# ESFRI Science Analysis Platform (ESAP)

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**E-OSSR Onboarding Presentation**

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# Introduction

- ESFRI Science Analysis Platform (ESAP)

- Main deliverable of ESCAPE Work Package 5

- Interface between the services delivered by ESCAPE project and the scientific community

- Enable users to **discover** and **interact** with the **data** products, **software** tools, and **workflows**

- It is a **toolkit**: designed to be extensible and flexible to adapt to the emergent requirements of future projects
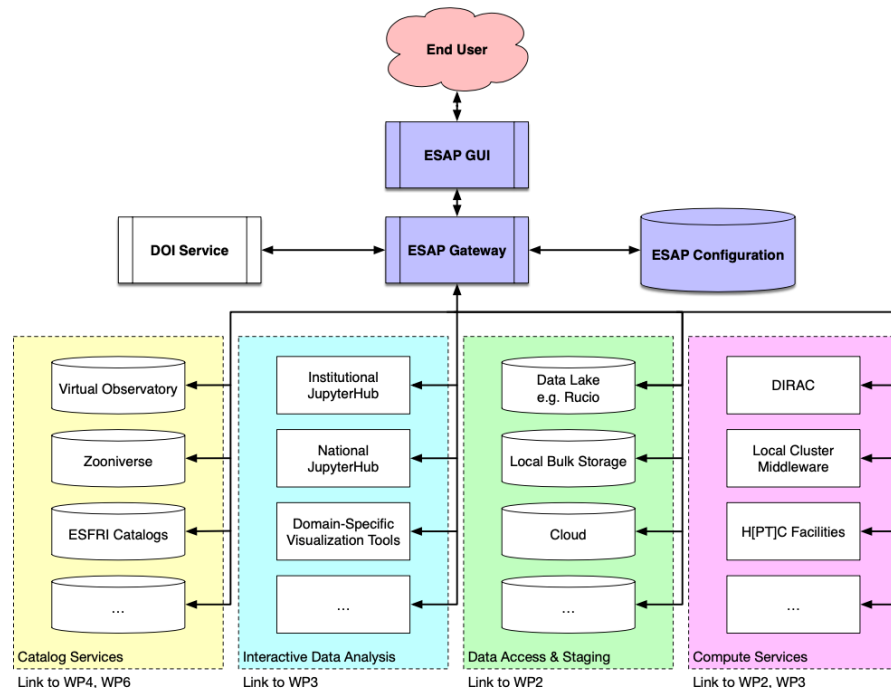
# Introduction

- Interactive web-based environment

- Aim to support the full lifecycle of the analysis processes
  - discover data
  - discover software
  - perform interactive analysis
  - perform bulk analysis
  - publish results to a persistent archive

- Offer a set of functionalities from which various communities and research infrastructures **can assemble an analysis platform** geared to their specific needs

# Introduction

- Fully integrated with Indico-IAM A&A system
- User interacts with GUI (React)
- Backend API Gateway interacts with services via APIs (Django)
- Asynchronous worker for larger tasks (e.g. batch)

# **Development**

- Development took place on ASTRON gitlab
  - https://git.astron.nl/astron-sdc/escape-wp5/esap-deployment/

- Dev Cycle:
  - Issue, Branch, review, merge, test, close

- Working towards version 1
  - which will be the one onboarded

- Apache 2.0 license
- Documentation available on gitlab wiki:
  - https://git.astron.nl/astron-sdc/escape-wp5/esap-api-gateway/-/wikis/home

- Automated checking of some connected services

# Requirements

- Software:
  - python3
  - GUI (npm/reactjs)
    - https://git.astron.nl/astron-sdc/escape-wp5/esap-gui/-/blob/main/package.json
  - API (Django)
    - https://git.astron.nl/astron-sdc/escape-wp5/esap-api-gateway/-/blob/main/esap/requirements/base.txt
  - Worker (celery)
    - https://git.astron.nl/astron-sdc/escape-wp5/esap-worker/-/blob/main/requirements.txt

- Hardware
  - minimal – depends on use

- Containerization
  - possible, helm chart available
  - has been deployed on K8s cluster

# **Integration**

- What will be onboarded:
  - [https://git.astron.nl/astron-sdc/escape-wp5/esap-deployment/](https://git.astron.nl/astron-sdc/escape-wp5/esap-deployment/)
  - Combines 3 other repositories
  - Code (python and JS), plus some configuration files

- User Story:
  - A group uses the ESAP toolkit to customize and deploy their own science platform
  - ESAP has already been deployed by other groups, where modules have been swapped or improved
  - Under investigation by both SKAO and CTAO

# demo

- [https://youtu.be/ADAixWWdmJE](https://youtu.be/ADAixWWdmJE)

- WP5 Training Event:
  - [https://indico.in2p3.fr/event/27747/](https://indico.in2p3.fr/event/27747/)