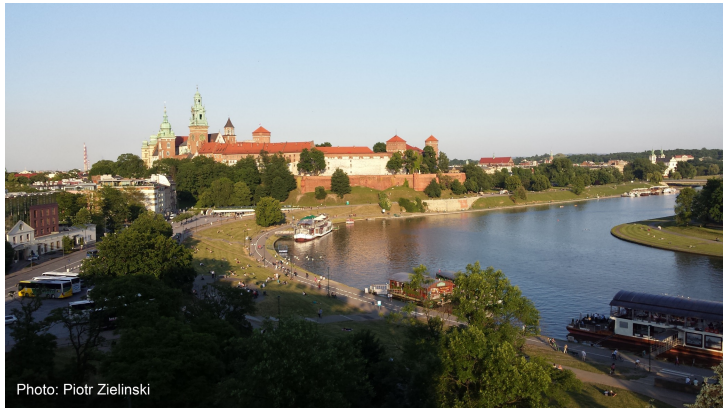


EUROPEAN LABORATORIES FOR ACCELERATOR BASED SCIENCES

HORIZON-INFRA-SERV-07-01

WP3 – Access to Research Infrastructures for Accelerator R&D

Second Annual Meeting (SAM)

9–11 Oct 2023
Europe/Rome timezone

I. Efthymiopoulos – for the WP3 ***many thanks to all FC for the work done !!***

This project has received funding from the European Union's Horizon Europe Research and Innovation programme under Grant Agreement No 101057511.

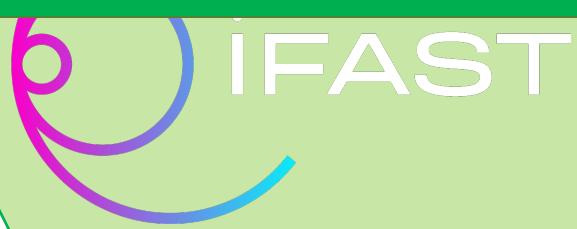
WP3 - Goals

- Include the **leading facilities** involved in **Accelerator R&D** in Europe
- **Maintain** and further **strengthen** the collaboration, exchange of information, and knowledge between the **facilities** and the **User Community**
- **Support** the User Groups in their Research
  - provide expert help, **exploit the full capabilities** and extract the **maximum scientific outcome** from the facilities
- With targeted **service improvements**, **enrich the possibilities of the facilities** to the profit of the Users
- Fertilize **synergies** between the **research communities** and **applications**
- Support ongoing **R&D efforts** in the **Present** and **Future Accelerators**
- Targeted **Outreach & Training** activities to attract **new** (or to be) **Researchers** in the Field of **Accelerators**

WP3 & Accelerator R&D

EURO-LABS in I-FAST Meeting, May 2022

AMICI-I-FAST WP13 Workshop on Facilities for Beam test of accelerator components



I-FAST

Innovation Fostering in Accelerator Science and Technology

Detector R&D tests @ HIRadMat

AIDAinnova

EURO-LABS WP3

TIARA

ort the Implementation of
erator R&D Activities,

- Trans-field activities also beyond PP,
- Roadmaps/Priorities iof various muncities

Reports in TIARA Meetings

EUPRAXIA

Compact European Plasma Acceleration with Superior Beam Quality

EuPRAXIA@SPARCLAB

Presentation by Angelo Biagioni on Wednesday

WP3 & Accelerator R&D

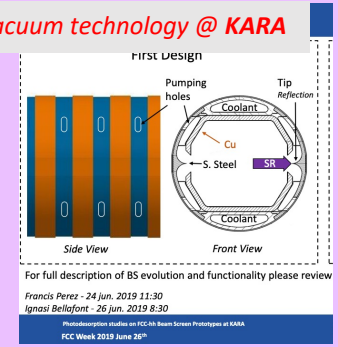
EURO-LABS
EUROPEAN LABORATORIES FOR ACCELERATOR BASED SCIENCES

Facilities

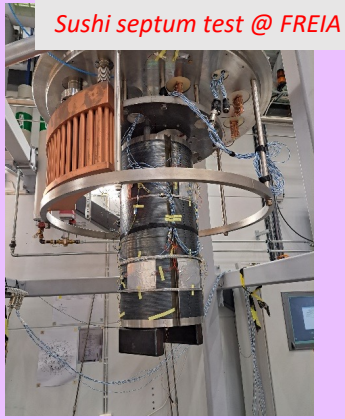
*SRF production cavity test @ **FREIA***

