

Addendum No. yy

to the

Memorandum of Understanding

for Collaboration in the Construction of the

<EXPERIMENT> Detector

Upgrade of the <Sub-detector> Sub-Detector

Considering that:

The construction of the <Experiment> Detector is governed by a Memorandum of Understanding, along with its Amendments and Addenda, setting out the responsibilities of the different participating Institutes and Funding Agencies for the construction of the <Experiment> Detector¹ (Construction MoU).

Maintenance and Operation of the <Experiment> Detector is governed by a Memorandum of Understanding for Maintenance and Operation (M&O MoU)².

In order to be able to take full advantage of planned luminosity upgrades of the LHC, the <Experiment> Collaboration (the Collaboration) has proposed an Upgrade Program of the <Experiment> Detector <reference>, consisting of a set of modifications and replacements of existing Sub-Detectors as well as new additions to the Detector

As part of the Upgrade Program, the Collaboration has proposed an upgrade of the <Sub-detector> Sub-Detector.

On the basis of a Technical Proposal³ and Technical Design Report⁴ submitted <dates> and a detailed review of the scientific merits, the technological feasibility and estimates of the needed resources, the LHC Committee (LHCC) recommended approval of the <Sub-detector> Sub-Detector Upgrade to the CERN Research Board.

Based on the recommendation by the LHCC, the Research Board recommended to the Director General of CERN to approve the <Sub-detector> Sub-Detector Upgrade.

The Director General has accepted the Research Board recommendation and approved the <Sub-detector> Sub-Detector Upgrade.

It is agreed as follows**Article 1: Purpose**

- 1.1 The purpose of this Addendum and its Annexes is to lay down the terms of participation of the contributing Institutes and Funding Agencies in the construction, installation and commissioning of the <Sub-detector> Sub-Detector Upgrade in conformity with the Construction MoU along with its amendments and addenda.

¹ Memorandum of Understanding for Collaboration in the Construction of the <Experiment> Detector <reference>

² Memorandum of Understanding for Maintenance and Operation of in the Construction of the <Experiment> Detector <reference>

³ <Sub-detector> Technical Proposal

⁴ <Sub-detector> Technical Design Report

1.2 All the Annexes are an integral part of this Addendum.

Article 2: Parties

2.1 The Parties to this Addendum shall be all the Institutes that are contributing to the upgrade of the <Sub-detector> Sub-Detector (severally the Upgrade Institutes, jointly the Upgrade Collaboration) and their Funding Agencies (the Upgrade Funding Agencies), and CERN as the Host Laboratory. The current list of Upgrade Institutes is given in Annex 1 and the current list of Upgrade Funding Agencies is given in Annex 2.

Article 3 : Duration

3.1 This Addendum takes effect from the date of signature and shall remain valid until the <Experiment> Management declares the end of the <Sub-detector> Sub-Detector Upgrade project.

3.2 Any Upgrade Institute may withdraw its support from the <Sub-detector> Sub-Detector Upgrade by giving not less than eighteen months notice in writing. In this event, reasonable compensation to the <Sub-detector> Sub-Detector Upgrade project shall be negotiated through the <Experiment> Management and endorsed by the RRB.

3.3 Any Institute that joins the Upgrade Collaboration after the start of the Upgrade project shall accept the agreements in force and shall be expected to make an appropriate contribution to the <Sub-detector> Sub-Detector Upgrade as shall be specified in a corresponding Addendum to this Addendum. This shall be negotiated by the <Experiment> Management and endorsed by the RRB.

Article 4 : The <Sub-detector> Sub-Detector Upgrade

4.1 The <Sub-detector> Sub-Detector Upgrade is defined in detail in the Technical Proposal submitted to the LHCC and in the Technical Design Report. The <Sub-detector> Sub-Detector Upgrade consists of a number of sub-units as listed in Annex 3.

4.2 The management structure of the <Sub-detector> Sub-Detector Upgrade Collaboration is described in Annex 4.1. Persons currently holding management positions are given in Annex 4.2

4.3 The technical participation of the Upgrade Institutes, grouped by Funding Agency, is set out in Annex 5.

4.4 The Upgrade Collaboration decides for each <Sub-detector> Sub-Detector Upgrade cost item whether the cost is to be borne at the common expense of the Collaboration or not. The <Sub-detector> Sub-Detector Upgrade cost items are thereby divided into two categories:

4.4.1 Common Infrastructure Items, comprising those costs that the Upgrade Collaboration has agreed to bear at its common expense;

- 44.2 Specific items that are the responsibility of <Sub-detector> Sub-Detector Upgrade Institutes or groups of Institutes.
- 4.5 Annex 6 shows the value of the deliverables, by Funding Agency and Sub-Detector sub-units, to which the Upgrade Institutes and Funding Agencies are committed and for which they have foreseen the appropriate funding.
- 4.6 The schedule for the design, construction, installation and commissioning of the <Sub-detector> Sub-Detector Upgrade is given in Annex 7.

ANNEXES

- Annex 1: List of Upgrade Institutes and Contact Persons
- Annex 2: List of Funding Agencies and Representatives
- Annex 3: List of <Sub-detector> Sub-Detector Upgrade Sub-units
- Annex 4.1: Management structure of the <Sub-detector> Sub-Detector Upgrade Collaboration
- Annex 4.2: Persons currently holding management positions
- Annex 5: Institutes Participating in the <Sub-detector> Sub-Detector Upgrade
- Annex 6: Deliverables to be provided by the Upgrade Institutes and Funding Agencies to the <Sub-detector> Sub-Detector Upgrade
- Annex 7: Construction Schedule

The European Organization for Nuclear Research (CERN)

and

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declare that they agree on the Present Addendum to the Memorandum of Understanding for Collaboration in the Construction of the <EXPERIMENT> Detector

Done in Geneva

Done in

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for CERN

for

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Sergio Bertolucci
Director of Research and
Scientific Computing

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ANNEX 6: Deliverables to be provided by the Institutes and Funding Agencies to the <Sub-detector> Upgrade

Funding Agency	Institute	Det WBS1	Det WBS2	Det WBS3	..	Det WBSn	Total
F/A 1	Inst1						0
	Inst2						0
	..						0
	Instn						0
F/A 2	Inst1						0
	Inst2						0
	..						0
	Instn						0
..							0
F/A n	Inst1						0
	Inst2						0
	..						0
	Instn						0
Common Cost							0
	Total	0	0	0	0	0	0