



Horizon Europe: Coordination
and Support Actions



WP7 Report

ET-PP Annual Meeting

17 June '24

Grant agreement: N° 101079696

WP7 activity status update

In January, the main activities foreseen for 2024 were:

- **to implement the Industry Engagement Plan** [WP7.2]
 - leading to events organized for ILOs and industry
- **to finalize the analysis of the balanced industrial return strategies** and define the proposed approach with possible options for ET [WP7.2]
- **define the organization of the TT effort** to be implemented by the ETO [WP7.3]
- Added meanwhile:
 - **to address the reviewers' comments** [WP7.1-7.2]
 - **organize the possible TT support** for ongoing R&D activities [WP7.3]
 - **to organize the presence of ET at BSBF2024** in collaboration with WP10 [WP7.2]

WP7 meetings for all participants in the Work Package activities

There are 10 events in the future. [Hide](#)

December 2024

 20 Dec [WP7 General Meeting](#) 

November 2024

 22 Nov [WP7 General Meeting](#) 

October 2024

 25 Oct [WP7 General Meeting](#) 

September 2024

 27 Sept [WP7 General Meeting](#) 

August 2024

 30 Aug [WP7 General Meeting](#) 

July 2024

 12 Jul [WP7 General Meeting](#) 

June 2024

 14 Jun [WP7 General Meeting](#) 

May 2024

 17 May [WP7 General Meeting](#) 

April 2024

 19 Apr [WP7 General Meeting](#) 

March 2024

 22 Mar [WP7 General Meeting](#) 

February 2024

 23 Feb [WP7 General Meeting](#) 

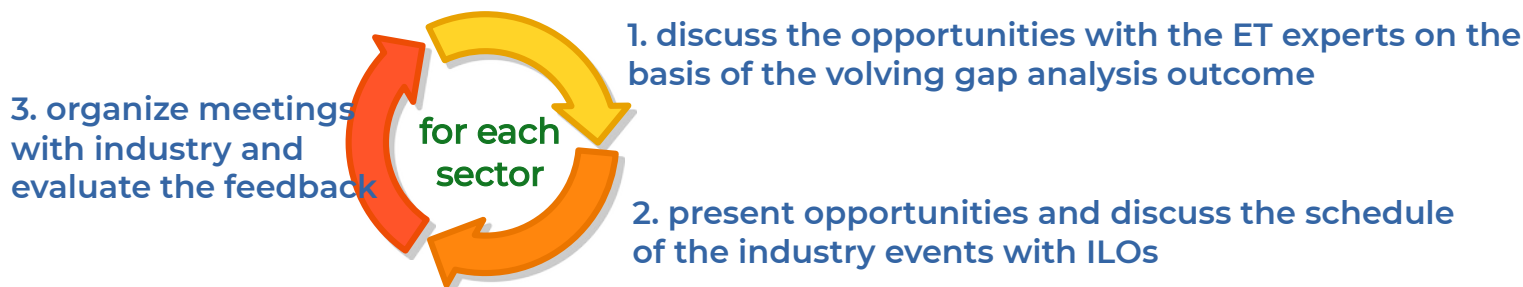
WP7: activity status update (II)

In January, the main activities foreseen for 2024 were:

- to implement the Industry Engagement Plan **not working as expected**
 - leading to events organized for ILOs and industry
- to **finalize the analysis of the balanced industrial return strategies** and define the proposed approach with possible options for ET [WP7.2] **in progress**
- **define the organization of the TT effort** to be implemented by the ETO [WP7.3] **in progress**
- Added meanwhile:
 - to **address the reviewers' comments** [WP7.1-7.2] **done?**
 - **organize the possible TT support** for ongoing R&D activities [WP7.3] **in progress**
 - to **organize the presence of ET at BSBF2024** in collaboration with WP10 [WP7.2] **in progress**

Engagement plan implementation so far

- The model:

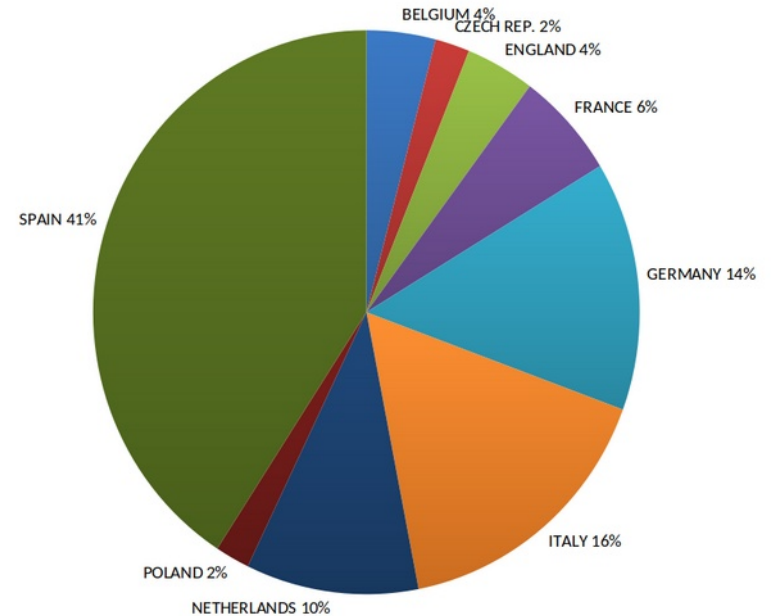


- 8 **sectors identified** in the industry engagement plan:
 - **Vacuum + Cryogenics, Active noise mitigation, Infrastructures, Optics, Photonics, Suspension, Electronics and Control**
- feedback from R&D survey used for the "gap anlysis"
- preliminary meetings with ILOs, regular updates started to be circulated
- 4 **meetings with ISB coordinators** so far
 - Vacuum + Cryogenics, Electronics and Control, Active noise mitigation
- **only one webinar for industry** organized in December '23

First successful Industry Webinar on 19/12/2023

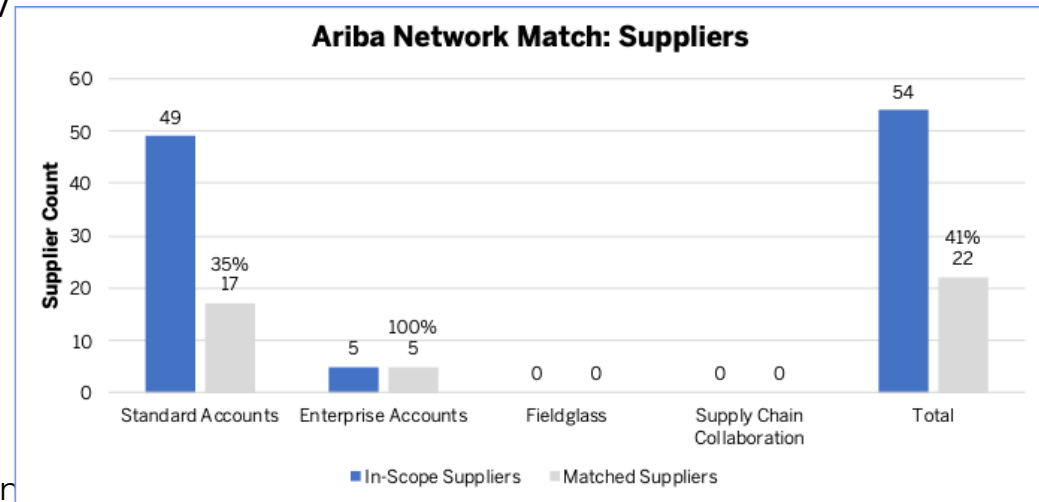
- agenda: **82 people** in total and **49 companies** registered
 - 27% from Institutes
 - 73% from industry
- **65 participants**
- technical talk by **Cedric Garion (CERN), Paolo Chiggiato (CERN)**
- one follow up 1-to-1 meeting requested
- **ILO network** exploited for dissemination
 - if there are suggestions for other channels to publicise these events, let us know
- **status as of 10/6**
 - for the smooth pipes, the raw material has been ordered and the official price inquiry should be sent out soon
 - for the corrugated pipes, the market survey is in preparation.