Future projects - FCC

*Vacuum technology @ **KARA***

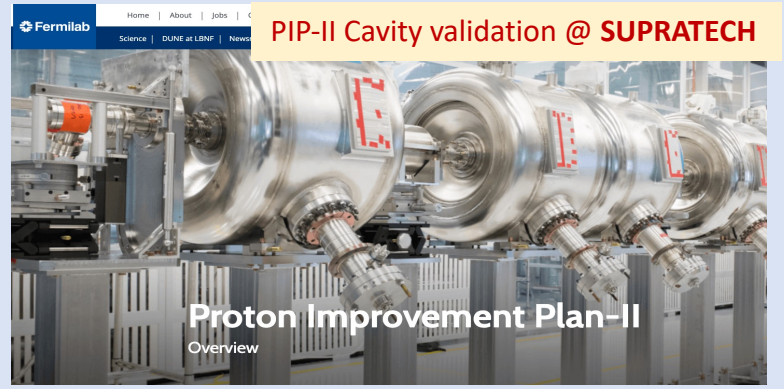


Sushi septum test @ FREIA



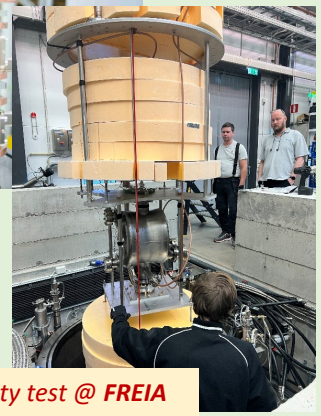
World-wide R&D

*PIP-II Cavity validation @ **SUPRATECH***



HL-LHC

*HL-LHC collimators @ **HIRadMat***



*Crab cavity test @ **FREIA***

WP3-RIs

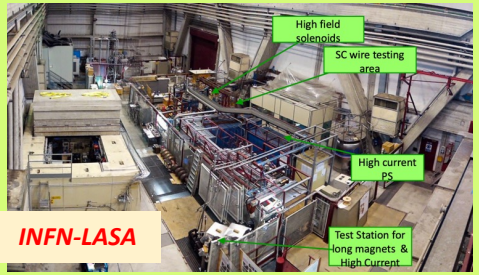
Applications

*Fibre-optic fabric for UHDR real-time dosimetry for FLASH radiotherapy @ **CLEAR-CERN***

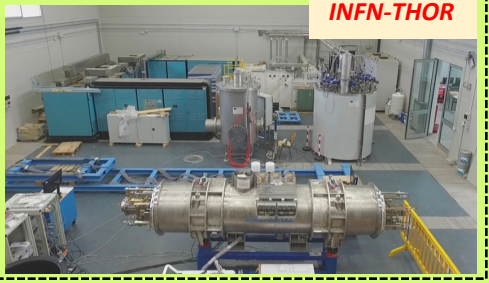
Technology

*QPR sample conditioning and testing for HZB @ **SUPRATECH***

***IRIS** – applied Superconductivity*



INFN-LASA



INFN-THOR

WP3 - Organization

- **Work-package structure**
- User Selection Panels
- Meetings
- Activities in P1

WP3 - Structure

WP3
Access to RI for Accelerators

WP Coordinator: **I. Efthymiopoulos**

Task 1 N. Charitonidis - CERN	Task 2 Sylvie Leray - CEA	Task 3 Anthony Gleeson - UKRI	Task 4 Urszula Gryczka - INTC
Material Testing Facilities	Technology Infrastructures	Electron Beam Facilities	Applications
HiRadMat@SPS(*)	FREIA(*) *(Univ. Uppsala)*	KIT-ALFA (ANKA+FLUTE)(*)	INTC –RAPID *(Warsaw)*
	INFN –LASA (*) *(Milano)*	VELA/CLARA *(Univ. Daresbury)*	CLEAR CERN
	INFN-THOR(*) *(Univ Salerno)*	INFN – BTF Frascati	
	IJCLAB SUPRATECH	INFN – SPARC Frascati	
	CEA Irfu-Synergium(*)	CEA LIDYL LPA-UHI100(*)	
	XBOX CERN		

- (*) budget for service improvements assigned
- new in TA program

WP3 - Organization

- **Work-package structure**
- **User Selection Panels**
  - TA application forms from project web (doc & excel) and procedures defined and working
- Meetings
- Activities in P1

