

Marco Ferrazzani – Hristina Talkova

Legal Perspectives for New Space Business Ventures in Europe

INTRODUCTION

Space has long ceased to be the sole domain of governmental actors. New technologies and continuous advancements in space-based end-to-end services fuel the development of space applications, and new business opportunities are emerging in relation to space data exploitation. The commercialisation movement is already well established in the United States, and the markets in other spacefaring nations, including in Europe, are mirroring this evolution. Public actors have been gradually making room for commercial undertakings, which also opens up a variety of legal questions related to new collaboration models as the European space landscape is also becoming increasingly diversified, with numerous new services in development. With the prospect of increasing revenues from both commercial and institutional applications, numerous players, new market entrants and established actors alike are trying to position themselves on this new market.

The European Space Agency (hereinafter: ESA) has been not only a witness but an active participant and collaborator in European commercialisation efforts in the past years. It offers an important platform for creating new opportunities and concepts that intend to allow the European industry to realise its full potential. As an international intergovernmental organisation, the mission of ESA is to shape the development of Europe's space capability and to ensure that investment in space continues to deliver benefits to the citizens of Europe and the world. This article intends to provide an overview of the European space sector and commercialisation efforts currently supported by the European Space Agency.

INTERNATIONAL SPACE LAW PERSPECTIVES OF COMMERCIAL SPACE ACTIVITIES

While private space actors were not existent at the dawn of the space age and as such, the creation of the international legal framework, their future involvement and activities were foreseen by the drafters of the Outer Space Treaty. Article VI of the Outer Space Treaty includes a reference towards the activities of non-governmental actors, namely:

“States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the Moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space, including the Moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty.”

The past few years have been offering record launch numbers, many new services and operators blossoming from the public investment for the space sector. Space activities are continuing to grow, which brings challenges and opportunities for the new emerging spacefaring actors, both for new spacefaring states and established spacefaring states growing their space economy.¹ While the global space sector experienced a slight decline in investments in 2022, the space industry has been consistently growing, with a compound annual growth rate (CAGR) of 14% since 2019.² The European space sector saw significant growth in 2022–2023, with total investments reaching €1 billion, up by 64% compared to 2021.³ Enacting national space legislation is highly advantageous for states to secure activities of new space actors and position their commercial

¹ COYKENDALL et al. 2023.

² ESPI 2023: 1.

³ ESPI 2023: 1.

entities in a legally sound and stable landscape.⁴ Further clarifications on how national space legislation can be beneficial are discussed in a separate section of this publication.

EUROPEAN SPACE AGENCY (ESA): PURPOSE, ACTIVITIES AND INVOLVEMENT IN SPACE COMMERCIALISATION

Although commercialisation may be a relatively new trend for the space sector, ESA's creation and origins lies not only in the desire of member states to strengthen European cooperation for space activities such as space research and technology, including their space applications for peaceful purposes,⁵ but also in establishing a coherent industrial policy to improve the competitiveness of European industry and develop an appropriate industrial structure to foster market developments,⁶ encourage opportunities for new players through ESA acting as the governmental mechanism and forum for its member states.

In addition to these activities, however, ESA has initiatives focused on sustainable space activities, applying high standards to its mission and promoting the responsible use of outer space through its own missions and other initiatives. In addition to publishing an annual ESA Space Environment Report showcasing the most recent numbers and data from monitoring the space environment,⁷ ESA was also the first international organisation to accept the rights and obligations of three of the UN space treaties: Rescue and Return Agreement, Liability Convention and the Registration Convention.⁸

⁴ GERHARD 2009: 123.

⁵ ESA Convention, preamble.

⁶ ESA Convention, Article VII.

⁷ See ESA Environmental Report 2023.

⁸ See the Declaration on the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects launched into Outer Space ESRO/AF(75)58 of 25 June 1975, ESA/C/XXII/RES.3 of 13 December 1977; the ESRO Council Decision on the Declaration of Acceptance of the Convention on the Registration of Space Objects of 12

ESA in the context of international space law

In the context of international space law, Article VI Sentence 3 of the Outer Space Treaty references the activities of international organisations as follows: “When activities are carried on in outer space, including the Moon and other celestial bodies, by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States Parties to the Treaty participating in such organization.” Already discussed during the negotiations of the UN General Assembly Resolution 1962 (XVIII) and further concretised in Article VI Sentence 3, this principle foresees that states parties to the Outer Space Treaty, when conducting space activities through an international intergovernmental organisation, should use their best efforts to secure compliance by the international organisation with the obligations set forth in the Outer Space Treaty.⁹

