

Memorandum on Cooperation
for the CLIC Detector and Physics Study
(hereafter the “MoC”)

The effective date of this MoC shall be November 12th 2012 (the “Effective Date”).

Between:

The European Organization for Nuclear Research (“CERN”), an intergovernmental Organization having its seat at Geneva, Switzerland, as the Host Laboratory,

And:

The Partners listed in Annex 1 to this MoC, including CERN (the “Partners”),

Hereinafter collectively referred to as the “Parties” and individually as the “Party”.

Considering that:

- (a) On 30 November 2005, the *Memorandum of understanding for a multi-lateral collaboration* was signed between the Institutions and Funding Agencies of the CTF3 Collaboration, for the construction of the Compact Linear Collider (CLIC) Test Facility (CTF3) and the performance of Feasibility Experiments to demonstrate the key issues of the CLIC scheme;
- (b) The CLIC Detector and Physics study (the “Study”) focuses on detector and physics simulations and hardware R&D for experiments at a future high-energy e⁺e⁻ collider based on the CLIC accelerator technology;
- (c) The Partners have expressed their interest to take part in and contribute to the Study;
- (d) CERN’s role as the Host Laboratory in the Study;
- (e) The mutual benefit of the Parties that shall result from collaboration between them;

HAVE AGREED AS FOLLOWS:

Article 1

Scope

- 1.1 This MoC defines the framework under which the Parties shall cooperate in the Study, and describes the organisational structure and decision mechanism of the Study.
- 1.2 This MoC shall be complemented by Annexes, which shall form an integral part of this MoC.
- 1.3 Except as may be provided otherwise, each Party shall bear its own cost of participation in the Study.

Article 2

The Study

2.1 The Study, in coordination with the worldwide Linear Collider organisation under the *International Committee for Future Accelerators* ("ICFA"), aims at:

- Studies of the physics discovery potential and prospects for precision measurements at the CLIC e^+e^- collider, including aspects related to beam polarisation;
- Detector simulation and optimisation studies;
- Software development for event generation, detector simulation, event reconstruction and analysis;
- Hardware development for detector sub-systems and their readout electronics, in part carried out within the Linear Collider R&D collaborations;
- Engineering and integration studies for a future CLIC experiment, including supporting infrastructures and underground facilities related to it.

2.2 The detailed scientific and technical objectives of the Study shall be as described in Annex 2 to this MoC, that shall be updated on a regular basis, subject to the approval of the Institute Board (IB).

Article 3

Organisational structure and decision mechanism

The Organisational structure of the Study shall include the following entities:

1. the CLIC detector and physics Institute Board (IB);
2. the CLIC detector and physics Executive Team (ET), comprising
 - 2.1. the Spokesperson,
 - 2.2. the Technical Coordinator,
 - 2.3. the other ET members;
3. the CLIC detector and physics Steering Board (SB).

The organisational structure of the Study resembles that of most HEP experiments at CERN, with CERN as a Host laboratory. The Partners will be represented in the “CLIC detector and physics Institute Board” (IB). While the IB is the ultimate decision entity that gives directions to the Study, the executive and representation roles will be covered by the “CLIC detector and physics Executive Team” (ET) and the “CLIC detector and physics Steering Board” (SB).

The organisational structure of the Study is described in global terms below. A more detailed description of the internal procedures of the entities is described in [Annex 3](#). Updates of [Annex 3](#) are subject to approval by the IB.

3.1 The CLIC detector and physics Institute Board (IB)

- Comprises one member from each Party participating in the Study;
- Meets at least once per year;
- Defines the direction of the Study, taking higher-level constraints and strategies into account;
- Shall elect its Chairperson;
- Shall elect the Spokesperson of the Study;
- Approves the appointment of the Technical Coordinator by the Spokesperson;
- Approves the appointment of additional member(s) of the ET by the Spokesperson;
- Defines the rules applicable in the execution of the Study, including in particular the rules for the election and renewal of appointments and the publication rules and internal procedures for public presentations and publications;
- Gives recommendations to the CLIC detector and physics Executive Team;
- Admits new Partners to the Study;

3.2 The CLIC detector and physics Executive Team (ET)

- Comprises (i) the Spokesperson, who shall also act as the ET Chairperson, (ii) the Technical Coordinator, and (iii) any additional member appointed by the Spokesperson;
- Meets on a (bi-)weekly basis and fulfils the principal executive roles linked to the management of the Study and the follow-up of the decisions made by the IB.

