

The logo is contained within a white circle. It features a stylized blue starburst at the top, a blue orbital line with a yellow dot at the bottom, and the word "ESCAPE" in large, bold, dark blue capital letters. Below the word, the full name of the cluster is written in a smaller, dark blue font.

ESCAPE

European Science Cluster of Astronomy &
Particle physics ESFRI research Infrastructures

First Year of ESCAPE WP3 – E-OSSR

Kay GRAF

ECAP, Erlangen Centre for Astroparticle Physics

Friedrich-Alexander University Erlangen-Nürnberg

ESCAPE Progress Meeting, Brussels, 26th-27th Feb. 2020

ESCAPE - The European Science Cluster of Astronomy & Particle Physics ESFRI Research Infrastructures has received funding from the European Union's Horizon 2020 research and innovation programme under the Grant Agreement

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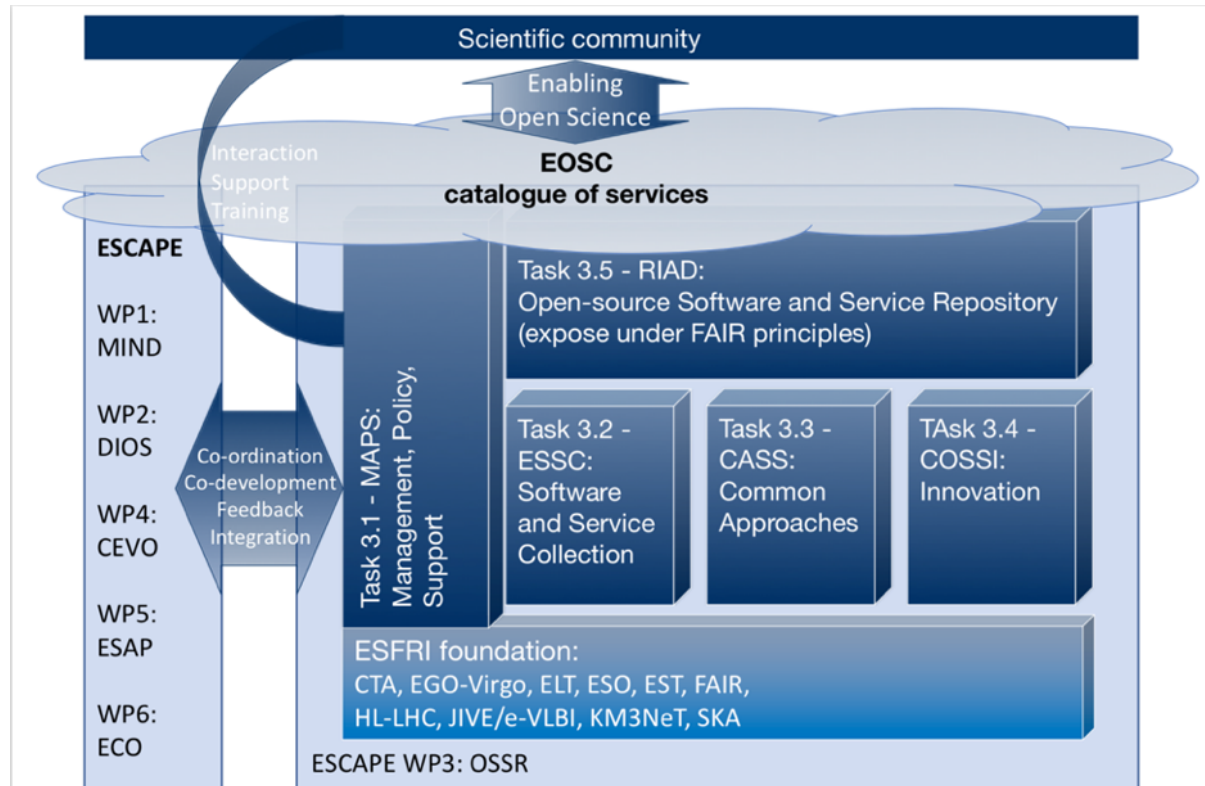
E-OSSR Aims and Objectives