In this regard, it must be noted that what exactly is an activity of an international organisation is not defined within the Treaty itself. For the purposes of this chapter and the below mentioned commercialisation initiatives of ESA, while not going into the details and legal considerations of what activity is considered an activity of ESA, it should be noted that not all initiatives supporting the development and exploitation in a market can be considered a space activity of ESA under the Outer Space Treaty, as this should be considered on an ad hoc basis for each specific case. ESA has not accepted the rights and obligations of the Outer Space Treaty as it does not foresee for such a declaration of acceptance for international organisations – nevertheless, ESA acts in conformity with international space law and has declared acceptance to the rights and obligations to the Registration Convention, the Rescue and Return Agreement and the Liability Convention.¹⁰ All of ESA’s Member States have furthermore ratified

December 1978, subsequently attributed to ESA after the entry into force of the Convention for the Establishment of a European Space Agency (ESA Convention) in 1980.

⁹ GERHARD 2009: 122.

¹⁰ See UN Committee on the Peaceful Uses of Outer Space 2024.

the Outer Space Treaty,¹¹ which gives rise to certain obligations of the state parties in connection also with Article XXII paragraph 1 Liability Convention and Article VII paragraph 1 Registration Convention.¹²

ESA Convention and “Raison d’être”

The European Space Agency has strived to be a pioneer for research and development of space technologies in Europe since its inception. Following the existence of two organisations related to space activities in Europe – the European Launcher Development Organisation (ELDO) and the European Space Research Organisation (ESRO), a convention was drafted in 1975 to combine both of their objectives and set up a “European space agency”, broadening the scope of work and allowing for a coordinated European space programme.¹³ The ESA Convention was opened for signature in 1975 and entered into force in 1980.¹⁴

Article II of the ESA Convention outlines that

“the purpose of the Agency shall be to provide for and to promote, for exclusively peaceful purposes, cooperation among European States in space research and technology and their space applications, with a view to their being used for scientific purposes and for operational space applications systems”.¹⁵

Peaceful purposes as enshrined within the ESA Convention should also be considered in line with Article IV Sentence 1 of the Outer Space Treaty, under which outer space should be used for exclusively peaceful purposes.¹⁶ While previously debated if both terminology is coherent, it should be noted that the

¹¹ See UN Committee on the Peaceful Uses of Outer Space 2024.

¹² GERHARD 2009: 123.

¹³ ESA 2015.

¹⁴ ESA 2015.

¹⁵ ESA Convention, Article II.

¹⁶ SCHROGL–NEUMANN 2009: 83.

interpretation of ‘peaceful purposes’ for the purpose of the ESA Convention should not be regarded as an expression of generally accepted State practice when it comes to international space law and Article IV Outer Space Treaty, as the interpretation within the framework of the ESA Convention is only relevant for ESA Member States.¹⁷ The concrete debate is not subject to analysis in this article.

Additionally, ESA’s purpose further relates to elaborating and implementing a long-term European space policy,¹⁸ by recommending space objectives to the Member States, and by concerting the policies of the Member States with respect to other national and international organisations and institutions; by conducting space programmes and activities; and by coordinating the European space programme and national programmes, by integrating the latter progressively and as completely as possible into the European space programme.¹⁹ In this regard, coordinating between different national ventures and allowing for a streamlined European approach is strongly enshrined within the workings of the Agency. In the past 40 years, ESA has continuously provided opportunities for Member States to boost the competitiveness of its national industry, allowing direct engagement through its wide range of programmes and placement of contracts. Most recently, ESA is also targeting solutions for business incubation and technology transfer, as well as enabling individuals to contribute to European space research and interact with space industry experts. These efforts are conducted under the legal framework of the Agency, which is compliant with its international legal obligations and which offers various opportunities to new space business ventures in Europe.

New Space is considered for the purpose of this article as activities led by private companies and new players to complement and develop new business taking as opportunity the classic governmental programmes where private industry traditionally acts as supplier for the governmental programmes.²⁰

¹⁷ SCHROGL–NEUMANN 2009: 84.

¹⁸ For a brief outline of ESA–EU initiatives see below in this chapter.

¹⁹ ESA Convention, Article II.

²⁰ ESPI 2023: 25.

