



### Who are we?

Altran is an international group and global leader in innovation and high-tech engineering consulting.

The Group's mission is to assist companies in their efforts to create and develop new products and services.

Every day, we bring our clients' most complex projects to life and enhance their performance through our expertise in technologies and innovation processes.

€ 1 420 m  
REVENUES in 2011

17 261  
EMPLOYEES in 2011

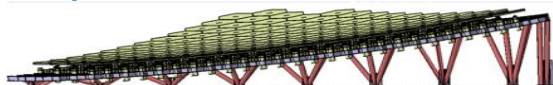
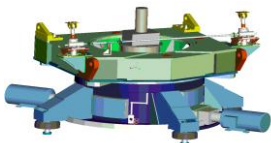
49 %  
REVENUES  
outside France in 2011

20+  
COUNTRIES

« Bringing our customers' projects to life and boosting their performance through technology and innovation »



### What is our expertise?

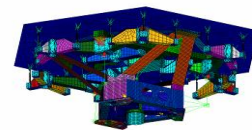


#### ELECTROMECH. DESIGN

- Structural design & stress
- Precision mechanics
- Verification of performance at system level

#### OPTOMECHANICS

- Segmented mirrors
- Active optics
- Chopping
- Wind perturbations
- Surface deformation

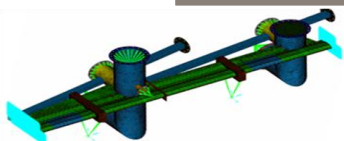
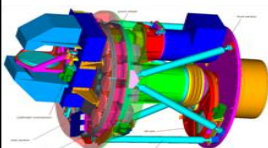


#### SYSTEM SIMULATION

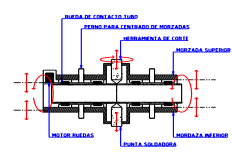
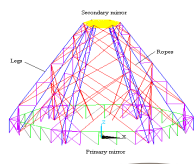
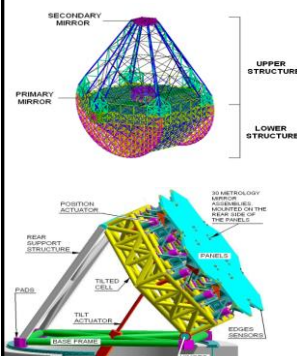
- Structural
- Thermal
- End-to-end models

#### MAIT ACTIVITIES

- Expert support to:
  - ✓ Manufacturing
  - ✓ Assembly
  - ✓ Integration
  - ✓ test



# Altran and the E-ELT

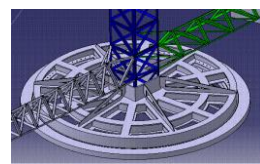


**E-ELT Design Study (FP VI)**

- ✓ TMS structural ropes
- ✓ TMS composite mat.
- ✓ Wind experiment breadboard

**Dev. for Large Telescopes (CDTI)**

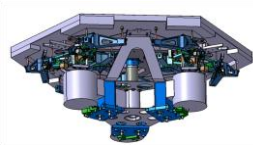
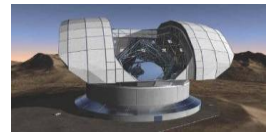
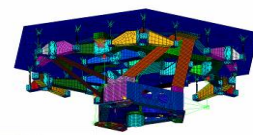
- ✓ In-situ machining of azimuth tracks
- ✓ Butt welding tubes in-situ
- ✓ Control of structural ropes tension



**E-ELT Industrial Development**

Technical support to:

- ✓ Enclosure concept design (IDOM)
- ✓ Framework structure concept design (CESA)
- ✓ Prototype Segment Subunit (CESA)



ALTRAN