

GENERAL

PRESENTATION

SPACE MISSIONS

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WHO
WE ARE



GENERAL

- Multinational conglomerate founded in 1984
- Private capital
- Offices in Spain, Portugal, Poland, USA, Germany, Romania, and Malaysia
- Over 1000 employees all over the world
- Roots tied to the Space and Defense industries
- Currently operating in Aeronautics, Space, Defense, Security, Transportation, Healthcare and ICT industries.



AN OUTSTANDING TEAM

- We are convinced that having the best professionals on board is the true source of competitive advantage
- GMV is a unique environment for team work, where challenges to the talent, imagination and hard work are permanent.
- 80% of the personnel are engineers, physicists, mathematicians,...
- A multinational team of people united by the passion for challenges, innovation, technology and customer focus.



GMV IN THE WORLD

- Offices in Spain, Portugal, Poland, USA, Germany, Romania, and Malaysia
- Customers in five continents
- Permanent staff in 10 countries



SPAIN

MADRID – HEADQUARTERS
VALLADOLID
SEVILLE
BARCELONA
VALENCIA
CANARY ISLANDS
LEON

PORTUGAL

USA

GERMANY

POLAND

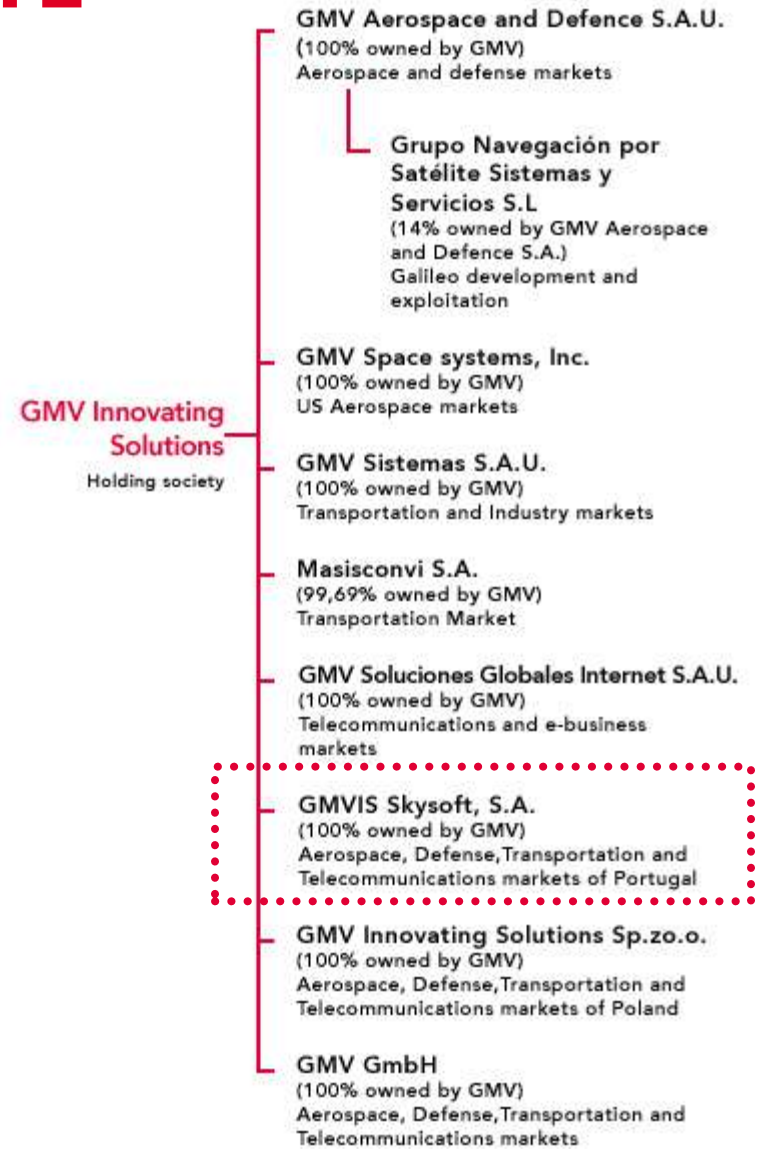
ROMANIA

MALAYSIA

A GLOBAL CONGLOMERATE

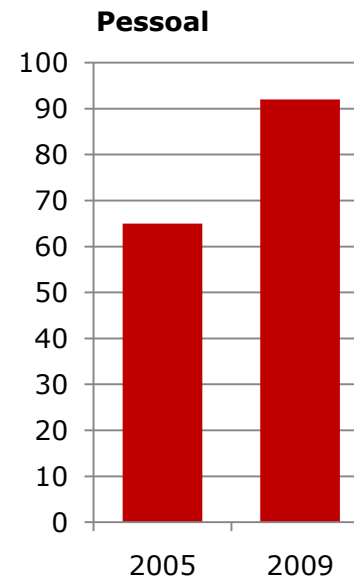
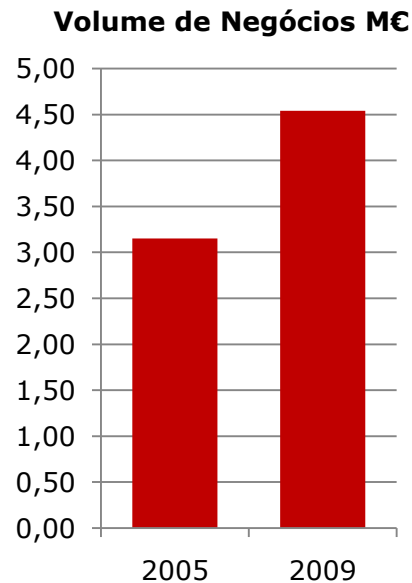
GMV is a conglomerate of 8 operating subsidiaries and a holding company.

This structure is customer oriented with the objective to guarantee the right focus in the customer and its needs.



GMV IN PORTUGAL

- Present in Portugal for more than 10 years.
- Around 90 employees in Portugal
- Turnover around 5M€, GMV group > 100M€.

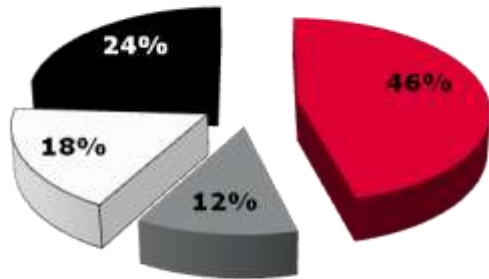


WHAT
WE DO



INDUSTRIES

- Aeronautics
- Space
- Defense
- Security
- Healthcare
- Transportation
- Telecommunications
- Public Sector and Corporate ICT



