



cherenkov
telescope
array

Introduction to key science projects

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Avenge workshop – Rome, May 29, 2023

Access Policy – Principle #1



1. **KSP time is Guaranteed Time Observations**

Access Policy – Principle #1



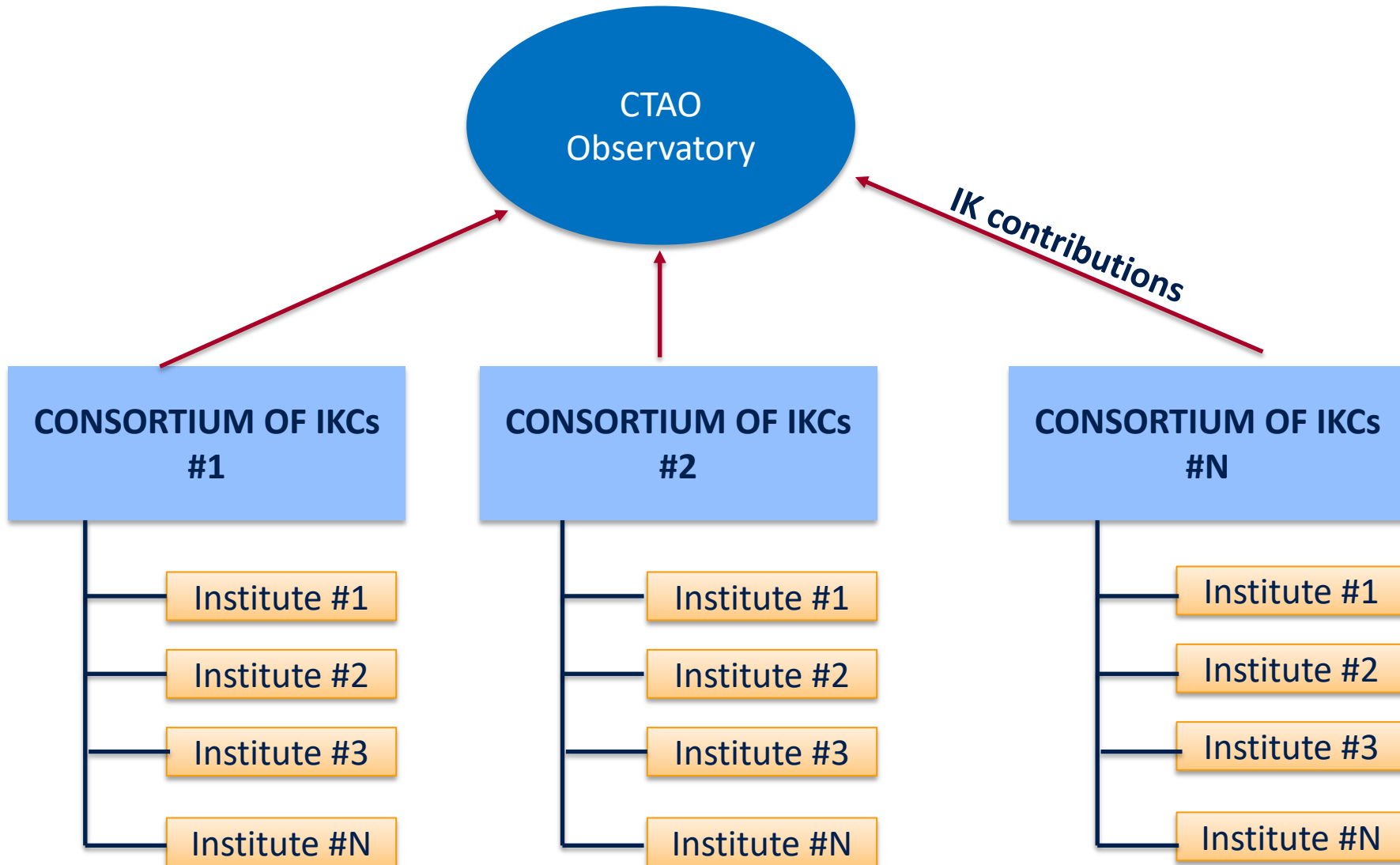
- 1. KSP time is Guaranteed Time Observations**
- 2. These GTOs are granted to countries
→ the owners of the KSP time are countries, e.g. Italy**

