



# ESCAPE

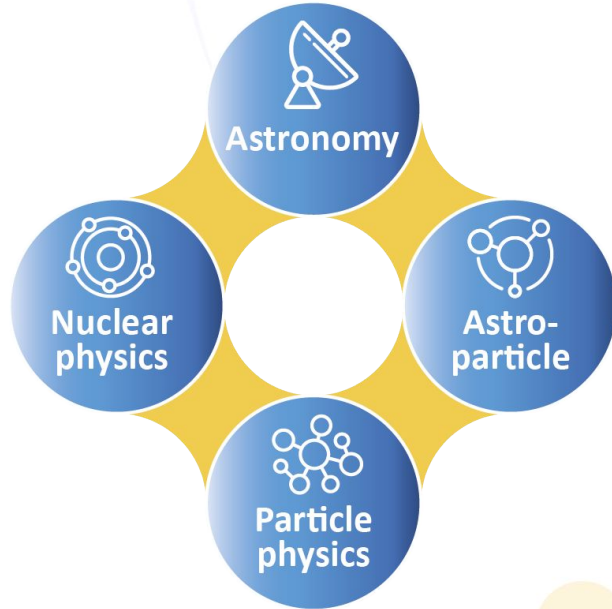
European Science Cluster of Astronomy &  
Particle physics ESFRI research Infrastructures

## Proto-VRE for TSPs

Arturo Sánchez Pineda

September 27, 2021





# BRING TOGETHER COMMUNITIES

**E**uropean  
**S**cience  
**C**luster of  
**A**stronomy &  
**P**article physics  
**E**SFRI research infrastructures



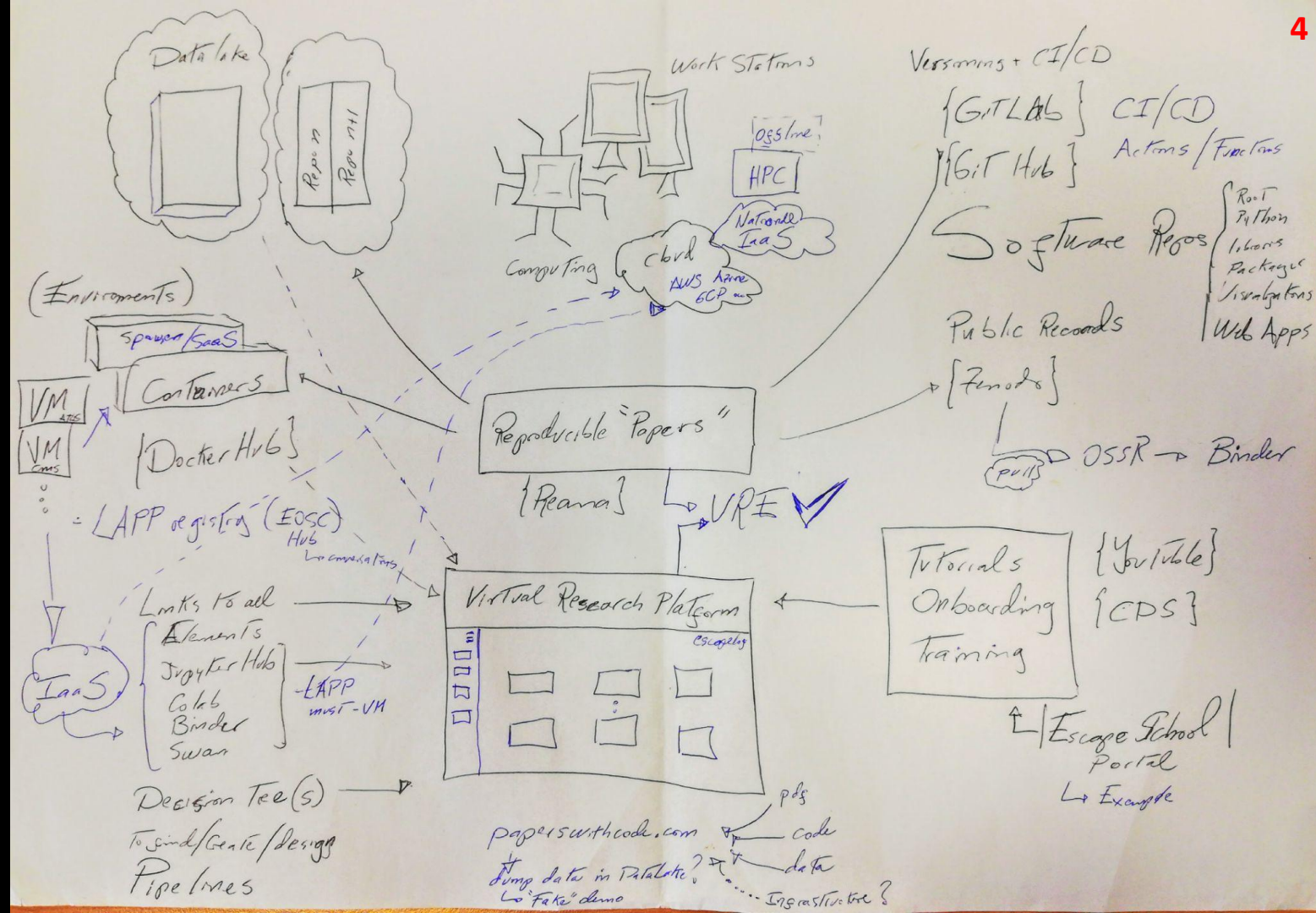


ESCAPE  
**VRE**

# ESCAPE VRE

4

An exercise to imagine how current resources can be aggregated so as to be reachable and use from a single entry point (e.g. a single portal). Unifying UI / UX as much as possible, that IMO is the crucial point of any future VRE: a nice User Interface





## ESCAPE VRE

An exercise to imagine how current resources can be aggregated so as to be reachable and use from a single entry point (e.g. a single portal). Unifying UI / UX as much as possible, that IMO is the crucial point of any future VRE: a *nice* User Interface

# Reasons for today's conversation

- **Fail fast**
- **Feedback on**
  - Short term objectives → from now to the DAC21 on November
  - Medium term → PostDocs onboarding 2021-2022
- **Review of the advances and possible changes to do**
  - Current status and what is coming into the next two (2) months
  - <https://escape2020.pages.in2p3.fr/virtual-environment/home/>
- **Connection with the DAC21 in November**
  - This is a simulation of a TSP development
- **Next steps**
  - Including possible interaction with external consultants

## ESCAPE VRE

An exercise to imagine how current resources can be aggregated so as to be reachable and use from a single entry point (e.g. a single portal). Unifying UI / UX as much as possible, that IMO is the crucial point of any future VRE: a *nice* User Interface

# Development principles

- An aggregation site
- Simple User Onboarding
- Good UI/UX as an essential component
  - No complex menus nor multiple tabs
- Scalability
  - Several developers must be able to interact with the site at the same time
  - Content can be created by ESCAPE members and be approved in a few hours (on working hours)
  - External users can eventually join to dedicated areas
- CI/CD by default
  - This is the standard way scientists works anyways
- Portability
  - Ability to move the site to other/multiple hostings
- Even when this is not another “*documentation site*”, it follows developing philosophies like the one for
  - <http://opendata.cern.ch/>
  - <https://hepsoftwarefoundation.org>
  - <https://reanahub.io>
  - <https://escape2020.github.io/school2021/>
  - <http://opendata.atlas.cern/>



# Phases of the project

Study ESCAPE &  
Find the right tech

Setup first working  
version

Design & Prototype

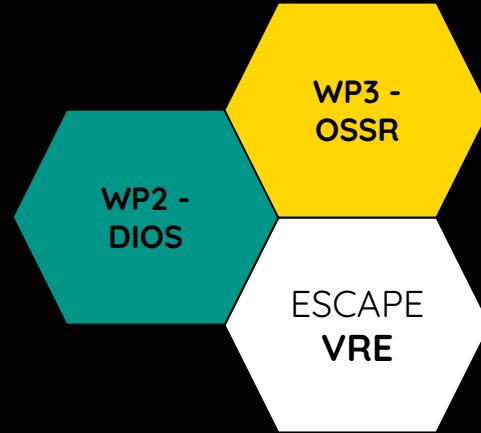
Guide on how to  
contribute

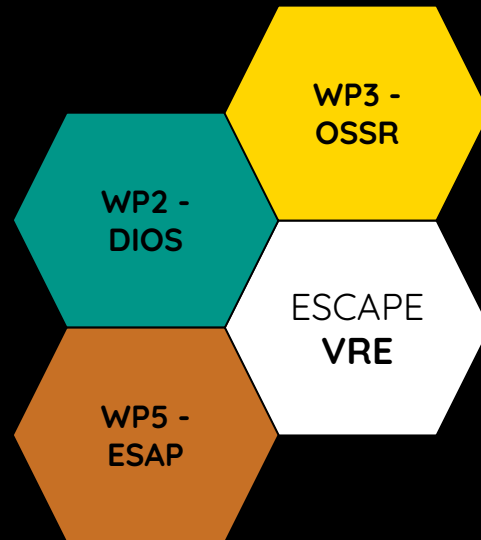
getting continuous feedback

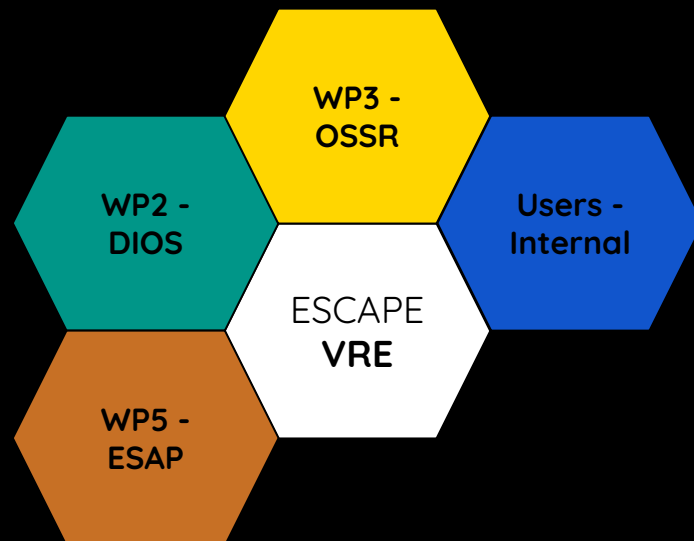


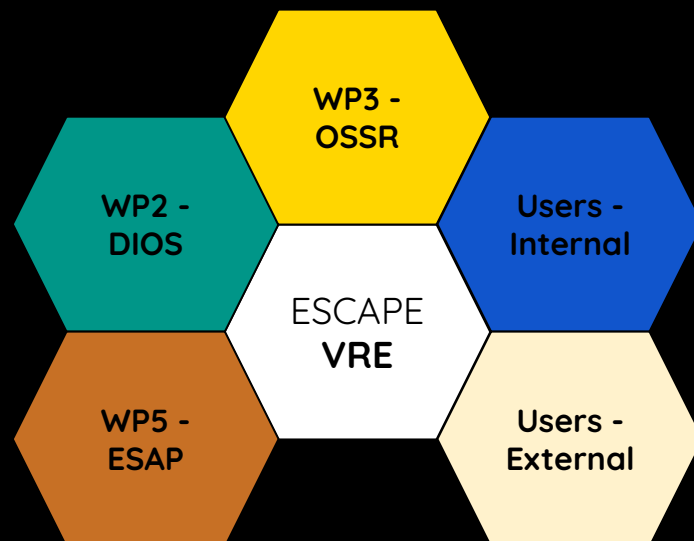
ESCAPE  
**VRE**

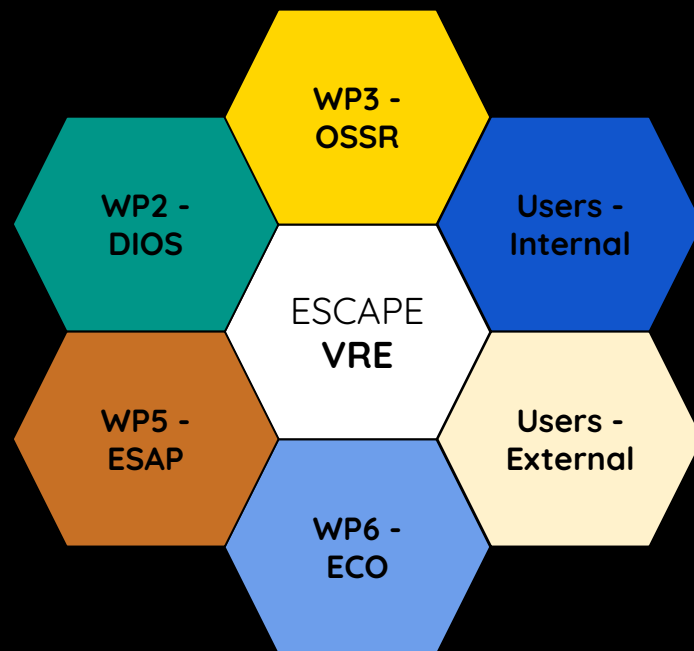












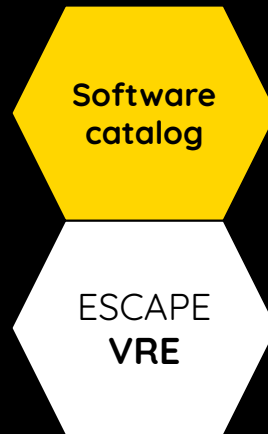
# Existing components

...but please, before we continue:  
this is an interpretation and decomposition of the  
different ESCAPE projects and elements.  
Not a canonical description of those...

This exercise is done to imagining a UI/UX that  
looks to maximise the objectives of bring  
“things” together in an appealing and useful way

