Grant Agreement No: 101057511

EURO-LABS

EUROpean Laboratories for Accelerator Based Science

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

MILESTONE REPORT

WP3 – MAJORITY OF TAS ATTRIBUTED

MILESTONE: MS18

Document identifier:	EURO-LABS_Milestone_MS18_v1.1.docx
Due date of deliverable:	End of Month 36 (August 2025)
Justification for delay:	None
Report release date:	01/09/2025
Work package:	WP 3 : Access to RI for Accelerator R&D
Document status:	FINAL

Abstract:

This document reports on the Transnational Access (TA) activity at the RI Facilities participating in Work Package 3 of EURO-LABS. Following a linear profile at this stage of the project in month 36, **75%** of the planned TA Projects and Access Units should have been delivered in each facility. The current status and expectations until the project's completion in August 2026 are outlined. Deviations from the linear TNA delivery profile are discussed, and mitigation actions such as the reallocation of the budget are presented.

The European Laboratories for Accelerator-Based Science (EURO-LABS) project has received funding from the European Union's Horizon 2020 Research Infrastructure (RI) services, advancing frontier knowledge under Grant Agreement no. 101057511. EURO-LABS began in September 2022 and will run for 4 years.

Delivery Slip

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Executive summary

The key goal of the EURO-LABS project is to provide Transnational Access (TA) to major Research Infrastructures (RI) in Europe. WP3 groups thirteen facilities focused on High-Energy Accelerator Research.

Considering a linear profile at this stage of the project in month 36, 75% of the planned TNA Projects and corresponding Access Units should have been delivered in each facility. The current status indicates that overall 59 TA Projects and 7’366 Access Units have been delivered in all WP3 facilities, corresponding to 35% of the planned total; however, with significant variations among the facilities.

The shortfall in delivering the planned TA projects and AUs has been identified as one of the project’s risks. As a mitigation measure, the reallocation of unused resources to the benefit of other facilities was foreseen. A proposal for such a reallocation has been prepared, and actions have been taken in consultation with the SC and PO to ensure its timely implementation.

1. INTRODUCTION

EURO-LABS is a network of 33 research and academic institutions (25 beneficiaries and 8 associated partners) from 18 European and non-EU countries, involving 47 Research Infrastructures within the Nuclear physics, Accelerators and Detectors pillars. In this large network, EURO-LABS will ensure diversity and actively support researchers from different nationalities, genders, ages, and a variety of professional expertise.

EURO-LABS aims at fostering the sharing of knowledge and technologies across scientific fields to enhance synergies and collaborations between the RIs of the Nuclear and High Energy communities. Within EURO-LABS the Work-Package 3 (WP3) provides Transnational Access (TA) to Research Infrastructures for Accelerator R&D.

WP3 provides TA to a broad spectrum of installations, to test concepts for future accelerators, based on improving the present facilities, and for R&D studies for future colliders like CERN/FCC or the Muon Collider. The WP3 facilities provide beam lines for testing advanced accelerator materials, superconducting or normal Radio-Frequency cavities, magnets, and acceleration schemes. These tests use different particles and energies (low-energy protons, low-energy electrons, ultra-soft electron bunches and high-intensity high-energy electrons and could also have connections to industrial applications.

Table 1, shows the planned Transnational Access activities in the WP3 facilities as defined in the Grant Agreement The number of users is only indicative, as access to several facilities is remote. In the following paragraphs the status of each facility is described.

Table 1: Planned TA activities in the WP3 Facilities for the whole duration of the project, as defined in the Grant Agreement.

Task	Facility	Projects	Access Type	Number of users	AU
3.1	CERN-HiRadMat	20	physical	60	4800
3.2	UU-FREIA	4	physical/remote	8	960
	INFN-LASA	80	physical/remote	120	6400
	INFN-THOR	8	physical/remote	8	272
	IJCLab-SUPRATECH	4	remote	4	672
	CEA-IRFU(Synergium)	20	remote	20	640
	CERN-XBOX	8	physical/remote	32	400
3.3	KIT-KARA	8	physical/remote	40	880
	KIT-FLUTE	3	physical/remote	15	330
	STFC-CLARA	8	physical/remote	16	150
	INFN -LNF(BTF)	7	physical/remote	14	1176
	INFN -LNF(SPARCLAB)	10	physical/remote	20	1680
	CEA/LiDyl-LPA-UHI100	4	physical	12	640

3.4	INCT-RAPID	24	physical/remote	60	600
	CERN-CLEAR	30	physical	90	1200
	Total	**238**		**519**	**20800**

2. TRANSNATIONAL ACCESS ACTIVITIES

Table 2 presents the delivered Transnational Access activities in the WP3 facilities as of the time of writing this report, in M36 of the project. It should be noted that some facilities are currently in the process of accepting new projects, which are not included here.

Table 2 Delivered TA projects and Access Units in the WP3 Facilities.