3.2.1 The Spokesperson

- Represents the Study to the outside, including to CERN as Host Laboratory;
- Chairs the ET;
- Chairs the SB, unless he/she designates another person for this role;
- Appoints the Technical Coordinator, in agreement with CERN;
- Appoints, subject to approval by the IB, the other ET members;
- Appoints the additional members of the SB.

3.2.2 The Technical Coordinator

- Is appointed by the Spokesperson, in agreement with CERN;
- Is continuously based at CERN for the duration of her/his mandate;
- Coordinates engineering and layout issues in the Study, and provides the interface to the accelerator working groups (“Machine Detector Interface”) as well as the interface to CERN for matters related to general infrastructures;
- Has the role and the responsibility of the GLIMOS (Group Leader in Matters of Safety);

- Assists the Spokesperson in matters of technical design and general organisation of the Study.

3.2.3 The other ET members

- Assist the Spokesperson in the organisation of the Study.

3.3 The CLIC detector and physics Steering Board (SB)

- Comprises the members of the ET and the IB Chairperson, possibly complemented by the following persons who can be appointed as additional members by the Spokesperson: (i) the conveners of working groups, and/or (ii) other representatives of major stakeholder study groups,
- Is chaired by the Spokesperson or by another person designated by him/her;
- Takes decisions on the follow-up of the recommendations by the IB and on general organisational matters;
- Ensures good contacts and effective collaboration with the LC detector concept groups and the LC detector R&D collaborations, as well as with the CLIC accelerator study;
- For this purpose, it may invite other members of the LC community to attend its meetings for specific agenda items;
- Takes responsibility for establishing appropriate structures, such as working groups, to follow up on the objectives of the Study;
- Meets on a (bi-)monthly basis.

Article 4

Responsibilities of CERN

in its capacity as the Host Laboratory

It is intended that, where deemed necessary for the Study and subject to availability of resources, CERN, as the Host Laboratory of the Study, shall provide the services specified in Article 5 of the General Conditions applicable to Experiments at CERN ([Annex 5](#)).

Article 5

Responsibilities of the Partners

5.1 The Partners shall, on a best effort basis, contribute to the Study.

5.2 Any specific agreement on a contribution to the Study by a Partner may be set out in an Annex to this MoC.

Article 6

Status at CERN

6.1 If and in so far as they are required to perform work on the CERN site in the execution of this MoC, the personnel of a Partner (other than CERN) shall be granted the status of Associated Member of the Personnel of CERN under the CERN Staff Rules and Regulations. Their social insurance is the responsibility of the Partners, who shall ensure that throughout the association of its personnel with CERN, the latter and any members of their family accompanying them have medical insurance adequate in France and Switzerland. For the personnel, this shall include cover for occupational illness and accidents. The Partners shall hold CERN free and harmless from liability in connection with the subject matter of this Article.

6.2 While on the CERN site, the personnel of the Partners shall be subject to the authority of the Director-General of CERN, in its capacity as the Host Laboratory, and shall comply with the rules of conduct and safety in force on the CERN site.

6.3 The Partners shall ensure that their personnel have adequate financial means to cover their stay in France and Switzerland.

Article 7

Intellectual property

7.1 Proprietary information, including any information protected by trademark, patent or copyright, whether pre-existing or developed in the execution of this MoC, contributed to the Study by a Party in the execution of this MoC, shall not create any right in respect of that information for the other Parties, other than a free, irrevocable and non-exclusive licence to use such information in so far as required for the execution of this MoC or in the scope of its scientific programme, for non-military purposes.

