

## The environment/the architecture

### The Cherenkov Telescope Array Observatory

- will be the largest ground-based gamma ray observatory in the world;
- with up to 118 telescopes;
- HQ in Bologna (Italy);
- two observatory sites (one in La Palma, one in Chile) and
- a Science Data Management Center in Zeuthen, Germany.



## The environment/the architecture

### The CTAO ERIC

- will be set up to construct and operate the CTA Observatory for a 30 years' lifetime
- Step 1 application submitted in March 2019
- Estimated cost  $\approx$  600M Euro;
- $\approx$  30% cash (180M Euro) ,  $\approx$  70% In-Kind (420M Euro)
- will employ  $>100$  staff

## The environment/the architecture

In Kind Contributions (IKC)  
for the construction of the CTAO  
are likely to be provided  
by 8 or more Countries,  
mainly from the EU  
following the IKC Framework Procedure

## **The plan: how IKCs are planned to be exchanged**

### **IKC Framework Document**

- Document negotiated and finalized with IKRC and AFC (Advisory Committees to CTAO Council)
- approved by CTAO Council in 2018,
- to be adapted to the CTAO ERIC and to be approved by CTAO ERIC Council.

## The plan: how IKCs are planned to be exchanged

The IKC:

is a non-cash contribution that may include (1-3):

- 1. a technical component as well as personnel for its assembly, installation and/or integration and technical and scientific verification**

Examples: Telescope foundations,  
Telescope structures, mirrors, cameras

## The plan: how IKCs are planned to be exchanged

The IKC:

is a non-cash contribution that may include (1-3):

**2. personnel made available for specific tasks during the construction phase**

Example: computing teams developing the Telescope software systems

## The plan: how IKCs are planned to be exchanged

The IKC:

is a non-cash contribution that may include (1-3):

**3. other products or services relevant for the completion of the CTAO Facility**

Example: power station or other “array common elements”

## **The plan: how IKCs are planned to be exchanged**

### The IKC process (1/2):

- calls for Expressions of Interest,
- check for formal eligibility,
- Reviews,
- allocation of the IKC to the CTAO ERIC member and identification of its Cost Book Value by CTAO ERIC Council,
- IKC Agreement signed,



## The plan: how IKCs are planned to be exchanged

### The IKC process (2/2):

(for technical components)

- Start of construction,
- Configuration Control,
- Acceptances
  - before delivery
  - at the observatory site (final acceptance)
- Transfer of Title
- Crediting of IKC value

## (What has been done up to now?)

The construction of CTAO  
by way of IKCs  
will be started by the **CTAO ERIC**

## Open Issues

- VAT exemption for Representing Entities
- It is unclear how to handle important IKCs from countries who are not in the position to join the ERIC, neither as Members nor as Observers