Poland Goes to Space: The Draft Polish Space Act

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Abstract

Poland has a long history of space activities: As a former active participant of the Intercosmos program, it is a member of both ESA and UN COPUOS. To respond to the growing demand by research and industry, a national space law has been drafted which implements Article VI of the Outer Space Treaty, as well as aims to accommodate Poland’s ambitions in the field of space resources and suborbital activities. The paper analyses the recent Draft, especially in view of the authorization procedure and liability for damage caused by space objects. It compares the outcome with the most recently adopted space law in Europe – the 2020 Space Activities Law of Luxembourg – and informs about the progress in preparing domestic space legislation in the Czech Republic.

1. Introduction

Poland has a long history of space activities: As former active participant of the Intercosmos program, it is member of both ESA and UN COPUOS. To respond to the growing demand by research and industry, a national space law has been drafted which implements Article VI of the Outer Space Treaty, as well as aims to accommodate Poland’s ambitions in the field of space resources and suborbital activities. The paper analyses the recent draft of law on space activity, especially in view of the authorization procedure and liability for damage caused by space objects and insurance. It compares the outcome with the most recently adopted space law in Europe – the 2020 Space Activities Law of Luxembourg – and informs about the progress in preparing domestic space legislation in the Czech Republic. Its objective is to explore where the space sector in Central and Eastern Europe is heading with the help using specific legal tools, as well as capturing legislative trends in existing national space laws.

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2. Polish Space Act

2.1. History and reasons for legislative efforts

On the tenth anniversary of attempts, Polish space legislation finally has a chance to become part of the global Corpus juris spatialis. The history of work on the project goes back to earlier years, when in 2008-2009, the Polish Astronautical Society started working on an academic draft of space law. The official works commenced in 2012, when Poland joined the European Space Agency. However, the first draft of the law ‘on space activities and the National Register of Space Objects’ has not been published until 2017. It underwent then a public consultation process, where it stopped in 2018. Subsequent versions of the draft were subjected to industry discussions and expert analysis in 2020 and have become a legislative priority in 2022.

Poland has ratified four UN space treaties (excluding the Moon Treaty), which implies an obligation to adopt national space legislation. However, the necessity to adopt the law is determined not only by international obligations but also by the internal assignments set in the Polish space strategy. The ambition of the Polish legislator is thus not only to fulfill Poland's international obligations, but also to make the space law a lever for the development of the Polish space sector.

The requirements of Article VI of the Outer Space Treaty with regard to the licensing and supervision of space activities, together with the substantive principles contained in the UN space treaties and other recognised sources of international space law, were taken as a starting point. It was found necessary to also take into account UN resolutions despite their formally non-binding nature. As can be seen, national law is a good opportunity to transform international soft law into national hard law to the extent that an international agreement has not been adopted, but which undoubtedly contains legitimate content, as for example in the area of space debris prevention. Thus, the Polish law should respond to the requirements of the sustainable development as postulated by the Social-Economic Committee expressed in the opinion publish in December 2022.

In addition to the above, a major area for discussion was the possibility to adapt the shape of national legislation to the stage, capabilities and ambitions of the domestic space industry, as expressed in the Strategy for Responsible Development, the National Space Strategy and the assumptions of the National Space Programme (although not yet officially adopted by the Government).

This task is not easy, as one has to be aware of the limitations of the Polish space sector, the gap between the assumptions of the space strategy and reality, i.e. the non-existence of an upstream market, the relatively low level of public investment in the space sector, poor access to space funds and capital, and the lack of awareness of the space potential among local authorities, the lack of cooperation between industry and scientific institutions, and the lack of recognition of the space sector as a priority. This reality seems to be changing, and it is also reflected in the shape of the draft law.

