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NOTE

From:	General Secretariat of the Council
To:	Delegations
No. Cion doc.:	10935/25 + ADD 1
Subject:	Regulation on the safety, resilience and sustainability of space activities in the Union (EU Space Act) *- Presidency compromise text - clean version*

Delegations will find in the Annex the Presidency text with a view to the meeting of 21 April 2026, in clean version to facilitate readability.

Please note that the numbering of the Commission proposal remains unchanged until the end of negotiations. The lawyer-linguist will insert the correct numbering and cross-references after final agreement.

It is understood that all delegations have entered a scrutiny reservation.

ANNEX

2025/0335 (COD)

Proposal for a

REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on the safety, resilience and sustainability of space activities in the Union

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 114 thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national Parliaments,

Having regard to the opinion of the European Economic and Social Committee[1],

Having regard to the opinion of the Committee of the Regions[2],

Acting in accordance with the ordinary legislative procedure,

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1 OJ C [...], [...], p. [...]
2 OJ C [...], [...], p. [...]

Whereas:

(2) Space-based data and space operation services provide invaluable contributions to a vast range of domains, such as internet connectivity, satellite television, navigation management and environmental monitoring. They enable applications for scientific purposes or security and defence operations, like search and rescue missions, communications for command-and-control purposes and reconnaissance capabilities. Space-based data and space operation services increasingly support the implementation of public policies of Member States and advance the Union's political agenda and its path to the digital and green transitions.

(3) The space sector of the Union has been witnessing structural changes over the past decade. These were partly triggered by an increased demand for space operation services and access to space becoming more accessible due to technological advancements and reduction of costs. Space activities, previously concentrated in few Member States and dominated by large established industrial players, have gradually opened towards new market entrants. The emergence, across most Member States, of the so-called 'New Space' market actors, most of which private companies, has allowed an expansion of the Union space market, while revealing at the same time the inherently cross-border nature of space activities.

(4) Such cross-border dimension of space activities is reflected by the transnational procurement of assets of space infrastructure, whereby products, components and systems of different segments of space infrastructure, as well as the relevant technology and expertise are pooled together by, or from, several Member States. The launch and re-entry operations expose the innate transboundary dimension of those space activities through the impact they may have on the airspace and marine environment of several Member States.

(5) The structural changes witnessed by the Union space sector, the growth of the space activities and the increased role of private actors in carrying out space activities have in turn expanded the national regulatory interventions. 13 Member States have already enacted legislations regulating space activities while several others carry out preparations to enact similar legislations.

(6) National regulatory interventions are driven by the legitimate needs of Member States to frame the way their space activities are carried out. Member States fulfil their responsibilities stemming from Article VI of the United Nations (UN) Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (OST) as they bear, pursuant to that Treaty, an international responsibility and liability for all national activities carried out in outer space by governmental agencies or non-governmental entities. The OST calls for national activities to be carried out in conformity with its provisions, explicitly requiring that activities in outer space carried out by non-governmental entities be subject to national authorisation and continuing supervision by the appropriate State party to the OST.

(7) However, neither the OST nor any other international treaty of the UN regulatory framework for space provide for specific and detailed rules to address the emerging risks associated with the increase of space activities. The Long-term Sustainability Guidelines adopted by the UN provide a framework of actions for national and regional entities to ensure the future protection of orbits. However, other than these non-binding guidelines, the congestion of orbits, the risk of collision, the risk of disruption of space operation services due to cyberattacks perpetrated on space infrastructure as well as the environmental impact of space activities constitute a growing reason for concern for the safety, resilience and environmental sustainability of space activities, for which there is no legislation at international level thus leaving a regulatory gap.

(8) Moreover, the international space treaties date back to a time when space law was in its infancy and lay the foundation for a general framework of general principles and obligations. In the absence of updated and detailed technical norms to address emerging safety, resilience and sustainability risks, Member States have pursued their own regulatory and authorisation approaches, with different rules covering satellite operations, launch vehicles and satellites onboard.

(9) These approaches share a common objective, namely setting out the national authorisation conditions to address the risks mentioned above. Member States are thereby acknowledging the importance of preserving the safety of orbits and the resilience of space infrastructure, with due regard to the optimal and sustainable use of outer space. Such national space legislations however vary as to the extent and depth of the specific requirements to address the risks to the safety, resilience and sustainability of space activities. In this regard Member States approaches vary from minimalist to detailed normative stances. Diverging national requirements may lead to the fragmentation of the internal market and decrease legal certainty needed by Union space operators.

(10) As a result, various fragmented space activities frameworks emerge across the Union, triggered by a variety of norms with discrepancies in their level of detail also resulting in a lack of coordination among Member States.

(11) Fragmentation in the conditions of national authorisation in relation to key elements of space infrastructure, such as spacecraft, space debris mitigation, or to cyber risk management rules when providing space operation services, or to the environmental impact of space activities, can adversely impact the freedom to provide space-based data generated by space infrastructure and the provision and deployment of space operation services in the Union.

(12) Typical assets of space infrastructure, such as spacecraft, which do not fulfil the specific requirements laid down in some legislations may be prevented from being used in the internal market of space operation services. Some Member States have for instance chosen to impose for safety reasons more stringent national authorisation requirements on the design of spacecraft than the legislation of other Member States. This divergence may not only render more difficult the cross-border trade for a company supplying spacecraft but Member States taking a strict stance on safety national authorisation requirements may choose to not allow launches or operation from their territory of spacecraft authorised for operation in Member States subject to less stringent safety requirements. In a similar vein, where only some Member States have put in place surveillance and tracking requirements, or specific cyber risk management rules, the provision of space operation services, such as the operation and launch services across the internal market might be adversely impacted.

(13) Ultimately, such barriers may adversely impact the provision of space-based data and space operation services across the Union. Since space operation services rely on space-based data generated through, and using, the assets of space infrastructure, the provision of space operation services depends on the levels of safety and resilience of the assets of space infrastructure.

(14) Requirements entailing higher costs, such as design requirements to avoid proliferation of space debris, or risk assessments aimed at ensuring the cybersecurity on the various segments of space infrastructure, may prompt Union space operators to seek establishment in jurisdictions with less stringent authorisation requirements.

(15) The cross-border nature of space activities in the Union is likely to intensify considering the growing number of Union space operators as well as the rising number of companies developing launcher solutions and of Member States planning to develop launch capabilities. Against this background, diverging conditions across the national authorisation regimes are likely to create more barriers in the space sector, with impact on the continuity of the supply of space-based data and provision of space operation services which in turn support many areas of activity in the internal market, including critical sectors and infrastructure.

(16) Therefore, to safeguard and improve the functioning of the internal market, a set of uniform, effective and proportionate mandatory requirements which harmonise key aspects for space operation services in the context of national authorisation of space activities should be established at Union level, to ensure unhindered provision of space-based data and space operation services across the internal market.

(16a) This Regulation is without prejudice to Union competition rules, including antitrust, merger and State aid rules.

(17) By laying down technology neutral key requirements, innovation should be stimulated by offering to the space operators and space-based data providers access to current and emerging new markets, resulting in an increased choice for end users.

(17a) In order to create equal conditions for operating in the internal market, the requirements for all space operators and space-based data providers within scope of this Regulation should apply to the extent space-based data and space operation services are provided in the Union, thereby demonstrating a substantial connection to the internal market, preventing the risk of circumvention of rules to the disadvantage of Union consumers and businesses, and safeguarding the efficiency of the objectives pursued by this Regulation. Therefore, this Regulation should apply to Union space operators as well as to third-country space operators and space-based data providers where they provide space-based data and space operation services to the Union.

(17b) In light of its aim, this Regulation should apply to space operators providing space operation services. The concept of "services" should take as its starting point the meaning in Article 57 TFEU, requiring that a service is normally provided for remuneration, which may include benefits in kind. In this context, public authorities play an important role in the market for space operation services, and typically rely on space operation services provided by others in their own space activities. In the great majority of cases, it would be artificial and unfeasible to disentangle the roles of public and private actors in this context. Where public authorities provide space-based data to the broader market as a public service, moreover, there is typically a degree of substitutability between that provision and the space-based data provided by private actors. In light of this, and in order to ensure legal certainty, the concept of services should be defined to include the provision of public services. This would include, for instance weather forecast. This would not include the situation in which public authorities operate a satellite and use the resulting data purely within the public sector, without providing space operational services or the resulting space-based data to other persons.

(17c) In order to preserve the competences of the Member States, this Regulation should not apply to space objects that are exclusively used to enable defence or national security objectives, irrespective of the entity carrying out such space activities. Space objects that are only partially used for defence or national security purposes should be excluded from the scope of this Regulation when they are placed under the operation and control of a Member State, for defence or national security purposes, only for the duration of the respective space mission carried out by the military or national security authorities. In such cases, it is for each Member State to determine, owing to the circumstances of the case, whether such space object would fall under that exclusion.

(17d) This Regulation should be thus without prejudice to the competences of Member States as regards all matters pertaining to national security, which also extends to cases where Member States need, for the purposes and the exercise of such national security competence, to execute specific space operations, for instance by taking control of a space object under their jurisdiction.

(17e) Considering the existing regulation of radio spectrum under International Telecommunications rules, and of Union and national law in compliance with Union law, and in particular Decision 676/2002/EC of the European Parliament and of the Council[3], Directive (EU) 2018/1972 of the European Parliament and of the Council[4], and Decision no 243/2012/EU of the European Parliament and of the Council[5], this Regulation should not cover aspects related to the allocation or the authorisation of radio spectrum. Moreover, where an entity which is an electronic communications network and services provider only acts as a mere user of a facility offered by a space operator, it should only qualify as a space-based data provider under this Regulation. If an electronic communications network and services provider also operates or controls a satellite, or performs launch operations, it should qualify as a space operator under this Regulation.

(34) The rules laid down in this Regulation should cover both Union-owned assets, as referred to in Regulation (EU) 2021/696 and Regulation (EU) 2023/588 of the European Parliament and of the Council[6], and assets of Member States, whether owned or operated by governmental or commercial operators, including dual-use assets placed under civil control and when used for civil purposes.

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3 Decision No 676/2002/EC of the European Parliament and of the Council of 7 March 2002 on a regulatory framework for radio spectrum policy in the European Community (Radio Spectrum Decision) (OJ L 108, 24.04.2002, p. 1–6, ELI: http://data.europa.eu/eli/dec/2002/676(1)/oj)

4 Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code, (OJ L 321, 17.12.2018, p. 36–214, ELI: http://data.europa.eu/eli/dir/2018/1972/oj)

5 Decision No 243/2012/EU of the European Parliament and of the Council of 14 March 2012 establishing a multiannual radio spectrum policy programme (OJ L 81, 21/03/2012, p. 7–17, ELI: http://data.europa.eu/eli/dec/2012/243(2)/oj)

6 Regulation (EU) 2023/588 of the European Parliament and of the Council of 15 March 2023 establishing the Union Secure Connectivity Programme for the period 2023-2027 OJ L 79, 17.3.2023, p. 1-39 (ELI: http://data.europa.eu/eli/reg/2023/588/oj).

(34a) Space activities provided by space operators established in the Union should be subject to a EUSA certification regime, to address key safety, resilience and environmental sustainability aspects of typical space operation services which relate to the operation of spacecraft and the provision of launch services. Space activities provided by Union space operators of Union-owned assets should be certified by the Commission, with technical support from European Union Agency for the Space Programme ('the Agency') established by Regulation (EU) 2021/696 of the European Parliament and of the Council[7], while Union space operators operating assets other than Union-owned assets should be certified by Member States.

(35) As regards Union-owned assets, Union space operators should obtain EUSA certification from the Commission to operate such Union-owned assets that comply with the requirements on safety, resilience, and environmental sustainability.

(41) To enable seamless EUSA certification processes across the internal market and create equal treatment of all Union space operators the overall duration of the process of EUSA certification should not exceed 12 months, considering the complexity of the space activity involved, with a view to enable the applicant to get the response quickly, and with the possibility to suspend the deadlines applicable in the EUSA certification process, with a view to take into account the possible need for further clarifications and assessments.

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[7] Regulation (EU) 2021/696 of the European Parliament and of the Council of 28 April 2021 establishing the Union Space Programme and the European Union Agency for the Space Programme and repealing Regulations (EU) No 912/2010, (EU) No 1285/2013 and (EU) No 377/2014 and Decision No 541/2014/EU (OJ L 170, 12.5.2021, p. 69 ELI: ttp://data.europa.eu/eli/reg/2021/696/oj)

(42) Member States should remain free to carry out any exchanges with potential applicants in advance of their national authorisation processes, according to national rules. Such preliminary and informal exchanges would enable applicants to better understand and ensure compliance with the requirements laid down in this Regulation and in national legislation, as applicable, including any relevant legislation of other Member States, where, for instance, multiple national authorisations are required across the internal market, considering the criteria of nationality or establishment, the place of operation and of launching.

(42a) Space operators may be subject to national authorisation by multiple Member States, which exercise their authority in accordance with the relevant provisions of the UN treaties, including the Liability Convention, which governs the obligations of the launching state, and the OST, which designates the appropriate state for authorisation and supervision. The EUSA certification provided under this Regulation is without prejudice to the obligations of the Member States under the relevant UN Treaties. In that regard, the EUSA certification process established under this Regulation is strictly limited to the assessment of those aspects of safety, resilience and environmental footprints harmonised under this Regulation. It does not affect national authorisation processes or requirements relating to other aspects, such as those concerning public order, insurance, property, public health or other environmental requirements. It should be emphasised that the safety requirements concerning launch are limited to three specific aspects, namely safety and coordination measures during launch and re-entry, flight safety systems and space debris mitigation for launch vehicles. Other aspects concerning launch safety are outside the scope of this Regulation.

(42b) There should be clarity as to who certifies and supervises what under this Regulation. This allocation of responsibility should take into account the allocation of liability under the Liability Convention. Two situations should be distinguished: the first concerns launch service, where the Member State from whose territory the launch vehicle is launched should be responsible for certification and supervision. That State will always be a launching state under the Liability Convention. The second situation concerns the operation, control and re-entry of spacecrafts. In this respect, the Member State in which the space operator has its main place of establishment should be responsible for certification and supervision. This Member State will normally constitute a launching State under the Liability Convention and will in most cases be the most appropriate State to certify and supervise. However, the Commission should authorise the operation, control and re-entry of Union-owned spacecraft. Other Member States, such as one that procured the launch (as regards launch services) or one from whose territory the spacecraft was launched (as regards operation, control and re-entry), may also be launching states under the Liability Convention or be appropriate States under the Outer Space Treaty. Those Member States remain free to apply national authorisation processes and requirements, or reach agreements, concerning matters not regulated by EUSA, but as regards the safety, resilience and environmental sustainability aspects covered by this Regulation, they should be required to accept and recognise the certification and supervision of the Member State of launch. By ensuring that a single EUSA certification process applies as regards those aspects, this Regulation improves the free movement of services and goods.

(42c) This Regulation establishes a high level of protection of the safety, resilience and environmental sustainability aspects it covers. Nevertheless, given the obligations of the Member States under the OST Treaty and UN Conventions, it is necessary to permit EUSA certifying Member States to impose stricter standards regarding those aspects. Any such stricter standards must not undermine this Regulation's standards and must be consistent with the Treaties. Moreover, given that this Regulation already establishes a high level of protection, any such stricter measures should only be permissible where objectively necessary. Additionally, in line with the previous recital, only the EUSA certifying Member State may apply any stricter standards. Given these limitations, and given that in any event this Regulation ensures a new common minimum standard applies throughout the internal market, this Regulation achieves an important step in harmonisation and thereby genuinely improves the functioning of the internal market.

(43) The national competent authorities of a Member State should accept and recognise the authorisations issued by the national competent authorities of other Member States, as regards the matters which are covered by this Regulation. At the same time, full transparency of national requirements that may be laid down by Member States should be ensured, including for stricter requirements that may be necessary to safeguarding the safety, resilience or environmental sustainability of a space activity carried out on their territories, including territorial seas, by space operators authorised in their own Member State. Such information should be provided through a common Information Portal.

(43a) In order to match increased customer demand for satellite offerings, reap the benefits of technological advances and associated cost reductions, and secure better access to capital, the EUSA certification processes for the launch of satellite constellations should be streamlined. Under certain conditions, and subject to a set of safeguards, a simplified procedure should be available, leading to the issuing of a single EUSA certification valid for the entire satellite constellation.

(43c) Space operators and space-based data providers established in a third country should be required to undergo checks to establish compliance with the requirements laid down in this Regulation. To promote convergence of supervisory approaches, the Agency should carry out the technical assessments needed for the Commission to establish compliance and allowing the Commission to decide, based on technical assessments, on the EUSA registration of space activities in the Union and on any supervisory measures. The Commission should provide the decision of EUSA registration no later than 12 months after having received the application from a third country space operator, considering the complexity of the space activity involved, with a view to enable the applicant to get the response quickly. For this purpose, a register should be set-up at Union level.

(43d) All space operators established in a third country should designate in writing one or more legal representative(s) in the Union, depending on their commercial needs and organisational requirements. Such legal representatives in the Union should be endowed with all necessary powers and resources to cooperate with the relevant authorities, the Commission and the Agency, on all aspects that are needed for the receipt of information and of decisions related to the compliance with, and enforcement, of this Regulation.

(43e) Certain third-country jurisdictions may adhere to high levels of safety, resilience and environmental sustainability of space activities and as such apply safety, resilience and environmental sustainability requirements similar to those laid down in this Regulation. In these cases, a mechanism of equivalence is to ensure the recognition of a level of protection comparable to what is required under this Regulation. Thus, where an assessment has been carried out by the Commission, in relation to the applicable legal framework of a third country and the legally binding rules applicable in that third country, deemed to be equivalent to the requirements laid down in this Regulation, the compliance of the space operators established in that third country should be established on that basis. Such space operators should be able to provide space operation services in the Union based on an equivalence decision to be adopted by the Commission.

(43f) Only in limited cases, considering the strategic importance for the Union or Member States to have access to certain space operation services, the Commission should grant a derogation from the requirements laid down in this Regulation for launch services where no realistic alternative exists in the Union in terms of both timely availability and technological constraints. Implementing powers should be conferred on the Commission to adopt a decision on a derogation where those conditions are met.

(43g) In cases of natural or man-made disaster as referred to in Decision No 1313/2013/EU[8] or significant incident as referred to in Directive (EU) 2022/2557[9], swift action might be necessary, exceptionally and on a temporary basis, to make use of space-based data or space operation services provided by space operators which have not been registered in the Union.

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8 Decision No 1313/2013/EU of the European Parliament and of the Council of 17 December 2013 on a Union Civil Protection Mechanism Text with EEA relevance (OJ L 347, 20.12.20130. ELI: http://data.europa.eu/eli/dec/2013/1313/oj

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 OJ L 333, 27.12.2022. ELI: http://data.europa.eu/eli/dir/2022/2557/oj

(43h) This Regulation lays down common rules concerning space operation services so as to ensure the free movement of those services. The ultimate purpose of such services is, in most cases, to enable the provision of space-based data to the downstream economy, notably for satellite communication, Earth observation and position, navigation and timing. Space operators could therefore circumvent EUSA's common requirements by launching or operating from a third country before providing precisely the same space data to the downstream economy. In light of this risk, and in order fully to achieve the objectives of this Regulation, it is necessary to impose obligations on a limited number of key actors, in order to respect the principle of proportionality, who act as gatekeepers between the space operation services economy and downstream markets. Those key actors should be required to ensure that any space-based data they provide in the Union originates from space objects whose activities are entered in the Union Repository of Space Activities (URSA), or in space objects whose activities are specifically excluded from EUSA's scope (for instance, because the object was launched before [*LL please insert date*], or because the activities take place beyond the graveyard orbit). The key actors may not, therefore, provide space-based data from other space objects, such as a third-country space activity that is not entered in URSA.

(43i) These anti-circumvention obligations should be effective and proportionate. To that end, first, they should only apply to those key actors acting as gatekeepers and retaining a close link with the space economy. In particular, these should include space operators themselves; for satellite communication the relevant authorities for the landing rights; persons providing the service of receiving data directly from space, such as infrastructure providers for Earth observation services; and to persons providing the service of providing space-based data, such as platform providers processing or selling space-based data or an Earth observation product and service provider. It should not include other actors providing space-based data, and in particular it should exclude research and educational provision of such data, such as an educational website giving access to satellite imagery. Second, these obligations should only apply where the provision of space-based data is the sole service provided or a decisive part of that service. It should not apply where that provision is an ancillary or minor part of the service, or where the space-based data is merely used as a source for another data and service. For instance, the provision of satellite communications services, of Earth observation data, or of a maps service including satellite imagery constitute the provision of space-based data; conversely, the provision of a service including satellite imagery purely for illustrative purposes, the provision of a weather application whose data is based mainly on non-space data, would not. The rule should be applied differently for users coming from public authorities. They should promote the use and uptake of data coming from satellites compliant with EUSA obligations as responsible space actors to ensure that the orbits remain safe and resilient. However, to avoid unjustifiable burden, this obligation should concern a limited number of public procurement authorities, mainly the central government authorities referred to in Annex I of Directive 2014/24/EU, as well as Union institutions, bodies and agencies.

(46) Once compliance with the requirements laid down in this Regulation has been established, the entry in URSA and the issuing of an electronic certificate (e-certificate) serve to prove that the space activities of a space object providing space-based services comply with this Regulation. Moreover, they serve to prove that any space-based data has been generated based on space activities complying with this Regulation, such that relevant gatekeepers may provide that data in the Union. The Agency should issue to space activities entered in URSA the individual e-certificates.

(47) Consolidated lists of all space activities entered in URSA, established in the Union and in third countries, should be made accessible to the public, through the URSA website, thereby ensuring transparency on all space activities provided in the Union. Any person could verify the source of the space-based data with a view to ascertain, at any given moment, that the space operation services provided in the Union make use of data that has been generated by space activities compliant with the requirements of Union law. The information publicly accessible in URSA should ensure compliance with Regulation (EU) 2016/679[10] and with Regulation (EU) 2018/1725[11] as applicable and not contain any sensitive commercial data or data subject to intellectual property rights.

(48) A specific standard for the e-certificate should be developed, at the request of the Commission, and should be in place by the date of application of this Regulation. The e-certificate would establish the link between a given space object and the space-based data that has been generated through its use, guaranteeing the integrity of such space-based data. The e-certificate should be embedded in the meta-data of the space-based data.

(52a) Member States play a key role in the enforcement of this Regulation. To take into account the inherent differences among institutional structures at national level, and to safeguard existing arrangements, Member States should designate or establish one or more national competent authorities which shall be responsible at national level for controlling the application of this Regulation. Where Member States have in place more than one national competent authority, only one such authority should, for the purposes of this Regulation, act as a single point of contact for that Member State, to facilitate communication with the Commission.

