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Space economy – Stimulating measureable economic activities through space policies and budgets (3)

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SPACE SERVICES FOR SEA FLEETS EMERGE AS AN ELECTIVE PRIVATE MARKET FOR THE ITALIAN SMALL SATELLITES PLATFORMS

Abstract

After a sizeable research investment on the technical and commercial potential of small satellites, the Italian Space Agency (ASI) has gone into construction phase with its small satellite PLATiNO Platform (Mini Piattaforma spaziaLe ad Alta TecNologia – Mini Hi Tech Platform), last december. The launch of the first multitask probe satellite built by SITAEL Spa is foreseen late this year and the second in 2019. Apart from this publicly funded part of the programme, which is connected with the exploitation of the italian (ELV Avio) Vega Launcher, and its SSMS – Small Spacecraft Mission Service payload adapter, the preparatory competitive design of PLATiNO has offered to the participating teams, a big chance to test the scenario of small satellites, in their various size ranges and system engineering solutions. As a result, beside the main abovesaid programme, other initiatives started, keeping in the track of multitask TLC NAV EO combined payloads. These are mostly targeted at smaller and cheaper satellite fleets than the original PLATiNO constellation, which appear financially sustainable without public funding, or single corporate investments like in the current experiences of Planet Lab or One Web constellations, relying instead on pooled long term commitments of future commercial users to cover lifetime capital and operational costs of 30-40 M. In this respect, the paper describes the progress of regional stakeholders communities observed by ASI in the domain of Sea Services, where demand is mature from fishing and cruising fleets, sea farming groups, shipping companies and leasure sailing leagues, etc. located in the Atlantic Longitudes and the Mediterranean. The requested services are aimed at cutting management costs or increasing earnings by, for instance, dynamic operational management of water parameters such as temperature, density, salinity, currents for fishing and sailing fleets, or the availability of low cost satcom wideband for passengers and sea workers applications, from media communication to health, emergency and entertainment. Sustainability of sea exploitment and environmental parameters are also included in connection with the the SeaBOS (Seafood Business for Ocean Stewardship) Protocol. The paper concludes in describing the type of micro – nano satellites envisaged to match these needs, their launching methods and lifetime, in compliance with COPUOS provisions on controlled deorbiting and demise. Also, a crucial technical item is the integration of all existing open access space data platforms (marine imagery, meteo, archives, etc.) into the service platform (Copernicus for one), made possible by innovative semantic protocols.