

Transversal competencies

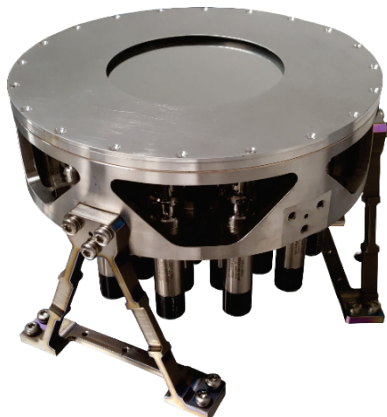


ISP SYSTEM is specialized in high-precision mechatronics. We design and manufacture micro- and nanopositioning systems, high resolution embedded actuators, opto-mechanics, complete mechanisms and special assembly machines for many markets (aerospace, defense, photonics, science, medical, railways, electronics...).

Our staff is composed of 30% engineers and we deliver turn-key solutions to our customers.

## COMPETENCIES & CAPABILITIES

Competencies in mechanics, optics, vacuum, electronics, automatism.  
Design of mechanical and electro-mechanical parts (Pro-Engineer, CATIA, SOLIDWORKS).  
FEM calculations (static loads, dynamic loads, vibrations, shocks, thermal behavior, opto-mechanics): NASTRAN  
Consideration of ECSS standard in our processes.  
Validation and tests (internal or with partners).  
ISO5, ISO6 and ISO7 clean rooms, large vacuum chambers for bake-out and outgassing tests.  
High precision metrology equipment.  
Optical test bench for validation of opto-mechanical systems (aperture up to Ø500mm).



*Space compatible electro-mechanical deformable mirror*

# ISP SYSTEM

## PRODUCTS & SERVICES

### Products:

- Embedded linear and rotary actuators using DC motors, stepper motors, linear motors and voice-coil
- Opto-mechanics (deformable mirror, force actuators, tip-tilt mounts...)
- Controllers for ground applications and GSE
- Complete mechanisms for GSE (opto-mechanics, mechanisms including controller)
- Low-outgassing materials and lubricants

### Services:

- Design, manufacturing and Maintenance of our products.
- Manufacturing of EM, EQM, FM (quantities up to several 100's of parts/year)
- Design and manufacturing of ground control electronics (hardware and software)
- Installation of systems / machines at customer site

## MAJOR SPACE PROJECTS & REFERENCES

High resolution actuator (resolution: 50nm, stroke 50mm) for SEIS project (back-up solution), qualified with CNES

Space deformable mirror for OTOS-ACMAS project (TRL 6)

Force actuator for space deformable mirror for TAS (TANGO project, TRL6)

Linear and rotary actuators for balloons (fine pointing)

GSE:

Goniometer for thermos-vacuum tests (-150°C, 10<sup>-6</sup> mbar) of SEIS payload (30kg)

Large motorized Gimbal mount, vacuum compatible (Mirror Ø1,5m) for REOSC and ADS (EUCLID project)

Large gantry (6m x 4m) for assembly of space solar panels

Silver Oxalate sintering machine for space electronics assembly

## POINT OF CONTACT

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**TURNOVER** 10,3 M€

**WORK FORCE** 80

**SPACE TURNOVER** 1,5 M€

**SPACE WORK FORCE** 10