



D1 ABSOs II, Affiliated Big Science Organisations II

Moderator Toon Verhoeven
Introduction

DTT Francesco Romanelli
Divertor Tokamak Test

MYRRHA Hamid Aït Abderrahim
Multipurpose hYbrid Research Reactor for High-tech Applications

ESS Bilbao Mario Pérez
European Spallation Source - Bilbao

TIARA Jose Manuel Pérez
Test Infrastructures and Accelerator Research Area



BSOs: Organizing Big Science Organisations: 11x
plenary on October 5

CERN

EMBL

ESA

ESO

ESRF

ESS

Eur-XFEL

FAIR

F4E

ILL

SKA

ABSOs I: Affiliated Big Science Organisations I
session A2 on October 5

CTAO

EST

BSC-CNS

LEAPS

ABSOs II: Affiliated Big Science Organisations II
this session, D1, on October 6

DTT

MYRRHA

ESS Bilbao

TIARA



	DTT	MYRRHA	ESS-Bilbao	TIARA
Title of presentation	The DTT project and its impact on European industry	Realization of a new Research Infrastructure: MYRRHA	ESS Bilbao. Current and future opportunities for industry	TIARA. Co-innovation of industry and the Accelerator Science and Technology community
	DTT = Divertor Tokamak Test facility	MYRRHA = Multipurpose hYbrid Research Reactor for High-tech Applications	ESS = European Spallation Source, being build in Lund (SE)	TIARA = Test Infrastructure and Accelerator Research Area
Presenter	Francesco Romanelli	Hamid Aït Abderrahim	Mario Pérez	José Manuel Pérez



	DTT	MYRRHA	ESS-Bilbao	TIARA
location	ENEA Frascati laboratory, near Rome (IT)	SCK CEN Laboratories in Mol (BE)	Bilbao (ES) (Madrid) (Vitoria) Lund (SE)	Multi-site, many countries participate
Topic	Fusion energy. Innovative solutions for the extraction of heat from the reactor core.	MYRRHA is a large scale Accelerator Driven System (ADS) that consists of a subcritical nuclear reactor driven by a high power linear accelerator.	In-kind contributions to ESS-Lund: Accelerator, Target and Instruments	To support and coordinate accelerator R&D activities
# of people	~ 130	200 + 100	~ 50	R&D community



	DTT	MYRRHA	ESS-Bilbao	TIARA
Time schedule	First plasma early 2028	Phase 1 MINERVA 100 MeV up to 2026	2006 – 2025, To be extended	ongoing
Budget overall Budget 2022-2026	~600 M€ ~400 M€	~1800 M€ ~ 400 M€	~ 65 M€ ~ 25 M€ 3% of ESS construction budget	~ 5 M€ / yr
Funding	Italian and international	Mainly Belgian	Central Spanish & Basque	European and national



	DTT	MYRRHA	ESS-Bilbao	TIARA
Areas of procurement	Superconducting magnets, vacuum vessel, thermal shield, cryostat, cryogenic system, high voltage power supplies, In-vessel components	Civil Engineering, Process systems HVAC, cooling Cryogenic system Solid state amplifiers High power RF components Accelerator beamline elements IT systems, I&C components	Particle accelerator, Targets - nuclear - RCC-M Neutron instruments	Accelerator components & accelerator technologies
Procurement	Italian, compliant with EU	See procurement portal	Spanish, European	Limited, focus on coordination
Language	Italian & English	English, Dutch, French	Spanish	-