

# National Space Laws and Non-Binding International Instruments – The Portuguese Experience

*Cristina Melo Miranda and Helena Correia Mendonça\**

## Abstract

Drafting of national space laws to ensure compliance by States with their international commitments has been a recent trend globally. However, the specific legislative process at each State typically renders those laws lacking in the capacity to suit, in a timely and adequate manner, the innovative and transformative nature of the sector.

Regarding the Portuguese Space Law, open-concepts were used and lower level legal frameworks were included, allowing for the necessary flexibility to address the challenges brought on by a technology-based sector, where evolving technical know-how and third-party standardization is of the essence to ensure the safety and quality of space activities. All while taking into consideration that Portugal is part of the EU and is, thus, subject to EU legislative and policy measures that have a direct impact on space activities and the way in which space activities may end up being regulated in Portugal.

## 1. Introduction

Portugal is not a space-faring nation in the traditional sense. However, in recent years, Portugal has made a strong commitment to space and the development of space activities (in a broad sense), aiming to reap the economic and societal benefits that space brings to our everyday life.

In that sense, when drafting the Portuguese Space Act (enacted by Decree-Law no. 16/2019, of 22 January 2019), two clear concerns were to (i) not have such body of law act as a deterrent or a blockade to the development of space activities subject to the supervision of Portugal, and to (ii) have a body of law that was innovative and could withstand the rapidly evolving technical and economic background of the space sector.

The latter concern was a particular hard corner to turn, given that Portugal is a civil law legal system, where laws and ordinances set out the rule of law under a previously set hierarchy and, thus, certain requirements must be

---

\* Vieira de Almeida & Associados

obeyed in the drafting of laws and ordinances (notably, that laws are clear, certain and open-ended concepts are limited).

## **2. The Portuguese Experience**

### **2.1. The Portuguese Space Act – an innovative legal framework**

The Portuguese Space Act (as we have had the opportunity to further detail)<sup>1</sup> regulates certain aspects of space activities, which include space operations (i.e., (i) launch and return operations and (ii) command and control operations) and launch-site operations (i.e., the management, administration or direction of a launch site).

Fulfilling Portugal's international commitments, the Portuguese Space Act: (i) subjects space operations to a mandatory license, in accordance with Article VI of the Outer Space Treaty,<sup>2</sup> (ii) requires the registration of space objects, in accordance with Article II of the Registration Convention<sup>3</sup> (creating, to that effect, a national registrar of space objects), and (iii) disciplines topics of supervision, in accordance with Article VI of the Outer Space Treaty, and (iv) of liability, in accordance with Article VII of the Outer Space Treaty, in connection with space activities under its jurisdiction.

Nevertheless, building on the experience of other countries with space activities and/or with national space laws, as well as on the legal challenges that New Space was triggering, the Portuguese Space Act proposed a set of innovative legal approaches, notably in the topics of licensing, liability, and registration.

#### **2.1.1. Licensing**

Typically, space operations are licensed under an individual license, i.e., a license applicable to each specific operation, obtained by the entity that will be carrying out such space operation.

However, such framework may be significantly cumbersome in a context where space operations occur more and more often (e.g., given the increase in launch operations as well as the increase of in-orbit objects that require command and control operations) and where a multitude of different entities may be involved (e.g., given that a launch more often involves several payloads of different owners, as well as the fact that certain operations – such as the launch and operation of satellite constellations – may be better assessed from a legal perspective if taken into consideration as a whole).

---

1 M. Cocco, H.C. Mendonça, C. Miranda, Portugal, in: J. Wheeler (Ed.), *The Space Law Review*, Law Business Research Ltd., London, 2021, pp. 153-166.

2 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, 27 January 1967, 610 U.N.T.S.

3 Convention on Registration of Objects Launched into Outer Space, 15 September 1976, 15020 U.N.T.S.

In that context, the Portuguese Space Act also provides the possibility of a blanket license be obtained. In this circumstance, operators are able to obtain a license for a set of space operations of the same type that will take place over a determined period of time.

