



EC Funded program to promote **Transnational Access to Research Infrastructures
for **Nuclear and Particle Physics (Accelerators & Detector) R&D****

HORIZON-INFRA-2021-SERV-01-07 - Research Infrastructures Services Advancing Frontier Knowledge

Grant Agreement 101057511 – EURO-LABS

EURO-LABS - WP3 Meeting – 05.09.2022

EURO-LABS Project

Status – next steps

**Project accepted
by EC**

Jan 18, 2022

Project start-up

September 1, 2022

Preparation of
GA, CA, signatures
Feb-May, 2022

Kick-off Meeting

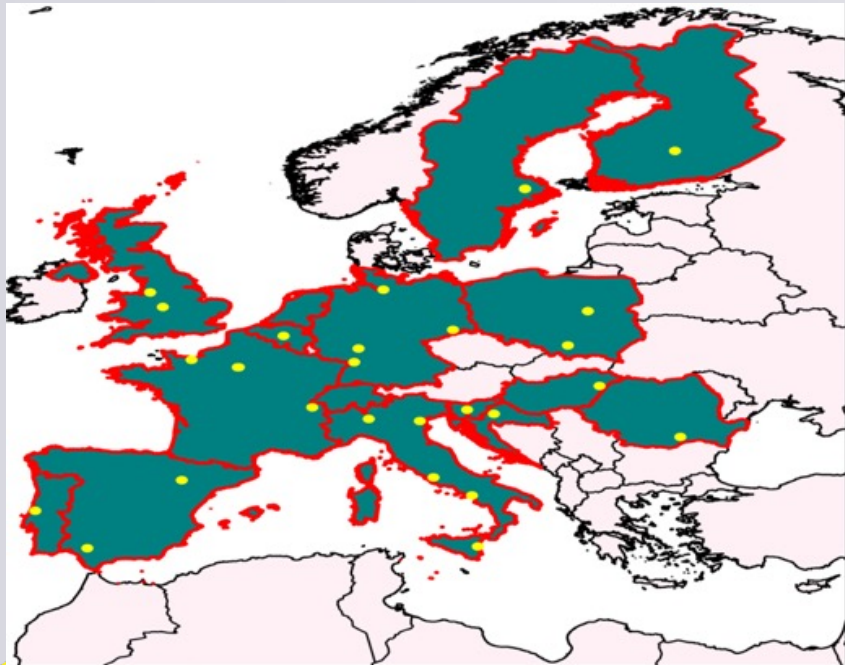
October 3-5, 2022

- Resolved issues with Associate Partner Laboratories : UK, CH, USA, PT, JPN, DE, IT

EURO-LABS Consortium

Close Look

- **33** participating Laboratories
- Access to **43** Research Infrastructures (RIs)
- Spread in **12** countries across Europe



Beneficiaries	Coord	1	INFN	ISTITUTO NAZIONALE DI FISICA NUCLEARE	IT
		2	GANIL	GRAND ACCELERATEUR NATIONAL D'IONS LOURDS	FR
		3	CERN	ORGANISATION EUROPEENNE POUR LA RECHERCHE NUCLEAIRE	CH
		4	JSI	INSTITUT JOZEF STEFAN	SI
		5	IFJ PAN	THE HENRYK NIEWODNICZANSKI INSTITUTE OF NUCLEAR PHYSICS, POLISH ACADEMY OF SCIENCES	PL
		6	DESY	DEUTSCHES ELEKTRONEN-SYNCHROTRON DESY	DE
		7	UCL	UNIVERSITE CATHOLIQUE DE LOUVAIN	BE
		8	RBI	RUDER BOSKOVIC INSTITUTE	HR
		9	CNRS	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS	FR
		10	FBK	FONDAZIONE BRUNO KESSLER	IT
		11	ITAINNOVA	ISTITUTO TECNOLOGICO DE ARAGON	ES
		12	UNIWARSAW	UNIWERSYTET WARSZAWSKI	PL
		13	GSJ	GSJ HELMHOLTZZENTRUM FUR SCHWERIONENFORSCHUNG GMBH	DE
		14	IFIN-HH	INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE PENTRU FIZICA SI INGINERIE NUCLEARA-HORIA HULUBEI	RO
		15	USE	UNIVERSIDAD DE SEVILLA	ES
		16	IST	INSTITUTO SUPERIOR TECNICO	PT
		17	Atomki	ATOMMAGKUTATO INTEZET	HU
		18	JYU	JYVASKYLAN YLIOPISTO	FI
		19	UU	UPPSALA UNIVERSITET	SE
		20	CEA	COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES	FR
		21	KIT	KARLSRUHER INSTITUT FUER TECHNOLOGIE	DE
		22	UMCG	ACADEMISCH ZIEKENHUIS GRONINGEN	NL
		23	INCT	INSTYTUT CHEMII I TECHNIKI JADROWEJ	PL
		24	CSIC	AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	ES
		25	UMIL	UNIVERSITA DEGLI STUDI DI MILANO	IT
Associated Partners		26	PSI	PAUL SHCERRER INSTITUT	CH
		27	RIKEN	RIKEN THE INSTITUTE OF PHYSICAL AND CHEMICAL RESEARCH	JP
		28	MSU	MICHIGAN STATE UNIVERSITY	US
		29	TUD	TECHNISCHE UNIVERSITAET DRESDEN	DE
		30	LIP	LABORATORIO DE INSTRUMENTACAO E FISICA EXPERIMENTAL DE PARTICULAS LIP	PT
		31	ENEA	AGENZIA NAZIONALE PER LE NUOVE TECNOLOGIE, L'ENERGIA E LO SVILLUPPO ECONOMICO SOSTENIBILE	IT
		32	UoB	THE UNIVERSITY OF BIRMINGHAM	UK
		33	UKRI	UNITED KINGDOM RESEARCH AND INNOVATION	UK