WP3 - USP

WP3
Access to RI for Accelerators

WP Coordinator: **I. Efthymiopoulos**

Task 1
N. Charitonidis - CERN

Material Testing Facilities

- **Nikolaos Charitonidis** (CERN)
- **Alice Goillot**(CERN)

- **David Sprouster** (SUNY Stony Brook, BNL)
- **Bernie Riemer** (ORNL, chair)

- **Ilias Efthymiopoulos** (CERN)

external members

Task 2
Sylvie Leray - CEA

Technology Infrastructures

- **Sylvie Leray** (CEA, chair)
- **Thomas Proslier** (CEA)
- **Roberto Corsini** (CERN),
- **David Longuevergne** (CNRS)
- **Dario Giove** (INFN)
- **Rocío Santiago Kern** (UU)

- **Jose Manuel Perez** (CIEMAT)
- **Marc Wenskat** (DESY)
- **Robert Zierold** (Hamburg University)
- **Bernard Auchmann,** (PSI)
- **Robert Laxdall** (TRIUMF)

- **Ilias Efthymiopoulos** (CERN)

Task 3
Anthony Gleeson - UKRI

Electron Beam Facilities

- **Anthony Gleeson** (STFC, chair)
- **Sandrine Dobosz Dufrenoy** (CEA)
- **Robert Ruprecht** (KIT)
- **Riccardo Pompili** (INFN-LNF)
- **Roberto Corsini** (CERN)

- **Florian Burkart** (DESY)
- **Leonida Gizzi** (CNR-INO)
- **Shaukat Khan** (Dortmund)
- **Markus Ries** (HZB)

- **Ilias Efthymiopoulos** (CERN)

Task 4
Urszula Gryczka - INTC

Applications

- **Urszula Gryczka** (INCT, TL, chair)
- **Roberto Corsini** (CERN)

- **Angeles Faus-Golfe** (CNRS/IN2P3)
- **Rob Edgecock** (HUD)

- **Ilias Efthymiopoulos** (CERN)

- *Most of the USP meetings are organized on zoom (remote)*
- *Yearly meetings or ad-hoc, depending on applications received*

WP3 - Organization

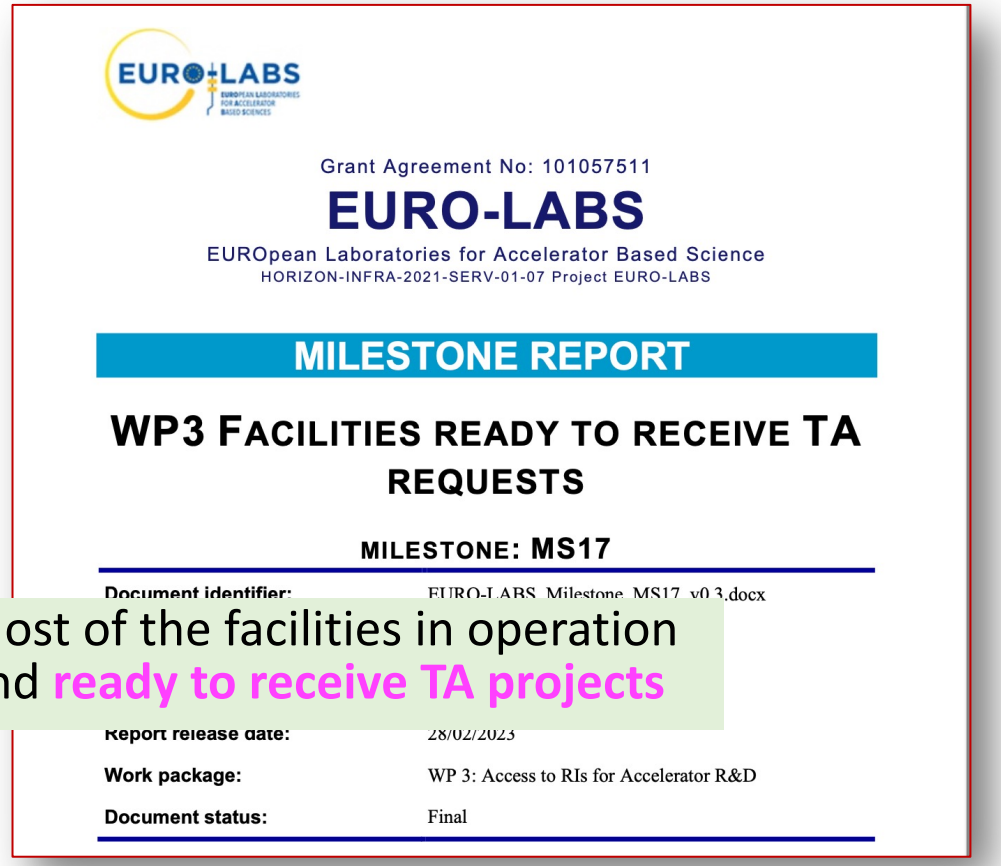
- **Work-package structure**
- **User Selection Panels**
  - TA application forms from project web (doc & excel) and procedures defined and working
- **Meetings**
  - **Work-package** all facility coordinators : 3(+1) meetings in P1
  - **Task Leader** : 2 meetings in P1
- Activities in P1