Nationality of Companies



So far we have got limited feedback from ISB

- in general, although in the questionnaire the **R.U. expressed interest for widening the industrial contacts**, not many indications have emerged for **engagement opportunities to offer companies** from the interactions with the ISB coordinators
- nor have we received many requests of help **for searching new companies** with required competence/expertise
- we have also investigated the possibility of **using commercial industrial repositories** to widen the scope of possible industrial searches
 - meeting with **SAP Ariba** who then checked how many of the companies mentioned in the R&D survey were present in their database
 - results (41% found in the DB) are encouraging
- we **have now to re-evaluate our strategy**
 - one of the issues to be discussed with the other WPs this afternoon



Analysis of balanced industrial return strategies

- Collected feedback **from several BSO** via a questionnaire
 - main topics:
 - General aspects
 - Legislative and regulatory background in which the organization operates
 - Procurement rules
 - Promotion of the balanced industrial return
 - Difficulties and effectiveness of the adopted strategy
- **F4E, CTA, ESO, CERN** + documentation from **ESS** and a discussion with **SKA**
- Clearly there is a **big difference** between IGOs and organizations that follow the European rules
 - **CERN and SKA are the only organizations** that have included the achievement of a balanced industrial return as a goal in the Procurement rules
 - **CERN and ESO have provisions in the procurement rules** for limited tendering and other ways of favoring the adjudication to companies in with low return
 - however all the organizations report in one way or another about the industrial return
- We should now decide in which direction to go for developing a balanced industrial return model for ET
 - discussion today

General questions

1. how does the Organization deal with the principle of balanced industrial return among the Member States of the Organization?
 1. it's spelled out in the Financial or Procurement rules as a well defined goal ?
 2. defined as a desirable achievement by management ?
 3. not explicitly supported but adopted in practice by procurement ?
 4. not considered at all
 5. other:
2. (if 1.1.-> yes) are there any special provisions in the Financial or Procurement rules related aimed at achieving a balanced return ?
 1. is documentation available ?
3. is the industrial return monitored by the organization ?
 1. what data are made available and how frequently ?
 2. are any data publicly available or available on request ?

Legislative and regulatory background in which the organization operates

1. what are the constraints, external (laws and regulations) and internal (own statutes), that the organization faces in implementing balanced return strategies, in particular via limited tendering procedures ?

Procurement rules (if 2 above -> yes):

1. are there provisions for ensuring that industrial return stays within the organization's member states?
if yes:
 1. based on where the companies reside ?
 2. based on the country of origin of the supplies ?
 3. other: ...
2. can limited tendering be used for increasing the industrial return of poorly balanced member states ?
3. can limited tendering be used to ensure that when a supply is specifically funded by a Member State, the industrial return goes to that Member State?

Promotion of the balanced industrial return (if not 1.3)

1. Besides possible provisions in the Financial or Procurement rules, are there other actions taken by the organization to favor a balanced industrial return ?
 1. interaction with national ILOs
 2. search for companies in all member states by procurement officers
 3. tenders published in English
 4. organization of industry engagement initiatives
 5. specific policy in selecting the companies in the invitation to tender
 6. other: ...

Difficulties and Effectiveness (if not 1.3)

Addressing reviewers' comment

- explain the approach adopted in **assimilating ET to a BSO** in the document "Analysis of Promotion Strategies"
 - done
- introduce **a section on computing in the "Engagement plan"**
 - with the associated gap analysis, pointing to possible opportunities of cooperation with industrial partners to address ET technical challenges
 - we were planning to organize a meeting with the WP8 coordinators but the preliminary interaction we had in May (through Stefano Bagnasco) did not provide any hints of possible opportunities to be identified as a basis for discussions with industry
 - our comments:
 - it's true that computing in ET is not so challenging as in other big scientific projects like Hi-Lumi LHC,
 - still, in addition to the purchase of hardware from IT vendors, which is not going to happen anytime soon, we wonder if there might not be a **possibility of industrial involvement** in fields where **industry progress has been particularly fast in recent years**, such as AI or the exploitation of accelerators (e.g., GPUs)
 - the only feedback we can provide to the reviewers is that at the moment the computing development in ET are not mature enough to justify an interaction with industry

