

HORIZON-INFRA-2021-SERV-01-07: Research infrastructures services advancing frontier knowledge

EUROpean- Laboratories for Accelerator Based Sciences

EURO-LABS NOT Eurolabs

The super community of sub-atomic researchers and the associated technical staff of Europe

A. Navin

Grand Accélérateur National d'Ions Lourds



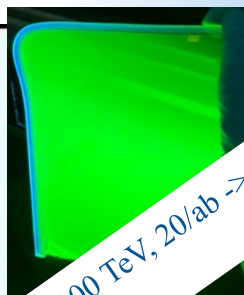
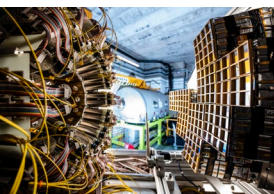
This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101057511.



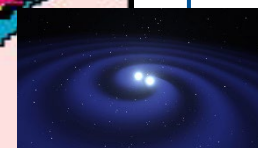


To boldly go where no one has gone before

New elements
Today $Z=118$
Searching: $Z=119, 120$



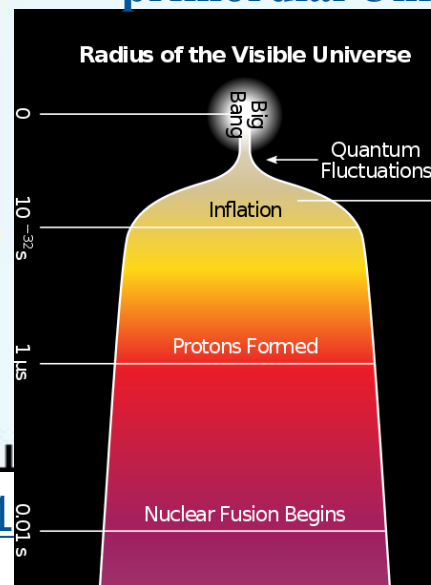
Creation of New isotopes $^{23}\text{Na} \dots ^{39}\text{Na}$
RIB New physics



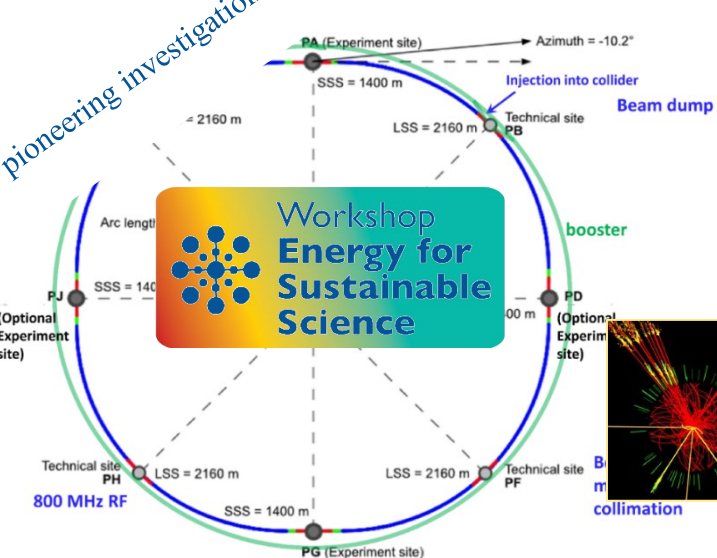
*Creation of Heavy elements
Au, Pt in the universe*

Higgs boson in the primordial Universe

QCD



1 5 10
Neutron Number



Where are we going

Pioneering proposal in Europe

Brings together three communities engaged in *Nuclear Physics and accelerator/detector technology for High Energy Physics*

To fostering the sharing of knowledge and technologies across scientific fields.

