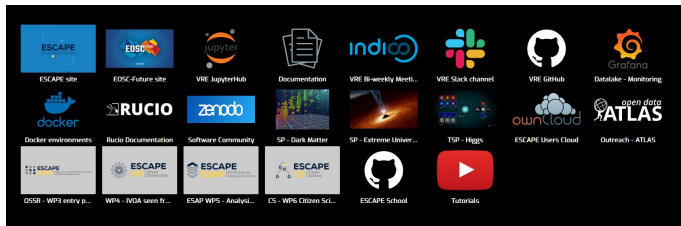
Data Lake (federated storage)



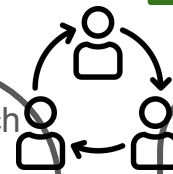
Common Identity Management



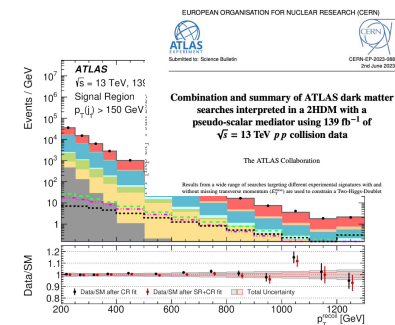
Data Analysis Platforms (Virtual Research Environments)



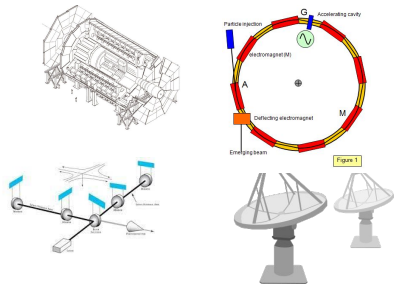
Data FAIRness
 Enhance scientists collaboration (analysis)
 Minimise time to physics results
 Optimise and make efficient use of computing
 Open Science, Citizen Science and Outreach



Publish scientific results
 Share workloads and pipelines
 Analysis archive, reproducibility

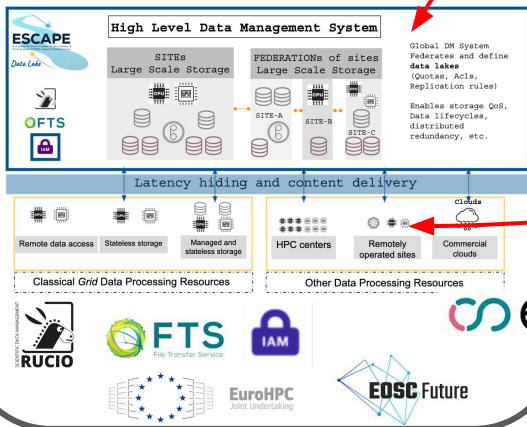


Research Infrastructures



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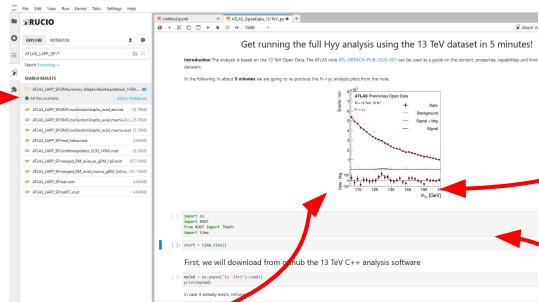
Data Lake (federated storage)



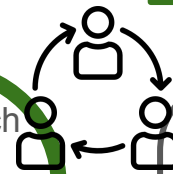
Common Identity Management



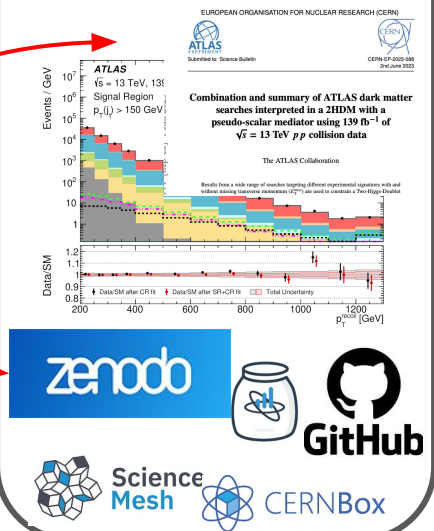
Data Analysis Platforms (Virtual Research Environments)



Data FAIRness
 Enhance scientists collaboration (analysis)
 Minimise time to physics results
 Optimise and make efficient use of computing
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Publish scientific results
 Share workloads and pipelines
 Analysis archive, reproducibility



Collaborations in Scientific Computing foster **commonalities**, boost **interoperability**, increase efficiencies and **opens science**