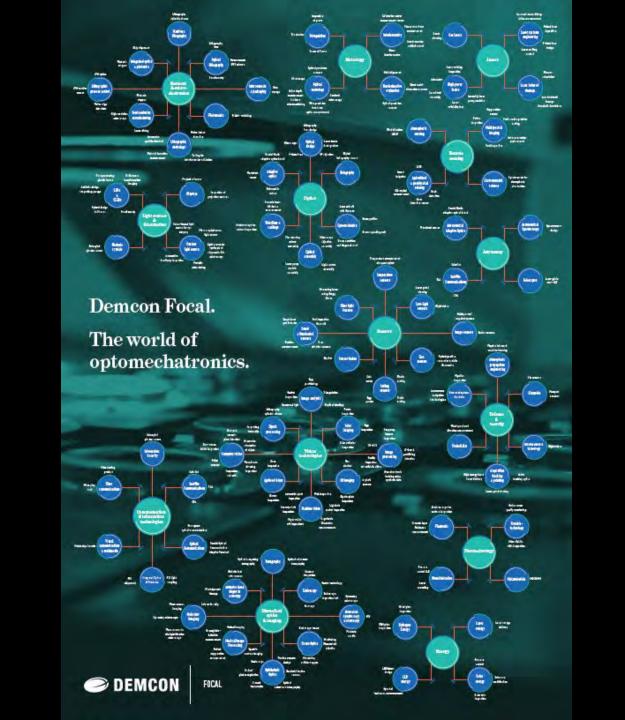
"Photonics as key differentiator in tomorrow's innovations."

15 years Demcon Focal.

Design and engineering optomechatronics.





Semicon & microelectronics



Metrology

Lasers



Remote sensing

Demcon Focal.

The world of optomechatronics.

Communication & information



Defence & security



Biomedical optics & imaging

illumination



Vision technologies

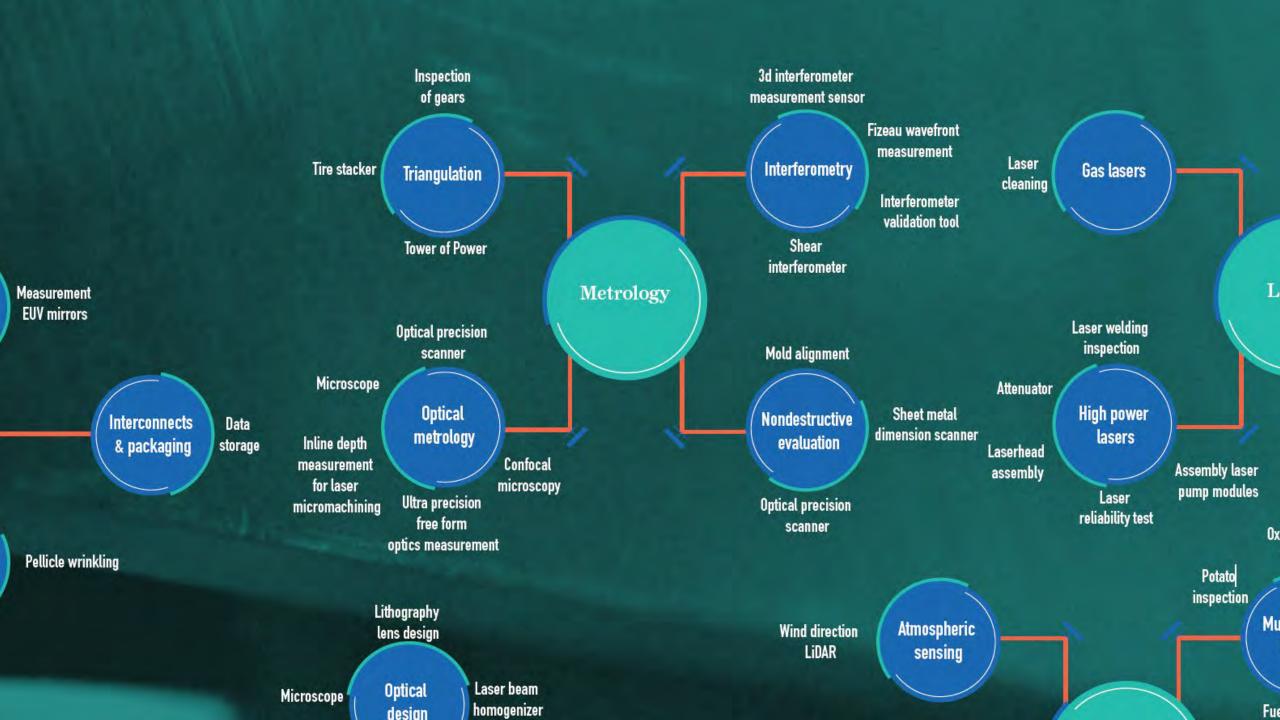


Astronomy



Energy





Metrology

Process technology and monitoring Measurement system Beam splitter / Dichroitic Automatic adjustable reference path Mirror Picosecond pulslaser Laser scanning pe system f-Theta onnects Work piece Measurement path kaging

