

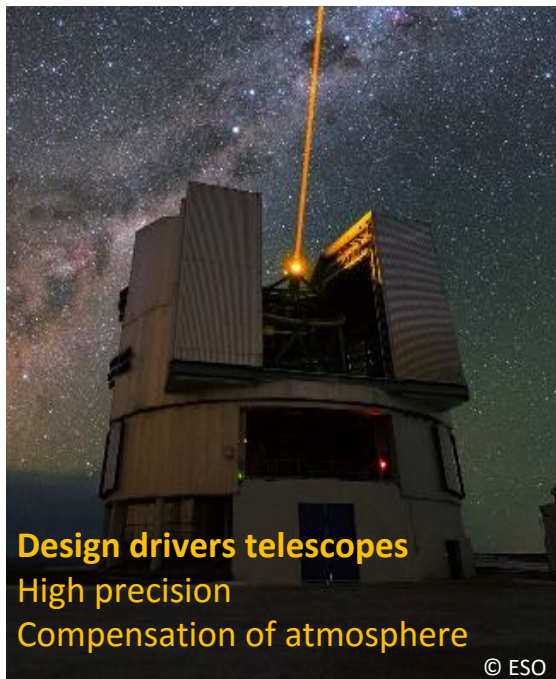
Kampf Telescope Optics (KTO) is a Small & Medium-sized Enterprise (SME) specialized in design and realization of innovative and demanding optical systems, in particular for application in fusion and space industry.

## Optical systems for extreme environments

The range of activity encompasses design from components to system level of optical systems such as endoscopes, telescopes, interferometers, etc

Our focus is on optical systems with specific requirements such as:

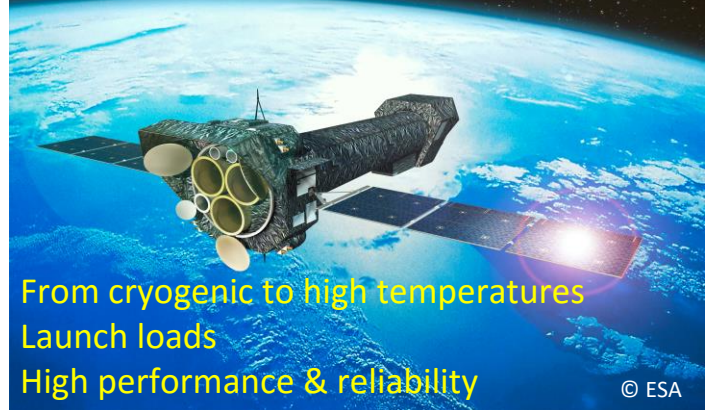
- operation in extreme environments,
- high performance,
- high reliability,
- low mass,
- radiation hardness,



**Design drivers telescopes**  
High precision  
Compensation of atmosphere

© ESO

### Design drivers space



From cryogenic to high temperatures  
Launch loads  
High performance & reliability

© ESA

### Applications

- Astronomy and earth observation (e.g. XIPE, EUCLID)
- Diagnostic instruments for fusion (e.g. ITER)
- Ground-based telescopes (e.g. MICADO for E-ELT)

### Design drivers fusion

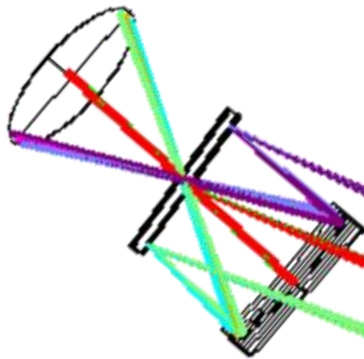
Up to 400°C  
Nuclear heating  
EM loads  
Remote handling



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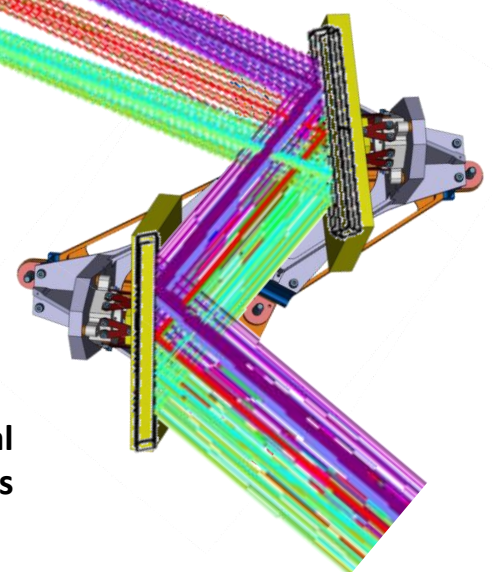
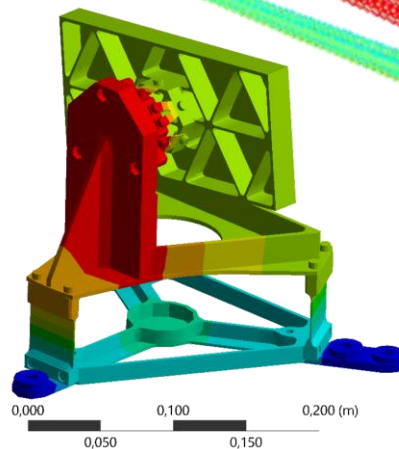
## Optical design



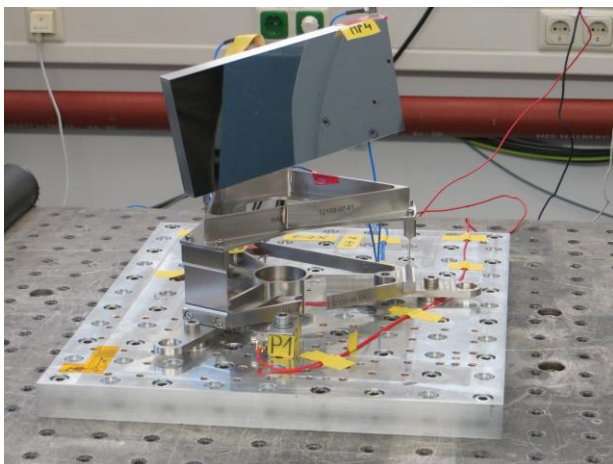
The team delivers working solutions for critical key technologies, such as precise optical mounts, stable opto-mechanical structures and sophisticated mechanisms.

KTO is a SME with system capabilities. All key competencies, such as project management, system engineering, optical design, opto-mechanical design, FEM analysis, straylight and optical performance analysis, are performed in house.

## Opto-mechanical design



## Assembly, integration and testing



## Structural, thermal and EM analysis

## Company information

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## Business areas

From components to system level

- System studies
- Optical design
- Mechanical design
- Analysis (structural, thermal & EM + optical performance)
- Assembly, alignment, tests
- Commissioning
- Environmental tests

## Consulting

- Design review
- System engineering
- Management support