OSSR



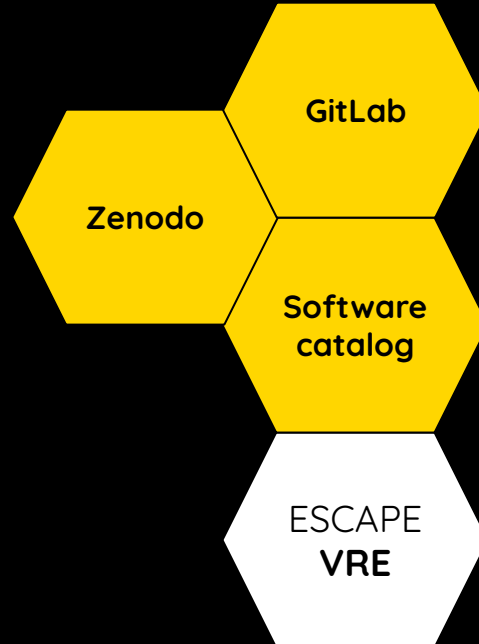


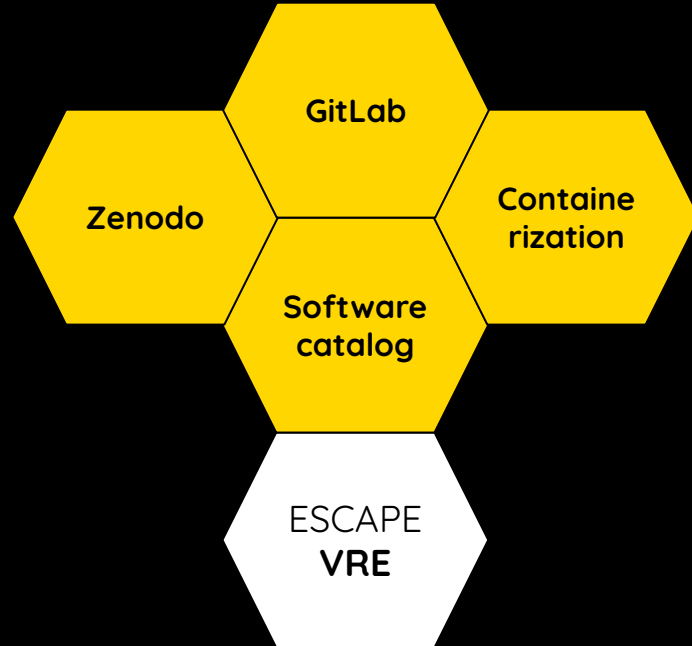


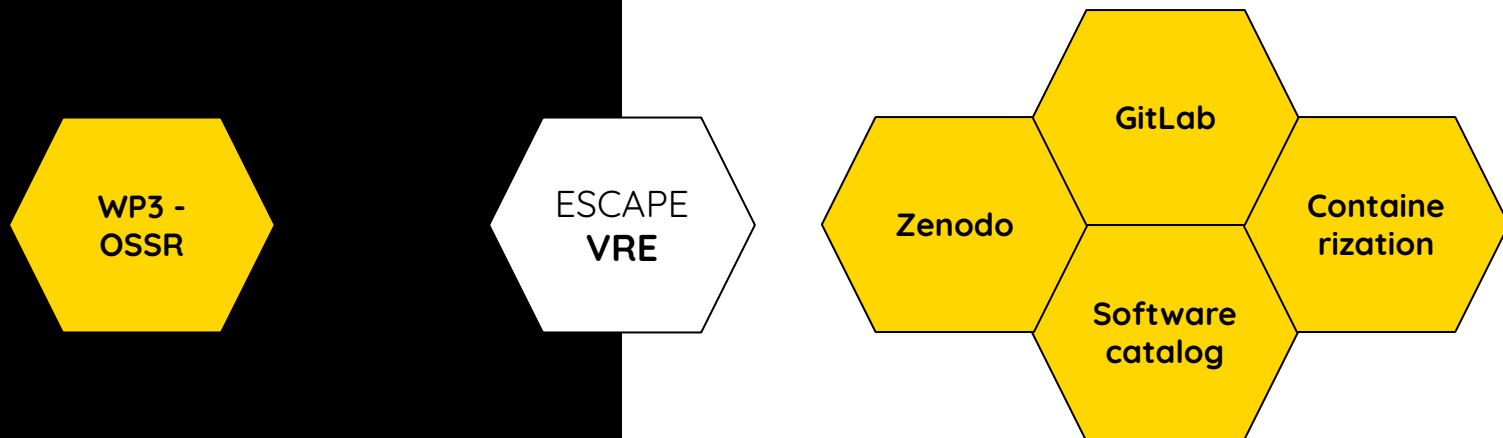
GitLab

Software  
catalog

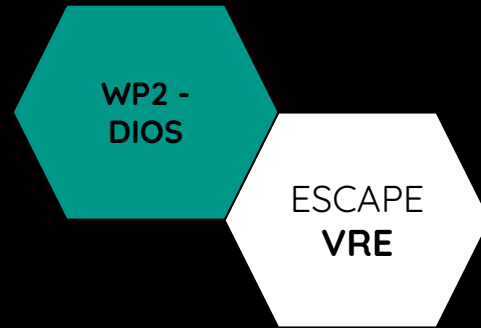
ESCAPE  
VRE

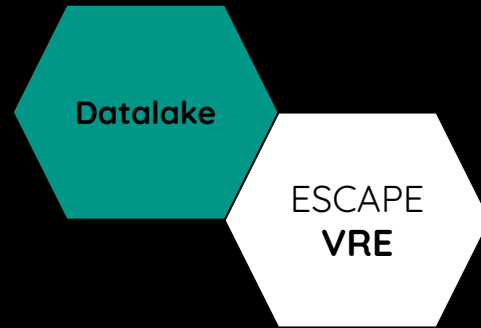


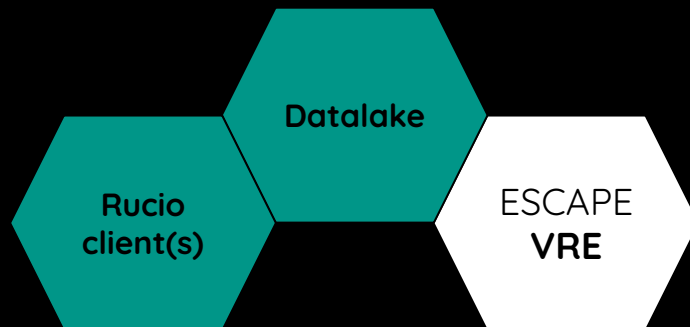


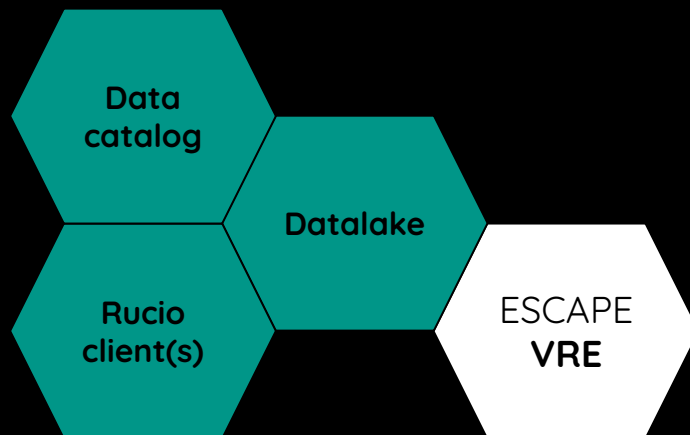


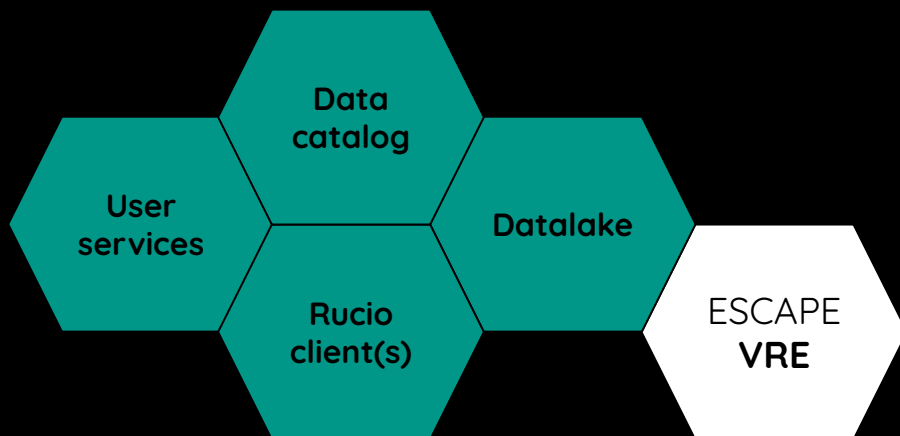
DIOS

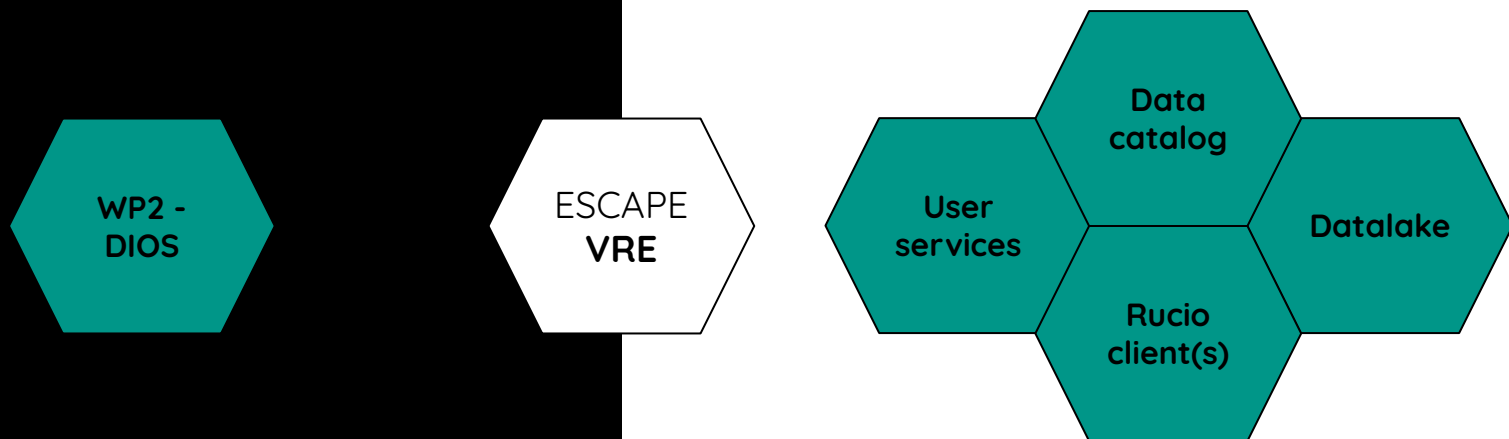




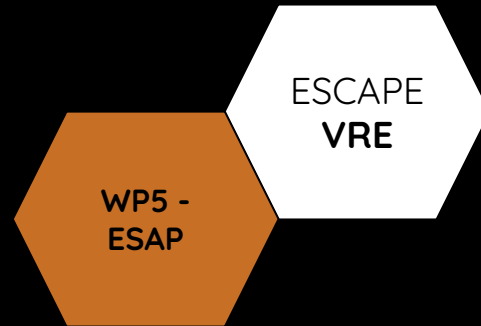


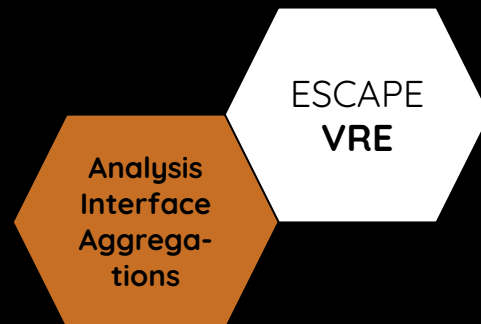


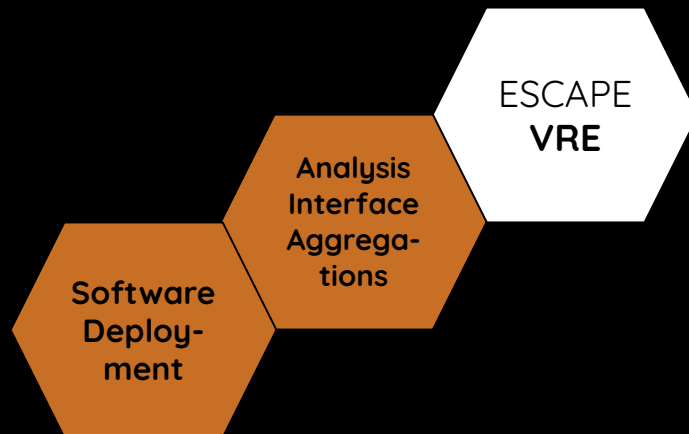


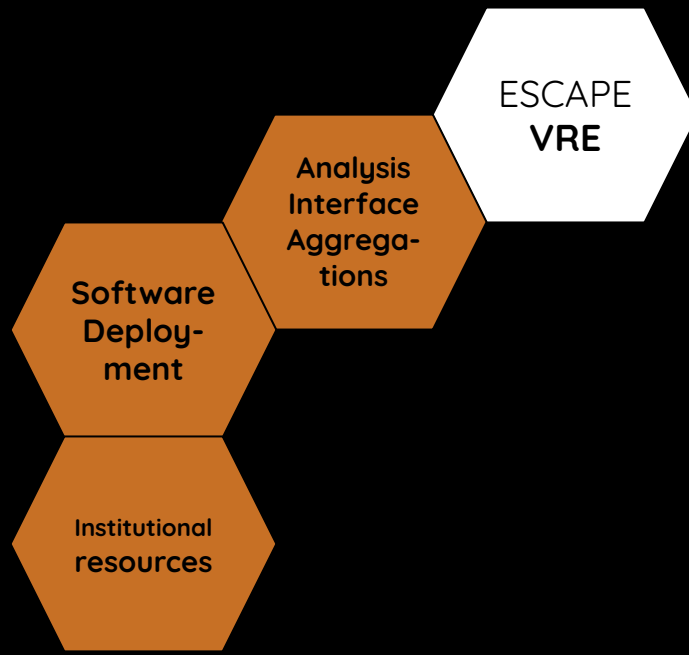


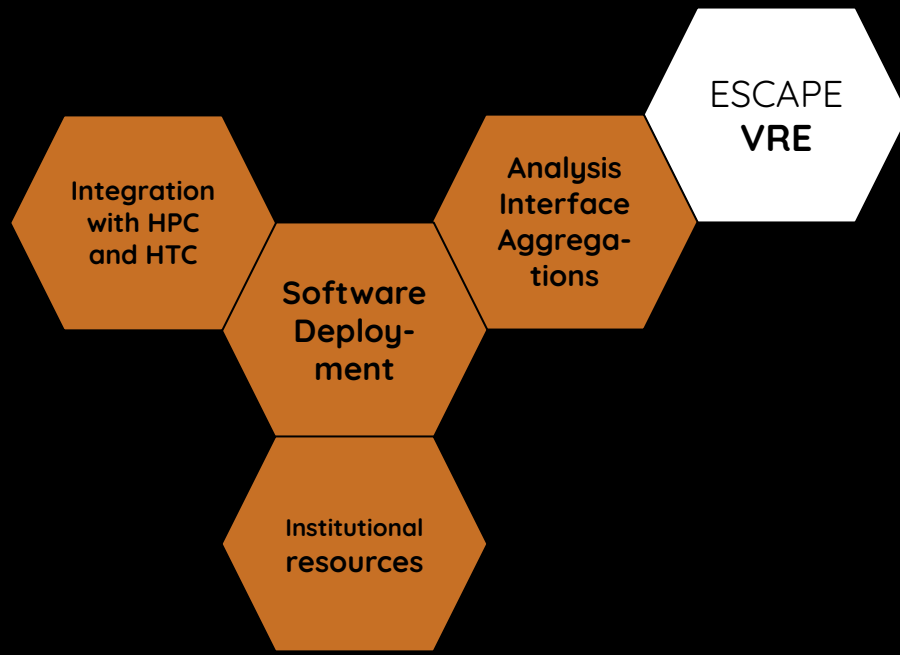
ESAP

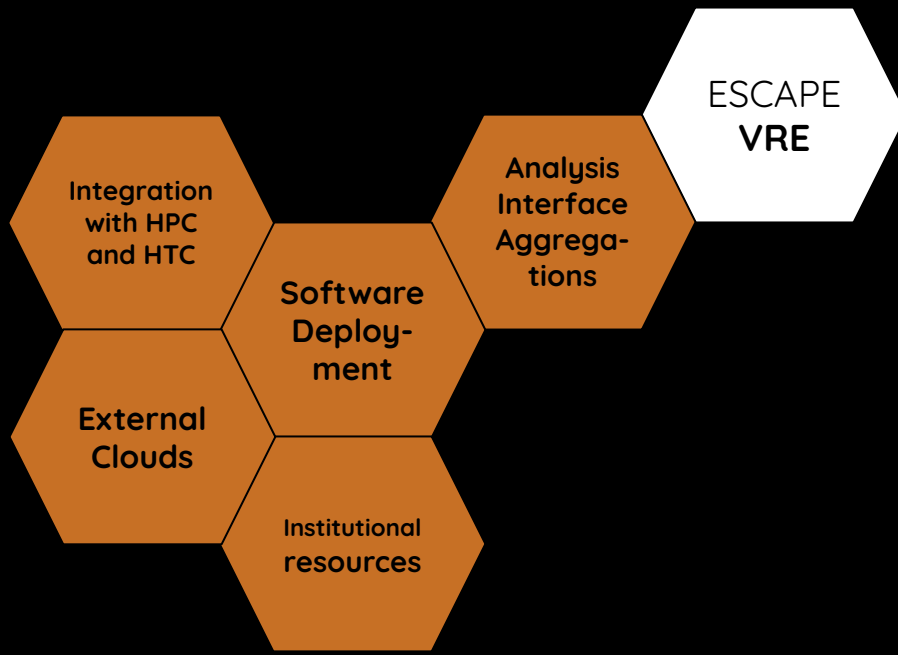


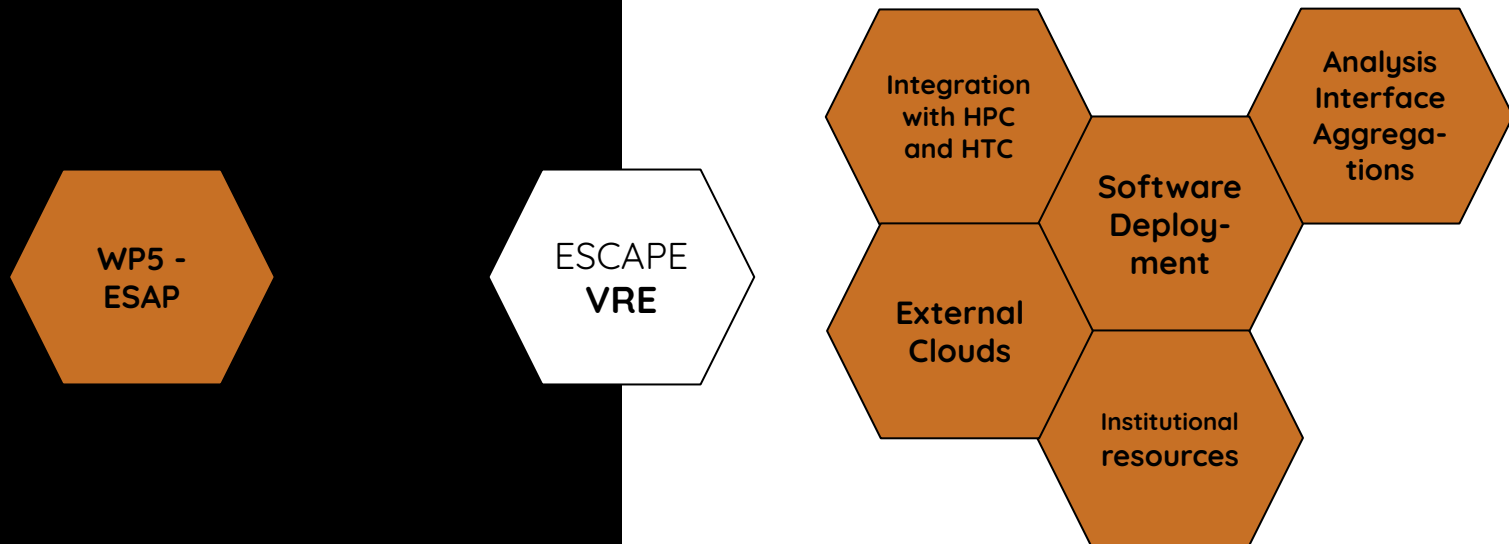




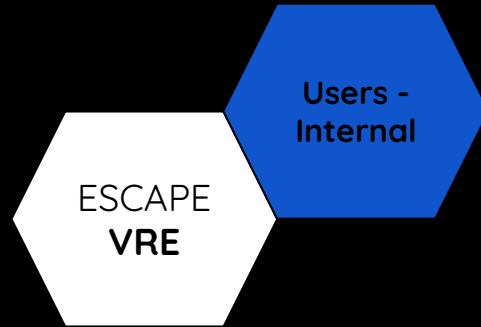


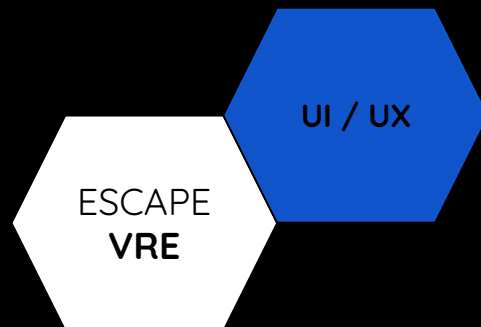


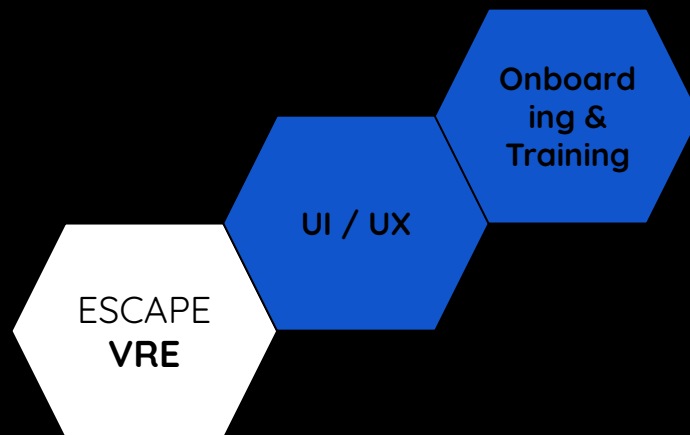


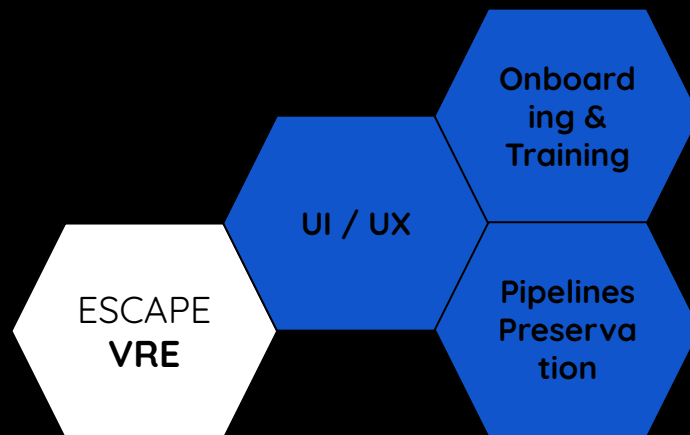


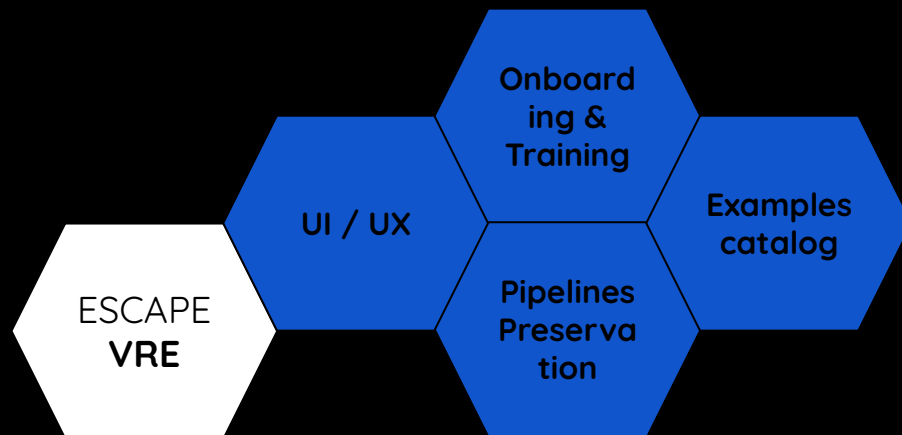
Internal  
users

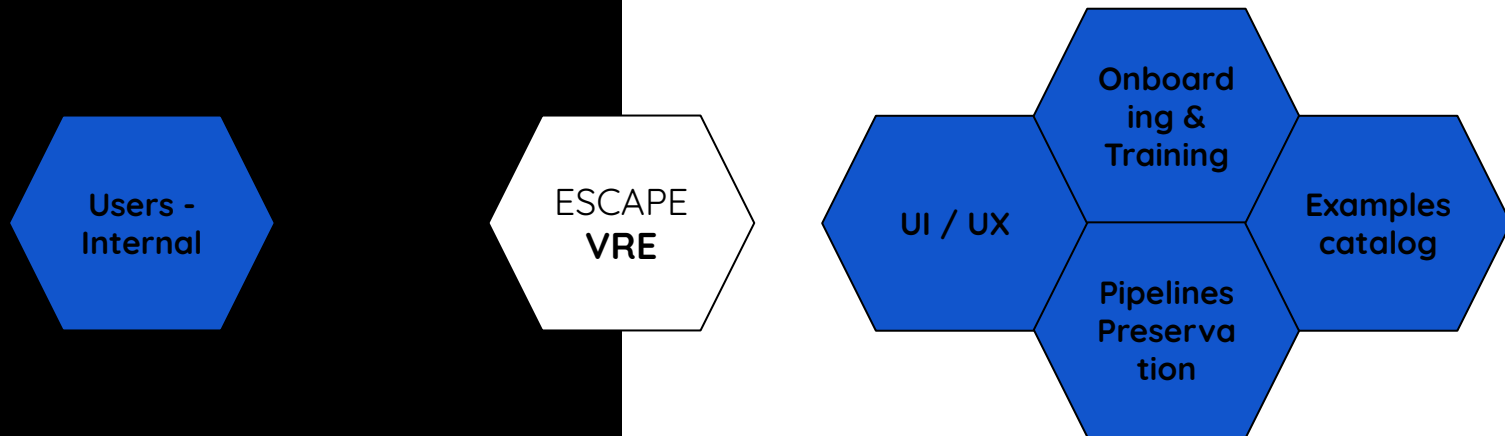












UI / UX

ESCAPE  
VRE

ROCKET.CHAT

indico

owncloud

OpenProject

CHAT SERVER

EVENT ORGANISER TOOL

DOCUMENT REPOSITORY

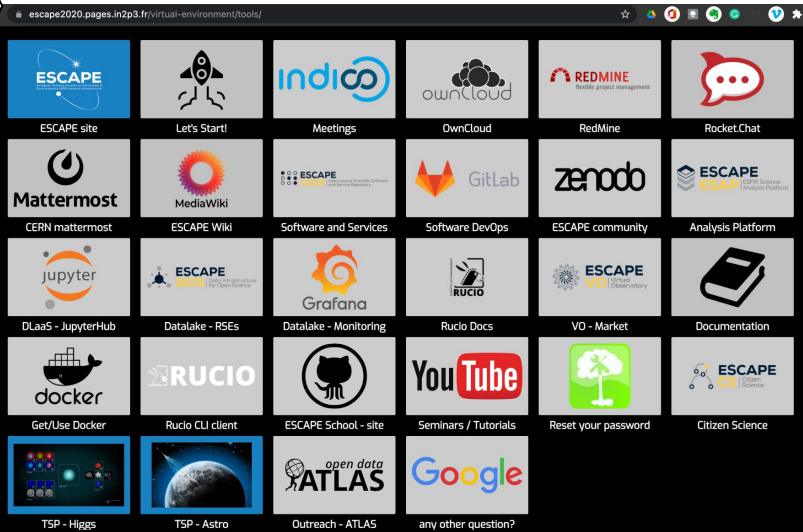
PROJECT MANAGEMENT

<https://projectescape.eu/internal>



A UI/UX as proof-of-concept

<https://escape2020.pages.in2p3.fr/virtual-environment/home/member/researcher/>



Onboard  
ing &  
Training

ESCAPE  
VRE

# Contribute to the OSSR

Guidelines and Rules of Participation

[https://escape2020.pages.in2p3.fr/wp3/ossr-pages/page/contribute/guidelines\\_ossr/](https://escape2020.pages.in2p3.fr/wp3/ossr-pages/page/contribute/guidelines_ossr/)

ESCAPE2020 > WP3 > Onboarding



**Onboarding**

Project ID: 11649 [Request Access](#)

🔔 0 ☆ Star 0 🍴 Fork 1

🔗 17 Commits 🌿 1 Branch 🏷 0 Tags 📄 6.3 MB Files 💾 88.2 MB Storage

Project (see [pages](#)) to collect information about the onboarding process and ESFRI contributions

master onboarding / + History Find file Web IDE ⬇ Clone

Merge branch 'master' of gitlab.in2p3.fr:escape2020/wp3/onboarding  
jschnabel authored 5 months ago

README C/CD configuration No license. All rights reserved

| Name                | Last commit                                   | Last update  |
|---------------------|---|--------------|
| pages               | add basic structure                           | 6 months ago |
| processing          | adding resources for current onboardings ...  | 5 months ago |
| projects            | Merge branch 'master' of gitlab.in2p3.fr:e... | 5 months ago |
