

Introduction to Proto-Collaboration MoU

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Physics Beyond Colliders mandate: excerpts

Web pages

- The physics objectives also include projects aimed at addressing fundamental particle physics questions using the **experimental techniques of nuclear, atomic, and astroparticle physics**, as well as **emerging technologies such as quantum sensors**, that would benefit from the contribution of CERN competences and expertise.
- The study group will primarily investigate, and, where appropriate, provide support to, projects expected to be sited at CERN
- The study group may also examine ideas and **provide initial support for contributions to projects external to CERN**
- <https://europeanstrategy.cern/>

The MoU

1. Purpose of this Memorandum

- i. This Memorandum establishes a **common basis among the Participants** for the collaborative effort required for the TVLBAI Study. The TVLBAI Study and its results shall be used for peaceful purposes only.
- ii. By signing this Memorandum, **the signatory becomes a Participant in TVLBAI**, together with the other institutes, laboratories, universities, and their funding agencies who are, or who subsequently decide to become, Participants in TVLBAI. A Participant shall officially join TVLBAI on the date of their signature to this Memorandum.
- iii. It is expressly acknowledged that, except for Articles 5, 6 and 7, **this Memorandum is not legally binding and each Participant's involvement in the TVLBAI Study is on a "best-efforts" basis. This Memorandum does not imply any commitment of resources.** Each Participant's involvement in the TVLBAI Study is governed, as the case may be, by its internal policies and regulations and the laws to which it is subject.

The MoU

2. Scope

- i. The main focus of the TVLBAI Study shall be to prepare a full science and technology Roadmap accompanied by a Conceptual Design Report for a potential TVLBAI project that may consist of one or more detectors in various locations using a combination of design options, e.g., vertical and horizontal geometries and different cold atom species, operated as a network. As part of the Roadmap, the TVLBAI Study shall provide a baseline concept for such a TVLBAI project, performance expectations, and assess the associated key risks, as well as the cost drivers. It shall also identify an R&D path to demonstrate the feasibility of a TVLBAI project and support its performance claims.
- ii. Potential synergies with other projects shall be explored and used where beneficial to the TVLBAI Study.

The MoU

3. Organization

- i. The TVLBAI Study will be executed through the following entities:
 - 1) **An International Collaboration Board (ICB)** whose mandate is to oversee the TVBAI Study and channel contributions from the Participants. **Each Participant shall have one representative in the ICB. The ICB shall elect a Study Chair** and can invite representatives of institutes that have not signed this Memorandum to participate in the discussions, without the right to vote.
 - 2) **The Chair** appointed by the ICB shall be guided by its decisions, with the **mandate to assure the overall coordination and organisation of the TLVBAI Study.**
 - 3) **The ICB shall select a Coordination Group** whose mandate is to support the Chair.
- ii. **The Chair shall organise and guide the study**, establish collaborations with the Participants and any other involved entities, ensure coherent communications, coordinate all resources associated with the TVBAI Study, organise workshops, conferences and meetings relevant for the TVBAI Study.

The MoU

4. Contributions by the Participants

- i. Each Participant's contribution to the TVLBAI Study shall be set out in an Addendum to this Memorandum, which shall be signed by the Chair and a representative of the Participant.
- ii. The Participants may, between themselves and with any other entity, enter into arrangements or agreements as may be necessary for the delivery of their contributions, provided always that their terms shall be consistent with the provisions of this Memorandum.
- iii. Except as agreed otherwise, each Participant shall bear the cost of its contribution to the TVLBAI Study. A Participant may contribute in terms of funds, expertise, equipment, materials, knowledge and/or other resources.
- iv. It is understood that the activities of the Chair and the Coordination Group do not diminish the Participants' responsibility for the delivery of their contributions, nor the responsibility for their personnel, including but not limited to matters concerning social insurance.

The MoU

5. Intellectual Property

- i. Title in intellectual property that is developed by a Participant in the execution of this Memorandum shall be vested in that Participant (or if developed collectively by two or more Participants, vested in those Participants), who shall grant the other Participants a free, non-exclusive licence for the use of such intellectual property in the execution of their scientific programmes, including their participation in the TVLBAI Study.
- ii. Each Participant that provides intellectual property under this Memorandum to another Participant does not provide any warranty in respect of such intellectual property and any Participant using such intellectual property shall be exclusively liable for any cost and expense resulting from such use.

6. Publications

- i. The Participants shall publish the results of their collaboration as Open Access publications.
- ii. Publications shall acknowledge the collaboration between the Participants, including, wherever appropriate, the experts having taken part in the development of the results covered by the publication.

The MoU

7. Liability

Except as expressly provided in this Memorandum, the Participants shall have no liability in connection with their participation in the TVLBAI Study.

8. Duration

- i. In recognition of the fact that this Memorandum does not imply any commitment of resources, a Participant may withdraw from this Memorandum by giving a minimum of three months written notice to the ICB.
- ii. This Memorandum shall remain in force for as long as required to give effect to its provisions.

The MoU

Signed by:

**The Chair of the Terrestrial Very-
Long-Baseline Atom Interferometry
(TVLBAI) Study**

**For the “{Name of Participant
Institute}” ({Short name})**

X Y
TVLBAI Study Chair

{First Name, Last Name}
{Function}

Date:

Date:

Next steps

- Please **send to Oliver, John or myself any further questions or suggestions**
- MoU has been **vetted by CERN legal service**, so it should be easily accepted by your Institutions legal services
- Signatures are usually performed at **University or Institute department level**, as usual practice for example for Government or EU funding requests, etc.
- We propose to **nominate an *ad interim* Chair** who will help in collecting the first signatures and convene in due time the first ICB meeting