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[10] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) OJ L 119, 4.5.2016. ELI: http://data.europa.eu/eli/reg/2016/679/2016-05-04

[11] Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC OJ L 295, 21.11.2018. ELI: http://data.europa.eu/eli/reg/2018/1725/oj

(52b) The minimum key harmonised rules on the safety, resilience and environmental sustainability of space activities laid down in this Regulation should be integrated into the authorisations issued by national competent authorities as a result of their national authorisation process or, as appropriate, the regimes laid down by Member States for governmental entities carrying out a national space programme. The specific character of certain entities, should be acknowledged, such as governmental space agencies which carry out national space programmes, which may not necessarily be subject to national authorisations in the same way as other space operators. Consequently, Member States should ensure, as regards these entities, an appropriate supervision that respects and implements the principles of separation of roles and absence of conflict of interest.

(52c) It is necessary to enhance the convergence of powers at the disposal of national competent authorities, to allow an effective enforcement of this Regulation across the internal market. Common minimum powers coupled with adequate resources should guarantee supervisory effectiveness. The national competent authorities should therefore be entrusted with a minimum set of supervisory and investigative powers in accordance with national law. When exercising their powers under this Regulation, national competent authorities should act objectively and impartially and remain autonomous in their decision-making. The members of the national competent authorities should refrain from taking any action which is incompatible with their duties and should be subject to confidentiality rules.

(52d) National competent authorities should cooperate with each other and exchange good practices on the application of this Regulation including through for instance providing mutual assistance and joint investigations carried out in full respect of national procedures.

(52e) Member States should take all necessary measures to ensure that the provisions of this Regulation are implemented, including by laying down effective, proportionate and dissuasive penalties for the infringement of the rules.

(52f) Technical assessment related to the safety, resilience and environmental sustainability of space activities require specialised knowledge of such areas. National competent authorities should, in most cases, rely on the technical knowledge and expertise of qualified technical bodies which are able to carry out assessments and verifications to ascertain that the requirements laid down in this Regulation are met, so that the national authorisations to carry out space activities can subsequently be issued by the national competent authorities.

(52g) Acknowledging the need for preserving flexible arrangements, Member States should remain free to choose to rely on the support of the Agency or international organisations with technical expertise for carrying out such technical assessments.

(52h) Member States intending to establish and use qualified technical bodies for space activities should make use of the accreditation system provided for in Regulation (EC) No 765/2008 of the European Parliament and of the Council[12] when designating a notifying authority for the assessment and monitoring of qualified technical bodies for space activities.

(52i) To ensure a consistent level of quality, expertise and integrity in the performance of the technical assessment on matters covered by this Regulation, it is necessary to lay down requirements, as regards the competence, independence and absence of conflict of interest of such bodies. The notifying authorities of Member States should rely on the electronic notification tool developed and managed by the Commission in the context of notified bodies for other areas of internal market (NANDO information system).

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[12] Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93 (OJ L 218, 13.8.2008, p. 30, http://data.europa.eu/eli/reg/2008/765/oj).

(52k) Adapted governance structures of the Agency are essential for an effective exercise of tasks granted by this Regulation. A Compliance Board should be established and entrusted to carry out all needed technical assessments that would allow the Commission to decide on the EUSA certification and supervision of Union space operators of Union-owned assets and on the EUSA registration and the ongoing supervision of third country space operators providing space-based data and space operation services in the Union.

(52l) To ensure sound and independent functioning of the Agency, the Members of the Compliance Board should act independently and in the interest of the Union. They should not seek, follow or take instructions from a government of a Member State, from Union institutions, bodies, offices or from any public or private entity. Furthermore, practical arrangements for the prevention and the management of conflict of interest should be laid down in the Rules of Procedure.

(52m) To leverage the specific competences, technical skills and expertise of the national competent authorities and the qualified technical bodies for space activities, the Compliance Board should draw on national supervisory and technical capabilities in the form of setting-up configurations on matters of safety, resilience and environmental sustainability.

(52n) For the purposes of detecting infringements of this Regulation, as regards the Union-owned assets and the space operators established in third countries, it is necessary for the Commission and the Agency to have effective powers, tools and resources that guarantee full supervisory effectiveness. Therefore, the Commission and the Agency should have the power to request information and carry on investigations and on-site inspections. The Commission should acquire supervisory powers and require Union space operators of Union-owned assets and space operators established in third countries to bring infringements to an end and to impose fines and penalty payments.

(52o) In relation to the powers of investigation and inspection, access to the premises of Union space operators of Union-owned assets and of space operators established in third countries may be necessary where space operators to whom a request for information has been made fail to comply with it, or where documents which the request for information relates to, would be removed, tampered with, or destroyed. Such access should be based on the agreement of the third country entity and the relevant third country authority.

(52p) The respect of the defence rights of space operators established in a third country should be ensured throughout the entire process of EUSA certification or EUSA registration and monitoring of ongoing compliance by the Agency, notably by providing a right to submit reasoned statements for the purposes of the preliminary assessments related to EUSA certification or EUSA registration.

(52q) All Agency and Commission powers should be exercised in full respect of the fundamental rights and by observing the principles recognised in the Treaty on the Functioning of the European Union (TFEU) and the Charter of Fundamental Rights of the European Union, in particular the right to respect for private and family life, the protection of personal data, the right to freedom of expression and information, the freedom to conduct a business, the right to property, the right to consumer protection, the right to an effective remedy, the right of defence. Accordingly, this Regulation should be interpreted and applied in accordance with those rights and principles.

(52r) Furthermore, a set of procedural rules should be envisaged in carrying out investigative powers. Where the Agency or the Commission find serious indication of existence of facts liable to constitute one or more infringements to this Regulation, they should carry out investigations in full respect of the rights of defence of the concerned Union space operator or third country space operator. In the context of adopting interim measures, where urgent action is needed to prevent an imminent and significant damage, the Agency and the Commission may set shorter deadlines for the space operator concerned to comment and offer the opportunity to comment only in writing.

(53) The congestion of certain orbits, triggering an enhanced risk of collision of satellites and proliferation of space debris, as well as the geopolitical threat-landscape featuring an enhanced risk to the cybersecurity of space infrastructure, along with the risk of physical contact in space, such as proximity and disturbances, constitute challenges of a global nature which many space-faring nations have started to address.

(54) From micro to heavy launchers, the launcher market has evolved. New capabilities are developed, such as re-usability of, for example, the first stage and boosters of the launch vehicles. More Member States are developing launch capabilities and thus intensifying access to space.

(55) Access to space is crucial for EU's strategic autonomy. However, an increased launch traffic also has consequences for the safety for the launch and re-entry and for safety in the air and on ground. The increased space launch traffic might also generate a negative impact on the economic, environmental and efficient performance of the Single European Sky. The risk of disruption of the air and maritime traffic should be minimised in agreement with the relevant authorities and air traffic service providers. Coordination between the relevant authorities and the competent air traffic service providers at national level contributes to limit the impacts of traffic disruption and the risk of collision. When space launches affect more than one Member State, timely coordination between space operators and the European Network Manager is needed. This coordination should include an assessment of the European airspace closure size, duration and impacted air routes. Only at a later stage adequate cost sharing mechanisms for the use of the airspace should be established. This will incentivise the safe and sustainable use of airspace for all users. Furthermore, the stages of launch and re-entry may also create a risk for on-ground casualty which needs to be limited through close coordination with the impacted relevant authorities and traffic service providers. The increasing risk of collision with aircraft during the transition phase of space launch and re-entry can be support by well-established aviation safety methodologies and best practices on risk assessment.

(55a) This Regulation does not affect Member States' rights and responsibilities under the Convention on International Civil Aviation.

(56) Launch activities are inherently risky and can cause irreversible damage if not managed properly. Rules should consequently be laid down to ensure that launch vehicles are trackable and undergo a risk assessment which identifies and sets-up several measures to mitigate, to the extent possible, the associated risks.

(57) Projections show that, even without any new launches, collision between space objects already in space will become a big source of debris. The risk of collision between space objects would ultimately put an already congested Low Earth Orbit (LEO) under pressure, which creates a risk for the future access to space. In terms of mass, most space debris come from parts of launch vehicles (rocket bodies). Meanwhile, the number of spacecraft in orbit is rapidly growing due to the developments of satellite constellations.

(58) To protect the space environment, there is a need to ensure that launch vehicles and spacecraft produce the least amount of debris. Consequently, obligations at the design phase, as well as during the orbital lifetime, should be provided for. This necessity is also recognised at international level, where several standards have been adopted. Therefore, the EUSA certification to carry out space activities should be linked to the submission by space operators of specific space debris plans to demonstrate how debris creation would be limited in the launching, the in-orbit operation and the re-entry phases.

(59) Collision avoidance services require the capacity of the spacecraft to precisely transmit its position. Trackability requirements should be developed to enhance the public services provided by the Union Space Surveillance and Tracking Partnership (EU-SST) and to save time and money used by such tracking services to determine the orbital position precisely. The ability to track spacecraft should be ensured both at space and at ground segment level.

(60) Due to increased debris and traffic in orbit, the use of a collision avoidance service is a must-have for all spacecraft. Such requirement is necessary for ensuring the day-to-day station keeping of the spacecraft. A mandatory subscription to a collision avoidance service should be at the very core of the space safety requirements. As a result, the entity in charge of delivering the collision avoidance service would need to demonstrate certain capabilities.

(60a) Since national competent authorities deliver the national authorisations to Union space operators, for all phases of a space mission, access to data is needed for each individual authorised spacecraft, until the end-of-life. To fully leverage on existing capabilities, the national competent authorities should rely on the capabilities of the EU-SST Partnership to perform the monitoring during the on orbit and end-of-life phases.

(61) Furthermore, having an entity in charge of the collision avoidance service for all spacecraft in the Union should improve the coordination of responses to a high interest event Alert (‘HIE alert’), also limiting the risk that such an alert triggers different reaction strategies, which in themselves could potentially lead to a collision.

(62) Developed as part of the SSA component, under Regulation (EU) 2021/696, the EU-SST Partnership, or any successor entity, using their sensors and well-developed know-how, has demonstrated its ability to manage a high number of spacecraft and therefore suitability to be the Union collision avoidance entity ('Union CA entity'), in charge of the collision avoidance service.

(62a) As regards collision avoidance and orbital traffic rules, to ensure efficient collision avoidance space services, Union spacecraft operators and the Union CA entity should cooperate, in particular in the event of a HIE alert.

(62b) Any efficient reaction to a HIE alert between two different spacecraft necessitates a dialogue between the involved spacecraft operators. To ensure that such dialogue can be initiated quickly and without prejudice to the role of the national competent authorities, the collision avoidance services provider should serve as facilitator, by holding the different points of contacts for Union spacecraft operators.

(62c) Due to the increasing number of HIE alerts, Union spacecraft operators should be able to react to such alerts more frequently. Upon receipt of a HIE alert, the collision avoidance provider would propose a list of actions to the Union spacecraft operator. To facilitate the response time for the collision avoidance service provider, a standardised procedure on rules of the road should be established.

(63) Generation of debris should be best avoided through requiring capacities to perform collision avoidance manoeuvres and to move spacecraft to graveyard orbits. As a result, all spacecraft should be endowed with a recurrent manoeuvrability capability, except for spacecraft placed below 400 km, since the atmospheric drag would, in such case, ensure in a natural manner, a short orbit lifetime of that spacecraft.

(64) It is common practice that spacecraft operators be granted extension of a space mission. However, when applying for an extension, Union spacecraft operators should be required to submit revised space debris mitigation plans, to ensure that the enhanced mission duration does not risk creating debris.

(65) Due to increased orbital traffic, astronomers encounter optical and electromagnetic interference in their astronomical campaigns. Such interference have a direct impact on research and planetary defence capabilities. As a result, mitigation measures should be developed to protect astronomical observations and the dark and quiet sky, without prejudice to spectrum management under the ITU.

(66) Constellations are an asset for the efficient deployment of space operation services, to the benefit of citizens and companies. However, due to their large number, their effect on the space environment is more significant than the impact of a single spacecraft. In addition, any catastrophic event occurring in the intra-constellation could trigger the Kessler event, rendering access to space impossible in the future. As a result, specific obligations should be imposed to constellations varying according to the size of a constellation.

(68) It is essential to ensure a high and coherent level of cybersecurity resilience as regards space activities covered by this Regulation. Directive (EU) 2022/2555[13] ("NIS2") is the horizontal legislation laying down measures to achieve a high common level of cybersecurity across the Union. It is appropriate to rely on that horizontal legislation to the greatest extent possible. To that end, the Commission should be required to adopt a sector-specific implementing act under NIS2 addressing the specificities and complexities of such space activities. At the same time, this Directive and implementing act follow a different logic to this Regulation and have a different scope. NIS2 is generally a minimum harmonisation measure, has significant variation in national implementing laws, relies on ex post supervision, and is limited to the ground segment of certain space activities, and does not include all space operators (such as ones based in third countries and SMEs under Article 2 of the Annex to Commission Recommendation 2003/361/EC[14]). This Regulation requires ex ante certification, permits stricter measures in a more targeted way, and has a broader scope as regards space operators. Accordingly, it is necessary to refine and extend the NIS2 regime in the following ways. First, this Regulation should directly obliged space operators to comply with the space operator implementing act adopted under NIS2. Second, the NIS2 competent authority of the Member State certifying the relevant space activities (or the Commission, in the case of Union-owned assets) should be responsible for certifying compliance with those requirements. Accordingly, only that Member State could apply measures stricter than the implementing act, insofar as justified under this Regulation. Third, the relevant NIS2 requirements should be duplicated in this Regulation in order to cover space operators or activities that fall outside of NIS2. A parallel implementing act should implement those requirements. The Commission should ensure that the two parallel implementing acts are as consistent as possible in order to ensure a uniform regime.

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13 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) (OJ L 333, 27.12.2022, p. 80, ELI: http://data.europa.eu/eli/dir/2022/2555/oj)

14 Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises (OJ L 124, 20.5.2003, p. 36, ELI: http://data.europa.eu/eli/reco/2003/361/oj).

(75) In accordance with the principle of proportionality, this Regulation should acknowledge the specific position of space operators which are small-sized enterprises or research or education institutions. Such categories, by virtue of size, resources, and extent of activities, may have a lesser impact. The imperative objective in this case is to ensure the protection of critical functions and assets, and to address core risks, such as the risk of loss of control of assets with propulsion and capacity to emit interference.

(77) Policies and procedures should be laid down on Union space operators to ensure sound encryption practices, through the definition of a cryptographic concept to address specific cybersecurity needs of the space missions, a bespoke policy for the management of cryptographic keys, as well as end-to-end authentication of links between satellite control centres and the space segment.

(78) Union space operators should set-up key measures to enable swift and effective business continuity and response and recovery measures to ensure effective response to incidents and safeguard the continuity of critical operations of space missions.

(80) The complexity of the supply chain in the space sector may pose specific cybersecurity risks, in light of the multiple sources that are used for the acquisition of components. The latter are often procured worldwide and may lack the needed integrity checks, especially when integrating or assembling components into various systems of space infrastructure. To address such risks, Union space operators should take into account the vulnerabilities specific to each direct supplier and service provider and the overall quality of products and cybersecurity practices of their suppliers and service providers, including their secure development procedures.

(82) Directive (EU) 2022/2557[15] of the European Parliament and of the Council sets out key minimum harmonisation rules aimed at enhancing the resilience of critical entities and improving the cross-border cooperation between competent authorities. Directive (EU) 2022/2557 should remain the foundation for the physical resilience of critical entities operating ground based infrastructure in scope of that Directive and covered by this Regulation. For these entities, this Regulation should apply without prejudice to Directive (EU) 2022/2557. The resilience of the critical entities in scope of Directive (EU) 2022/2557 should be ensured in accordance with that Directive. The critical infrastructure that these entities operate may comprise control centres, antennae, testing facilities, sites, including launch sites, physical equipment and components, hardware, systems and subsystems part of space infrastructure, engineering systems, power systems and propulsion systems.

(86) Further to setting key rules on incident handling and investigation, an incident reporting mechanism by Union space operators of Union-owned assets, in the context of the Union Space Programme, should be established, filling existing gaps in the incident reporting. The Agency should acquire access to information on significant incidents for all components of the Union Space Programme through the security monitoring centre structure established in the context of the Union Space Programme, providing support and around-the-clock monitoring of the relevant systems' security. To achieve coherence with the general framework on cybersecurity, such mechanism should be aligned with the incident reporting laid down by Directive (EU) 2022/2555.

(87) Moreover, as regards the reporting of significant incidents affecting the space infrastructure of Member States, this Regulation should be without prejudice to any of the incident reporting requirements currently laid down by Directive (EU) 2022/2555 or Directive (EU) 2022/2557. Consequently, the reporting rules under these two Directives should continue to fully apply to Union space operators that are as essential or important entities, and respectively critical entities, under those Directives.

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[15] 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 (OJ L 333, 27.12.2022, p. 164, ELI: http://data.europa.eu/eli/dir/2022/2557/oj).

(88) The supervisory authorities established by Directives (EU) 2022/2555 and (EU) 2022/2557 may be different from the competent authorities designated or set-up under this Regulation. With a view to enhancing the understanding and awareness of such competent authorities as regards the magnitude and impact of the significant incidents affecting the space infrastructure, Union space operators should report significant incidents affecting national assets of space infrastructure to the national competent authorities under this Regulation which in turn should pass on related summary information to the Agency.

(93) Currently, Member States' national space laws differ when it comes to their requirements on environmental sustainability. In the current state of knowledge, it is not possible to harmonise all those rules. However, as a first step, rules regarding the measuring of environmental impacts, both on Earth and on space, should be harmonised through the development of a common methodology. Existing rules addressing environmental sustainability assessments range from addressing either impacts on the space environment solely, or impacts on both space and Earth environment. This inconsistency may lead to fragmentation of the internal market. Therefore, harmonised rules on environmental footprint should be laid down to achieve the internal market potential and promote the environmental sustainability in the space sector, preventing market fragmentation and advancing the transition to a just, climate-neutral, resource-efficient and circular economy. It should also create a level playing field for companies and suppliers across the sector, as the availability of aggregated or derived datasets may help reduce costs and administrative burden, as well as enhance space sector access to sustainable finance. Other aspects of environmental sustainability, such as substantive sustainability requirements, are not harmonised by this Regulation and are outside its scope. Member States thus remain free to adopt rules on those other aspects.

(93a) Acknowledging that space activities occur both on Earth and in space, this Regulation should mandate an environmental footprint assessment covering the entire life cycle of space activities. Recognising that resource utilisation occurs both on Earth and in space during mission operations (e.g. the amount and type of propellant used in orbital manoeuvres) and at its end-of-life phase (e.g. re-entry or graveyard orbit), alongside potential orbital consequences like orbit congestion, these factors must be integrated into space activities environmental footprint calculations.

(95) The increasing adoption of Life Cycle Assessment (LCA) framework by space operators and its integration as contractual requirements highlight its importance in evaluating environmental footprint through the supply chain. However, existing practices and standards often lead to inconsistencies and duplication due to varied interpretations and their implementation. As part of the Union's efforts to establish a sustainability policy framework, this Regulation should complement the measures laid down in the Eco-design for Sustainable Products Regulation and the Circular Economy Action Plan framework. Harmonising the Environmental Footprint studies, based on LCA, is crucial for optimising resource use, improving operational efficiencies and identifying innovation opportunities. Therefore, this Regulation should mandate the use of a standardised environmental footprint calculation method to ensure accurate, consistent, transparent practices promoting the reusability of data.

(97) To ensure clarity and consistency among existing space activities environmental impacts measurements, the Commission should develop a detailed methodology for calculating the environmental footprint of space activities, based on scientifically sound assessment methods or international standards, such as those outlined in the Commission Recommendation on the use of Environmental Footprint methods[16]. This methodology would facilitate comparisons among space systems, streamline calculation processes, reduce administrative burden, enhance clarity, and ensure consistent implementation across the sector.

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16 Commission Recommendation (EU) 2021/2279 of 15 December 2021 on the use of the Environmental Footprint methods to measure and communicate the life cycle environmental performance of products and organisations (OJ L 471, 30.12.2021, ELI: http://data.europa.eu/eli/reco/2021/2279/oj).

(98) Reliable, comparable, and verifiable data are essential for substantiating the integrity of environmental claims. Data must meet high accuracy standards, with standardised information on the environmental impact of space activities feeding into a centralised Union-level database. This database would store environment footprint-related data, thereby promoting transparency, collaboration, and data sharing related to Life Cycle Assessment (LCA) for space activities. In alignment with the principles laid down in the EU Data Governance Act[17] and the EU Data Act[18], the Commission shall ensure robust confidentiality of datasets published or shared with Commission EF database. The ownership by the Union of the derived datasets should be without prejudice to the ownership of Union space operators, third-country space operators and international organisations of data included in the aggregated and disaggregated datasets transmitted to the Commission EF database. Published derived or aggregated datasets should prevent re-engineering or decompiling of data, safeguard data integrity and confidentiality, thereby enhancing usability, reducing redundancy, and reducing administrative and financial costs associated with environmental impacts calculation.

(99) Any in-space operations and services (ISOS) should be conducted in a safe, responsible and peaceful way, respecting the rights of other Member States and third countries to explore and use the outer space. The new area of ISOS, with its related applications and capabilities, should contribute to the creation of new markets (in-space economy), foster safety, resilience and environmental sustainability and increase the adaptability and scalability of space infrastructure, as well as alleviate risks related to space debris.

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17 Regulation (EU) 2022/868 of the European Parliament and of the Council of 30 May 2022 on European data governance and amending Regulation (EU) 2018/1724 (Data Governance Act)

18 Regulation (EU) 2023/2854 of the European Parliament and of the Council of 13 December 2023 on harmonised rules on fair access to and use of data and amending Regulation (EU) 2017/2394 and Directive (EU) 2020/1828 (Data Act)

(100) By embracing ISOS and investing in enabling technologies, the Union aims to position itself as a global leader in the evolution of space economy, to lead safely, sustainably, and strategically. The shift towards adaptable space systems is based on advancements in enabling technologies, concepts and processes. Taking into account the current level of technological maturation and thus the need for an incremental, and economically and operationally proportionate approach, this Regulation should only provide interface requirements for Union spacecraft operators of Union-owned assets. This would pave the way to facilitate the broader adoption of ISOS solution.

(101) When implementing ISOS, a servicer spacecraft performs rendezvous and proximity operations to a client spacecraft with the specified level of autonomy and conducts typical operations, such as, for instance, docking, robotic and refuelling operations. The risk of collision between a servicer spacecraft and a client spacecraft or debris object should be prevented and mitigated through appropriate actions, such as preparing future spacecraft for receiving in-space services.

(101a) Recognising the specific nature and objectives of research spacecraft, which remain instrumental in advancing scientific knowledge and technological capabilities, this Regulation should establish certain exemptions for such categories, with a view to accommodating their specific needs and characteristics, while at the same time ensuring the safety and sustainability of the orbits.

(101b) Space operators should benefit from dedicated exemptions from the rules laid down in the different areas covered by this Regulation. When carrying out research space missions, they should be exempted from certain rules on safety. Similarly, space operators that qualify as SMEs or are research or education institutions should apply a simplified risk management focusing on critical assets and addressing main risks. In-Orbit Demonstration and Validation (IOD/IOV) space missions should also be exempted from the calculation of the environmental footprint (EF) of space activities. However, it is imperative that these exemptions are limited to avoid any circumvention, ensuring that fundamental sustainability objectives are not undermined.