| .gitlab-ci.yml      | add basic structure                           | 6 months ago |
| README.md           | add basic structure                           | 6 months ago |
| onboarding_base.yml | adding agnpy                                  | 5 months ago |

README.md

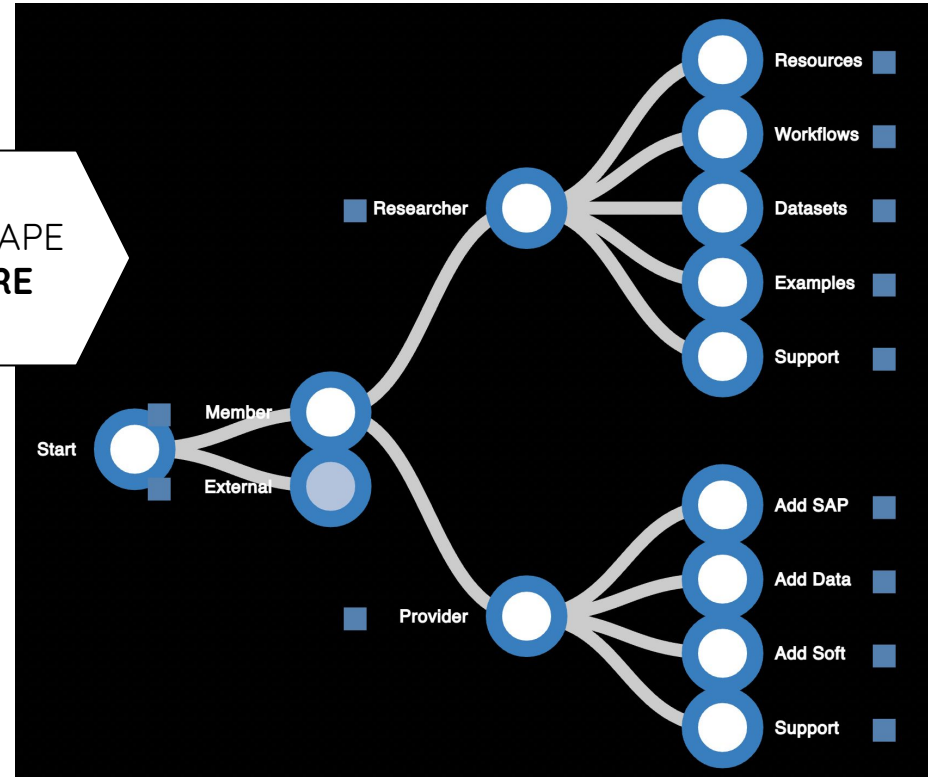
## Onboarding

Project to collect information about the onboarding process and ESFRI contributions

### How to add a contribution

- Fill the [software survey](#)
- Give an onboarding talk - see [how in the wiki](#)
- add your project in the `onboarding_base.yml` file, assign a `projectID`
- add a milestone in this project to track your onboarding efforts (copy from "Template onboarding milestone")
- edit the `config.yml` in your ESFRIs folder to add info on your project
- optional: add the survey info as `Survey_projectID.yml` and further onboarding data as `Project_projectID.yml` (see template in `/projects` to the folder).

Take/guide the users to a specific tool or resource. And, avoid **as much as possible** having an excess of information/boxes/tabs/... **Decision trees** can be an option in some onboarding cases



<https://wiki.escape2020.de/>



ESCAPE  
VRE

The screenshot shows the 'Main Page' of the ESCAPE 2020 Wiki. At the top, there's a navigation bar with 'Main page' and 'Discussion'. Below this is the 'Main Page' title. A 'Contents' table of contents is visible, listing sections from 'Introduction' to 'Getting started'. A sidebar on the left contains links like 'Main page', 'Recent changes', 'Random page', and 'Help about MediaWiki'. A 'Tools' section is also present. A 'Visit the main page' button is located on the right. The 'Introduction' section begins with the text: 'This is the public domain wiki of the ESCAPE project:'.

<https://project.escape2020.de/>

[Home](#) [My page](#) [Projects](#) [Help & Support](#)

## ESCAPE 2020 Projects

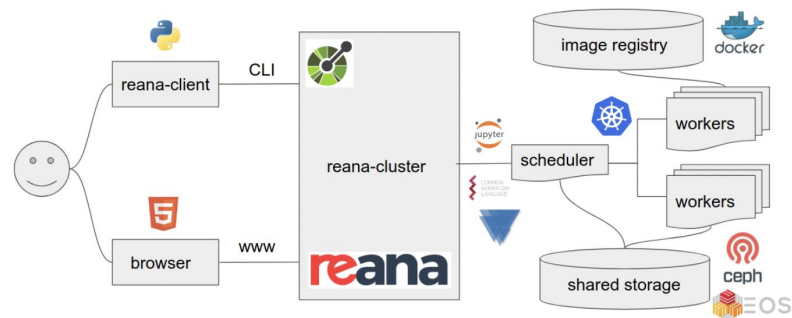
### Home

Welcome to the project platform for the [ESCAPE project](#)!  
If you are a project member, you can sign up to the platform using your ESCAPE credentials.

<https://docs.reana.io/>

### What is REANA?

REANA is a **re**producible **an**alysis platform allowing scientists to run containerised data analysis pipelines on remote compute clouds.



<https://danikam.github.io/2019-08-19-usatlas-recast-tutorial>

Pipelines  
Preserva  
tion

ESCAPE  
VRE



Home

Code of Conduct

License

Improve this page

Search...

