

Collaboration Agreement
establishing a framework for research and development
for the SHiP Program at CERN
Reference KN3774/EP

(the "Agreement")

between

The EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH, an Intergovernmental Organization having its seat at Geneva, Switzerland, ("CERN"), as the Host Laboratory,

on the one hand,

and

The INSTITUTIONS, FUNDING AGENCIES AND OTHER SIGNATORIES OF THIS AGREEMENT ("the SHiP Institutions"),

on the other hand

(collectively "the Parties")

Preamble

- (a) Following the submission of a Technical Proposal (CERN-SPSC-2015-017), the SPS and PS Experiments Committee ("SPSC") has recommended that a Comprehensive Design Study, focused on the SHiP detector ("the SHiP Program"), be performed. The CERN Research Board approved this recommendation at its meeting of March 9th, 2016.
- (b) This Comprehensive Design Study is expected to serve as input to the update of the European Strategy for Particle Physics, which is due in 2020.
- (c) Except for Article 13.1 and Annex 1, this Agreement is not legally binding, but the Parties recognise that the success of the SHiP Program depends on all Parties adhering to its provisions.

Article 1 : Annexes

- 1.1 All the Annexes are an integral part of this Agreement.

Article 2 : Purpose

- 2.1 This Agreement provides the organisational, managerial and financial framework for the execution of the SHiP Program.

Article 3 : The SHiP Program

- 3.1 The SHiP Program shall be organized as individual projects ("the SHiP Projects") that will include, but not be limited to, the activities listed in <https://edms.cern.ch/document/1816155/1>.
- 3.2 A critical milestone of the SHiP Program is a concrete prototyping effort towards the envisioned design of the detector and an accompanying campaign of beam measurements aimed at addressing the performance of the active muon shield, the design of the magnets composing the muon shield and a measurement of the charm cross section at 400 GeV/c. A complete overview of the planned research and development and prototyping can be found in <https://edms.cern.ch/document/1816155/1>.
- 3.3 Each SHiP Project shall be defined in a dedicated Addendum to this Agreement, to be signed by CERN as the Host Laboratory and the SHiP Institutions participating in the Project, addressing, *inter alia*:
- 3.3.1 Project Management organization;
 - 3.3.2 The contributions by the SHiP Institutions, grouped by Funding Agency;
 - 3.3.3 The sharing of work packages and/or deliverables and related costs, grouped by Funding Agency;
 - 3.3.4 Project Milestones;
 - 3.3.5 Specific support requested from CERN as the Host Laboratory, including IT support.

A template for a SHiP Project-specific Addendum is provided in Annex 2.

Article 4 : Organization of the SHiP Program

- 4.1 The SHiP Program shall be managed by the SHiP Country Representative Board (the "SHiP Board"), which shall comprise one (1) representative per Funding Agency per country and one representative of CERN as the Host Laboratory. The SHiP Board shall appoint a Spokesperson, a Chairperson and a Technical Coordinator from among

its membership and shall adopt its decision-making procedures, which shall be implemented by the Chairperson.

- 4.2 The SHiP Board shall take its decisions in agreement with CERN as the Host Laboratory.

Article 5 : Responsibilities of CERN as Host Laboratory

- 5.1 The general obligations of CERN as the Host Laboratory, including in terms of Procurement Services, are set out in the General Conditions applicable to Experiments at CERN ("the General Conditions"), attached to this Agreement as Annex 1, which, notwithstanding that the SHiP Program does not have experiment status at CERN, shall apply *mutatis mutandis* to each SHiP Project, except in so far as this Agreement or the corresponding Addendum stipulates otherwise.
- 5.2 CERN shall provide the accelerators and the supporting technical infrastructure necessary for the execution of the SHiP Program.
- 5.3 CERN shall provide the necessary experimental areas for the SHiP Program.
- 5.4 CERN shall provide access to the necessary services available at CERN for the installation and operation of the new equipment in the related experimental hall(s).
- 5.5 CERN agrees to the installation of the new experimental equipment in the related experimental hall(s) at CERN and, subject to resources and schedule constraints, to endeavour to provide beams of protons and charged particle beams with characteristics as requested by the SHiP Institutions.
- 5.6 CERN shall provide access to the CERN Electronics Pool, from which equipment may be rented at the official Electronics Pool rates and under the standard conditions for CERN experiments.

Article 6 : Responsibilities of the SHiP Institutions

- 6.1 The general obligations of the SHiP Institutions are set out in the General Conditions and their contributions to a SHiP Project are specified in the corresponding Addendum.
- 6.2 The SHiP Board shall regularly review and modify the distribution of responsibilities of the SHiP Institutions.

Article 7 : Cost Approval and Oversight

- 7.1 Financial oversight of the SHiP Projects shall lie jointly with the Spokesperson and the Chairperson of the SHiP Board.

Article 8 : Cost Sharing

- 8.1 The SHiP Board shall agree on the cost sharing on a per SHiP Project basis.