How

Efficient access to the improved available resources at a major fraction of EUROpean Laboratories for Accelerator Based Sciences

For the best science and developing technology for tomorrow

By a large and diverse community of users to choose the most appropriate state-of-the-art Research infrastructures RI(s)

Implementation of good practices for data management

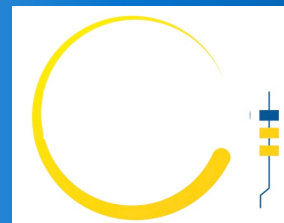
Provide broad and focussed joint training activities with hands-on experience at the RI's to develop diverse skills of the next generation researchers, for the optimal use of the large number of RIs potential for scientific and technological discoveries and beyond

EURO-LABS will build the foundations to create synergies and collaborations between the RIs of the Nuclear and High Energy communities, enhancing Europe's potential for successfully facing the upcoming new challenges of the coming decades.

The goal is **Build a super community of sub-atomic researchers and the associated technical staff.**

PARTNERS (beneficiaries/associate)





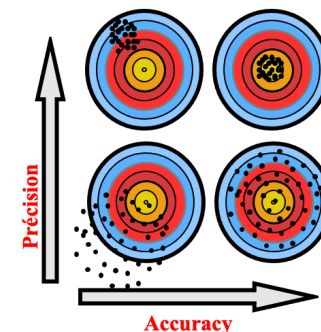
Tandems 1 MV 1MV 2MV 3MV 3MV 6MV 9MV 15MV 16MV, Unilac
Tandetrans 1MV 1MV 3MV
VAN de GRAFF 2.5MV 7.0MV
Cyclotrons K= 16.5 30, 40 70 110 144 160 230 380,380 265 800 160
SC LINAC X 3, Far infra red
PS SPS SIS
Storage rings CRY KARA
e- 10 MeV 200 140 780 MeV 50MeV/c, 6 GeV

Thermal, Fast neutrons meV GeV
μons
π 200, 350
Swimming pool reactor
TBq Source
LASERS 100 250 TW 10PW

Acc, technologies centre
SC Magnets Acc. structures, characterization

Detectors

Name and we have it
gas, Si, scintillators, new materials, spectrometers ...



Bringing Life to science

Start of the project Sept 1

Preparation ongoing.

Please plan in advance the internal organization

e.g. the hiring of people so that they can start in Sept/Oct if requested for the first year.

Inform people that the TNA access can start from Sept 1st this year.

Representatives to Governing Board

First meeting of Governing Board 5/10/22

EURO-LABS KOME

KickOff MEeting

Monday 3rd afternoon to 5th evening October 2022 Bologna, Italy

Management Team and Steering Committee

European Research Executive Agency
Project officer
Jan 2022 - Feb 2023 RAD Oana
Feb 2023 - Angela LAHUERTA MARIN

- ✓ Official Appointed
- ✓ Work Package and Task leaders
- ✓ Steering Committee
- ✓ Management team

Scientific coordinator



A. NAVIN
GANIL



Adam Maj, IFJ
WP2



Maria Borge, CSIC
WP5



Deputy Scientific coordinator

Deputy Scientific coordinator

Deputy Scientific coordinator

Project office Manager



M. COLONNA
INFN-LNS (Catania)



I. EFTHYIOPOULOS
CERN



M. MIKUZ
Univ. Ljubljana



PAOLO GIACOMELLI
INFN Bologna



The Project Office will be organised by INFN Bologna with the collaboration of CERN.

