

UK PROGRAMME

For the
Extremely Large Telescope

UK Research
and Innovation

Chris Evans & Sandi Wilson
(UKATC/STFC)



Science & Technology Facilities Council
UK Astronomy Technology Centre



UNIVERSITY OF
OXFORD



UNIVERSITY OF
CAMBRIDGE



Durham
University



HERIOT
WATT
UNIVERSITY



RAL Space

UKATC

- UK's national lab for astronomical instrumentation
- Strong links with ESO (KMOS, MOONS, ERIS)
- Co-located with U. Edinburgh's Institute for Astronomy (IfA)
- Incl. Higg's Centre for Innovation (in partnership with UoE)



ELT: Biggest Eye on the Sky

39m ELT now under construction by ESO



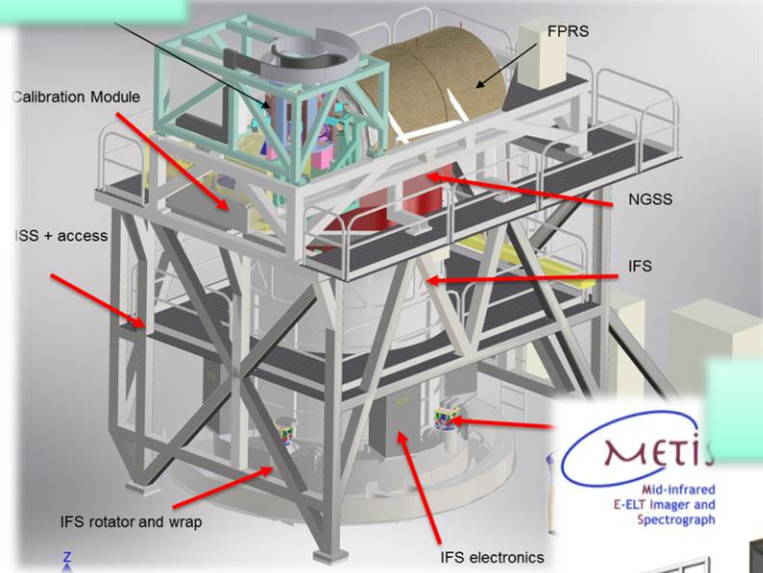
European
Southern
Observatory



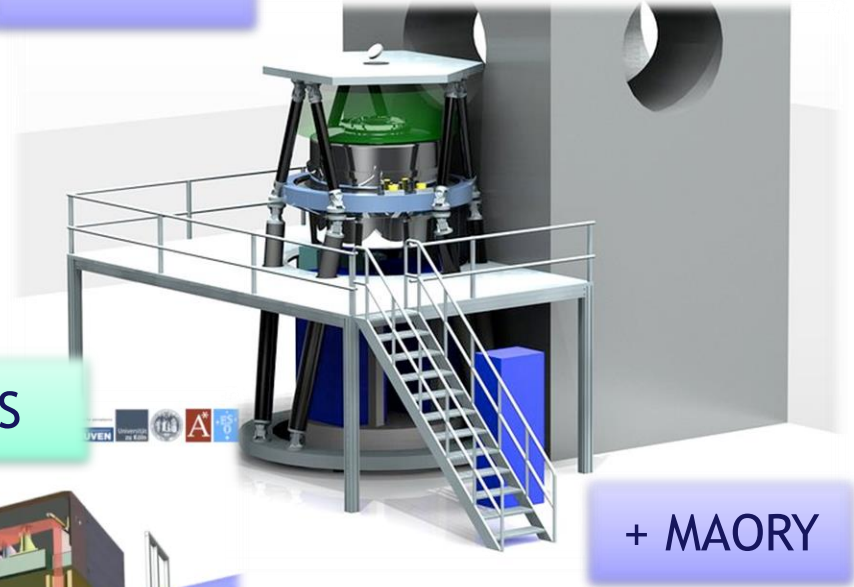
May 2018

ELT: 1st-light instruments

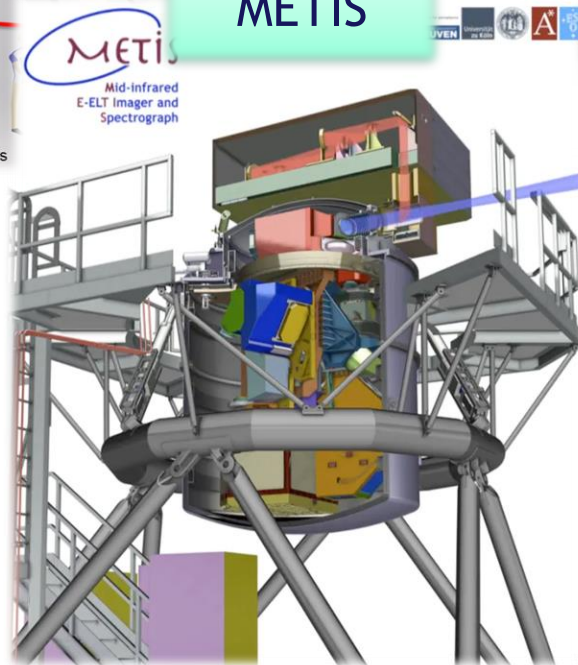
HARMONI



MICADO



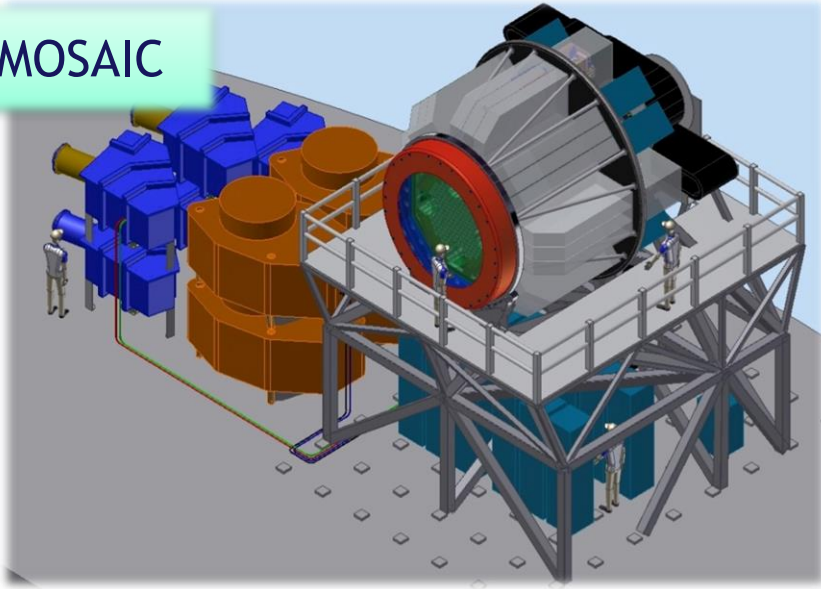
METIS



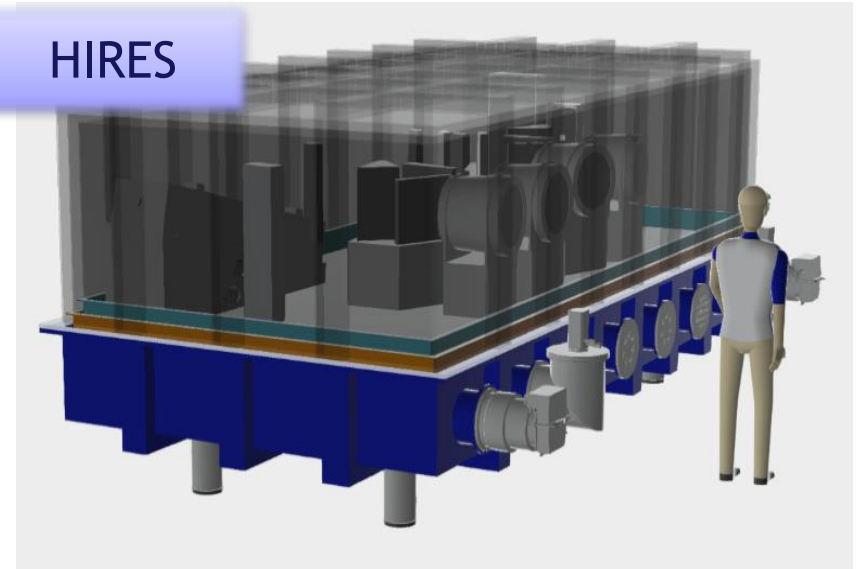
+ MAORY

ELT: Future instruments

MOSAIC