For all these reasons, the assumptions behind the Polish law include the creation of a new model for the development of the Polish economy, based more on knowledge, innovation and technological progress than on low production costs. Space sector was recognized as one of the industries that can contribute to achieving this goal. Its key advantages are: strengthening contacts between science and industry, creating innovative technologies, and stimulating foreign cooperation. It was therefore recognised that

“supporting the Polish space sector can contribute to sustainable economic development based on innovative enterprises able to compete with their technological solutions. Space activities promote close cooperation between the R&D sector and industry, thereby contributing to increased innovation in the economy. The space sector also stimulates the development of new materials and technologies, introduces new forms of work organisation and quality control. In addition to the ‘mere’ transfer of technology (…) , the less visible but also important aspect of the management systems and rigorous quality control necessary for space projects must be emphasised. In the world and in Europe, and increasingly in Poland, the fact that a company has a proven track record in space activities, for example in ESA projects, constitutes a kind of ‘quality certificate’ confirming the credibility of the potential partner and its technological competence. The premise is that the proposed regulation should provide a secure legal framework conducive to the development of investments in the space sector, which will reflect not only the obligations but also the interests of space stakeholders. The state should be seen as the custodian of normative behaviour in a field which, on the one hand, is a source of ultra-modern solutions and, on the other hand, is sometimes perceived as carrying significant risk potential” (excerpts from justification of the draft space act).

It seems worth emphasising that the team of experts working on the draft space law took into account in their work both doctrinal concepts of building blocks of national space law, as well as the efforts of some countries in the

4 2012 Sofia model law by the International Law Association (ILA); UN General Assembly Resolution 68/74 of 11 December 2013, Recommendations on national legislation relevant to the peaceful exploration and use of outer space, A/RES/68/74.
field of building national space law structures, e.g. Finland, the United States, the United Kingdom and Luxembourg. In selecting the issues for presentation in this paper, the authors concluded that the most relevant are the subject and scope of regulation of the future Polish Space Act (further referred to as ‘the Act’ or ‘the Draft’), as well as liability for damage and third party liability insurance. Some controversial issues, such as the competent authority and definition of the outer space will also be tackled below.

2.2. Subject and scope of the Polish Space Act

The Draft bases the Polish jurisdiction in space matters on twofold criteria. Thus, the Act will apply to activities performed on the territory of Poland, as well as on board a ship or an aircraft registered in Poland. Its application also covers launching a space object from a launching pad located on the territory of another state, or e.g. from the International Space Station or another spacecraft, provided that it is performed by or commissioned by the Polish operator. In addition, the Act will apply to Polish citizens or organisations registered in Poland, even if the space activity is performed outside the country’s borders.

The Act is to regulate both space activities and, partially, suborbital activities insofar as they take place in outer space. To this end, the draft assumes a broad, general concept of space activities. This is also with a view to applying it to the new types of space activities, such as in-orbit servicing and space mining. It does not cover Near Space (High Altitude) activities below the outer space boundary, and the intention is to include this type of activity in the aviation law regime as a new, separate chapter or, alternatively, to cover it in a completely separate act. On the other hand, the type of high-altitude activities that will at least partially take place in outer space will be qualified as space activities. Thus, the proposed definition of space activities includes

“the launching or attempted launch of a space object into outer space or the commissioning by an operator of such a launch. It is also any other activity carried out by the operator in that space or commissioned by the operator to carry out such an activity, including the operation or control of a space object and the deorbiting of a space object, also in case the space object is not intended by the operator to complete one full revolution around the Earth”.

With the above in mind, the legislator attempts to define the outer space boundary just for the purpose of defining regulated space activities. The rationale behind such a manoeuvre is to provide space entrepreneurs with legal certainty as to the type of activity for which they should be authorised, as regards their liability regime and, finally, the obligation to take out third party liability insurance. In particular, such a solution seems necessary in view of the separation of the regime of such forms of activity as suborbital
flights, which, depending on the intended altitude, will belong to the regime of space law, aviation law or a separate legal regime. Dealing with the issue of suborbital flights results from Poland’s special interest in this field of activity, due to the real possibilities and research work carried out in this field. It is worth noting that analyses are being conducted on the possibility of establishing a launch site for suborbital flights in Poland, as well as activities performed in the air-launch mode. The regulation is intended to respond to interest in this area, although it is considered too early to draft legislation on launch sites for suborbital rockets.