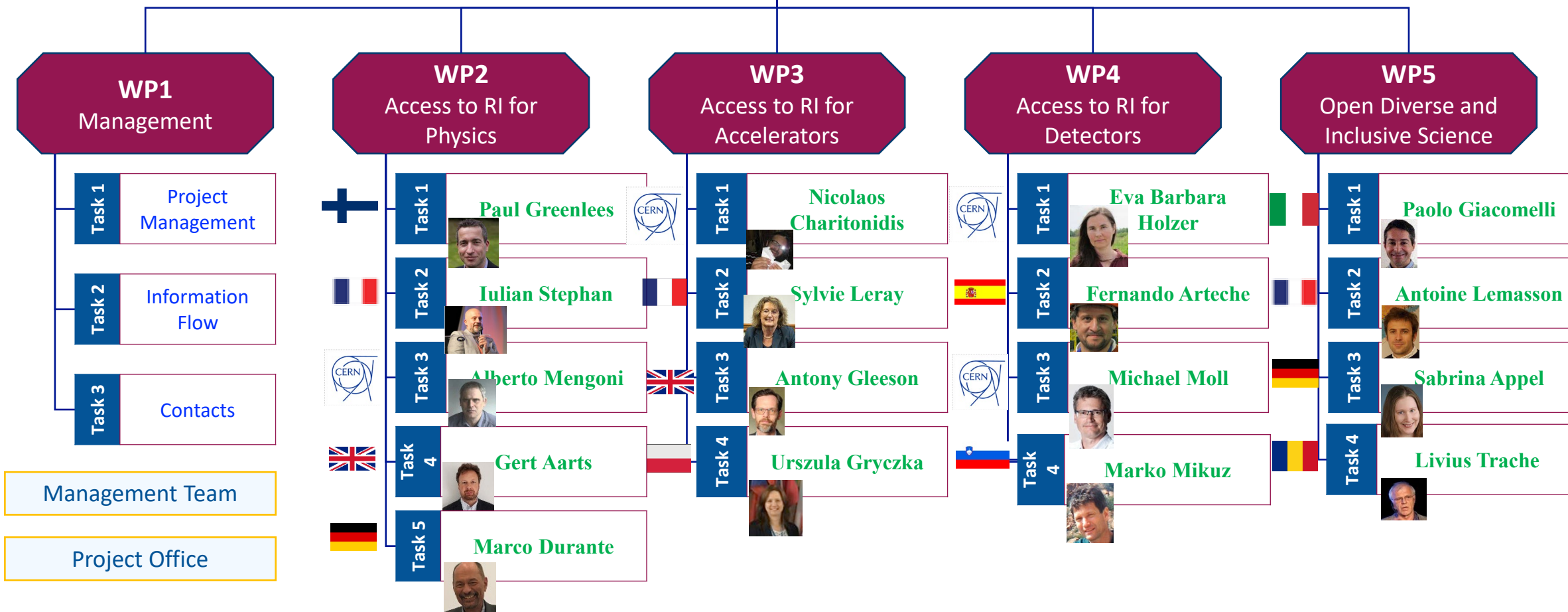


Barbara Pezzotta
INFN

Meet every 2 months

Governing Board

Scientific Coordinator (GANIL) + 3 Deputies
Project Coordinator and Office: INFN



Service improvement

WP4

- **4.4.1:** Data base handling of beam time and irradiation requests (4.1.1 CERN TB, 4.3.1 IRRAD & 4.3.2 GIF++)
- **4.4.2:** Precision motion stages for large detector setups (4.1.2 DESY test beams)
- **4.4.3:** Beam monitor (4.1.3 PSI test beams)
- **4.4.4:** Ion beam focusing lens (4.2.1 RBI-AF)
- **4.4.5:** Cooling System and Graphical User Interface for EMC test station (4.2.2 ITAinnova)
- **4.4.6:** Beam profile monitor (4.3.1 CERN IRRAD)
- **4.4.7:** Cadmium shielding in the tangential channel (4.3.3 JSI TRIGA)
- **4.4.8:** 2-D scanning table for irradiation (4.3.4 IFJ-PAN AIC-144)
- **4.4.9:** Test chamber for the heavy ions irradiation facility (4.3.5 UCL CRC)
- **4.4.10:** Scanning system upgrade for high fluence delivery (4.3.6 UoB MC40)

WP3

HiRadMAt @ CERN : study to use a lower energy extracted beam from SPS (down to 20 GeV if possible) that would open interest for MC studies.

FREIA @ Uppsala : new electronics for RF powers to increase the offer of frequencies not just the ones of LHC. Interesting for MURRHA cavities or others, Tools to measure online the magnetic field of the magnets while tested at cold.