## ATLAS RECAST Tutorial: Main Page

Welcome to the US ATLAS/First-HEP computing bootcamp's tutorial on ATLAS analysis preservation with RECAST! Now that you've seen how docker can reproducibly provide the exact computing environment you want and start up customized applications at a moment's notice, we're going to look at an application of docker being used in ATLAS called RECAST. RECAST combines docker and gitlab to fully preserve your ATLAS search analysis so that it can be trivially re-interpreted with a new signal model.

### Prerequisites

- A personal repo containing a working version of your VHbb analysis code and gitlab-ci files from the [ATLAS CI/CD tutorial](#). If you have fallen a bit behind on this, don't worry, as a tutor and we will help you come up to speed lickety split.
- Knowledge gained from the bootcamp so far, especially this morning's docker tutorial!

Examples  
catalog

ESCAPE  
VRE

<http://opendata.atlas.cern/software>

51

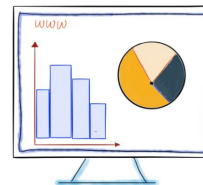
Tags

Home About Apps Data News/Blog Software [EN](#)

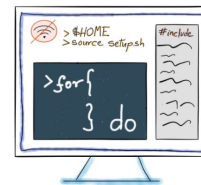
Jupyter Notebooks

C++/Python frameworks

Virtual Machine(s)



Let's run some real code and visualisations on your browser



Perform real HEP analysis as the ATLAS Physicists



Slow Internet? run the analyses with minimal installation

Go and execute the notebooks now!

Pick one of the two cloud computing services

Visit the gallery and interact with the notebooks & plots

Visualisation

Code and Run



Take a look at the notebooks in NBviewer



Check, clone and run the code from GitHub

SWAN



[Please read more about it here](#)

Binder

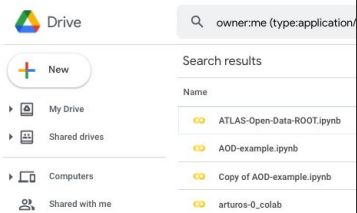


[To know more, check the docs here](#)

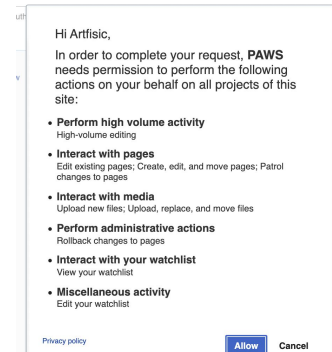
## Examples catalog

## ESCAPE VRE

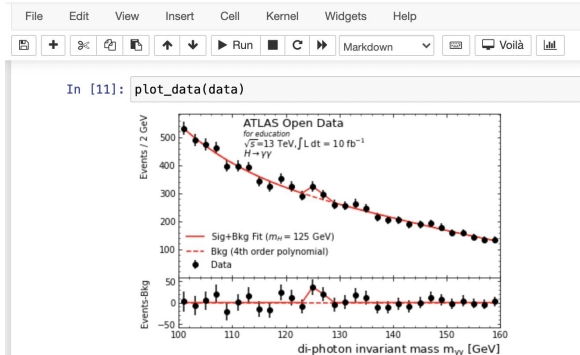
<https://colab.research.google.com>



<https://hub.paws.wmcloud.org>

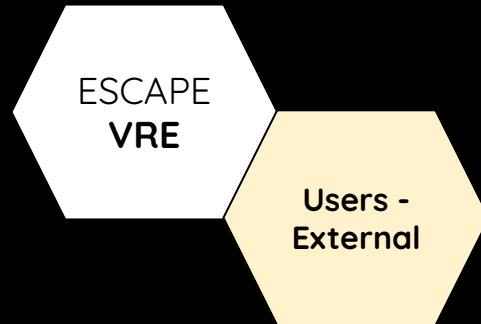


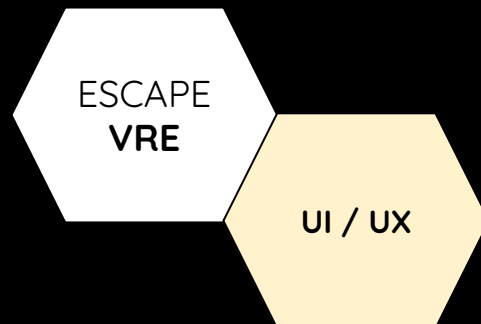
**PAWS** HyyAnalysis Last Checkpoint: 12 minutes ago (autosaved)

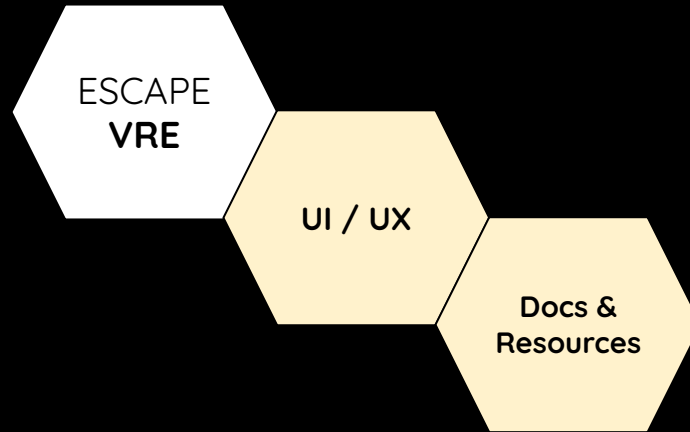


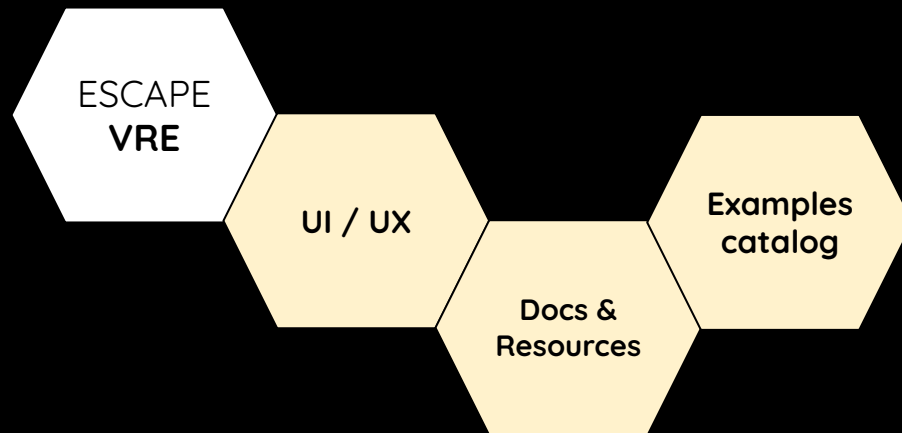
[Back to contents](#)

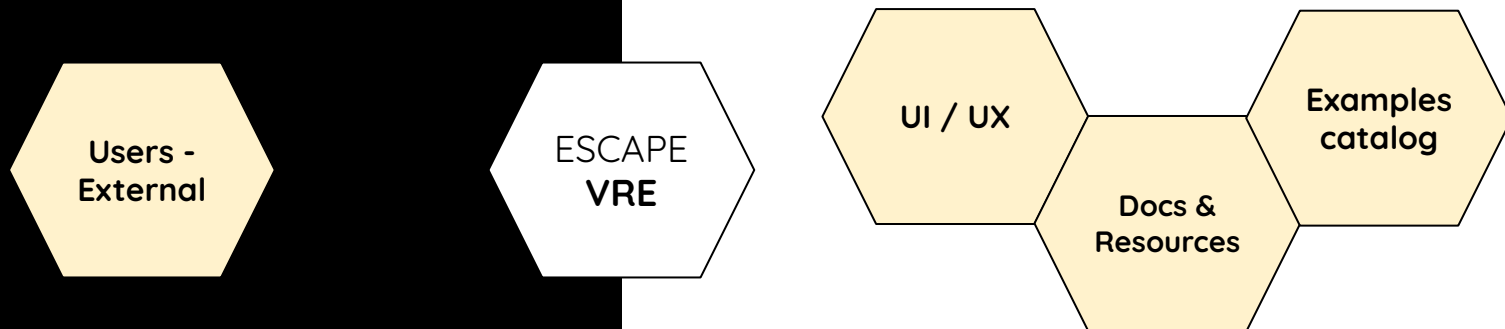
External  
users











Docs &  
Resources

ESCAPE  
VRE

<https://escape2020.github.io/school2021/>



## ESCAPE School 2021



<https://hepsoftwarefoundation.org/>

[Home](#) HSF [Working Groups](#) [Activities](#) [Meetings](#) [Communication](#) [Projects & Support](#) [About](#)

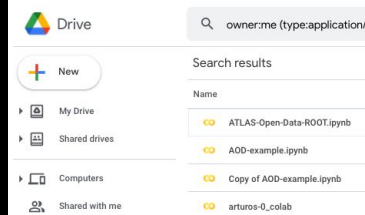


The HEP Software Foundation facilitates cooperation and **common efforts** in High Energy Physics software and computing internationally.

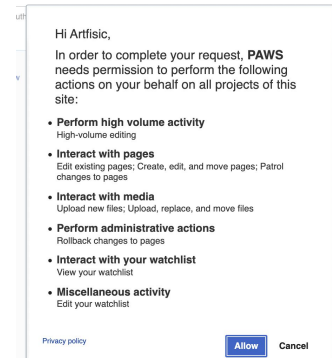
Examples  
catalog

ESCAPE  
VRE

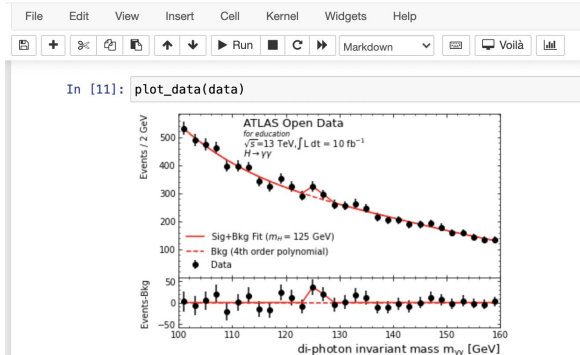
<https://colab.research.google.com>



<https://hub.paws.wmcloud.org>



**PAWS** HyyAnalysis Last Checkpoint: 12 minutes ago (autosaved)



[Back to contents](#)

# Recreating a VRE



ESFRI Science Analysis  
Platform



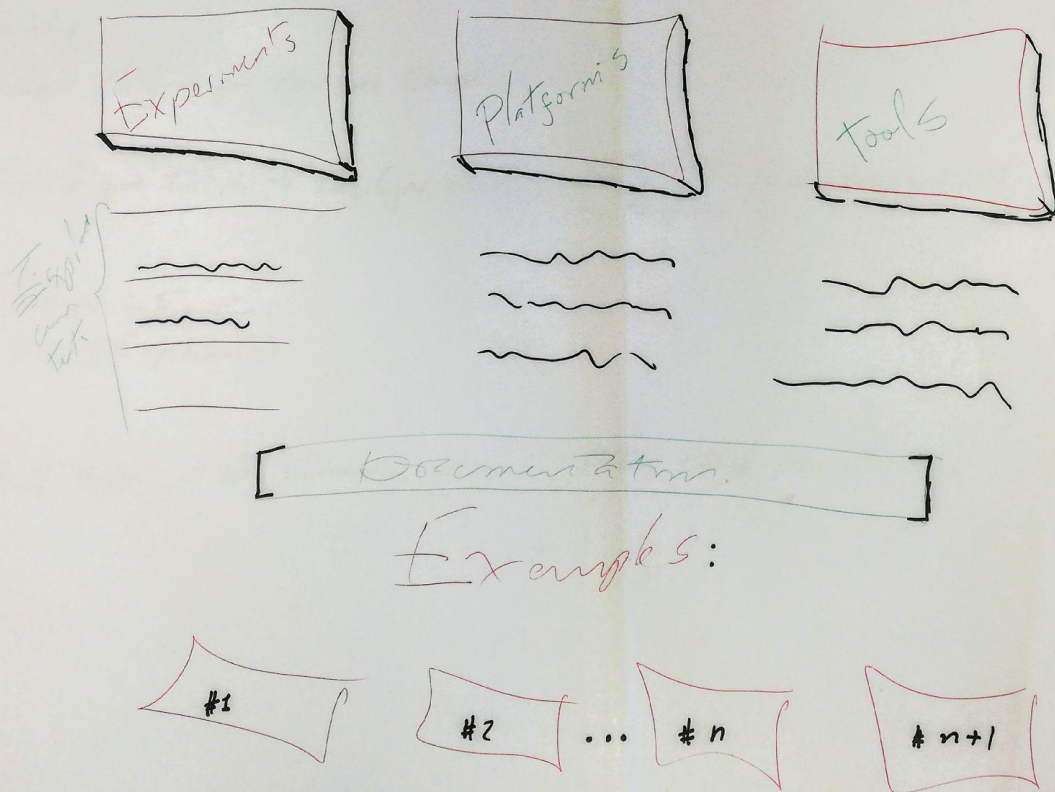
Open-source scientific  
Software and Service  
Repository

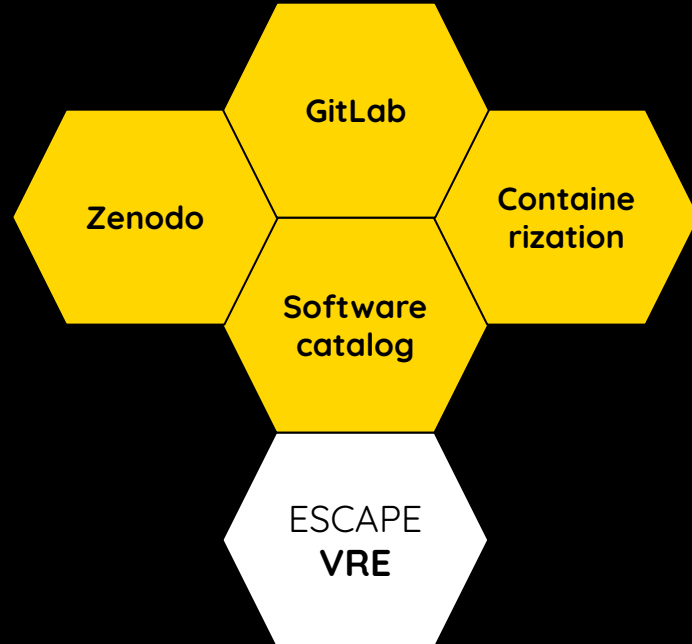


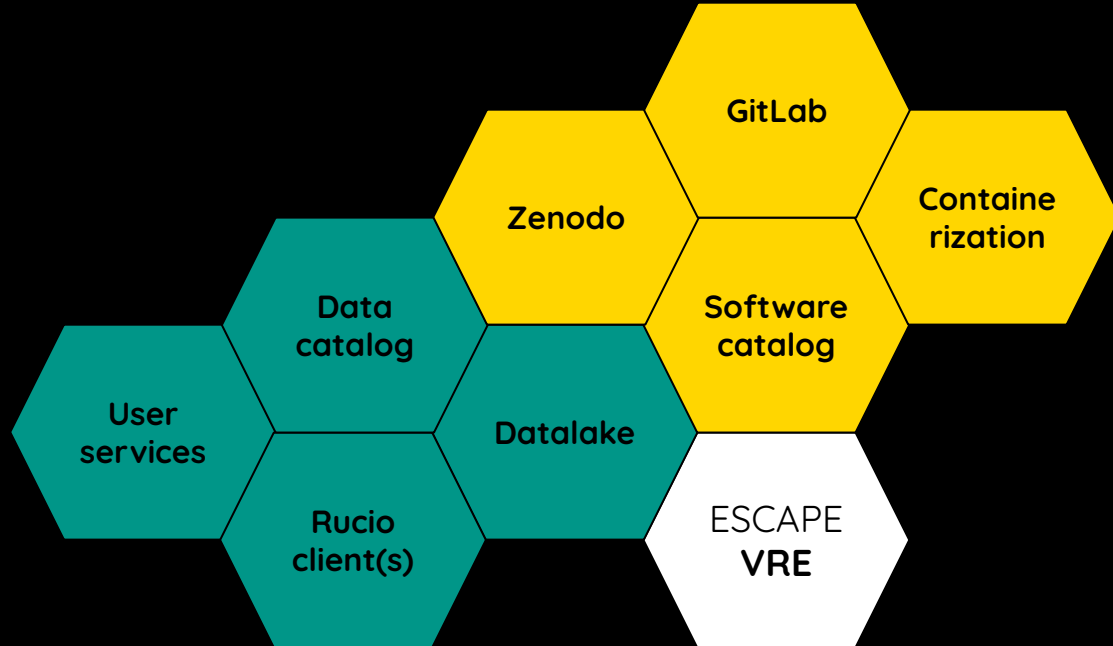
Data Infrastructure for  
Open Science

# ESCAPE VRE

An exercise to imagine how current resources can be aggregated so as to be reachable and use from a single entry point (e.g. a single portal). Unifying UI / UX as much as possible, that IMO is the crucial point of any future VRE: a *nice* User Interface