WP7.3 activities

| | |
|----------|--|
| WP 7.3.0 | Task coordination [INFN] |
| WP 7.3.1 | Definition of TT management principles and goals |
| WP 7.3.2 | Development of the TT management model |
| WP7.3.3 | TT support for specific ET technologies |

Done

... in progress

... just started

- WP7.3.1/2 Work timeline compressed to fit within the first two years of the project
- In the way the last two years can be dedicated to provide TT support services to ET R&D activities
 - in line with the possible additional funding requests submitted

WP7.3.2 - Document in preparation

- Preparation of the document is well advanced
- Preliminary proposal for how to organize TT serviced in the ETO is under discussion and will be presented in the afternoon

7.3.2. "Report on TT and Intellectual property management" (M44)

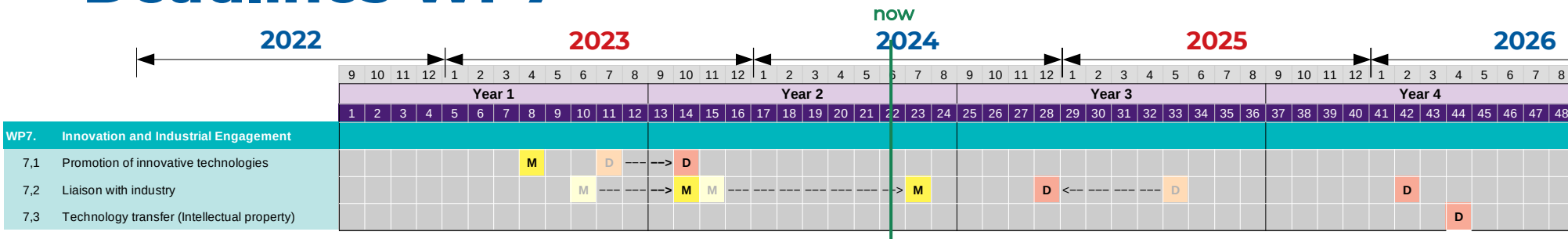
Table of Content

1. Introduction about general goals of TT ★
2. Overview on Intellectual Property Management
 - Set of definitions ★
 - Ownership of IPRs ★
 - Access Rights ★
 - Confidentiality obligations ★
3. The organization of the Technology and Knowledge transfer in ET
 - Activities (see Innovation Plan) ★
 - Construction phase
 - Operation phase
 - Human Resources
 - Tools
4. Procedures and templates
 - Patenting
 - Collaboration Agreement
 - Non Disclosure Agreement (NDA)
 - Co-ownership Agreement
 - Procurement

TT support in the ET-PP time frame ?

- we have **TT competences** available in WP7
 - IFAE, INFN, UW, ...
- **but not sufficient manpower** to provide real TT support as a central service in ET-PP for the ongoing R&D activities
- however it would be possible to dedicate some efforts **to interact with the groups** working on the R&D activities **and the TT offices of their Institutions** to:
 - **create awareness about the importance** of considering TT as a beneficial outcome of the R&D activities
 - making an assessment of those cases **where there is a higher potential** of TT
 - **monitor and document** the possible TT activities
- however, all this **requires the collaboration and some level of interest** of the groups that are carrying out the R&D activities
- this is an issue that we would to start discussing later today

Deadlines WP7



Milestones

| | | | | | |
|------|--|-----|-----|--------|---|
| M7.1 | Analysis of promotion strategies accomplished | WP7 | M8 | Report | ✓ |
| M7.2 | Engagement plan produced | WP7 | M10 | Report | ✓ |
| M7.3 | Analysis of balanced industrial return strategies accomplished | | M15 | Report | |

We have most of the material ready

Deliverables

| | | | | | | | |
|------|---|-----|--------|---|----|-----|---|
| D7.1 | Innovation plan | WP7 | IFAE | R | PU | M11 | ✓ |
| D7.2 | Report on industry engagement plan execution | WP7 | NIKHEF | R | PU | M42 | |
| D7.3 | Model for pursuing in ET a balanced industrial return | WP7 | INFN | R | PU | M33 | |
| D7.4 | Report on TT and Intellectual property management in ET | WP7 | INFN | R | PU | M44 | |

