

Inovação no espaço e seus impactos na Terra

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Strictly Confidential



The Company

aerospace technology

Founded in 2002

Most relevant customers: ESA - European Space Agency, EADS – Astrium, Thales Alenia Space

Fields of action:

- Navigation Systems
- Optoelectronics (Vision & Laser Systems)
- MEMS / MOEMS

Facilities:

• Equiped with a laboratory, thermal chamber and 10 000 class clean room





Magnetometer Development

aerospace technology

Full in-house development







Magnetometer

aerospace **technology**



• 2 Flight Models fully qualified for AEOLUS mission



• 1 Qualification Model in Proba2 Mission LAUNCHED IN 2 NOV 2009 FIRST RESULTS ON 3 DEC 2009 \Rightarrow TRL 9



Magnetometer

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- Nº 1 European provider of magnetometer:
 - Proba-2
 - Aeolus
 - Sentinel 1A
 - Sentinel 3A
 - Sentinel 1B
 - Sentinel 3B
 - SEOSAT





5



Magnetometer

Earth impact:

- Aeolus: Wind velocity measurement leading to better weather forecast, pollution and global warming modelling
- Sentinel 1: monitoring of Arctic sea-ice extent, routine sea-ice mapping, surveillance of the marine environment, including oil-spill monitoring and ship detection for maritime security, monitoring land-surface for motion risks, mapping for forest, water and soil management
- Sentinel 3: Near-realtime data will be provided for ocean forecasting, sea-ice charting, and maritime safety services needing accurate and timely measurements of the state of the ocean surface, including surface temperature, ocean ecosystems, water quality and pollution monitoring. Land services to monitor land-use change, forest cover, photosynthetic activity, soil quality and fire detection will also be possible.
- SEOSAT: Applications in fields such as security, land management, natural resource management, prevention of natural catastrophes.



Head Mount Display

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Head Mount Display for supporting astronauts missions





Radiation testing on OLED to assess technology for space



Head Mount Display

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In-house development for mass market technology transfer.





Merging Head Mount Display and Magnetometer technologies.



Head Mount Display

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This device will increase our mobility behaviours.









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Objective: To develop transmitter laser terminal (EM at TRL 6).











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Mechanical, Electronics and Optical design all in house





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Mechanical, Electronics and Optical design all in house





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Qualification of state of the art optical components (synergy with MEMS)

















MEMS qualification

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Objective: develop and test with real MEMS a set of procedures for qualifying MEMS/MOEMS for space applications.





LusoSpace is prime contractor of a project (with FCUL and SSTL) for the study of MEMS applications on Earth Observation satellites









MEMS for next generation of magnetometers

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Future magnetometers will use MEMS for Mars missions, Europa exploration and satellite constellations







MEMS magnetometers for terrestrial applications

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MEMS magnetometer can detect military equipment--from planes, tanks, and trucks to a soldier holding a rifle--up to 100 ft below ground.

Or be used in inertial tracking systems.









Technologies from Space to Earth

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