WP3 - Organization

- **Work-package structure**
- **User Selection Panels**
  - TA application forms from project web (doc & excel) and procedures defined and working
- **Meetings**
  - **Work-package** all facility coordinators : 3(+1) meetings in P1
  - **Task Leader** : 2 meetings in P1
- **Activities in P1**

Milestones/Deliverables

- First **milestones**: **MS17 and MS19 completed** (February 2023)



Grant Agreement No: 101057511

EURO-LABS

EUROpean Laboratories for Accelerator Based Science

HORIZON-INFRA-2021-SERV-01-07 Project EURO-LABS

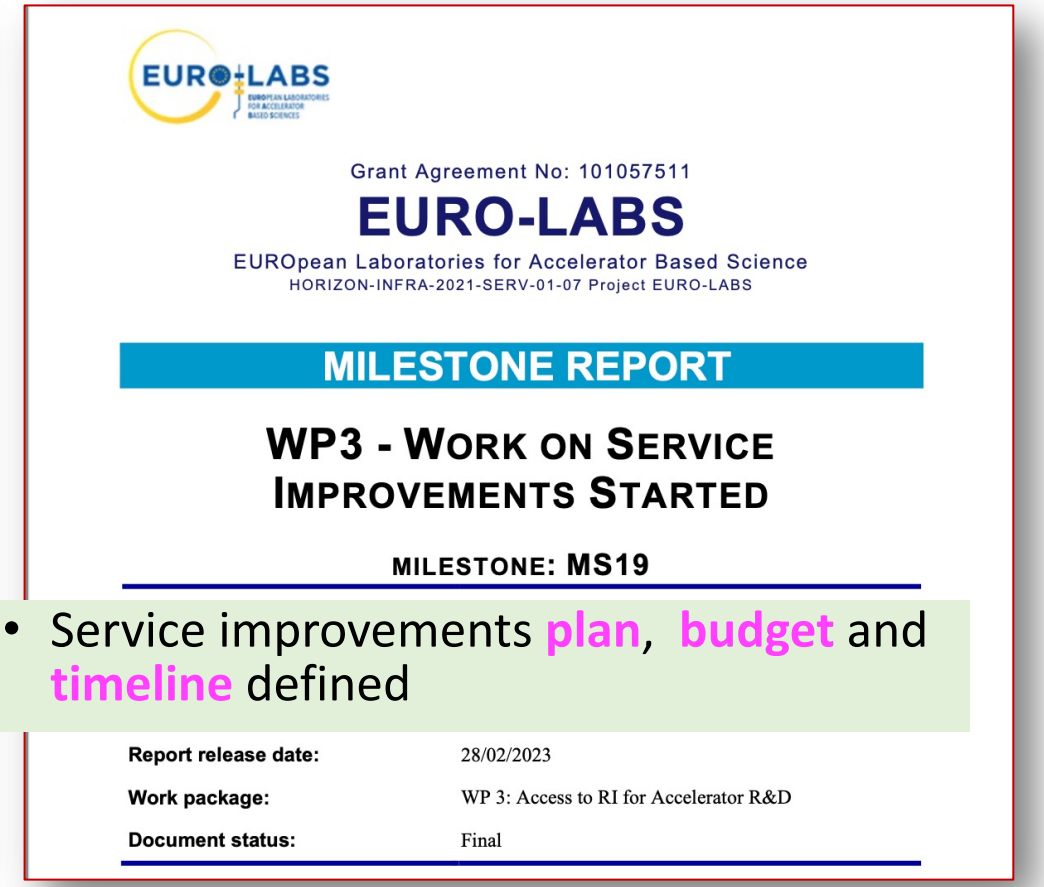
MILESTONE REPORT

WP3 FACILITIES READY TO RECEIVE TA REQUESTS

MILESTONE: MS17

Document identifier:	EURO-LABS_Milestone_MS17_v0.3.docx
Report release date:	28/02/2023
Work package:	WP 3: Access to RIs for Accelerator R&D
Document status:	Final