We aim at producing this report earlier than anticipated (M26)

ET@BSBF

- most important industry event organized by the European Big Science Organizations every two years
 - next edition: 1-4 October 2024 in Trieste (Italy)
- other organizations will also be present as Affiliated Organizations



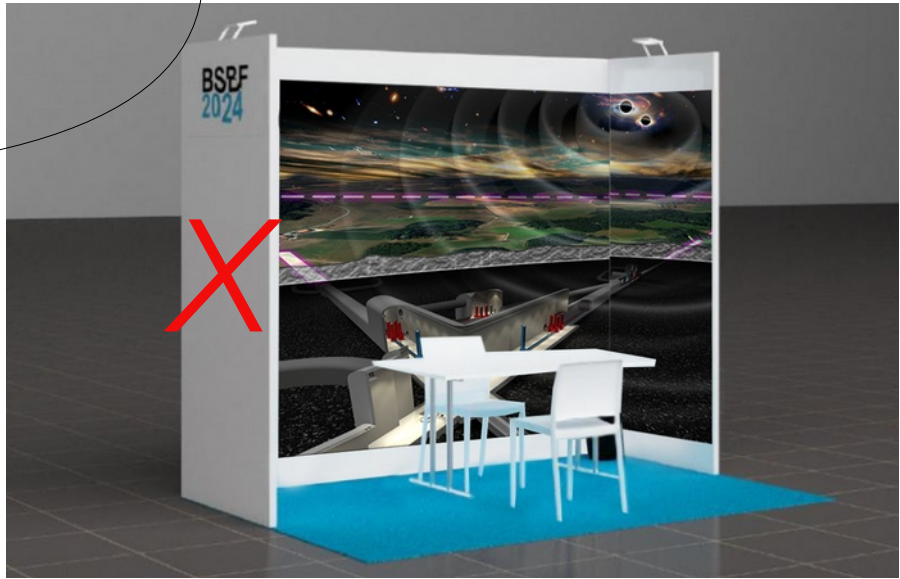
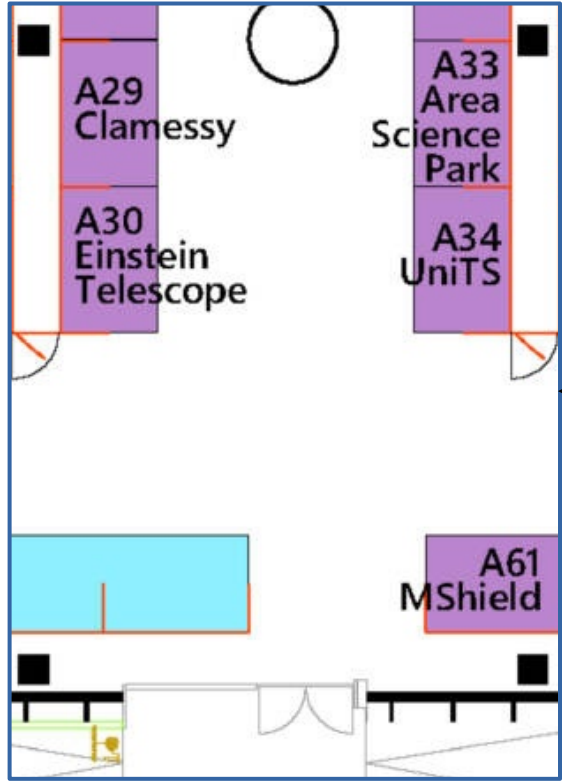
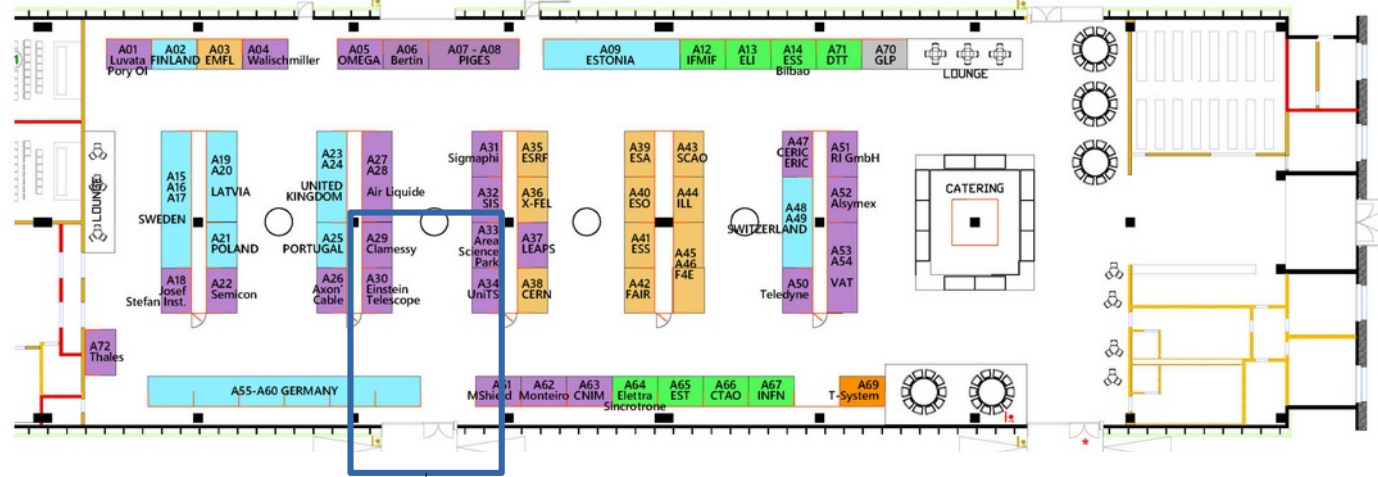
- ET cannot be among them, since it's not yet an organization that can present a procurement plan for the coming years