Article 9 : Financial Procedures

- 9.1 A dedicated budget code shall be set up, held and administered by CERN for the purposes of the SHiP Projects and in compliance with applicable CERN rules and procedures. CERN shall keep true and accurate records of all sums paid into and out of such budget code.
- 9.2 Contributions by the Parties participating in a SHiP Project paid into the budget code shall be used solely to fund such Project, and for no other purpose. CERN shall issue invoices in Swiss Francs to the participating SHiP Institutions upon request by the SHiP Board.
- 9.3 The Spokesperson shall be responsible for the financial control of, and have signature rights on the budget code. The Spokesperson may delegate the financial management and/or signature rights to other persons subject to agreement by the SHiP Board.

Article 10 : Default

- 10.1 The SHiP Board shall address any default in the provision of the agreed contributions to a SHiP Project resulting in a net loss of contributions to the SHiP Project.

Article 11 : Amendments

- 11.1 This Agreement may be amended at any time with the agreement of its signatories. Any such amendments shall be subject to the prior agreement of the SHiP Board.

Article 12 : Differences

- 12.1 The primary mechanism for resolution of any differences shall be consultation within the SHiP board in the first instance, followed, if necessary, by resolution through a consensus decision by the SHiP Board, and if the difference has not been resolved accordingly, through the mechanism set out in Article 8.7 of the General Conditions.

Article 13 : Duration

- 13.1 This Agreement shall take effect on the date of its signature. It shall remain effective until the termination of the SHiP Program, subject to continued recommendation and approval of the SPSC and the CERN Research Board.
- 13.2 Any SHiP Institution may withdraw its support from a SHiP Project by giving not less than three (3) months' notice in writing. The SHiP Board shall review the distribution of responsibilities of the remaining Institutions of the SHiP Project concerned, in accordance with Article 6.2.

Annex 1**General Conditions applicable to Experiments at CERN**

Annex 2

**Addendum No. xxx
to
Collaboration Agreement KN3774/EP
for the SHiP Program at CERN**

[Name of SHiP Project]

Considering that:

The SHiP Program is governed by Collaboration Agreement KN3774/EP ("the Agreement"), including its Annexes, Addenda and Amendments, which provides the organisational, managerial and financial framework for the execution of the SHiP Program;

Articles 3.1 and 3.3 stipulate that the SHiP Program shall be organised as projects ("the SHiP Projects") and that each SHiP Project shall be defined in a dedicated Addendum to the Agreement, to be signed by CERN as the Host Laboratory and the SHiP Institutions (as defined in the Agreement) participating in the Project;

The proposal [Name] describes the [...].

It is agreed as follows

Article 1: Purpose

- 1.1 The purpose of this Addendum is to lay down the terms of participation of SHiP Institutions in the Project, which is described in Annex 1. This Addendum is subject to the provisions of the Agreement and signature of this Addendum therefore constitutes approval of the Agreement.
- 1.2 The Annexes form an integral part of this Addendum.

Article 2: Parties

- 2.1 The Parties to this Addendum shall be the SHiP Institutions contributing to the Project and CERN as the Host Laboratory. The current list of participating SHiP Institutions is included in Annex 2.

Article 3: Duration

- 3.1 This Addendum shall take effect on the date of its signature. It shall remain effective until the termination of the SHiP Program, subject to continued recommendation and approval of the SPSC and the CERN Research Board.

Article 4: The Project

- 4.1 The work plan consists of a number of sub-units, work packages and/or deliverables as listed in Annex 1.
- 4.2 The management structure of the Project is described in Annex 3.
- 4.3 Annex 4 sets out the deliverables, including their value, grouped by Funding Agency.
- 4.4 A set of Project milestones is included in Annex 5.

Article 5: Financial procedures

- 5.1 Pursuant to Article 9 of the Agreement, a dedicated budget code for the purposes of the SHiP Project is held and administered by CERN. Participating SHiP Institutions may financially contribute to this budget code on a voluntary basis in accordance with the estimated value of deliverables stated in Annex 4.
- 5.2 The aforementioned budget code is available to cover material, equipment and manpower costs connected to the SHiP Project, on condition that sufficient funds are available on the said budget code. This budget code may also be used by CERN for the execution of payments of subsistence allowance to experts of participating SHiP Institutions on behalf of such Institutions. It is understood that such payments shall be made in accordance with CERN's Rules and Regulations, including but not limited to Administrative Circular 11.

ANNEXES

Annex 1: Description of the Project

Annex 2: Participating SHiP Institutions

Annex 3: Management structure of the SHiP Program and of the Project

Annex 4: Value of deliverables grouped by Funding Agency

Annex 5: Project milestones

The European Organization for Nuclear Research (CERN)

and

The [Name of SHiP Institution]

declare that they agree on Addendum No xxx to Collaboration Agreement KN3774 for the SHiP Program at CERN concerning the [Name of the SHiP Project].

Done in Geneva

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For the European Organization for Nuclear Research (CERN), as the Host Laboratory of the SHiP Program

Eckhard Elsen
Director for Research and
Computing

.....

For the participating SHiP Institution

Institute / Funding Agency

Signatory

[Name of the SHiP Institution]

.....

Place and Date

Signature

.....

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