- Aim: expose the tools of the ESCAPE (ESF)RI projects in a repository under the EOSC catalogue of services
- Objectives:
 - continuous development, deployment, exposure and preservation of software/tools/services
 - interoperability, software re-use and cross-fertilisation
 - open innovation environment for open standards (workflows), common regulation and shared (novel) software for multi-messenger&multi-probe data
- All objectives follow:
 - a community-based approach
 - the FAIR principles for open software/services and data
- E-OSSR strives to:
 - Establish a foundation to (co-)develop EOSC-ready software and services;
 - expose them to users via the EOSC catalogue of services;



Work Organisation

- General entry point for information in [ESCAPE Wiki](#)
- Organisation:
 - Tasks formulate the main objectives of the [work package](#)
 - Focus groups facilitate the day-to-day work within the tasks



Preparatory Phase

- Working group

- with 19 partners in different project status (also wrt. open science)
- different goals from “developing, defining and sharing best practices” in software and workflows to the repository generation

- First half year of preparatory phase → successfully finalised

- Survey of expectations, status and planned contributions from all partners
- First all hands meeting
- Definition of project plan
- Hiring of human resources (slightly but not significantly delayed due to good economic situation)
- ...

- Then: Setting up of focus groups
⇒ E-OSSR now 6 months in full working mode



Work Organisation

- Tasks formulate main objectives
- Focus groups for day-to-day work
 - [Focus group 1](#): Collecting Software requirements (related to Task 3.2)
 - [Focus group 2](#): Technical implementation of the repository (related to Task 3.5)
 - [Focus group 3](#): Innovative workflows (related to Task 3.4)
 - [Focus group 4](#): Distributed computing – currently dormant
 - [Focus group 5](#): Common approaches to CORSIKA (related to Task 3.3)
- Regular meetings, follow at <https://indico.in2p3.fr/category/844/>
- Cross-WG meetings, e.g. in the WP4 tech forum and WP5 tech meetings



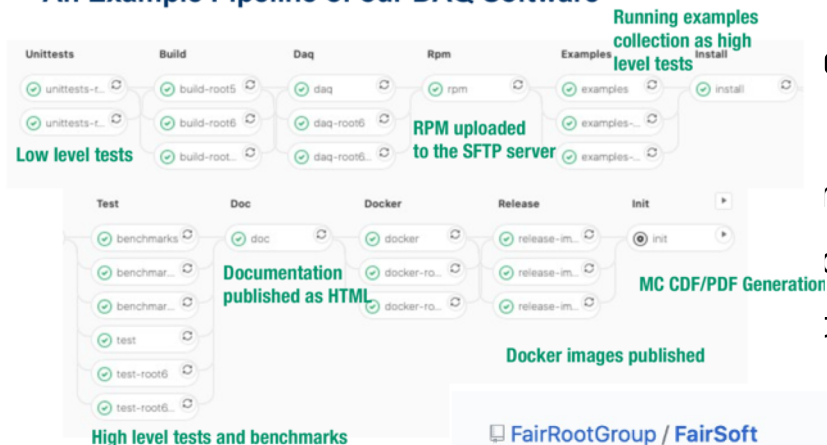
Results from the Focus Groups: FG1: Collecting Software Requirements

- Started development, benchmarking and deployment of software within and across partner institutes;
 - template for software gathering set up;
 - first round of software to become part of the repository collected;
 - partners started to prepare the software for repository integration;
- Preliminary outcome/Deliverable:
 - Software and service list and integration plan (deliverable D3.2)
 - software will be linked to the repository with source code & a containerised solution with test data and documentation for local tests
- Next steps:
 - How to make software discoverable by repository (meta data)?
 - gathering of common practices and know-how towards the definition of best practices to be shared with the community;
 - pick use cases for repository integration



