European Laboratories for Advanced Sciences - EURO-LABS



THPR89

An EC-funded Transnational Access Project for Nuclear and High-Energy Physics and **Accelerator Experiments and R&D Support**

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European Laboratories for Accelerator Based Sciences (EURO-LABS), a programme for research infrastructures services advancing the frontiers of knowledge, aims to provide unified Transnational Access (TNA) to leading Research Infrastructures (RI) across Europe. Taking over from previously running independent TNA programmes, the new programme brings the nuclear physics, the high-energy detector R&D communities together to foster collaborations and to stimulate synergies. With 33 partners from European countries, EURO-LABS forms a large network of RIs. These RIs offer TNAs ranging from a modest size test

infrastructure to large scale ESFRI facilities. The offered access will enable research at the technological frontiers in accelerator and detector development to explore new physics ideas and will open wider avenues in both basic and applied research in diverse topics ranging 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



GOALS

- Unified Transnational Access application to Leading European Research Infrastructures (RI)
- **45 Research Infrastructures across Europe**
- Links with facilities in USA and Japan

RIKEN

Support of excellence : leading experiments and novel

technology R&D for physics and applications



SUPPORT OFFERED

- Physical or remote transnational access, or virtual access to the Infrastructures
- Free access to the installations and beam time usage
- Financial support (travel expenses and subsistence) for eligible team members
- Transport of experiment equipment to/from the facilities, consumables

	Access provider	Infrastructure	Country
	CERN	HiRadMat@CERN	CERN
atorRe		CLEAR XBOX	
	FREIA	GERSEMI – HNOSS	Sweden
	INFN-Milano	LASA	Italy
TTEL CONTRACTOR OF THE DEST	INFN-Salerno	THOR	Italy
	IJCLab	SUPRATECH	France
	IRFU-Synergium	MACHAFILM	France
		CRYOMECH	
	KIT	KARA	Germany
		FLUTE	
	VELA	CLARA	UK
	INFN-LNF	BTF (BTF1, BTF2) SPARC LAB	Italy
of Accelerators	LIDYL	LPA-UHI100	France
nds-on – Simulation Facilities	INCT	RAPID	Poland

Access provider	Infrastructure	Country
INFN-LNL	LNL-NSDBF	Italy
INFN-LNS	LNS-AIPF	Italy
GANIL	GANIL-SPIRAL2	France
IJCLab	ALTO	France
GSI	GSI/FAIR	Germany
CERN	ISOLDE	CERN
	n_TOF	
U. Jyväskylä	JYFL	Finland
U. Warsaw	NLC-SLCJ	Poland
IFJ PAN	NLC-CCB	Poland
IFIN-HH	Tandem	Romania
USE	CLEAR	Spain
ATOMKI	ATOMKI-CLEAR	Hungary
IST	CLEAR	Portugal
ECT*	ECT*	Italy

Virtual Access

Access provider	Infrastructure	Country
IFJ PAN	Meanfield4exp	Poland
USE	Reaction4Exp	Spain
U. Milano	Structure4Exp	Italy



	Access provider	Infrastructure	Country
	CERN	PS & SPS	CERN
cão		IRRAD	
ÍCULAS		GIF++	
	DESY	DESY-II	Germany
	PSI	PiM1–UCN	Switzerland
-	RBI	RBI-AF	Croatia
	ITAINNOVA	EMClab	Spain
	JSI	TRIGA Reactor	Slovenia
	IFJ PAN	AIC-144	Poland
	UCLouvain	CRC	Belgium
	UoB	MC40	UK
		Cyclotron	





Beyond Transnational Access

Open science in Nuclear Physics

- Improve drastically management and visibility of data-sets
- Develop new collaborations based on combined or reused data-sets
- Enhance the scientific impact of the available and future data-sets
- Development of Data Management Plans DMP) in all Facilities

Targeted facility improvements Examples

 Machine learning for fast beam configuration and monitoring

- based on the Generic Optimization Frontend & Framework (GeOFF) framework for testing automation at CERN
- Improved instrumentation for SC magnet and cavity testing
- Target R&D and source improvement for ion beams Advanced beam profile and monitor systems

Hands-On training

Basic training school, 2023 BTS23

IFIN-HH, Bucharest - Măgurele

Courses - Hands-on – Simulation

3 Facilities

CLEAR, ISOLDE, PSB







The Basic Training School on Accelerators HIL & INCT, June 18-27 in Warsaw U200-P cyclotron **INCT** electron accelerators

Futher info and how to apply :https://web.infn.it/EURO-LABS