

Orbital systems  
Launchers  
Satellites  
Transversal competencies  
Transversal competencies



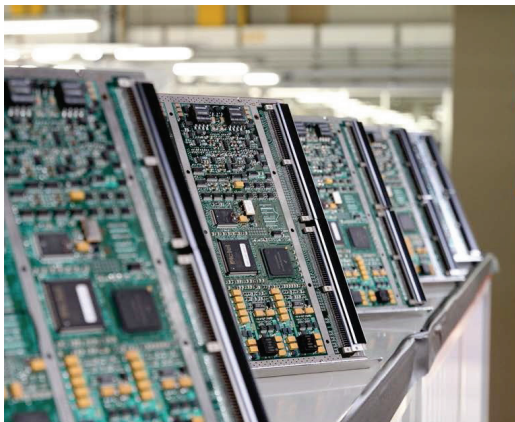
Safran Electronics & Defense is one of the world's leading providers of tailored solutions for both civil and military applications. Along with our subsidiaries, we also develop very high-tech solutions for some of today's most ambitious space and astronomy programs, including telescopes, optical instruments, test equipment, navigation systems, electronics and hybrid microelectronics. The company masters volume production with in-house MAIT facilities.

## COMPETENCIES & CAPABILITIES

Unmatched range of proprietary in-house technologies for severe environment in satellites, launchers, aircraft, missiles, UAVs, land and sea platforms.

One-stop shop electronics: analog, digital, power, mixed Design and manufacture of:

- High-precision inertial sensors, equipment and algorithms,
- High-precision optics and optronics,
- Micropackaging technologies including build-to-spec and build-to-print services,
- Space motors and sensors using automatic wiring.
- ESA-qualified manufacturing facilities expertise labs.



# SAFRAN ELECTRONICS & DEFENSE

## PRODUCTS & SERVICES

Navigation and guidance solutions such as INS, IMU, ring laser gyros (RLG), fiber optic gyros (FOG), resonator gyros (HRG), MEMS, GNSS receivers, accelerometers.

Power distribution and supply electronics: PPU, PDU, DCDC converters, DCAC inverters, up to 200 kW for space applications

Actuators and actuation electronics:

- up to 10 kW;
- solar array drive, antenna pointing mechanism, berthing and docking
- mechanism for satellites and capsules;
- pumps primary and secondary flight control systems (FCS) for aircraft and valves for rocket engines;

Propulsion systems regulation and control for aircraft (FADEC), rocket (REEC) and satellite (PPU).

Front-end electronics for various detectors: UV, visible, IR, XRay, gyros, accelerometers.

## MAJOR SPACE PROJECTS & REFERENCES

Arabsat, Eutelsat, Turksat, Turmensat, Telkom, AM33/44, AMOS 4&5, ARSAT, ATHENA FIDUS, CIEL2, Chinasat, YAMAL401, Hispasat, Meteosat, O3B, W2A, W3B, W3C, W3D, YAHSAT, LOUTCH 4&5, Nilesat, PALAPA-D, RQ1R, RASCOM,

Sinosat, THOR 6, IASI, SPOT Family, HELIOS, Polar Platform, Columbus Orbital Facilities, Kazsat, GLOBALSTAR, PLEIADES, COROT, ARIANE, ASTRA, DFH4, KOREASAT, MD1/MD2, Paksat, STAR ONE, SUPERBIRD, SYRACUSE3,

Falcon Eyes, M4, M51, CSO, RUAG, Konsberg, ISS Reshtnev, COMAT, CEA, ... Space optics: refer to Safran Reosc.

## POINT OF CONTACT

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**TURNOVER** €1,239B

**WORK FORCE** 7,600

**SPACE TURNOVER** €18m

**SPACE WORK FORCE** 150