EURO-LABS Consortium Management Team



N. ALAHARI
GANIL

Scientific Coordinator



P. GIACOMELLI
INFN-BO



Project Office Manager

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

WP2 – Access for Physics

WP3 – Access for Accelerators

WP4 – Access for Detectors

WP5 – Open Diverse and Inclusive Science



M. COLONNA
INFN-LNS

Deputy Scientific Coordinator



A. MAJ
IFJ



I. EFTHYIOPOULOS
CERN

Deputy Scientific Coordinator

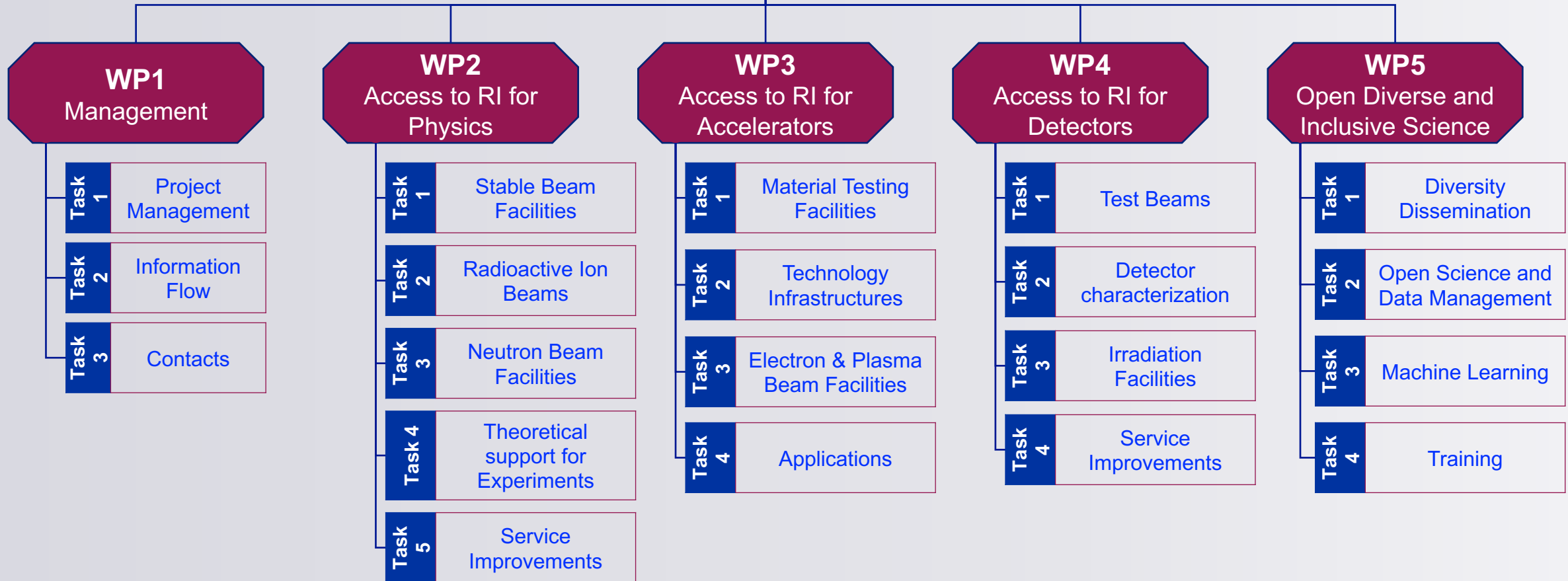


M. MIKUZ
Univ. Ljubljana

Deputy Scientific Coordinator



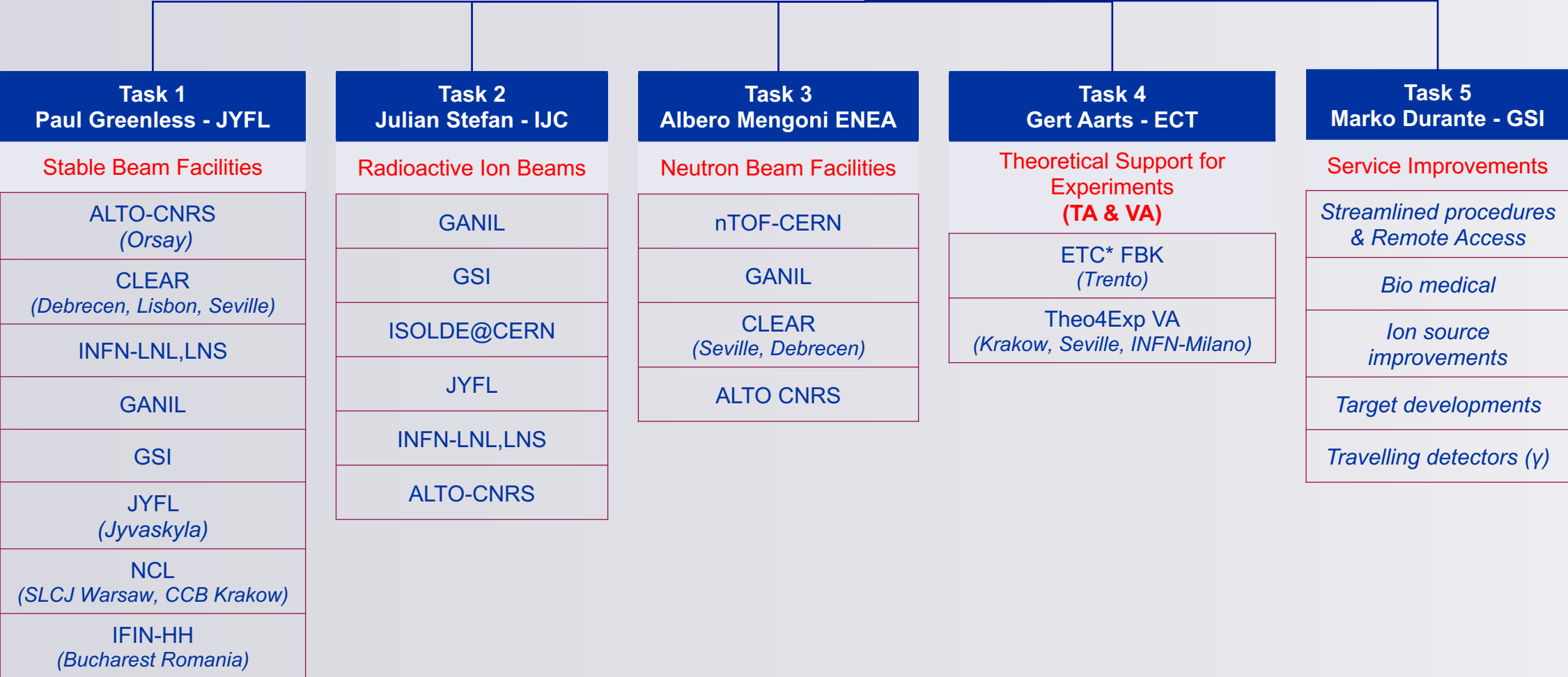
M-J. GARCIA BORGE
CSIC



WP2
Access to RI for
Physics



WP Coordinators: **M. Colonna, A. Maj**



WP3
Access to RI for Accelerators

WP Coordinator: **I. Efthymiopoulos**

Task 1
N. Charitonidis - CERN

Material Testing Facilities

HiRadMat@SPS^(*)

Task 2
Sylvie Leray - CEA

Technology Infrastructures

- FREIA^(*)
(Univ. Uppsala)
- INFN –LASA^(*)
(Milano)
- INFN-THOR^(*)
(Univ Salerno)
- IJCLAB SUPRATECH
- CEA Irfu-Synergium^(*)
- XBOX CERN

Task 3
Anthony Gleesson - STFC

Electron Beam Facilities

- KIT-ALFA (ANKA+FLUTE)^(*)
- VELA/CLARA
(Univ. Daresbury)
- INFN – BTF Frascati
- INFN – SPARC Frascati
- CEA LiDyl LPA-UH100^(*)