- Most of the facilities in operation and **ready to receive TA projects**



Grant Agreement No: 101057511

EURO-LABS

EUROpean Laboratories for Accelerator Based Science

HORIZON-INFRA-2021-SERV-01-07 Project EURO-LABS

MILESTONE REPORT

WP3 - WORK ON SERVICE IMPROVEMENTS STARTED

MILESTONE: MS19

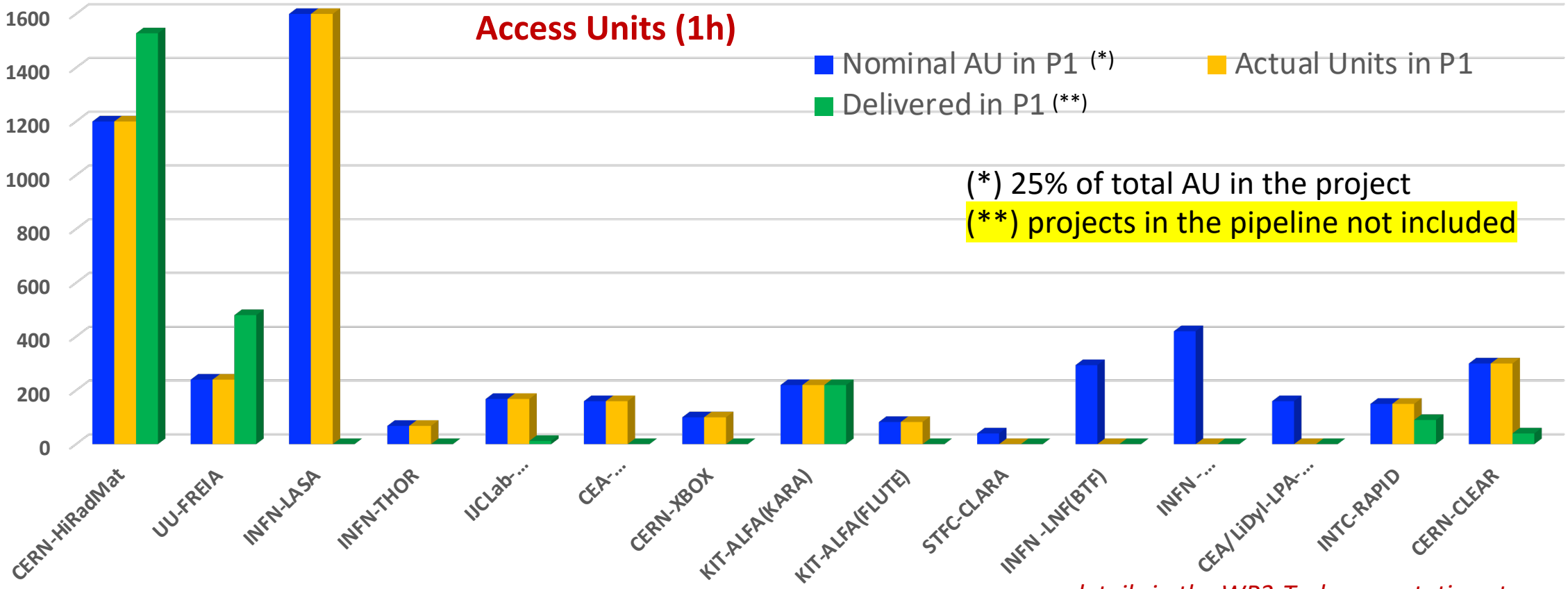
Report release date:	28/02/2023
Work package:	WP 3: Access to RI for Accelerator R&D
Document status:	Final

- Service improvements **plan**, **budget** and **timeline** defined

… details in the WP3-Task presentations tomorrow

TA in P1 - Status

- First TA projects completed
  - slower startup in some facilities – will catch up in the next period



... details in the WP3-Task presentations tomorrow

Activities in P1

- **Data Management Plan (DMP) :** organised at facility level
  - Discussions with WP5 team – implementation of a minimal DMP for Open Access under FAIR (**F**indability, **A**ccessibility, **I**nteroperability, and **R**euse of digital assets)