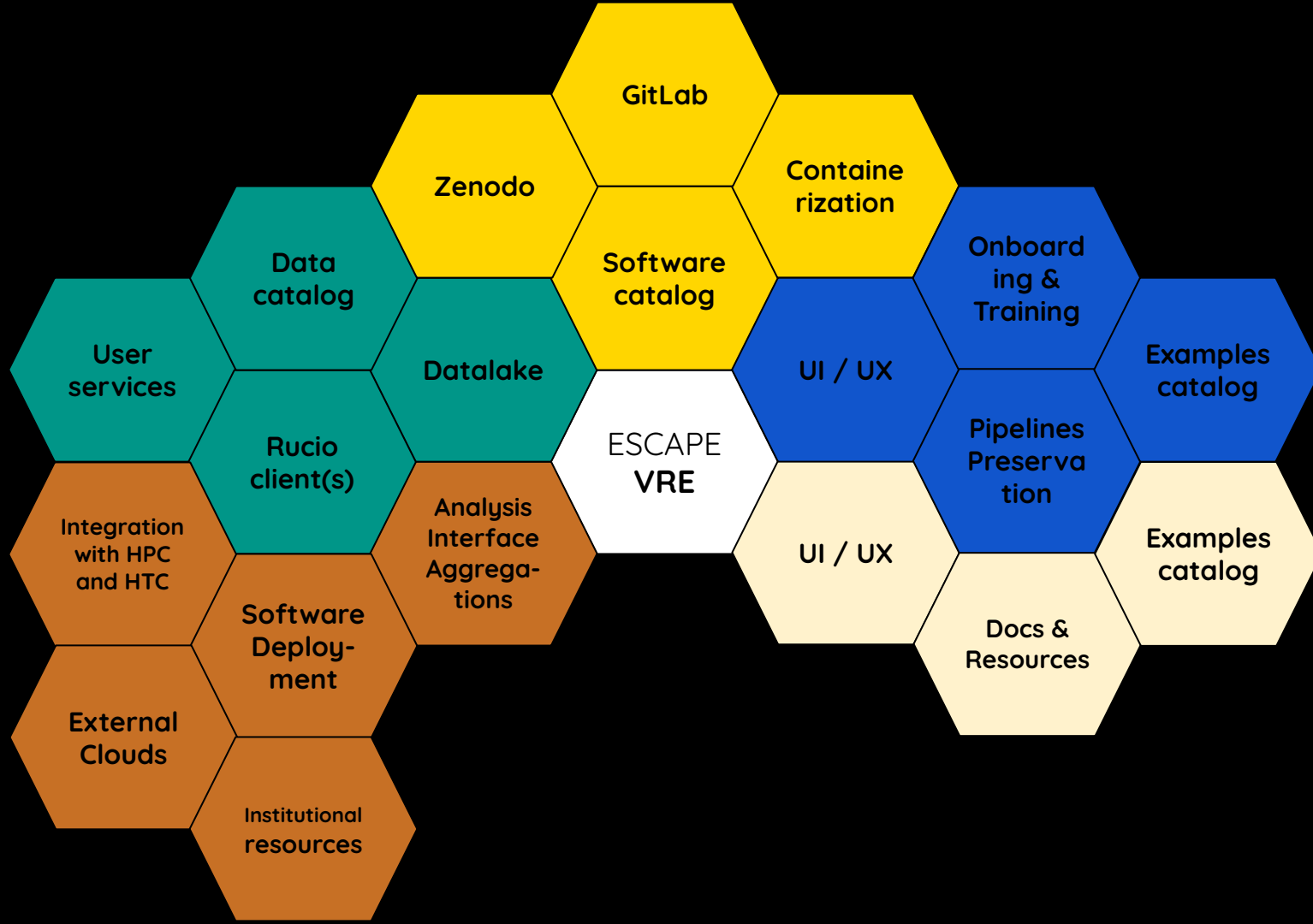


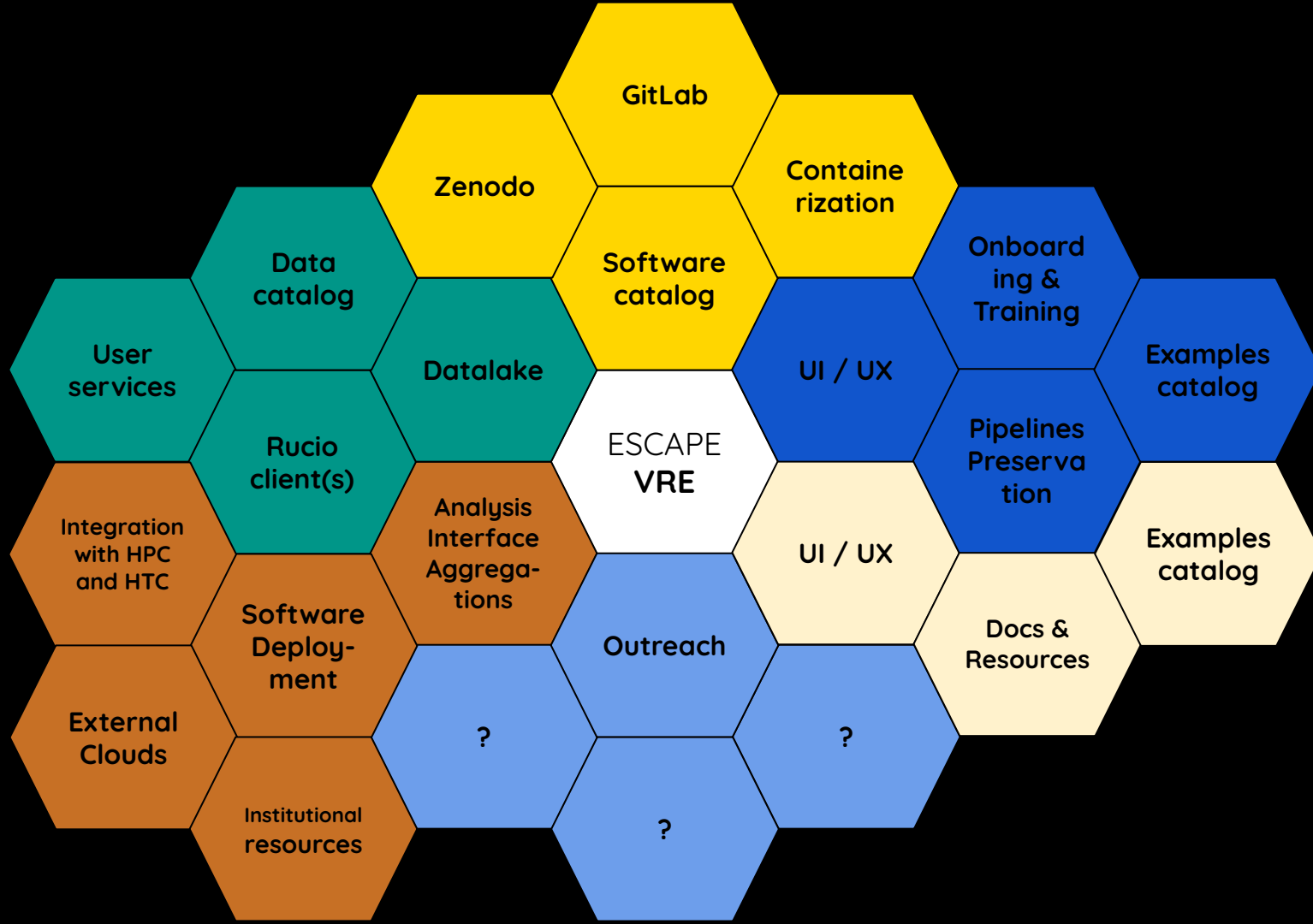






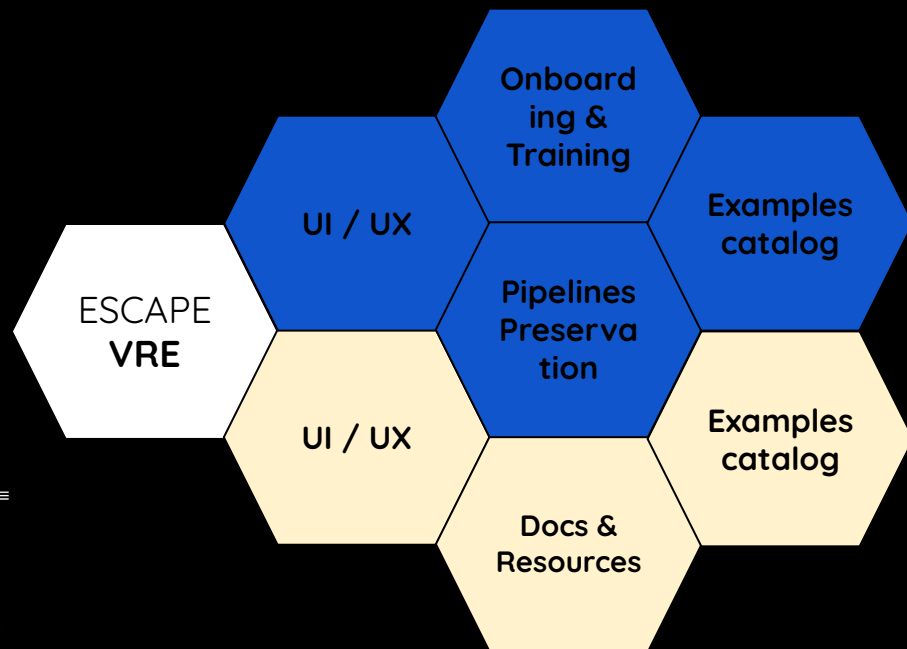






VRE:

A web-based UI



ESCAPE VRE



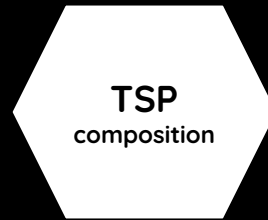
RESOURCES ≡

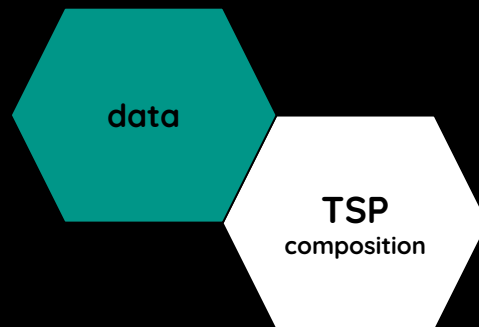
## Onboarding decision tree

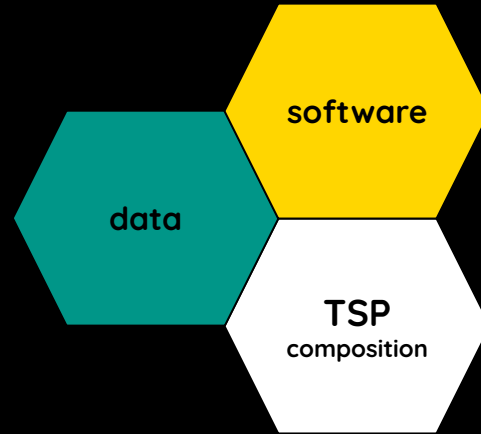
Scroll down, click the **Start** circle and **look for the case that best fits you**. Once you arrive at an interesting topic, **click the little square** to go to the desired resource. If you don't understand what to do, it means we didn't create an intuitive UI/UX yet. Please, click **here** and report it.

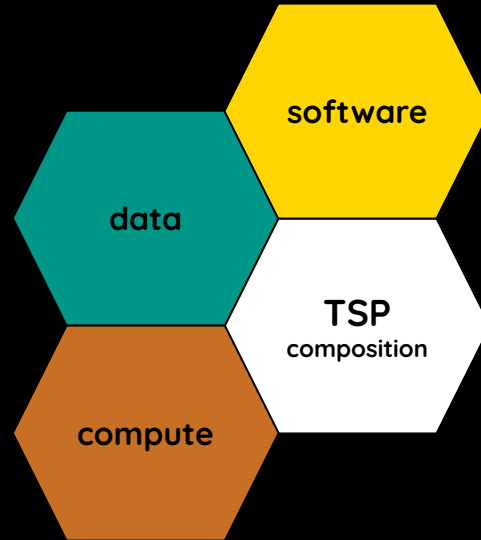


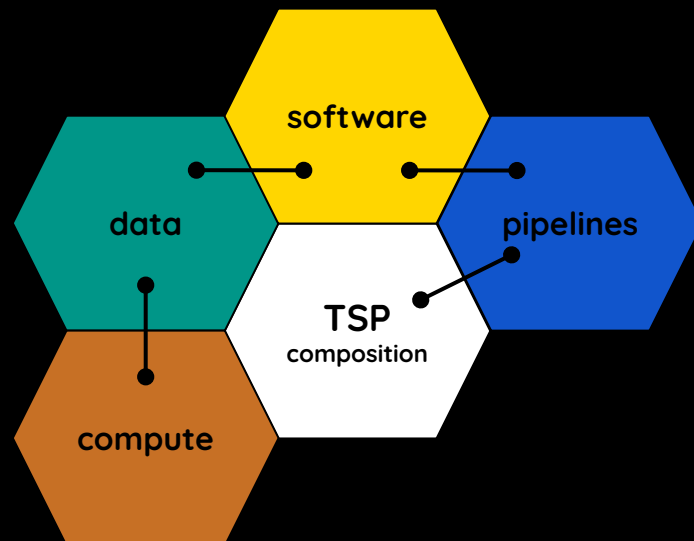
proto - TSP

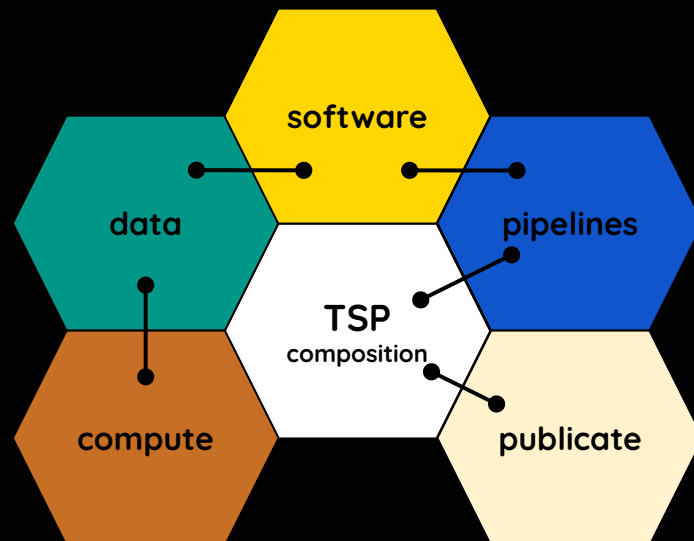


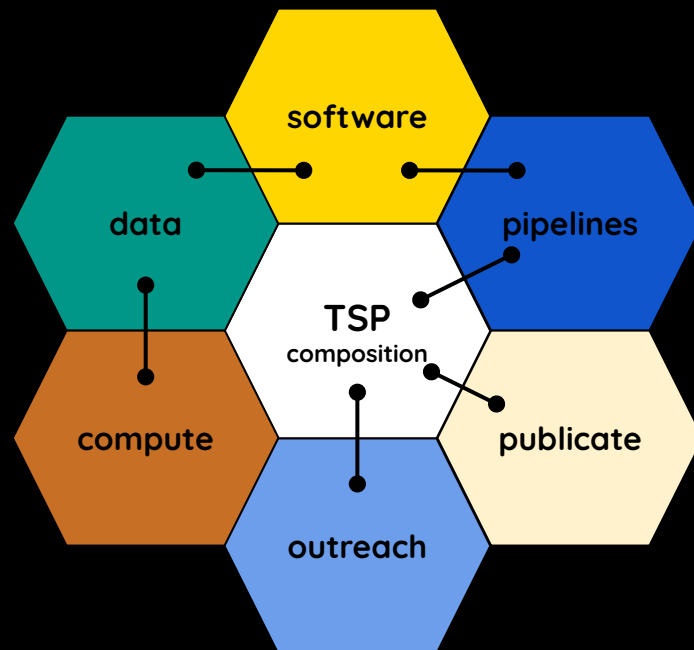










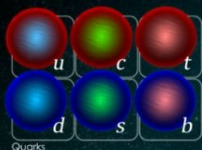


proto - TSP

# Searches as examples

# Test Science Project: the Higgs @ATLAS

AN EXERCISE OF HOW A PARTICLE PHYSICS TSP CAN LOOK LIKE



## The Physics

Take a look at the fundamental physics that support and guide the experimental data analysis searches -and discoveries- relative to Higgs candidates, predicted by the Standard Model of Particle Physics.

