



# 4MOST Surveys: application and selection process

Vincenzo Mainieri  
ESO 4MOST Project Scientist



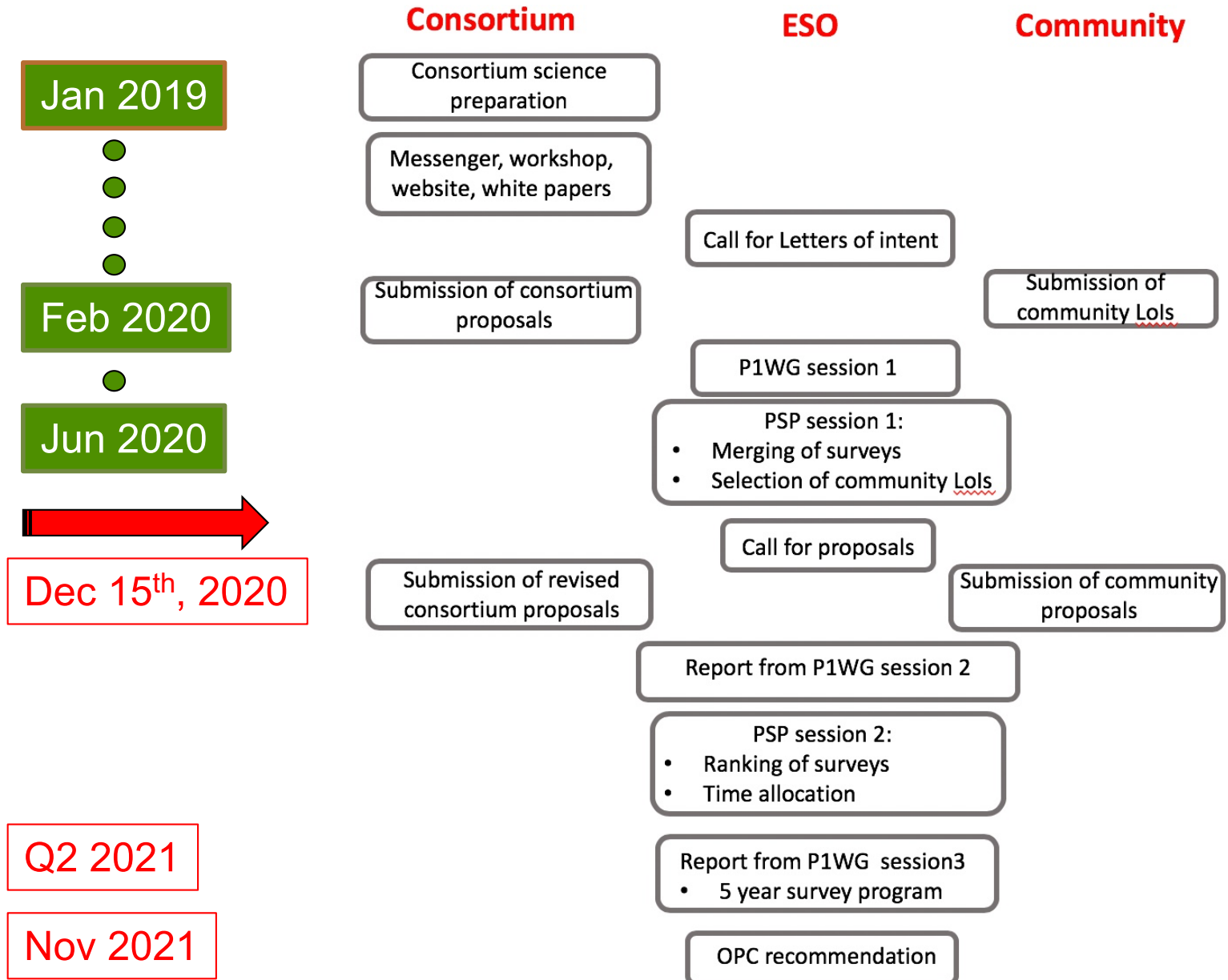


# Towards the 4MOST Survey Programme

- One call for open-time surveys every 5 years
- For the first 5 years, 30% of the time is available for proposals
  - ~6.3 M fiber hours: 4M LRS / 2M HRS (removed predicted weather/technical downtime and fiber allocation inefficiencies)
- Both consortium and community surveys will be public surveys: raw data immediately public and release of data products as described in a Survey Management Plan to be agreed with ESO (see [4MOST Survey Policies](#))
- Selection process led by ESO:
  - Down selection based on Lols
  - Selected teams invited to submit full proposals
  - Recommendations from scientific and technical committees
  - OPC recommendation
  - SMP negotiated with ESO
  - DG approval