This model relies on public funding, whereas some New Space companies generally rely also on private endeavours and investments by other private players, combining public and private funding for new business models and being accessible for new markets.²¹

Industrial policy

ESA's industrial policy is one of the cornerstones of its work. Noted in the ESA Convention as one of its purposes that is to elaborate and implement the industrial policy appropriate for ESA programmes and to recommend a coherent industrial policy to its Member States,²² and further outlined in Article VII and Annex V of the ESA Convention, the industrial policy – also sometimes referred to as geo-return policy – has always been oriented towards maximising investment and supporting competitiveness. Article VII of the ESA Convention describes the design of the industrial policy as to:

- meet the requirements of the European space programme and the coordinated national space programmes in a cost-effective manner
- improve the worldwide competitiveness of European industry by maintaining and developing space technology and by encouraging the rationalisation and development of an industrial structure appropriate to market requirements, making use in the first place of the existing industrial potential of all Member States
- ensure that all Member States participate in an equitable manner, having regard to their financial contribution, in implementing the European space programme and in the associated development of space technology; in particular the Agency shall, for the execution of its programmes, grant preference to the fullest extent possible to industry in all Member States, which shall be given the maximum opportunity to participate in the work of technological interest undertaken for the Agency

²¹ ESPI 2023: 25.

²² ESA Convention, Article II para. (d).

- exploit the advantages of free competitive bidding in all cases, except where this would be incompatible with other defined objectives of industrial policy

For the implementation of the industrial policy, the ESA Director General has to act in conformity with the ESA Convention and its Annex V, including directives of the ESA Council.²³ ESA Council is responsible for reviewing industrial potential and industrial structure in relation to the Agency's activities, particularly the general structure of industry, and industrial groupings; the degree of specialisation desirable in industry and the methods of achieving it; the coordination of relevant national industrial policies, as well as interaction with any relevant industrial policies of other international bodies, the relationship between industrial production capacity and potential markets and the organisation of contacts with industry.²⁴ These actions should allow the ESA Council to monitor and, where appropriate, adapt the Agency's industrial policy.²⁵

Pertaining to the placement of contracts, ESA shall give preference to industry and organisations of its Member States. In case of optional programmes,²⁶ preference is given to the industry and organisations in the participating States.²⁷ ESA Council can determine that ESA may derogate from this preference clause. To determine whether a company is considered to belong to one respective Member State, the criteria to be considered are: location of the company's registered office, decision-making centres and research centres, and territory

²³ See ESA Convention, Article X: The bodies of the Agency shall be the Council and the Director General assisted by a staff.

²⁴ ESA Convention, Annex V Article I.

²⁵ ESA Convention, Annex V Article I.

²⁶ ESA optional programmes are governed by a programme declaration and implementing rules. Member States can choose to subscribe to a variety of optional programmes. See more in ESA Convention Article V: The activities of the Agency shall include mandatory activities, in which all Member States participate, and optional activities, in which all Member States participate apart from those that formally declare themselves not interested in participating therein.

²⁷ ESA Convention, Annex V Article II.

on which the work is also carried out. In cases of doubt, ESA Council shall decide whether or not a company is considered to belong to a specific Member State. The geographical distribution is governed by the following rules:

“A Member State’s overall return coefficient shall be the ratio between its percentage share of the total value of all contracts awarded among all Member States and its total percentage contributions. However, in the calculation of this overall return coefficient, no account shall be taken of contracts placed in, or contributions made by, Member States in a programme undertaken under Article VIII of the Convention for the establishment of a European Space Research Organisation,²⁸ provided that the relevant Arrangement contains provisions to this effect or that all participating States subsequently unanimously so agree; under Article V, 1 b²⁹ of the ESA Convention provided that all original participating States unanimously so agree.”³⁰

Formal reviews of the geographical distribution of contracts shall take place every five years, with an interim review before the end of the third year.³¹ The distribution of contracts between formal reviews of the situation should be such that, at the time of each formal review, the cumulative overall return coefficient of each Member State does not substantially deviate from the ideal value. At the time of each formal review, the Council may revise the lower limit for the cumulative return coefficient for the subsequent period, provided that it shall never be lower than 0.8.³² If, between two formal reviews, a trend is identified indicating that the overall return coefficient of any Member State

²⁸ The Ariane Arrangement of 21 September 1973 was an optional programme under Article VIII of the ESRO Convention.

