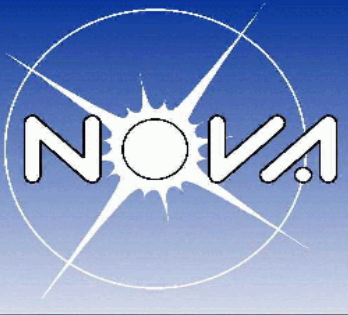


ESO – E-ELT

Big Science Industriemiddag 2014
15 oktober 2014

Frank Molster
namens Wilfried Boland (ESO-ILO)



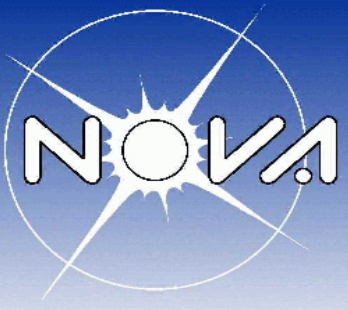


ESO



- Europese Organisatie om telescopen te bouwen en operationeel te houden op het zuidelijk halfrond
- Opgericht in 1964
- Beheert 3 locaties in Chili,
4-de locatie wordt voorbereid voor de E-ELT
- Hoofdkantoor in Garching bei Munchen
- Omzet +/- 130M€ per jaar,
NL bijdrage +/- 7M€ per jaar





ESO's telescopes



**Paranal
VLT**

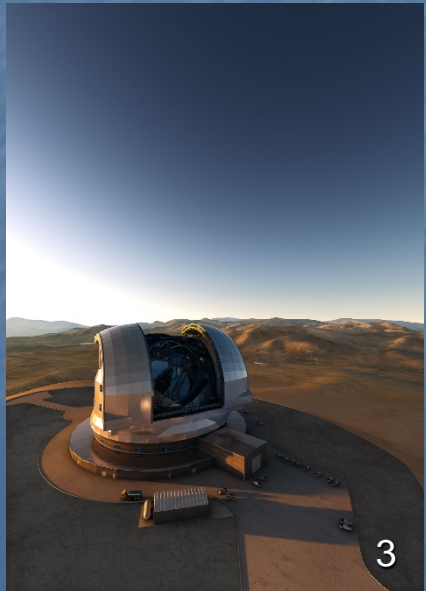


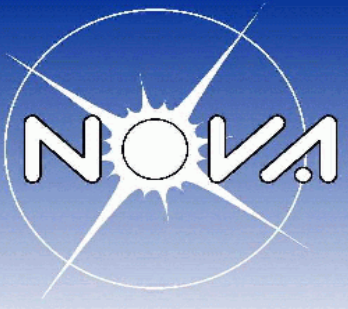
**Armazones
E-ELT**

**La Silla
3.6m, NTT, ...**



**Chajnantor
ALMA**

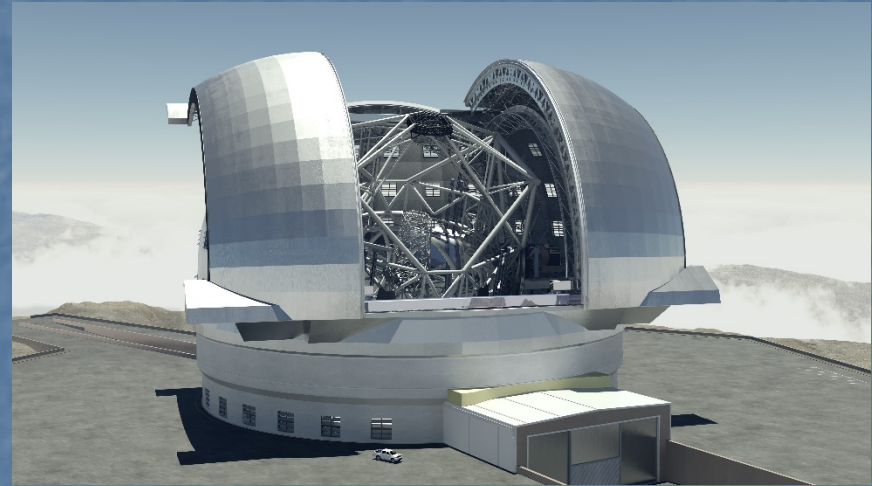




E-ELT



- 40 meter spiegel
- Bouw 2014 – 2024(+)
- Kosten 1.050 miljard €
+ instrumenten
- Informeel just-retour => +/- 40M€ aan opdrachten naar NL + instrumenten
- Kansen voor NL bedrijfsleven!





ESO procurement



- >150k€ -> Call in lidstaten
- Present & Future calls zijn te vinden op:
<http://www.eso.org/public/industry/cp/docs/CFT-advance.html>

ESO Ref. Document No.		DIVISION	SUBJECT	DETAILS	Scheduled for Issuance
FCFT No	Date				
100	24.09.2014	DOP/DOE	Feasibility Study for the Accurate Measurement of Mirror Deformation by Deflectometry	The scope of this Price Inquiry is to place two contracts in parallel for a feasibility study on the subject matter. ESO might decide, at its sole discretion, to place contract(s) for the following phases (design and production of the deflectometer), with one of the companies that have performed the feasibility study. The scope of work is the direct and simple optical measurement of the deformation of the FELT Measurement	4th Qtr. 2014