KARA +FLUTE @ KIT : Simulation, measurement and data management framework, basically a framework for experiment preparation and data analysis for the users of the facilities - potentially exported to other facilities beyond KIT

WP2

2.5
Service Improvements
<i>Streamlined procedures. +Remote access</i>
<i>Bio medical</i>
Ion source improvements
Target developments
Traveling detectors (γ)

Chairperson: Edda Gschwendtner (CERN)



Paolo Giacomelli
Alessia di Pietro



Patricia Roussel
Chomaz



Edda Gschwendtner



Marko Mikuž



Bogdan Fornal



Marcel Stanitzki



Eduardo Cortina Gil



Stjepko Fazinić



Jonathan Wilson



Gert Aarts



Fernando Arteché



Paweł J.
Napiorkowski



Christoph
Scheidenberger



Alexandru Negret



Manuela Rodriguez
Gallardo



Victoria Corregidor
Berdasco



Zsolt Dombradi



Paul Greenlees



Akira Miyazaki



Franck Sabatié



Robert Ruprecht



Peter Dendooven



Urszula Gryczka



María José G. Borge



Gianluca Colò



Tilman Rohe



Tomohiro Uesaka



Remco Zegers



Thomas Kormoll



Daniel Galaviz Redondo



Salvatore Fiore



Laura Gonella



Anthony Gleeson

Ex-officio members:

Scientific coordinator	Navin Alahari (GANIL)
Project coordinator	Paolo Giacomelli (INFN)
Deputy Scientific coordinator	Maria Colonna (INFN)
Deputy Scientific coordinator	Ilias Efthymiopoulos (CERN)
Deputy Scientific coordinator	Marko Mikuž (JSI)
Steering Committee Member	María José G. Borge (CSIC)
Steering Committee Member	Adam Maj (IFJ-PAN)
Project Office Support	Barbara Pezzotta (INFN)

1st GB Meeting in Bologna, 5th October 2022:

- ✓ Election of the Chairperson Official Appointment of the Management Team members
- ✓ Official Appointment of the Work Package and Task leaders
- ✓ Official Appointment of the Steering Committee
- ✓ Grant Agreement budget approval
- ✓ Eligibility criteria

Chairperson

Edda Gschwendtner CERN

Project leader

AWAKE (Advanced WAKEfield Experiment)

	Affiliation	Name	Delegate to		Affiliation	Name	Delegate to
1	INFN	Paolo Giacomelli		21	CEA	Franck Sabatié	
2	INFN	Alessia di Pietro		22	KIT	Robert Ruprecht	
3	GANIL	Patricia Roussel Chomaz		23	UMCG	Peter Dendooven	Alexander Gerbershagen
4	CERN	Edda Gschwendtner		24	INCT	Urszula Gryczka	
5	JSI	Marko Mikuz		25	CSIC	Maria Jose Garcia Borge	Maria Colonna
6	IFJ PAN	Bogdan Fornal		26	UMIL	Gianluca Colò	
7	DESY	Marcel Stanitzki	Adrian Herkert	27	PSI	Tilman Rohe	
8	UCLouvain	Eduardo Cortina Gil		28	RIKEN	Tomohiro Uesaka	Navin Alahari
9	RBI	Stjepko Fazinić		29	MSU	Thomas Glasmacher	
10	CNRS	Jonathan Wilson		30	TUD	Thomas Kormoll	
11	FBK - ECT*	Gert Aarts		31	LIP	Daniel Galaviz Redondo	
12	ITAINNOVA	Fernando Arteché		32	ENEA	Salvatore Fiore	Alberto Mengoni
13	UNIWARSAW	Paweł J. Napiorkowski		33	UoB	Laura Gonella	
14	GSI	Christoph Scheidenberger	Magdalena Gorska-Ott	34	UKRI		
15	IFIN-HH	Alexandru Negret					
16	USE	Manuela Rodriguez Gallardo					
17	IST	Victoria Corregidor Berdasco					
18	ATOMKI	Zsolt Dombradi					
19	JYU	Paul Greenlees					
20	UU	Akira Miyazaki					