In addition, joint licenses – i.e., licences authorising the carry out of space operations of the same type or a different type, even if performed by more than one operator (with the applicant obtaining the license for itself and on behalf of other operators) – are also included.

Nevertheless, and with a view to further speed-up the licensing process, the Portuguese Space Act foresees a pre-qualification procedure, a voluntary procedure that allows any operator to obtain (outside and prior to initialising any licensing procedure), from the Portuguese Space Authority, confirmation that the operator itself and/or any of the systems, processes, and features and specifications used in the space operations it may wish to carry out are in compliance with/fulfil certain elements and requirements that the Portuguese Space Authority needs to verify in the context of a licensing procedure.

### **2.1.2. Liability**

Given that states are internationally liable for national space activities, it is common for national space laws to built-in redress mechanisms, allowing the state to pursue space operators for any amounts that the state may have had to borne in that context. For that purpose, insurance of space operations by the operators is also usually required by states in the context of licensing procedures.

As a measure to foster the development of space activities, those redress mechanisms are usually subject to caps.

This was also an option under the Portuguese Space, however, with a view to ensure that this cap on the Portuguese State right to redress remained adaptable to the specific circumstances of space operations it was decided to submit to definition of the specific cap to a lower level regulation (Ordinance), which can be more rapidly and easily revised as needed.

### **2.1.3. Registration**

With a view to ensure that Portugal is in a position to comply with its international commitments on registration of space objects, the Portuguese Space Act created a national registrar.

However, anticipating evolutions in the economic landscape of space activities, the Portuguese registrar requires not only the inscription of details and ownership of the relevant space object, but it also requires that relevant events in the life of the space object are recorded therein, with a view that proper supervision can be adequately carried out by the state throughout the life of the space object, such as: (i) the transfer of ownership of those space objects, (ii) the end of the useful life of those space objects, as well as (iii) any incident or serious accident involving those space objects.

## **2.2. The Portuguese Experience – allowing room for innovation and compliance with new and emerging international regulations and standards**

Notwithstanding these innovative solutions already built in the Portuguese Space Law, further leeway to address the innovative and transformative nature of the space sector and promote technical/business innovation in the sector was pursued.

### **2.2.1. Simplified rules for scientific and experimental activities**

Throughout the Portuguese Space Law, permissions have been included to allow the issuance of simplified rules and regulations whenever the space activities at hand are being carried out for scientific purposes only or are experimental only.

In fact, this flexibility exists as regards:

- (i) the licensing procedure, in respect of its organization, requirements and timings, with the Portuguese Space Authority being authorised to issue simplified rules concerning the licensing of space operations carried out exclusively for scientific, research and development, education or training purposes or for experimental purposes, provided it can be demonstrated that those activities pose little risk to the earth's surface, airspace and outer space, including to public health and the physical safety of citizens; as well as,
- (ii) the insurance requirements, with the Portuguese Government being authorised to issue a lower level regulation (Ordinance) waiving the requirement for space operations to be subject to insurance or reducing the insurance policy coverage amount required, in respect of space operations carried out exclusively for scientific, research and development, education or training purposes.

More recently, a general framework (Decree-Law no. 67/2021, of 30 July 2021) was approved by Portugal, that sets out the general requirements for the implementation of technological free zones in the country, i.e., cross-sector regulatory sandboxes open to entities to test and experiment innovative technologies, processes, products and systems, with the monitorization and support of the relevant regulatory authorities. It is expected that such technological free zones will allow for the development and support of tech-based innovation for or related with the space sector.

### **2.2.2. Open-concepts and lower level regulation to address international technical and legal evolution regarding the space sector**

Throughout the Portuguese Space Law, inclusion of open-concepts and authorisation for the issuance of lower level regulation occurs also, with a view to allow for the necessary flexibility to address the challenges brought

on by a technology-based sector, where evolving technical know-how and third-party standardization is of the essence to ensure the safety and quality of space activities.