2.3. Competent Authorities
A rather important issue still under discussion as part of the work on the Act is to decide which authority should be competent to grant the license, and carry out supervisory activities. Opinions are divided on whether it should be the Polish Space Agency (POLSA) or the Minister of Development and Technology, and this is due to the fact that POLSA is just an executive agency of the Minister and as such does not act as an administrative authority. Entrusting it with licensing and supervision will require an amendment to the Agency’s regulations. However, there is no doubt that in either arrangement the Agency will assist on the risk assessment side of the licensing application process. The Agency is to be also entrusted with the maintenance of the Space Objects’ Register.

2.4. Liability for space damage
One of the most important aspects of the space law are the principles of liability for damages caused to third parties. They have been designed in such a way as not to duplicate the provisions of the UN space treaties, which are in any case part of the Polish legal system from the moment of their ratification and are addressed exclusively to the state. It is also important that these principles are in line with Polish legal tradition (e.g. no definition of damage in civil law). Thus, the draft includes provisions regulating the liability of entities performing space activities under the provisions of the Act. The addressee of the liability provisions is essentially the operator, i.e. the entity performing space activities, regardless of whether it requires a permit or has been exempted from the obligation to obtain a permit by the provisions of the Act.

An important modification of the liability regime in relation to the provisions of the UN Liability Convention is an attempt to link it with the performance of space activities and not only to the space object. It is proposed to introduce a uniform liability regime not only for damage caused by a space object, but by any type of space activity. Such a solution seems to be reasonable due to the significant development of satellite technology and techniques compared to the period (1960s-70s) and the emergence of new types of activities, often going beyond launching objects into orbit. Doubts
about the limitation of the liability only to damage caused by a space object began to arise soon after the adoption of the Convention. Extensive literature on the subject points to numerous controversies on, for example, the causal link between the damage and the impact of the space object. Among the modes of impact of a space object that can result in international liability, one can mention both the kinetic impact of the object and the radioactive or chemical pollution caused by the object. It seems now quite obvious that damage, including damage of large magnitude and mass character, may arise without any connection to the impact of a space object (at least directly physical), but still in a connection to space activities (e.g. resulting from the use of space fuel). All such damage could be included in the “space damage liability” regime as coherent with the Polish concept of tort law.

The definition of damage in the provisions of the Act was abandoned. It was considered that the definition of damage used in the Liability Convention coincides with the concept of damage well established in Polish civil law doctrine and jurisprudence. Creating of a new definition of damage just for one industry might introduce dissonance with the existing broad concept of damage, which is reflected in the doctrine and jurisprudence of Polish courts, and evolves in accordance with the degree of technological advancement, covering new types of damage related to new types of human activities. The definition of damage in the space law could lead to an unjustified “freezing” of the possibility to claim damages.

The Act provides for partial assumption of liability for damage by the State. It is justifiable that, in the conditions of the nascent space industry, the State should assume part of the risk, e.g. by guaranteeing liability in excess of the guarantee sum in third-party liability insurance, but there is no justification for holding the State Treasury liable in a situation where insurance exists (up to the guarantee sum). The limitation of liability will not apply in the case of damage caused intentionally, or activities carried out without authorisation. Discussions continue as to the statutory exclusion of liability between mission participants, including liability of manufacturers, despite the lack of licensing coverage for the production of space objects. The argument for such a regulation is the weak position of Polish manufacturers, who are essentially micro-entrepreneurs. Hence, French and US legislation is taken after consideration as a model.

2.5. Liability insurance

Closely linked to the liability regime is the insurance obligation. Indeed, the draft imposes an obligation to insure the third party liability of entities conducting space activities. It will be introduced as a condition for carrying out space activities and specified precisely as to the guarantee sum and duration in the license. The amount of the guarantee sum will be defined in the regulations only in a threshold manner, such that the liability and insurance limit is not to exceed EUR 60 million. The specified insurance
obligation as to the amount will be based on an individual risk assessment verified during the licensing process. In this way, the legislator intends to diversify the insurance requirements by relating them to the real level of risk and thus, also as far as possible, not to place a barrier to the newcomers in the space industry. An additional solution is to provide an exemption from the insurance obligation for scientific, educational or those missions which are carried out in the interest of State security. In these cases, the State will assume full liability for damages.