- **Training - Outreach**
  - **Hands-on training on large Accelerators @ CERN**
    - Combined effort with **WP2 – ISOLDE** and **WP3 - PS booster, CLEAR** coordinated by **WP5**
    - Yearly (?) sessions for the duration of the project, starting >March 2024
  - **Training in INCT-RAPID for Applications**

In the news

CERNCOURIER.COM

FIELD NOTES

"In its 25-year existence, the forum has evolved with the times, all the while increasing its attractiveness for experts to share their knowledge, experience and challenges," says Ralf Trant of the CERN technology department. "The scope has broadened from high-energy physics to a wider range of disciplines and participating institutes in Europe and beyond, with Asian labs joining in addition to American institutes, which have been involved since the beginning."

Opening the event, Benoît Delille, head of the CERN health, safety and environment unit, noted: "For colleagues from different institutes who visit CERN for the first time, it is an occasion for us to share the values on which this Organization is built, that we are proud of, and also how we make them come to life through the prism of safety." A first session on environmental protection and sustainability saw CERN share its approach to minimise its environmental footprint in key domains, alongside a presentation from the European Spallation Source (ESS) on environmental management during its post-construction phase.

Safe and sound

Safety experts from research infrastructures across the world met and shared their latest experiences and insights.

Sessions including continuous improvements in health and safety, fire safety, equipment certification, incidents and lessons learned, risk assessment and technical risks unfolded during the week, ending with new projects and challenges, safety culture and behaviour, and safety training.

"Listening to your colleagues from other research institutes on occurred events, lessons learned and recent developments in safety assessment is the pure essence of the ITSF," said Peter Jakobsson, head of environment, safety, health and quality at ESS and member of the ITSF organising committee, who chaired the "Incidents and lessons learned" session. "We openly share information in different subject safety areas such as fire hazards, handling of chemicals and inspection of pressurised equipment. In doing so, we all learn from each other to create a safe work environment for our staff and scientific users: a true sign of the safety culture that we all strive for."

In addition to a rich programme of presentations, the event featured an interactive fire workshop in which participants shared ongoing projects and challenges related to fire safety in accelerator facilities. CERN also shared its experiences of the fire-induced radiological integrated assessment (FIRIA) project, whose objective is to develop a general methodology for assessing the fire-related risks present in CERN's facilities and to provide a forum to keep experts connected and updated. Participants also enjoyed visits of the installations, complemented with a tour of the CERN safety training centre in Prévessin on the final day.

"This event gave us the possibility to share our knowledge through presentations but also through networking breaks, visits and social events," said Yves Loertscher, head of the CERN occupational health and safety group and organiser of this year's ITSF event. "After a break of almost three years owing to the pandemic, it is a pleasure to interact directly with peers again and share new ways of thinking and acting in matters of occupational health and safety and environmental protection."

Anna Cook *CERN.*

EURO-LABS

Simplifying research across borders

European Laboratories for Accelerator Based Sciences (EURO-LABS) aims to provide unified transnational access to leading research infrastructures across Europe. Taking over from previously running independent programmes, it brings together the nuclear physics, high-energy accelerator and high-energy detector R&D communities. With 33 partners from European countries, EURO-LABS forms a large network of laboratories and institutes ranging from modest-sized test infrastructures to large-scale ESFRI facilities such as SPIRAL2. Its goal is to enable research at the technological frontiers in accelerator and detector development, and to open wider avenues in both basic and applied research in diverse topics from the optimal running of reactors to mimicking reactions in the stars. Within this large network, EURO-LABS will ensure diversity and actively support researchers from different nationalities, gender, age, grade and variety of professional expertise.

Sharing information to support users at test facilities is pivotal

Sharing information to support users at test facilities is pivotal. Targeted improvements such as new isotope-enriched targets for high-quality standard medical radioisotope production, improved beam-profile monitors, or magnetic-field measurement instruments in cryogenic conditions will further enhance the capabilities of facilities to address the challenges of the coming decades. Through an active and open data-management plan following the FAIR principle, EURO-LABS will act as a gateway for information to facilitate research across disciplines and provide training for young researchers.