²⁹ “With respect to the optional activities, ESA shall ensure, in accordance with ESA Convention Annex III, the execution of programmes which may in particular include: the design, development, construction, launching, placing in orbit, and control of satellites and other space systems; the design, development, construction, and operation of launch facilities and space transport systems.”

³⁰ ESA Convention, Annex V, Article IV.

³¹ ESA Convention, Annex V, Article IV para. 5.

³² ESA Convention, Annex V, Article IV para. 6.

is likely to be below the lower limit of 0.8, the ESA Director General shall submit to ESA Council proposals in which the need to remedy the situation takes precedence over the Agency's rules governing the placing of contracts.³³

ESA's geo-return policy, in most cases, can be summarised in the guarantee for ESA Member States that their financial contributions to optional programs will be returned to their national industry in the form of contracts to companies from that Member State.³⁴ At the time of its inception, it constituted a unique system allowing for equal measure of growth and advancement in different European countries, accelerating the space sector and distributing the financial contributions in the most balanced way possible.³⁵ With the heightened commercialisation of the sector, newer initiatives have been taken up by the Agency to ensure European competitiveness on a global scale. Such goal of economic development is not limited in scope nor in areas of some Member States, by a specific consideration of a Member State funding. So the opportunities are open to all economic actors from each ESA Member State, irrespective of their location.

Since 2021, ESA also has a dedicated Directorate for Commercialisation, Industry and Procurement, responsible for implementing the industrial policy of ESA, representing the ESA Director General in his relations with industry as well as elaborating and implementing the Agency's procurement rules and policies.³⁶ The Directorate intends to support the industrialisation and commercialisation of space products and services, giving the European space industry an adequate access to global investment opportunities and fostering innovation and development.³⁷ While the rapid commercialisation of the sector brings forth certain challenges,³⁸ it is necessary to stress that a steady

³³ ESA Convention, Annex V, Article V.

³⁴ FOUST 2023.

³⁵ HOFFMANN 2022.

³⁶ ESA 2021.

³⁷ ESA 2021.

³⁸ COYKENDALL et al. 2023.

growth in the European space ecosystem is supported by ESA and functions in a stable legal framework.

There have been discussions on potential reforms of ESA's geo-return policy in the past,³⁹ although no formal reform has taken place. Remaining unchanged for many years, the geo-return policy faces certain challenges and might in the future adapt to the new space market. This will most likely change the procurement policies currently in place, which should be carefully reviewed and considered by all actors. CNES President Philippe Baptiste addressed, in his speech at Space Tech Expo Bremen 2023, the cost competitiveness of European industry on the global market. Reducing costs and simplifying the system should enable the best possible products to stem from the European market.⁴⁰ Flexibility will allow the geo-return method to be adapted to the variety of new players which are in the process of establishing themselves in the European space sector. ESA's Director for Commercialisation has confirmed that the questions about geo-return will be handled in the most competition- and competitiveness-friendly manner, so that it is enhanced to the best possible way if needed.⁴¹

When assessing additional funding for New Space companies, as outlined above already, there has been a high increase of investment particularly in the European space startup sector – in 2022, approximately €1 billion were invested in over 112 deals, with a 65% increase in investment since 2021.⁴² In this regard, ESA's industrial return policy should, however, be clearly differentiated from direct public investments in startups, which remains a separate mechanism of financial support for the space ecosystem.⁴³ Investments in European space startups are largely led by European investors,⁴⁴ however, it should be noted

³⁹ FERRAZZANI 1997: 26–28, 31.

⁴⁰ FOUST 2023.

⁴¹ FOUST 2023.

⁴² ESPI 2023: 4.

⁴³ ESPI 2023: 8.

⁴⁴ ESPI 2023: 11.

that there have been rising concerns over acquisitions of strategic European startups by foreign organisations in the past few years.⁴⁵

Commercialisation initiatives and Scaleup Programme

ESA's commercialisation initiatives aim to scale up European ambitions and prepare the regional space sector for the global space ecosystem. Described as a "space value chain", various stages of space activities – upstream, downstream, midstream – and development of space-related products are interconnected globally, with private players surging and taking over the market for the past ten years – as opposed to governmental actors who dominated the sector prior to the increased commercialisation.⁴⁶ Cross-border and cross-sector collaboration, involvement of both private and public investments is essential for scaling up the space sector and allowing it to be a competitive place for business growth as opposed to other adjacent sectors.⁴⁷

At the ESA Council of Ministerial Level in November 2022, ESA Directors led by the Director of Commercialisation, Industry and Procurement submitted a cross-directorate proposal for an ESA optional programme, ScaleUp.⁴⁸ This programme is focused on making Europe a hub for space commercialisation and grow space companies in their possibility to seize new opportunities,⁴⁹ structured in two elements: "Innovate"⁵⁰ and "Invest". The Innovate element aims to transform ideas into business, develop space products or services in the upstream–downstream for industrial use. The Invest as the second step should allow companies to better take risk in the investment sector, access

⁴⁵ EUSPA–EIB 2021: iii/iv.