LEARN MORE

# Test Science Project: Astronomy @CTA

AN EXERCISE OF HOW A TSP CAN LOOK LIKE

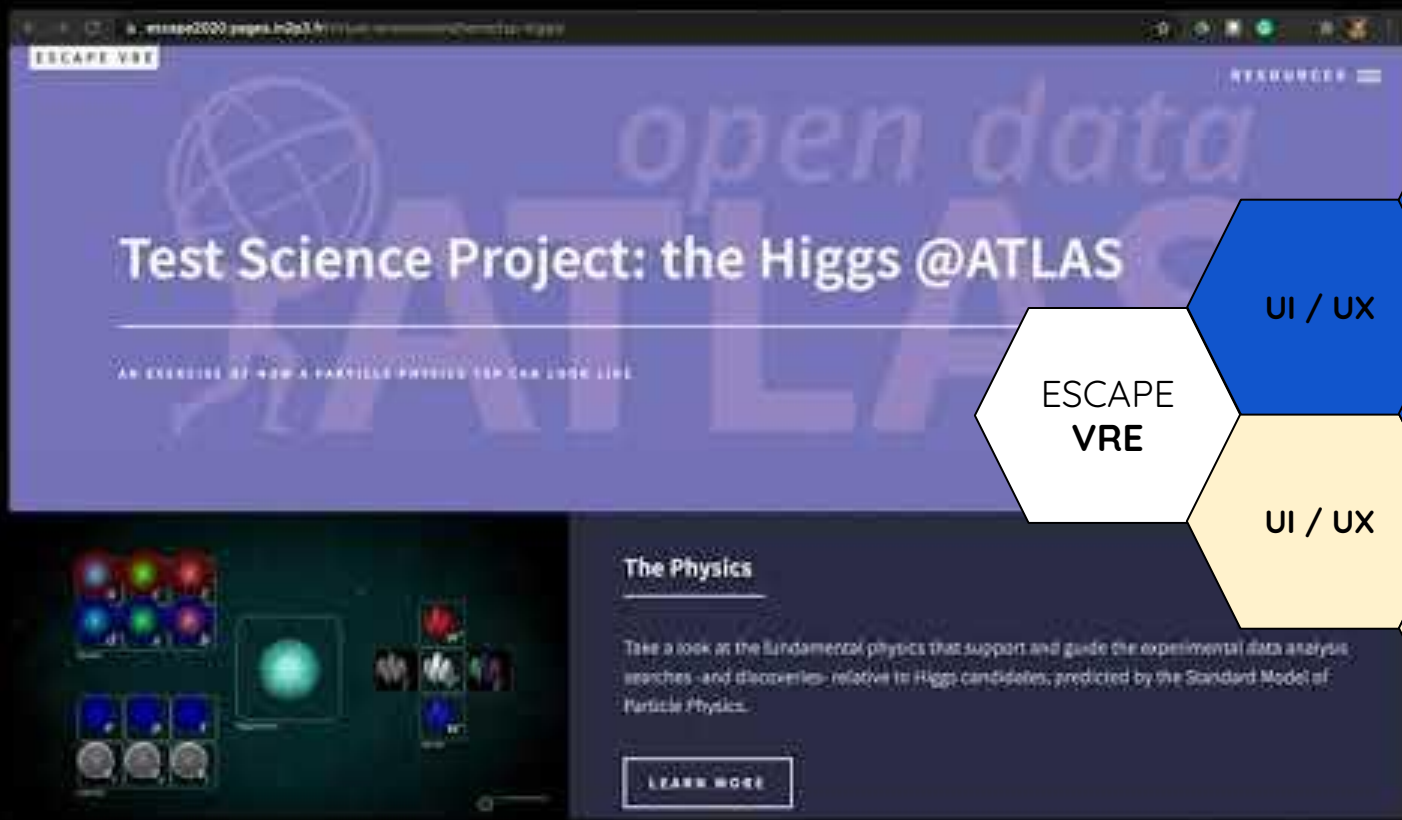
cherenkov  
telescope  
array

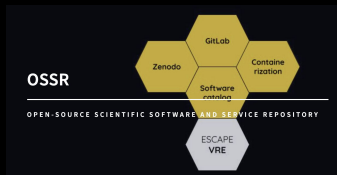


## The Physics

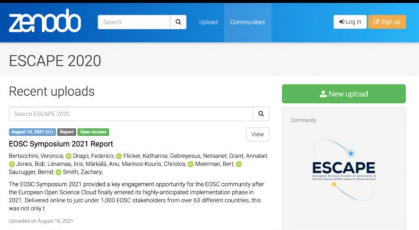
Take a look at the fundamental physics that support and guide the experimental data analysis searches -and discoveries- relative to Higgs candidates, predicted by the Standard Model of Particle Physics.

LEARN MORE





ESCAPE VRE



### Software Catalogue

The ESCAPE Open-source Scientific Software and Service Repository (OSSR) is a sustainable open-access repository to share scientific software and services to the science community and enable open science. It will house astro-particle-physics-related scientific software and services for data processing and analysis, as well as test data sets, user-support documentation, tutorials, presentations and training activities.

[LEARN MORE](#)

### Onboarding & Tools

The ESCAPE Open-source Scientific Software and Service Repository (OSSR) is a sustainable open-access repository to share scientific software and services to the science community and enable open science. It will house astro-particle-physics-related scientific software and services for data processing and analysis, as well as test data sets, user-support documentation, tutorials, presentations and training activities.

### Research infrastructures and Science Projects in the OSSR



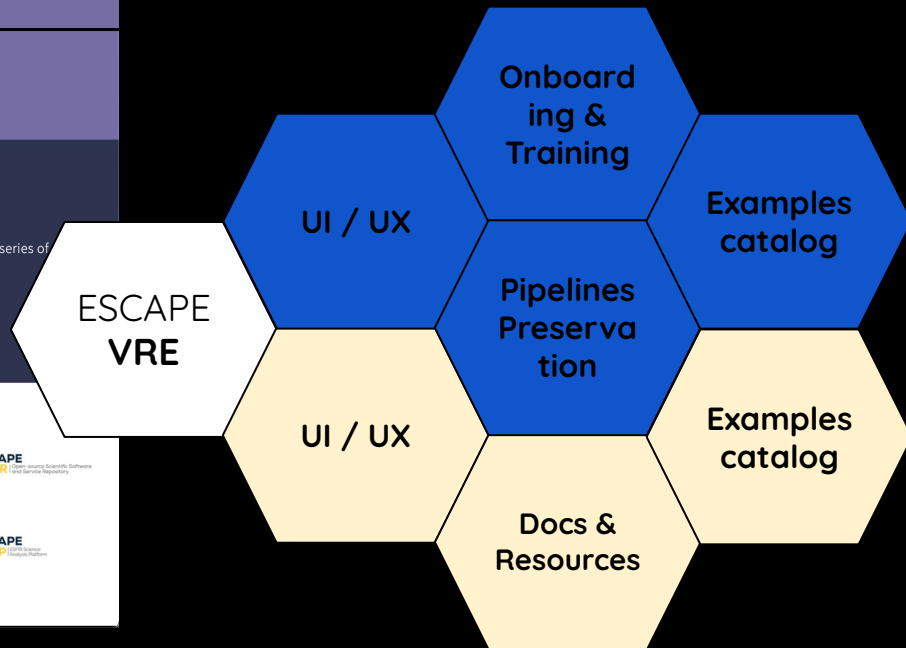
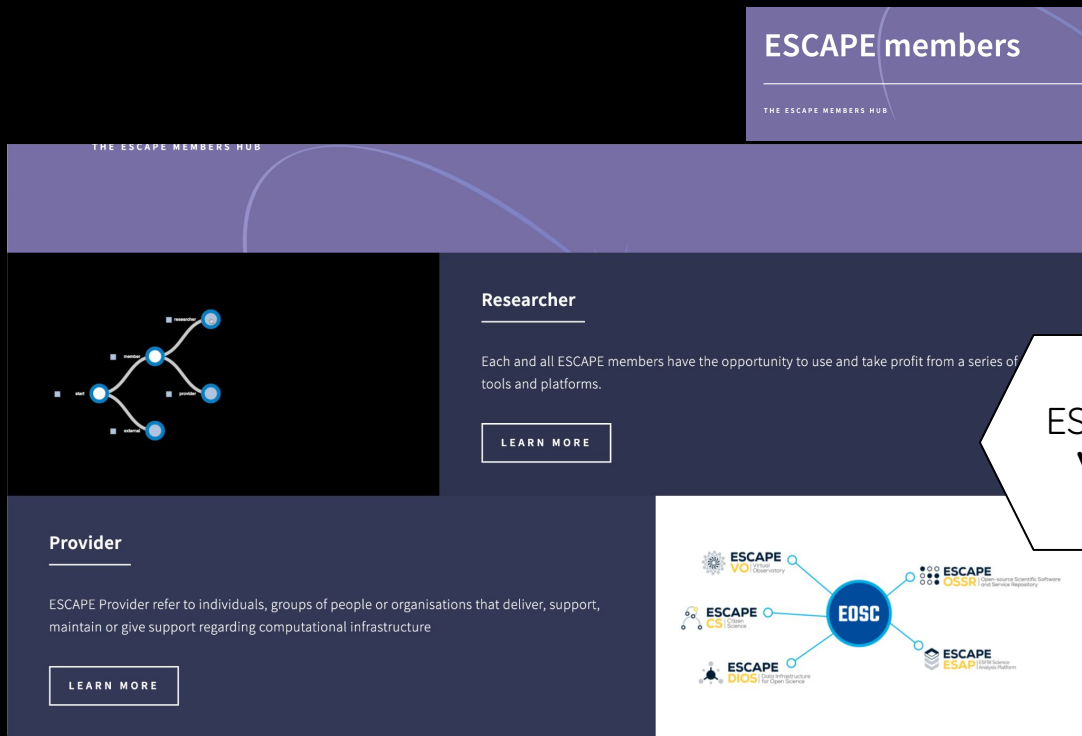
ESCAPE VRE

UI / UX


Onboard  
ing &  
TrainingExamples  
catalogPipelines  
Preserva  
tion

UI / UX

Examples  
catalogDocs &  
Resources







## DARK MATTER

to this Test Science Project

to Virtual Research Environment

Nov 2021 - Jan 2022

### DEPLOYMENT AND USER UI/UX EVALUATION

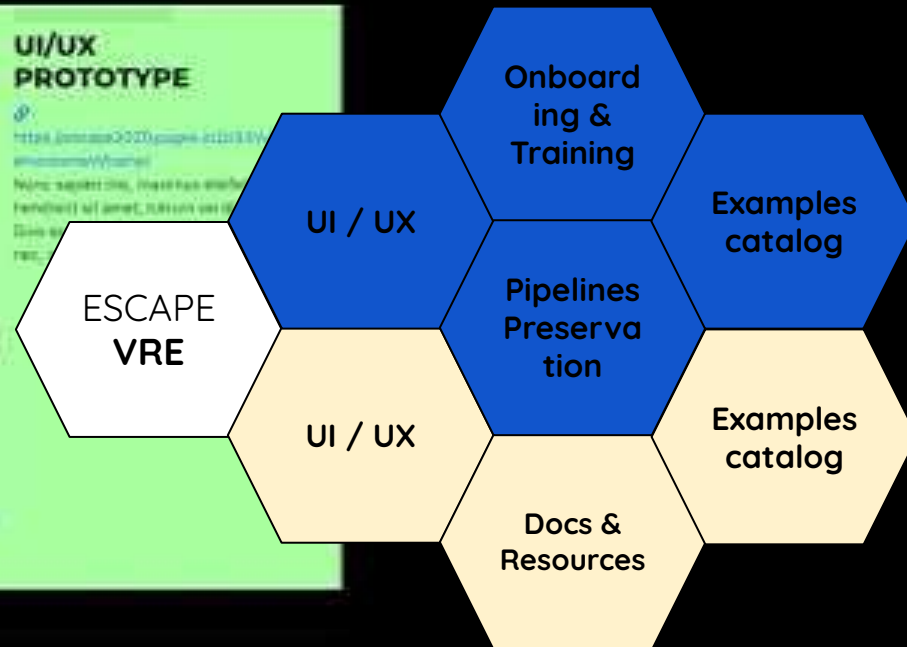
<https://escape2020.pages.in3p3.fr/escape2020/vr.html>

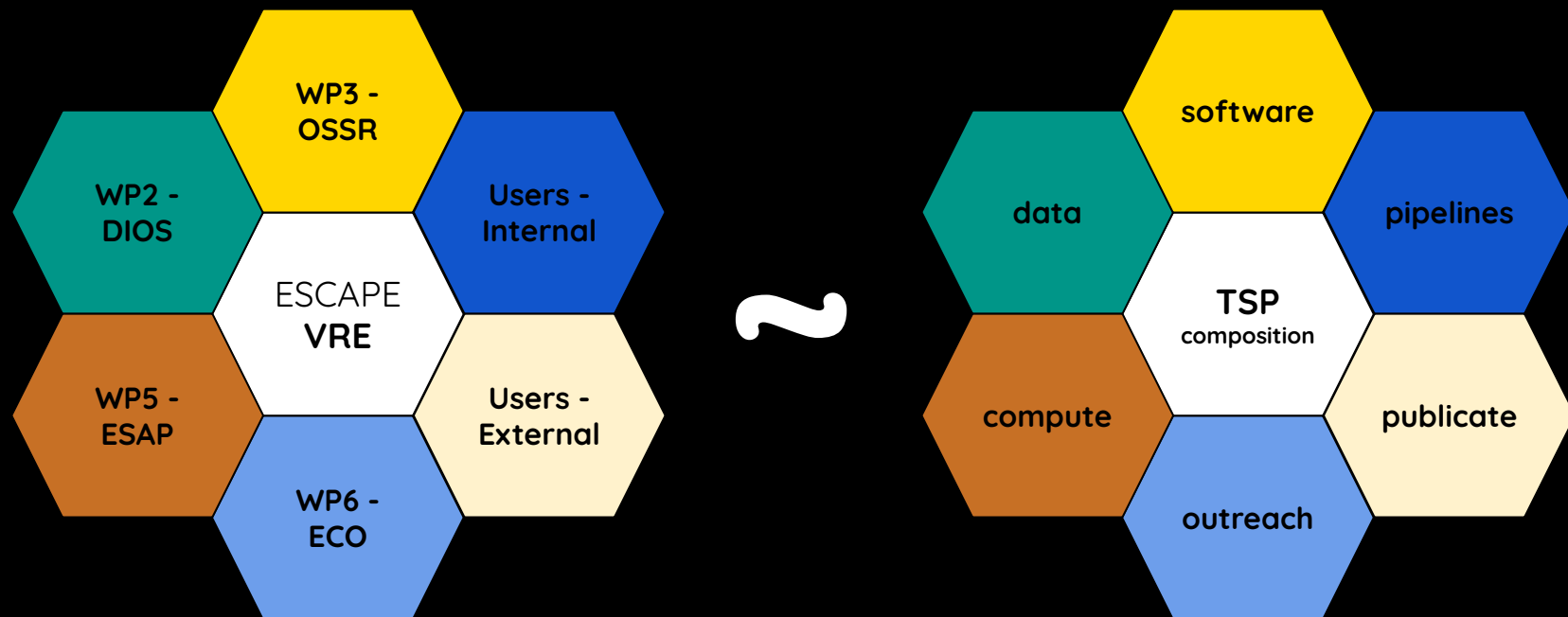
Environment (Powershell)  
From: powershell, Productus interheret

