CERN-EUCLID Technical Workshop

Welcome and Introduction

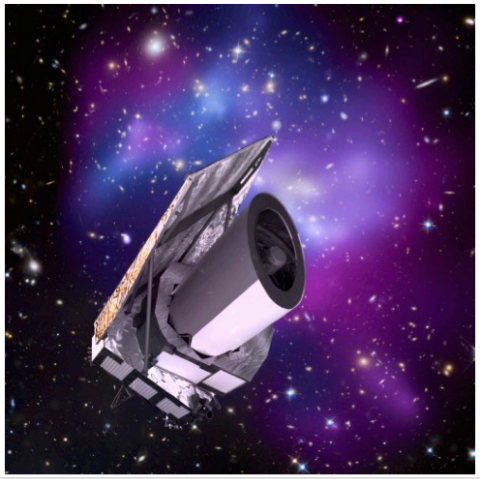
G Ganis / CERN EP-SFT

12 September 2019, CERN

EUCLID Mission

The Euclid mission

- Euclid is an ESA M2 space mission in the framework of its Cosmic Vision program
- To be launched end 2020, with a 6 years mission
- Its primary scientific goal is to understand the origin of Universe accelerating expansion, Dark Matter and Dark Energy
- A satellite will be placed at L2 by a Soyouz rocket launched from the Kourou spaceport
- A 1,2m telescope and two instruments will be embedded:
- VIS: Visible Imager (600 MPix)
- NISP: Near Infrared Spectrometer and Photometer (64 Mpix)



The Euclid Science Ground Segment

- 9 Science Data Centers will process the 300 TB raw data
- Total estimation including intermediate and external data is 150 PB

A bit of history

- First contact established end of 2014 through CERN KT
  - Technical meeting on 17 Dec 2014
  - EUCLID becomes *CERN recognized experiment* in 2015
- Since then, regular contacts and presentations at all CernVM workshops
- EUCLID adopts CernVM-FS as software deployment solution in 2016

Renewed affiliation

- EUCLID *CERN recognized experiment* status renewed in 2019 for 4 years
- Collaboration could be extended to include additional topics:
  - Use of CernVM-FS and SW tools developed at CERN for the distribution of container images and condition data, and to optimise the usage of computing resources through pilot job technology;
  - Science parameters monitoring using AI and machine learning techniques
- Suggested to held new technical meeting to discuss all this

Technical meeting goals

- Review the status of current usage of CernVM-FS by the EUCLID Consortium and discuss possible extension of this usage, for example to conditions data and container images
- Investigate possible EUCLID interest for other CERN products

Technical meeting content

- From EUCLID
  - EUCLID computing: architecture and design
  - EUCLID Pilots (Pipeline Runner)
- From CERN
  - Distributed job and resource management w/ DIRAC
  - HEP machine learning toolbox w/ ROOT and TMVA
  - Machine learning approach to QA in ALICE
  - CernVM-FS status and plans
  - Distributed data management with Rucio
  - EOS distributed storage system

And plenty of discussion time

Practical information

- Presentation slides
  - Speakers registered as CERN users should have rights to add material to their slot on the Indico page
  - The others please send the slides to

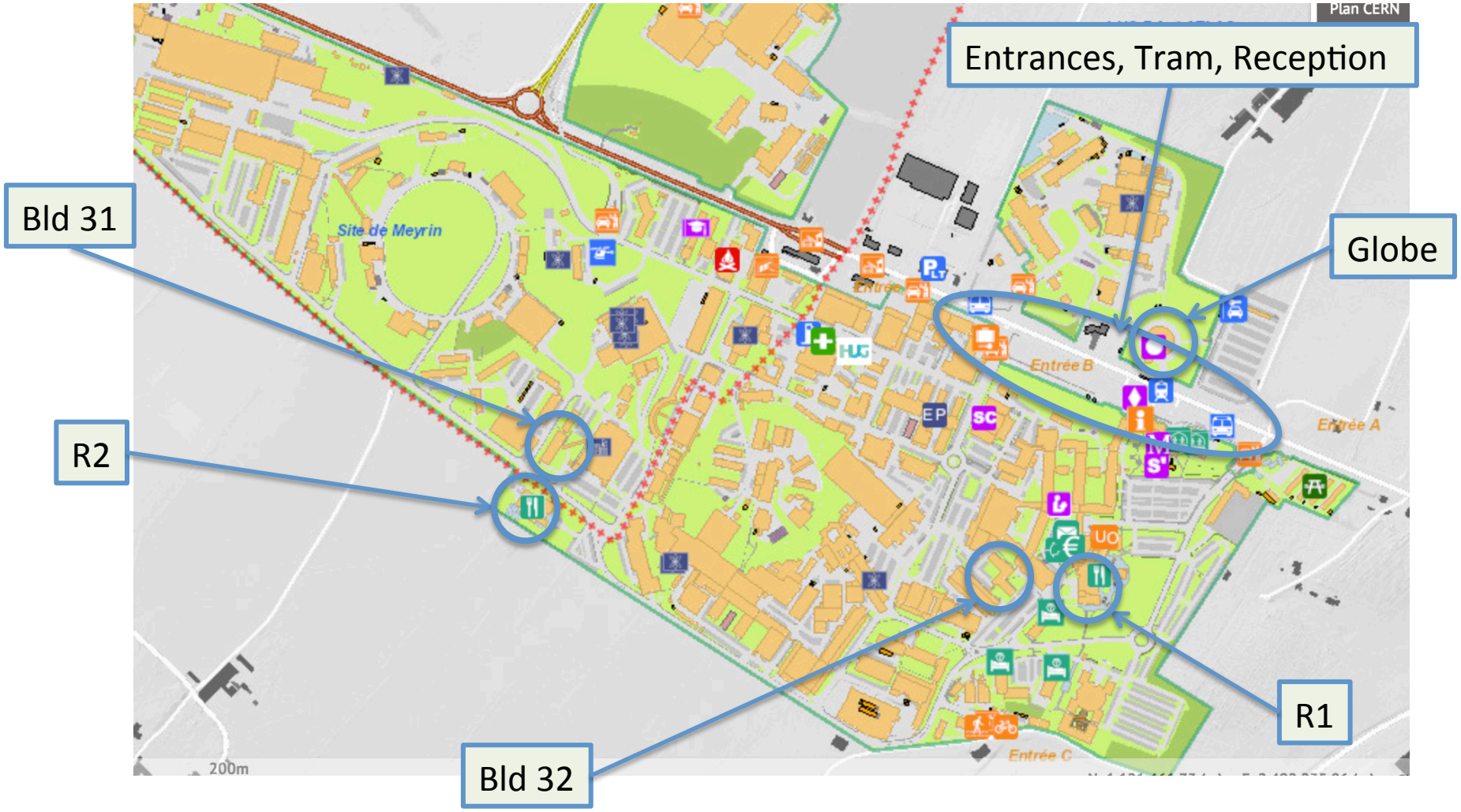
    gerardo.ganis@cern.ch

    jakob.blomer@cern.ch
- Vydio access
  - Link from the Indico page

ALICE (P2) visit

- Reserved slot 14h-15h on Friday 13/9 for 6 persons
- Navette leaves from the Globe at 13h30
  - Gest to Point 2 (ALICE) at 13h50
- Gets back at CERN at 15h30
  - Leaves from Point 2 (ALICE) at 15h10

Practical information (3)



In case of problems / questions

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Enjoy the workshop!