⁴⁶ COYKENDALL et al. 2023.

⁴⁷ COYKENDALL et al. 2023.

⁴⁸ See more on the ScaleUp proposal at <https://vision.esa.int/scaleup/>.

⁴⁹ ESA ScaleUp 2022.

⁵⁰ Current ESA Member States subscribed to this element are Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland and the United Kingdom.

the market and attract private and public investments by introducing support tools.⁵¹ ESA aims to act as external support to business development both as an enabler and a customer.

The aim of the programme is to enable industry to take more risks, introduce more innovation and allow for faster access to the market. ESA's institutional missions and the classic "geo-return" structure as outlined above are completely different to this new approach to research and development. Outside the scope of the programme, ESA already supports the creation of Business Incubation Centres across ESA Member States and fosters disruptive innovation within its Phi Lab, to promote technology transfer and patenting.⁵²

It should be noted that there has been increased private sector investment in space activities, as a number of venture capital firms and private equity firms have been involved in the market, coupled with an increase of private companies entering the market to offer space-related products and services.⁵³ As part of its commercialisation efforts, ESA supports a framework of Business Incubation Centres (BICs) as a network of "incubators" supporting space-related startups in Europe.⁵⁴ BICs are connected to their local industry, universities, research organisations, government and investor communities in order to ensure the best possible national and regional link to advise interested startups with new business partners across Europe.⁵⁵ This entrepreneurial support for New Space does not only come in the form of business advice, funding and coaching, but also legal advice and partnership opportunities that set up New Space companies on the market.

In this respect, it can be briefly noted that at the time of the drafting of this article (April 2024), an initiative is underway for a regional legislative framework that will have an effect on commercial space actors in Europe. In the most recent report on the European single market, space is mentioned

⁵¹ ESA ScaleUp 2022.

⁵² ESA ScaleUp 2022.

⁵³ COYKENDALL et al. 2023.

⁵⁴ See more on the BICs at <https://commercialisation.esa.int/esa-business-incubation-centres/>.

⁵⁵ COYKENDALL et al. 2023.

as an aspect which can benefit from increased certainty pertaining to common rules and private capital supporting opportunities, to unlock growth and increase competitiveness in the sector.⁵⁶ As already discussed above, historically, the geo-return policy has been Europe's way to ensure that investment defined and funded by Member States is proportionally allocated through contracts to their respective industries.

CONCLUSION

The European Space Agency and its legal framework are fully equipped for the transformation of the European market and accepting new initiatives. In this regard, it can be noted that while these initiatives have not been undertaken as early as some other world regions, ESA is working on boosting European capabilities and allowing for a sustainable and transparent development of the European space sector and developing regional capabilities. Commercialisation and New Space should be seen as an interdisciplinary issue for the sector, and providing a legal framework for its own programmes and supporting private initiatives is the extent to which the Agency is able to go under the mandate given by its Member States.

The most important aspect for New Space companies in Europe should be a clarity over the opportunities they can benefit from at the regional level, and clarity over national and regional space legal and regulatory framework they are operating in. Technology development is essential for accelerating the European space sector, and it should be noted that a certain criticism of the past concerning the hindering effect of legal frameworks should be connotated as the opposite – legal clarity and transparency is a positive and enabling factor for new emerging companies which can serve as an opportunity for them pertaining to partnerships, funding and more.

⁵⁶ LETTA 2024: 76.

Aligning with its intention to boost commercialisation in the sector, ESA's ScaleUp programme intends to particularly tackle the growth alongside commercial partnership opportunities particularly for the next ten years and in light of the next upcoming ESA Council meetings on ministerial level. Engagement from particularly newer spacefaring states in Europe will be crucial for the overall development of the sector. As such, a potential upcoming geo-return reform on ESA side and regional legislative developments in Europe will surely bring the utmost clarity to the situation for emerging space companies, and supplement existing space sector actors' initiatives in the most complementary way possible. A full legal analysis for new space businesses will be possible once these two initiatives are finalised.

