

**AGREEMENT RELATING TO  
HOSTING THE  
HEADQUARTERS OF THE CHERENKOV TELESCOPE  
OBSERVATORY**

**AT THE BOLOGNA RESEARCH CAMPUS**

**between the**

**ISTITUTO NAZIONALE DI ASTROFISICA**

**and the**

**CHERENKOV TELESCOPE ARRAY OBSERVATORY  
gGmbH**

**Agreement relating to hosting the  
Headquarters of the Cherenkov Telescope Observatory  
at Bologna Research Campus**

between

**Istituto Nazionale di Astrofisica**, headquartered in Viale del Parco Mellini n°84, 00136 Rome, Italy, represented by its President, prof. Nicolò D'Amico, (hereinafter referred to as "INAF"),

and

**Cherenkov Telescope Array Observatory gGmbH**, which is a German Limited Liability Company with its registered seat in Heidelberg, Germany and its principal place of business at Saupfercheckweg 1, 69177 Heidelberg, registered with the Commercial Registry of the Local Court in Mannheim under №. 720310 (hereinafter referred to as "CTAO")

(hereinafter collectively referred to as "PARTIES" or each a "PARTY")

AGREE UPON THE FOLLOWING:

## **Definitions**

**"This Agreement"** means the following Articles and all Annexes.

**"CTA Observatory"** or **"CTAO"** means the legal entity representing CTA, either the current CTAO Observatory gGmbH or any future legal entity that will be established.

**"CTA"** is the Cherenkov Telescope Array which will be constructed and operated by CTAO

**"Convention"** means in this context the future general Agreement for establishing the CTA Observatory

**"Bologna Research Campus"** is the area in Via Pietro Gobetti in the city of Bologna where the new building hosting the CTA headquarters is located and the annexed facilities belonging to INAF or to which INAF has access.

**"Host Premium"** means the specific contribution offered by INAF in its proposal for hosting the CTAO Headquarters in the Bologna Research Campus.

**"Headquarters"** or **"HQ"** means the seat that provides science management, technical coordination and support, central administration and interfaces with the governing bodies as well as the users of the Observatory.

## Preamble

The Parties recognize

- the high potential of the cooperation in the field of ground-based high-energy gamma-ray astrophysics
- the outstanding new scientific opportunities created by the Cherenkov Telescope Array (CTA) for the astronomical and astroparticles community,
- that the current CTAO gGmbH is an interim legal entity and a future legal entity will be established for the construction and operation of the Cherenkov Telescope Observatory by signing a Convention;
- that CTAO issued, on September 9<sup>th</sup> 2015, a call for proposal in order to choose the location of the CTAO Headquarters (hereinafter referred to as CTAO HQ) and the location of the CTAO Science Data Management Center (hereinafter referred to as CTAO SDMC)
- that INAF sent a proposal to host the CTAO HQ in Bologna at its Research Campus;

that CTAO chose on June 13<sup>th</sup> 2016 the Italian HQ proposal, meaning that the CTAO HQ will be hosted in the Bologna Research Campus, and recommended to relocate the CTA Observatory Project Office from Heidelberg to Bologna at the earliest convenience.

- that already before the final legal entity is established, upon request from the CTAO, INAF has provided rooms and infrastructure for the preliminary location of the CTAO project office in the Bologna Research Campus. The terms and conditions have been defined in two Memorandums of Understanding (MoUs) entered into force between the parties on 4 Aug 2016 and on 26 April/2 May 2017 (Annexes 1 and 2).

## Art. 1 Scope

- 1.1 This Agreement governs the conditions for hosting the Headquarters of the Cherenkov Telescope Array at the Bologna Research Campus.
- 1.2 This Agreement complements the Convention. Matters relating to the participation of Italy in CTA in general will be regulated in the Convention. This holds in particular for the contributions to construction of CTA – apart from the specific contributions linked to the choice of Bologna as the site for the Headquarters – and for the sharing of the CTA operation costs among CTA shareholders.
- 1.3 This Agreement does not create any obligation to construct or to operate CTA. This will be subject to the Convention.