In the context of licensing, this flexibility was obtained by providing the requirements for issuance of the license in the Portuguese Space Law but authorising the Portuguese Space Authority to densify those requirements in its regulations.

As an example, requirements for issuance under the Portuguese Space Law include the requirement to evidence that the operator has the adequate technical, economic and financial capacity to carry out the relevant space operations, but also that the space operations do not breach the Portuguese State's international commitments and safeguards adequately damages to the Earth's surface, aerospace and outer space.

When regulating the procedures for licensing space operations, the Portuguese Space Authority used this discretion to request that, for instance, in the context of the licensing procedure, the operator delivers a safety plan that complies with rules and requirements imposed from time to time by the US Federal Aviation Administration, as well as a space debris mitigation plan that can refer to best international practice and principles, notably ISO 24113:2011 (Space systems – Space debris mitigation requirements), the IADC Space Debris Mitigation Guidelines (2007),<sup>4</sup> and the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space.<sup>5</sup>

Thus, the Portuguese Space Authority can adjust the licensing requirements in accordance with the technical and legal evolution of the sector, ensuring that the licensing rules are in compliance with international commitments and promote the most adequate standards at any given time for ensuring the quality and safety of space operations subject to the Portuguese Space Act.

As an example, this flexibility allows that the Portuguese Space Authority may take into consideration, if it so desires, the existing Guidelines for the Long-term Sustainability of Outer Space of the Committee on the Peaceful Uses of Outer Space (LTS Guidelines)<sup>6</sup> when assessing a prospective space operation and its compliance with the international commitments of Portugal, as well as whether such prospective space operation adequately safeguards potential damages to the Earth and the outer space bodies.

However, we note that, in this respect, Portugal as not yet approved a specific approach for the voluntary implementation of these LTS Guidelines

---

4 Space Debris Mitigation Guidelines (2007), Inter-Agency Space Debris Coordination Committee (IADC).

5 Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space (2007).

6 Guidelines for the Long-term Sustainability of Outer Space of the Committee on the Peaceful Uses of Outer Space (2019).

(as was the case with other European countries, such as France and the United Kingdom).

### **2.3. Impacts of EU legislation and policy**

Given that Portugal is part of the EU and is, thus, subject to EU legislative and policy measures, regulation of space activities and space operations in Portugal is, of course, impacted by EU legislation and policy, even when not directly aimed at space activities.

It is easy to understand that when EU legislative measures impose commitments over its member states, the same will need to address those commitments in their national bodies of law (unless we are discussing certain EU rules that apply directly – i.e., those enacted by means of an EU regulation).

It is also easy to understand that EU measures directly addressing space activities will have an impact on the way member states license and regulate space activities at national level.

As an example, the EU is pushing for specific space traffic management (STM) strategies. In fact, An EU Approach for Space Traffic Management<sup>7</sup> was issued early 2022. The Approach already signalled that the EU Commission intends to develop STM guidelines and standards that should be used by the relevant EU operators, with a certification mechanism confirming that operators comply with those guidelines and standards being also envisaged.

In that context, it is probable that the Portuguese Space Authority will be looking at such standards and guidelines when licensing space operations and may even come to require that the relevant applicants produce evidence of that certification.

However, this impact also arises from rules and policies that do not directly or exclusively target space matters.

As an example, the Network and Information Systems Directive (NIS 2 Directive<sup>8</sup>) and the Critical Entities Resilience Directive (CER Directive<sup>9</sup>) (both applicable from October 2024), addressing cybersecurity and enhanced resilience of critical entities, respectively, apply to space, in particular to operators of ground-based infrastructure, owned, managed and operated by

---

7 Joint Communication to the European Parliament and the Council: An EU Approach for Space Traffic Management – An EU contribution addressing a global challenge, Strasbourg, 15 February 2022, JOIN(2022)4 final.