Task 4
Urszula Gryczka - INTC

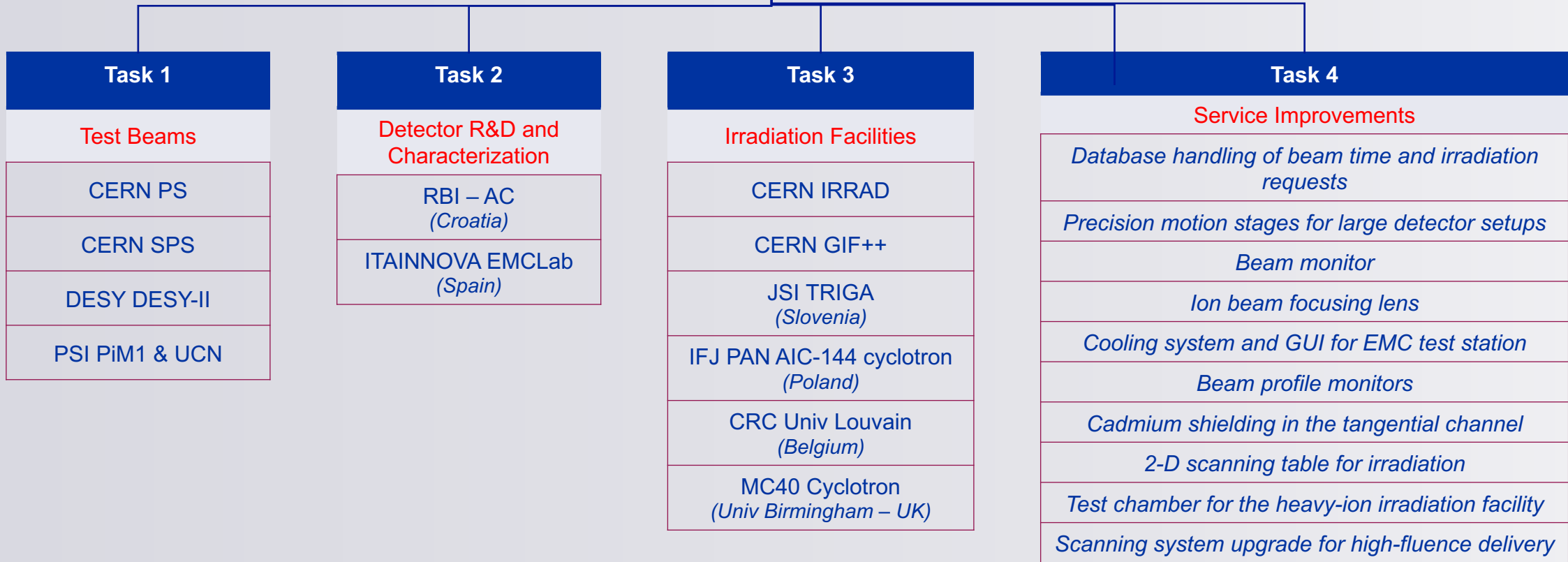
Applications

- INTC –RAPID
(Warsaw)
- CLEAR CERN

▪ ^(*) budget for service improvements assigned

WP4
Access to RI for Detectors

WP Coordinator: **M. Mikuz**



WP5
Open Diverse and
Inclusive Science

WP Coordinator: **M-J. Garcia Borge**

Task 1
P. Giacomelli – INFN-BO

**Diversity and
Dissemination**

Across fields participation
Tech and Info exchange in
the use and potential of
the Nuclear and HE
facilities
Applications outside the
field

Task 2
Antoine Lemasson - GANIL

Open Data

Data availability from the
facilities

Task 3
Sabrina Appel - GSI

Machine Learning

Innovative applications
of ML techniques to
beam control

Task 4
Livius Trache - NIPNE

Training

Hands-on training of
University and
Graduate students as
well as Researchers to
the facilities
Learn how to optimally
exploit their potential

EURO-LABS

Project

Web page : <https://web.infn.it/EURO-LABS/>

- Work in progress
- Sub-pages per WP with the RIs
 - Need to provide material and make sure the information in each facility is complete and correct
- Next event : KOM 3-5/10 @ Bologna
 - <https://agenda.infn.it/event/32088/>

The screenshot displays the EURO-LABS website. At the top, there is a navigation bar with the EURO-LABS logo and links for 'EURO-LABS', 'About', 'Activities', 'Milestones', 'Transnational Access', 'Events', and 'Contacts'. The main content area features the EURO-LABS logo and the text 'EUROPEAN LABORATORIES FOR ACCELERATOR BASED SCIENCES'. Below this, the 'WHO WE ARE' section describes the consortium of thirty-nine Research Infrastructures (RIs) from twelve countries in Europe. The 'OUR GOALS' section is divided into three columns: 'Access', 'Infrastructure', and 'Data Management'. The 'Access' goal is to provide efficient access to available resources. The 'Infrastructure' goal is to support a large and diverse community of users. The 'Data Management' goal is to implement good practices for data management. At the bottom, there is a calendar event for 'Kick Off Meeting – European Laboratories for Accelerator Based Sciences' on 03-05 Oct 2022, from 14:00 to 16:00.