The Draft identifies entities with an insurance interest in third-party liability insurance and names them as insureds. The most important is the State Treasury, but also the manufacturers of the space objects involved in the space mission are considered, following the example of French space law. In designing the insurance and liability issues, consideration was given not only to the coherence of the Polish legal system, but also to the practice of other legislations and markets, including French and UK legislation (in terms of the entities insured and the method of calculating the sum insured).

In view of the above, the Polish draft seems to meet the requirements of both the UN space treaties and those developed in the international space law doctrine of such basic features to which national space law should conform. This is because it assumes the reflection of the national space strategy, coordination with international space law (both hard and soft law), and also fits into the system of national law, primarily aviation law (due to the intention to regulate suborbital flights). It introduces a legal regime for the preservation of safety on the ground and in space, as well as a liability regime linking the domestic legal system with international obligations.5

As a conclusion it may be said that there is a chance that the Polish Space Act will be important not only for the Polish legal system and the Polish space industry but also, but also for the integrated legal order that successive national legislations are building step by step. Their coherence is likely to bypass the barrier that exists at the level of international law to modernise the rules governing space exploration.

3. Polish Draft Space Act Compared

The 2022 Draft Polish Space Act has several specific features which distinguishes it from its predecessors, especially the recent space legislation of Luxembourg.6

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6 Law on Space Resources, 2017, Mémorial A No 67; Law on Space Activities, 2020, Mémorial A No 1086.
The first obvious difference between the Polish and Luxembourg laws is their scope: From the geographical point of view, the Polish draft defines the territorial limit of outer space as 100 km above the sea level. The space laws of Luxembourg are avoiding any geographical border and operate with the term “space” without any precise definition. From the substantive perspective, the Polish Draft is not mentioning space resources among the space activities covered by the law. On the other hand, the Draft does not exclude space resources, and they can be subject of the authorization procedure as any other activity conducted in outer space. In Luxembourg, space resources are expressis verbis regulated by the 2017 Space Resources Law.

The future Polish space law contains many more references to the national air law: Article 4 of the Draft postulates that if a space object is using the Polish air space, the 2020 Polish Air Law is applicable. Consequently, the air navigation authorities are involved in the procedure of authorization of such objects: According to Article 20 (2) of the Draft, the Polish Air Navigation Agency has to give its opinion on any application for authorization of space activity using the Polish air space. Such provisions cannot be found in the Luxembourg space laws. The reason for this difference could be the fact that there was only little probability that Luxembourg territory would be used for launching space objects. This might be different in the case of Poland.

The rationale of the authorization procedure is the same in Poland as in Luxembourg – to implement Article VI of the Outer Space Treaty. In both countries, the procedural basis of the authorization procedure is the domestic administrative procedure law. Similar to the situation in Luxembourg, the Polish Draft now vests the competence to authorize with the Minister of Economy, since the original intention to place the authorization procedure in the hands of the Polish Space Agency was abandoned.

In contrast to the Luxembourg laws, the Polish Draft clearly specifies which additional licenses have to be in the possession of the operator to be authorized: a radio permit for the use of a radio device launched in outer space, as well as an export permit for objects associated with the services of strategic equipment (Article 6). In Luxembourg, these obligations are covered by the general term “other authorizations” (Article 5 (2) of the 2020 Law).

According to the Polish Draft, the entity responsible for the authorization procedure (“the organ”) has broader discretion during the authorization procedure: According to Article 21 of the Draft, it can e.g., require further information needed for deciding about the authorization application. In Luxembourg, the list of information necessary for this decision is exhaustive (Article 6 (1)) and the original idea to retain the category of “further information” has been opposed by the Conseil d’Etat.

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8 2017 Draft law on space activities and the National Space Objects Register.
This general approach has been followed by the Polish legislator also as regards the determination of the fee payable for an application; this fee – part of the State budget – should be defined by the competent “organ”. In Luxembourg, the law defines the (large) range of the fee which varies between 5,000 and 500,000 Euros; it should be fixed by the Minister according to the complexity and volume of the work (Article 5 (4)).