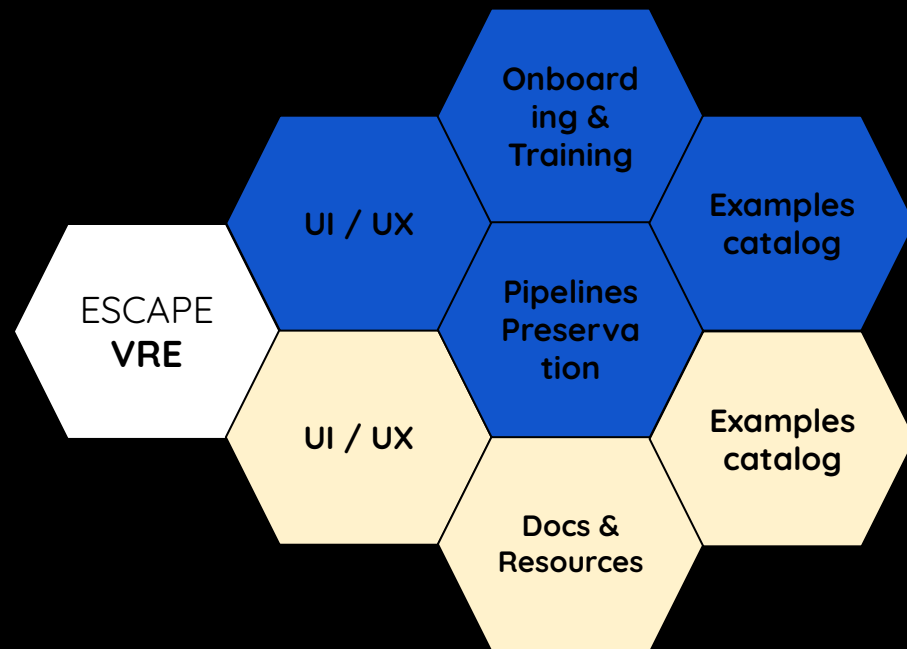
### UI/UX PROTOTYPE

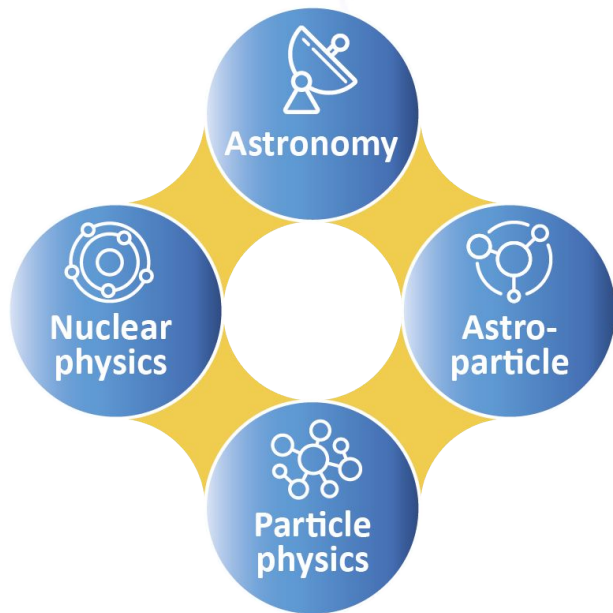
<https://escape2020.pages.in3p3.fr/escape2020/vr.html>

From: powershell, Productus interheret









# SUMMARY

A concrete exercise regarding the development of a VRE as a demonstrator for tools, resources and TSP aggregation is ongoing

<https://escape2020.pages.in2p3.fr/virtual-environment/home/>

**Warning:** many links and pages yet under construction...

Feedback, ideas and help are very much welcome!

You are very much invited to be part of the current content and experience creation

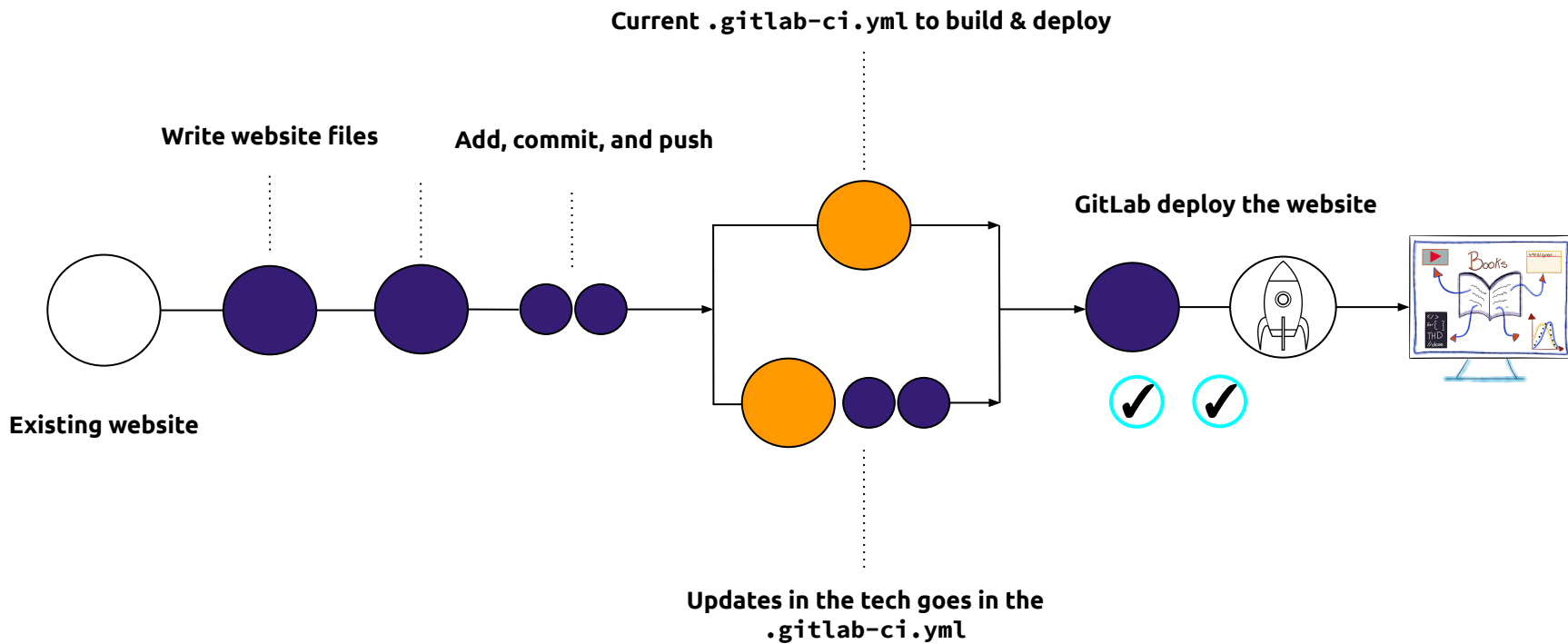


thanks



# Backup

CI / CD













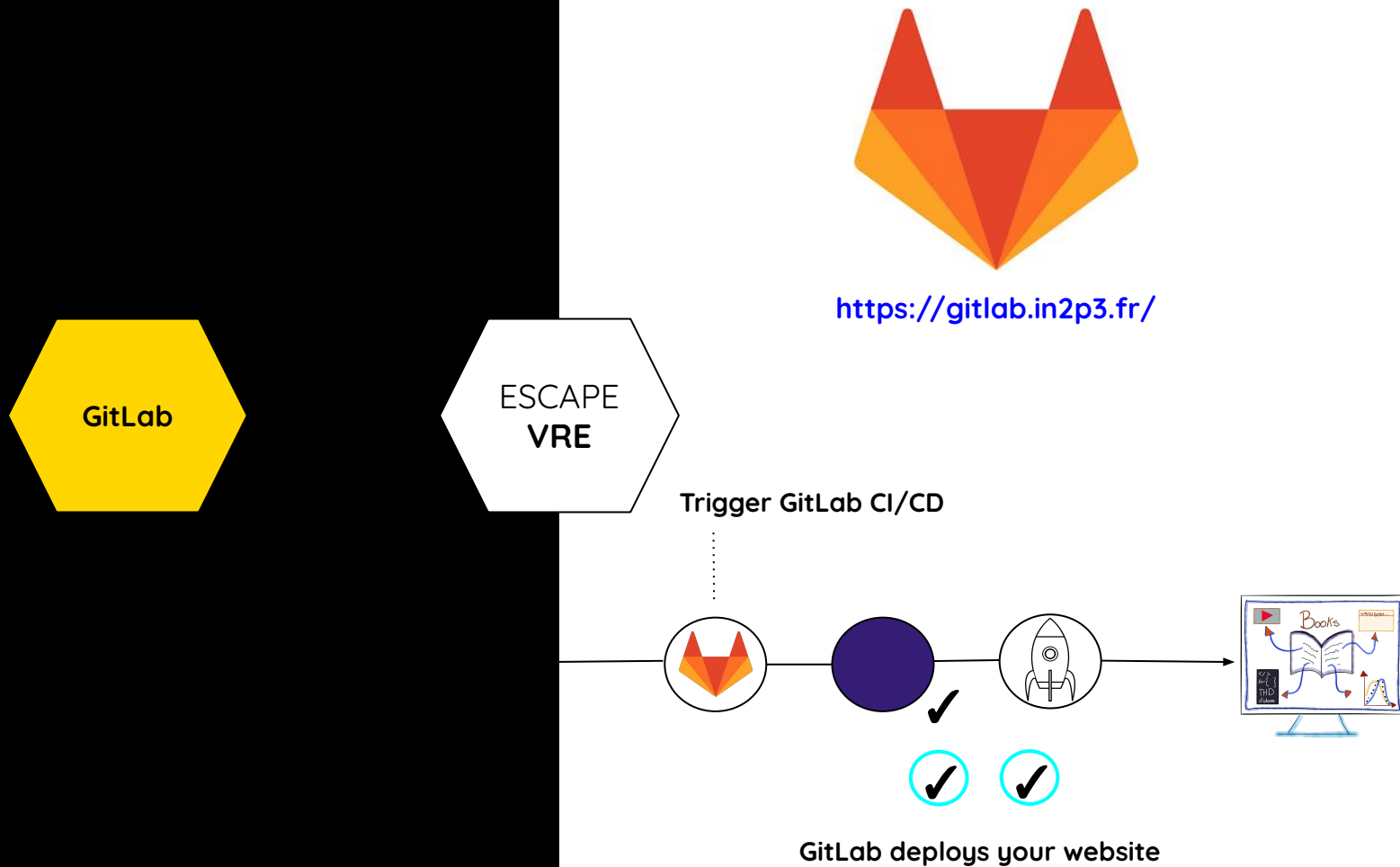
<https://escape2020.pages.in2p3.fr/wp3/ossr-pages/>

Software  
catalog

ESCAPE  
VRE

### Research infrastructures and Science Projects in the OSSR

|   |   |  |
|---|---|--|
|  <b>cta</b><br>cherenkov<br>telescope<br>array |  <b>LSST</b><br><i>Legacy Survey of Space and Time</i> |  <b>VIRGO</b>                           |
|  <b>KM3Net</b>                                 |  <b>ESO</b>  |  <b>EST</b><br>european solar telescope |
|  <b>SKA</b><br>Square Kilometre Array          |  <b>JIVE</b><br>Joint Institute for VLBI<br>ERIC       |  <b>FAIR</b>                            |
|  <b>HiLumi</b><br>HL-LHC PROJECT               |   |  |





Zenodo

ESCAPE  
VRE



<https://zenodo.org/communities/escape2020/>

Community



### ESCAPE 2020

ESCAPE aims to address the Open Science challenges shared by ESFRI facilities (CTA, ELT, EST, FAIR, HL-LHC, KM3NeT, SKA) as well as other pan-European research infrastructures (CERN, ESO, JIVE-ERIC, EGO-Virgo) in astronomy and particle physics research domains.

ESCAPE has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no. 824064.

[Read more](#)

Containe  
rization

ESCAPE  
VRE

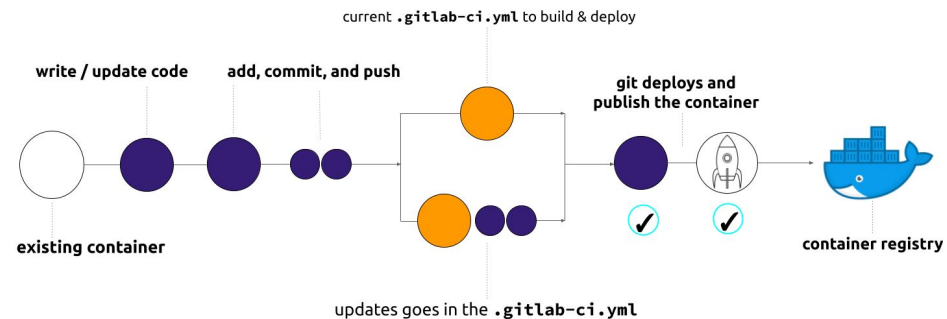


## ZenodoCI

DOI 10.5281/zenodo.4786641 pipeline passed License MIT coverage 33.00%

Library to manage an upload to Zenodo through its REST API.

<https://gitlab.in2p3.fr/escape2020/wp3/zenodoci/>





[https://wiki.escape2020.de/index.php/WP2\\_-\\_DIOS#Datalake\\_Status](https://wiki.escape2020.de/index.php/WP2_-_DIOS#Datalake_Status)

The collection of sites (or RSE) that store replicas of the experiments (simulated and real) datasets

Datalake

ESCAPE  
VRE

| Institute | STORAGE Technology      | Version | Quota (inode limit) | Min Free Space | XROOT | HTTPS | GSIFTP | ESCAPE VO (X509) | Token Based Auth/Z | perSONAR Hosts <sup>Ⓔ</sup> (bandwidth & latency)                        | perSONAR PoC   | Storage PoC  |
|-----------|-------------------------|---------|---------------------|----------------|-------|-------|--------|------------------|--------------------|--|--|--|
| CERN      | EOS                     | v4.8.20 | 300 TB              | 30 TB          | YES   | YES   | YES    | YES              | NO                 | psb01-gva.cern.ch<br>psl01-gva.cern.ch                                   | Rizart Dona <sup>Ⓔ</sup>                               | Rizart Dona <sup>Ⓔ</sup><br>Ricardo Di Maria <sup>Ⓔ</sup><br>Xavier Espinal <sup>Ⓔ</sup> |
| LAPP      | Federated DPM (ALPAMED) | 1.14.2  | 100 TB              | 10 TB          | YES   | YES   | YES    | YES              | YES                | lapp-ps01.in2p3.fr<br>lapp-ps02.in2p3.fr                                 | P.Seraphin,<br>F.Chollet via support-grid <sup>Ⓔ</sup> | Stephane Jezuquet <sup>Ⓔ</sup><br>Frederique Chollet <sup>Ⓔ</sup>                        |
| LAPP      | dCache                  | 5.2     | 20 TB               | 1 TB           | NO    | YES   | NO     | YES              | WIP                | lapp-ps01.in2p3.fr<br>lapp-ps02.in2p3.fr                                 | P.Seraphin,<br>F.Chollet via support-grid <sup>Ⓔ</sup> | Frederic Gillardo <sup>Ⓔ</sup>   |
| LAPP      | webdav                  |         | 200 GB              | 150 GB         | NO    | YES   | NO     | YES              | NO                 | lapp-ps01.in2p3.fr<br>lapp-ps02.in2p3.fr                                 | P.Seraphin,<br>F.Chollet via support-grid <sup>Ⓔ</sup> | Berkay Turk <sup>Ⓔ</sup>   |
| LAPP      | aws                     |         | 200 GB              | 100 GB         | NO    | YES   | NO     | YES              | NO                 | Not Applicable   | Not Applicable   | Frederic Gillardo <sup>Ⓔ</sup>   |
| SURFsara  | dCache                  | 6.0.9   | 98 TB               | 140 GB         | YES   | YES   | YES    | YES              | YES                | perfonar-bandwidth.grid.surfsara.nl<br>perfonar-latency.grid.surfsara.nl | Alexander Verkoijen <sup>Ⓔ</sup>                       | Alexander Verkoijen <sup>Ⓔ</sup>   |

Rucio  
client(s)

ESCAPE  
VRE

[Getting Started](#)
[Welcome!](#)
[Before You Get Started](#)
[What is Rucio?](#)
[Main Components of Rucio](#)
[Additional Layers and Resources](#)