(101c) The Union should seek gradually to conclude mutual recognition agreements with third countries.

(101d) In order to ensure that the Union or Member States have access to space activities necessary for their vital interests or for ongoing cooperation with third country space agencies, they should be able, upon request to the Commission or on the Commission's own initiative, to have access to space services and data from third country space operators that are public entities not yet entered in URSA.

(101e) Certain technologies are of strategic importance for the Union, in particular where they are critical for the security, resilience, economic prosperity, or technological sovereignty of the Union. In particular, Regulation (EU) 2019/452 identifies critical technologies and dual-use items as areas requiring scrutiny in the context of foreign direct investment, including inter alia artificial intelligence, semiconductors, cybersecurity, aerospace and defence technologies. Furthermore, Regulation (EU) 2021/696 recognises the strategic and security-sensitive nature of space infrastructures and associated technologies, while Directive (EU) 2022/2555 and Directive (EU) 2022/2557 underline the importance of space technologies underpinning essential and critical services for the functioning of the economy and society. In line with this regulatory framework, for the purposes of this Regulation, technologies may be considered of strategic importance where they contribute to essential functions, economic security, or entail security or defence implications.

(101f) International organisations engaging in space activities, such as the European Space Agency (ESA) or the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) have extensive technical, scientific and operational expertise, as well as dedicated infrastructure and capabilities in the space domain. They are key partners to the Commission, the Agency and the Member States, in particular in the context of implementing components of the Union Space Programme, conducting joint procurement or programmes of Members States. To achieve regulatory coherence it would be important for such international organisations and the Union to conclude international agreements that could advance the objectives set out in this Regulation by including the assets owned by those international organisations.

(101g) ESA is an international organisation with which an appropriate relation should be established. It has extensive expertise in the space domain and an important partner in the implementation of the Union Space Programme. ESA develops and operates, as appropriate, in accordance with dedicated agreements, assets of space infrastructure for the Union Space Programme and the Union Secure Connectivity Programme. ESA is a central driver for developing technical standards for space activities and concluded a Framework Agreement with the European Community in 2004. However, as ESA is not subject to Union law, the conditions for the implementation of this Regulation to ESA should be defined in an agreement based on Article 218 TFEU, with due regard to ESA's status and institutional framework.

(131) With a view to facilitating and accompany the implementation of the requirements laid down by this Regulation, a set of supportive measures should be in place until, and throughout, its implementation. These measures would consist in the provision of guidance and assistance to space operators in the preparation of technical dossiers for EUSA certification or EUSA registration on matters covered by this Regulation, as well as of a set of measures for capacity building and funding.

(131a) This Regulation should rely on the current European standardisation framework, based on the New Approach principles, set out in Council Resolution of 7 May 1985 on approach to technical harmonization and standards and on Regulation (EU) No 1025/2012 of the European Parliament and of the Council[19]. Since this Regulation is the first regulatory approach at Union level in the area, a balanced and gradual approach should be taken also as regards standardisation. The essential requirements needed for the deployment of the e-certificate, for the optical and electromagnetic interference and for other standards as necessary, should be developed through the standardisation process. The Commission should consequently request the European standardisation organisations to develop standards in relation to such essential requirement. In exceptional cases, the Commission should be empowered to adopt implementing acts establishing common specifications for these essential requirements taking into account the role and functions of standardisation organisations.

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19 Regulation (EU) No 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardisation, amending Council Directives 89/686/EEC and 93/15/EEC and Directives 94/9/EC, 94/25/EC, 95/16/EC, 97/23/EC, 98/34/EC, 2004/22/EC, 2007/23/EC, 2009/23/EC and 2009/105/EC of the European Parliament and of the Council and repealing Council Decision 87/95/EEC and Decision No 1673/2006/EC of the European Parliament and of the Council (ELI: http://data.europa.eu/eli/reg/2012/1025/oj)

(134) In order to ensure that the regulatory framework duly reflects evolutions in the technical progress or new commitments of the Union under international conventions, and can thus be adapted as necessary, the power to adopt acts in accordance with Article 290 TFEU should be delegated to the Commission to amend the order of preference for the removal of spacecraft in LEO, acknowledge the technological progress as regards in-space operations and services. The power to adopt acts in accordance with Article 290 TFEU should be delegated to the Commission to supplement this Regulation by specifying for ISOS the operational mode and the requirements needed for active debris removal, by specifying the imposition of fines and periodic penalty payments, by specifying the criteria for the composition and the expertise of staff composing the technical boards, and by specifying the areas benefiting from co-funding. It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level, and that those consultations be conducted in accordance with the principles laid down in the Interinstitutional Agreement on Better Law-Making of 13 April 2016. In particular, to ensure equal participation in the preparation of delegated acts, the European Parliament and the Council receive all documents at the same time as Member States' experts, and their experts systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts.

(135) To ensure uniform conditions for the implementation of this Regulation, implementing powers should be conferred on the Commission to grant, on the basis of a detailed assessment, equivalence decisions, to grant derogations for launch vehicles where a public interest condition is met, to allow a third country public entity to provide space operation services or space-based data in the Union until the conclusion of international agreements, to confirm the adequacy and proportionality of the use of space-based data or space operation services based on space activities not registered in URSA in case of emergency, to develop measures for launch collision avoidance, casualty risk at launch and re-entry, launch vehicles space debris mitigation, spacecraft trackability, orbital traffic rules, spacecraft positioning in orbit, spacecraft space debris mitigation, spacecraft constellations, to specify the content and templates for reporting of significant incidents, to specify the method of calculation and verification of the EF of space activities and the templates and content for the reporting as regards the Environmental Footprint Declaration, to specify the design principles for SSIs and Composable and Exchangeable Functional Satellite Modules for ISOS, to lay down the common specifications covering the technical requirements for the e-certificate and for the dark and quiet skies, to lay down templates for the Union Space Label Schemes and to adopt new or amended Union Space Labelling Schemes. Those powers should be exercised in accordance with Regulation (EU) No 182/2011 of the European Parliament and of the Council[20].

[20] Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers (OJ L 55, 28.2.2011, p. 13, ELI: http://data.europa.eu/eli/reg/2011/182/oj).

(137) Since the objectives of this Regulation, namely to establish a single market for the space sector, through harmonised common rules that are meant to address key risks to space infrastructure and space operation services and thereby ensure the safety, resilience and environmental sustainability of space activities, cannot be sufficiently achieved by the Member States and can rather, by reason of the scale or effects be better achieved at Union level, the Union may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on European Union. In accordance with the principle of proportionality, as set out in that Article, this Regulation does not go beyond what is necessary in order to achieve those objectives.

(138) Compliance with the environmental sustainability rules by space operators which are small-sized enterprises or research or education institutions should be required 48 months from the date of entry into force of this Regulation while the requirements related to the provision of ISOS should apply 60 months from the date of entry into force of this Regulation.

(139) Moreover, this Regulation duly considers the length of the space mission preparation and the technical and complex constraints of the different milestones throughout the engineering and manufacturing stages of the spacecraft. A transitional period appears necessary to accommodate such constraints related to the technical adjustments required in the preparatory phases of a space mission, in the context of the critical design review stage.

(139a) Any processing of personal data pursuant to this Regulation, including in URSA and in the context of investigatory, supervisory and enforcement action, is subject to the applicable Union data protection law.

(140) Space operators should be provided with a sufficient time to adapt to the requirements laid down in this Regulation. This Regulation should therefore apply 24 months after its entry into force.

HAVE ADOPTED THIS REGULATION:

Title I
GENERAL PROVISIONS

Article 1

Subject matter

1. This Regulation lays down rules for the establishment and functioning of the internal market of space operation services.

2. To achieve a high common level of safety, resilience and environmental sustainability of space activities, when providing space operation services in the Union, this Regulation lays down harmonised rules on:

(-a) safety, resilience and environmental sustainability of space activities;

(a) EUSA certification of space activities carried out by space operators established in the Union;

(aa) EUSA registration of space activities carried out by space operators established in third countries, where no equivalence decision or international agreement exists under Article 105 or 106;

(ab) EUSA registration of space activities carried out by international organisations, subject to international agreements in accordance with Articles 107 or 108 as applicable;

(c) governance, supervision and enforcement aspects of the EUSA certification of space activities;

(ca) substantive, governance, supervision and enforcement provisions regarding certain provision of space-based data within the Union; and

(d) establishment of capacity-building measures.

Article 2

Scope

1. This Regulation applies to space operators and to space-based data providers.

3. This Regulation does not apply to:

(-a) space activities beyond the graveyard orbit;

(a) space objects, including the space-based data and services they provide, exclusively used for defence or national security purposes, irrespective of which space operator carries out the space activities;

(b) space objects that are temporarily used for the conduct of operations related to defence or national security, for the duration of those operations;

(ba) provision of space-based data to national security authorities;

(c) the authorisation or management of radio spectrum governed by Decision 676/2002/EU, Directive (EU) 2018/1972 and Decision No 243/2012/EU;

(d) assets launched before 36 months from the date of entry into force of this Regulation.

Article 3

Free movement

1. Member States shall not restrict, for reasons related to safety, resilience and environmental sustainability as covered by this Regulation, the provision of space-based data and space operation services in the Union stemming from space activities registered in the Union repository of space activities (URSA) referred to in Article 24.

2. Notwithstanding paragraph 1, a Member State may adopt or maintain provisions imposing stricter requirements than those laid down in this Regulation as regards safety, resilience and environmental sustainability. Those stricter requirements may only be applied by the certifying authority referred to in Article 6(1b). Such stricter requirements shall be:

(a) objectively necessary to safeguard the safety, resilience or environmental sustainability of that space operation service; and

(b) consistent with Member States' obligations laid down in Union law.

3. A Member State shall provide all relevant information regarding any stricter requirements on safety, resilience and environmental sustainability referred to in paragraph 2 through the Information Portal established in accordance with Article 110.

Article 4

National security clause

1. This Regulation shall be without prejudice to the responsibilities of Member States for safeguarding national security and their power to safeguard other essential State functions, including ensuring the territorial integrity of the State.

2. The obligations laid down in this Regulation shall not entail the supply of information the disclosure of which would be contrary to the essential interests of Member States' defence or national security.

3. Without prejudice to Article 346 TFEU, information that is confidential under Union or national rules shall only be exchanged with the Commission or other relevant authorities in accordance with this Regulation, where such exchange is necessary for the application of this Regulation, and its transmission shall preserve the confidentiality of the information and security and commercial interests of the issuing entity.

Article 5

Definitions

For the purposes of this Regulation, the following definitions shall apply:

(-2) ‘service’ means a service normally provided for remuneration, or a service provided by a public authority to others whether or not for remuneration.

(-1) ‘space-based data’ means raw or processed data originally received from a space object in outer space, including but not limited to data of interception, of transmission of a signal generated by a space object;

(-1a) ‘space activities’ means a set of operations involving space objects, conducted by a space operator for the purpose of providing space-based data or space operation services;

(-1b) ‘space operation services’ means any of the following services:

(a) operation, control and disposal of space objects;

(b) provision of launch services;

(d) in-space operations and services (ISOS);

(-1c) ‘space-based data provider’ means any natural or legal person established in the Union or in a third country, including an international organisation, that provides the service of providing space-based data;

(-1d) ‘space operator’ means a public or private entity, including an international organisation, that performs or undertakes to perform space activities, including the following:

(a) operation, control and disposal of a space object (‘spacecraft operator’);

(b) operation, control and monitoring of the launch process of a space object (‘launch operator’);

(d) operation and control of a space object for the purposes of provision of in-space operation and service, including to other space objects (‘ISOS provider’);

(1) ‘space object’ means a human-made object launched, or intended to be launched, to outer space, including a spacecraft or its component parts and the launch vehicle or parts thereof;

(1a) ‘EU Space Act certification’ (‘EUSA certification’) means a certification of compliance of a space activity with the applicable requirements laid down in Title IV;

(1b) ‘national authorisation process’ means the national authorisation process for the carrying out of space activities, which includes both the EUSA certification process and any other authorisation processes required by national law;

(1c) ‘Union-owned assets’ mean Union-owned tangible and intangible assets created or developed under the Union Space Programme referred to in Article 9(1) of Regulation (EU) 2021/696 and under the Union Secure Connectivity Programme referred to in Article 6(1) of Regulation (EU) 2023/588;

(1d) ‘governmental or non-governmental space assets’ means assets other than Union-owned assets, whether publicly or privately owned, operated by a public authority or a private party established in a Member State, including dual use assets placed under civilian control;

(1e) ‘Union space operator’ means a space operator established in the Union, controlled by a natural or legal person that is established in the Union or in a third country, or that carries out a launch from the Union territory;

(1f) ‘third country space operator’ means a space operator established in a third country, except where it qualifies as Union space operator pursuant to paragraph (1e), and which carries out any of the following:

(a) provides space operation services to Union space operators, or in relation to Union-owned assets or to governmental or non-governmental space assets,

(b) acts itself as a space-based data provider, or

(c) provides space operation services to space-based data providers that provide space-based data within the Union;

(1g) ‘control’ means, for the purposes of points (1e), the ability to exercise a decisive influence over a legal entity directly or indirectly through one or more intermediate legal entities;

(1h) ‘in-space operations and services (ISOS)’ means activities carried out in space (on orbit and in outer space), with a view to provide services on assets in the space segment and which include the performance of tasks such as inspection, rendezvous, docking, repair, refuel, reconfiguration, manufacturing, assembling and disassembling, re-use, recycling, removal and transport of operational, non-operational and defective objects (space debris) in space, with a servicer spacecraft with a high degree of autonomy, including platforms or larger structures;

(1i) ‘Graveyard orbit’ means an orbit which is about 300 km or more above a Geostationary Earth Orbit (GEO) or Geo Synchronous Orbit (GSO) into which spent upper stages or satellites are injected to reduce the creation of debris in GEO or GSO;

(2) ‘spacecraft’ means a space object designed to perform a specific function or space mission, such as providing services of communications, navigation or observation, or providing in-space operations and services, including a satellite, the launch vehicle upper stages, or the re-entry vehicle;

(3) ‘constellation’ means a group of space objects consisting of two or more operational spacecraft working together for a common space mission, subject to an orbital deployment plan;

(3a) ‘national qualified technical body’ or ‘national QTB’ means a technical body established in a Member State which performs technical assessment in relation to matters of safety, resilience and environmental sustainability covered by this Regulation and which has been notified to the Commission in accordance with this Regulation;

(3b) ‘technical assessment’ means the process demonstrating that space operators fulfil the technical requirements laid down in this Regulation;

(8) ‘space mission’ means a space activity designed to meet pre-defined objectives to be achieved by one or more space objects;

(8a) ‘launch vehicle’ means a system, part of the space segment, that is designed to transport one or more space objects into outer space;

(8b) ‘collision avoidance’ means the activities needed to avoid or to reduce the risk of collision in outer space;

(8c) ‘launch service’ means a service intended to place a space object in orbit;

(24) ‘collision avoidance provider’ (‘CA provider’) means a provider of collision avoidance services, established in the Union or in a third country, including the Union Collision Avoidance entity (‘Union CA entity’);

(24a) ‘incident’ means any of the following:

(a) an incident as defined in Article 6, point (6), of Directive (EU) 2022/2555, or

(b) an event compromising the physical security of the assets of space infrastructure and of space operators;

(24b) ‘standard’ means a standard as defined in Article 2, point (1), of Regulation (EU) No 1025/2012;

(33) ‘high interest event’ means close approaches with a high level of risk, potentially requiring collision avoidance manoeuvres to be performed by a space operator;

(33a) ‘turnover’ means the amount derived by an undertaking calculated in accordance with Article 5(1) of Council Regulation (EC) No 139/2004;

(39) ‘re-entry’ means the return of a space object into the Earth’s atmosphere;

(39a) ‘telemetry’ means information sent from the space segment to the ground segment and relayed to the mission control centre;

(39b) ‘launch vehicle orbital stage’ means a complete element of a launch vehicle that is designed to propel a defined thrust during a dedicated phase of the launch vehicle’s operation and achieve orbit;

(40) ‘disposal’ means a set of actions performed by a spacecraft or a launch vehicle orbital stage, with or without support of a servicer spacecraft, with a view to permanently reduce the risk of accidental fragmentation and to achieve long-term clearance of orbits;

(40a) ‘nominal operation’ means the execution of planned tasks or the functioning for which a spacecraft or a launch vehicle orbital stage was designed;

(40b) ‘space debris’ means any space object, including spacecraft or fragments and elements thereof, in Earth’s orbit or re-entering Earth’s atmosphere, that are non-functional or no longer serve any specific purpose, including parts of rockets or artificial satellites, or inactive artificial satellites;

(40c) ‘ground segment’ means the segment of space infrastructure located on Earth, situated within or outside the territory of the Union, encompassing the ground-based infrastructure referred to in the Annex to Directive (EU) 2022/2557, as well as ground stations, terminals, terrestrial-based equipment needed to communicate with space objects and supporting the carrying out of space activities, mission control centres and other ground control centres, generic ground infrastructure, ground networks, auxiliary facilities, such as the spacecraft assembly testing and integration facilities, launchpad and related infrastructure needed for carrying out launch activities;

(40d) ‘space segment’ means the segment of space infrastructure located in outer space, including space objects, space stations, space probes, space transportation systems and onboarded hardware and software in the information systems and other onboarded material or equipment;

(41) ‘disposal phase’ means the interval between the end of the space mission of a spacecraft or launch vehicle orbital stage and its end of life;

(42) ‘end of life’ means the instant when a spacecraft or a launch vehicle orbital stage is permanently turned off, as it completes its disposal phase, re-enters the Earth’s atmosphere, or can no longer be controlled by a space operator;

(44) ‘passivation’ means the act of permanently depleting, irreversibly deactivating, or making safe all on-board sources of stored energy capable of causing an accidental fragmentation;

(44a) ‘space infrastructure’ means any asset or set of assets, systems and sub-systems or parts thereof, used to carry out space activities, through the interaction and operation of the ground, space and link segments;

(44b) ‘resilience’ means the ability to prevent, protect against, respond and resist, mitigate, absorb, accommodate, and recover from an incident;

(46) ‘network and information system’ means the network and information system as defined in Article 6, point (1), of Directive (EU) 2022/2555;

(47) ‘security of network and information systems’ means security of network and information systems as defined in Article 6, point (2), of Directive (EU) 2022/2555;

(47a) ‘research and education institution’ means an organisation having as its primary goal to conduct research and education activities or experimental development, whether or not exploiting the results of that research for commercial purposes;

(47b) ‘small and medium-sized enterprises’ (‘SMEs’) means small and medium-sized enterprises as defined in Article 2 of the Annex to Commission Recommendation 2003/361/EC;

(47c) 'small and microenterprises' means a small or microenterprise as defined in Article 2 of the Annex to Commission Recommendation 2003/361/EC;

(47d) ‘small mid-cap enterprises’ means enterprises as defined in Article 2 of the Annex to Commission Recommendation C(2025) 3500;

(60) ‘environmental sustainability’ means the ability to preserve and protect the natural Earth and space environment over time, through appropriate practices and policies meeting present needs and without compromising the availability of resources in the future;

(60a) ‘aggregated dataset’ means a life cycle inventory of multiple unit processes or life cycle stages, for which inputs and outputs are provided only at the aggregated level, horizontally or vertically;

(61) ‘disaggregated dataset’ means the breakdown of an aggregated dataset into smaller horizontal or vertical unit processed datasets;

(62) ‘derived dataset’ means a dataset obtained by combining, through mathematical operations, two or more datasets or by combining at least one dataset with substantial additional information or other datasets;

(71) ‘common specification’ means a set of technical specifications as defined in Article 2, point (4) of Regulation (EU) No 1025/2012 providing means to comply with certain requirements established under this Regulation;

(75) ‘critical design review’ means the stage in the engineering, manufacturing and development process, which determines that the systems and subsystems design and configuration satisfy all specified requirements of the space mission, in terms of performance, compatibility, product specifications, assessment of risks, preliminary test planning, adequacy of preliminary operation and provision of supporting documents, enabling to proceed to system implementation and integration.

Title II

EUSA CERTIFICATION AND EUSA REGISTRATION FOR SPACE ACTIVITIES

Chapter I

EUSA CERTIFICATION FOR SPACE ACTIVITIES BY UNION SPACE OPERATORS

Article 6

EUSA Certification for carrying out space activities

1. A Union space operator may only provide a space operation service within the Union where it possesses valid EUSA certification, as referred to in paragraph 1b. A Union spacecraft operator may only use a launch service or an ISOS service that is entered in URSA.

1b. The EUSA certification to carry out space operation services referred to in paragraph 1 shall be issued by the following certifying authorities:

(a) as regards launch services, by the national competent authority of the Member State from whose territory the launch vehicle is launched, as part of the national authorisation process; and

(b) as regards the operation, control and disposal of a spacecraft:

(i) the national competent authority of the Member State in which the applicant has its main place of establishment, as part of the national authorisation process, save where point (ii) applies; or;

(ii) the Commission as regards Union-owned assets.

1c. Outside of the scope of this Regulation, there may be more than one Member State which choose to exercise their jurisdiction over a space operation service, for instance based on the territory, the nationality or the facility used for the service. Any such exercise of jurisdiction shall respect Article 3(1) for those aspects pertaining to the safety, resilience and environmental sustainability under this Regulation covered by the EUSA certification issued by the certifying authority responsible under paragraph 1b. Accordingly, any such exercise of jurisdiction shall not call into question a certification issued by the certifying authorities responsible under paragraph 1b.

Article 7

EUSA certification process

1. A Union space operator may apply for EUSA certification where:

(a) it intends to provide space operation services within the Union; or

(b) any person intends to provide, in accordance with Article 23a, space-based data generated by the operator's space activities.

2. The application for EUSA certification for a space activity shall contain the following:

(a) all necessary documentation and supporting evidence to demonstrate compliance with the applicable EUSA requirements as follows:

(i) for launch operators, Title IV, Chapter I, Section 1, and Title IV, Chapter II to IVa;

(ii) for spacecraft operators, Title IV, Chapter I, Section 2, and Title IV, Chapter II to IVa;

(b) information on the status of the entry in URSA of other space services used by the applicant for the space activity subject to the application, such as launch or ISOS services;

(ba) for spacecraft operators, the mission duration;

(c) for constellations, all necessary documentation and technical evidence necessary to demonstrate compliance with Article 9(1);

(d) where the Member State has designated more than one qualified technical body (QTB) under Articles 8(1) and 34(8), the QTB chosen by the applicant.

2a. The Commission shall adopt, by means of implementing acts, a template for the application for EUSA certification referred to in paragraph 2. This decision shall be adopted in accordance with the examination procedure referred to in Article 114(2).

2b. Member States shall set out the administrative procedures governing the relationship between the national competent authority and the QTBs for the EUSA certification process.

2c. Where an application for EUSA certification is incomplete, or where further clarification is necessary, the deadline referred to in paragraph 6 shall be suspended until that additional information is received.