## Art. 2 Premises

- 2.1 INAF jointly with the Bologna University Department of Physics and Astronomy is the proprietor of the real estate and the building and outdoor facilities in accordance with the building specifications. INAF guarantees to have full authority on its share of the property.  
INAF agrees to host the CTAO HQ, by stipulating the appropriate contract under Italian law with the CTAO in the constructed and completed premises with address in:
- Via Piero Gobetti 93/3, 40129 Bologna, Italy,  
with the following leased areas:
- At the first floor approximately 560 square meters: around 400 square meters of offices and meeting rooms plus corridors, foyer and a terrace;
  - At the second floor approximately 460 square meters: around 300 square meters of offices and meeting rooms plus corridors and the foyer
- The location of the premises and rooms is set out in Annex 3.
- 2.2 INAF represents and warrants that as from the date of the enforcement and throughout the term of this Agreement all access facilities of the premises specified in Annex A hereto shall remain fully available to CTAO and its guests. This shall also refer to all access facilities from public or private roads or parking spaces.
- 2.3 INAF will provide appropriate advertisement to the CTAO Headquarters (e.g. flags, signs).

## Art. 3 Offices

- 3.1 Within the Bologna Research Campus, the building specifications shall foresee for CTAO a total number of 24 rooms, located on the East wing of the building at the 1st and 2nd floor, which can be used according to CTAO needs as proper offices, storage rooms, small laboratories or meeting rooms, as specified below:
- 2 rooms of about 30 square meters each
  - 3 rooms of about 27 square meters each
  - 7 rooms of about 22 square meters each
  - 4 rooms of about 20 square meters each
  - 8 rooms of about 18 square meters each

See Annex B for the location of the rooms.

- 3.2 Each office will contain at least one window. The doors to each office can be locked. INAF will provide according to the specifications/selection of CTAO free of charge

- new, state-of-the-art furniture (customized in case of particular need or requirement);
- VoIP telephone (also with conference call option) equipment;
- wi-fi and wired internet access;
- printing / photocopying / scanning equipment.

3.3 For the Infrastructure set up (including: furniture, telephone and video conferencing system, high speed networking installation) INAF shall supply all necessary CTA PO office furnishing at INAF own cost in accordance to the requests of the CTAO, for a total investment not exceeding 200 k Euro.

## Art. 4 Meeting Spaces

- 4.1 Within the Bologna University – INAF Campus, the building specifications shall foresee the following meeting spaces for CTAO inside the CTAO-HQ building complex:
- o two 50m2 meeting rooms for about 20-25 persons on the 1<sup>st</sup> floor;
  - o one 30m2 meeting room either at the 1<sup>st</sup> or 2<sup>rd</sup> floor.
  - o
- 4.2 Furniture and all infrastructure set up for the meeting spaces listed in art 4.1 will be provided by INAF and will be included in the 200K, as reported in art 3.3.
- 4.3 INAF commits to provide a room to be used for Council in the CTA-INAF building obtained through a refurbishing of the internal space distribution.
- 4.4 In addition, large meeting rooms are available throughout the building. CTAO staff will also have access, on a shared basis, to more rooms/space within the Campus. Available meeting spaces outside the CTAO-HQ, within the Campus space can be summarized as follows:
- o one 418-seat lecture theatre;
  - o two 85-seat rooms;
  - o one 35-seat room;
  - o one 20-seat room;
- 4.5 INAF shall equip all rooms and lecture halls listed in Art. 4.3 and 4.4 with state-of-the-art videoconference facilities, also including wi-fi and wired internet access. This specific IT infrastructure is not part of the Host Premium.

## Art. 5 Auxiliary space and Shared Facilities

- 5.1 A dedicated laboratory with approx. 32m2 for test and development of small equipment shall be made available for CTA either at the 1<sup>st</sup> or 2<sup>nd</sup> floor.
- 5.2 INAF shall provide an IT office and server space, equipped with cooling and backup power systems, located at the 2<sup>nd</sup> floor, shared with INAF-OABo. Additional space and

resources for computer servers as well as user interface facilities shall be made available at the INAF institutes in the CNR buildings.