REFERENCES

- COYKENDALL, John – HARDIN, Kate – BRADY, Alan – HUSSAIN, Aijaz (2023): *Riding the Exponential Growth in Space*. Online: <https://www2.deloitte.com/us/en/insights/industry/aerospace-defense/future-of-space-economy.html>
- ESA (2015): *Forty Years of the ESA Convention*. Online: https://www.esa.int/About_Us/ESA_history/Forty_years_of_the_ESA_Convention#:~:text=It%20was%20signed%20by%20the,instrument%20of%20ratification%20by%20France
- ESA (2021): *New ESA Directorate for Commercialisation*. Online: <https://vision.esa.int/new-esa-directorate-for-commercialisation/>
- ESA (2023): *Annual Space Environment Report*. Online: https://www.sdo.esoc.esa.int/environment_report/Space_Environment_Report_latest.pdf
- ESA ScaleUp (2022): *Factsheet*. Online: https://esamultimedia.esa.int/docs/corporate/CM22_CIP.pdf
- ESPI (2023): *Space Venture Europe Report 2022*. Online: https://www.espi.or.at/wp-content/uploads/2023/07/ESPI-Report-85-Space-Venture-Europe_Updated.pdf
- EUSPA–EIB (2021): *GNSS Investment Report 2021*. Online: https://www.euspa.europa.eu/sites/default/files/uploads/gnss_investment_report_2021.pdf

- FERRAZZANI, Marco (1997): New Forms of Contributions to ESA's Optional Programmes: In-Kind Deliveries. *ESA Bulletin*, 90, 26–31. Online: <https://esamultimedia.esa.int/multimedia/publications/ESA-Bulletin-090/offline/download.pdf>
- FOUST, Jeff (2023): European Governments and Companies Seek Changes to Georeturn. *Space News*, 14 November 2023. Online: <https://spacenews.com/european-governments-and-companies-seek-changes-to-georeturn/>
- GERHARD, Michael (2009): Article VI. In HOBE, Stephan – SCHMIDT-TEDD, Bernhard – SCHROGL, Kai-Uwe (eds.): *Cologne Commentary on Space Law*. Volume I. Cologne: Carl Heymanns Verlag, 103–125.
- HOFFMANN, Rosanna (2022): *ESA's Industrial Policy*. IISL Knowledge Constellation. Online: https://constellation.iislweb.space/rosanna-hoffmann-esa-law/?utm_medium=social&utm_source=heylink.me
- LETTA, Enrico (2024): *Much More than a Market. Speed, Security, Solidarity. Empowering the Single Market to Deliver a Sustainable Future and Prosperity for All EU Citizens*. Online: <https://www.politico.eu/wp-content/uploads/2024/04/17/LETTA-REPORT.pdf>
- SCHROGL, Kai-Uwe – NEUMANN, Julia (2009): Article IV. In HOBE, Stephan – SCHMIDT-TEDD, Bernhard – SCHROGL, Kai-Uwe (eds.): *Cologne Commentary on Space Law*. Volume I. Cologne: Carl Heymanns Verlag, 70–93.

United Nations Documents

- UN Committee on the Peaceful Uses of Outer Space (2024): Status of International Agreements relating to activities in outer space as at 1 January 2024, Conference Room Paper 3, A/AC.105/C.2/2024/CRP.3. Online: https://www.unoosa.org/res/oosadoc/data/documents/2024/aac_105c_22024crp/aac_105c_22024crp_3_o_html/AC105_C2_2024_CRP03E.pdf
- UN General Assembly Resolution 1962 (XVIII) Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, 13 December 1963

European Space Agency Documents

Resolution of the Council of the European Space Agency on the Agency's legal liability (ESA/C/XXII/RES.3, 13 December 1977). Online: https://www.unoosa.org/oosa/en/ourwork/spacelaw/nationalspacelaw/bi-multi-lateral-agreements/esa_leg_001.html

Treaties and Multilateral Agreements

Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched into Outer Space, 3 December 1968 (Rescue and Return Agreement)

Convention for the Establishment of a European Space Agency, 30 October 1980 (ESA Convention)

Convention on International Liability for Damage Caused by Space Objects, 1 September 1972 (Liability Convention)

Convention on the Registration of Objects Launched into Outer Space, 15 September 1976 (Registration Convention)

Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, 10 October 1967 (Outer Space Treaty)