- Space
- Defense & Security
- Transport
- ITC



AERONAUTICS

GMV works for main industry manufacturers as EADS and Embraer and for traffic authorities as Eurocontrol.

- GMV has developed advanced security systems for airports
- GMV has pioneered the development of GNSS based precision approach, conflict detection (**A380 vs CRJ**), and landing systems.
- GMV is one of the few European firms with the capacity of developing safety critical onboard systems and Integrated Modular Avionics. It participates in systems of aircraft like the, the A400M and UAVs like Portuguese PAIC.



SPACE

- Satellite Control Centers
- Flight Dynamics Systems
- Mission Planning Systems
- Global Satellite Navigation Systems
- Earth Observation Satellite Data Processing Centers
- Scientific Operations Centers
- Guidance, navigation and control
- Mission analysis
- On-board software
- Simulators development
- Space applications development



DEFENSE

Supplier of Portuguese Ministry of Defense and international Defense organisms such as NATO and EDA

Expertise in maritime surveillance systems, including ELINT for submarines

Responsible for the maintenance of Tactical system aboard the Portuguese Air Force C295

Company and personnel have required security clearances

Facilities to carry out classified projects



TRANSPORTATION

Intelligent Transportation Systems (ITS) for different transport modes:

- Transit transportation fleet management systems
- Electronic fare collection systems
- On demand transport management system
- Service Planning Software
- Fleet Management systems and services
- Rail transport management systems
- Video surveillance systems
- Traffic Management Systems
- Electronic Toll Collection (GNSS based)
- Parking meter management systems
- AIS/VTS systems for maritime transportation
- DGPS Coastal networks for maritime transport



