



# Working with institutes

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# Summary

- Capabilities in European Institutes
- Agreement model
  - Return for effort
  - Documents for agreement
- Expectations
- Evaluation of the approach
- Future plans

# Capabilities in European Institutes

- Capabilities have grown very much since VLT(90s)
- Now 7 or 8 major institutes with
  - Engineering support in depth
  - Proven experience of successful large instrument (10-20M) construction
  - QA procedures in place
    - documentation, reviews etc
  - Substantial technical facilities
    - Integration halls
    - Test facilities

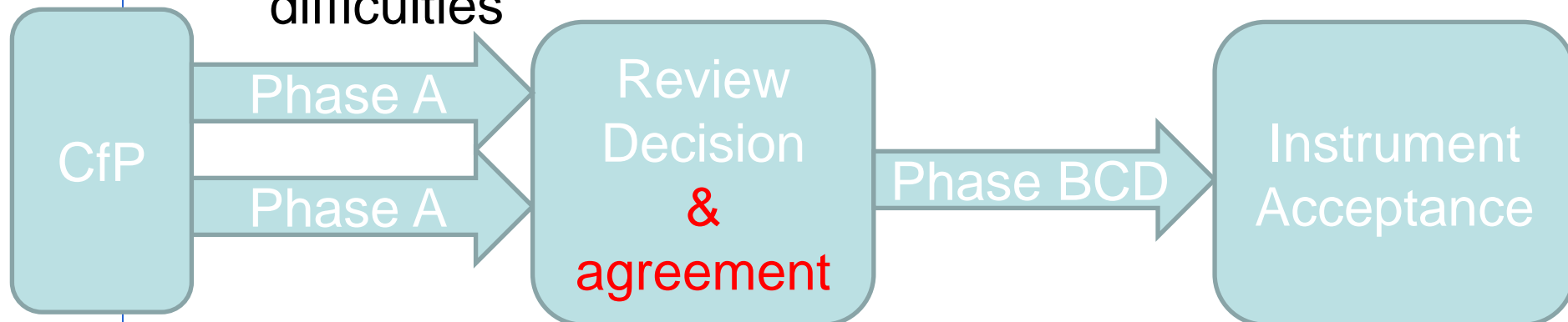
# Agreement model

## ■ Bit like a contract

- Signed agreement stipulates responsibilities and returns
- Historically includes penalties
- ESO is clearly the customer

## ■ Bit like a collaboration

- ESO will usually provide extra funding if required
- ESO will try to supply effort if possible in times of difficulties



# Worked example

- Spectrograph to be built
- CfP to community of Institutes
- Institutes form consortium to reply
- 1 or more selected for Phase A studies
  - Partially funded by ESO with 100-200k
  - Deliver concept, costing and construction proposal
- Major review of each organised by ESO
- One consortium (4-10 institutes) selected
- Negotiation phase
  - ESO can also participate as MoU associate member

# Negotiated Phase (VLT) example

- Assume instrument costs €8M and 150 FTE-years. In addition consortium can contribute €2M to procurement of parts.

## THEN AGREEMENT PREPARED WITH

- ESO agreeing to pay €6M
- Consortium contributing €2M for a GTO return of 40 nights of telescope time
- Consortium contributing 150 FTE-years for a return of 225 nights of observing time

*Total GTO return to consortium of 265 nights.  
Taken over 6 years.*

# Expectations

## ■ ESO

- Want to maintain role of intelligent customer

## ■ National Funding agencies

- Scientific return for the country
- Boost to national technology

## ■ Institutes

- Partial instrument funding from ESO helps leverage staff funding for departments and individuals
- Prestige of building instrument for major facility

## ■ Team members

- Science time for scientists
- Challenging projects for technologists

# Evaluation of approach?

- Collaboration perceived to have been very successful
  - Leveraged a great deal of effort in the community
  - Created an instrument programme 2-3 times larger than could otherwise be afforded c.f. paying full cost
  - Helps community feel part of ESO
- Problems and risks
  - ESO becomes a funding agency with loss of expertise
  - “Currency” of GTO creates undesirable trends
    - Make projects as complex and costly as possible
  - Concern cash contributions are buying observing time



# Future plans

- Specify guaranteed time up front, before CfP.
  - Space approach
  - Approximately independent of precise effort planned
  - Breaks the tendency for inflation of project complexity, scale
- No GTO for cash
  - Removes option of “buying science time with money”

Thank You