5. The QTB shall assess the fulfilment of the requirements laid down in Title IV, as applicable. The QTB shall issue an opinion to the certifying authority as regards the compliance of the planned space activities with the requirements laid down in Title IV, as applicable.

5a. Where the certifying authority is the Commission, the Union space operator of Union-owned assets shall submit the application to the Commission, which shall transmit it to the Agency without delay. The Agency shall assess the application for EUSA certification in accordance with Article 43 and, within 30 days, shall notify the applicant of the outcome of its preliminary assessment. The Union space operator of Union-owned assets shall be able to submit a reasoned statement and to provide additional explanation or evidence. No later than five months of having confirmed that the file is complete, the Agency shall issue a reasoned opinion proposing to the Commission to issue or refuse an EUSA certification.

6. No later than 12 months from the date of receipt of the application, and no later than six months in the case of mission extension referred to in Article 71, the certifying authority, taking into account the opinions issued by the QTBs, shall issue the EUSA certification or reject the application and shall notify the applicant thereof. Where the certifying authority is the Commission, that certification or rejection shall take the form of a decision.

6a. Where a certifying authority issues a EUSA certification pursuant to paragraph 6 of this Article, it shall transmit the information referred to in Article 24(1a) to the Agency in order to enter in URSA the relevant space activities and issue the e-certificate.

6b. A Union space operator shall immediately report to the certifying authority any change in its situation that may require a modification of its EUSA certification, including the use of ISOS space services.

6c. EUSA certifications may be suspended or withdrawn in accordance with Article 30(4a), points (db) or (dc), and Article 55(1), point (d).

Article 7a

Suspension or withdrawal of EUSA certification for Union-owned assets

1. The Agency shall make a proposal to the Commission to suspend or withdraw the EUSA certification of a space activity where, based on documented evidence, the Agency assesses that the Union space operator no longer complies with one or several applicable requirements in this Regulation and is not able to apply the necessary remedies to ensure the continuous compliance thereof. That proposal shall include an estimation of the time necessary for the adaptation of relevant contracts.

2. Before submitting the proposal to the Commission for suspension or withdrawal, the Agency shall conduct a dialogue with the Union space operator concerned, on the alleged reasons, context, scope and gravity of the non-compliance, and on the potential remedies and deadlines necessary for that Union space operator to ensure compliance, with due consideration for any need for technical adaptation.

During that dialogue, the Union space operator concerned shall have the opportunity to submit observations regarding the grounds on which the Agency intends to adopt its proposal, to provide explanations and submit any relevant documentation and evidence in support of its explanations, including any technical analysis.

3. No later than 2 months from the receipt of the proposal referred to in paragraph 1, the Commission shall take a decision to suspend, until compliance is restored, or withdraw the EUSA certification. The date of entry into force shall be indicated in the decision and shall not exceed 16 months from the date of adoption of the withdrawal decision.

5. From the receipt of the proposal referred to in paragraph 1, the Commission shall, without delay, inform the national competent authorities of the forthcoming decision.

The Agency shall update the URSA and e-certificate accordingly and shall publish on its website a summary of the information regarding a suspension or withdrawal.

6. The Agency shall make a proposal to the Commission to end the suspension of the EUSA certification of a space activity of a Union space operator where, based on documented evidence, the Agency establishes that that Union space operator complies with the applicable requirements under this Regulation. The Commission shall take a decision ending the suspension and indicating the date of reinstatement.

The Agency shall update the URSA and e-certificate and shall publish the decision on its website.

Article 8

Qualified technical bodies

1. Member States shall designate one or more of the following as QTB to carry out technical assessments:

(a) national QTB, which shall have legal personality unless it is part of the national competent authority;

(b) international organisations with specific technical expertise in matters covered by this Regulation, such as the European Space Agency, subject to the conclusion of an international agreement in accordance with Article 107 or 108; or

(c) the Agency, through the configurations of the Compliance Board referred to in Article 44(1);

(ca) a QTB from another Member State, subject to the agreement of that Member State.

4. Member States shall notify to the Commission their choice pursuant to paragraph 1 and any changes thereof.

4a. The national competent authority may delegate technical supervisory powers referred to in Articles 29 and 30 to the appropriate QTBs.

4b. In the case of the Commission, the Agency is designated as the QTB. The Commission may delegate technical supervisory powers referred to in Article 48(1) to the Agency.

Article 9

EUSA certification for constellations

1. Space activities involving constellations may be EUSA certified through one single application, provided that they comply with the following criteria, in addition to those set out in Article 7(2), points (a), (b), (ba) and (d):

(a) all satellites planned to be launched collectively fulfil the same mission requirements and share similar platform design;

(aa) all satellites of the constellation comply with the requirements laid down in Section 2 of Chapter I, Chapter II and Chapter III of Title IV;

(b) the launch of all satellites for the space mission is planned to be carried with URSA-registered launch service activities.

2. Where a Union space operator intends to carry out a space mission that entails the operation of a satellite constellation, it shall submit to the certifying authority one single application, in accordance with Article 7, in respect of all satellites that are part of the constellation.

2a. In order to assess compliance with the criterion set out in paragraph 1, point (aa), the certifying authority shall certify a single satellite to be launched under the relevant space mission.

Where the certifying authority is satisfied that the criteria laid down in Article 7(2), points (a), (b), (ba) and (d), are fulfilled, the EUSA certification it issues pursuant to Article 6(1b) and Article 7(6) shall cover the entire satellite constellation (‘single certification’).

2b. Union space operators shall notify the relevant certifying authority of any change in the parameters of a satellite that may affect its compliance with Section 2 of Chapter I, Chapter II and Chapter III of Title IV, as well as before launching a new generation of satellites or introducing updated satellite designs within a EUSA-certified constellation, including for the replacement of failed satellites. Upon receiving such a notification, the certifying authority shall review the single EUSA certification and, if satisfied that the Article 7(2) criteria are still fulfilled, shall confirm its validity. This review shall not unduly delay the deployment of updated or replacement satellites where compliance is maintained. No new satellite may be launched before the validity of the single EUSA certification is confirmed.

Chapter III
PROVISION OF SPACE OPERATION SERVICES BY SPACE OPERATORS FROM THIRD COUNTRIES AND INTERNATIONAL ORGANISATIONS

Article 14

Provision of space operation services by third country space operators and international organisations

1. A third country space operator may only provide a space operation service to Union space operators if the space activities necessary for that service are registered in URSA in accordance with Article 17.

2. International organisations may only provide space operation services in the Union in accordance with an agreement referred to in Article 107 or 108, as applicable. The space activities necessary for that service must be entered in URSA and shall carry the e-certificate referred to in Article 25.

3. Paragraph 2 of this Article shall not apply where an international organisation carries out technical assessment activities as a QTB pursuant to Article 8(1), point (b).

Article 15

Requirements applicable to third country space operators

1. The space activities of third country spacecraft operators shall be subject to the requirements applicable to the Union spacecraft operators laid down in Articles 61a, 63, 63a, 67, 70, 71, 72, 73, 75, 75a, 96 to 100 and 101a when providing space operation services or space-based data in the Union.

In addition, third country spacecraft operators providing space operation services or space-based data in the Union shall:

(a) use a CA provider;

(b) ensure that the CA provider referred to in point (a) has the technical means to assess collision avoidance and complies with the requirements laid down in point 1 of Annex IV;

(c) notify to the Agency, in the application for EUSA certification, the name of the collision avoidance space services provider and the information on the technical means referred to in point (b).

2. Third country launch services shall, for each type of launch vehicle, and not per launch, be subject to the requirements applicable to the Union launch services laid down in Articles 61, 75, 75a and 96 to 100.

3. When providing space services to Union space operators, third country ISOS providers shall be subject to the requirements applicable to the Union ISOS providers referred to in Article 101(1).

Article 16a

Legal representative in the Union

1. Third country space operators providing space operation services in the Union, or whose space activities are entered in URSA in order to enable the provision of space-based data in accordance with Article 23a, shall designate in writing one or more natural or legal persons in one of the Member States to act as their legal representative in the Union.

2. The legal representative in the Union shall be mandated by the third country space operator to be addressed in addition to, or instead of, the third country space operator, by the national competent authorities, the Commission, on all issues related to compliance with this Regulation. It shall have all necessary powers and resources to guarantee an efficient and timely cooperation with such authorities.

Article 17

EUSA registration process for third country space operators

-1. A third country space operator may apply for EUSA registration where it intends to:

(a) provide space operation services within the Union; or

(b) enable any legal or natural person to provide space-based data generated by its space activities within the Union, in accordance with Article 23a.

-1a. To obtain EUSA registration of its space activities, a third country space operator providing space operation services or space-based data in the Union shall submit an application to the Commission, which shall forward the application to the Agency for technical assessment without delay. That application shall contain all the evidence needed to demonstrate compliance with the requirements set out in Article 15. The Agency shall assess the application in accordance with Article 43 and, within 30 days, shall notify the third country space operator of the outcome of its preliminary assessment. The third country space operator shall be able to submit a reasoned statement and to provide additional explanation or evidence. No later than five months of having confirmed that the file is complete, the Agency shall issue a reasoned opinion proposing to the Commission to accept or refuse EUSA registration.

6. No later than 12 months from the date of receipt of the application, and no later than six months in the case of mission extension referred to in Article 71, the Commission shall take a decision taking into account the opinion of the Agency and shall notify that decision to the third country space operator and to the Agency. The Agency shall enter in URSA the relevant space activities of the third country space operator and issue the e-certificate.

6a. The third country space operator shall immediately report to the Commission any change in its situation that may require a modification of its EUSA registration.

6b. The process for suspension or withdrawal of EUSA registration for third country space operators shall follow the process referred to in Article 7a for suspension or withdrawal of EUSA certification for Union-owned assets.

8. Where a Member State has lodged an application for derogation in accordance with Article 19, the Agency shall enter in URSA the third country launch activity after the Commission has adopted its decision in accordance with Article 19(5), first subparagraph.

8a. The Commission shall adopt, by means of implementing acts, a template for the application for EUSA registration referred to in paragraph -1. This decision shall be adopted in accordance with the examination procedure referred to in Article 114(2).

Article 17a

Requirements applicable to third country space operators from equivalent or mutually recognised jurisdictions

1. Third country space operators that are established in a third country for which the Commission has adopted an equivalence decision, in accordance with Article 105, or concluded an international agreement in accordance with Article 106, shall be deemed to comply with the requirements laid down in Article 15 when they are in possession of a national authorisation from that third country.

2. To enter space activities in URSA, a third country space operator from an equivalent jurisdiction, in accordance with Article 105, or a mutually recognised jurisdiction, in accordance with Article 106, shall submit a request to the Agency for that purpose, including evidence that the space activities are authorised in that third country. Upon receipt, the Agency shall enter in URSA the relevant space activities and shall issue an e-certificate.

3. The Agency shall suspend or withdraw the entry in URSA of a space activity of a third country space operator where the relevant third country supervisory authority has suspended or withdrawn the authorisation granted to that space operator.

4. The Commission shall adopt, by means of implementing acts, a template for the request for entry in URSA referred to in paragraph 2. This decision shall be adopted in accordance with the examination procedure referred to in Article 114(2).

Article 18

EUSA registration of international organisations

1. An international organisation that is party to an agreement referred to in Article 107 and 108 may apply for EUSA registration, in accordance with that agreement, where:

   (a) it intends to provide space operation services within the Union; or

   (b) any person intends to provide, in accordance with Article 23a, space-based data generated by the organisation's space activities.

Article 19

Derogations for launch services

1. A national competent authority may request the Commission to adopt a decision allowing the Agency to enter in URSA a third country launch service which does not comply with one or more of the requirements referred to in Article 15(2), if the conditions referred to in paragraph 2 of this Article are met.

   For Union-owned assets, the Commission shall, on its own initiative, assess whether the conditions referred to in paragraph 2 are met, prepare an application in accordance with paragraph 3 and follow the procedure referred to in paragraphs 4 to 6.

2. A Member State shall demonstrate that the launch services provided by a third country launch operator not entered in URSA enable the access to space, when no realistic alternative exists in the Union in terms of both timely availability and technological constraint.

3. The national competent authority shall submit to the Commission an application which shall:

   (a) identify the third country launch service for which a derogation is requested;

   (b) specify all the requirements laid down in Article 15(2), for which a derogation is requested;

(c) outline the necessary technical details regarding the space activity concerned;

(d) provide the necessary evidence to demonstrate that the other requirements laid down in Article 15(2) are met.

(da) provide justification that the conditions under paragraph 2 are met.

The application regarding a third country launch service shall describe, where possible, alternative mitigating measures taken by the third country launch service to ensure that the objectives pursued by the requirements referred to in Article 15(2) for which a derogation is requested are achieved or are at least partially achieved.

4. The Commission shall transmit the application to the Agency without delay. Within one month from the receipt of the application, the Agency shall issue a technical assessment on the compliance with the requirements laid down in Article 15(2) that are not subject to the application for derogation.

5. Within 2 months of the receipt of the technical assessment issued by the Agency, the Commission shall adopt a decision on the requested derogation based on the fulfilment of the conditions referred to in paragraph 2 and taking into account that technical assessment.

That decision shall be adopted as an implementing act in accordance with the examination procedure referred to in Article 114(2).

6. When the Commission grants a derogation, the Agency shall enter that launch activity in URSA and specify that it is subject to a derogation.

Article 21

Emergency clause

1. Where a natural or man-made disaster, or a significant incident causes disruption affecting one or more Member States or the Union institutions, the affected Member States or Union institutions may use space-based data or space operation services stemming from activities not entered in URSA to address the situation.

1a. Without prejudice to reporting obligations under civil protection legislation, the affected Member States or Union institutions shall inform the Commission as soon as possible on the use of non-URSA space activities and may request such use for a specific duration. The Commission shall assess the proportionality and effectiveness of such use and duration.

1b. Based on this assessment, the Commission may decide to confirm the proportionality and effectiveness of the use of space-based data or space operation services based on space activities not registered in URSA, as well as its duration where applicable.

Chapter IV

PROVISION OF SPACE-BASED DATA AND SPACE OPERATION SERVICES IN THE UNION AND E-CERTIFICATE

Article 23a

Provision of space-based data in the Union

1. Space-based data providers may only provide space-based data within the Union where:

   (a) that data was generated by a space object whose space activities are entered in URSA and carry the e-certificate referred to in Article 25; or

   (b) that data was generated by a space object whose space activities are excluded from the scope of this Regulation under Article 2(3).

2. For the purposes of this Article, space-based data is provided where the provision of that space-based data is the sole service, or a decisive part of the service, provided by the space-based data provider. In particular, this does not include situations where providing space-based data is an ancillary part of the service provided, or where space-based data is merely one source for the data or other service provided. The provision of space-based data for purely research or educational purposes does not constitute the provision of space-based data.

3. Central government authorities referred to in Annex I of Directive 2014/24/EU[21], as well as Union institutions, bodies and agencies, shall ensure that all space-based data used to provide the services that they procure were generated by a space object whose space activities are entered in URSA and that those space-based data carry an e-certificate as referred to in Article 25.

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[21] Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC OJ L 94, 28.3.2014 ELI: http://data.europa.eu/eli/dir/2014/24/oj

Article 24

Union Repository of Space Activities

1. The Agency shall set up and manage a Union Repository of Space Activities (URSA). The following space activities shall be entered in URSA:

   (a) space activities of Union space operators for which national competent authorities have taken a decision of EUSA certification in accordance with Article 6;

   (b) space activities of Union-owned assets operated by Union space operators for which the Commission has taken a decision of EUSA certification in accordance with Article 6;

   (c) space activities of third country space operators for which the Commission has taken a decision of EUSA registration pursuant to Article 17 or Article 17a;

   (d) space activities of international organisations that are party to an agreement under Article 107 or 108 and are registered in accordance with Article 18.

1a. URSA shall contain the following information allowing the identification of space activities and related space objects:

   (a) the type of space activities, the related space mission and its planned duration;

   (b) the space objects used to carry out those space activities;

   (c) the space operator that conducts those space activities;

   (d) the contact details of the space operator that conducts those space activities;

   (e) the legal representative referred to in Article 16a, where applicable;

   (f) the relevant certifying authority or, as applicable, the third country supervisory authority;

2. The information contained in URSA under paragraph 1a, points (a) to (c) and (f), shall be publicly accessible.

Article 25

Electronic certificate

1. The Agency shall issue and manage an electronic certificate (‘e-certificate’) for each space activity entered in URSA pursuant to Article 24(1).

2. The entry in URSA and possession of a valid e-certificate shall attest conformity with the requirements laid down in this Regulation, in accordance with Articles 7, 7a, 17 and 17a.

5. The Commission shall, in accordance with Article 10(1) of Regulation (EU) No 1025/2012, request one or more European standardisation organisations to draft standards in relation to the following essential requirements for the purpose of demonstrating compliance with paragraph 2 of this Article:

   (a) the e-certificate shall determine that a given space-based data is generated through the use of a clearly identified space mission and space object;

   (b) for observation data, the e-certificate shall allow the tracking of the flow of space-based data, from its generation by a given space object, to incorporation into the space operation service making use of that space-based data;

   (c) the e-certificate shall be based on algorithms to ascertain the compliance of the space activity related to the space-based data concerned across its incorporation into subsequent services.

   The Commission shall follow the procedure on standards laid down in Article 112a.

Title III

GOVERNANCE ASPECTS

Chapter I

GOVERNANCE IN THE MEMBER STATES

SECTION 1

NATIONAL COMPETENT AUTHORITIES

Article 28

Designation or establishment of national competent authorities

1. Each Member State shall designate or establish one or more public authorities to act as national competent authority, responsible for the EUSA certification, supervision and any related market surveillance activity under this Regulation. The national competent authority shall also conduct market surveillance to ensure compliance with Article 23a by persons established on its territory.

1a. Where Member States designate or establish more than one national competent authority, they shall determine those authorities' respective tasks under this Regulation and designate one of them as a single point of contact for cross-border cooperation between national competent authorities as well as with the Commission and the Agency.

2. Member States shall ensure that the national competent authorities have the independence, expertise, financial and human resources, operational capacity and powers necessary for the exercise of their functions and duties laid down in this Regulation.

2a. Member States shall ensure that, where the same authorities are involved in space activities in or relating to national space programmes and in the exercise of functions under this Regulation, appropriate arrangements are in place to prevent conflicts of interest and to ensure functional separation, where necessary.

Article 29

Supervisory tasks regarding Union space activities

1. National competent authorities shall supervise space activities carried out by Union space operators and conduct market surveillance as required by this Regulation and shall in particular:

(a) monitor and enforce the application of the requirements laid down in this Regulation;

(d) cooperate with the national competent authorities of other Member States, to ensure consistency across the Union in the application of this Regulation;

(f) carry out audits and conduct investigations related to the requirements laid down in this Regulation;

1a. When carrying out supervisory activities in respect to Title IV, Chapter II, of this Regulation, the national competent authorities shall ensure coordination with the competent authorities designated pursuant to Article 8(1) of Directive 2022/2555 responsible for supervisory tasks of that Directive.

Member States may empower national competent authorities to delegate relevant supervisory activities and tasks as regards Title IV, Chapter II, of this Regulation, to the competent authorities established pursuant to Article 8(1) of Directive 2022/2555.

The supervisory tasks pursuant to Directive 2022/2555 referred to in the first and second subparagraphs shall be exercised in a manner that fully preserves the integrity of the supervision referred to in Article 30(1) of this Regulation.

Article 30

Supervisory powers

1. National competent authorities, or other public authorities, as applicable, shall have, in accordance with national law, all supervisory, investigatory and enforcement powers that are necessary for the exercise of their functions and tasks pursuant to this Regulation.

3. National competent authorities or other public authorities, as applicable, shall have, in accordance with national law, at least the following investigative powers as regards Union space operators or space-based data providers:

(-a) to request proof of implementation of the requirements laid down in this Regulation and the underlying evidence;

(a) to require the provision of all data and documents necessary for the performance of the national competent authority's tasks;

(b) to carry out on-site and off-site inspections, and for that purpose to enter premises, land and means of transport, in order to access documents and other data in any form;

4a. National competent authorities, or other public authorities, as applicable, shall have, in accordance with national law, at least the following enforcement powers:

(a) to issue warnings about infringements of the requirement of this Regulation by Union space operators or space-based data providers;

(b) to order Union space operators or space-based data providers to cease conduct which infringes this Regulation;

(c) to order Union space operators or space-based data providers to take appropriate action to bring an instance of non-compliance to an end;

(d) to take appropriate measures where Union space operators or space-based data providers fail to bring non-compliance to an end;

(da) to impose, or request a relevant administrative or judicial body to impose, an administrative fine or penalty against Union space operators or space-based data providers;

(db) to temporarily suspend, or request a relevant administrative or judicial body to order the temporary suspension of an EUSA certification of a space activity, in part or in full;

(dc) to withdraw, or request a relevant administrative or judicial body to order the withdrawal of, an EUSA certification to carry out space activities.

7a. The enforcement measures shall be effective, dissuasive and proportionate, considering all circumstances of each individual case.

7b. Member States shall ensure that national competent authorities execute their powers in full compliance with fundamental rights.

Article 31

Penalties

1. Member States shall lay down rules on penalties for infringements of this Regulation. Those penalties shall be effective, proportionate and dissuasive. Member States shall without delay notify the Commission of those provisions and any subsequent amendment affecting them.

SECTION 2

NATIONAL QUALIFIED TECHNICAL BODIES

Article 32

Public authorities and national accreditation bodies responsible for designation of national QTBs

1. Member States making use of the possibility referred to in Article 8(1), point (a) shall nominate or establish a public authority responsible for assessing and monitoring national QTBs for space activities. Those public authorities shall:

(a) be organised and operate in a way that no conflict of interest arises with the technical assessment activities carried out by the national QTBs for space activities;

(b) carry out with objectivity and impartiality the tasks of assessing and monitoring the national QTBs for space activities, including any subcontracted activity;

(c) have an adequate number of personnel for the performance of its tasks.

2. By way of derogation from paragraph 1, Member States may entrust the tasks of assessment and monitoring to the national accreditation body within the meaning of, and in accordance with, Regulation (EC) No 765/2008.

2a. Member States shall notify the Commission which public authorities or national accreditation bodies have been nominated or established. The Commission shall make that information publicly available.

Article 32a

Requirements for national QTBs

1. National QTBs shall be established in a Member State and shall meet the requirements laid down in Annex IX.

2. Where technical assessment activities are carried out in relation to environmental sustainability referred to in Title IV, Chapter III, a national QTB shall, in addition to the obligation referred to in paragraph 1 of this Article, meet the requirements and shall follow the verification process, as laid down in Section 8 of the Commission Recommendation (EU) 2021/2279[22].

4. The following in particular may be national QTBs:

(a) a part of the administrative structure of the national competent authority referred to in Article 28(1);

[22] Commission Recommendation (EU) 2021/2279 of 15 December 2021 on the use of the Environmental Footprint methods to measure and communicate the life cycle environmental performance of products and organisations (OJ L 471, 30.12.2021, ELI: http://data.europa.eu/eli/reco/2021/2279/oj).