# 4MOST Surveys Selection



# A competitive process

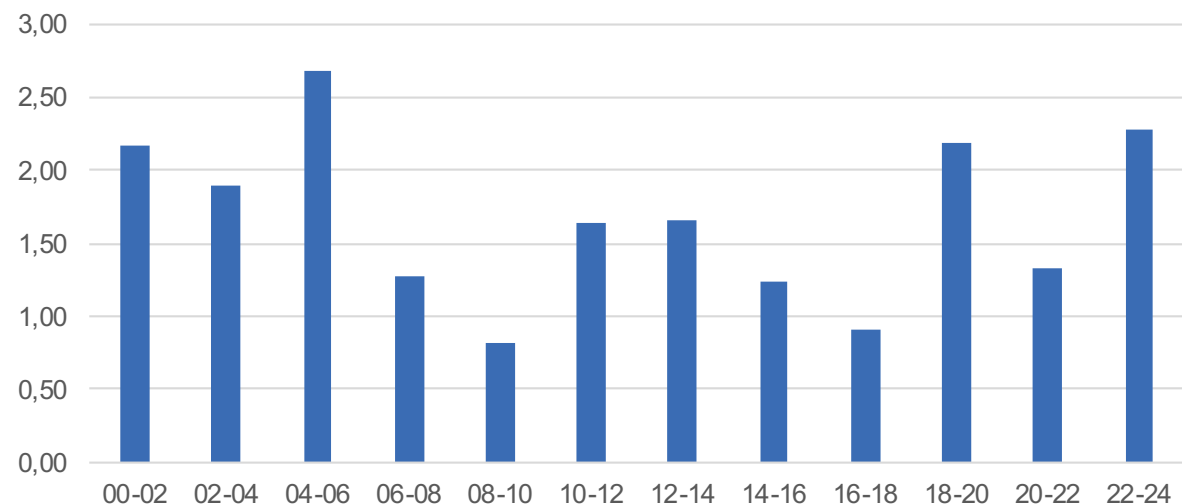
- The proposals selection is a competitive process
  - After the Lols down-selection we went from a global pressure of 2.7 to 1.6
  - In the most demanded RA ranges (00-02, 04-06, 18-20 and 22-24) it remains above 2
  - The Lol process was meant to do a pre-selection of surveys, but it was clearly not possible to fully select the final sample without proper simulation (i.e. targets catalogues, spectral success criteria, FOM, etc...)

*Time requested by selected Lols*  
 -----  
*Time available to the community*

where

*Time available for the community  
 per RA bin =  
 (Total time available per RA bin –  
 GTO request per RA bin)*

Community pressure per RA bin (pre-selected time)





# Submission process

- The submission is via the ESO P1 web-based system
  - Scientific justification
  - Survey Type Justification (Participating or Non-Participating)
  - Survey metrics (e.g. targets density, targets distribution in Ra&Dec, magnitudes distribution in selected filters, areas covered, execution priority, spectral success criteria)
  - Targets catalogue submitted via the 4FS Web Interface (4FS\_WI)
  - Time justification (4MOST ETC and 4FS\_SoS)
  - Team responsibilities and experience
    - The required expertise to achieve the science goals of the proposal and the delivery of the products described below.
    - For Participating Surveys also the resources to contribute to the 4MOST IWGs (see next talk by Sofia).
  - Data products and delivery plan ([Phase-3 policies](#))
    - This will be the basis for the negotiation with ESO on the SMP, that it will be need to be agreed upon prior of final approval of the survey by the ESO DG.
- Please, carefully review the feedback you have received from PSP on your Lol.



# Proposals evaluation

- The Public Survey Panel (PSP), composed of experts from the community, will have the primary mandate to scientifically evaluate the submitted proposals, and rank them.
- It will be assisted by a more technical team, the P1WG, which is chaired by an ESO astronomer, and include expertise from our ESO Survey Team and Consortium expertise (e.g. 4FS). The P1WG, under the scientific guidance from PSP, will use the scientific ranking, the provided catalogues, FOM, observational constraints, etc.. to perform and analyze a series of simulations (using 4FS) to optimize a 5 years survey plan.
- PSP final task would be to make a recommendation on a 5 years survey plan which take into account the science evaluation and operational constraints.
- PSP recommendation will be presented to the OPC for evaluation

# Proposals evaluation

A yellow oval with a black outline, containing the word 'SCIENCE' in bold black capital letters.

**SCIENCE**

A light blue oval with a black outline, containing the words 'OPERATIONAL CONSTRAINTS' in bold black capital letters.

**OPERATIONAL  
CONSTRAINTS**

At this workshop

- Scope of your survey: target type, target density, survey area, total number of targets, magnitude distribution
- High or low spectral resolution
- Required S/N and completeness
- Any special calibration requirements
- Any other operational requirements (e.g. repeat observations)
- Specific quantities you want measured from the spectra

# Flow of information



[The Messenger](#)  
[March 2019](#)



[4MOST webpage](#)



[1st 4MOST workshop, May 6-8 2019](#)

- [This workshop](#)
- [4MOST User Manual](#)
- [4MOST ETC](#)
- USD help: [usd-help@eso.org](mailto:usd-help@eso.org)
- [4MOST Helpdesk](#)
- More to come....