7.2 The Parties provide no warranties or representations of any kind to each other. They shall have no liability to each other with respect to the subject matter of this Article and each Party shall be exclusively liable for the consequences of its use of proprietary information contributed to the Study.

Article 8

Publications

Publication rules and internal procedures for public presentations and publications require approval by the IB, and shall be set out in Annex 4 to this MoC.

Article 9

Liability

Except as provided in Article 6.1, the Parties shall have no liability to each other in the execution of this MoC.

Article 10

New Partners

The Study intends to welcome new Partners. The admission of any new Partner is subject to the formal approval by the IB.

Article 11

Entry into force and duration

11.1 This MoC enters into force upon signature by at least 8 Partners. It can be terminated by a common decision of all Partners.

11.2 Any Partner or CERN as Host Laboratory may withdraw from this MoC, upon one-year-advance written notice to the IB.

Article 12

Dispute resolution

The Parties shall settle any difference concerning this MoC 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 MoC.

Annex 1: The Partners

List of all Partners. To be updated each time a new Partner has joined.

Annex 2: Detailed scientific and technical objectives of the Study

The detailed scientific and technical objectives of the Study shall be updated on a regular basis, subject to approval of the IB. They are described below.

To be completed once the IB has been put in place and once it has agreed on the objectives of the Study and on their accompanying time-line.

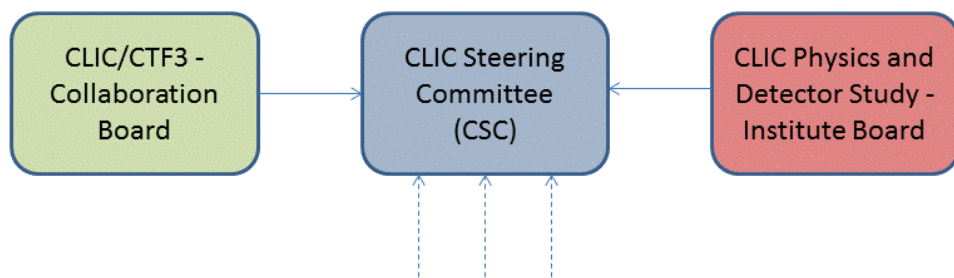
Annex 3: Organisational structure – Internal Procedures

Detailed descriptions of the Organisational structure and Internal procedures, beyond those described in the text of the MoC, require approval by the IB. They are described below.

To be completed once the IB has been put in place and once it has agreed upon a more detailed description of the organisation, complementing that described in the MoC.

A. Link to the CLIC accelerator study

For strategic matters involving both accelerator and detectors, the IB interacts with the CLIC Steering Committee (CSC). The CSC forms the link (see figure) between the CLIC accelerator Collaboration Board (CB) and the IB and also between the management teams of the CLIC accelerator study and the CLIC detector and physics study. The chairperson of IB and the members of the ET represent the CLIC detector and physics study in the CSC.



Participation to Meetings :
Linear Collider Director (global LC organisation under ICFA);
Delegate of the ILC accelerator team;

...

B. Other items 1 ...

C. Other items 2 ...

Annex 4: Procedures for conferences and publications

The internal procedures for publications and presentations require approval by the IB. They are described below.

A “conferences and publications board” with initially three members ensures the internal coordination of the publication and presentation of common results of the Study.

To be completed once the IB has been put in place and has set out the internal procedures for publications and presentations.

Annex 5: General Conditions applicable to experiments at CERN

<http://committees.web.cern.ch/committees/GeneralConditions.pdf>

Annex 6: Signature form template

The European Organization for Nuclear Research (CERN)

And

NAME OF THE PARTNER

Declare that they agree on the Memorandum on Cooperation for the CLIC Detector and Physics Study.

Done in Geneva

Done in PLACE

Date

Date

.....

.....

For CERN

For NAME OF THE PARTNER

.....
NAME
FUNCTION

.....
NAME
FUNCTION