PUBLIC SECTOR AND CORPORATE ICT

- GIS solutions
- E-mail solutions, agenda and mobile terminals synchronization
- E-administration solutions
- E-mail solutions
- Content management platforms
- Intranet, portals, document management platforms
- E-learning platforms
- Messaging and mobility solutions
- Architectures of systems and infrastructure
- Consultancy of processes and technology
- Security
- Open-source software



GMV IN PORTUGAL - CLIENTS



GMV

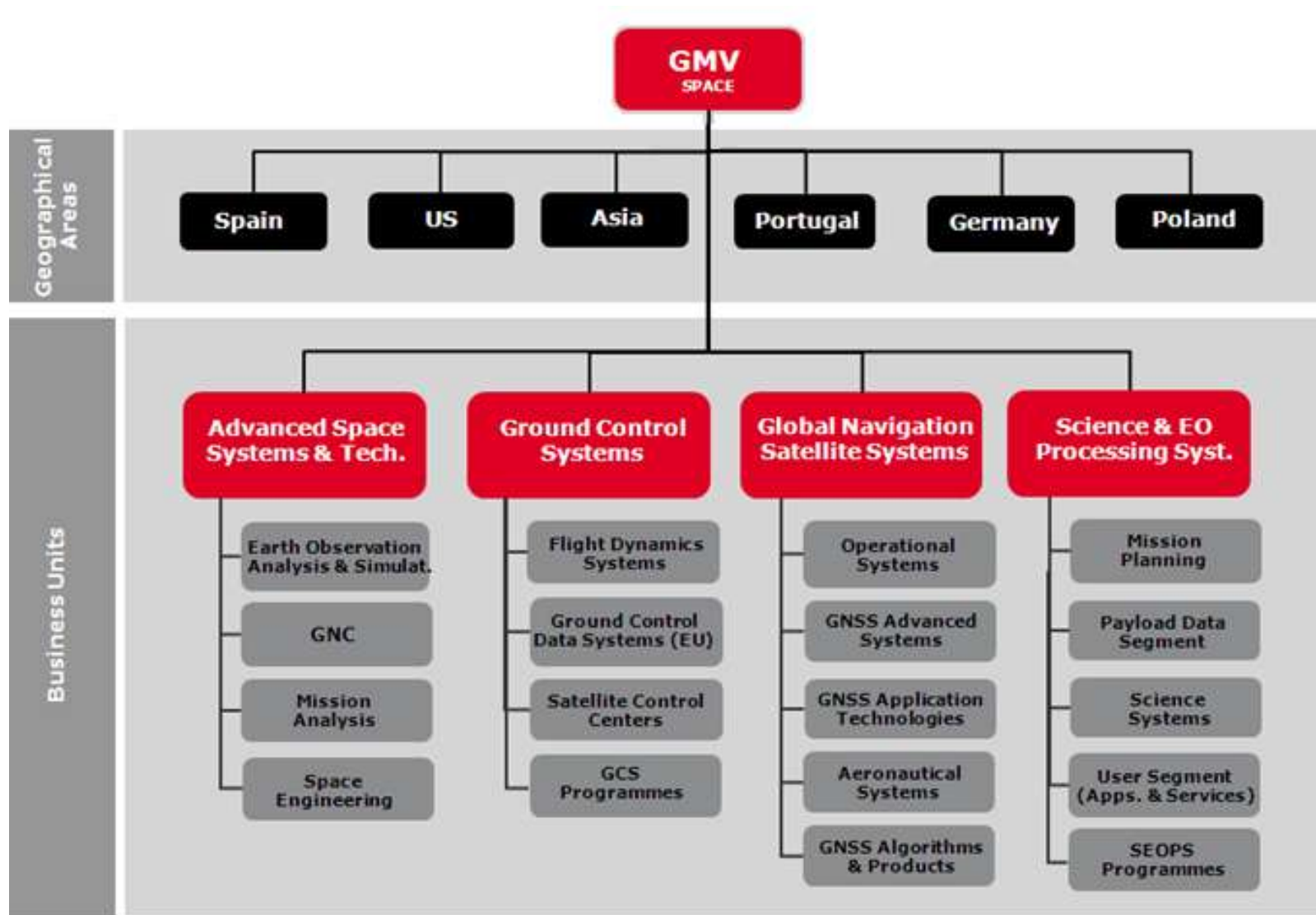
SPACE MAIN AREAS

SPACE: Main Areas

- Global Navigation Satellite Systems (GNSS)
- Satellite Control Centers, Monitoring & Control, Flight Dynamics, Mission Planning
- Payload Data Processing Ground Segments (Telecom, Earth Observation and Science)
- Engineering of satellite systems, mission analysis, AOCS/GNC
- Simulation: system simulation, operating and training simulation, R&D simulators, etc.
- C4I systems
- On-board and embedded software, test benches
- Applications: GNSS applications, Telecom applications, EO user segment and services



GMV SPACE ORGANIZATION



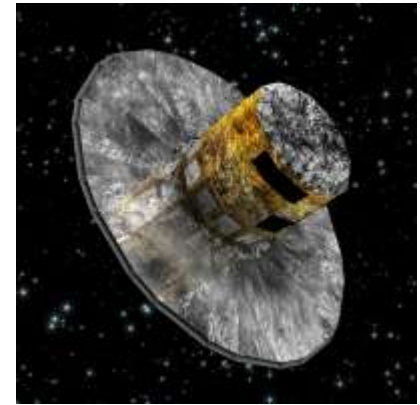
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SPACE MISSIONS



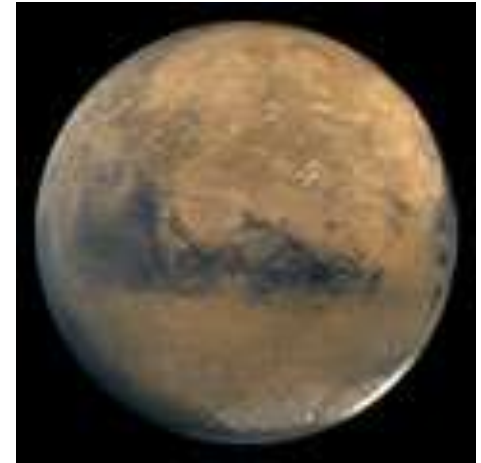
GAIA – Galaxy Study

- The objective of the Gaia Mission is to enhance the understanding of our Galaxy's structure, by providing a very accurate 3D star map, size, spectral content and radial velocity.
- Additional scientific products include detection and orbital classification of tens of thousands of extra-solar planetary systems, a comprehensive survey of objects ranging from huge numbers of minor bodies in our Solar System, through galaxies in the nearby Universe, to some 500 000 distant quasars.
- To be launched in 2012, operational until 2015.