(b) a national space agency;

(c) as regards matters covered by Title IV, Chapter II, of this Regulation, the national competent authorities designated in Article 8 of Directive (EU) 2022/2555.

Article 34

Process for becoming a national QTB

1. An entity intending to carry out technical assessments under this Regulation may apply to the authority referred to in Article 32 for designation as a national QTB.

5. The application shall indicate the matters covered by Title IV in respect of which designation is requested and shall include an accreditation certificate, where one exists, issued by a national accreditation body attesting that the national QTB fulfils the requirements laid down in Article 32a or, failing that, all the necessary documentary evidence.

7. For applicants designated under any other Union harmonisation legislation, all documents and certificates linked to those designations may be used to support their designation procedure under this Regulation, as appropriate.

8. Where the requirements laid down in Article 32a are fulfilled, the public authority referred to in Article 32 shall designate the applicant as a national QTB. The designation shall be notified to the technical body, the national competent authorities of the Member State concerned where applicable and, in accordance with Article 34a(1), the Commission.

9. A national QTB shall update the documentation referred to in paragraphs 5 and 7 of this Article, whenever relevant changes occur, to enable the relevant public authority to monitor the continuous compliance of that QTB with the requirements laid down in Article 32a.

Article 34a

Notification process

1. For the purpose of notifying designated national QTBs to the Commission, Member States shall use the New Approach Notified and Designated Organisations (NANDO) information management system.

3. The notification referred to in paragraph 1 shall include the information necessary to identify the national QTB, the matters covered by Title IV for which it has been designated, and the evidence of its competence.

4. Where a notification is not based on the accreditation certificate referred to in Article 34(5), Member States shall provide to the Commission and the other Member States evidence attesting the competence of the national QTB and shall ensure that it continues to meet the requirements laid down in Article 32a.

5. A body may perform activities as QTB only if the Commission or a Member State have not raised objections within two months from the date of the notification, where it includes the accreditation certificate referred to in Article 34(5), or within three months from the date of notification, where it includes other documentary evidence.

Article 36

Identification numbers

The Commission shall assign an identification number to each national QTB and shall make publicly available the list of national QTBs in the Union, their identification numbers and the matters covered by Title IV for which they have been notified in accordance with Article 34a.

Article 37

Changes to notification

1. The authority referred to in Article 32 shall restrict, suspend or withdraw, as appropriate, the notification of a national QTB which no longer meets the requirements laid down in Article 32a or no longer fulfils its obligations. That authority shall inform the Commission and the other Member States as soon as restriction, suspension or withdrawal occurs.

2. In the event of a restriction, suspension or withdrawal of the notification, or where a national QTB established on the territory of a Member State has ceased its activity, that Member State shall take appropriate measures to ensure the continuity of the relevant technical assessment activities.

Article 39

Coordination of QTBs

The Commission shall enable appropriate coordination of QTBs across the Union, including by setting-up sectoral groups.

Chapter II

GOVERNANCE AT UNION LEVEL

SECTION 1

TASKS AND STRUCTURES OF THE AGENCY

Article 40

Tasks of the Agency

1. The Agency shall have the following tasks in relation to this Regulation:

(a) to carry out the technical assessments in accordance with Articles 7(5a) and 7a for the Commission, when it is designated as QTB under Article 8(4b);

(b) to carry out the technical assessments in accordance with Articles 7 and 7a, when it is designated as QTB under Article 8(1), point (c);

(c) to carry out the technical assessments of third country space operators, in accordance with Article 17;

(d) to set-up URSA in accordance with Article 24, to manage entry in URSA of space activities, including suspension or withdrawal, in accordance with Articles 7(7), 7a, 17(6) and 17a(3), and to issue and manage the relevant e-certificates referred to in Article 25(1);

(da) to set-up and manage the Information Portal referred to in Article 110;

(g) to setup and manage the Union contact list database (‘contact list database’) for high interest event alerts referred to in Article 67, and including the information referred to in Article 15(1), point (c);

(n) upon request by the Commission, to provide technical support for the establishment, measurement, reporting and analysis of performance indicators under this Regulation;

(o) to provide technical, scientific and administrative support to the Commission, for the implementation of this Regulation;

(p) to cooperate with international organisations or supervisory authorities of third countries for administrative purposes;

Article 43

Compliance Board

1. The Compliance Board is established within the Agency. It shall be responsible for carrying out technical assessments regarding the fulfilment of the applicable requirements and adopting reasoned opinions thereon, in respect of:

(a) the Commission for Union-owned assets, as referred to in Article 8(4b) for compliance requirements laid down in Title IV;

(b) Member States that have designated the Agency pursuant to Article 8(1), point (c) for compliance requirements laid down in Title IV;

(c) the Commission for third country space operators, in accordance with Article 15.

Before adopting a reasoned opinion, the applicant shall have the opportunity to be heard on the grounds on which the Compliance Board intends to adopt its reasoned opinion.

2. The Compliance Board shall adopt and publish its rules of procedure.

3. The Compliance Board shall determine compliance with the requirements laid down in Title IV in the configurations set out in Article 44(1), except for Union space operators of Union-owned assets where compliance with the requirements laid down in Title IV, Chapters II, of this Regulation shall be determined by the Security Accreditation Board, in accordance with Chapter II of Regulation (EU) 2021/696.

Article 44

Technical configurations of the Compliance Board

1. The Compliance Board shall work in three configurations, as follows:

   (a) the Safety Compliance Technical Board;

   (b) the Resilience Compliance Technical Board;

   (c) the Environmental Sustainability Compliance Technical Board.

2. The Technical Boards referred to in paragraph 1 shall be composed of relevant experts from the Agency, national competent authorities, national QTBs or international organisations, such as ESA. It may be supported by advice from independent experts.

   The Compliance Board shall be supported by a technical secretariat in the Agency.

SECTION 2

POWERS OF THE COMMISSION REGARDING UNION SPACE OPERATORS OF UNION-OWNED ASSETS AND THIRD COUNTRY SPACE OPERATORS

Article 48

Scope and exercise of powers by the Commission

1. The Commission shall exercise the supervision and market surveillance of the following space operators regarding compliance with the requirements laid down in this Regulation, in the manner specified in this section, as follows:

   (a) Union space operators of Union-owned assets following the EUSA certification issued by the Commission in accordance with Article 6;

   (b) third country space operators.

   Additionally, the Commission shall exercise market surveillance of space-based data providers not established in the Union to ensure compliance with Article 23a.

2. For the purposes of carrying out the technical assessments referred to in Article 40(1), point (a), the Commission may entrust to the Agency with the exercice of powers referred to in Articles 49 to 52 where necessary for the performance of those technical assessments.

Article 49

Request for information

1. The Commission may request, by simple request, or require, by a decision, space operators and providers of space-based data referred to in Article 48(1) to provide all information that is necessary for the Commission to carry out its supervisory tasks. That information may include any relevant business documents, audit or incident reports, or information on outsourced activities, where necessary for that purpose.

1a. When sending a simple request for information under paragraph 1, the Commission shall refer to this Article as the legal basis of the request; state the purpose of the request; specify which information is required; set a time limit within which the information is to be provided; indicate that there is no obligation to provide the information but that, in the case of a voluntary reply to the request, the information provided must be correct and not misleading; and indicate the potential fine provided for in Article 55(1), point (c), where the answers to the question are incorrect or misleading.

2. When requiring the provision of information by decision under paragraph 1, the Commission shall refer to this Article as the legal basis of the request; state the purpose of the request; specify which information is required; set a time within which that information is to be provided; indicate the fines applicable, pursuant to Article 55(1), point (c), for supplying incomplete, incorrect or misleading information or explanations; and indicate the right to have the decision reviewed by the Court of Justice of the European Union.

3. The space operators and providers of space-based data referred to in Article 48(1) or their legal representatives shall supply the information required in accordance with paragraph 2 of this Article.

3a. The Commission shall, without delay, send a copy of the simple request or of its decision referred to in paragraph 1 to the national competent authority of the Member State, if any, in whose territory the domicile or main establishment of the legal representative is situated.

Article 50

Power of investigations

1. The Commission may, on its own initiative, upon request by a Member State or upon complaint, conduct investigations of the space operators and providers of space-based data referred to in Article 48(1) about any infringement of this Regulation.

2. The officials of the Commission shall exercise investigation powers upon the production of a written authorisation specifying the subject matter and purpose of the investigation. That authorisation shall also specify the actions to be carried out, as well as the fines provided for in Article 55(1), point (c), where the production of the elements referred to in paragraph 4 of this Article, or the answers to the questions and explanations asked under paragraph 4, point (c), of this Article are not provided, are incorrect or are misleading.

The Commission may entrust other persons from the Compliance Board referred to in Article 44 or auditors with the task to carry out investigation.

4. In the conduct of investigations as referred to in paragraph 1, officials of the Commission shall be empowered to:

(a) examine any records, data, procedure, and other material relevant to the execution of their tasks, irrespective of the medium on which they are stored;

(b) take or obtain certified copies of, or extracts from, such records, data, procedure and other material;

(c) summon and ask any of the persons subject to the investigation, or their representatives, or staff, for oral or written explanations on facts or documents relating to the subject matter and purpose of the inspection, and to record the answers;

5. The space operators and providers of space-based data referred to in Article 48(1) shall submit to investigations initiated on the basis of a decision of the Commission. The decision shall specify the subject matter and purpose of the investigation, the relevant penalties referred to in Article 55(1), and the right to have the decision reviewed by the Court of Justice of the European Union.

Within a reasonable time before the date of the investigation, the Commission shall inform the national competent authority of the Member State where the investigation is to be carried out of the planned investigation of the names of the authorised officials and other authorised persons referred to in paragraph 2, second subparagraph, as applicable.

6. The officials of the national competent authority concerned shall, at the request of the Commission, assist the authorised officials of the Commission and other authorised persons, in carrying out their duties. Officials of the national competent authority concerned may also attend the investigations upon request.

Article 51

On-site inspections in the Union

1. In order to carry out their duties under this Regulation, the Commission may carry out all necessary on-site inspections at any of the business premises, land or property of the space operators and providers of space-based data referred to in Article 48(1) located in the Union. Where the proper conduct and efficiency of the inspection so require in case of suspicion of serious misconduct, the Commission may carry out the on-site inspection without prior notice. Those inspections shall be carried out on the basis of a decision of the Commission services, specifying the subject matter and purpose of the investigation, the relevant penalties referred to in Article 55(1), and the right to have the decision reviewed by the Court of Justice of the European Union. Space operators and providers of space-based data referred to in Article 48(1) shall submit to on-site inspections ordered by decision of the Commission.

1a. The officials of the Commission and other persons authorised to conduct an on-site inspection may enter any of the business premises, land or property located in the Union of the Union space operators which are subject to an investigation decision adopted under Article 50. They shall have all the powers set out in Article 50(4) and the powers to seal any business premises, books or records for the period of, and to the extent necessary for, that inspection.

1b. Article 50(2) shall apply to on-site inspections mutatis mutandis.

4. Within a reasonable time before the date of the inspection, the Commission shall give notice to the national competent authority of the Member State where that inspection is to be carried out. The inspection shall be carried out if the relevant authority has raised no objections.

6. The officials of the national competent authority of the Member State where the inspection is to be carried out and the persons authorised by such national competent authorities shall assist the Commission at its request. The officials of the national competent authorities may also attend the on-site inspections upon request.

7. The Commission may require the national competent authorities to carry out specific investigatory tasks and on-site inspections, as provided for in this Article and in Article 50, on their behalf. To that end, the national competent authorities shall enjoy at least the same powers as those set out in this Article and in Article 50.

7a. Where the officials of the Commission, or other authorised persons accompanying them, find that a person opposes an inspection ordered pursuant to this Article, the national competent authority of the Member State concerned shall afford them the necessary assistance, requesting, where appropriate, the assistance of the police or an equivalent enforcement authority, to enable them to conduct their on-site inspection.

Article 51a

Judicial authorisation and fundamental rights

1. If an on-site inspection provided for in Article 51 requires authorisation by a judicial authority in accordance with national law, the Commission shall apply for such an authorisation. The Commission may also apply for such authorisation as a precautionary measure.

2. Where an authorisation as referred to in paragraph 1 is applied for, the national judicial authority shall verify that the decision of the Commission is authentic and that the coercive measures envisaged are neither arbitrary nor excessive having regard to the subject matter of the investigation or inspection. In its verification of the proportionality of coercive measures, the national judicial authority may ask the Commission for detailed explanations, in particular relating to the grounds the Commission has for suspecting that an infringement of this Regulation has taken place and the seriousness of the suspected infringement and the nature of the involvement of the person subject to the coercive measures. However, the national judicial authority shall not review the necessity of the investigation or inspection or demand that it be provided with the information on the Commission's file. In accordance with the Treaties, the legality of the Commission's decision is subject to review only by the Court of Justice of the European Union.

3. The powers conferred on the Commission under Articles 49 to 51 shall not be used to require the disclosure of information or documents that are subject to legal professional privilege or journalistic material privilege, or whose disclosure would otherwise violate the Charter of Fundamental Rights.

Article 52

On-site inspections outside the Union

1. Where the Commission cannot fulfil the tasks set out in this Regulation by means of interaction with the legal representatives of the third country space operators and providers of space-based data referred to in Article 16a, the Commission may carry out on-site inspections at the business premises, land or property of those third country space operators which are located outside the Union, if the relevant third country authority consents to the inspection.

2. When the Commission acts based on paragraph 1 of this Article, it shall have the powers referred to in Article 49, Article 50(4), points (a), (b) and (c) and Article 51(1a). Article 51(1) shall apply mutatis mutandis.

Article 55

Supervisory measures of the Commission

1. Where the Commission establishes the existence of an infringement of this Regulation, it may, based on a decision, take one or more of the following actions:

   (a) require the concerned space operator or space-based data provider to bring the infringement to an end;

   (b) where necessary, order interim measures addressed to the space operator or space-based data provider to avoid any irreparable damage;

   (c) impose, pursuant to Article 56, a fine or, as applicable, a periodic penalty payment;

   (d) suspend or withdraw the EUSA certification of the concerned Union space operator, or respectively the EUSA registration of the concerned third country space operator;

   (e) issue a public notice indicating the space operatoror space-based data provider responsible for the infringement and the nature of the infringement.

The Commission shall immediately notify its decision to the space operator concerned and, where applicable, to the national competent authority of the Member State where the Union space operator of Union-owned assets is established.

2. When taking the actions referred to in paragraph 1 of this Article, the Commission shall consider the nature and seriousness of the infringement, having regard to the following criteria:

(a) the gravity and duration of the infringement and the permanence of the damages caused by the infringement;

(b) previous infringements perpetrated by that space operator;

(c) the material or non-material damage caused, or which could be caused, by or through the infringement, including financial or economic loss and adverse effects upon other services, as well as any relevant criteria as regards the impact of the infringement, such as the number of users affected or the magnitude of the losses incurred by a third-party as a result of that infringement;

(d) the intent or negligence on the part of the perpetrator of the infringement, based on whether objective factors demonstrate that a person acted deliberately or negligently to commit that infringement;

(e) the measures taken by the space operator or space-based data provider to prevent or mitigate the material or non-material damage referred to in point (c);

(f) the level of cooperation during the investigation procedure, including any obstruction of audits or monitoring activities, following the discovery of the infringement;

(g) the importance of the profits gained, or of the losses avoided, by the natural or legal person responsible for the infringement;

(h) potential systemic consequences that such infringement may entail;

(i) the need for administrative fines to have a deterrent effect.

Article 56

Fines and periodic penalty payments

1. Where the Commission finds that a space operator or space-based data provider has committed an infringement of this Regulation, it may, based on a decision, impose a fine on that person. The Commission may also impose a fine to a space operator which obstructs investigation; fails to comply with a decision adopted under Article 49(1); or provides incorrect or misleading answers or explanations in response to a request or decision as referred to in Article 49(1), an investigation as referred to in Article 50, or an on-site inspection as referred to in Articles 51 and 52.

2. In the case of fines as referred to in paragraph 1:

   (a) the maximum amount of the fine referred to in paragraph 1 shall be twice the amount of the profits that have been gained or twice the amount of losses that have been avoided because of the infringement, where those can be determined, or, where this determination is not possible, 2 % of the total worldwide annual turnover, as defined in the relevant Union law, of a legal person in the preceding financial year;

   (b) when determining the level of the fine to be imposed, the Commission shall take into account the nature and seriousness of the infringement, having regard to the criteria referred to in Article 55(2).

5. The Commission may impose periodic penalty payments to compel space operators to:

   (a) put an end to an infringement of this Regulation;

   (b) submit to an investigation, to comply with a decision adopted under Article 49(1), or to submit to an on-site inspection ordered by a decision taken pursuant to Article 51 or 52; or

   (c) to provide correct or complete answers or explanations in response to a request or decision as referred to in Article 49(1) or an investigation as referred to in Article 50, or an on-site inspection as referred to in Articles 51 and 52.

6. A periodic penalty payment shall be:

(a) effective and proportionate;

(b) imposed for each day of delay; and

(c) imposed for a maximum period of 6 months, following the notification of the decision of the Commission, unless it is determined, in the review of that measure, at the end of the period or 6 months, that the measure has not achieved its purpose.

8. The amounts of the fines and periodic penalty payments shall be allocated to the general budget of the Union.

9. With regard to the imposition of fines and periodic penalty payments in accordance with this Article, the Commission shall adopt delegated acts in accordance with Article 113, to supplement this Regulation, by laying down:

(a) the detailed criteria and methodology for establishing the amounts of the fines and periodic penalty payments;

(b) the detailed rules for the enquiries, associated measures and reporting, as well as the decision-making, including provisions on the rights of defence, access to file, legal representation, confidentiality and temporary provisions; and

(c) the procedures for the collection of the fines and periodic penalty payments.

10. The Court of Justice of the European Union shall have unlimited jurisdiction to review decisions imposing fines or periodic penalty payments imposed pursuant to this Article. It may annul, reduce or increase the amount of a fine or periodic penalty payment imposed.

Article 57

Right to be heard of the persons subject to investigations

1. The Commission, before taking a decision pursuant to Articles 55 or 56, shall give space operators or space-based data providers the opportunity to be heard on the findings and grounds on which the Commission intends to adopt a decision.

   The Commission shall base its decisions only on findings on which the space operators or space-based data providers subject to the proceedings have had an opportunity to comment.

2. The rights of defence of the persons subject to the proceedings shall be fully respected throughout. Those persons shall be entitled to have access to the file held by the Commission, subject to the legitimate interest of other persons in the protection of business secrets or of professional secrecy.

   The right of access to the file shall not extend to confidential information or to internal preparatory documents of the Commission.

Title IV
TECHNICAL RULES

Chapter I
SAFETY OF SPACE ACTIVITIES

SECTION 1
LAUNCH VEHICLES

Article 58

Launch Safety Plan

The Union launch operator shall submit to the national competent authority, as part of the national authorisation process, a Launch Safety Plan, which shall include at least:

(a) the notification and coordination measures referred to in Article 59(2), point (a);

(b) the result of the Launch Collision Avoidance risk assessment and the determination of the launch closure window referred to in Article 59(2), points (b) and (ba);

(c) the assessment and mitigation of the risks related to collision and the results of the calculation of casualty risk at launch and re-entry referred to in Article 59(2), points (bb) and (c);

(d) the risk assessment and, where applicable, mitigation measures referred to in Article 60(3) and (4).

Article 59

Safety and coordination measures during launch and re-entry

1. Union launch operators shall take appropriate measures to mitigate the risk of collision between the launch vehicle and aircraft, maritime vessels or spacecraft, and debris in orbit, during the launch and re-entry phases.

2. The mitigation measures referred to in paragraph 1, taking into account established standards and best practices, shall include:

   (a) before launch or re-entry, in order to minimise the impact on air and maritime traffic and manage and mitigate the risks associated to non-nominal or failure scenarios, timely notification of, and real-time coordination with:

      (i) the European Network Manager and affected Air Navigation Service Providers (ANSPs) for air traffic and set-out the procedures for the issuance of the Notice to Airmen (NOTAM) and the procedures for closing the air routes during the respective launch or re-entry windows;

      (ii) the relevant competent authorities for maritime traffic, to set out the procedures for the issuance of the Notice to Mariners;

      (iii) the Union CA entity referred to in Article 64 for space surveillance and tracking;

   (b) before launch, the performance of a Launch Collision Avoidance (‘LCOLA’) risk assessment with the support of the Union CA entity, including the provision of the information necessary for that assessment, in particular predicted ephemerides, to that entity and to the national competent authority, in accordance with the implementing acts referred to in paragraph 3, points (a) and (aa);

   (ba) the determination of the launch closure window according to the LCOLA risk assessment;

(bb) the assessment and mitigation of the risks related to collision in accordance with the implementing acts referred to in Article 61(3), point (d);

(c) the calculation and limitation of the casualty risk at launch and re-entry, in accordance with the implementing acts referred to in paragraph 3, points (b), (ba) and (c).

The requirement laid down in point (a) of the first subparagraph shall not apply where the Union launch site or Union spaceport operator has already notified the ANSPs and the maritime authorities.

3. The Commission shall, by means of implementing acts:

(a) select, among existing methods, one or several methods to calculate the LCOLA, taking into account the elements listed in Annex I, point 1.2.3;

(aa) develop, if appropriate, a new method for the calculation of the LCOLA, taking into account the elements under Annex I, point 1.2.3 and the threshold for LCOLA, taking into account the elements under Annex I, point 1.2.3.a;

(b) select, among existing methods, the method for the calculation of the collective risk for casualties due to launch and re-entry, taking into account the elements listed in Annex I, point 1.3 (a):

(ba) develop, if appropriate, a new method for the calculation of the collective risk for casualties due to launch and re-entry, taking into account the elements listed in Annex I, point 1.3. (a);

(c) establish the thresholds for the casualty risks, in accordance with point 1.3, point (b), of Annex I;

The implementing act referred to in the first subparagraph, point (c), shall set out specific quantitative allocations for a particular risk of catastrophic damage, in particular for the specific cases of sea and air routes.

Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 114(2).

The implementing acts referred to in the first subparagraph shall build, to the maximum extent possible, on existing recognised European or international standards and methods.

Article 60

Flight safety system

1. Launch vehicles shall be equipped with tracking devices or other means of tracking enabling real-time monitoring of the launch vehicle position and of velocity.

2. Union launch operators shall monitor launch vehicle performance data during flight by equipping the launch vehicle with at least a telemetry data transmitting system except where the pre-flight analysis establishes that the flight of the launch vehicle will not result in an unknown and hazardous impact area of dispersion.

3. Union launch operators shall conduct a risk assessment to identify potential failure scenarios that could make the launch vehicle hazardous, including deviation from the flight corridor, dangerous fall-back phases, non-nominal flight control behaviour, and failure to achieve orbit and shall set out specific rules for controlled or un-controlled re-entry.

4. Following the risk assessment, Union launch operators shall implement mitigation measures, including, where necessary, adding an on-board neutralisation system, which shall be activated either remotely or automatically. For such systems, Union launch operators shall submit the detailed requirements, procedures and validation test results.

