

FRAMEWORK COLLABORATION AGREEMENT
REFERENCE KN3758
(THE “AGREEMENT”)

BETWEEN: THE EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH (“CERN”), an Intergovernmental Organization having its seat at Geneva, Switzerland, duly represented by Roberto Losito, Head of the Engineering Department,

AND: THE UNIVERSITY OF PATRAS (the “University”), established at Patras, Greece, duly represented by Professor Demosthenes Polyzos, Vice Rector of Research and Development,

Hereinafter “Party” and collectively “Parties”.

CONSIDERING THAT:

That CERN, an Intergovernmental Organization, is a leading global laboratory in particle physics, providing for collaboration of a pure scientific and fundamental character, with participation by scientific institutes from all over the world;

That the University includes 24 Departments, with a large number of sectors and consequently a great range of disciplines, which operate 112 laboratories and 14 fully equipped clinics;

That the Parties wish to collaborate in areas of mutual interest, including but not limited to Particle Physics and Engineering;

The mutual benefit that the Parties would derive from collaboration between them;

AGREE AS FOLLOWS:

Article 1
Purpose

This Agreement establishes the framework for collaboration between the Parties in areas of mutual interest, including but not limited to Particle Physics and Engineering. The implementation of this Agreement by the Parties shall be subject to the availability of resources at the Parties. The Parties shall use the results of their collaboration for non-military purposes only.

Article 2
Project(s)

- 2.1 Each Party’s contribution to a specific collaboration (“Project”), including, where applicable, the required resources, the duration of the activities and any deliverables, milestones, acceptance procedures and the management of the Project shall be set out in an Addendum to this Agreement. The Project shall be subject to the provisions of this Agreement, varied, where applicable, through the provisions of the Addendum.

2.2 Except as agreed otherwise by the Parties, each Party shall bear the cost of its participation in the collaboration and the Project(s).

Article 3
Experts

3.1 Each Party shall ensure the selection of experts with the necessary skills and competence to execute each Project on its behalf, taking into account the nature and the environment of the activities.

3.2 Where CERN acts as a host Party in the execution of a Project or otherwise receives University experts in the execution of this Agreement, the University experts may be appointed as associated members of the personnel pursuant to the conditions set out in the CERN Staff Rules and Regulations from which it follows that, for the duration of their association with CERN (i) the University experts shall have a legal link with the University, (ii) the University shall be responsible for their social insurance, (iii) the University experts shall maintain medical insurance cover adequate in Switzerland and France for themselves and accompanying family members, which shall include cover for occupational illness and accidents for the University experts, and (iv) the University experts shall have adequate financial resources to support themselves and accompanying family members. The University shall hold CERN free and harmless from liability in connection with the subject matter of this Article.

Article 4
Conduct and safety

4.1 The experts shall comply with the rules of conduct and safety in force at the host Party.

4.2 Any activity, equipment or other item contributed by a Party to the collaboration shall conform to the safety rules, including any specific safety requirements, in force at the host Party where such activity will be performed or such equipment or other item will be installed and operated.

Article 5
Intellectual Property

5.1 The disclosure of information under this Agreement does not create any proprietary right for the receiving Party.

5.2 Title in intellectual property developed by a Party in the execution of this Agreement shall be vested in that Party, who shall grant the other Party a free, non-exclusive license for the use of such intellectual property in the execution of its scientific programme by itself or through its partners and contractors, and for commercial exploitation.

- 5.3 Where intellectual property is developed jointly by the Parties and title is therefore vested in them jointly, they shall grant each other a free, non-exclusive license for the use of such intellectual property in the execution of their scientific programmes by themselves or through their partners and contractors, and for commercial exploitation.
- 5.4 The providing Party provides no warranty in respect of intellectual property made available by it under this Agreement, and the receiving Party shall hold it free and harmless from any liability arising from its use (including, where applicable, by its partners and contractors) of such intellectual property.

Article 6 Publications

- 6.1 The Parties shall strive to jointly publish the results of the Projects as Open Access publications.
- 6.2 Insofar as the Parties do not jointly publish the results of a Project, publications by one Party involving results developed by the other Party shall be subject to the latter's prior written approval, which shall not be withheld unreasonably.
- 6.3 Publications shall acknowledge the collaboration between the Parties including, whenever appropriate, the experts having taken part in the development of the results covered by the publication.