- **GMV was contracted for the procurement, installation and configuration of the HW platform that will support the Central Checkout System (CCS) for Astrium. The CCS will be used for tests during the Assembly, Integration and testing of the satellite system, and the pre-launch final check-out.**



AURORA Mars Exploration

- The objective of the Aurora Programme is first to formulate and then to implement a European long-term plan for the robotic and human exploration of solar system bodies holding promise for traces of life
- Mission to send a Rover will start in 2016 (ExoMars)
- Mars Sample Return possible in 2020-2022
- By 2025 an international human mission to Mars may be a reality. It may use the Moon as a way station and to prepare for the great leap. The feasibility of such a mission is being assessed, however, the necessary technology and capability still need to be developed.
- **GMV had a contract to define a On Board Software Architecture suitable for all the involved space vehicles.**



HERSHEL PLANCK

- Herschel carries the largest, most powerful infrared telescope ever flown in space. A pioneering mission to study the origin and evolution of stars and galaxies, it will help understand how the Universe came to be what it is today.
- Planck is the first European space observatory whose main goal is the study of the Cosmic Microwave Background – the relic radiation from the Big Bang. The spacecraft will measure the fluctuations of the CMB with an accuracy set by fundamental astrophysical limits..
- Both spacecraft were launched on an Ariane 5 on 14 May 2009 from ESA's Spaceport in Kourou, French Guiana.
- **GMV had a contract to manage the complex space mission database, on site at ThalesAleniaSpace (Cannes).**





Thank you

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INNOVATING SOLUTIONS