Results from the Focus Groups: FG1: Collecting Software Requirements

An Example Pipeline of our DAQ Software

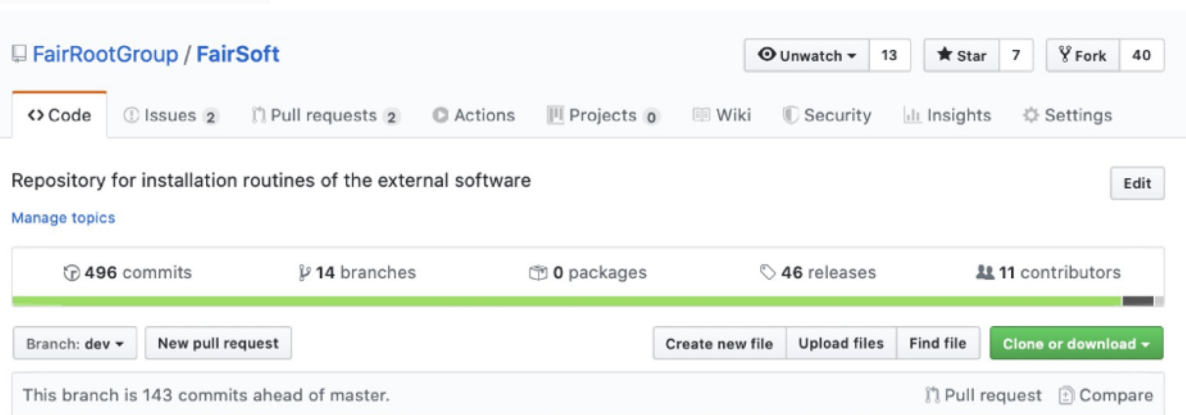


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- Software
- software
- a conta
- tests

● Next step

- How to make software discover
- gathering of common practice
- definition of best practices to
- pick use cases for repository in



Software Collection Template

1. Basic software	2. Software requirements	3. Hardware requirements	4. Review	5. Thankyou
<h3>Basic software information</h3> <p>Basic information</p> <p>Contact email <input type="text"/></p> <p>Status of Project <input type="text" value="Existing project, to be added/linked to OSSR"/></p> <p>Where is your software stored? <input type="text" value="GitHub"/></p>				

Results from the Focus Groups: FG2: Implementation of the Repository

- Partner feedback for the repository gathered → see separate catalogue session
- Preliminary design of the repository and the definition of technical solutions for its implementation;
- First prototype set up for internal use.
- Prototype development platform: [Gitlab instance](#)
- Prototype repository: [Zonodo Community](#)