Article 61

Space debris mitigation for launch vehicles

1. Union launch operators shall limit debris creation through the implementation of the following requirements:

   (a) limitation of planned release of debris into Earth, during nominal operations by complying with the implementing acts referred to in paragraph 3, points (a), (b), (ba) and (bb);

   (b) protection against accidental fragmentation, including fragmentation due to internal causes and collision, by complying with the implementing acts referred to in paragraph 3, points (c) and (d);

   (c) end-of-life disposal, by complying with the implementing acts referred to in paragraph 3, points (e) and (f).

2. Union launch operators shall submit the following space debris mitigation plans:

   (a) a debris control plan, including evidence of compliance to the requirements referred to in paragraph 1, points (a) and (b);

   (b) an end-of-life disposal plan, including evidence of compliance to the requirements referred to in paragraph 1, points (c) and identification of systems and capabilities required for successful disposal.

3. The Commission shall, by means of implementing acts:

   (a) establish the time period ('orbital lifetime') for when a launch vehicle deployed in Low Earth Orbit (LEO) shall be disposed, including specific measures for the pyrotechnic system and the solid or hybrid propellant;

   (b) establish the safe region and time for disposal of launch vehicles deployed in Medium Earth Orbit (MEO), including specific measures for the pyrotechnic system and the solid or hybrid propellant;

(ba) establish the safe region and time for disposal of launch vehicles deployed in Geostationary Earth Orbit (GEO);

(bb) establish the limits for the generation of debris in nominal operation and the limitation of risk of components becoming detached from the launch vehicle and being placed in orbit;

(c) establish the threshold of probability of the risk of accidental fragmentation in orbit due to internal causes including measures for passivation of all components of the launch vehicle;

(d) establish the threshold of the risk of fragmentation due to collision and the point in time when this is calculated from, as well as mitigating measures to limit the likelihood of collision;

(e) develop the conditions and order of preference for disposal of the launch vehicle in LEO;

(f) develop the method to calculate the probability of successful disposal and the percentage threshold, considering at least all relevant systems, subsystems and equipment, including their potential redundancy levels, reliability, and performance degradation over time, as well as the availability of the necessary energy and resources.

Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 114(2).

SECTION 2

SPACECRAFT

Article 61a

Positioning in orbit

1. Before launch, Union spacecraft operators shall analyse the choice of orbit and shall provide the outcome of the analysis, including the reasons for the selected orbit, in the application referred to in Article 7.

   Union spacecraft operators shall take into account the existing spacecraft and the debris in the relevant orbital region during this analysis.

2. The Commission may, by means of implementing acts, develop:

   (a) specific methods of calculating the congestion of LEO, MEO and GEO;

   (b) methods to calculate the risks in the selected orbit, on the basis of existing recognised European or international standards or methods.

   Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 114(2).

Article 63

Trackability

1. Union spacecraft operators shall ensure that a spacecraft is trackable either by possessing the technical means or by relying on external sources, and shall ensure precise determination of the orbital position taking into account the existence of variations according to the region concerned and size of the object, in accordance with the implementing acts referred to in paragraph 2.

1a. As soon as possible after injection, Union spacecraft operators shall transmit to the Union CA entity necessary up-to-date information, including the ephemerides and covariances, as well as the strategy for action provided in Article 65a.

1b. Union spacecraft operators shall ensure that systems, including software, at the ground segment are able to provide daily orbital forecast, including manoeuvres for the spacecraft, and process data in an existing recognised data format, in accordance with Annex III.

2. The Commission shall, by means of implementing acts, specify the level of precision required for the trackability of spacecraft as referred to in paragraph 1. That implementing act shall be adopted accordance with the examination procedure referred to in Article 114(2).

The implementing acts referred to in the first subparagraph shall build, to the maximum extent possible, on existing recognised European or international standards and methods.

Article 63a

Spacecraft manoeuvrability

1. Union spacecraft operators shall ensure that a spacecraft is manoeuvrable for spacecraft in orbits with an apogee above 400 km.

2. The manoeuvrability capability referred to in paragraph 1 shall at least:

(a) enable the operator to perform collision avoidance manoeuvres and to respond without delay to a high interest event alert;

(b) enable the performance of end-of-life disposal in accordance with Article 70(1), point (c);

Article 64

Collision Avoidance

1. Union spacecraft operators shall subscribe to the collision avoidance services provided for free by the CA provider in charge of the Space Surveillance and Tracking (SST) sub-component referred to in Article 58(2) of Regulation (EU) 2021/696 ('Union CA entity').

2. The subscription referred to in paragraph 1 shall cover all phases of a space mission following injection, including orbit raising, receiving ISOS and end of life phases, with the exclusion of the re-entry phase.

3. During operation, Union spacecraft operators shall inform without delay the Union CA entity and the national competent authority of any of the following:

   (a) any planned changes to the operation that may impact the collision risk;

   (b) the decision to start the disposal phase and to initiate the end-of-life phase, by providing the relevant information three months in advance from the date of the start of the procedure, or without undue delay in case of anomaly requiring an urgent start of the disposal phase;

   (c) without undue delay, any unplanned changes to the operations during the lifetime of the space mission and the disposal phase, including the following:

      (i) any change as regards the active and manoeuvrability status of its spacecraft;

      (ii) any exceptional operations having an impact on spacecraft orbit or manoeuvrability;

      (iii) any change as regards the re-entry method (controlled / semi-controlled / uncontrolled);

      (iv) any change in response to a high interest event alert.

4. Union spacecraft operators shall comply with the requirements laid down in point 2, of Annex IV, and shall cooperate with the Union CA entity, in accordance with the relevant requirements therein.

5. Upon receipt of a high interest event alert, Union spacecraft operators shall inform without delay the Union CA entity and, where relevant, the national competent authority of all actions taken to avoid the collision.

Article 65

Re-entry

-1. Union spacecraft operators of spacecraft in LEO shall register to the Union entity in charge of re-entry service in the SST sub-component referred to in Article 58(2) of Regulation (EU) 2021/696.

1. At the time of re-entry, Union spacecraft operators shall send the necessary data and information, such as positioning, state of the spacecraft and ability to communicate to the Union entity in charge of re-entry service.

2. The entity in charge of re-entry service referred to in paragraph 1 shall ensure the necessary coordination with the relevant national competent authorities, maritime authorities and air traffic services providers to minimise the impact of the re-entry on other traffic services.

2a. Union spacecraft operators of spacecraft in LEO shall analyse the risk for the environment due to substances which might survive re-entry and ensure there is no unacceptable risk.

2b. Union spacecraft operators of spacecraft in LEO that cannot perform a controlled re-entry as planned shall be passivated, provided that passivation can be carried out in a safe, timely and controlled manner.

Article 65a

Orbital traffic rules in case of high interest event

1. When the Union CA entity publishes a high interest event alert between two manoeuvrable spacecraft with one of the two concerned spacecraft having to perform a Collision Avoidance Manoeuvre (CAM), their proposed CAM shall be based on the following principles:

   (a) take the utmost account of the protection of crewed vehicles;

   (b) reduce the initial collision risk by at least one order of magnitude below the manoeuvre threshold for high interest event alert; and

   (c) not create unreasonable risks of secondary conjunctions.

2. Where both spacecraft are registered to the Union CA entity, Union spacecraft operators shall seek to agree on a strategy to implement the CAM with the support of that Union CA entity, within a reasonable period.

3. If no agreement can be found under paragraph 2 within a reasonable period, the Union CA entity shall recommend a strategy for action, while complying with the harmonised standard referred to in paragraph 6a.

4. Where one of the two spacecraft operators is not subscribed to the Union CA entity, the Union CA entity, in close cooperation with the registered spacecraft operator, shall establish contact with the non-registered spacecraft operator.

5. In case of successful contact under paragraph 4, the Union CA entity shall, to the extent possible:

   (a) exchange information on the tools and methods used for calculation of collision risks;

(b) share all the necessary data and calculation results to ensure avoidance of the collision;

(c) determine, in collaboration with both spacecraft's operators, the best collision avoidance's manoeuvres, while complying with the harmonised standard referred to in paragraph 6a.

6. Where the contacts referred to in paragraph 4 are unsuccessful or if, after a reasonable period of time, contacts cannot be initiated, the Union CA entity shall recommend to the Union spacecraft operator a strategy for action that ensures at least the respect of the principles outlined in paragraph 1 and shall provide the relevant national competent authorities with that strategy for action and its implementation upon request.

6a. The Commission shall, in accordance with Article 10(1) of Regulation (EU) No 1025/2012, request one or more European standardisation organisations to draft standards in relation to the following essential requirements:

(a) protection of crewed vehicle;

(b) involvement of a spacecraft that is part of a constellation;

(c) the operational capacity for CA manoeuvres;

(d) the state and age of the spacecraft;

(e) the eccentricity of the spacecraft's orbits;

(f) the criticality, phase and type of the respective space mission.

The Commission shall follow the procedure on standards laid down in Article 112a.

Article 67

Contact list database for high interest event alerts

2. Union spacecraft operators shall provide to the Agency the contact details of their relevant staff in charge of collision avoidance and re-entry activities, for inscription by the Agency into the contact list database for high interest event alerts set-up and managed in accordance with Article 40(1), point (g).

3. The Agency shall share the contact list database with the Union CA entity.

Article 70

Space debris mitigation

1. Union spacecraft operators shall take all of the following measures:

(a) limitation of planned generation of debris into Earth, during nominal operations, in accordance with the implementing act referred to in paragraph 3(a);

(b) limitation of risk of accidental fragmentation, in accordance with the implementing act referred to in paragraph 3, points (b) and (d), and point 1.2.1 of Annex V;

(ba) ensuring the reliability of the design, in accordance with point 2.1, of Annex V;

(bb) setting-up the operational procedures for the quality and reliability control, in accordance with point 2.2, of Annex V;

(c) completion of the end-of-life disposal, in accordance with point 3, of Annex V and with the implementing acts referred to in paragraph 3, point (c), including:

(i) the calculation and adherence to the assigned limits of probability of successful disposal, as well as its recalculation after launch; and

(ii) removal of the spacecraft from Earth orbits outside the GEO protected orbital regions in an orbit not interfering with those protected orbital regions within 100 years of its end of life;

(d) if a critical system for disposal fails, implementation of the failure response plan developed in accordance with point 4.3, of Annex V.

2. Union spacecraft operators shall draw up the following space debris mitigation plans and shall demonstrate fulfilment of the requirements laid down in paragraph 1:

(a) a debris control plan, in accordance with point 4.1, of Annex V;

(b) an end-of-life disposal plan, in accordance the implementing acts referred to in paragraph 3, point (c) including, for Union spacecraft operators in LEO, a description of the selected disposal method, in line with the options provided in points 3.3, 3.4 and 3.5 of Annex V;

(c) a failure response plan, in accordance with point 4.3, of Annex V.

3. The Commission may, by means of implementing acts, taking into account European or international standards or methods:

(a) develop the measures to limit the generation of debris, by restricting projected releases of debris by numbers and duration in orbit, including specific rules for pyrotechnic devise and solid rocket motors design;

(b) develop measures to limit risk of accidental fragmentation caused by on-board sources of energy, establish a standardised risk calculation method, taking into account all known failure modes, and setup a threshold on that basis;

(ba) develop the design and manufacture requirements to limit the risk of collision and to limit the risk of fragmentation due to collision;

(bb) develop the method to calculate the probability of collision and the related threshold;

(c) specify the end of life measures by:

(i) selecting, among existing methods and taking into account the elements referred to in point 3.1.3 of Annex V, the method to calculate the probability of successful disposal and define the threshold on this basis;

(ii) defining the maximum orbital lifetime in LEO after the end of the mission and before re-entry;

(iii) developing the requirements related to re-entry for LEO on probability of casualties per re-entry as referred to in point 3.5.4, of Annex V, on the conditions for spacecraft containing radio-active material and on the determination of the maximum size of a spacecraft surviving re-entry;

(iv) setting out the time during which a spacecraft moved outside of the protected orbital regions in MEO shall remain in an orbit not interfering with those protected orbital regions;

(d) specify the technical conditions for soft passivation and for passivation for re-entry;

Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 114(2).

4. The Commission is empowered to adopt delegated acts in accordance with Article 113 to amend the list and the order of preference laid down in point 3.3, of Annex V, in order to reflect and adapt such order to the technological progress.

Article 71

Mission extension

1. Where a Union spacecraft operator wishes to extend a space mission, that Union spacecraft operator shall submit to the certifying authority a request for extension at the latest six months before the planned end of the concerned space mission, in accordance with Article 7.

2. Upon request submitted in accordance with paragraph 1, the certifying authority may decide to extend the duration of a space mission carried out by a Union spacecraft operator beyond the period of the initial EUSA certification, provided that the spacecraft still meets the requirements laid down in Title IV, Chapter I, Section 2. The certifying authority shall inform the Agency accordingly.

Article 71a

Supervisory reviews and updates from the Union CA entity

2. Upon request by the national competent authority, the Union CA entity shall provide the following up-to-date information on a spacecraft related to space activities authorised by that national competent authority:

(a) compliance with the space debris mitigation plans referred to in Article 70(2) throughout all phases of the space mission;

(b) the orbit position, in line with the analysis referred to in Article 61a;

(c) compliance with the requirements laid down in Article 64(1) to (4), and, as applicable, in Article 101(2).

Article 72

Optical or electromagnetic interference

1. Union spacecraft operators shall establish a plan containing measures that are adequate to limit optical or electromagnetic interference. That plan shall include all of the following elements:

(a) a description of the technical and operational measures implemented by the Union spacecraft operator to reduce the visible brightness of the spacecraft and to minimise the impact of satellites on astronomical observations, including, where appropriate, through low reflectivity coating or shielding;

(b) a description of the technical and operational measures implemented by the Union spacecraft operator after the end of life to limit interferences to radio astronomy observatories and to minimise the impact of satellites on astronomical observations.

2a. The Commission shall, in accordance with Article 10(1) of Regulation (EU) No 1025/2012, request one or more European standardisation organisations to draft standards in relation to the low reflectivity coating or shielding.

The Commission shall follow the procedure on standards laid down in Article 112a.

Article 73

Constellations

1. Union spacecraft operators of a constellation of 10 or more satellites shall:

(b) maintain at the ground segment a catalogue of the individual spacecraft trajectories and perform on a daily basis collision risk screenings;

(c) ensure the safety in accordance with the requirements laid down in point 1, of Annex VI, as regards intra-constellation collision avoidance measures;

(d) comply with the additional reporting obligations referred to in point 2, of Annex VI.

2. Union spacecraft operators of a constellation of 100 or more satellites shall, in addition to paragraph 1:

(-a) ensure that each individual spacecraft has a propulsion system;

(a) take into consideration, for the choice of the orbit, the following elements:

(i) the full constellation deployment’s impact on the orbit congestion;

(ii) before choosing the orbit, existing constellations in orbit;

(iii) ensure that the orbit chosen does not collocate with other space object implying a high number of recurrent and systematic conjunction situations;

(iv) the total number of collision avoidance manoeuvres expected during the lifetime of the satellite constellation.

(b) limit the consequences of dead-on arrival spacecraft, by injecting spacecraft at an orbit:

(i) that allows a short re-entry period of the spacecraft;

(ii) where there are limited collision risks.

(c) ensure that the requested probability of successful disposal referred to in Article 70(1), point (c), is proportionate to the number of spacecraft;

(ca) ensure that the on ground casualty risk per re-entry caused by constellations satellite is lower compared to the one laid down in the implenting act referred to in Article 70(3), point (c)(iii);

(d) ensure that the time spent in orbit after the end-of-life is lower compared to the one laid down in Annex V;

(da) provide to the national competent authority, during the spacecraft design and operation, a plan evidencing the availability of propellant necessary to perform the anticipated collision avoidance manoeuvres and the end-of-life disposal.

4. The Commission shall, by means of implementing acts:

(a) develop a method to specify the risk of intra-constellation collision and establish the lowest threshold applicable;

(b) develop measures to limit optical and electromagnetic interference.

Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 114(2).

The implementing acts referrerd to in the first subparagraph shall build, to the maximum extent possible, on existing recognised European or international standards and methods.

Chapter II

RESILIENCE OF SPACE INFRASTRUCTURE

Article 75

Relationship with Directives (EU) 2022/2555 and (EU) 2022/2557

1. This Regulation shall be without prejudice to Directive (EU) 2022/2555 in relation to Union space operators that qualify as essential or important entities pursuant to Article 3 of that Directive with regard to space activities and space operation services covered by this Regulation.

2. Where Union space operators have been identified as critical entities in accordance with Directive (EU) 2022/2557, this Regulation shall apply without prejudice to Directive (EU) 2022/2557.

3. For the purposes of this Chapter, the national competent authorities shall cooperate with the relevant authorities designated or established pursuant to Article 8(1) of Directive 2022/2555 whenever necessary for the purposes of ensuring consistency in the application of this Regulation and Directive (EU) 2022/2555, and of sharing information.

3a. For the purposes of this Chapter, the national competent authorities shall cooperate with the relevant authorities designated or established pursuant to Article 9(1) of Directive 2022/2557 whenever necessary for ensuring consistency in the application of this Regulation and Directive (EU) 2022/2557 and for sharing information.

Article 75a

Cybersecurity requirements

1. Union space operators that qualify as essential or important entities pursuant to Article 3 of Directive (EU) 2022/2555 shall comply with the implementing act referred to in Article 21(5), second subparagraph of that Directive.

2. Paragraphs 3 to 5 of this Article shall apply to all of the following:

(a) Union space operators that do not qualify as essential or important entities pursuant to Article 3 of Directive (EU) 2022/2555;

(b) third-country space operators;

(c) international organisations with which an agreement is in force pursuant to Article 107 or 108, as applicable, subject to and in accordance with that agreement;

(d) Union-operators of Union owned assets.

3. The entities referred to in paragraph 2 shall take appropriate technical, operational and organisational measures to manage the risks posed to the security of network and information systems which those entities use for their operations or for the provision of their services, and to prevent or minimise the impact of incidents on recipients of their services and on other services.

Taking into account the state-of-the-art and, where applicable, relevant European and international standards, as well as the cost of implementation, the measures referred to in the first subparagraph shall ensure a level of security of network and information systems appropriate to the risks posed. When assessing the proportionality of those measures, due account shall be taken of the degree of the entity’s exposure to risks, the entity’s size and the likelihood of occurrence of incidents and their severity, including their societal and economic impact.

4. The measures referred to in paragraph 3 shall be based on an all-hazards approach that aims to protect network and information systems and the physical environment of those systems from incidents, and shall include at least the following:

(a) policies on risk analysis and information system security;

(b) incident handling, as defined in Article 6, point (8), of Directive (EU) 2022/2555;

(c) business continuity, such as backup management and disaster recovery, and crisis management;

(d) supply chain security, including security-related aspects concerning the relationships between each entity and its direct suppliers or service providers and any other contractual relationship necessary to perform the space mission;

(e) security in network and information systems acquisition, development and maintenance, including vulnerability handling and disclosure;

(f) policies and procedures to assess the effectiveness of cybersecurity risk-management measures;

(g) basic cyber hygiene practices and cybersecurity training;

(h) policies and procedures regarding the use of cryptography and, where appropriate, encryption;

(i) human resources security, access control policies and asset management;

(j) the use of multi-factor authentication or continuous authentication solutions, secured voice, video and text communications and secured emergency communication systems within the entity, where appropriate.

5. When considering which measures referred to in paragraph 4, point (d), of this Article are appropriate, entities shall take into account the vulnerabilities specific to each direct supplier and service provider and the overall quality of products and cybersecurity practices of their suppliers and service providers, including their secure development procedures.

6. By ...[date], the Commission shall adopt an implementing act laying down the technical, methodological and sectoral requirements, of the measures referred to in paragraph 4. That implementing act shall include a light regime, as regards research and education institutions and small and microenterprises limited to the measures necessary to address specific risks with an adverse impact on the security of other space operations, including the risk of loss of control of assets with propulsion and capacity to emit interference.

The implementing act referred to in the first paragraph shall be adopted in accordance with the examination procedure referred to in Article 114(2).

7. The Commission shall aim to ensure that the implementing acts referred to in paragraph 1 and paragraph 6 of this Article are consistent. To this end, the Commission shall prepare those draft implementing acts based on exchange of advice and cooperation with relevant cybersecurity and space experts and shall organise joint meetings of the respective committees.

Article 93

Reporting of significant incidents

-1. An incident shall be considered significant as provided for in Article 23(3) of Directive (EU) 2022/2555.

3. Where Union space operators qualify as essential or important entities pursuant to Annex I or II of Directive (EU) 2022/2555, the reporting referred to in paragraph 3, shall be carried out in accordance with Article 23 of that Directive.

7. Where Union space operators do not qualify as essential or important entities in accordance with Directive (EU) 2022/2555, they shall submit to the CSIRT established in accordance with Article 10 of that Directive or, where applicable, to the competent authority established in accordance with Article 8 that Directive, the following information:

(a) without undue delay, and in any event within 24 hours of becoming aware of the significant incident, for assets, an early warning which shall indicate whether the significant incident may have been caused by unlawful or malicious acts, or if it could have a cross-border impact;

(b) without undue delay, and in any event within 72 hours of becoming aware of the significant incident, an incident notification , which, where applicable, shall update the information referred to in point (a), and shall provide an initial assessment of the significant incident, including its severity and impact, as well as, where available, the indicators of compromise;

(c) upon the request of the CSIRT or national competent authority, an intermediate report with relevant status updates;

(d) a final report, no later than 1 month after the submission of the report referred to in point (b), including the following:

(i) a detailed description of the significant incident, including its severity and impact;

(ii) the type of threat or the root cause that is likely to have triggered that significant incident;

(iii) the applied and ongoing mitigation measures;

(iv) as applicable, the cross-border impact of the significant incident;

(e) if a significant incident is still ongoing at the time of the submission of the final report referred to in point (d), a progress report at that time, as well as a final report within 1 month from the date of the handling the significant incident.

5b. The CSIRTs established pursuant to Article 10, point (1), of Directive (EU) 2022/2555 or the competent authority established pursuant to Article 8, point (1), of that Directive shall, without delay, transmit all the relevant reported information to the national competent authorities referred to in Article 28(1) of this Regulation. Those national competent authorities shall in turn transmit a summary of each reported incident to the Agency.

5c. By derogation to paragraph 7, Union space operators of Union-owned assets shall report significant incidents affecting the Union-owned assets to the structure referred to in Article 34(4) of Regulation (EU) 2021/696. In addition, they shall:

(a) send the early warning within 12 hours, indicating whether the significant incident may have been caused by unlawful or malicious acts, or if it could have a cross-border impact;

(b) send an intermediate report with relevant status updates upon request of the Agency.

8. The Commission is empowered to adopt implementing acts, in accordance with the examination procedure referred to in Article 114(2), to specify in further detail the content of the information to be reported pursuant to paragraph 4 and 4a, and to lay down the templates and procedures for the reporting of that information.

