## 4MOST – 4m Multi-Object Spectroscopic Telescope

#### Planning for 4MOST: toward the 4MOST survey programme

- Roelof de Jong, PI (AIP) 4MOST Consortium

9 July 2020

#### www.4MOST.eu



#### Welcome



- Workshop goals
  - Provide the invited teams with up-to-date information regarding the selection process
  - Provide the invited teams with an opportunity to present their operational requirements and to discuss their integration into the 4MOST operational model
  - Provide the invited teams with an introduction to the available tools to prepare their proposals (e.g. 4FS)
  - Foster scientific collaborations and to prepare for the integration of potential Participating Community Surveys into the 4MOST Science Team
- Bottom line
  - Let's get to know each other and let's start collaborating

## A bit of history

- 2010 First Letter of Intent to ESO (4mMOSST)
- 2011 4MOST and MOONS selected for Concept Design study by ESO in response to Call driven by European strategy documents
- 2013 Both 4MOST and MOONS selected for implementation
- 2015 ESO Agreement signed
- 2016 Preliminary Design Review
- 2019 Final Design Review,

Call for Proposals Readiness Review

Currently in Construction Phase

A Science Vision for European Astronomy

What is the origin and

evolution of stars and planets

How do galaxies form and evolve? Do we understand the

extremes of the Universe

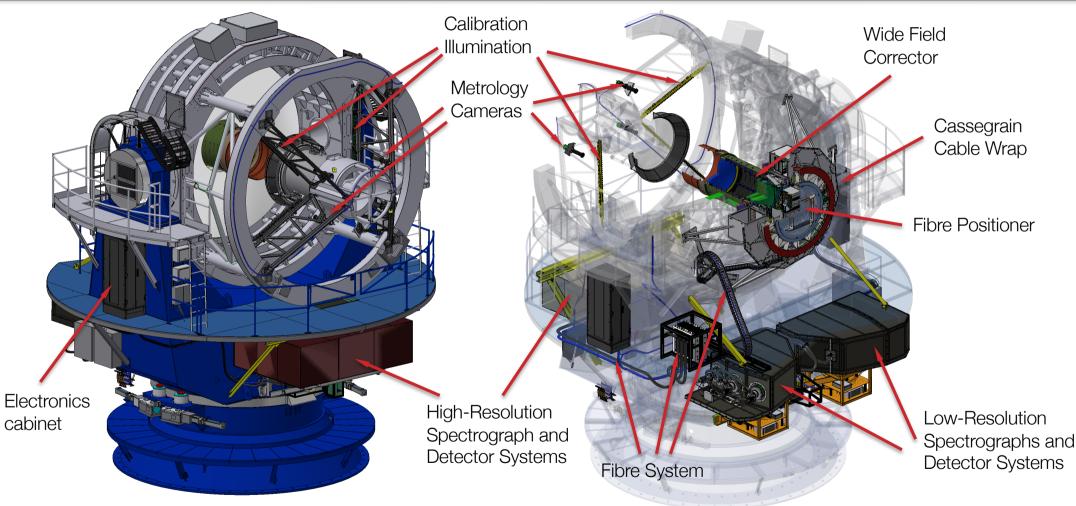




The ASTRONET Infrastructure Roadmap: A Strategic Plan for European Astronomy

## 4MOST on VISTA





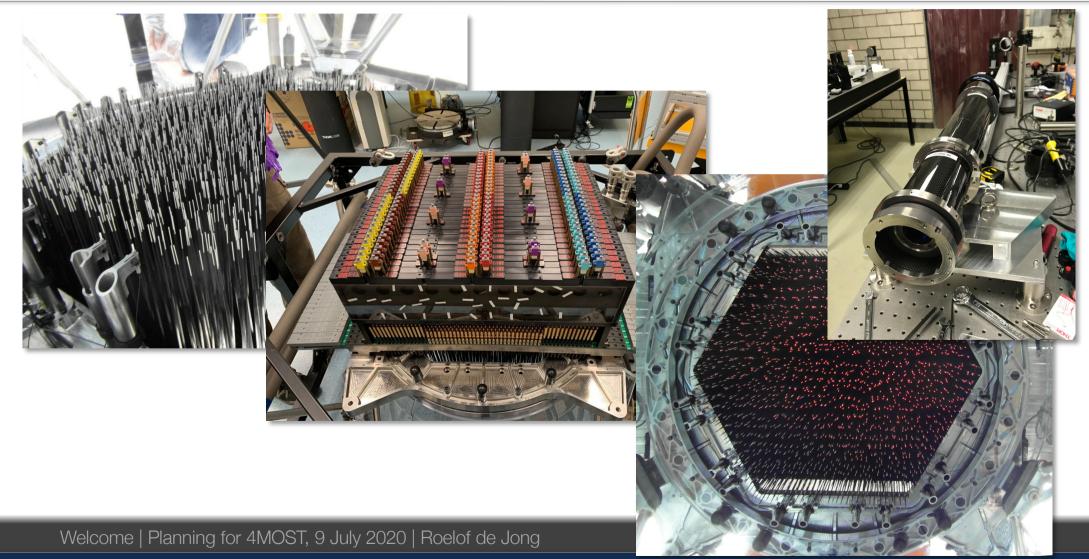
### Wide Field Corrector





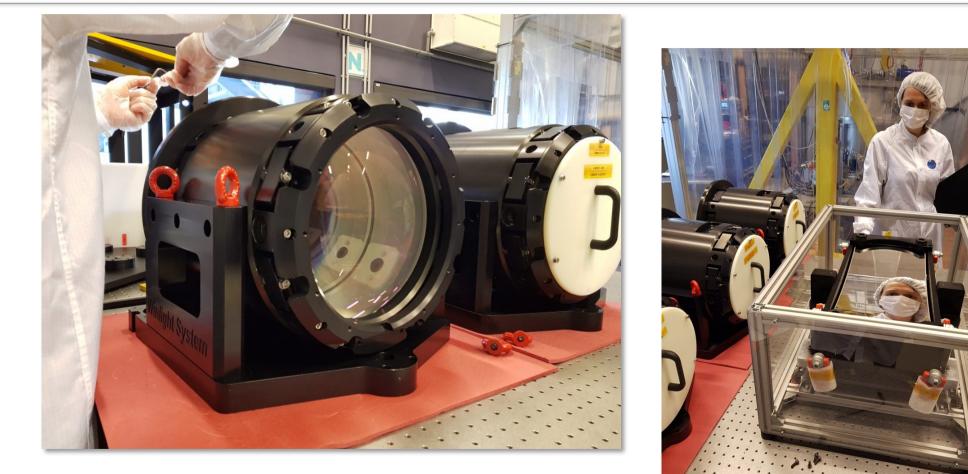
# Fibre Positioner AESOP + Metrology





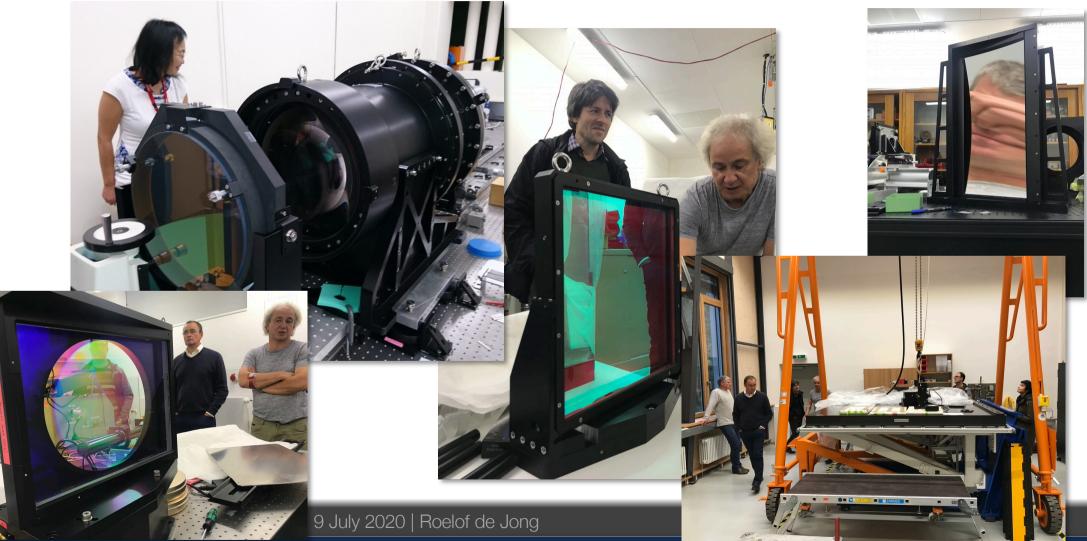
### Low Resolution Spectrograph





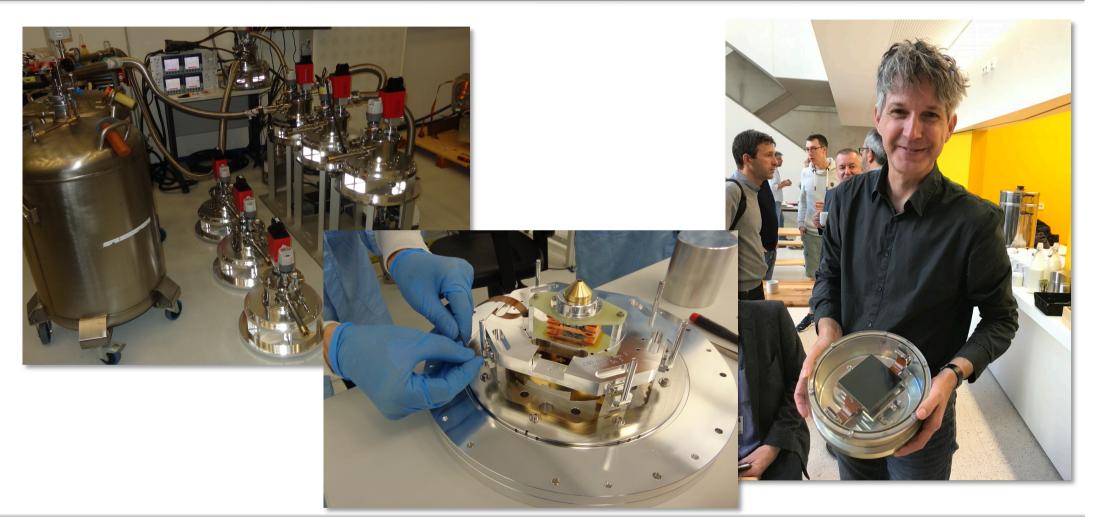
## High Resolution Spectrograph





### **Detector Systems**





## Schedule and Milestones



• Trit March 2019: Given Planner	d         # Prede cessors         Expected Start         2011         01         02         03         04         05         06         07         08         09			
- Kick Final Design Review-2, detailed designs finalized				
<ul> <li>Call for Proposals Read</li> </ul>	liness Review, ready for Phase I community proposal selection			
• Dec 2019 Julator 58 days	12/9/11     Image: Constraint of the second of			
- Call for Letters of Intent,	, deadline Feb 28, 2020			
• 15 Dec 2020	5/12/11     Image: Control of the second secon			
Complete Component performance estimates 40 days Complete Coall for Proposals 20 days	5/12/11     Image: Comparison of the second of			
• Feb 2021:	5/3/12 9 12/3/12			
<ul> <li>All subsystems manufaction</li> </ul>	ctured, assembled, integrated and verified			
• Feb 2022: and operations documents 40 days	30/4/12     Image: Comparison of the com			
Final tradeoff review 5 days Controllidati Full system integrated a	and verified at AIP, preliminary acceptance Europe (PAE)			
NOV 2022 documents	2/7/12			