- 5.3 INAF shall provide a storage room of approx. 32 m<sup>2</sup> within the building for the sole disposition of CTAO on the 1<sup>st</sup> floor. This storage room will be complemented, if needed, by an additional storage space located in other INAF buildings within the Campus, for a total storage room exceeding 100m<sup>2</sup>.
- 5.4 INAF shall guarantee the access, on a shared basis, to all facilities including its laboratories, IT center, workshops, clean-rooms and computer services available in the CTA HQ building, and also in the adjacent INAF Institutes.
- 5.5 CTAO will be granted access to the DIFA-INAF library at the ground floor of the CTAO HQ building and free access to the Bologna CNR-INAF Research Area Library an all its service.

Especially, CTA will freely access the Bologna CNR-INAF Research Area Library and all its services, namely:

- full access to more than 18,000 on-line journals and 80,000 ebooks;
- access to the international network for interlibrary document exchange;
- a library collection of more than 2,000 journals and more than 6,000 scientific books;
- meeting rooms for individual or small groups use (on a shared basis);
- seminar rooms (on a shared basis).

- 5.6 CTAO and its guest will have access to the Bologna CNR-INAF Research Area canteen.
- 5.7 Parking space is available at the Bologna CNR INAF Research Area as well as in the Navile Canal surrounding area.

## **Art. 6 Social Space**

- 6.1 INAF shall provide for the exclusive use of CTAO a coffee corner with vending machines on the 1<sup>st</sup> floor, as well as equipped dining area with space for at least 20 persons located at the 2<sup>nd</sup> floor of the building.
- 6.2 INAF shall provide social/reception/ visitor spaces on a shared basis. These will include, in the baseline configuration an 86sqm room at the ground floor by the entrance of the building complex. INAF shall provide upon request by CTAO additional social/reception/ visitor space in the Bologna Research Campus area. The large terrace located at the 5<sup>th</sup> floor of the INAF building shall be made available to CTA-HQ, on a shared basis, for receptions, social events, and other activities.

These rooms shall be equipped upon request with: chairs and desks, wi-fi and cable internet access, wide-screen monitor/display facilities, panels and notice boards for posters and general information points. Such visitor and reception areas will also be available as exhibit areas.

## **Art. 7 Access to Shared Facilities**

INAF guarantees access to the CTAO employees to both internal and external facilities of the Bologna Research Campus at the same conditions as those established for all INAF personnel.

## **Art. 8 IT-Infrastructures**

- 8.1 INAF shall ensure a state-of-art computing network, which includes:
- GARR PoP (“Point of Presence” of the National Grid for Research and Universities) which also offers 1 Gb/s connectivity
  - a 10 Gb/s connectivity for European VLBI;
  - a dedicated monomodal line to be set up for CTA, which allows 10/40/100 Gb/s connections;
  - fibre-based connections.
- 8.2 INAF shall guarantee the update of standards of the provided IT Infrastructure for the 5 years of the Host Premium.

## **Art. 9 Expansion Options**

- 9.1 INAF guarantees the possibility of expansion to CTAO. Up to 10 additional offices with an extra space of approximately 250 m<sup>2</sup> shall be made available upon request of CTAO. The additional space shall be made available either on the 3<sup>rd</sup> floor of the CTAO-HQ building or in the adjacent Astronomy Department building connected at each floor by a corridor.
- 9.2 The space itself will be granted free of charge to the CTAO. Costs for implementing the expansion option (space refurbishing, furniture, IT equipment, etc.) will be at the CTAO own expenses, unless part of the 200k€ (host premium) is still available .

## **Art. 10 Housekeeping and Cleaning**

- 10.1 INAF shall guarantee housekeeping and cleaning daily service for all offices and spaces, meeting rooms and other common rooms.

- 10.2 The service shall be provided by INAF free of charge as part and in the terms of the Host Premium

## **Art. 11 Administrative support and relocation assistance**

- 11.1 INAF shall offer to the CTAO administrative support from the personnel currently employed at INAF in Bologna and, if needed, at INAF HQ in Rome, in all matters related to the possible managerial and administrative activities (e.g. procurement, intellectual property rights, financial and legal issue). For the above mentioned matters, up to 3 FTE per year will be guaranteed free of charge for the period of the Host Premium.
- 11.2 Additionally, the administrative and technical staff at the INAF institutes shall assist CTAO personnel in relocation matters. These may include finding accommodation, assistance with contractual matters for relocation procedures, etc.
- 11.3 CTAO will be offered the opportunity to benefit from the services reserved to INAF personnel, contracted by INAF to external companies, such as travel, hotel booking.