In the Luxembourg laws, the operators are fully liable for any damage caused during the space activity, including preparatory works and duties (e.g., Article 4 of the 2020 Space Activities Law). The Polish Draft is more differentiated: The operator is absolutely liable only for the damage caused on the Earth or to aircraft in flight (Article 29). Concerning the damage caused elsewhere, the operator is liable only if the damage was caused due to its fault (Article 30). If the Polish State paid compensation for the damage, the State has the right to recourse against the operator up to a limit defined by the Minister of Finance (Article 34). From this State support, only damage caused due to the intentional fault of the operator is excluded.

According to the Polish Draft, the operators must be insured (Article 33), with the State Treasury as the insured party. In Luxembourg, the operator has more options than an insurance: The risks can be covered by an insurance policy, but also by the operator’s own financial resources, or by a guarantee issued by a credit institution (Article 6 (4)).

An interesting element of the Draft Polish Act is the envisaged Commission to investigate events causing damage by space objects (Article 35 of the Draft). It can be established by the Minister of Economy, after hearing the President of the Polish Space Agency, in case of a danger for a safety of a space activity. This Commission can indicate the circumstances of the situation and adopt recommendations how such a situation can be avoided in the future. There is no comparable provision in the Luxembourg laws: The “Minister in charge of the space policy and legislation” is the sole authority having competence to decide about space activities and to adopt measures to prevent the space activities from affecting the safety or causing an increased risk of international liability for Luxembourg (Article 9 (2) of the 2020 Space Activities Law).

In the Draft Space Act of Poland, also the chapter dealing with the supervision of space activities is much more detailed than in Luxembourg: Where – after several modifications of the Drafts – the Luxembourg Law simply states that the authorized operators are subject to the Minister’s continuous supervision, the Polish Draft formulates several rules defining the competences of the Minister when carrying out this supervision, including the right to appoint other persons to carry out the control (Article 37). In the supervision of cases in which the armed forces are involved, this list also includes the Minister of Defense (Article 40). Article 41(1) gives the supervising organs broad powers including the right of entry to “objects serving for carrying out a space activity”. The Draft also regulates the form
and content of the protocol following the control, the measures which can be imposed onto the operator, and the consequences of non-compliance with these measures. Further details of the supervision and control may be determined by a Decree of the Minister.

As in the 2020 Space Law of Luxembourg, a National Register of Space Objects is introduced by the Polish Draft (Article 44): In contrast to the Space Law of Luxembourg which consistently vests the competence to keep the Register with the Minister of Economy, the Polish Register is envisaged to be kept by the Polish Space Agency (Article 4). In both legal texts, the contents of the information to be submitted is derived from the 1975 UN Registration Convention. The Polish Draft requires to deliver information about any changes in the factual and legal status of the space object (Article 49 (3)), whereas the Luxembourg 2020 Law obliges the operator to inform not only about any change of parameters of the space object but also about any risk of this change, particularly the danger of unintentional de-orbiting (Article 15 (3) of the 2020 Luxembourg Law).

There is also a difference between the legal positions of the space agencies of the two countries. The existence of the Polish Space Agency (POLSA) is based on the 2014 Law on the Polish Space Agency9 which regulates the procedure of nomination of its presidency, and its tasks. To the original competences of the Agency, the Draft added the competence to keep the national register of space objects as mentioned above (Article 59), but not to issue, deny, modify etc. space activity permits as envisaged by an earlier draft of 2017. The Space Agency of Luxembourg has not been mentioned in the Luxembourg space laws. The Agency has been founded under the auspices of the Ministry of Economy.10 Its main competences consist in the support of national space activities; after adopting the 2020 Law, the national register of space objects can be found on its website, but this fact does not have any specific basis in the space legislation.11

Also the sanctions for violating the respective laws are formulated differently: The Polish Draft penalizes the operators by administrative, pecuniary sanctions (Chapter 9). In Luxembourg, the sanctions imposed by the Luxembourg Minister of Economy range from fines to imprisonment up to five years (Article 14).

This brief comparison of the two space legislations may be summarized by stating that the Draft of the space law of Poland includes more national institutions in the authorizing procedure and establishes an intensive involvement of the domestic air space authorities. This can be explained not

9 Dz. U. 2016 r. poz. 759.
only by the fact that Poland's territory is much larger than Luxembourg, but also by the fact that the territory of Poland may be used for launching space objects in the future. As regards liability and insurance issues, the Polish Draft is more user-friendly than the space legislation of Luxembourg which imposes strict liability onto the operators. If adopted, this feature may serve as an attraction for operators searching for a welcoming environment for their space activities.