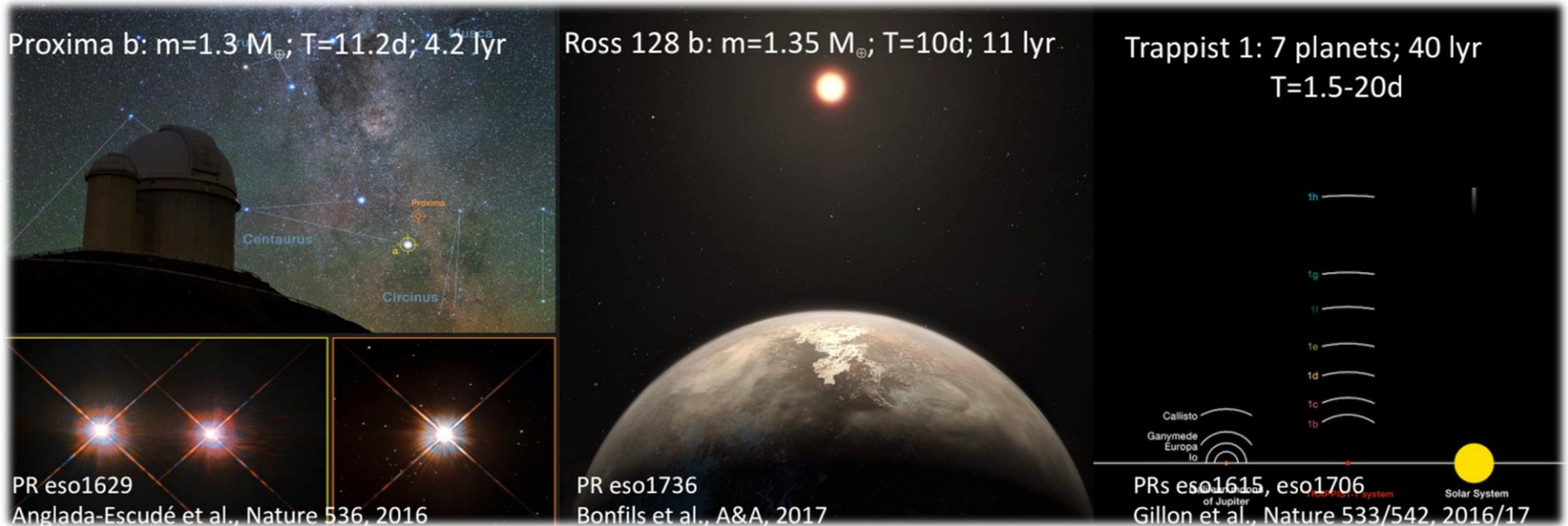
HIRES



ELT: Future instruments

PCS: Planetary Camera & Spectrograph

- Terrestrial exoplanets one of ELT's highest scientific priorities
- Dedicated follow-up of planets already discovered with PCS
- Instrument in R&D phase, goal to start in early 2020s
- High-contrast imaging (10^{-8}) with XAO, and spectroscopy



ELT: Future instruments

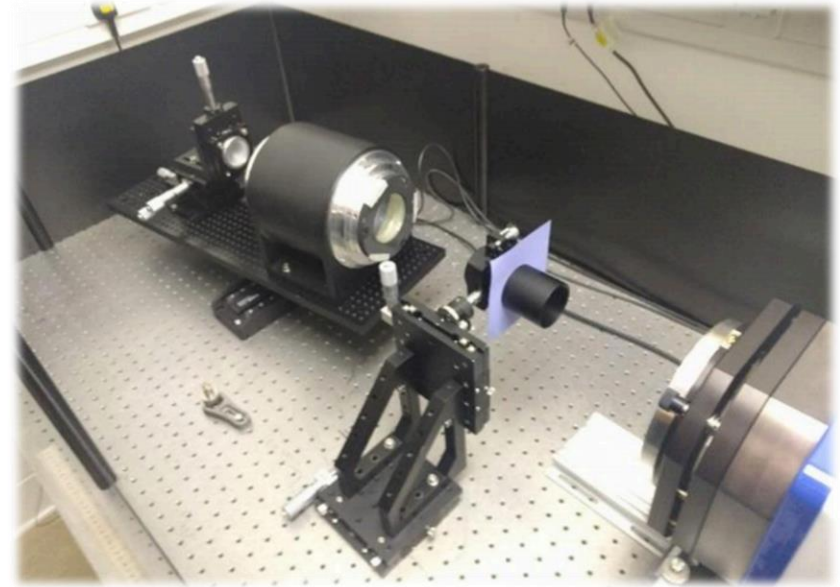
PCS: UK R&D in current ELT programme

Oxford (Matthias Tecza):