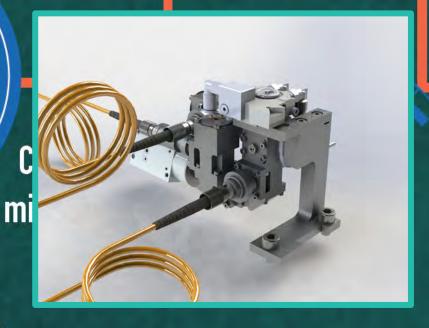
Optical precision scanner

Optical metrology

storage

Inline depth

a precision ree form measurement

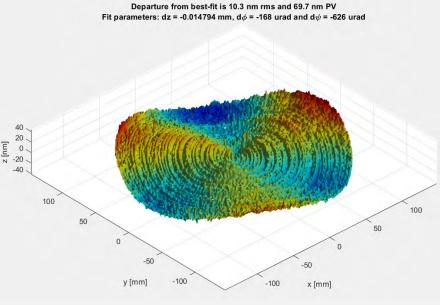


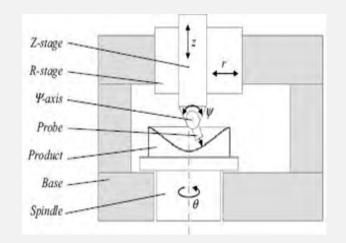
Measurement system for asphere and freeform optics

NMF2.0

- Fast (<15 min) and accurate (nm) contactless measurement of aspheres and freeforms
- Challenges:
 - Measurement accuracy I.C.W. 4 dofs
 - Ø1000x125 mm product size
 - Combination of freeform and accuracy
- Solution:
 - Measurement system that measures probe position relative to spindle
 - Patented measurement probe with 5 mm range and 7° angle
- Realized:
 - <15 nm uncertainty (3 sigma)</p>
- From start to first alpha series in <1.5 years</p>









https://dutchunitedinstruments.com/form-metrology-products/

Lasers Semicon & Metrology microelectronics Remote sensing Optics Light sources & illumination Demcon Focal. The world of Astronomy optomechatronics. Vision technologies Biomedical optics & Communication & Energy Defence & security imaging

information

Gemini North ch Lenslet adjustment mechanics Lens 1 relay Thorlabs AL2550-C Lens 2 relay Edmund Optics 67630 Infrared camera Xenics Cheetah 640-CL 1700 MHz Custom AAF Custom lenslet array 30 mm cage system mount rods Thorlabs ER3 (4x) 30 mm cage system 1" XY adjuster / Thorlabs CXY1

