

Priorities in national space strategies and governance of the member states of the European Space Agency



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ABSTRACT

The European Space Agency (ESA) has twenty Member States with a variety of strategic priorities and governance structures regarding their space activities. A number of countries engage in space activities exclusively through ESA, while others have also their own national space programme. Some consider ESA as their prime space agency and others have additionally their own national agency with respective programmes. The main objective of this paper is to provide an up-to date overview and a holistic assessment of strategic priorities and the national space governance structures in 20 ESA Member States. This analysis and assessment has been conducted by analysing the Member States public documents, information provided at ESA workshop on this topic and through unstructured interviews. The paper is structured to include two main elements: priorities and trends in national space strategies and space governance in ESA Member States. The first part of this paper focuses on the content and analysis of the national space strategies and indicates the main priorities and trends in Member States. The priorities are categorised with regards to technology domains, the role of space in the areas of sustainability and the motivators that boost engagement in space. These vary from one Member State to another and include with different levels of engagement in technology domains amongst others: science and exploration, navigation, Earth observation, human space flight, launchers, telecommunications, and integrated applications. Member States allocate a different role of space as enabling tool adding to the advancement of sustainability areas including: security, resources, environment and climate change, transport and communication, energy, and knowledge and education. The motivators motivating reasoning which enhances or hinders space engagement also differs. The motivators identified are industrial competitiveness, job creation, technology development and transfer, social benefits, international cooperation, and European non-dependence. The second part of the paper provides a categorisation of national space governance structures in ESA Member States. Different governance models are identified depending on the responsible ministries for space for a number of space related organisations and ESA. In the case of ESA, these can typically vary from the more traditional ministry of science and/or education, the ministry of industry and/or innovation to the more recent ones being the ministry of economy and the ministry of transport.

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Recognising the transverse nature of space and its potential as a tool for a number of policies like agriculture, environment, maritime, disaster management, etc., other ministries are more and more getting involved in space activities. The development and implementation of the space strategy and policy of a Member State is realised through the engagement of an implementing entity. The type, role and activity vary from Member State to Member State.

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1. Introduction

In Europe the space sector is a particularly interesting and dynamic field, as it includes a number of actors with varying priorities across the 20 countries which are Members States of the European Space Agency (ESA). The past decade was an era of increasing accessions to ESA (Poland was the 20th state to accede to the ESA Convention on 19 November 2012) and the European Union (EU) (Croatia was the 28th state to enter the EU on 1 July 2013). In 2015, the 20 ESA Member States were joined by two new Member States: Estonia and Hungary. The integration process to ESA starts with a general Cooperation Agreement, followed by the European Cooperating States Agreement (ECS) and concludes by becoming an ESA Member State after signing and ratifying the ESA convention. Fig. 1 shows the ESA and EU Member States and the ESA Cooperating States in relation to the EU Member States.

There is no official grouping of the ESA Member States within ESA or elsewhere. For the purpose of this article, the authors put together Member States based on their total national budget (civil and defence) and Growth Domestic Product (GDP) in three groups (Fig. 2). The first group is those Member States with a budget above 150 million Euros: Germany, France, Italy, United Kingdom, Spain and Belgium. The second group includes those with budget between 60 million and 150 million Euros:

Netherlands, Switzerland, Sweden, Norway and Austria. The third group is those with budget between 10 million and 30 million Euros: Finland, Denmark, Greece, Romania, Ireland, Portugal, Poland, Czech Republic and Luxemburg. These three distinct groups can be called big, medium and small Member States.

A more intensive cooperation of the EU Member States which are not Member States of ESA is likely to result in a dynamic evolution of space policies and governance structures in these states. The number of European states composing a space strategy and policy, and defining their space governance for the first time is therefore on the rise, whilst other states may consider to revise their current strategy, policy and governance with the current changing of the European space landscape. The Europeanisation of space endeavours is increasing with large commitments from the EU for Galileo and Copernicus programme. Until today there has been no systematic mapping of the current national structures for space governance and of the content of national space policies. Understanding the past and current national governance, strategies and policies in these Member States is key for preparing the future ones and the future of the European space policy and programmes.

This paper aims to map and provide a holistic assessment of the strategic priorities and motivations for engaging in space activities and national space governance

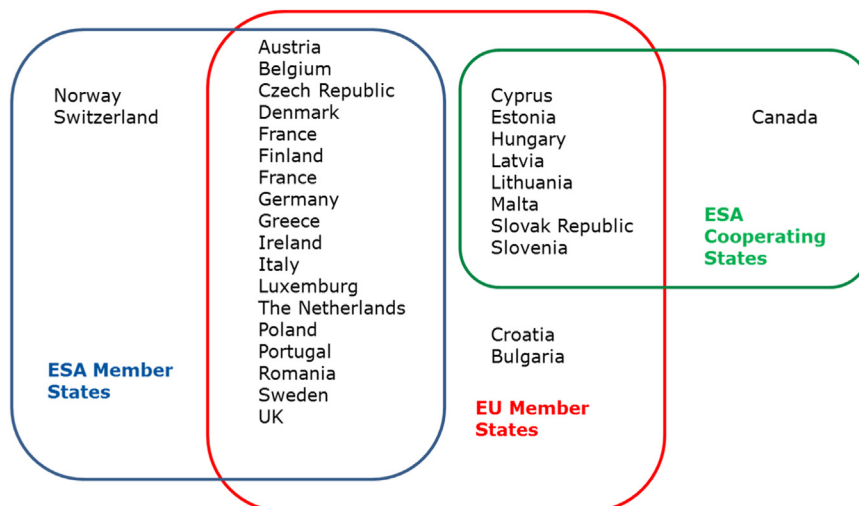


Fig. 1. 2014 ESA Member States and Cooperating States (Hungary and Estonia became ESA Member States in 2015, Bulgaria has signed a Cooperation Agreement in 2015).

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