## **Art. 12 Host Premium**

- 12.1 The “Host Premium” is the additional contribution offered by INAF in its proposal for hosting the CTAO HQ in the Bologna Research Campus. Such a contribution will not be accounted as in-kind contribution to CTAO by Italy.
- 12.2 INAF Host Premium includes:
- Building and infrastructure set-up;
  - Operating costs for 5 years as per Art. 13;
  - Maintenance costs for 5 years;
  - 3 FTE/year for 5 years

The estimated value for the Host Premium is 4.3MEuro.

- 12.3 The Host Premium starts from the commence of the activities of the CTA final legal entity. However, since MoUs, regulate the preliminary location of the CTAO Project Office in the Bologna Research Campus, Parties agree that if infrastructures and facilities part of the Infrastructure set up will be delivered in advance with respect to the date of the enforcement of this agreement, for such items, the 5 years period of the Host premium will start from the date of delivery.



## **Art 13 Operating costs**

INAF shall be in charge of all operating costs for the Host Premium period. This includes, but is not limited to the following costs:

- access to services (bar, canteen, library, summer nursery) at the same conditions provided for INAF employees;
- consumables;
- electrical power;
- cleaning;
- heating;
- wastes and related treatment;
- security and safety ;
- insurance (e.g. fire, natural disasters)

## **Art. 14 Maintenance**

- 14.1 INAF shall cover, according to the Italian Law regulating the handover contract agreed to be appropriate, ordinary and extraordinary maintenance costs, related to the building infrastructures and all facilities, for the Host Premium period.
- 14.2 Extraordinary maintenance costs, as defined in the Italian Law, related to the building infrastructures and all facilities, will be covered by INAF for the entire duration of the contract
- 14.3 INAF shall in the case of extraordinary events and for the entire duration of this agreement, undertake all works and alterations necessary to keep the building or the Premises in operable conditions and to prevent or to cure imminent or actual damages.
- 14.4 From its side, CTAO shall ensure a diligent treatment of the Premises and installations.

## **Art. 15 Replacement Works**

In the case of the need of modifications on the configuration of the building CTAO and INAF will agree on the modalities.

## **Art. 16 Succession Plan**

The Parties hereto are aware that CTAO gGmbH is an interim legal entity.

The Parties agree that any rights and obligations borne by this Agreement will be transferred to any future legal entity which might be within the CTA project. INAF gives its prior consent to this assignment.

INAF shall ensure that any successor takes over its rights and obligations of this Agreement.

## **Art. 17 Term**

The present agreement will enter into force from the signature of the Convention .

## **Art. 18 Applicable law**

Italian Law shall apply.

## **Art. 19 Other Provisions**

- 19.1 All documents and Annexes attached to this Agreement shall form an integral part hereof. Any amendments or supplements shall be recorded in writing and shall be attached to this Agreement.
- 19.2 Amendments and supplements to this Agreement shall be in writing. Such written form requirement may be waived through separate arrangement in writing only. INAF and CTAO are in agreement that no side arrangements have been made.
- 19.3 Further details and arrangements not covered in this Agreement can be agreed upon by the Parties in writing (i.e. exchange of letters or in the form of additional Annexes signed by both Parties).
- 19.4 If any provision of this Agreement (or parts thereof) shall be or become invalid, then this shall be of no effect to the validity of the other provisions of this Agreement. In lieu of the invalid provision an arrangement shall be considered as agreed that reflects the economic purposes of the invalid provision to the closest extent possible.

Signed in Rome.....2017  
2017  
for INAF – Istituto Nazionale di Astrofisica  
ARRAY

Signed in Heidelberg, .....  
for CTAO – CHERENKOV TELESCOPE  
OBSERVATORY gGmbH

.....  
Prof. Nicolás d'Amico  
INAF President

.....  
Prof. Ulrich Straumann  
CTAO gGmbH Managing Director