Access Policy – Principle #1

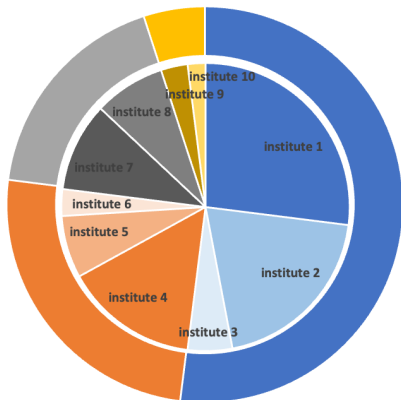
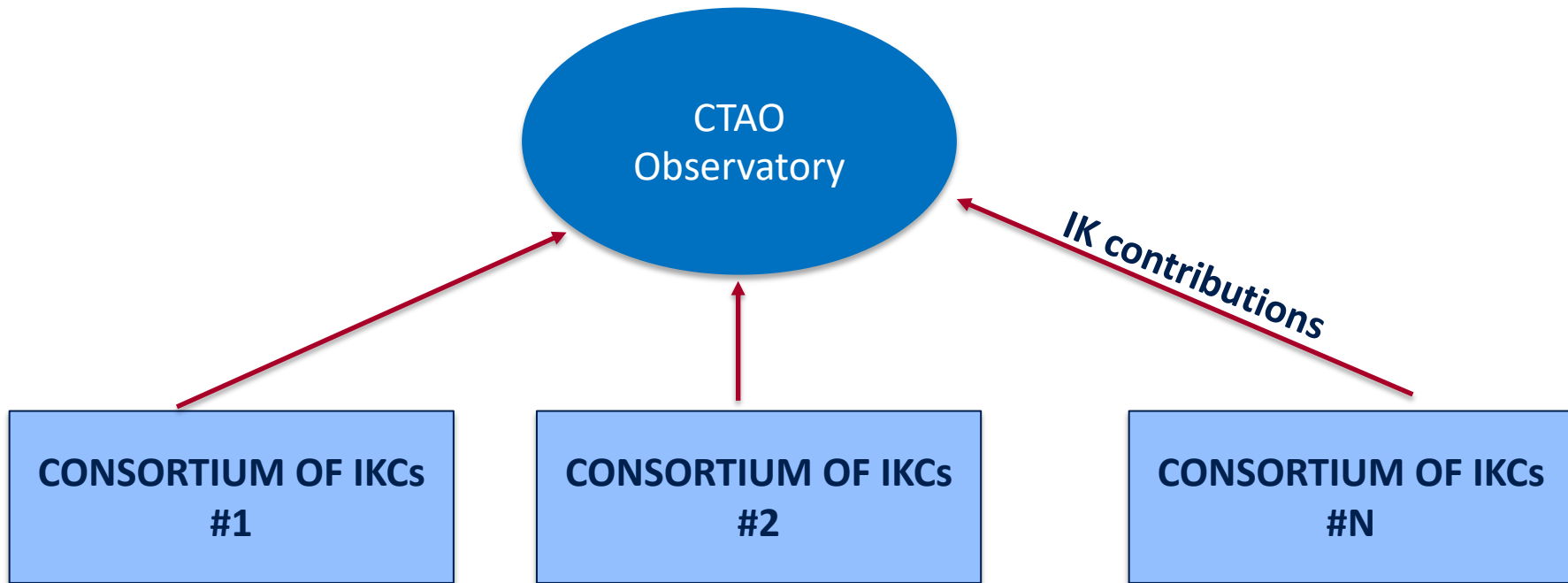


- 1. KSP time is Guaranteed Time Observations**
- 2. These GTOs are granted to countries
→ the owners of the KSP time are countries, e.g. Italy**
- 3. These GTOs are granted as reward for in-kind and cash contributions to the CTAO construction project**

