

Orbital systems  
Satellites  
Ground segments  
Transversal competencies



Created in 1975, SOTEREM historical activity is the manufacturing of experimental devices dedicated to nuclear research reactors (CEA).

The company activity grew up rapidly toward other hi-tech industrial sectors such as space onboard experimental payloads and specific high technology equipment designed upon customer specification.

SOTEREM is EN 9100 certified since 2007.

## COMPETENCIES & CAPABILITIES

### Mechanical & material engineering

- High precision mechanisms
- High temperature material & device
- Exotic welding and brazing
- Rotating machinery for on board air conditioning
- On board electro-mechanical actuators

### Vacuum, pressure and thermal engineering

- High temp thermal analysis
- High vacuum and high pressure equipment

**Production Resources:** Conventional machine shop, TIG/MIG orbital welding, Vacuum induction brazing furnace, glove box for vacuum/ rare gaze welding, clean room 10,000.



# SOTEREM

## PRODUCTS & SERVICES

### Space on board equipment:

- Experimental payload for microgravity experiences: Furnaces and cartridges.
- Environmental control and life support system (ECLSS) equipment: fan and water separator for International Space Station (ISS).
- Micro satellite and payload AIT.
- Electrical motor: brushless, sealed, steppers etc... and actuators

### Nuclear, Aeronautics Industry and defence,

- Furnace and instrumented experimental devices for material irradiation, Sodium loop, various thermal and fluid loops,
- Electromechanisms for nuclear research reactors,
- Actuators and electro mechanisms.

### Ground station:

- Pursuit antenna pedestal
- Ground support mechanical and electrical test bench.

## MAJOR SPACE PROJECTS & REFERENCES

Furnace for ISS Columbus module (AIRBUS DS/ ESA)

- LGF & SQF furnace for "Material Science Laboratory"
- Experimental cartridges for "Material Science Laboratory"

ISS ECLSS for Columbus module (AIRBUS DS/ESA):

- Cabin fan assembly and condensed water separator assembly
- Mechanical Designs and MAIT activities for ACLS loop

Space Motors: CMG motors (AIRBUS DS), Sealed brush motor (ESA) and DC brushless motor Saphir (CNES), High Detent torque stepper motor (ESA) Satellite AIT: DEMETER, PARASOL, PICARD, MICROSCOPE, TARANIS, ARGOS (OCEANSAT).

Resetable & ultra-low shock actuator: on-going developements.

## POINT OF CONTACT

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**TURNOVER** > € 8-9m

**WORK FORCE** 60

**SPACE TURNOVER** € 5m

**SPACE WORK FORCE** 25