

## **A Governance framework for the future Earth-Observation Governmental Service of the European Union**

The new space economy has paved the way for new actors, cost-effective business models, and disruptive technologies, but the sector still presents significant regulation and governance gaps. In particular, the Security and Defence sector in the European Union is characterized by a weak governance, challenging its technological sovereignty and the resilience of the space value chains and space infrastructure. The European Union Space Strategy for Security and Defence supports Space-based Earth Observation (SBEO) to enhance autonomous assessment and decision-making to enable security and defence capabilities. The definition of the governance shall guarantee the access to authorised users with the appropriate security level. However, security constraints may have a relevant impact on system architecture and on costs.

This research proposes a Governance model for the future Defence and Security Governmental Service (EGOV) of the European Union by analysing potential barriers and enablers at the international, regional and national level and contributes to the definition of the Service key elements with respect to the evolution of European regulation, as well as to a national position. The study is based on an in depth research into the current state of national and federal security services around the world, which leads to the creation of a purposeful classification of models given critical parameters identified during the analysis. This first comparative analysis between different governance models is accompanied by an analysis of the influence of economic and market factors. Specifically, we study how economic and financial aspects (in the framework of the PPPs and a construction of a Market Place) related to the old and new space economy models influence the governance framework and the role of disruptive technologies and new actors in the downstream security service market. Finally, the research suggests the basic elements for a new EU Governance Service complementary to national services benefitting from national assets and taking into consideration the trade-off between national sovereignty and service usefulness and usability. The architecture for the governance model is built on a user-driven approach to consolidate governmental use cases, user needs and user requirements then translated into a gap analysis mapping users' needs against existing and planned institutional and commercial capabilities.

The proposed research innovative nature lays in the association between programmatic and technical requirements, governance elements (actors, roles, responsibilities, processes) and financial aspects (procurement schemes, CAPEX and OPEX expenditures, etc.), with a legal and regulatory dimension (EU and national laws and regulations, ownership, data policy, licenses).

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