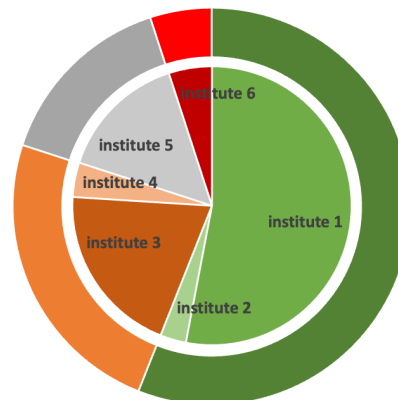
Consortia of IKCs



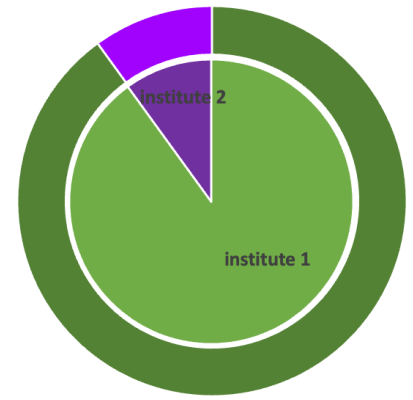
Consortia of IKCs



Spain, Germany, France, Poland

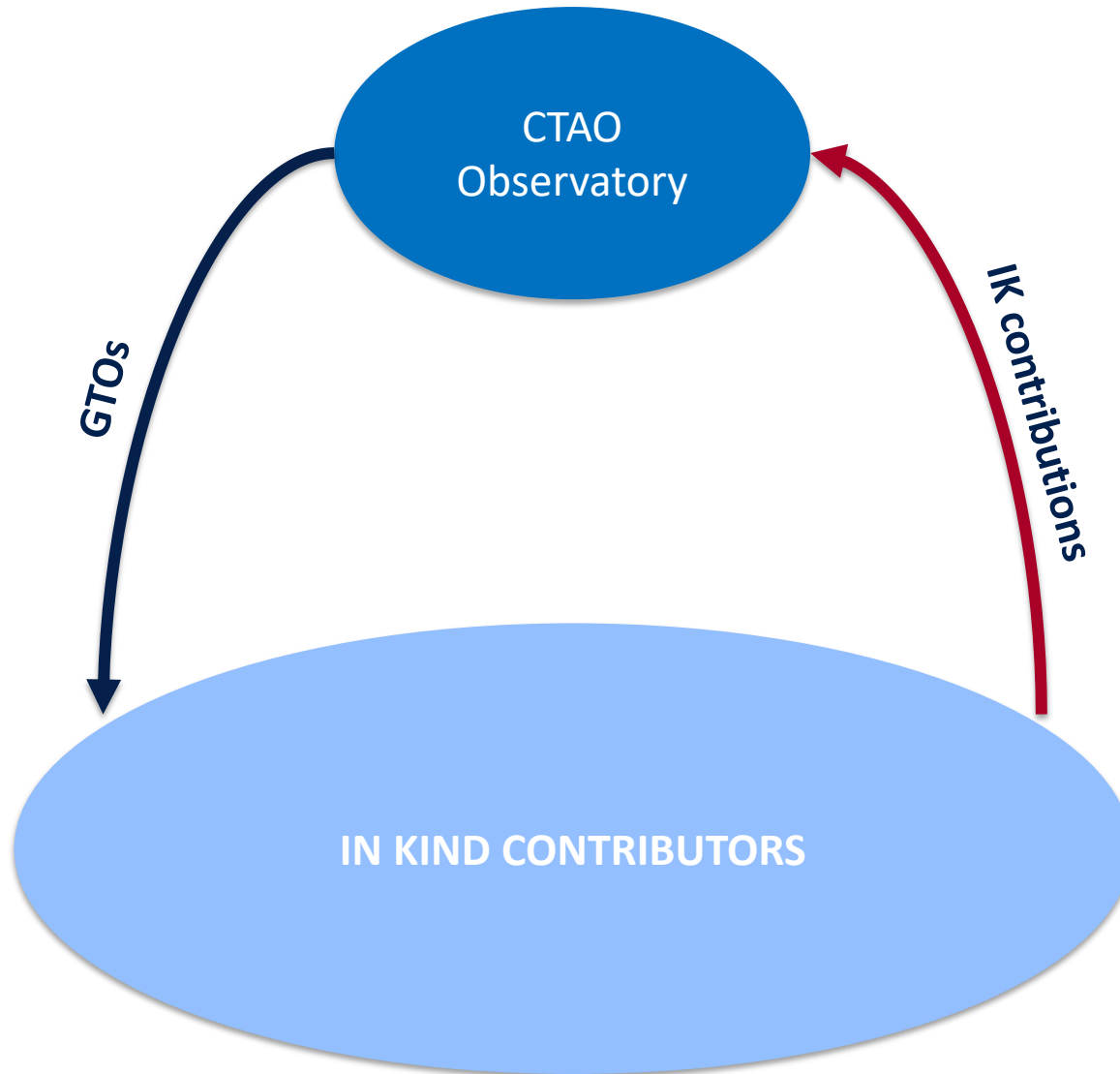


Italy, Germany, France, Australia



Italy, Japan

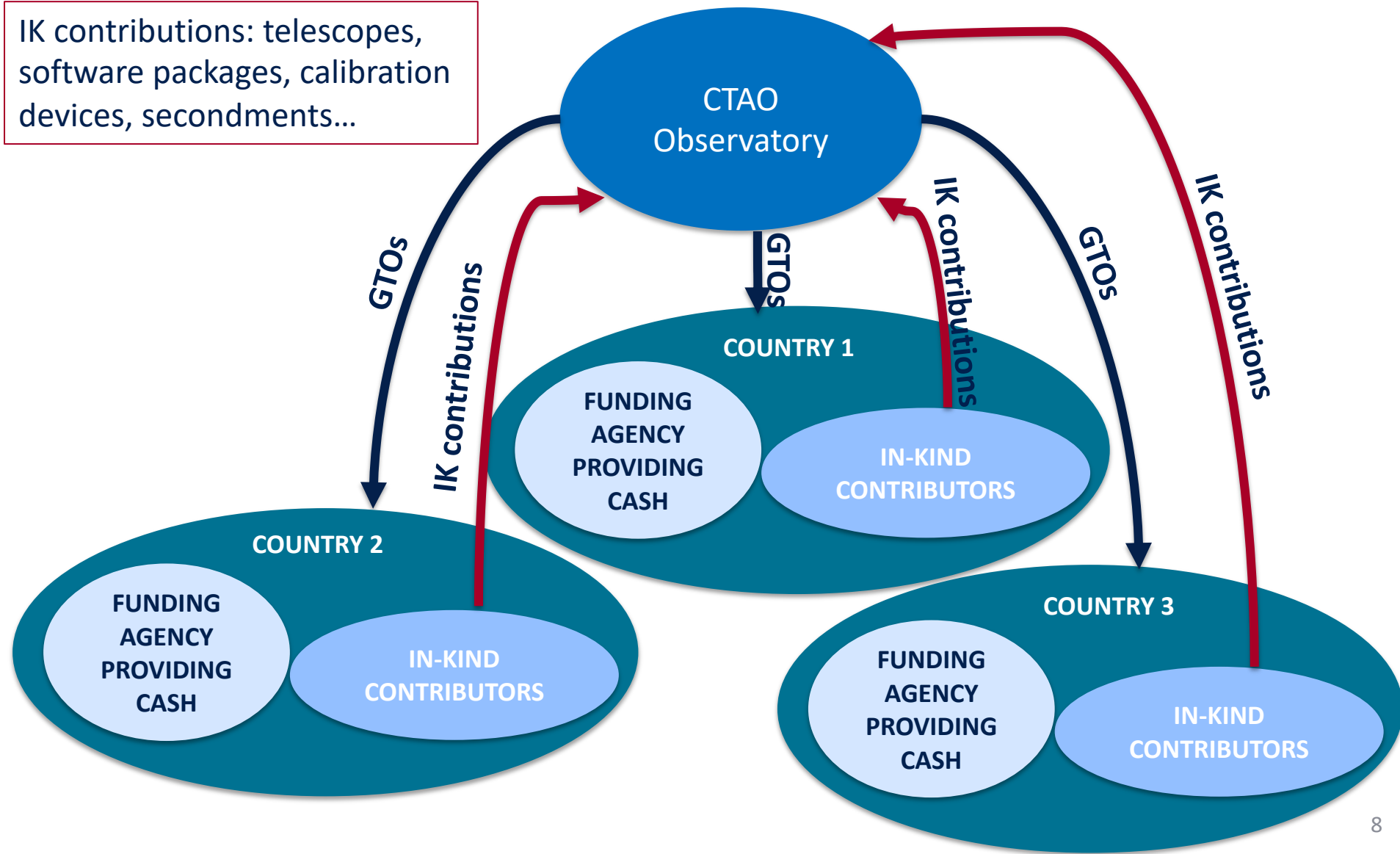
General scheme

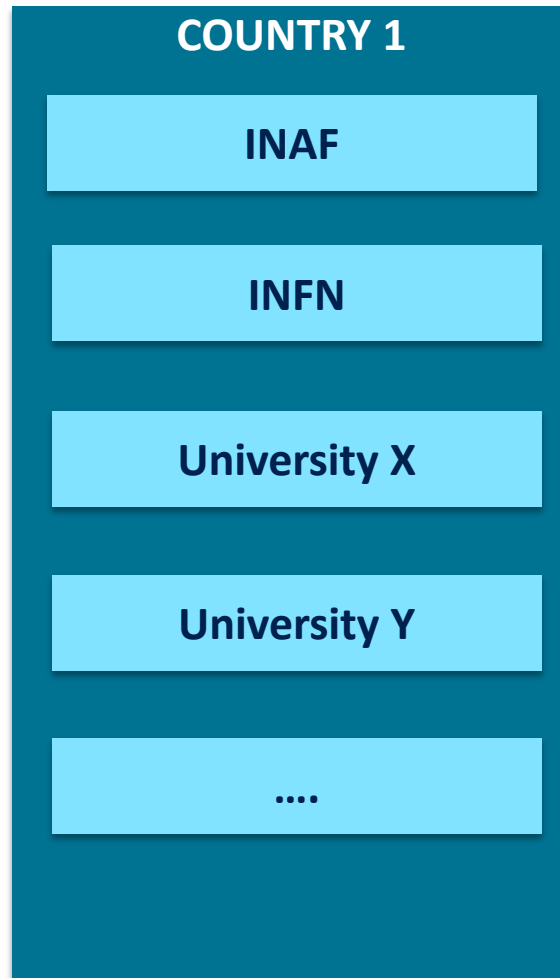


CTAO scheme



IK contributions: telescopes, software packages, calibration devices, secondments...





Internally the country arranges how to guarantee fair recognition to the IKCs

→ INAF and INFN will agree how to guarantee fair recognition to their IKC people

where the fairness is related to the investment (share)