8 Directive (EU) 2022/2555 of the European Parliament and of the Council of 14 December 2022 on measures for a high common level of cybersecurity across the Union, amending Regulation (EU) No 910/2014 and Directive (EU) 2018/1972, and repealing Directive (EU) 2016/1148 (NIS 2 Directive).

9 Directive (EU) 2022/2557 of the European Parliament and of the Council of 14 December 2022 on the resilience of critical entities and repealing Council Directive 2008/114/EC.

member states or by private parties, that support the provision of space-based services.

Thus, upon the date of application of such body of law, additional requirements will apply to in-scope operators. These requirements may have to be considered by the Space Authority to assess the adequate technical capacity of an operator to carry out the space operations to be licensed under the Portuguese Space Act.

Also, as an example, the EU is driving a set of measures regarding environmental, social and governance (ESG) concerns.

Albeit not directed at space activities and operations per se, operators of space activities need to define their business models taking on board ESG concerns or may risk breaching applicable law and/or losing access to financing (public and private).

More importantly, to the extent that those ESG concerns translate into specific rules and regulations, the Portuguese Space Authority may need to take them into consideration when licensing and supervising space operations under the Portuguese Space Act.

As an example, there are a set of policies and measures to be enacted by the EU in the context of the green transition, concerning, for instance, carbon emissions. To the extent those policies and measures are enacted as rules and regulations, the Portuguese Space Authority will need to take them into account for instance when assessing the compatibility of a launch operation with applicable Portuguese law.

#### **2.4. The circumstance of a specific regional legal regime in the Azores being in force**

Notwithstanding what was said before, it is still noteworthy to highlight that the Portuguese Space Act is, at the time of writing, complemented by a set of rules and regulations enacted by the Autonomous Region of the Azores on access to space activities in the region.

Albeit those regional rules generally follow closely the Portuguese Space Act, they do have deviations and will be implemented by a Regional Space Authority.

In light of the foregoing, we may end up in a situation where the innovative solutions and the flexibility built into the Portuguese Space Act (and that are heavily copied into the regional rules) are interpreted and implemented differently by the Portuguese Space Authority and the Regional Space Authority – giving cause for very difficult legal issues to arise and being detrimental to the competitiveness of the country's legal framework for space activities.

### **3. Conclusions**

The Portuguese Space Act is the cornerstone legal block regulating space activities subject to Portuguese jurisdiction.

In that context, the rules enacted aimed to maintain adequate flexibility to address technical and legal evolutions in the space sector.

To that effect, the law included already several innovative solutions, notably as concerns the type of licenses available to space operators, with a view to better address the evolving technical realities of space operations.

Also, the law already included the possibility of simplified rules to be put in place concerning the licensing and insurance of space operations carried out solely for scientific or experimentation purposes, with a view to foster innovation in the sector. This aim is now being complemented by a general body of law addressing cross-sector regulatory sandboxes that the country enacted to support the development of tech-based innovation.

But, more importantly, the rules enacted used a set of open-concepts and granted the Portuguese Space Authority with the powers to densify those concepts in a manner that will allow the existing rules to accommodate international changes in regulations, guidelines and standards applicable to space activities without having to resort to a change in law, that is subject to more stringent legal and procedural requirements.

The foregoing is of particular relevance considering also that Portugal is an EU member state and, thus, our national legal framework also includes EU rules and regulations and is influenced by EU policies (both directly concerning space matters but also non-specific rules and policies that have impacts on space activities).

In any case, the circumstance that the Portuguese Space Act is, at the time of writing, complemented, at the Autonomous Region of the Azores, by specific regional legislation on access to space activities, there is room for significant difficulties in the articulation between the national and the regional regime, which may jeopardise the operation of the Portuguese Space Act (in respect of activities subject to that regional legislation) as an innovative and flexible set of rules.