Funded by the European Commission, EURO-LABS started on 1 September and will run until August 2026. At the kick-off meeting, held in Bologna from 3 to 5 October, presentations offered a detailed overview of the research infrastructures and facilities providing particle and ion beams at energies from meV to GeV. Exchanges during the meeting gave participants a view of the strengths and synergies on offer, planting the seeds for fruitful collaborations.

Prospects for testing and developing techniques for present and future accelerators were among the highlights of the meeting. In the high-energy accelerator sector, this requires state-of-the-art test benches for cryogenic equipment such as magnets, superconducting cavities and associated novel materials, electron and plasma beams, as well as specialised test-beam facilities. Facilities at CERN, DESY and PSI, for example, allow the study of performances and radiation effects on detectors for the HL-LHC and beyond, while also enabling nuclei to be explored under extreme conditions. Benefiting from past experiences, a streamlined procedure for handling transnational-access applications to all research infrastructures across the different fields of EURO-LABS was defined.

On the last day of the meeting, the consortium's governing board, chaired by Edda Gschwendtner (CERN), met for the first time. The governing board further appointed Navin Alahari (GANIL, France) as EURO-LABS scientific coordinator, Paolo Giacomelli (INFN-BO, Italy) as project coordinator, Maria Colonna (INFN-LNS, Italy), Ilias Efthymiopoulos (CERN) and Marko Mikuz (Univ. Ljubljana, Slovenia) as deputy scientific coordinator and deputy work-package leader, and Maria J G Borge (CSIC, Spain) and Adam Maj (IFJ, Poland) as work-package leaders.

With all the facilities declaring their readiness to receive the first transnational users, the next annual meeting will be hosted by IFJ-PAN in Krakow, Poland.

Ilias Efthymiopoulos *CERN.*

Synergy *Attendees of the EURO-LABS kick-off meeting mapped out a strategy for a European transnational access programme.*

CERNCOURIER
VOLUME 63 NUMBER 1 JANUARY/FEBRUARY 2023
IOP Publishing

- EURO-LABS article on kick-off meeting in CERN Courier
  - Issue January/February 2023
- Further articles to follow on highlights of TA projects
- Facility videos coordinated by **WP1**

… details in the WP3-Task presentations tomorrow

Next Steps

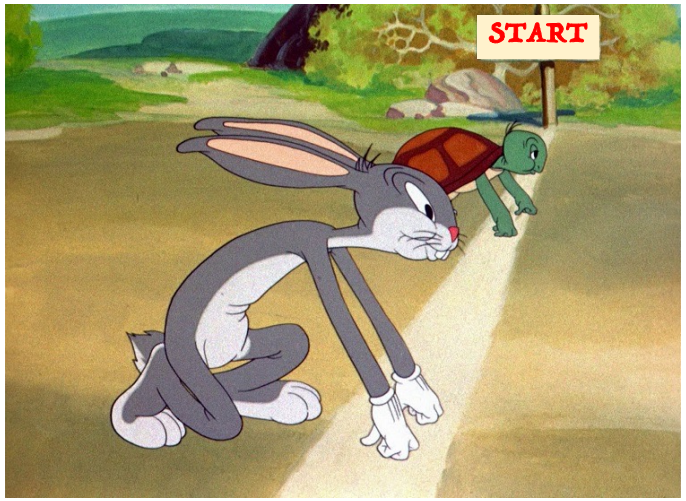
- Work to finalize our part on the Period-1 Report
- Achieve cruising speed on TAs and implement Service Improvements
  - **MS18**: Majority of TAs attributed,
  - **MS20** : Services improvements implemented for August'25
- **Deliverables** ahead

DELIVERABLES

D#	Task	Deliverable Name	Due date	Leader	Type
D3.1	3.1	Report on the progress of TA for Material Testing RIs	28 Feb 2026	CERN	Report
D3.2	3.2	Report on the progress of TA for Technology Infrastructure RIs	28 Feb 2026	CEA	Report
D3.3	3.3	Report on the progress of TA for Electron and Plasma Beam RIs	28 Feb 2026	INFN	Report
D3.4	3.4	Report on the progress of TA for Application oriented RIs	28 Feb 2026	INCT	Report
D3.5	3.1	Report on the service improvement for material testing RIs	31 Aug 2025	CERN	Report
D3.6	3.2	Report on the service improvements for Technology Infrastructures	31 Aug 2025	CEA	Report
D3.7	3.3,3.4	Report on the service improvement for electron and plasma beams	31 Aug 2025	INFN	Report

Note:

Success is a marathon, not a sprint;



…and we all know well how the story ends!