

**ADDENDUM**  
**to**  
**THE MEMORANDUM OF UNDERSTANDING**  
**FOR A MULTI-LATERAL COLLABORATION**  
**between**  
**THE INSTITUTIONS AND FUNDING**  
**AGENCIES OF THE CTF3 COLLABORATION**  
  
**concerning**  
**THE CONTRIBUTION OF THE EUROPEAN**  
**ORGANIZATION FOR NUCLEAR RESEARCH (CERN)**  
  
**TO THE CTF3 COLLABORATION**

**November 2005**

**CONSIDERING:**

The Memorandum of Understanding ("the MoU") defining the framework applicable to the construction of a 3<sup>rd</sup> generation Compact Linear Collider Test Facility (CTF3) and the performance of Experiments to demonstrate the feasibility of key issues of the CLIC scheme;

That Article 1.2 of the MoU envisages Addenda defining each contribution pledged to the CTF3 Collaboration,

**THE EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH (CERN)**, in its capacity as Member of the CTF3 Collaboration, **HEREWITH AGREES** to make the following contributions:

*Already provided until/inclusive 31 December 2004*

- The total capital cost of previously existing CERN facilities, equipment and other items made available by CERN to the Collaboration until/inclusive 31 December 2004 is valued at 40 MCHF.
- The new equipment made available by CERN to the Collaboration until/inclusive 31 December 2004 is valued at 16 MCHF.
- The manpower, rated at 150 kCHF per man-year, made available by CERN to the Collaboration and used before 31 December 2004 amounts to 100 man-years.

*CERN shall assume responsibility for the provision of the following in-kind contributions to CTF3:*

- Power converters for the magnets of the Transfer Line 1 (TL1) and the Combiner Ring (CR): 0.86 MCHF
- 3 GHz waveguides for the CR: 0.1 MCHF
- CLEX building to be built during 2006 and to be ready for installation of material in 2007. Estimated cost about 2.5 MCHF
- Technical services, infrastructure of CTF3 buildings, maintenance and exploitation of the whole complex (other than the facilities defined in Article 5.1 of the MoU); estimated to be on average 0.5 MCHF/year
- Daily project management

*And jointly with other Members:*

- Magnet system for the Combiner Ring (jointly with BINP): delivery foreseen in November 2005, cost for CERN: 0.33 MCHF

- Detailed design and manufacture of components for TL1 and CR : 0.6 MCHF
- Pumps, gauges and control equipment of the vacuum system for TL1 and CR for installation in 2005/2006 : 0.2 MCHF
- Infrastructure, installation of equipment and cabling of TL1 and CR in 2005/2006 : 1.6 MCHF
- Controls hardware and software for TL1 and CR : 0.1 MCHF
- CTF3 commissioning, operation and testing
- CLIC accelerating structure and PETS development, ongoing until 2009, estimated to be about 0.8 MCHF/year.
- For the Probe Beam, built under the responsibility of CEA/DAPNIA and IN2P3/LAL and LAPP,
  - Preparation chamber for photocathodes,
  - LIL accelerating sections incl. accessories
  - One klystron
  - Hardware for Low level RF system
  - Power supplies for magnets
  - RF deflector
  - Vacuum valves and pumps
  - Cooling water infrastructure
  - Hardware and VME cards for controls system

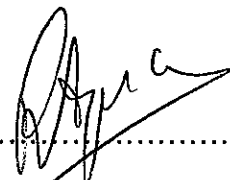
the value of the equipment is estimated to be 1.95 MCHF.
- CERN participation in the ISTC-supported programme towards the development of a 30 GHz high power RF source by IAP: 75 kCHF

The manpower for these activities is covered by the CERN Medium Term Plan (MTP) and will be about 25 man\*years per year.

This Addendum shall form an integral part of the MoU.

Done in Geneva on 30 November 2005

For the European Organization for  
Nuclear Research (CERN)



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Director-General, R. Aymar