



*Foreword by* **Paulo Ferrão**

President, Portuguese Foundation for Science and Technology, FCT

Science and technology in Portugal, are key enhancers of the Azores as a strategic location to develop a spaceport uniquely suited to reduce the cost of access to space and to facilitate the growth of the next generation of satellites, unleashing the potential of the “New Space” economy.

Portugal has been increasingly investing in space and creating scientific and technological capabilities for over twenty years, mostly driven by its participation in ESA, which contributed to extensive research and development activities targeted to applications, user segment, space system software and control, flight dynamics, mission control and operations, RF payloads for radio navigation, quality, dependability and safety, ground station systems or on-board data systems. This resulted in a striving entrepreneurial and innovative industrial and technological sector, composed mostly of SMEs, Universities and Research Institutes.

Portuguese key competencies in space technologies were based in software developments and applications but more and more, the seamless combination of software and hardware, with cost efficient processes, has led to the creation of a significant portfolio of products. Remarkable hardware technologies have successfully reached the highest Technology Readiness Levels. One example is a magnetometer embarked on the Proba-2 mission and several Sentinel missions. Another examples include radiation monitors, onboard the Alphasat mission, which has been protected through a Multilayer Insulation (MLI) developed in Portugal. This MLI was also used on the entry and descent module of ExoMars, the ESA robotic exploration mission to Mars. Others includes new manufacturing technologies, that enable the development of spherical or cylindrical tanks without the traditional girth welds,

thus enabling the use of aviation grade aluminium as a liner material with significant cost reductions. Recently, a Portuguese Consortia is developing a small satellite, in view of deploying a constellation of satellites, capable to provide low cost services related to the Atlantic, including for Earth Observation

In parallel, Portugal has been strengthening the strategic advantage of its geographical positioning in the Azores, through a partnership with ESA, which has allowed for the installation of an advanced set of antennas capable of tracking of Ariane Launches, facilitating data download for Earth Observation services, or enabling downlink of Scientific Missions data, providing more opportunities for New Space exploitation.

In this context, Portugal has presented a new space strategy, together with an innovative space law, creating a unique landscape to attract more science based investment, from space ports to space enabled services, including the provision of components and services for launchers and satellites.

Encouraged by this progress, FCT has been promoting several studies to assess the technological feasibility and commercial potential of a Space Port in the Azores, particularly in the context of an ESA initiative, whose preliminary results unanimously confirm its potential in the context of the global “New Space”.

With this strategy, Portugal declares its intention to support Europe in its ambition to guarantee, in its territory, competitive access to space as well as the provision of services in orbit.