Article 7 Confidentiality

The Parties agree to execute the Projects in a spirit of openness. However, where, exceptionally, confidentiality is required, the following provisions shall apply:

- 7.1 Each Party shall treat as confidential any information provided to it by the other Party that is designated as confidential. Except as agreed otherwise in writing, this obligation shall continue for a period of five (5) years from the date of termination of this Agreement.
- 7.2 The receiving Party shall:
 - (i) not use confidential information for any other purpose than for the execution of this Agreement;
 - (ii) limit the circle of recipients of such confidential information on a need-to-know basis and ensure that the recipients are aware of and comply with the obligations as specified in this Article.
- 7.3 No confidentiality obligation shall apply to information which:
 - (i) the receiving Party demonstrates was in the public domain prior to its communication by the disclosing Party;
 - (ii) became part of the public domain after such communication but not through any fault of the receiving Party;

- (iii) was already in possession of the receiving Party at the time of signature of this Agreement;
- (iv) has been lawfully received by the receiving Party from a third party without any confidentiality obligation; or
- (v) has been developed by the receiving Party independently and outside the scope of this Agreement.

Article 8 Liability

- 8.1 Except as provided in Articles 3.2, 5.4 and in this Article 8, each Party shall bear its own loss and damage in connection with this Agreement.
- 8.2 Subject to Article 8.3, the responsible Party shall indemnify the other Party for its loss and damage resulting from gross negligence or willful misconduct by the responsible Party, or a violation by the responsible Party of the rules of conduct and safety in force at the host Party.
- 8.3 Notwithstanding the foregoing, the Parties shall in no event be liable to each other for any consequential loss or damage, such as loss of income or of availability of data or installations.

Article 9 Entry into force, duration and termination

- 9.1 This Agreement shall enter into force on the date of signature by the last Party to sign. It shall remain in force for the duration of the collaboration, unless terminated by joint agreement, or by one Party giving at least three (3) months prior written notification to the other Party. Except as otherwise agreed by the Parties, termination of this Agreement shall be without prejudice to the completion of outstanding Projects set out in Addenda to this Agreement.
- 9.2 In case of a substantial breach by a Party of its obligations under an Addendum to this Agreement, the other Party may terminate that Addendum in whole or in part if no corrective action satisfactory to the other Party is taken within one (1) month of the issue of a letter of notice by the other Party to the breaching Party.
- 9.3 Articles 3.2, 5, 7, 8, 9.3 and 10 of this Agreement shall survive its termination, howsoever caused.

Article 10

Governing law and dispute resolution

- 10.1 The terms of this Agreement shall be interpreted in accordance with their true meaning and effect and as a consequence of CERN's status as an Intergovernmental Organization, independently of national and local law. If this Agreement does not expressly stipulate, or any of its terms is ambiguous or unclear, then in those circumstances only and not in respect of this Agreement as a whole, reference shall be made to Swiss substantive law.
- 10.2 The Parties shall settle any difference concerning this Agreement amicably. Where this is not possible, the Parties shall resort to arbitration in accordance with a procedure to be specified by the Parties. Notwithstanding reference of the dispute to arbitration, the Parties shall continue to perform their obligations under this Agreement.

Article 11 Coordination

The Parties shall each nominate a technical coordinator, who together shall coordinate the overall execution of this Agreement, as well as a safety correspondent who will be responsible for safety matters. Their names and contact details are set out in Annex 1. It is understood that the Parties may decide to nominate a different technical coordinator for each specific Project, whose name and contact details shall be set out in the relevant Addendum.

Article 12 Amendments

Any amendment to this Agreement shall be made in writing and signed by the authorized representatives of the Parties.

For the European Organization
for Nuclear Research (CERN)



Roberto Losito
Head of the Engineering Department

On: 22/11/17 2017

For the University of Patras



Professor Demosthenes Polyzos
Vice Rector of Research and Development

On: 20/11/17 2017

ANNEX 1
Technical coordinators and safety correspondents

The University's technical coordinator and safety correspondent shall be Professor Vassilis KOSTOPOULOS
Applied Mechanics Lab Director
University of Patras
Department of Mechanical Engineering and Aeronautics,
Patras University Campus, 26500 Greece,
+30 2610969441

CERN's technical coordinator and safety correspondent shall be Nikolaos CHARITONIDIS (EN-EA-LE), nikolaos.charitonidis@cern.ch.

All technical documents shall be sent to:
Nikolaos CHARITONIDIS
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CH-1211 Geneva 23
Email: nikolaos.charitonidis@cern.ch
Tel: +41 22 7662012

KN3759
ADDENDUM No.1
to
FRAMEWORK COLLABORATION AGREEMENT KN3758
between
THE EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH (“CERN”)
and
THE UNIVERSITY OF PATRAS (the “University”)

concerning

The University’s contribution, through its School of Mechanical Engineering and Aeronautics, to the project of consolidation and upgrade of the Beam lines complex and infrastructure of the East Experimental Area at CERN

CONSIDERING:

- Framework Collaboration Agreement KN3758 (the “Agreement”) concluded between CERN and the University (individually the “Party” and collectively the “Parties”) defining the framework applicable to collaboration between them in areas of mutual interest, including but not limited to Particle Physics and Engineering;
- Article 2.1 of the Agreement which provides that the scope, each Party’s contribution and all other details of each specific Project shall be laid down in Addenda to the Agreement;
- That the Parties have identified the Project set out below, which shall be covered by the provisions of this KN3759 Addendum No.1 (the “Addendum”). This Addendum shall be subject to the provisions of the Agreement, it being understood that in case of divergence the provisions of this Addendum shall prevail;
- The University shall execute its contribution to the Project through its School of Mechanical Engineering and Aeronautics,

THE PARTIES AGREE AS FOLLOWS:

1. Project:

The Project comprises tasks related to the mechanical calculations studies of the new collimators (beam shaping and intensity devices) that will be developed for the 3 renovated beam lines T9, T10 and T11 of the East Area. A first prototype will be manufactured in 2018 and a set of 7 collimators will be installed in 2020 (+ two spares). The studies will be completed using several codes, such as ANSYS and CATIA. The results of the studies are important for several experiments at CERN using the East Area facility as test beam for their detectors (ALICE, CMS, ATLAS, CLOUD) and for the CERN EN-EA group, which is responsible for the design, commissioning and operation of the three beam lines.

The Project also includes a range of design optimization studies concerning the existing infrastructure of T9, T10 and T11 secondary beam lines, which have to be adapted in order to accommodate the new layout, as well as the technical specification of the vacuum beam pipes. The latter implies the optimization of the size, material, pumps, sectorization, supports and controls which will be required to operate this new vacuum system.

2. Duration:

The Project shall commence on 1 December 2017 and shall be completed no later than 1 December 2019. It is understood that this Addendum shall also cover any Project-related activities executed by the Parties prior to its entry into force.

3. Each Party's contribution:

3.1 CERN's contribution:

3.1.1 CERN shall contribute to the Project by making available office facilities, workshops, equipment (including dosimeters for work in radiation risk areas, and any other standard CERN safety item that may be required), tooling, materials and services ("the facilities") on the CERN site as required for the execution of the tasks. They shall remain property of CERN and shall be made available without any warranty or liability for any loss or damage resulting from their use. The University shall take proper care of the facilities until the completion of the last of the tasks. The Parties shall agree on the cost of the repair, or the replacement of any item that cannot be repaired.

3.2 The University's contribution:

3.2.1 The University shall contribute to the Project through one (1) master student and one (1) mechanical engineer (collectively the "University experts"), who will work with the CERN Experimental Areas Group (EN-EA) and shall maintain a legal link with the University throughout their stay at CERN.

3.2.2 During their stay at CERN, the University student shall have the status of Cooperation Associate and the University engineer shall have the status of Project Associate subject to the conditions set out in Article 3 of the Agreement and CERN's Staff Rules and Regulations. CERN shall pay a subsistence allowance to the University experts in accordance with its Staff Rules and Regulations.

3.2.3 The University experts shall contribute to the following tasks:

- Study of the new collimators for the 3 renovated beam lines T9, T10 and T11 of the East Area using available calculation codes and models. The University experts shall produce a technical specification of the collimator and present it to the CERN experts for approval;
- Development of the new vacuum system for the T9, T10 and T11 beam lines, as described in the Project above. The University experts shall produce a technical specification of the new vacuum system and present it to the CERN experts for approval.

4. Technical coordination and contact persons:

The overall responsibility of the Project lies with CERN, it being understood however that the University shall remain exclusively responsible for the proper execution of its contribution.

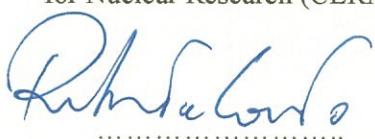
The Parties shall each nominate a technical coordinator, who together shall coordinate the technical execution of this Addendum, as well as contact persons. Their names and contact details are set out in Annex 1.

Subject to the continued validity of the Agreement, this Addendum shall remain in force for as long as necessary to give effect to the Parties' respective rights and obligations under this Addendum.

This Addendum may be amended by written agreement by the Parties.

Thus drawn up in two copies in the English language and signed by the authorized representatives of the Parties

For the European Organization
for Nuclear Research (CERN)



Roberto Losito
Head of the Engineering Department

On: 22/11/2017

For the University of Patras



Professor Demosthenes Polyzos
Vice Rector of Research and Development

On: 20/11/2017

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Applied Mechanics Lab Director
University of Patras
Department of Mechanical Engineering and Aeronautics,
Patras University Campus, 26500 Greece,
+30 2610969441

CERN's technical coordinator shall be Sebastien EVRARD (EN-EA-EC),
sebastien.evrard@cern.ch.

All technical documents shall be sent to:
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CH-1211 Geneva 23
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