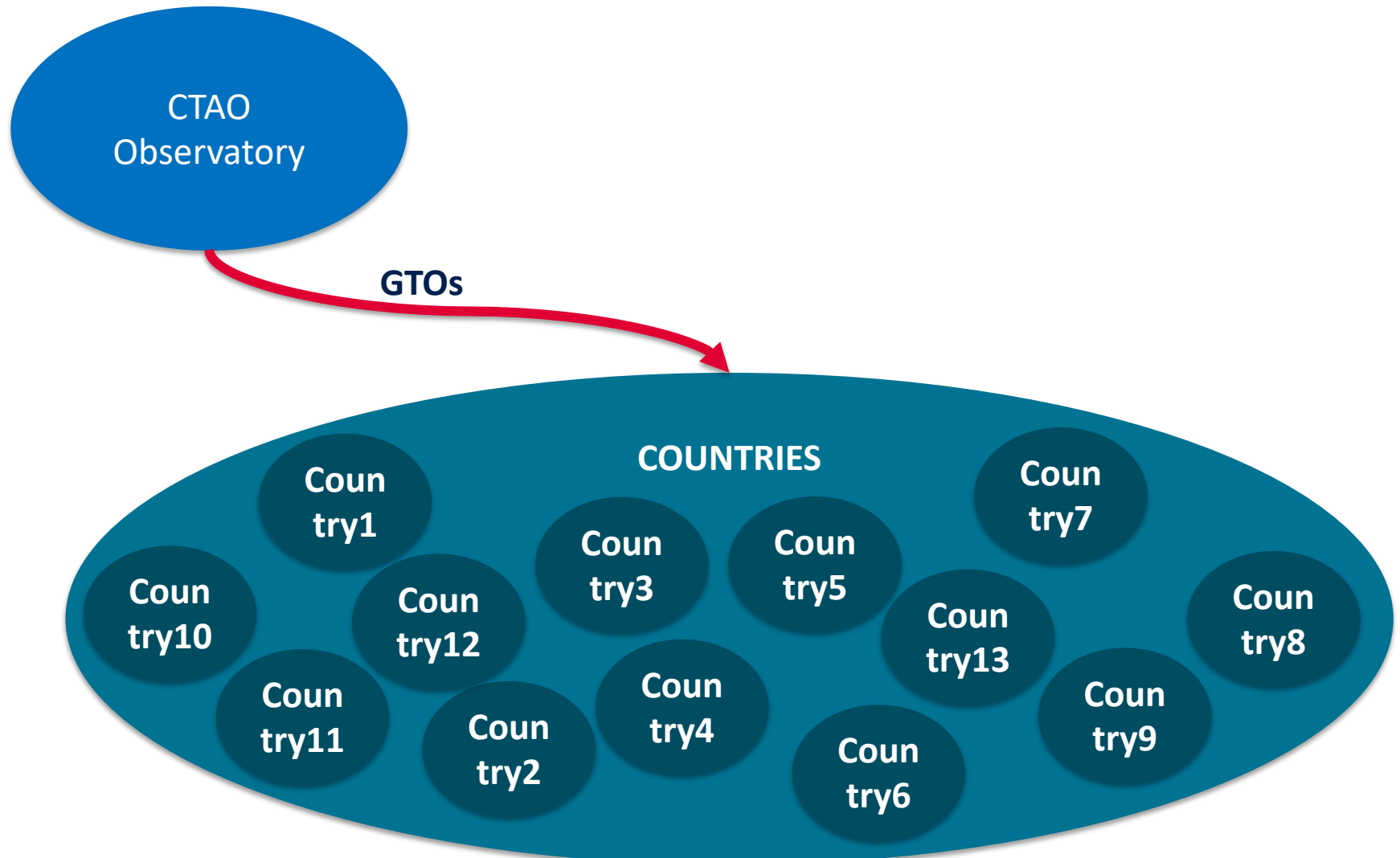
Access policy: principle #2



access to the overall KSP time is conditional upon the formation of one unique scientific collaboration that