Task	Facility	Projects	% /total	No of users	% /total	AU	% /Total
3.1	CERN-HiRadMat	23	*115*	144	*240*	3928	*82*
3.2	UU-FREIA	2	*50*	3	*38*	480	*50*
	INFN-LASA	0	-	-	-	-	-
	INFN-THOR	0	-	-	-	-	-
	IJCLab-SUPRATECH	4	*100*	10	*250*	312	*46*
	CEA-IRFU(Synergium)	3	*15*	6	*30*	448	*70*
	CERN-XBOX	0	-	-	-	-	-
3.3	KIT-KARA	6	*75*	66	*165*	818	*93*
	KIT-FLUTE	0	-	-	-	-	-
	STFC-CLARA	0	-	-	-	-	-
	INFN -LNF(BTF)	3	*43*	18	*129*	672	*57*
	INFN -LNF(SPARCLAB)	0	-	-	-	-	-
	CEA/LiDyl-LPA-UHI100	0	-	-	-	-	-
3.4	INCT-RAPID	10	*42*	30	*50*	260	*43*
	CERN-CLEAR	8	*27*	21	*23*	448	*37*
	Total	**59**	***25***	**298**	***57***	**7366**	***35***

Overall, the WP3 facilities are currently behind schedule in delivering the required number of TA projects and Access Units (AUs), with only 25% of the promised TA and 35% of the AUs completed—well below the 75% expected from a linear delivery profile at this stage of the project. However, this overall picture masks significant variations between individual facilities

Based on present performance and future expectations, we can classify the facilities as follows:

- **Overperforming**: HiRadMat, and KIT/KARA. These facilities experience high user demand, are on track to deliver the planned number of TA projects and Access Units, have already received additional requests, and could benefit from further resources.

- **Within expectations**: LRFU-Synergium, IJCLAB-SUPRATECH, INFN-BTF, INCT-RAPID. These facilities maintain a good overall performance and are expected to deliver according to the original schedule.

- **Below expectations:** INFN-LASA, INFN-THOR, XBOX, KIT/FLUTE, and INFN-SPARC_LAB. Due to technical issues arising from planned upgrades, or conflicts with ongoing laboratory commitments under higher-priority service contracts, these facilities have so far accepted no TA projects and delivered no Access Units. While they may still host some TA projects and deliver a limited number of Access Units, it is clear they will not reach the planned figures. Following discussions at the Task and WP levels, the Facility Coordinators have expressed their willingness to release part of their unused resources to support other over-performing facilities within the Work Package.

  In this category, CEA-LPA-UHI100 and STFC-CLARA are facilities that were not scheduled to start providing TA at the beginning of the project due to planned upgrades. However, delays have prevented them from delivering any TA projects so far, although they are expected to catch up before the project concludes.

  Last, in this category, FREIA has delivered about half of the planned TA projects. However, due to the Laboratory's recent commitments to use FREIA for other projects, it is unlikely to accept additional TA projects. FREIA has agreed to release its remaining unused resources to the benefit of other facilities.

As outlined in the project proposal and Grant Agreement, the overall shortfall in delivering the planned TA projects has been identified as one of the project risks. This situation therefore triggers the foreseen mitigation measures, namely the reallocation of unused resources to the benefit of other facilities—first within the same Task, then within the Work Package, and ultimately to other Work Packages across the Project.

Table 3 presents a possible reallocation of project resources within the WP3 Facilities, in response to requests from the HiRadMat and KARA facilities to support additional TA projects, and in CLEAR to complete the work on the Service Improvements (secondary beam line and user experimental area instrumentation).

*Table 3 **:** A possible Reallocation of Resources within the WP3 Facilities. The budget figures presented here are indicative; the actual amounts will be drawn from the financial statements of each facility, based on current and planned expenses. A negative value in the reallocation columns indicates the release of resources.*

Facility	**Allocated budget [kEuros]**			**Reallocation [kEuros]**		
	Access	**SI**	**TA+SI**	**Access**	**SI**	**Total**
CERN-HiRadMat	362	50	412	200	-	**200**
UU-FREIA	200	200	400	-90	-100	**-190**

INFN - LASA (Milano)	220	100	320	-200	-90	**-290**
INFN-THOR	60	20	80	-50	-20	**-70**
CNRS/IJCLab - SUPRATECH	105		105	-30	-	**-30**
CEA/LRFU-Synergium	190	40	230	-	-	**-**
CERN-XBOX	70		70	-70	-	**-70**
KIT-ALFA(KARA+FLUTE)	400	170	570	100	120	**220**
STFC-CLARA	90	10	100	-	-	**-**
INFN -LNF(BTF, SPARCLAB)	300		300	-	-	**-**
CEA/LiDyl-LPA-UHI100	100	33	133	-50		**-50**
INTC-RAPID	150		150	-	-	**-**
CERN-CLEAR	210	40	250	-180	50	**-130**
Total	**2497**	**623**	**3120**	**-370**	**-40**	**-410**

The amounts in Table 3 should be considered indicative. The actual budget figures will be derived from the financial statements of each facility, reflecting both current expenditures and planned commitments. Based on these estimates, approximately €410k of unused resources from the WP3 allocation could be released and made available for redistribution across the Project, benefiting other Work Packages and facilities in greater need.

The Project management is fully aware of this situation and has initiated discussions with the Project Officer (PO) to ensure that the reallocation process is carried out promptly and in strict compliance with the rules of the European Commission. This proactive approach is intended to maximize the overall impact of the Project by ensuring that resources are efficiently redirected to facilities capable of delivering additional Transnational Access and Service Improvements.