Chapter III

ENVIRONMENTAL SUSTAINABILITY OF SPACE ACTIVITIES

Article 96

Environmental footprint of space activities

1. Sustainability shall cover environmental sustainability in space and environmental sustainability on Earth.

2. Union space operators shall calculate the Environmental Footprint (EF) in accordance with Article 97 for the space activities subject to EUSA certification.

6. Union space operators shall submit the following in their application as referred to in Article 7:

   (b) the EF study, including the details of the calculation and reference to existing datasets;

   (c) the specific aggregated and disaggregated datasets collected for the EF calculation;

   (d) the proofs of receipt of the aggregated and disaggregated datasets by the Commission, in accordance with Article 99(1), first subparagraph.

Article 97

EF calculation of space activities

2. The calculation of the EF shall cover the lifecycle of the space activity subject to EUSA certification, including during initial life-cycle phases, such as design and development, during the manufacturing phase, the operation phase and the end-of-life phase .

4. The Commission shall specify, by means of implementing acts, the method of calculation of the EF of space activities, by taking into account scientifically sound life-cycle assessment methods and the relevant international standards aligned with the Commission Recommendation (EU) 2021/2279. Those implementing acts shall be reviewed to take into account scientific and technological developments and adapt to technological progress. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 114(2).

Article 99

Transmission of datasets to the Union EF-related database

1. Before applying for EUSA certification, applicants shall transmit the specific aggregated and disaggregated datasets collected for the EF referred to in Article 96(6), point (c), to the Commission.

   The Commission shall integrate those datasets in the Union database storing EF-related data and issue a proof of receipt to the applicants thereof.

3. The Commission shall implement appropriate measures to ensure the confidentiality of the data included in the aggregated, disaggregated and derived datasets, in accordance with the relevant Union legislation and standards.

4. The aggregated datasets referred to in paragraph 1 and the derived datasets referred to in Article 100 shall be made publicly available by the Commission through the public part of the Union EF-related database.

Article 100

Use of disaggregated datasets in derived datasets

1. The Commission shall make use of the disaggregated datasets referred to in Article 99 exclusively for the purposes of informing policy-making activities, of providing regulatory updates, and for the creation of derived datasets.

2. Union space operators, third country space operators and international organisations shall retain full ownership of the data included in the aggregated and disaggregated datasets transmitted pursuant to Article 99.

3. The Union shall acquire exclusive worldwide ownership of intellectual property rights related to the derived datasets which have been created on the basis of the disaggregated datasets.

Chapter IV
IN-SPACE OPERATIONS AND SERVICES

Article 101

In-Space Operations and Services

1. Union space operators providing or receiving ISOS shall comply with the requirements laid down in this Article and Annex VIII from 1 January 2034.

2. For Union owned assets, spacecraft with a weight of at least 600 kg that are operated by Union space operators shall possess a minimal technical capacity to receive in-space services, including be equipped with dedicated Spacecraft Service Interfaces (SSI) and with a dedicated operational mode for the service that ensures a cooperative behaviour of the client spacecraft and minimises the risk of collision and malfunctions after the service.

4. The Commission is empowered to adopt delegated acts in accordance with Article 113 to further supplement this Regulation, in particular Annex VIII, taking into account European or international standards or methods in place or under development, by specifying, where space debris are threatening other spacecraft and increase the risk of orbit pollution, the requirements needed to enable removal of debris from orbits by means of ISOS.

Chapter IVa
Light regime

Article 101a

Light regime for safety

1. Research and education space activities, including In-Orbit Demonstration and Validation (IOD/IOV), carried out by Union spacecraft operators that are research and education institutions shall be exempted from the following requirements:

(a) spacecraft manoeuvrability referred to in Article 63a, for an orbit above 400 km and below 600 km, provided that:

(i) a tracking system enables a precise positioning of the spacecraft and;

(ii) the Union spacecraft operator explains in the application why manoeuvrability capabilities were not implemented in the spacecraft;

(b) an optical and electromagnetic interference plan in accordance with Article 72, for spacecraft intended to remain in orbit less than one year;
(ba) the end of life disposal plan as referred to in Article 70(2)(b) for non-manoeuvrable spacecraft for an orbit below 400 km;

(c) information about operational orbit(s) within the timelines referred to in point 2.3, points (a) and (b), of Annex IV;

(d) availability of the contact point for manoeuvrabililty as referred to in point 2.5, of Annex IV;

(e) redundancy function for passivation.

For the purposes of point (d), of the first subparagraph, a contact point shall be available to respond in a reasonable operational time for LEO/MEO/GEO.

For the purposes of point (c), of the first subparagraph, the Union spacecraft operator may request the Union CA entity to assist in the delivery of its spacecraft ephemerides and covariances.

2. The relevant national competent authority shall assess the exceptions referred to in paragraph 1 on a case-by-case basis, by taking into consideration the size and the weight of the spacecraft, as well as the risk profile, the duration and orbit of the mission.

Article 101b

Light regime for environmental sustainability

1. In-Orbit Demonstration and Validation (IOD/IOV) space activities carried out by Union spacecraft operators that are research and education institutions or SMEs shall be exempted from the environmental sustainability of space activities referred to in Title IV, Chapter III.

2. All other space activities carried out by Union spacecraft operators that are research and education institutions or small-sized enterprises shall be exempted from the environmental sustainability of space activities referred to in Title IV, Chapter III until 31 December 2031.

Title V
EQUIVALENCE DECISIONS, INTERNATIONAL AGREEMENTS AND INTERNATIONAL ORGANISATIONS

Article 105

Equivalence for third countries

1. The Commission may adopt, on the basis of a detailed assessment, an equivalence decision, by means of implementing acts, in accordance with Article 114(2), stating that the legal and supervisory framework of a third country ensures that the space activities of third country space operators established in that third country comply with legally binding requirements that are equivalent to the requirements laid down in this Regulation and are subject to an effective supervision and enforcement in that third country.

2. The legal and supervisory framework of a third country shall be considered equivalent to this Regulation only if it fulfils at least the following conditions:

   (a) the third country space operators established in that third country are subject to authorisation and effective supervision and enforcement on an ongoing basis;

   (b) the third country space operators established in that third country are subject to legally binding rules that are equivalent to the requirements laid down in Article 15; and

   (ca) that third country has undertaken to recognise and, within a reasonable period, does recognise on a reciprocical basis the legal and supervisory framework of the Union for Union space operators through a unilateral decision or an international agreement under Article 106.

3. The Commission may attach specific, proportionate and technology-neutral conditions to the equivalence decisions, such as where the scale and scope of the space-based data or the space operation services provided by third country space operators are likely to be of strategic importance for the Union, or to prevent regulatory arbitrage.

3a. The equivalence decision shall specify that it is granted for a definite period and shall be subject to reassessment before renewal. It shall be superseded by the conlusion of the international agreement referred to in Article 106.

5. The Commission, with the support of the Agency, shall establish administrative arrangements with the relevant competent authorities of third countries whose legal and supervisory frameworks have been recognised as equivalent.

Such administrative arrangements shall specify at least:

(a) the mechanisms for the exchange of information, including access to all information regarding the third country space operators authorised in the third countries upon request;

(b) the mechanisms for a prompt notification, where a third country competent authority considers that the third country space operators covered by an equivalence decision no longer complies with the conditions of its authorisation in that third country, or with any other applicable legal requirements;

(c) the procedures concerning the coordination of supervisory activities in cooperation with the national competent authorities of relevant Member States.

6. The Commission shall, with the support of the Agency, monitor whether the legal and supervisory framework of a third country continues to be equivalent with the requirements laid down in this Regulation.

Where the legal and supervisory framework of a third country ceases to be equivalent, the Commission shall repeal the equivalence decision concerned and lay down any appropriate transitional measures.

6a. The Commission shall inform the European Parliament and the Council annually of the equivalence decisions which have been taken or withdrawn by the Commission in the reporting year.

Article 106

International agreements with third countries

1. The Union may conclude international agreements for cooperation with third countries on matters covered by this Regulation, in particular for:

   (a) ensuring the mutual recognition of rules on matters covered by this Regulation;

   (b) ensuring the mutual recognition of technical assessments carried out by QTBs and by relevant authorities and technical bodies of third countries;

   (d) setting out the conditions for the use in the Union of space operation services or space-based data provided by a third country space operator which is a governmental entity, or which operates or owns assets of space infrastructure.

2. The Agency may establish administrative arrangements with the relevant supervisory authorities of third countries, other than those referred to in paragraph 1, point (b), of this Article subject to the approval of the Commission, for the purposes referred to in the second subparagraph of Article 105(5).

Article 106a

Third country public entities

2. In the absence of an international agreement or an equivalence decision, a third country public entity may be allowed to provide space operation services or space-based data in the Union upon the request of a Member State or at the initiative of the Commission.

   In its request, a Member State shall:

   (a) indicate the space activities that provide the relevant space operation services or space-based data in the Union;

   (b) indicate a public interest for one or more Member States to obtain, or as applicable, to safeguard, continued and unhindered access to the respective space-based data or space operation services provided by that third country public entity;

(c) indicate, where applicable, the consequences for the relevant markets at Union or at Member State level, of losing such access;

(d) provide evidence that the third country entity is a public entity;

2a. The Commission shall assess without delay whether the request is made for a third country public entity.

4. Following a positive assessment of the third country public entity, the Commission shall adopt a decision allowing the third country public entity to provide space operation services or space-based data in the Union.

The Agency shall enter in URSA without delay the space activity of the third country public entity concerned on the basis of the Commission decision.

The Commission decision shall apply until the date when an international agreement concluded with the respective third country takes effect, governing the conditions for a third country public entity to provide space operation services or space-based data in the Union, or until the date where the Commission has adopted an equivalence decision as regards that third country, whichever is the earliest.

Article 107

Regimes applicable to international organisations

1. Where the Commission entrusts an international organisation with the implementation of tasks for the operation of Union owned-assets under Regulation (EU) 2021/696 or Regulation (EU) 2023/588, the relevant contribution agreements shall set out the conditions and the practical and operational arrangements for the supervision of the application by that international organisation of the requirements laid down in Title IV.

2. Where an international organisation operates governmental or non-governmental space assets, the relevant Member States shall ensure the compliance of that international organisation with the requirements laid down in Title IV, in the context of the EUSA certification referred to in Article 6(1).

3. Where an international organisation operates its own assets of space infrastructure, the Union shall endeavour to conclude agreements with that international organisation.

The agreement referred to in the first subparagraph shall set out the conditions and the practical and operational arrangements to ensure the supervision of the application by that international organisation of the requirements laid down in Title IV, with due regard to its institutional framework. Once the agreement is concluded, space activities compliant with EUSA requirements shall be entered in URSA.

Article 108

Relations with the European Space Agency

1. The Union shall endeavour to conclude an agreement with the European Space Agency (ESA) to advance the objectives pursued by this Regulation on the basis of Article 218 TFEU.

2. That agreement shall specify in particular the following:

(-a) the conditions for ESA to be recognised as a QTB under Article 8(1), point (b), in compliance with Annex IX;

(-b) for ESA-owned assets, the conditions for implementation of the requirements laid down in Title IV and the practical and operational arrangements for supervision;

(b) where Union-owned assets are operated by ESA, the needed arrangements and conditions for allowing the technical assessment activities and the tasks of EUSA certification and supervision;

(c) any support that ESA may provide regarding the technical specifications needed for standardisation, and technical preparation for the implementation of Title IV of this Regulation, under the supervision of the Commission.

For the purpose of point (-b), once the agreement is concluded, space activities compliant with EUSA requirements shall be entered in URSA.

4. Upon request by the Commission, ESA may attend, as observer or member, any relevant advisory group or technical body that may be established under this Regulation.

Title VI

CAPACITY-BUILDING MEASURES

Article 109

Capacity building

1. The Commission shall support space operators, notably SMEs and small mid-cap enterprises, national competent authorities and national QTBs in the implementation of this Regulation, in particular by developing, in close cooperation with the Agency and international organisations as appropriate, in-kind technological, technical and management support, guidance materials, methodologies and best practices on the following:

   (b) achieving conformity with this Regulation for Union space operators such as research institutions, SMEs and small mid-cap enterprises;

   (b) requirements applying to areas under development covered by Title IV of this Regulation;

   (c) as appropriate, other matters covered by this Regulation;

2. The Commission shall support capacity-building, as well as research and innovation activities, by co-funding joint research and development projects to enable industry uptake of technological solutions facilitating compliance with the requirements laid down in this Regulation, in particular the development of encryption technologies and protocols, the development of safety systems and the development of ISOS technologies and concepts.

Article 110

Information portal and single point of contact

1. The Commission, with the support of the Agency, shall set-up and manage an Information Portal in support of this Regulation (‘Information Portal’).

2. The Information Portal shall provide relevant information on this Regulation and the Agency shall carry out the following tasks:

   (a) assist space operators in the implementation of this Regulation;

   (c) support any point of single contact setup by the Member States pursuant to paragraph 3;

   (ca) list any additional requirements referred to in Article 3(2).

3. Member States may establish a point of single contact dedicated to helping space operators by providing information on local regulations, manage queries on rules, procedures and EUSA certification processes. They shall inform the Commission thereof. The establishment of points of single contact shall be without prejudice to the allocation of functions and powers among the authorities within national systems.

Title VII
TRANSITIONAL AND FINAL PROVISIONS

Article 112a

Standards

1. The Commission shall, in accordance with Article 10(1) of Regulation (EU) No 1025/2012, request one or more European standardisation organisations to draft standards in relation to essential requirements under this Regulation, where appropriate.

   When preparing the standardisation requests referred to in the first subparagraph, the Commission shall take into account existing European or international standards or methods in place or under development, to simplify the development of standards, in accordance with Regulation (EU) No 1025/2012.

2. Products, processes, services or systems that are in conformity with harmonised standards or parts thereof the references of which have been published in the *Official Journal of the European Union* shall be presumed to be in conformity with the essential requirements under this Regulation to the extent that those requirements are covered by those standards or parts thereof.

3. In exceptional cases, the Commission may adopt implementing acts establishing common specifications which provide the means to comply with the essential requirements referred to in paragraph 1.

4. The implementing acts shall only be adopted where the following conditions are fulfilled:

   (a) there is no harmonised standard covering the same essential requirements the reference of which is published in the *Official Journal of the European Union* and no such reference is expected to be published within a reasonable period;

(b) the Commission has requested, pursuant to Article 10(1) of Regulation (EU) No 1025/2012, one or more European standardisation organisations to draft or to revise European standards for the same essential requirements referred to in paragraph 1, first subparagraph, of this Article, and:

(i) the request has not been accepted by any of the European standardisation organisations to which the request was addressed; or

(ii) the request has been accepted by at least one of the European standardisation organisations to which the request was addressed, but the European standards requested:

(1) are not delivered within the deadline set in the request;

(2) do not comply with the request; or

(3) do not satisfy the requirements they aim to cover.

Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 114(2).

Article 113

Exercise of the delegation

1. The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article.

2. The power to adopt the delegated acts referred to in Article 56(9), first subparagraph, Article 70(4) and Article 101(4), first subparagraph, shall be conferred on the Commission for an indeterminate period of time from the date of entry into force of this Regulation.

3. For the purpose of the adoption of the delegated acts referred to in paragraph 2 of this Article, except those referred to in Article 70(4), the Agency, after carrying out public consultations, in particular with industry, standardisation bodies and international organisations, shall submit to the Commission technical assessments within 12 months of the entry into force of this Regulation.

4. The delegation of power referred to Article 56(9), first subparagraph, Article 70(4) and Article 101(4), first subparagraph, may be revoked at any time by the European Parliament or by the Council.

4a. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the Official Journal of the European Union or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.

5. Before adopting a delegated act, the Commission shall consult experts designated by each Member State in accordance with the principles laid down in the Interinstitutional Agreement of 13 April 2016 on Better Law-Making.

6. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.

7. A delegated act adopted pursuant to Article 56(9), first subparagraph, Article 70(4) and Article 101(4), first subparagraph, shall enter into force only if no objection has been expressed either by the European Parliament or by the Council within a period of 2 months of notification of that act to the European Parliament and to the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by 2 months at the initiative of the European Parliament or of the Council.

Article 114

Committee procedure

1. The Commission shall be assisted by a committee. That committee shall be a committee within the meaning of Regulation (EU) No 182/2011 and may meet in different configurations, as necessary.

2. Where reference is made to this paragraph, Article 5 of Regulation (EU) No 182/2011 shall apply.

2a. Where the committee referred to in paragraph 1 of this Article delivers no opinion, the Commission shall not adopt the draft implementing act and the third subparagraph of Article 5(4) of Regulation (EU) No 182/2011 shall apply.

5. In accordance with the international agreements concluded by the Union, the representatives of third countries or international organisations may be invited as observers in the meetings of the committee under the conditions laid down in its rules of procedure, taking into account the security of the Union.

5a. Within 12 months of entry into force of this Regulation, the Agency shall submit to the Commission the technical assessments to assist the Commission in the preparation of the implementing acts referred to in Article 17(8a), Article 17a(4), Article 19(5), Article 59(3), Article 61(3), Article 61a(2), Article 63(2), Article 70(3), Article 73(4), Article 75a(6), Article 93(8) and Article 97(4).

5b. The committee referred to in paragraph 1 of this Article shall, in addition to its role as a committee within the meaning of Regulation (EU) No 182/2011, provide advice and recommendation to the Commission on standards, recognised space requirements and methods, whether existing or under development, to be taken into consideration before proposing implementing acts under this Regulation.

Article 115

Professional secrecy

1. Any confidential information received, exchanged or transmitted pursuant to this Regulation, by any person, body, or authority referred to in paragraph 2, shall be subject to the condition of professional secrecy, as laid down in paragraphs 2 and 3.

2. Without prejudice to the exchange and use of information in accordance with this Regulation, an obligation of professional secrecy shall apply to all persons who work or who have worked for the Commission, the Agency, the national competent authorities, or a national QTB, a natural or legal person to whom the national competent authorities or the national QTBs have delegated powers and tasks, including auditors and experts contracted by them.

3. Information covered by the professional secrecy, including in the context of exchange of information among national competent authorities under this Regulation, and competent authorities designated or established in accordance with Directive (EU) 2022/2555 and Directive (EU) 2022/2557, shall not be disclosed to any other person or authority, except by virtue of provisions laid down by Union or national law.

4. All information exchanged pursuant to this Regulation between national competent authorities which concerns business or operational conditions, and economic or personal affairs, shall be confidential and subject to the requirement of professional secrecy, except where a national competent authority states, at the time of initiating the communication, that such information may be disclosed, or where such disclosure is necessary for the purpose of legal proceedings.

Article 115a

Protection of classified information

The exchange of classified information under this Regulation shall be subject to the existence of an international agreement between the Union and a third country or international organisation on the exchange of classified information or, where applicable, an arrangement entered into by the competent Union institution or body and the relevant authorities of a third country or international organisation on the exchange of classified information, and to the conditions laid down therein.

Article 116

Evaluation and review

1. Within three years of the date of application of this Regulation and every three years thereafter, the Commission shall submit to the European Parliament and the Council a report on the evaluation of this Regulation, including an assessment of its impact on the competitiveness of the European space sector, administrative burden, establishment of a single market and on the safety, resilience and sustainability of space activities, and shall submit, as appropriate, a report on its review, accompanied, where necessary, by a legislative proposal. The reports shall be made public.

2. For the purposes of the evaluation and review referred to in paragraph 1, the Commission may request the Agency and the Member States to provide data and information. The Agency and the Member States shall promptly provide the requested data and information to the Commission.

3. In carrying out the evaluation and review referred to in paragraph 1, the Commission shall take into account the technical assessments, opinions, positions and findings of the Agency, the European Parliament, the Council, the Member States and the national competent authorities, as well as other relevant bodies and organisations or relevant sources.

Article 117

Reports to the Commission

Within one year of the date of application of this Regulation and every year after that, Member States shall report to the Commission on the status of the implementation of this Regulation. The report shall include information on enforcement actions and updates on the space sector at national level, such as competitiveness aspects with impact on the functioning of the internal market and elements on public and private spending needs.

In their first report Member States shall indicate to the Commission their preparatory actions and measures taken at national level including adaptations to ensure the smooth application of this Regulation.

Article 118

Transitional period

1. For EUSA certification of activities related to assets planned to be launched more than three years after the date of entry into force of this Regulation and for which the critical design review phase ended less than 24 months after the date of entry into force of this Regulation, this Regulation shall only apply eight years after entry into force of this Regulation.

2. National competent authorities, as regards Union space operators, and the Agency, as regards third country space operators, shall ascertain the end of the critical design review stage referred to in paragraph 1 at the moment when the space operators submit the proof obtained from the relevant entity entrusted by contract with the technical approval of the design of the spacecraft.

Article 118a

Amendment to Directive (EU) 2022/2555

In Article 21(5) of Directive (EU) 2022/2555, the following subparagraph is added: ‘By [date], the Commission shall adopt implementing acts laying down the technical, methodological and sectoral standards necessary with regard to Union space operators as defined in [Article 5(17) of EU Space Act] that qualify as essential or important entities.’

Article 119

Entry into force and application

This Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.

It shall apply from [*OJ please calculate 36 months from date of entry into force*].

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

For the European Parliament	*For the Council*
The President	*The President [...]*

Annex I

SAFETY AT LAUNCH REFERRED TO IN ARTICLE 59

1. Safety at launch and re-entry as referred to in Article 59

1.2. Launch collision avoidance (LCOLA)

1.2.3. The method for calculating the LCOLA referred to in Article 59(3), points (a) and (aa), shall take into account the following elements:

(a) information to be provided before launch shall include orbits and associate covariances for all objects involved in the launch and several trajectories may have to be provided per launch for a single object depending on the time window and intended trajectory.

(b) a minimum separation distance from the habitable objects shall be respected (duration, shape (ellipsoid or box).

(c) for each object involved in the launch, the entity performing LCOLA shall be able to identify risks over a certain Probability of collision thresholds with others objects involved during the launch, and with objects already in orbit.

1.2.3a. the probability of the launch vehicle to collide with an object of interest, meaning any object involved in any situation that could affect the other space objects or the situation on Earth, shall be adjusted to following elements:

(a) whether the spacecraft is habitable;

(b) the size of the object;

(c) whether the spacecraft is active.

1.3. Casualty risk

The casualty risk at launch and at re-entry shall be limited by the application of the following measures:

(a) The calculation of the collective risk for casualties due to launch and re-entry shall be performed by using an approved method to be selected among existing methods by the Commission or a new method to be developed, where appropriate, by the Commission taking into account the following elements:

(i) all the phenomena leading to a risk of catastrophic damage (ascent phase, fallout from stage after separation, re-entry into the atmosphere of a deck put into orbit, recovery phase of a reusable deck);

(ii) pre-fragmentation trajectories (atmospheric or in outer space), depending on the flight times and faults considered;

(iii) the corresponding fragmentation and debris generation scenarios, at the re-entry or at the moment of neutralisation of the launch vehicle and the return to Earth of any element of the launch vehicle;

(iv) the dispersion on the ground of the debris and nocive gases and the evaluation of the effects thereof;

(v) the reliability of the launch vehicle for the launch phase, including, where applicable, during the recovery phase;

(vi) the reliability of the deorbiting manoeuvre of the launch vehicle element put into orbit, in the case of controlled re-entry.

