About Us

ALTEC is a public-private company owned by **Thales Alenia Space**, one of the most important European space industry players, and the **Italian Space Agency - ASI**
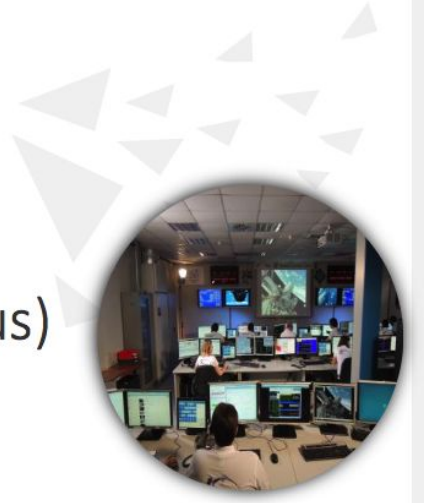
ALTEC – Aerospace Logistics Technology Engineering Company – is the Italian center of excellence for the provision of engineering and logistics services to support operations and utilization of the International Space Station and the development and implementation of planetary exploration missions.

ALTEC headquarters are based in Turin, Italy, its branch office is located in Cologne, Germany, with activities at ESA and DLR, and has liaison offices at NASA.

ALTEC activities in a nutshell

- **Human Spaceflight: Internal Space Station and beyond**
  - Advanced engineering, logistics, training and operations services for the national (PMM-Permanent Multipurpose Module) and European (Columbus) modules
  - Support to Italian experiment development and their operation on ISS
  - Development and operations of the ESA European Radiation Facility Data Hub (ERFNet), focusing on operations and data processing of European radiation P/L on the Lunar Gateway (ERSA and IDA) and provision of scientific support services for radiation research data analysis exploitation (from past and current missions), including simulations capabilities (based on GRAS/GEANT4 framework)
  - Participation in the new national and international Moon projects studies
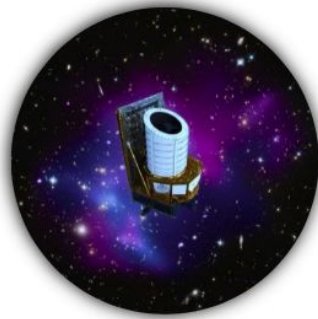
ALTEC activities in a nutshell

- **Robotic Exploration and Ground Segment:**
  - Rover Operation Control Center for the ExoMars Rover Mission (today on hold), and its extension to future robotic moon and solar system exploration
  - Space Rider P/L Control Center and Landing Control Center of the re-usable module
  - Design and development of Advanced systems for mission operations
  - Participation in ground segment studies for Moon Systems

ALTEC activities in a nutshell

- **Advanced Data Processing**
  - Data Processing Center of the two "Big Data" European Scientific Mission: GAIA, in operations since 2013, and Euclid, to be launched in the coming years
  - Data processing center for solar experiments (METIS on Solar Orbiter), fully operational since last year
  - Development, in conjunction with INAF, of Space Weather services as part of the European network
  - Research and development on advanced systems for big data analysis, machine and deep learning application on space domain

Master MPM Project Work

- Project work activities executed directly in collaboration with ALTEC teams

- Activities selected are typically complementary activities of on-going projects, mainly in the area of Advanced Data Processing

- These are examples of previous proposed project work (the * means selected by students):
  - Advanced system for spacecraft and payload electronic components characterization in space environments
  - Space Weather Models for Service Provision (*)
  - Data Quality and Instrument Monitoring for the Metis Instrument (*)
  - Deep learning GNSS Application using mixed features types
  - Deep learning application to support rover navigation