Finally, it should be remarked that the comparison deals with two adopted laws and a Draft: During the legislative procedure, still some changes can be expected in Poland. This was not different in the case of the Luxembourg legislation: Especially the general 2020 Space Law underwent many changes, required by its harmonization with the 2017 Space Resources Law and the Opinions of the Conseil d’Etat. 12

4. Draft Czech Space Law

By means of comparison, the Czech Republic has not yet adopted a law implementing the Article VI of the Outer Space Treaty. The country with its broad and traditional interest in space activities is member of the ESA since 2008, is involved intensively in the space activities carried out by the European Union, and is member of Eumetsat and numerous other international structures. 13 As Poland, it is Party of four of the five UN space treaties which were published and promulgated, thus becoming a part of the Czech legal order. 14 Until now, only competence norms have been adopted to implement the UN space treaties:

According to the Government Decree 282/2011, the Ministry of Transport has been designated as a central entity competent for the coordination of Czech space activities. 15 At the same time, the Coordination Council for Space Activities was established ensuring transparency and participation to all institutional stakeholders. As mentioned in the National Space Plan for the period 2020-2025, the establishment of a public national space agency is under consideration which would be charged with the administration of space activities.

The Government Decree 326/2014 deals with the competence for registration of space objects flowing from the 1975 Registration Convention. According to its Article II, the national registry of space objects is kept by the Ministry of Transport. The responsibility for furnishing the information to the UN

Secretary General is held jointly by the Ministry of Foreign Affairs and the Ministry of Transport. However, there is not yet any legal or recommendatory obligation of non-state entities to provide the Ministry of Transport with information about the space object.

The Draft law implementing Article VI of the Outer Space Treaty has been under preparation for several years, the responsible institution is the Ministry of Transport. There are only a few official information on the text of the draft law publicly available; the Ministry however shared information on several principles on the basis of which the text should be drafted\textsuperscript{16}

First, the draft law should introduce the procedure on the authorization of private space activities and on its supervision by the State authorities. Under the conditions of authorization, the obligation to avoid creating space debris should be included. Furthermore, the private entities would be obliged to provide the Ministry with information on their activities.

Second, the Draft would regulate the liability for damage caused by space objects. The private operators would be objectively liable, obliged to adopt insurance which would guarantee covering potential damage. However, the Draft would include a certain ceiling of liability to be borne by the operator; above this limit, the damage would be covered by the State.

Violations of the provisions of the law would be followed by sanctions formulated in the Draft. Finally, the new law should include an obligation of non-state entities to provide information about their envisaged space activities to the national registry of space objects.

From the little information available, it can be concluded that the Czech Republic does not plan to require for space activities a complex legal setup. The Draft law as it is known at the moment seems to be a stringent one, with one State institution competent for licensing and supervision. The idea of adopting a ceiling for liability for space activities should be welcomed: the Czech Republic may thus become – just as Poland – a harbor for operators searching for advantageous conditions for carrying out their space activities.

\section*{5. Conclusion}

As a conclusion it may be said that there is a chance that the Polish Space Act will be important not only for the Polish legal system and the Polish space industry but also for the integrated legal order that successive national legislations are building step by step. Their coherence is likely to bypass the barrier that exists at the level of international law to modernise the rules governing space exploration.

\textsuperscript{16} K. Štenclová, Článek VI. Kosmické smlouvy a jeho implementace v podmínkách České republiky, Diplomová práce, Právnicka fakulta UK, 2021.
An analysis of legislative efforts in Poland, including an attempt to incorporate the features and needs of the Polish space sector, indicates that there is a good chance that Poland will soon have a stable legal basis for the development of space activities. Countries following a similar path, including the Czech Republic, show the ambitions of the CEE region in the area of space exploration development. It seems that this can have a very positive impact not only on the coherence of this area of law, even though it is not subject to harmonisation in the European Union, but also on the sustainable and stable development of the space industry in Europe.