- IFS technology trade-off
- Algorithms to maximise diff. contrast

Durham (Kieran O'Brien):

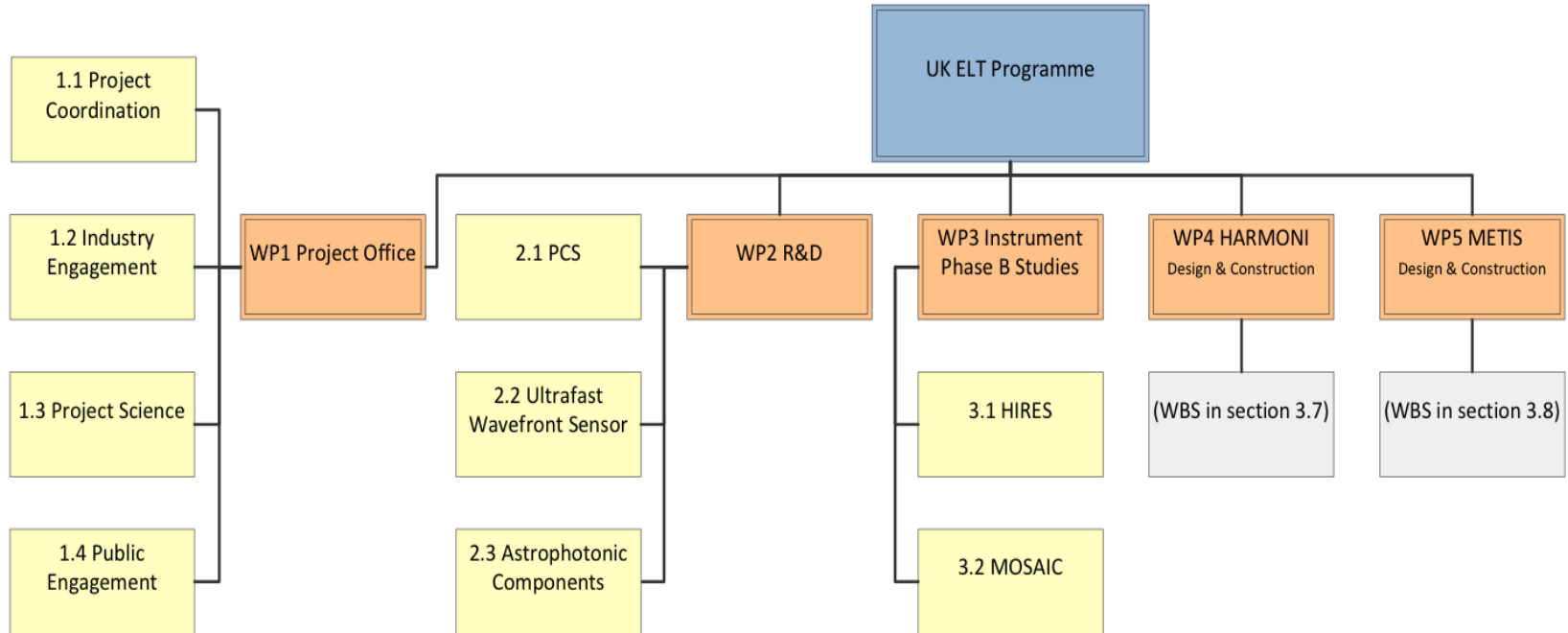
- MKIDs as ultra-fast WFS for the ELT
- Develop demonstrator (incl. firmware, processing etc)



Thanks!



UK ELT Programme



ELT: Biggest Eye on the Sky

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UK ELT Project Office:

- Project coordination
- Project science (Aprajita Verma, Oxford)
- Industry Engagement (Sandi)
- Public Engagement



May 2018