- Nov 2022:
  - System delivered, installed and commissioned on telescope, preliminary acceptance Chile (PAC)
- Nov 2022 Oct 2027:
  - First science survey of 4MOST, 30% of targets available for Community Surveys

## Schedule and Milestones



• March 2019:	Inned         # Prede         Expected Start         2011         I<			
Pro- Kick Final Design Review-2, detailed designs finalized				
- Call for Proposals Readiness Review, ready for Phase I community proposal selection				
• Dec 2019: Jaco S8 day	12/9/11     12/9/11			
Call for Letters of Internet and operations documents of Internet	ent, deadline Feb 28, 2020			
• 15 Dec 2020				
- Call for Proposals	5     5/12/11       30/1/12     Image: Comparison of the second of the			
Practice Phase     Section Phase	5/3/12 9 12/3/12			
<ul> <li>All subsystems manu</li> </ul>	factured, <sup>3</sup> /assembled, integrated and verified			
• Copperformace trade studies 40 day	30/4/12 30/4/12			
Final tradeoff review Stars Control lidat Full system integrated	d and verified at AIP, preliminary acceptance Europe (PAE)			
	2/7/12			

- ???:
  - System delivered, installed and commissioned on telescope, preliminary acceptance Chile (PAC)
- ??? ???:
  - First science survey of 4MOST, 30% of targets available for Community Surveys

## Ten Consortium Surveys



No	Survey Name	Survey (Co-)PI
S1	Milky Way Halo LR Survey	Irwin (IoA) <i>,</i> Helmi (RuG)
S2	Milky Way Halo HR Survey	Christlieb (ZAH)
S3	Milky Way Disk and Bulge LR Survey	Chiappini, Minchev, Starkenburg (AIP)
S4	Milky Way Disk and Bulge HR Survey	Bensby (LU), Bergemann (MPIA)
S5	Galaxy Clusters Survey	Comparat (MPE)
S6	AGN Survey	Merloni (MPE)
S7	Galaxy Evolution Survey (WAVES)	Driver (USW), Liske (UHH)
S8	Cosmology Redshift Survey	Richard (CRAL), Kneib (EPFL)
S9	Magellanic Clouds Survey	Cioni (AIP)
S10	Time-Domain Extragalactic Survey (TiDES)	Sullivan (Southampton)

## 4MOST who is who?

#### And 350+ others!





Roelof de Jong Principal Investigator



Joar Brynnel Project Manager



Jakob Walcher Operations Manager



Genoveva Micheva Instrument Scientist



Vincenzo Mainieri Project Scientist ESO



Sofia Feltzing Project Scientist Galactic



Richard McMahon Project Scientist extragalactic



Joe Liske Chair Science Coordination Board



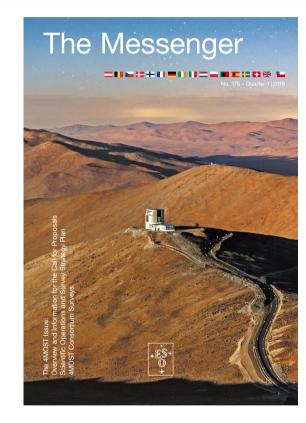
Andrea Merloni Lead Operations System



Peder Norberg Operations Scientist

### More information





- <u>www.4most.eu</u>
- <u>help@4most.eu</u>

• 4MOST Issue of ESO's The Messenger (no. 175)

## Some guiding principles



#### • Fairness

- People get awarded for effort put in
- Give credit where credit is due
- Respect
  - Stay correct, even if you disagree
- Openness
  - Everybody has the right to speak their mind
  - No hidden agendas
- Science guides our decisions
  - We all have our personal and institute agendas, technology interests, but in the end we should do what is best for the science
- Bottom line: be nice, be professional, work as a team

## Virtual etiquette



- Try to stay on time!
- Talks are being recorded for later use
- During talks:
  - Mute microphone, switch camera off
  - Place questions in chat
- Continued discussions:
  - Use slack workspace (see email)
- Use virtual social meetings to get to know each other