EURO-LABS

Kick-Off Meeting – WP3 Contributions

- **Monday PM : WP3 Access to RI for Accelerators (*I. Efthymiopoulos*)**
 - General description of the WP, goals within EURO-LABS – new facilities
 - Connection to ongoing Accelerator R%D projects
 - Review past experience, what can be improved now
 - Organization : USP, handling of requests
 - WP3 input to WP5
- **Tuesday AM : WP3 Task Leaders (*N.Charitonidis, S. Leray, A. Gleeson, U. Cryczka*)**
 - Presentation of facilities in more detail – technical aspects, specialties
 - Targeted users, potential – possible collaboration/use by other WPs?
 - Handling or requests – organization of reporting to WPL/Project
- **WP3 Meeting Tuesday 17h30 – 18h30**

WP3 – Access to RI for Accelerator R&D

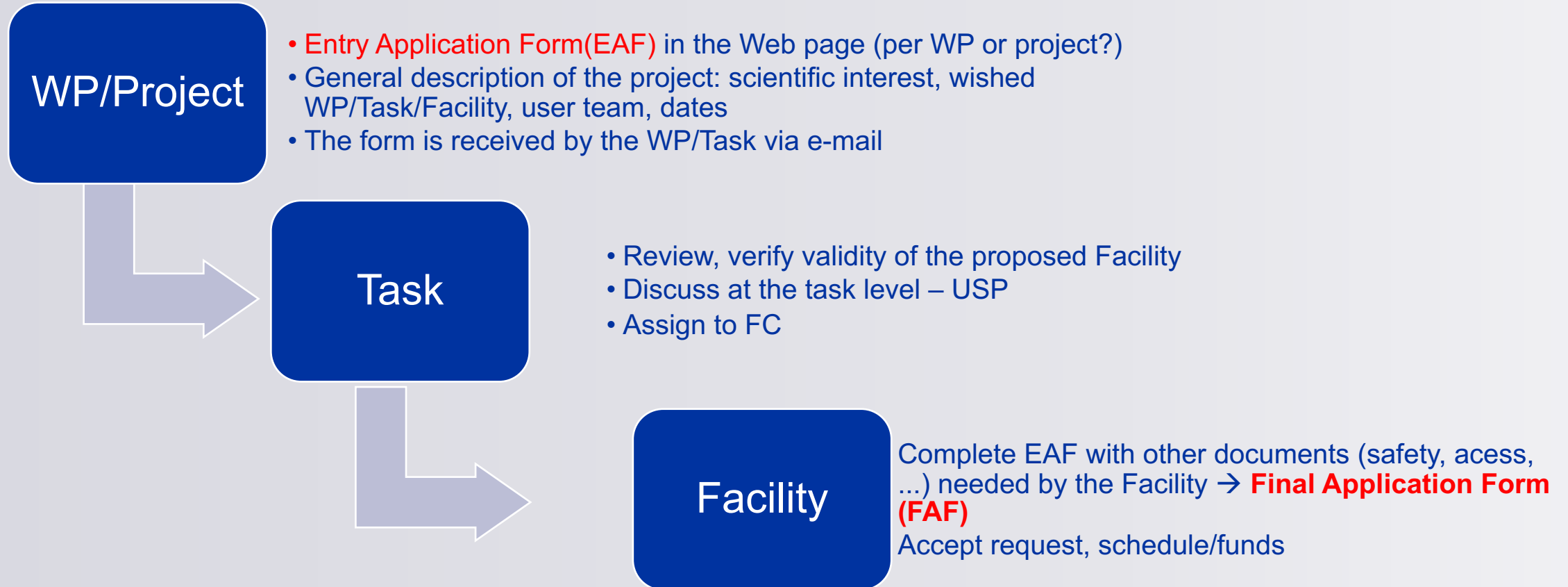
Organization

- Mailing list : euro-labs-wp3-fc@cern.ch, euro-labs-wp3-tl@cern.ch
- CERNbox space for document storage : <https://cernbox.cern.ch/index.php/s/DlCtHuBooLr3Gncx>
 - *A shared space for documents/reports at the project level will be provided by the PO*
- Issues to discuss – next slides:
 - Flow of TNA requests:
 - User Selection Panels (USP)
 - TNA forms and applications
 - WP3 organization

Trans-national Access

Access Applications

Forms & Approval Path



Trans-national Access

User Selection Panels

- USP/Task?
- How was done in the past?
- Membership?

Task	Task USP
3.1	Task
3.2	Task/Local
3.3	?
3.4	Local

Common review procedure to be used for user selection:

Each task in WP3 will have a User Selection Panel (USP), established at the beginning of the project. The members of the USP will be the Task Leader (chair), the Facility Coordinators (FC) of each RI, and international experts in the field, independent from the beneficiaries, up to one half of its members. The WP Coordinator will also be member of the USP, and to facilitate communication, avoid duplication of experiments, and direct experiments towards the most appropriate facility, the Task Leaders of the other tasks can attend the meetings as well. The user groups must request access by submitting (in writing) to the EURO-LABS WP3 Task USP a description of the work that they wish to carry out for testing of and the names, nationalities, and home institutions of the users. A web-based application procedure hosted in the EURO-LABS website provides an entry to EURO-LABS TA(or VA) of each RI. Requests are first reviewed by the FC of the corresponding RI that examines if they fit some basic technical criteria to be accepted, and then passed over to the USP for review and evaluation based on scientific excellence. In case of requests with the same scientific merit, priority will be given to new users and users coming from countries where such infrastructure is not available. Willing to