prepares the KSP proposals, executes the data analysis and delivers the respective data products.

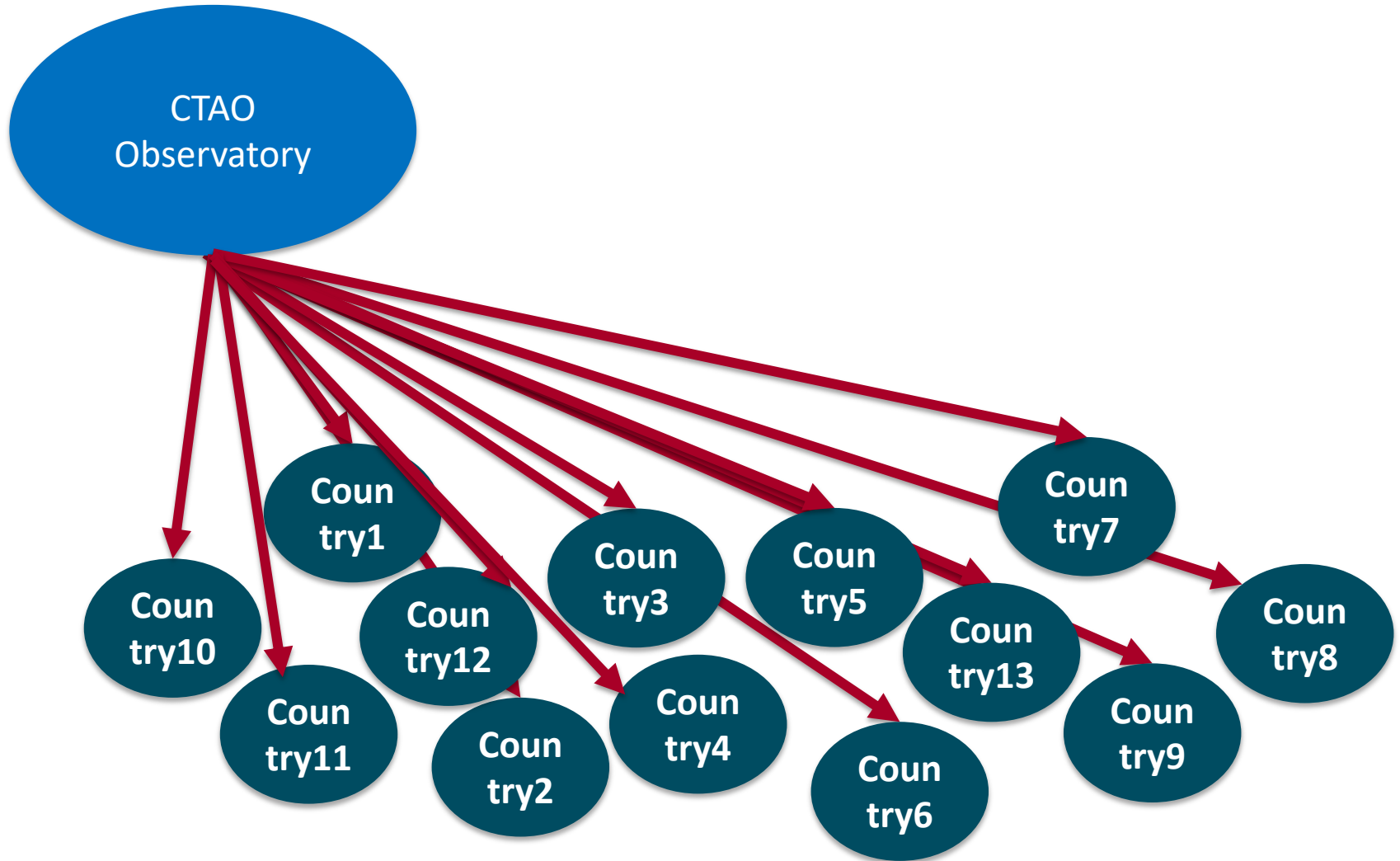
-> no scientific collaboration = no KSP time