KICK-OFF MEETING
Bologna
October 3rd -October 5th, 2022



Kick Off Meeting – European Laboratories for Accelerator Based Sciences
KOM EURO-LABS
3rd-5th Oct 2022

- DAY 2

80 people
Talks on the web

DAY 3

Activity	Location	Time	Speaker
WP4 - Task 4.1 Test Beams	Zanhotel Europa, Bologna	12:00 - 12:15	Eva Barbara Holzer
WP4 - Task 4.2 Detector Characterization	Zanhotel Europa, Bologna	12:15 - 12:30	Fernando Arteché
WP4 - Task 4.3 Irradiation Facilities	Zanhotel Europa, Bologna	12:30 - 12:45	Laura Gonella
WP4 - Task 4.4 Service Improvements	Zanhotel Europa, Bologna	12:45 - 13:00	Marko Mikuz
EURO-LABS Photo and Lunch			
EURO-LABS TA and Website	Zanhotel Europa, Bologna	09:00 - 09:30	Paolo Giacomelli
WP5 - Task 5.2 Open Science and Data management	Zanhotel Europa, Bologna	09:30 - 09:50	Antoine Lemaître
WP5 - Task 5.1 Dissemination	Zanhotel Europa, Bologna	09:30 - 09:50	Paolo Giacomelli
WP5 - Task 5.3 Machine Learning	Zanhotel Europa, Bologna	09:30 - 09:50	Sabrina
Discussions and summary			
Discussions: Facility coordinators			
Coffee Break	Zanhotel Europa, Bologna	10:40 - 11:10	
GB Agenda items			
Summary of Plan of actions for a good start	Zanhotel Europa, Bologna	17:00 - 17:30	Maria C...
Discussions: WP meetings			

How to apply for Transnational Access

Eligibility criteria

How to apply

WP2 – TA to RIs for Nuclear
Physics

WP3-TA to RIs for Accelerators

WP4-TA-to RIs for Detectors

Step 1 – Initial contact

Contact the facility coordinator for the facility you are interested in with brief details of your proposal. This step will ensure that your experiment is doable and that you are eligible for TA support before you go through the formal application procedure.

Facility Coordinators contacts:

[Research Infrastructures for Nuclear Physics \(WP2\)](#)

[Research Infrastructures for High Energy Accelerators \(WP3\)](#)

[Research Infrastructures for HEP Detectors \(WP4\)](#)

Step 2 – Experiment proposal Submission (if applicable)

Please follow the instruction in the Call of Proposals for given facility

Step 3 – Proposal evaluation and beam time allocation (if applicable)

The experiment proposal will be evaluated by the facility advisory/supervisory committee. You will be informed about the recommendations and about the beam time scheduling of your experiment, if accepted

Step 4 – Application for the TA support

The User group leader (spokesperson of the experiment) should fill:

- the application form ([Word](#), [PDF](#)) for transnational access;
- the information request form [TA-application-data.xlsx](#) with the information of the people in the research group.

Please contact the facility coordinator with any questions you have about this step. Once completed send your application form and the file with information about the research group to the given facility coordinator.

In case of troubles to access the forms, please send an email to euro-labs@lists.infn.it.

Step 5 – Selection Procedure

The selection of user groups and experiments is primarily the responsibility of the facility coordinator, acting with approval of the User Selection Panel. Selection criteria are specified here: [link](#). You will be informed whether and to which extent your request was approved.

Step 6 – Access and reimbursement

Reimbursement is handled by each facility, in line with facility rules. Users should complete a confirmation of transnational access form, as well as a facility-specific reimbursement form and return them to the facility coordinator. Details of reimbursement can be found on the information page for each facility.