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Project: 101057511 — EURO-LABS — HORIZON-INFRA-2021-SERV-01

 Associated with document Ref. Ares(2022)4410236 - 15/06/20

promote the values of EURO-LABS, the mixed teams from different countries, different universities formed by senior and junior scientists or even with industrial partners would be given priority and stronger recommendations from the USP. Then the ranking of the proposals will be handed over to the Local Selection Committee (LSC) of each RI which will allocate access for each project and user. In case of incompatibility with the technical requirements or with the facility schedule, the LSC will have the right to refuse applications and send them back to the Task USP with recommendations for technical improvements or schedule changes. Typically, requests are handled on a yearly basis or other frequency defined by the USP; urgent requests will be evaluated ad-hoc. In case certain facilities receive an overwhelming number of excellent proposals, the USP may recommend some of the projects to be carried out at another facility.

Trans-national Access

Rules and conditions

Obligations

- The access must be **free of charge** trans-national access to research infrastructure or installations for selected user-groups.
- This access must include the logistical, technological and scientific support and the specific training that is usually provided to external researchers using the infrastructure.
- The access provider must **advertise widely**, including on a dedicated website, the access offered.
- The access provider must request written approval from the Commission for the selection of user groups requiring visits to the installation exceeding 3 months.

Selection Procedure

The user groups must be selected by a **selection panel** set up by the access providers, which:

- must be composed of **international experts** in the field, at least half of them independent from the beneficiaries.
- must **assess all proposals** received and recommend a short-list of the user groups that should benefit from access.
- must base its selection on **scientific merit**, taking into account that priority should be given to user groups composed of users who have not previously used the installation and are working in countries where no equivalent research infrastructure exist.
- will apply the principles of **transparency, fairness and impartiality**.

Courtesy : M Vretenar/ARIES

Trans-national Access

Financial conditions

Reimbursement of costs

Grants for this type of action may **reimburse** — for the provision of access activity — the following **types of costs**:

- ‘**access costs**’ (the operating costs of the research installation and costs related to logistical, technological and scientific support for users, including ad-hoc user training and the preparatory and closing activities needed to use the installation). ‘Access costs’ may be declared as unit costs, actual costs or — under certain conditions — as a combination of the two.
- users’ **travel and subsistence costs**
- costs of **advertising** the trans-national access offered under the action
- costs related to the **selection procedure** (e.g. the selection panel members’ travel and subsistence costs, logistical costs of meetings, fees, etc.)
- costs of **preparing** the detailed access activity information that must be included in the periodic technical reports.

Capital investments (i.e. equipment costs for renting, leasing, purchasing depreciable equipment, infrastructure or other assets)

will **NOT** be reimbursed.

Courtesy : M Vretenar/ARIES

Trans-national Access

Evaluation – Measure of success!

Trans-national access must be measured (in ‘units of access’ as defined in the proposal).

- The unit of access can be set per facility, but we can adopt a common unit: **one hour of beam**.
- The beneficiaries must **keep** appropriate **records** and supporting documentation to justify the number of units of trans-national access for which they declare costs, including:
 - users’ names, nationalities and home institutions
 - the nature of access and
 - the number of units of access provided.
 - In addition, they must include detailed information on the provision of access activity in the periodic technical reports.

*Users must **acknowledge the EU support** in their publications, web sites, etc. (standard acknowledgement sentence).*

Courtesy : M Vretenar/ARIES

EURO-LABS - Project

Milestones - Deliverables

Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D1.1	EURO-LABS website ready	WP1	1 - INFN	R — Document, report	PU - Public	6
D2.1	Report on Access to Stable Beam Facilities	WP2	18 - JYU	R — Document, report	PU - Public	46
D2.2	Report on Access to Radioactive-ion Beam Facilities	WP2	9 - CNRS	R — Document, report	PU - Public	46
D2.3	Report on the research activities and the main results obtained in each of the RI providing neutron beams	WP2	3 - CERN	R — Document, report	PU - Public	46
D2.4	Report on access to the Theory for Experiments facilities	WP2	10 - FBK	R — Document, report	PU - Public	46
D2.5	Report on the Service Improvements	WP2	13 - GSI	R — Document, report	PU - Public	36
D3.1	Report on the progress of TA for Material Testing RIs	WP3	3 - CERN	R — Document, report	PU - Public	42
D3.2	Report on the progress of TA for Technology Infrastructure RIs	WP3	20 - CEA	R — Document, report	PU - Public	42
D3.3	Report on the progress of TA for Electron and Plasma Beam RIs	WP3	1 - INFN	R — Document, report	PU - Public	42
D3.4	Report on the progress of TA for Application oriented RIs	WP3	23 - INCT	R — Document, report	PU - Public	42