CTAO scheme

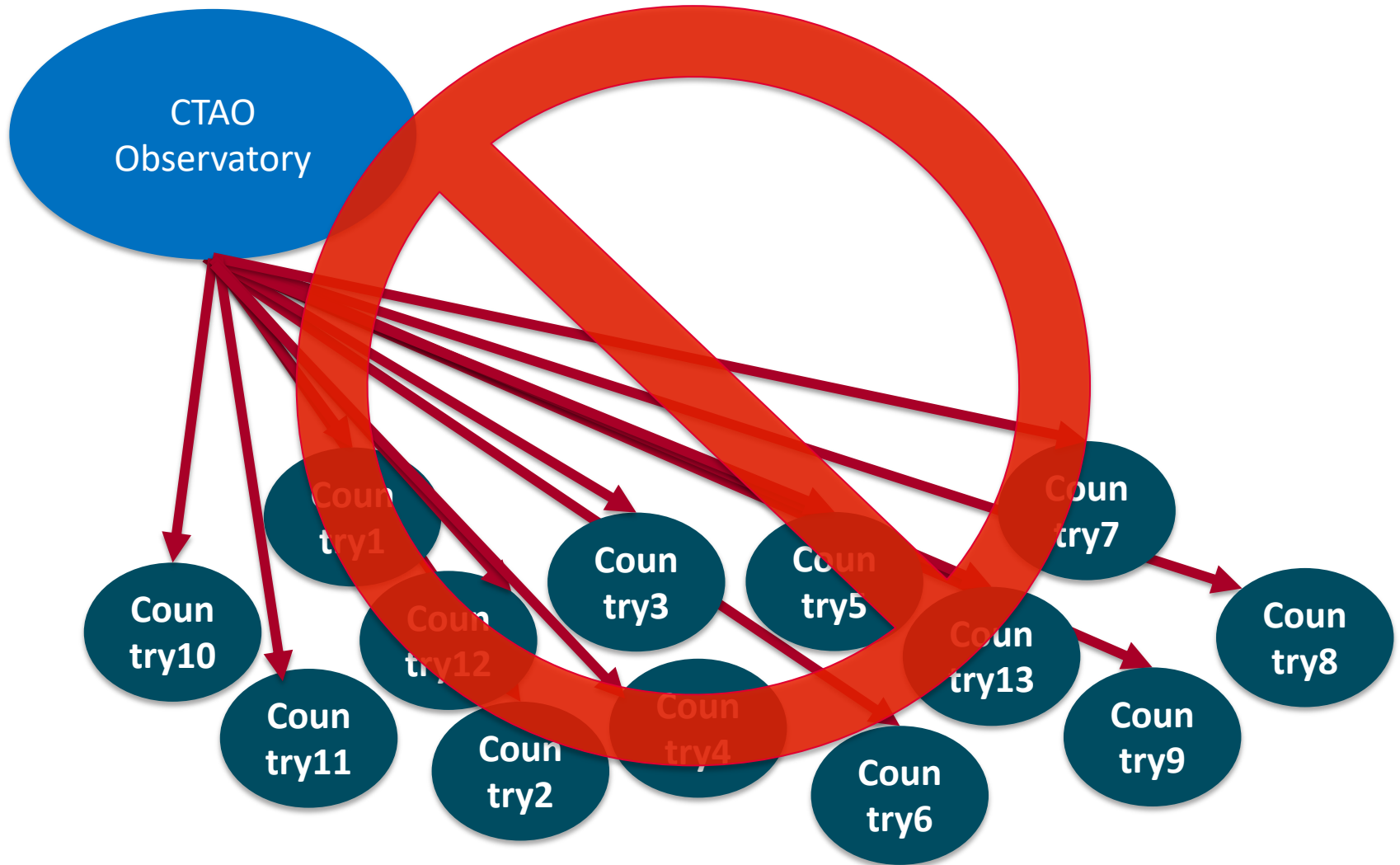


the countries pull the time together and form a scientific collaboration

CTAO scheme



CTAO scheme



The scientific collaboration



- The scientific collaboration is defined through an MoU

NO DISCUSSIONS ON THE MoU HERE: this is politics!!!