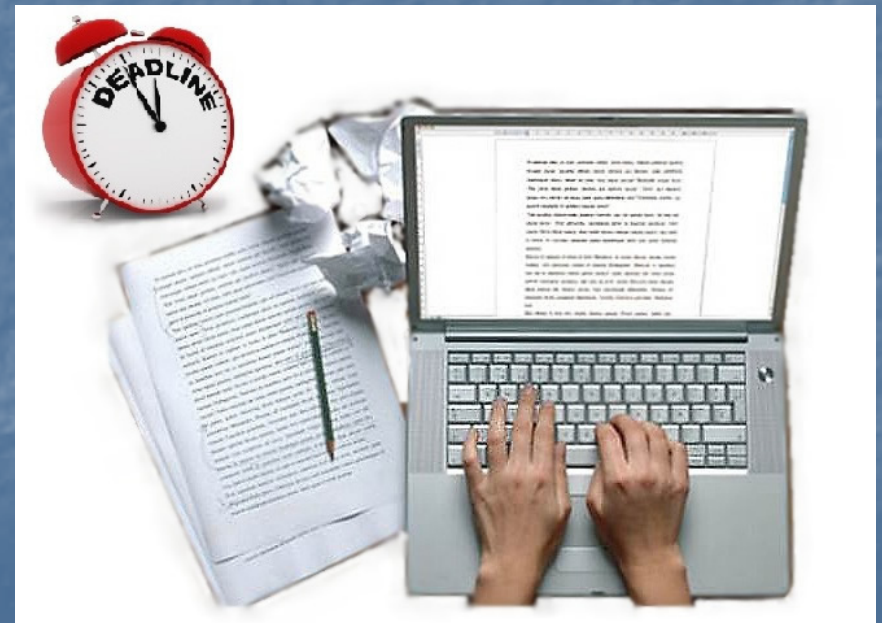
- NL-ESO-ILO: Wilfried Boland (NOVA)
boland@strw.leidenuniv.nl; 071-527 5873



Planning van grote E-ELT aanbestedingen 2014



1. M1 Unit M1 segment supports qualification units





Planning van grote E-ELT aanbestedingen 2015



2. Project Assurance Quality assurance services
3. Telescope Control Middleware DDS development licenses.
4. Project Assurance Verification and validation services for E-ELT software
5. M1 Unit Position actuators for the M1 segments (high precision linear actuators)
6. M2 Unit M2 Cell and mirror
7. Metrology Delivery of Wave Front Sensors (Detectors)
8. Washing & Coating M1 and 5 meter washing units
9. M1 Unit Production of edge sensors high precision
10. Power - GenSet & Dist Design of power conditioning to connect to grid and cable to transport power up to mountain.
11. Telescope Control HW and SW needed for the core infrastructure for the telescope control



Planning van grote E-ELT aanbestedingen 2016

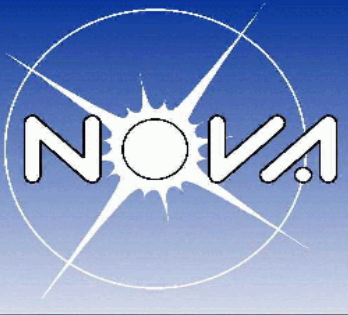


12. Power - GenSet and Dist 23 kV Underground Cable L
13. M2 Unit M2 Mirror blank (Glass)
14. Permanent Infrastructure Armazones network Room
(racks, cables, HW for network)
15. Washing and Coating Mirror coating units (M1)
16. M1 Unit Polishing of the 931 M1 segments.

Information can be found at:

http://www.eso.org/public/industry/cp/docs/Large_EELT_Procurements_2014-2016_August_2014.pdf

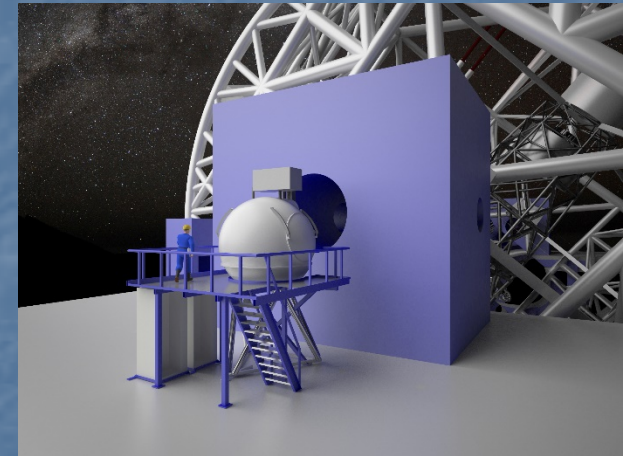
<http://www.eso.org/public/industry/cp.html>

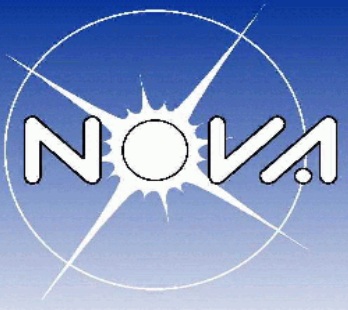


Instrumenten voor telescopen



- Procurement vaak NIET door ESO maar door de instrument teams (Europese consortia)
- NL (via NOVA) vertegenwoordigd in 4 E-ELT instrumenten:
 - MICADO (first light instrument)
 - METIS (PI-role) (3-de instrument)
 - MOSAIC (instrument 4 of 5)
 - EPICS (instrument 6 of 7 afhankelijk van de technologie)





Samen op beurzen



- SPIE 2014
Montreal
- Volgende
SPIE 2016
Edinburgh





Contact info

There are many opportunities for industrial participation and products!

- NOVA, ESO-ILO:
Wilfried Boland (boland@strw.leidenuniv.nl)
- (E-ELT) instrumentation:
Ramon Navarro (navarro@astron.nl)
- Frank Molster (molster@strw.leidenuniv.nl)