EURO-LABS - Project

Milestones - Deliverables

Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D3.5	Report on the service improvement for material testing RIs	WP3	3 - CERN	R — Document, report	PU - Public	36
D3.6	Report on the service improvements for Technology Infrastructures	WP3	20 - CEA	R — Document, report	PU - Public	36
D3.7	Report on the service improvement for electron and plasma beams	WP3	1 - INFN	R — Document, report	PU - Public	36
D4.1	Report on the usage of Access Units for HEP detector R&D	WP4	4 - JSI	R — Document, report	PU - Public	46
D4.2	Report on the service improvements in WP4.4	WP4	4 - JSI	R — Document, report	PU - Public	46
D4.3	Report on the usage of Access Units for Irradiations	WP4	4 - JSI	R — Document, report	PU - Public	46
D4.4	Report on the service improvements in RIs for Detectors	WP4	4 - JSI	R — Document, report	PU - Public	46
D5.1	All research infrastructures videos completed	WP5	1 - INFN	R — Document, report	PU - Public	18
D5.2	EURO-LABS users' diversity final report	WP5	1 - INFN	R — Document, report	PU - Public	36
D5.3	Release of the first functional version of the Open NP and data access tools	WP5	2 - GANIL	R — Document, report	SEN - Sensitive	36



EURO-LABS - Project

Milestones - Deliverables

Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D5.4	The new toolkit deployed at least two facilities and been used optimization	WP5	2 - GANIL	R — Document, report	PU - Public	24
D5.5	Report on activities after 2 years, including follow-up from participants	WP5	14 - IFIN-HH	R — Document, report	PU - Public	24
D5.6	Final report on Open Science	WP5	24 - CSIC	R — Document, report	PU - Public	46
D5.7	Data Management Plan	WP5	24 - CSIC	OTHER	PU - Public	6
D6.1	OEI - Requirement No. 1	WP6	1 - INFN	ETHICS	SEN - Sensitive	6

EURO-LABS - Project

Milestones - Deliverables

Milestones					
<i>Grant Preparation (Milestones screen) — Enter the info.</i>					
Milestone No	Milestone Name	Work Package No	Lead Beneficiary	Means of Verification	Due Date (month)
1	Consortium Agreement signed	WP1	1-INFN	Final version released	1
2	Preparation of calls for submission of proposals to stable beam access facilities completed	WP2	5-IFJ PAN	Survey / questionnaire to stable beam access facilities	6
3	All provision of access offered completed	WP2	5-IFJ PAN	Survey / questionnaire to stable beam access facilities.	46
4	Preparation of the call for submission of projects to access each of the RIs providing radioactive-ion beams	WP2	5-IFJ PAN	Survey / questionnaire to radioactive-ion beam access facilities	6
5	a) Completion of all the experiments proposed	WP2	5-IFJ PAN	Survey / questionnaire to radioactive-ion beam access facilities	46
6	Preparation of the call for submission of projects to access each of the RIs providing neutron beams	WP2	5-IFJ PAN	Survey / questionnaire to neutron beam access facilities	6
7	b) Completion of all the experiments proposed	WP2	5-IFJ PAN	Survey / questionnaire to neutron beam access facilities	46
8	Calls for proposals to be hosted at ECT*	WP2	5-IFJ PAN	ECT* web page	18
9	EURO-LABS-related workshops carried out at ECT*	WP2	5-IFJ PAN	Workshop programs at ECT* web page	42
10	Contracted personnel for Theo4Exp VA in place and first codes available for users in the virtual facility	WP2	5-IFJ PAN	Available software validated by the IRP	18
11	All codes installed at Theo4Exp VA	WP2	5-IFJ PAN	All software released and validated by IRP	42

EURO-LABS – Project

Milestones - Deliverables

Milestone No	Milestone Name	Work Package No	Lead Beneficiary	Means of Verification	Due Date (month)
	and interoperability among different nodes established				
12	Completed database containing selected features of remote-access toolkit	WP2	5-IFJ PAN	Database validated and web-interface released	18
13	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	5-IFJ PAN	Report complete and available	3
14	Reports on FLASH detectors for different facilities	WP2	5 IFJ PAN	Report complete and available	18
15	Conceptual plan for online monitoring of long-term operation beam stability	WP2	5-IFJ PAN	Conceptual plan for online monitoring of long-term operation beam stability	12
16	Organisation of hands on workshops & training schools	WP2	5 IFJ PAN	Website for training events available	30
17	RIs ready for TAs	WP3	3-CERN	Web pages available, access procedures defined, TAs advertised, and first applications received	6
18	Majority of TAs attributed	WP3	3-CERN	TAs allocated as planned (about 70%)	36
19	Work on service improvements started	WP3	3-CERN	Detailed schedule and budget for the planned SI provided	6
20	Service improvements to RIs implemented	WP3	3-CERN	Planned service improvements installed and in operation for the last year of the project	36
21	a) More than 30% of AU delivered	WP4	4-JSI	AU usage report	24
22	b) More than 30% of AU delivered	WP4	4-JSI	AU usage report	24
23	c) More than 30% of AU delivered	WP4	4-JSI	AU usage report	24
24	Development and test of the first prototype of the system	WP4	4-JSI	Report on prototype functionality	12