→ we assume there will be one and that you that have contributed to the CTAO construction project will be part of it

The scientific collaboration



- The scientific collaboration is defined through an MoU that covers
 1. responsibilities of the collaboration: proposing KSPs, analyzing data and publishing corresponding results
 2. membership
 3. governance proportional to the country's share
- The number of KSP PIs shall be proportional to the country's share

If Italy = INAF + INFN + "X" provides 20% of the overall Construction budget

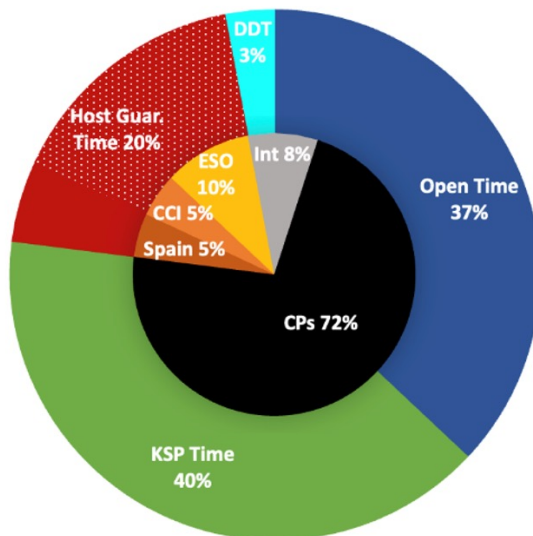
20% of the KSPs PI should belong to Italian institutions

Internally Italy will distribute the "Piships" within its participating institutions respecting the recognition fairness

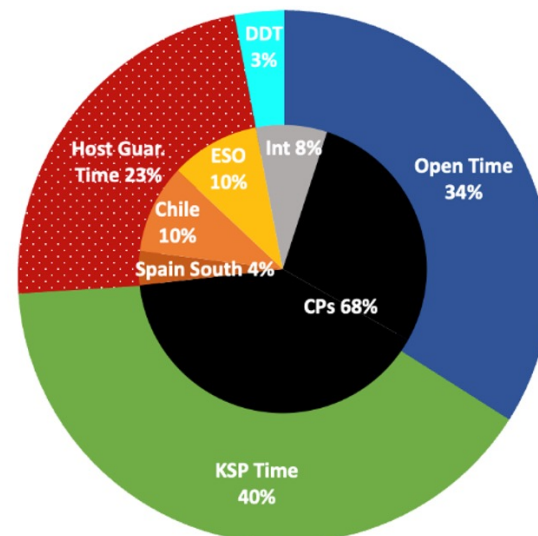
Amount of KSP time

- the fraction of KSP time is 40% of total available observing time of the two arrays integrated over the first 10 observing periods of the operation phase
 - with a non-constant profile:
 - first 2 years **60-70%** of the whole available observing time
 - and a decreasing fraction for the following years.

CTAO-North
(integrated over the first 10 OPs of the Operation phase)



CTAO-South
(integrated over the first 10 OPs of the Operation Phase)



KSP proposals



- **KSP proposals will not be anonymized**
- **KSP proposals will have up to two PIs with the second one being a young scientist (<8 yr since Ph.D. degree)**
- **KSPs will be Large and Long Proposals that will have a form different from the standard ones and will include a sort of management plan**
 - working groups and coordinators names
 - schedule
 - available resources
- **KSP proposals will be evaluated by the CTAO TAC and every year the progress will be evaluate to get the recommendation for continuation**

KSP data access



- the scientific collaboration that runs the KSPs is in charge of producing a series of deliverables formulated a priori, i.e. gamma-ray catalogues
- **the proprietary period is coupled to the delivery of the gamma-ray catalogues** that has been agreed by the CTAO Director General and the management of the scientific collaboration
 - 1st CGL: Bright source catalogue after 6/12 months
 - once released data becomes public

Take away message



- **Italy shall take home what it invests (20%) → with arrangements within involved institutions done internally following the “recognition fairness”**
- **Italy shall have a national scientific view on the KSPs: the interface with other countries is done as Italy**
 - each individual can still decide what s/he wants to do, i.e. in which KSP takes part
 - but the national scientific view is fundamental to guarantee needed resources and train of people.
- **So far there is no KSP proposal ready: there are studies on potential KSP topics**
 - revision of previous work is needed
 - new ideas are welcome

Thank you!

