## BOUND FOR MARS: IDEAS AND PROJECTS OF SITAEL AEROSPACE

SITAEL AEROSPACE IS AN ITALIAN SME, BASED IN SAN PIERO A GRADO (PISA) AND SPECIALIZED IN DESIGN AND PRODUCTION OF ELECTRONIC AND MICROELECTRONIC SYSTEMS FOR SPACE APPLICATION.



## THE STRONG KNOW-HOW ACQUIRED IN MORE THAN TWENTY YEARS OF ACTIVITY ON THE TUSCAN TERRITORY, PLACES SITAEL AEROSPACE IN A LEADING POSITION IN EUROPE IN ITS FIELD,

as can be inferred from its main customers, formed by the major Space Agencies (ESA, NASA, JAXA, CNES, ASI) and by the most important companies in the sector (EADS Astrium, Thales Alenia Space, OHB, COM DEV). Belonging to "Angelo Investments" Network of High Tech Companies, the company is currently carrying out a relevant programme of investments, both in human resources (about 150 people by next December), and in facilities (new premises in Pisa, 14.000 sqm facility under construction in Mola di Bari). SITAEL Aerospace has successfully taken part in many



International Projects and is now involved in various Space Programmes, two of which reached the launch phase from Cape Canaveral this year.

## SITAEL AEROSPACE: MAIN PARTICIPANT IN THE AMS-02 MISSION

SITAEL Aerospace took part in the AMS-02 mission, that, on 16 May, left the NASA Kennedy Space Centre (Cape Canaveral) on board of the last Shuttle "Endeavour" flight to the International Space Station (ISS). "AMS-02 was, for SITAEL Aerospace, a significant commitment that allowed us to develop our technical capabilities in making advanced devices for space application", states Nicola Zaccheo, Chief Executive Officer of the company. "SITAEL Aerospace" -Zaccheo continues – "desigted andzdeveloped around the 80% of electronic systems for the main instruments of the AMS-02 mission (ToF, TRD, Tracker, ECAL, RICH). Under the guidance of Prof. Roberto Battiston, President of the National Scientific Commission II of the National Institute of Nuclear Physics and Responsible of the mission, and of Doctor Guido Castellini, from the CNE/IFAC of Florence, as the Technical coordinator, our specialized engineers developed high reliability electronic instrumentations at the leading edge of technology."

Already baptized the "hunter" of Antimatter, AMS-02 is the most important experiment approved to operate on the International Space Station (ISS). Designed as an external module, the powerful magnetic spectrometer will study for at least ten years, with cutting-edge accuracy, the composition of primary cosmic rays, tracking down the presence of Antimatter, Dark Matter and Strange Matter particles.

## SITAEL AEROSPACE ON BOARD OF THE ROVER "CURIOSITY"

SITAEL Aerospace has a main role in the Mars Science Laboratory (MSL), the new NASA mission on Mars, which launch is foreseen from Cape Canaveral between November 25 and December 18 in 2011, that will reach Mars on August 2012.

The rover "Curiosity" is a real mobile scientific laboratory, highly technological, that houses the most sophisticated instruments ever sent on the Martian surface, with the aim of studying geology and environment of the Red Planet, in order to investigate its present and past habitability. SITAEL made a key component in the mission, the REMS ASIC, a chip able to withstand Mars' extreme radiations and temperatures. Installed inside the monitoring station of the rover, the integrated circuit will register Mars' environmental parameters (Wind, Humidity, Temperature), giving an invaluable contribution to the mission's results. "MSL represent for SITAEL Aerospace another major testing ground in view of the challenging aims the company is currently working on" - adds Eng. Giovanni Tuccio, Marketins Manager of the company – "Our roadmap anticipates an increasingtinvolvement of the company in the development of complete systems for satellite applications, making SITAEL a reference point for italian aerospace industry".