EURO-LABS - Project

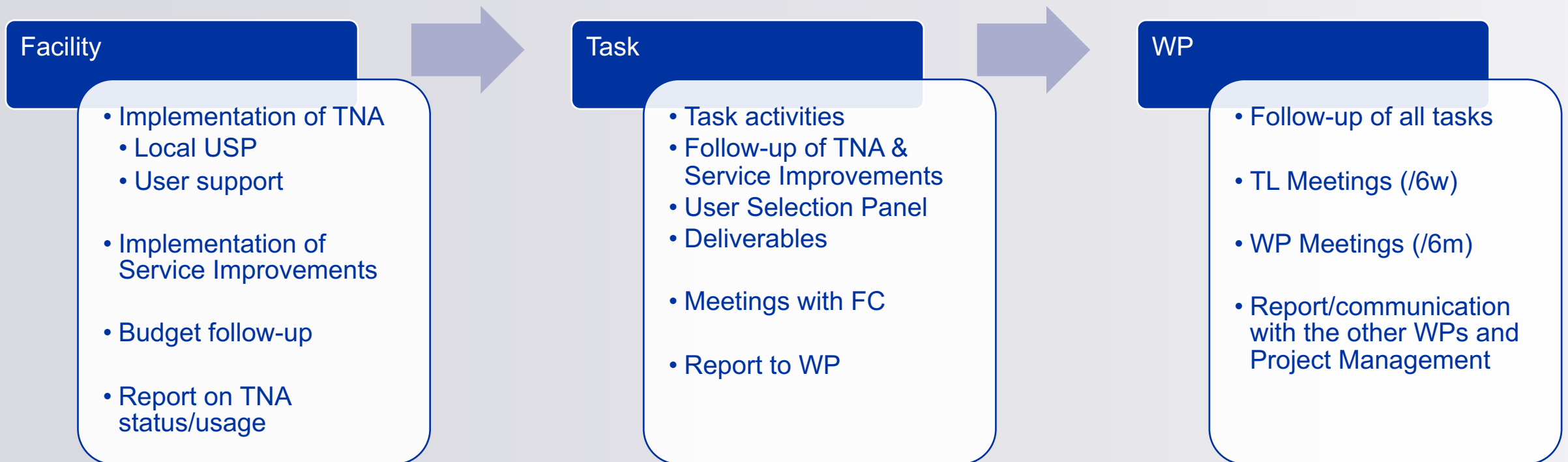
Milestones - Deliverables

Milestone No	Milestone Name	Work Package No	Lead Beneficiary	Means of Verification	Due Date (month)
25	Prototype and software ready for lab tests	WP4	4-JSI	Documentation on software and prototype	14
26	Electrostatic Microprobe Quadrupole Quadruplet Lens Assembly installed and tested	WP4	4-JSI	Installation report	16
27	Cooling system developed	WP4	4-JSI	Documentation on cooling system	18
28	Upgrade BPM DAQ	WP4	4-JSI	Demonstration of BPM DAQ	12
29	ML-based classification and evaluation of the beam profile patterns	WP4	4-JSI	Report on ML classification results	24
30	Design of the shielding system including safety related aspects	WP4	4-JSI	Design and safety documentation	14
31	Design of the XY table and purchase of materials and equipment for the device	WP4	4-JSI	Design documentation	18
32	Design and commissioning of the beam line (vacuum and test chamber)	WP4	4-JSI	Report on design and commissioning	12
33	Mechanics of the setup adapted to fit into the experimental area	WP4	4-JSI	Design documentation	24
34	One third of the research infrastructures videos ready	WP5	24-CSIC	Videos edited	12
35	Definition of the catalogue perimeter, architecture, and standards. Release of terms of reference	WP5	24-CSIC	Database validated and web-interface released	12
36	Identification of existing solutions in the EOSC ecosystem and integration of the Nuclear Physics Ecosystem	WP5	24-CSIC	Remote-access tools 'up and running' at user facilities	36
37	The source code of the ML toolkit prototype is available on a shared platform	WP5	24-CSIC	ML toolkit finished	8
38	Selection of the Training Scientific Board	WP5	24-CSIC	Training Scientific Board defined	6



WP3 – Access to RI for Accelerator R&D

Organization





September 1st, 2022