Custom retaining ring

tions

Astronomy

Telescopes

Laser guide star - ELT

ırement ate

30 mm cage system ½" XYZ adjuster Thorlabs CXY05/M



½" lens tube Thorlabs SM05L03

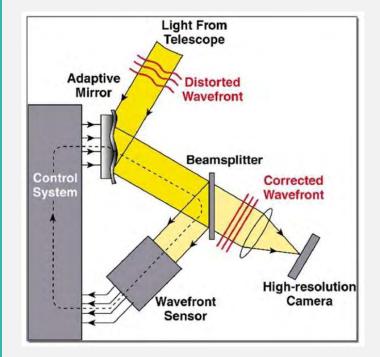
Laser guide star

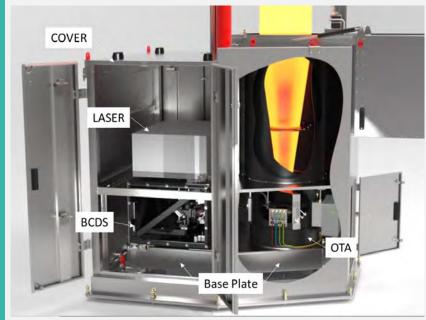
LASER BEAM CONDITION UNIT

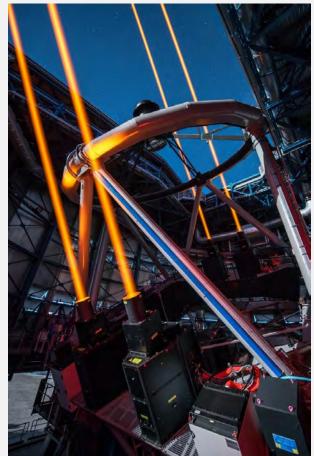
- The LGS System produces artificial reference stars for the ELT
- These LGSs are used to drive the ELT post-focal adaptive optics (AO) modules and instruments in their high order correction of image blurring caused by atmospheric turbulence.

Challenges

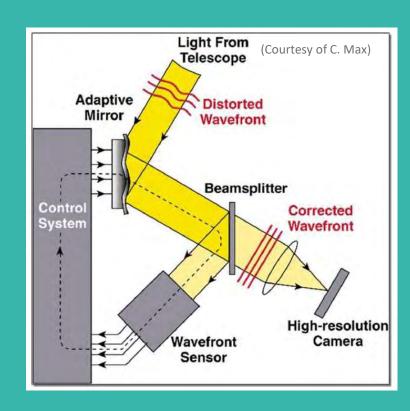
- Maintain high beam quality and beam positioning for temperatures from 0 to 15 degrees C and for zenith angles ranging from 0 to 60 degrees.
- Modular design of the subsystems as line replaceable units (LRU) to allow for a time and cost-effective service on site of the ELT.
- Anticipated lifetime of 30+ years.

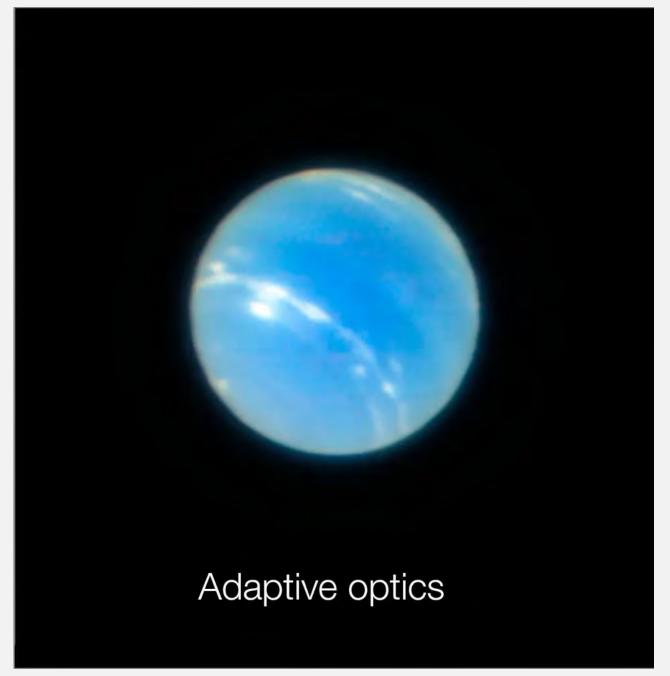






Extremely Large Telescope ADAPTIVE OPTICS PRINCIPLE





Credit: ESO/P. Weilbacher (AIP)

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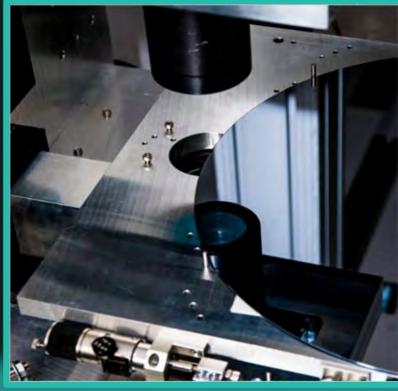
a photomos

AFM optics

Sensitometry

Marker

Lithographic



Photonic stepper

esolution Semic roscope manu

Semiconductor manufacturing

Laser dicing

Immersion qualification tool

Semicon & micro-electronics



metrology

Wafer deformation measurement

Tooling for interferometer validation

Wafer edge aligner WITH LARGE DOF

Sub-micron positioning of 450mm Wafers.

R&D and alpha series by Demcon

- Extremely large Depth of Field
- In focus: < 250nm accuracy
- At 6mm out-of-focus: < 1mu accuracy</p>
- At 12mm out-of-focus: < 2mu accuracy