# Welcome to Rucio's documentation!

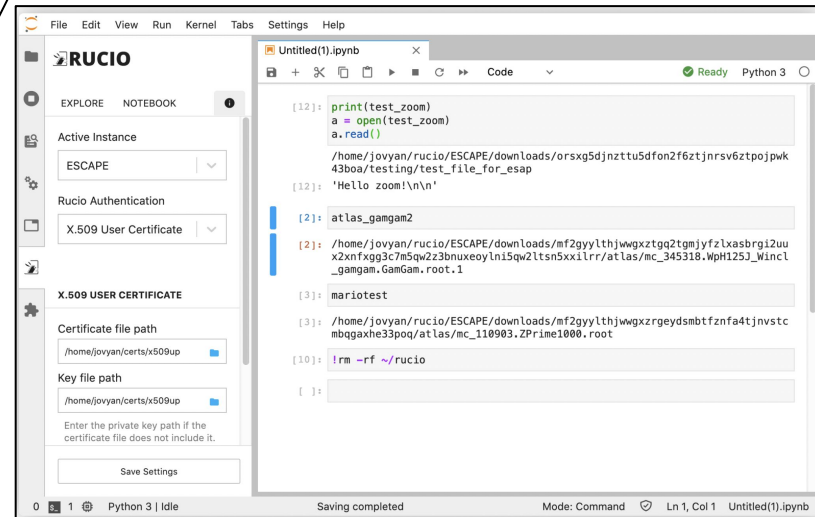
Rucio is a project that provides services and associated libraries for allowing scientific collaborations to manage large volumes of data spread across facilities at multiple institutions and organisations. Rucio has been developed by [the ATLAS experiment](#)

The RUCIO CLI and RUCIO Jupyter Extension

<https://rucio.cern.ch/documentation/>

The RUCIO slack

[https://join.slack.com/t/rucio/shared\\_invite/zt-nj61ch5u-XLamDDrnJFCiPgIHcNnS8Q](https://join.slack.com/t/rucio/shared_invite/zt-nj61ch5u-XLamDDrnJFCiPgIHcNnS8Q)



```

[12]: print(test_zoom)
      a = open(test_zoom)
      a.read()

/home/jovyan/rucio/ESCAPE/downloads/orsxg5djnzttu5dfon2f6ztjnrsv6ztpojpwk
43boa/testing/test_file_for_esap

[12]: 'Hello zoom!\n\n'

[2]: atlas_gamgam2

[2]: /home/jovyan/rucio/ESCAPE/downloads/mf2gyylthjwngxztgq2tgmjyfxasbrgi2uu
x2nfxgg3c7m5qw223bnuxeoylni5qw2ltsn5xxlrr/atlas/mc_345318.Wph125J_Winc1
_gamgam.GamGam.root.1

[3]: mariotest

[3]: /home/jovyan/rucio/ESCAPE/downloads/mf2gyylthjwngxzrgydsmbtfznfa4tjnvstc
mbqgaxhe33poq/atlas/mc_110903.ZPrime1000.root

[10]: !rm -rf ~/rucio

[ ]:
  
```

<http://opendata.cern.ch/>

Explore more than **two petabytes**  
of open data from particle physics!

Start typing...

Search

search examples: [collision datasets](#), [keywords:education](#), [energy:ZTeV](#)

Filter by experiment

- ☐ ALICE
- ☐ ATLAS
- ☐ CMS
- ☐ LHCb
- ☐ OPERA
- ☐ PHENIX

26  
127  
3994  
12  
910  
1

Data  
catalog

ESCAPE  
VRE

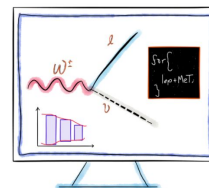
ATLAS OD example  
<http://opendata.atlas.cern/data>

Select the data you want to access and explore its specific resources

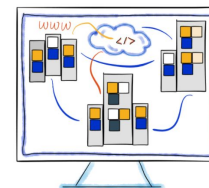
The 8 TeV samples

The 13 TeV samples

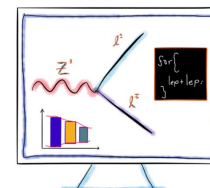
Custom samples



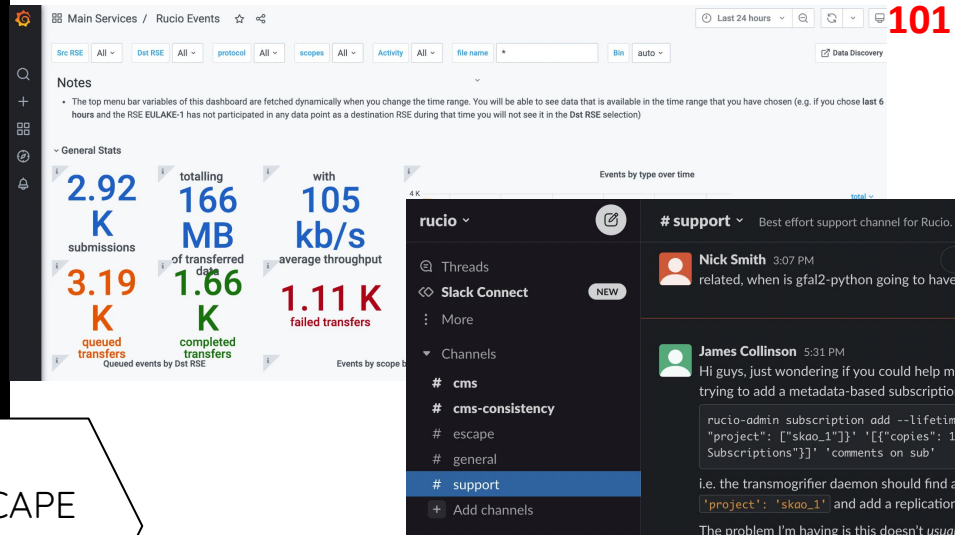
Learn more about the 2016 datasets



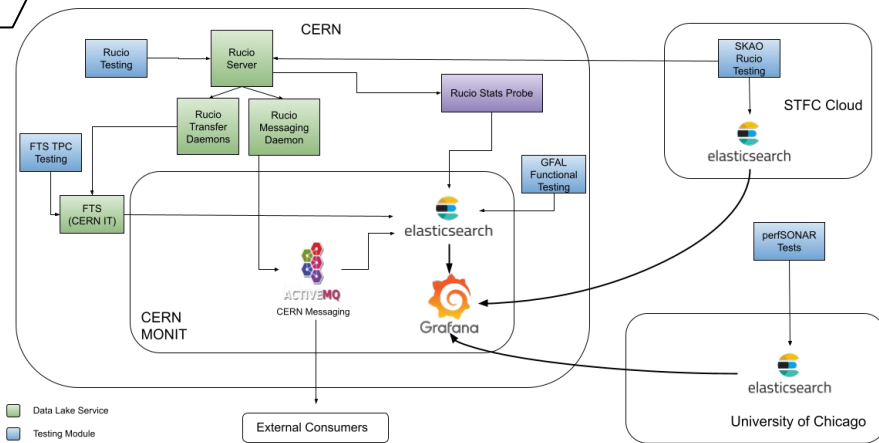
Explore the 10x more data in 2020 datasets



Dedicated samples for advance usage



<https://monit-grafana.cern.ch>



## Monitoring

<https://monit-grafana.cern.ch/d/4rmQfGYMz/rucio-events?orgId=51>

<https://monit-grafana.cern.ch/d/a74yXDN2Gk/rucio-stats-interconnection?orgId=51>

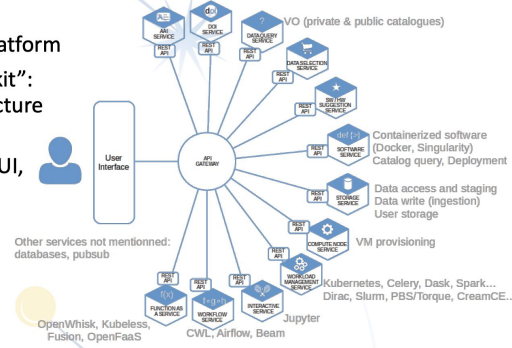
## Analysis Interface Aggrega- tions

## ESCAPE VRE



### ESAP: The hub in ESCAPE's wheel

- ESFRI Science Analysis Platform
- A “science platform toolkit”: bring your own infrastructure and service capabilities.
- Two part structure: web UI, and API gateway
- Focal point of a range of pluggable, independent microservices
- Designed to be robust & extensible

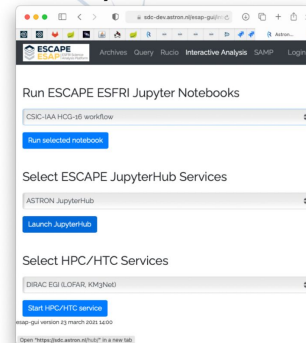


<https://indico.in2p3.fr/event/23869/contributions/94010/attachments/63501/87434/2021-04-06%20E2%80%9420ESCAPE%20WP2-WP5%20Workshop%20E2%80%9420WP5%20Status.pdf>




### ESAP: Interactive Data Analysis & HPC/HTC Services

- Currently, ESAP acts as a “hub”, which effectively links out to JupyterHub & H[TP]C facilities.
- Notebooks running on e.g. Binder can access data made available through the VO and other standard interfaces.



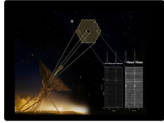
Analysis  
Interface  
Aggrega-  
tions

ESCAPE  
VRE


Archives Interactive Analysis VO-SAMP

Logout Arturo Rodolfo Sanchez Pineda


### WSRT-Apertif



#### Apertif Surveys

Data from the Apertif surveys include imaging and time-domain data. The time-domain products consist of high-time resolution filterbank data in the PSRFITS standard. The imaging data products include the raw observations in the measurement set (MS) standard. In addition, processed products are available, including calibration tables, visibilities, multi-synthesis continuum and continuum images and

### ASTRON VO




#### ASTRON Virtual Observatory

The Virtual Observatory defines a set of standards that can be used to download astronomical data. The ASTRON VO contains several image surveys, which are images in the FITS format. Since the VO is currently under development, more data types will be available in the future.

[Visit ASTRON VO Archives](#)


### LOFAR-LTA



#### LOFAR LTA data

The data from all LOFAR cycle, commissioning and DDT projects since 2013 are stored in the archive. The interferometric data products that can be found include raw, pre-processed data in the measurement set (MS) format, and the products from the calibration, imaging and long baseline pipelines. In the case of beamformed observations, raw data are available in HDF5 format as well as higher-level data products including de-dispersed time series, dynamic spectra and

### Zooniverse



#### Zooniverse Classification Database

The Zooniverse is the world's largest and most popular platform for people-powered research. This research is made possible by volunteers – more than a million people around the world who come together to assist professional researchers. Our goal is to enable research that would not be possible, or practical, otherwise. Zooniverse research results in new discoveries, datasets useful to the wider research community.

<https://sdc-dev.astron.nl/esap-gui/>

Select ESCAPE ESFRI Jupyter Workflows (Notebooks)

CDS MOCPy

Select ESCAPE JupyterHub Services

MyBinder

Deploy

esap-gui version 6 jul 2021 - 8:00



[Sign in with ESCAPE IAM](#)

Institutional  
resources

ESCAPE  
VRE

[srcdev.skatelescope.org/escape/user/arturos/tree](https://srcdev.skatelescope.org/escape/user/arturos/tree)



Files

Running

Clusters

Select items to perform actions on them.

☐ 0 /

☐ Untitled.ipynb

<https://sdc-dev.astron.nl/esap-gui/interactive>

swan004.cern.ch/user/arturos/projects

Projects Share CERNBox

SWAN > My Projects

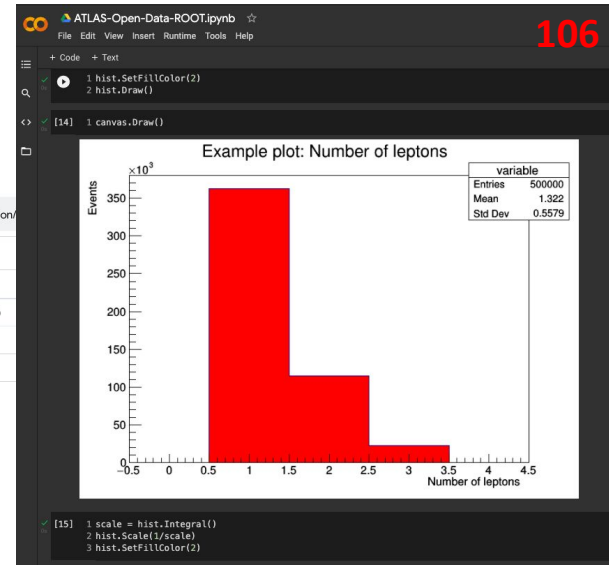
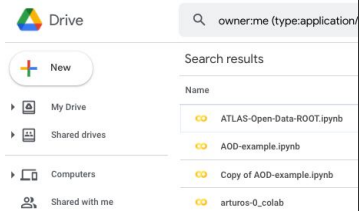
My Projects

| <input type="checkbox"/> | NAME                           | SIZE | STATUS | MODIFIED     |
|--------------------------|--------------------------------|------|--------|--------------|
| <input type="checkbox"/> | test-notebooks                 |      |        | a year ago   |
| <input type="checkbox"/> | ICTP-2018                      |      |        | a year ago   |
| <input type="checkbox"/> | notebooks                      |      |        | a year ago   |
| <input type="checkbox"/> | notebooks1                     |      |        | a year ago   |
| <input type="checkbox"/> | notebooks2                     |      |        | a year ago   |
| <input type="checkbox"/> | atlaspyhftutorial              |      |        | 4 months ago |
| <input type="checkbox"/> | notebooks-collection-opendata6 |      |        | 3 days ago   |

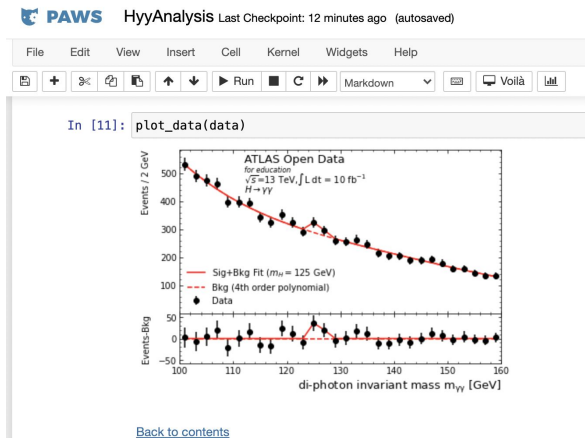
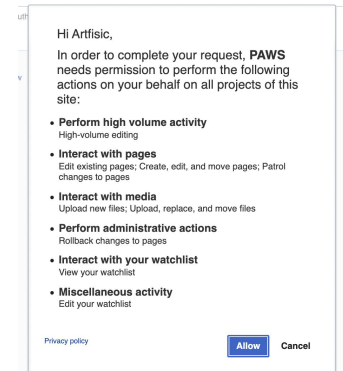
External  
Clouds

ESCAPE  
VRE

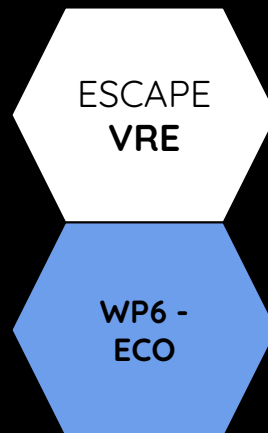
<https://colab.research.google.com>



<https://hub.paws.wmcloud.org>



ECO







WP6 -  
ECO

ESCAPE  
VRE

Out of the scope of this presentation



ESCAPE site



Let's Start!



Meetings



OwnCloud



RedMine



Rocket.Chat



Mattermost

CERN mattermost



MediaWiki

ESCAPE Wiki



Software and Services



Software DevOps



ESCAPE community



Analysis Platform



DLaaS - JupyterHub



Datalake - RSEs



Datalake - Monitoring



Rucio Docs



VO - Market



Documentation



Get/Use Docker



Rucio CLI client



ESCAPE School - site



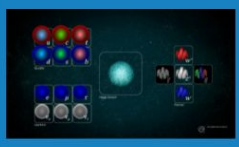
Seminars / Tutorials



Reset your password



Citizen Science



TSP - Higgs



TSP - Astro



Outreach - ATLAS



any other question?



Examples  
catalog

ESCAPE  
VRE

Online *free* Analysis Platforms:

- <https://colab.research.google.com/>
- <https://mybinder.org/>
- <https://worksheets.codalab.org/>
- <https://www.kaggle.com/>

Others

- <https://notebooks.azure.com/>
- <https://developer.ibm.com/components/jupyter/>