Step 7 – Publications

Publications are required to acknowledge the EURO-LABS project: *This project has received funding from the European Union's Horizon Europe Research and Innovation programme under Grant Agreement No 101057511 (EURO-LABS).*



The Project

Completed Deliverables - Milestones



MS#	Milestone Name	WP	Task	Planned Delivery month	Delivery date (expected/actual)	Status	Comments
MS1	Consortium Agreement signed	WP1	1.1	1		Achieved	
MS13	Production of a report to define the state of the art in the field (targets for NP) and collect the requests from the community	WP2	2.5	3	12 Dec 2022	Achieved	Report on the state of the art of target activities for Nuclear Physics
MS2	Preparation of calls for submission of proposals to stable beam access facilities completed	WP2	2.1	6	28 Feb 2023	Achieved	Report on MS2-Calls of proposals for access to Stable Beam RIs
MS4	Preparation of the call for submission of projects to access each of the RIs providing radioactive-ion beams	WP2	2.2	6	28 Feb 2023	Achieved	Report on MS4-Calls of prop. for TA to Radioactive-Ion Beams RIs
MS6	Preparation of the call for submission of projects to access each of the RIs providing neutron beams	WP2	2.3	6	28 Feb 2023	Achieved	Report on MS6-Calls of proposals for access to Neutron Beams RIs
MS17	RIs ready for TAs	WP3	3.2,3.4	6	28 Feb 2023	Achieved	Report on MS17-WP3 RIs ready for Transnational Access
MS19	Work on service improvements started	WP3	3.2,3.4	6	28 Feb 2023	Achieved	Report on MS19-WP3 Work on Service Improvements started
MS38	Firefox Training Scientific Board	WP5	5.4	6	20 Feb 2023	Achieved	Report on the Selection of the Training Scientific Board



Abstract:
The present document reports on the state-of-the-art in the field of targets for Nuclear Physics and collect the requests from the institutions participating in the first phase of the WP2-5-2 work package of EURO-LABS.

Up coming Deliverables - Milestones



MS37	The source code of the ML toolkit prototype is available on a shared platform	WP5	5.4	8	30 Apr 2023
MS15	Conceptual plan for online monitoring of long-term operation beam stability	WP2	2.5	12	31 Aug 2023
MS24	Development and test of the first prototype of the system	WP4	4.4.1	12	31 Aug 2023
MS28	Upgrade BPM DAQ	WP4	4.4.6	12	31 Aug 2023
MS32	Design and commissioning of the beam line (vacuum and test chamber)	WP4	4.4.9	12	31 Aug 2023
MS34	One third of the research infrastructures videos ready	WP5	5.1	12	31 Aug 2023
MS35	Definition of the catalogue perimeter, architecture, and standards. Release of terms of reference	WP5	5.2	12	31 Aug 2023

4 November 2022

Coming up a one page report in Nuclear Physics News

Physics ▾ Technology ▾ Community ▾ In focus Magazine



POLICY | MEETING REPORT

Research across borders

4 November 2022



Attendees of the EURO-LABS's kick-off meeting mapped out the strategy for a European transnational access programme to foster knowledge transfer. Credit: EURO-LABS.

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, the high-energy accelerator, and the 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 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.

Venues for Dates of Annual Meetings. Generally Late September- Early October

2023 IFJ Krakow 2023 (WP2) (**SAM EURO-LABS**)

2024: CERN (WP3)

2025: Ljubljana (WP4).

2026: France (GANIL) **June** well before closure of the project

Second Annual Meeting (SAM) of EURO-LABS

9th afternoon to 11th afternoon of October 2023 and will be hosted by IFJ PAN.: *Adam Maj et al.*

During the meeting the activities in the first year of EURO-LABS will be analysed and the strategy and goals for the next year will be discussed.

There will be a vibrant exchange of ideas towards to further improve the cross fertilization and avenues for future collaborations among the communities.

During **SAM EURO-LABS** the first annual report of EURO-LABS will be finalized and submitted.



Hvala za vaš čas in pozornost