ET@BSBF (II)

- However, ET will be presented in a plenary session in BSBS2024
 - as the next big European scientific enterprise entering the Big Science Market
- In addition, ET-PP will also be present with a booth rented by WP7
- we have setup a task force that includes Mario and our WP10 colleagues to organize the ET-PP presence
- we have to discuss later today who can be available to interact with the visitors at BSBF

The ET booth



What will be in the booth

- available area: 3m x 2m booth (6 m²)
- main elements:
 - 1 table (140cm x 70cm) to support the ET mock-ups
 - chairs
 - 50" monitor to display ET videos
 - brochure holder

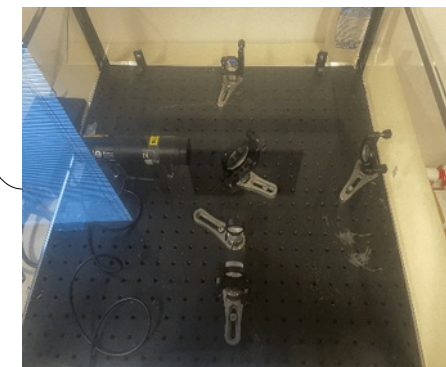
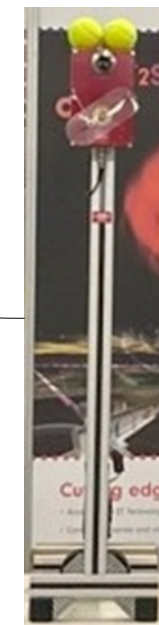
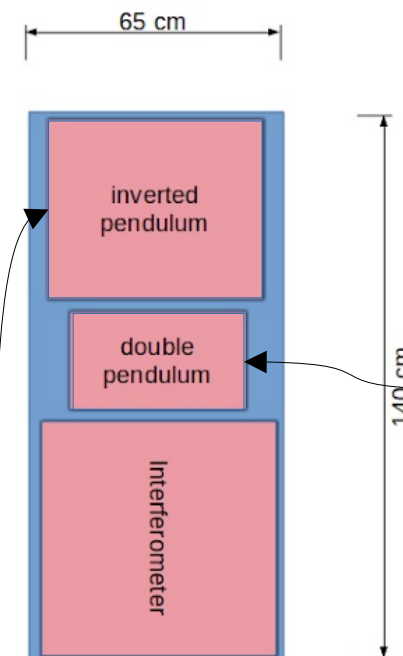
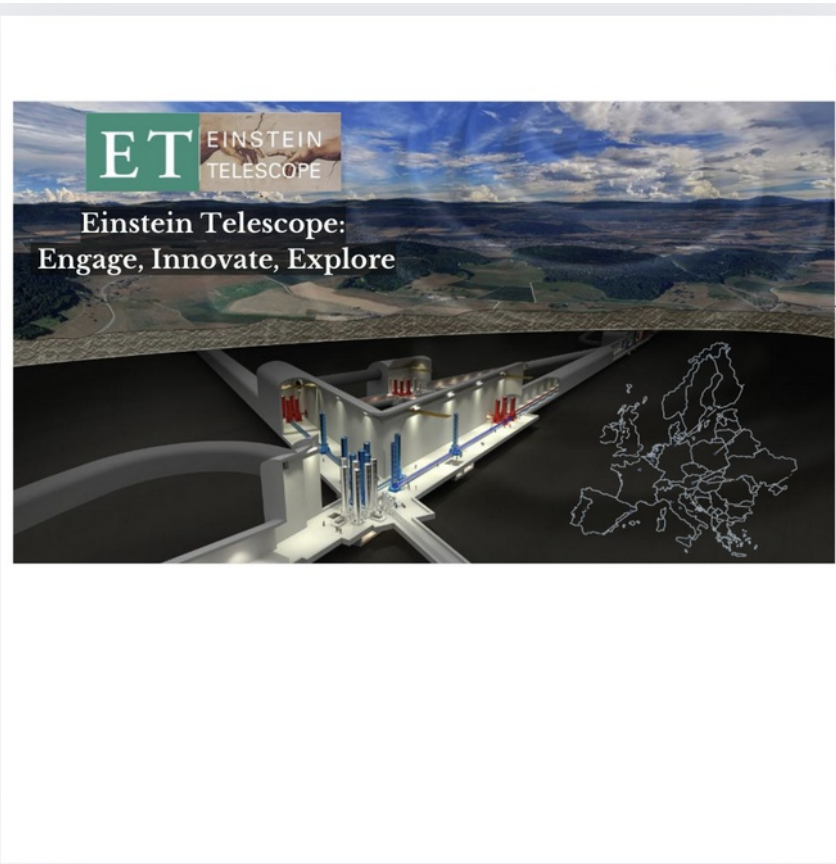


Image for the walls

- designer has start the work on the background image starting by what is available in ET
- a slogan has been proposed
 - Einstein Telescope: Engage, Innovate, Explore
- ET Logo:
 - should be finalized soon
- maps of Europe with dots where ET-PP Institutions are located
- Logos of the ET-PP beneficiaries



New material for BSBF

- our WP10 colleagues have also been working on
 - **a new video** (3 minutes) to be displayed on the monitor at BSBF
 - to present the ET to industry; to attract potential partners/collaborators
 - to convey curiosity, enthusiasm, trust, interest in cutting edge technologies
 - storyboard ready
 - designer will start working on it soon
 - deadline: end of July
 - **a brochure** for companies that will visit the booth
 - text and picture to be finalized
- people in other WPs that would like to see the material being prepared before it is finalized are very welcome!



ADVANCED CONTROL ALGORITHMS

The ET requires advanced control systems to manage its thousands of signals and maintain interferometers at optimal performance. Current interferometers are limited by control-generated noise at low frequencies. New algorithms, including AI methods, are crucial to overcome this limitation, not only for the ET but also for other complex instruments.



SIMULATION AND MODELING

Advancements in numerical modeling software and virtual/augmented reality have revolutionized the computation and visualization of processes like ground motions, challenging to observe due to their interaction with infrastructures. The growth of Building Information Modeling (BIM) in civil engineering has enhanced monitoring during construction, safety inspection, and real-time updates on project impact from unforeseen events.



More information on
ET-relevant
technologies



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TECHNOLOGIES OF TOMORROW



**Horizon Europe: Coordination
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