ESCAPE2020 > Details

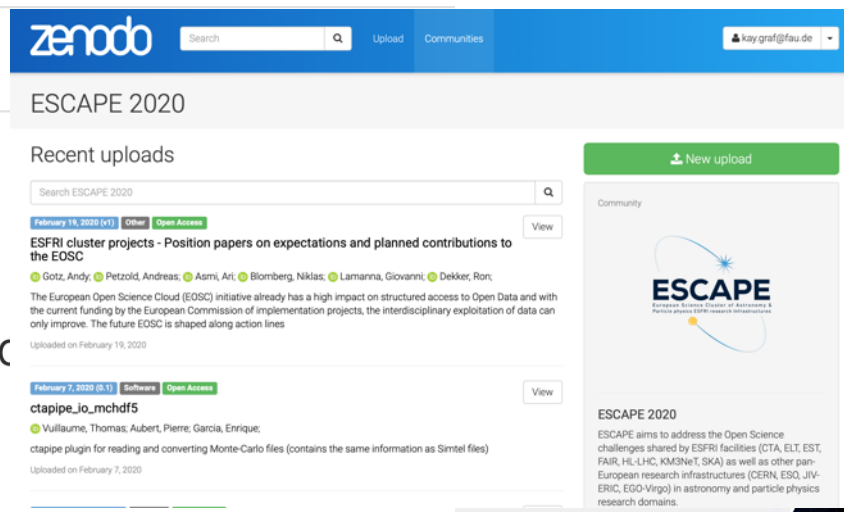


ESCAPE2020 

Group ID: 3018

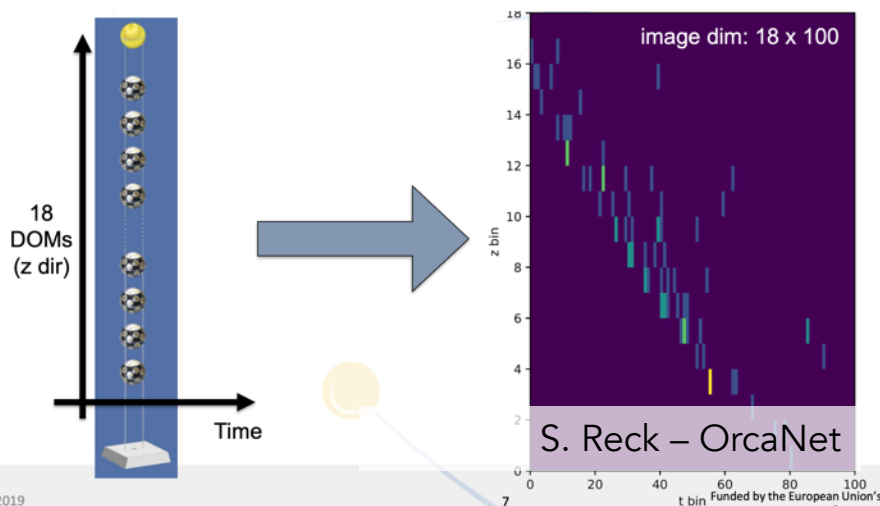
The [ESCAPE project](#) is part of the European Open Science C

To contribute, have a look at the [developer guidelines](#)

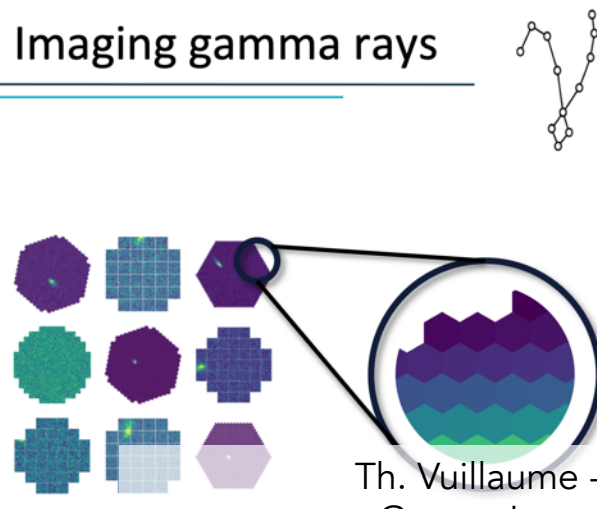


Results from the Focus Groups: FG3: Innovative workflows

- Machine learning approaches to simulation and experiment data adapted and benchmarked;
- Definition of data formats and different deep-learning approaches pursued;
- Exchange of experience, gathering and harmonisation of approaches for innovative workflows between different partners;
- Next steps: establishment of test science cases for multi-messenger analysis workflows connecting several ESFRIs
⇒ cross-fertilization across WPs, define requirements via use cases



Imaging gamma rays



Results from the Focus Groups: FG5: Common Approaches to CORSIKA

- Target #1: development of turnkey CORSIKA containers for
 - Air shower detectors
 - Sea/ice detectors
 - Muography
- CORSIKA Container Maker GUI
- Demo containers produced & tested on DIRAC
- Containers for physics use cases to start after this meeting
- Planning authentication & storage before May 2020
- Target #2: new modules or features in CORSIKA
 - Fluorescence radiation
 - Computing optimization for:
 - penetrating secondaries
 - muography
- Link to CORSIKA team OK
- Licensing requirements easy to meet (basically OSS)
- Internal dissemination in March
- Design & Development to begin in summer 2020



Don't miss...

- ESCAPE Summer School on Data Science for Astronomy, Astroparticle & Particle Physics
 - Annecy, France; 22th of June to 1st of July 2020
 - <https://indico.in2p3.fr/event/20306/>
- IWAP: Workshop on Innovative Workflows in Astro- & Particle Physics
 - Salerno, Italy; 7th to 10th of July 2020
 - <https://indico.in2p3.fr/event/20424/>
 - First bulletin by end of February



Interfaces and Possible Cross-WG Groups

- AAI → see AAI session later today
 - Linking services to the EOSC portal
→ see repository session later today
 - Computing resources/distributed computing
 - For use cases during the project
 - Long term
 - (Current) use cases:
 - Test science cases (TSC) and innovative workflows → see presentations tomorrow morning
 - CORSIKA simulation: containerisation and distribution via DIRAC
- ⇒ use cases should drive our further developments