(b) The casualty risk shall be limited to a threshold, duly taking into account the differences in the types of risks entailed by the following risk scenarios:

(i) risk at launch;

(ii) risk at re-entry (controlled and un-controlled);

(iii) risk for the recovery phase of reusable launch vehicle elements.

Annex III

GROUND SEGMENT SOFTWARE REFERRED TO IN ARTICLE 63

2. Ground segment software requirements

2.1. The ground segment shall be capable of providing a daily orbital forecast, including manoeuvres, for the spacecraft, for up to:

(a) 7 days at minute level intervals, and in accordance with the Consultative Committee for Space Data Systems (CCSDS) format in LEO;

(b) 14 days at minute level intervals and in accordance with CCSDS format in MEO;

(c) 14 days at minute level intervals and in accordance with CCSDS format in GEO.

2.2. The ground segment shall provide rank 7 covariance formation (position, velocity, drag) for 7 day trajectory forecasts.

2.3. The ground segment shall be able to process CCSDS data format, and in particular Orbital ephemerides Messages (OEM) and Conjunction Data Messages (CDM), for the collision avoidance operations.

For the purpose of Annex III and IV, ‘conjunction data messages’ means information about a conjunction between two space objects.

Annex IV

COLLISION AVOIDANCE REFERRED TO IN ARTICLES 15 AND 64

1. Requirements for the choice of the collision avoidance (CA) provider

1.1. General requirements

(a) The technical means to assess collision – a CA system – and compliance with the requirements of point 1 of this Annex.

The CA system shall be either external or in-house, provided that in the case of an in-house system, adequate mechanisms are in place to ensure the independence of the respective CA provider.

(b) The CA provider shall provide to its users a recommendation with sufficient time to enable manoeuvres on quality conjunction assessment results on an operational timeframe.

(c) The CA provider shall ensure collision avoidance service provision for all phases of the mission (from launch to disposal).

1.2. Requirements for the input ingestion

(a) The CA provider shall be able to ingest orbits in standard format and associated covariance, including planned manoeuvres.

(b) The CA provider shall be able to ingest data from various sources, such as ephemerides provided directly by spacecraft operators, orbits from catalogue of space objects and Conjunction Data Messages (CDMs) provided by external data source.

(c) The CA provider shall be able to compute covariance information in exceptional cases when not included in the data source.

1.3. Requirements regarding data Quality Check

(a) The CA provider shall perform data quality checks to assess the data from space operators.

(b) The CA provider shall perform calibration of sensors’ data.

1.4. Requirements for the CA process

(a) The CA provider may use existing catalogues and CDMs in the operational collision avoidance service.

(b) The CA provider shall support the screening of ephemerides, the time histories of both operational and predicted positions and velocities that incorporate all planned manoeuvres.

(c) The CA provider shall perform the following tasks for spacecraft operation, by making use of available sources of internal and external information:

(i) identifying conjunctions within the screening volume adapted to the orbit regime of the protected spacecraft;

(ii) assessing the risk of the conjunctions, based on the probability of collision and, when appropriate, on geometry (miss distance and radial distance) criteria;

(iii) generating CDMs;

(iv) providing users with a diverse, user-selectable set of conjunction and CA "Go/No-Go" manoeuvre metrics, to assess the collision risk and to develop an appropriate course of action;

(v) allowing that mitigation actions decrease the risk level of the conjunctions to be mitigated, and do not unduly increase the risk level of other conjunctions.

(d) The CA provider shall use collision probability estimation techniques whose soundness is generally accepted, such as those used by the Union CA entity, and appropriate for a given encounter.

(e) The CA provider shall be able to coordinate with other CA providers, especially in case of high interest event.

1.5. Timeliness requirements

(a) The CA provider shall periodically assess the risk of conjunction.

The recommended time interval shall be once per day, per GEO spacecraft, and once per hour, per LEO/MEO spacecraft (provided that new information is available).

(b) The CA provider shall have one person available to provide support within 1 hour, on a 24h/7 days basis.

2. Requirements for Union spacecraft operators

2.3. Union spacecraft operators shall provide to the Union CA entity information about its operational orbit(s), in the form of predicted positional and velocities time histories that incorporate all planned manoeuvres, including realistic covariances:

(a) 1 day before performing planned manoeuvres for non-automatic CA system;

(b) as soon as possible for automatic CA systems.

2.5. The Union spacecraft operator in charge of a manoeuvrable spacecraft shall provide a contact point available to respond:

(a) within 8 hours on a 24h/7 days basis for LEO;

(b) within 24 hours, on a 24h/7 days basis for MEO and GEO.

2.7. Union spacecraft operators and the Union CA entity shall define at the time of subscription to the Union CA entity:

(-a) any element necessary to the establishment of the service and its implementation in orbit, such as the radius of the sphere englobing its spacecraft, or an upper-bound estimation;

(a) as regards the elements related to the safety distance requirement, the limit above which the risk of collision is considered high enough to trigger a high interest event alert;

(b) specific requirements according to the different phases of the mission (launch, transit, passivation, EOL-operations).

2.8 In the case of non-manoeuvrable spacecraft, Union spacecraft operators shall meet the requirements referred to in point 2.7 and shall cooperate with the Union CA entity under best efforts.

Annex V

SPACECRAFT SPACE DEBRIS MITIGATION REFERRED TO IN ARTICLE 70

1. Limit spacecraft fragmentation

1.2. Avoiding fragmentation due to internal spacecraft causes

1.2.1. To limit the risk of accidental fragmentation caused by on-board source of energy, the following requirements shall be implemented:

(b) The spacecraft on-board sources of energy shall be designed to be robust and take into account the following factors:

(i) the expected nominal environmental extremes;

(ii) the nominal mechanical and chemical breakdown;

(iii) the potential impact of system spacecraft failure modes; and

(iv) the impact of on-board sources of energy on the spacecraft's ability to passivate.

(c) The spacecraft shall be designed taking into consideration the specificities of its subsystems, such as the electrical and propulsion systems, or the pressurized systems' risk of fragmentation during their orbit lifetime.

(d) The in-orbit operation of spacecraft shall include procedures for the monitoring of the relevant parameters of each subsystem identified as a potential source of space debris generation, in order to detect malfunctions.

(e) Spacecraft shall be passivated in accordance with the following principles, unless atmospheric breakup is imminent:

(i) Measures taken to implement the requirement regarding passivation shall take into account specificities related to the type of propulsion.

(ii) When electric passivation is used, the design of spacecraft shall ensure that schematics of electrical passivation are established and specified.

(iii) Union spacecraft operators shall, before the end of life of the spacecraft, check if the passivation capabilities of the spacecraft are still nominal and, if necessary, update the passivation procedures.

(iv) Except for cubesats, the design of spacecraft shall ensure it contains a redundancy function for passivation.

(v) Union spacecraft operators shall deplete energy reserve in either of the following ways:

(1) through hard passivation, whereby a Union spacecraft operator shall put in place controls with parameters set to a level which cannot cause an explosion or deflagration large enough to release orbital debris or fragmentation of the spacecraft;

(2) through soft passivation in accordance with the conditions set out in the implementing act referred to in Article 70(3), point (b).

(vi) Union spacecraft operators shall deactivate the parts of the spacecraft that produce energy.

(vii) Following the passivation there shall be no more radioelectric emissions of the platform and the payload.

(viii) Passivation shall not generate space debris larger than 1 mm, with the exception of the ventilation of propellant.

(f) In the case of electrical passivation, energy sources shall be isolated and the battery drained.

2. Reliability design and control

2.1. Provisions concerning the reliability of the design

2.1.1. The design and manufacture of spacecraft and of its components and sub-systems shall be:

(a) verified, through testing, analysis, demonstration or inspection;

(b) validated, through acceptance testing, demonstration or inspection; and

(c) tested, analysed and demonstrated, where such testing, analysis and demonstration may vary based on the type of equipment and the criticality of the functions.

2.1.2. Control of the design, manufacture, integration and implementation of spacecraft systems shall be put in place, in order to manage hazards, especially those arising from critical activities.

2.2. Operational procedures for quality and reliability control

Union spacecraft operators shall implement a quality management system.

2.2.1. Union spacecraft operators shall implement a quality management system.

The implementation of a quality management system shall cover at least quality assurance, RAMS (reliability, availability, maintainability, safety), including health monitoring, failure prognostics and configuration management.

2.2.2. The monitoring and controlling of any deviation in the manufacturing and implementation of the space mission shall include the following:

(a) implementation of a system to monitor and control deviations in manufacturing and implementation, including amongst other things the following:

(i) deviations in relation to configuration (definition, launch system, production and implementation process);

(ii) deviation resulting from the utilisation of in-flight data;

(iii) the operational sequences involving the spacecraft control shall be tested before launch, for the critical phases of a space mission (including but not limited to launch and early operation phase, decommissioning, critical operations in orbit);

(iv) pressure and temperature in the engines, tanks, pressure vessels;

(v) parameters (temperature and voltage) of batteries to detect failures;

(vi) parameters to detect failure modes of the orbit and attitude control system.

(b) ensuring the traceability of technical and organisation events affecting the engineering and manufacturing processes.

2.2.3. Definition of procedures to assess critical functions, using in-flight data.

(a) The procedures shall foresee a re-evaluation to be carried out at least the following times:

(i) upon request of the component authority, during nominal lifetime and during time of mission extension;

(ii) upon detection of an anomaly which could affect the successful deorbiting;

(iii) when evaluating a space mission lifetime extension;

(iv) upon occurrence of a major change on the space environment (for example a catastrophic fragmentation) with a significant impact on the operational orbit or disposal approach;

(b) At least the following parameters shall be re-assessed in the procedures referred to in point (a):

(i) the monitored and updated probability of successful disposal with flight data, to ensure that the probability of successful disposal is high;

(iii) the foreseen number of collision avoidance manoeuvres up to the end of life, with updated environmental models (and respective Delta V);

(iv) the decay orbit and the respective risk of collisions from the foreseen deorbit time up to re-entry (and guarantee that the respective Delta V is available).

For the purpose of paragraph 2.2.3., point (b), points (iii) and (iv), ‘delta V’ means the velocity increment necessary to reach a specific orbit or flight path.

3. End of life

3.1. Probability of successful disposal

3.1.3. The implementing act referred to in Article 70(3), point (c), shall take into account the following elements:

(a) an assessment of the probability that a space debris or meteoroid impact prevents the successful disposal of the spacecraft;

(b) an assessment of uncertainties in the availability of resources, such as propellant, required for the disposal;

(c) the inherent reliability of equipment necessary to conduct the disposal, and a monitoring of the equipment, including the subsystems, units and functions used solely for disposal;

(e) passivation operations, even after loss of command or loss of contact.

3.1.5. If propellant is used:

(a) The probability, calculated prior to launch, of having the propellant needed for the end-of-life manoeuvres, at each moment during the space mission, and up to the initiation of successful decommissioning manoeuvres, shall be maximal.

(b) In due time before disposal, the Union spacecraft operator shall check that it has the necessary propellant to perform the disposal.

3.2. Design of the spacecraft in view of end of life disposal

3.2.1. Spacecraft shall be designed to support end of life disposal through the means referred to in point 3.3, point 3.6 or point 3.7, as applicable.

3.2.2. Disposal capabilities shall be planned and checked at the design stage. For LEO space missions, this shall include designing for the type of planned re-entry.

3.2.3. Disposal capabilities shall be available at any time of the space mission.

3.2.4. Protection of disposal systems from space debris and meteoroids shall be demonstrated.

3.2.5. Union spacecraft operators shall be able to maintain communication links and active tracking during disposal phase.

3.3. Removal of spacecraft in LEO

The removal of spacecraft in LEO shall be performed by one or more of the following means, chosen in the following order of preference based on technical feasibility including satellite design:

(a) Performing a controlled re-entry with a well-defined impact footprint on the surface of the Earth, to limit the casualty risk;

(b) Performing a semi-controlled re-entry after the end of space mission, to limit the casualty risk;

(c) Performing an immediate uncontrolled re-entry after the end of space mission, in case the design complies with the casualty risk;

(d) Allowing its orbit to decay naturally, in accordance with the limit of cumulative accidental collision probability, maximum orbital lifetime, and the limit for casualty risk;

(e) In exceptional justified cases, for Very High LEO, disposal can take place in an orbit not interfering with protected regions and valuable orbits;

For the purpose of points (b) and (c), ‘end of space mission’ means the phase when a spacecraft or launch vehicle orbital stage completes the tasks for which it has been designed, other than its disposal, becomes non-functional as a consequence of a failure, or is permanently halted through a voluntary decision.

3.4. Maximum orbital lifetime before re-entry for LEO

3.4.1. The Union spacecraft operator of spacecraft in LEO shall disclose the expected time in orbit following:

(a) the end of the space mission;

(b) the completion of the passivation procedure.

3.5. Rules for re-entry for LEO

3.5.1. For spacecraft being disposed in accordance with the rules laid down in Part 3.4, Union spacecraft operators shall consider design for demise as one of the steps to minimise the casualty risk.

3.5.2. Union spacecraft operators shall demonstrate that there is no risk of on-orbit collision with crewed stations following three days after the de-orbiting and return to Earth manoeuvres.

3.5.3. Union spacecraft operators shall carry out an assessment as to whether parts of the spacecraft will survive atmospheric re-entry and impact the surface of the Earth and shall set out the measures to be taken to reduce the casualty risk, in line with point 3.5.4.

3.5.4. The probability of casualties per re-entry shall be further specified in the implementing act referred to in Article 70(3), point (c)(iii), considering the following requirements:

(a) be as low as possible;

(b) be expressed as a maximum probability of having at least one victim (collective risk);

(c) include casualties on ground, as well as regards air traffic and maritime traffic;

(d) in the case of premature or accidental re-entry, Union spacecraft operators shall, as a matter of priority, implement all measures to reduce the risk to the ground.

4. Space debris mitigation plans

4.1. Debris control plan

4.1.1. A debris control plan shall be developed by considering each item containing stored energy. When developing such plans, Union spacecraft operators shall have due regard to systems that are most likely to cause accidental fragmentation of a spacecraft, such as notably:

(a) the electrical systems, especially batteries;

(b) the propulsion systems and associated components;

(c) the pressurized systems;

(d) the rotating mechanisms.

4.1.2. When drawing-up the debris control plan, a system level risk assessment approach shall be used.

4.1.3. The debris control plan shall list at least the following:

(a) a description of adherence to the restrictions on the planned debris generation,

(b) a description of adherence to the requirement on probability of accidental fragmentation,

(c) a description of adherence to limiting the risk of fragmentation due to collision,

(d) a description of the adherence to space reliability of design,

(e) a description of the operational procedures for quality and reliability control,

4.3. Failure response plan

The Union spacecraft operator shall develop a failure response plan that shall include at least the following elements:

(a) the criteria for selecting, from the alternative disposal methods, the one showing the lowest level of risk for a spacecraft being left in an operational orbit;

(b) the criteria for initiating the passivation contingency actions;

(c) for Union spacecraft operators in MEO and GEO, steps to remove spacecraft to an alternative orbit, and passivate it before any further critical systems are lost;

(d) steps to ensure the safe re-entry of the spacecraft from LEO, and to passivate it before any further critical systems are lost;

(e) the component of existing or future spacecraft that share components that could lead to a similar failure of the critical system (lessons learned);

(f) a removal plan that assesses the possibility of removal to be carried out by an ISOS service provider.

Annex VI

CONSTELLATIONS REFERRED TO IN ARTICLE 73

1. Intra-constellation requirements

1.1. For constellations, the debris control plans referred to in Article 70(2), point (a), shall, with a view to address the collision risk during orbital lifetime, include a report on intra constellation collision risks, listing the measures taken for mitigating that risk.

1.2. For constellations of 100 or more satellites the following shall apply:

(a) the spacecraft design and operations shall enable the implementation of automated processes as part of the collision avoidance strategy;

(b) Union spacecraft operators shall consider orbits that minimise the intra-constellation collision risk, including in cases of in-orbit failure, Launch and Early Operations (LEOP) and disposal;

(c) during the disposal phase and after the end-of-life, Union spacecraft operators shall analyse the risk of intra-constellation collisions and keep it at the lowest level possible, as provided in the implementing act referred to in Article 73(4), point (a).

2. Additional reporting requirements

2.1. For constellations, Union spacecraft operators shall take specific measures to ensure limitation of optical and electromagnetical interference as provided in the implementing act referred to in Article 73(4), point (b), first subparagraph;

2.2. For constellations of 100 or more satellites that following shall apply:

(a) the debris control plan referred to in Article 70(2), point (a), shall include an analysis that demonstrate that specific care has been taken to avoid collision with the international space stations for any phase of the space mission;

(b) a report shall analyse, after one year of operation, the probability of intra and inter-collision risks, and compare it with the one calculated at the time of the granting of the EUSA certification;

(c) Union spacecraft operators shall, after one year of operation, demonstrate the effectiveness of measures taken to address the optical and electromagnetical interference which have been explained in their application for EUSA certification. If such measures are not effective, Union spacecraft operators shall initiate the development of technical solutions through research to diminish the measured consequences for their next generation spacecraft in the respective constellation;

(d) Union spacecraft operators shall in case of transit from the injection orbit to the final orbit:

(i) prepare a plan for transit and demonstrate that the probability of collision is limited;

(ii) report on the functioning of vital systems is due before reaching operational orbit.

Annex VIII

IN-SPACE OPERATIONS AND SERVICES (ISOS) REFERRED TO IN ARTICLE 101

1. General provisions

1.1. General principles in carrying out ISOS

(a) For the purposes of this Annex, a client object shall be understood as a space object, including spacecraft or space debris, that receives ISOS.

(b) The Union ISOS provider and the Union space operator of the client object shall conclude a dedicated ISOS-related contract.

(c) Any ISOS shall be carried out only after the Union ISOS provider and the Union space operator of a client object have explicitly and unequivocally consented to start carrying out the agreed operation or set of operations, as applicable.

(d) The ISOS contract referred to in point (b) shall include a dedicated service plan describing in detail the mission concept for the respective ISOS and the infrastructure of both the client object and the servicer spacecraft.

(e) The servicer spacecraft and the client object shall be designed and manufactured, and the corresponding service mission shall respectively be designed, in a way that limits the risk of collision.

(f) During the ISOS operation, the physical separation between the ISOS servicer spacecraft and the client object shall be performed in a manner that ensures a sustainable orbit for both.

For the purpose of this Annex, ‘ISOS operation’ means the execution of the planned ISOS tasks involving one or more space objects and ‘ISOS servicer spacecraft’ means a spacecraft specifically designed for the purpose of providing specific ISOS.

1.2. Coordination of control centres

(a) The respective control centres of the ISOS servicer spacecraft and the client object shall ensure appropriate coordination, by sharing all data, including the telemetry, that is necessary to ensure the safety of the respective operations.

(b) Except where the client object is space debris, the Union ISOS provider and the Union space operator of a client object shall identify, for each phase in the carrying out of ISOS, the control centre with decision-making authority for joint operations in the area of proximity, including during the attach phase, as well as the control centre which controls the composite object in the attached phase.

2. Service provision

2.1. ISOS servicer spacecraft and service compatibility to client object configuration

The design of the ISOS servicer spacecraft and the operational service concept shall be compatible with the design and operation of the client object, respectively or, where the client object is space debris, with the condition of the debris.

2.2. Due diligence obligations regarding the potential impacts on third parties

2.2.1. Union ISOS providers shall take all appropriate measures to prevent:

(a) interference with an object, other than the client object, that generates harm;

(b) disruption, including interruption, of any operation carried out by a third party spacecraft;

and, where such prevention is not possible or is not immediately possible, shall adequately mitigate potential adverse impacts when carrying out ISOS.

2.2.2. The Union ISOS provider shall define in the operational concept a safe zone where presence of a third party will lead to non-engagement or withdrawal of the ongoing ISOS operation.

2.2.3. Where anomalies occur, or where unforeseen events, including those caused by the carrying out of ISOS, lead to potential adverse impact on third party space objects, the Union ISOS provider shall immediately notify the space operator of the third-party space object impacted.

2.2.4. The Union ISOS provider shall closely cooperate with the Union CA entity, including in the service operation phase.

2.3. Safety of operations

(a) For the purposes of the approach phase, and with a view to initiate the separation, the Union ISOS provider shall set out, in the operational concept, standby or transit points.

(b) During the service operation the Union ISOS providers shall conduct a GO/NO-GO testing at every appropriate timing/sequence and shall only continue the service operation when the GO condition is met. When the GO conditions are not met, a cancel command shall be triggered either autonomously or by a command sent from the ground segment.

(c) During the approach phase, and after the separation, the on-board systems of the ISOS servicer spacecraft shall be able to assess the risk of collision between the ISOS servicer spacecraft and the client object, in real time, and shall be capable of autonomously triggering an avoidance manoeuvre to place the ISOS servicer spacecraft on a path non-colliding with the client object.

2.4. Qualification of the system and servicing concept - Prior testing

Except for non-reversible ISOS operations, Union ISOS providers shall, for the purposes of ascertaining the proper system functioning for the planned ISOS, carry out tests in orbit at least before engaging in the first service operation or in the first step and only if no danger is posed to any other space object.

Annex IX

QUALIFIED TECHNICAL BODIES REFERRED TO IN ARTICLE 32a

1. General requirements for QTBs

1.2. A national QTB shall be independent from:

(a) a space operator, where that national QTB carries out a technical assessment in relation to a product, process, service, including risk-management, regarding matters covered by this Regulation;

(b) a competitor of a space operator, as regards the carrying out of the technical assessment of a product, process, service, including risk-management, regarding matters covered by this Regulation;

(c) an undertaking, other than space a operator referred to in point (a), or competitors referred to in point (b) of this paragraph, that has an economic interest in a product, process, service, including risk-management, regarding matters covered by this Regulation.

1.4. A national QTB shall be organised and managed in a way that safeguards the independence, objectivity and the impartiality in carrying out its activities. For that purpose, a national QTB shall ensure that:

(a) procedures to safeguard and document its impartiality are set up and guaranteed throughout its activities, and that such procedure apply both to the top-level management and to the personnel carrying out technical assessment activities;

(b) the national QTB and its personnel carries out the technical assessment with the highest degree of professional integrity and with all requisite technical competence in the specific area(s) of activity, free from any pressure and inducements, particularly of a financial nature, which might influence the judgement or the results of the technical assessment activities;

(c) it has policies and procedures to distinguish between the tasks it carries out in that capacity and any other tasks;

(d) the national QTB, its top-level management, and its personnel responsible for carrying out technical assessment activities does not engage in any activity that may conflict with the independence of judgement or the requirement of integrity, as regards the technical assessment, notably consultancy services;

(e) the remuneration of the top-level management and of the personnel of the national QTB carrying out technical assessment tasks shall not depend on the number of technical assessments being carried out, or on the results of those technical assessments;

(f) transparency is ensured regarding the procedure for carrying out technical assessments, for instance by means of publication on the relevant website of a description of such procedures.

A national QTB shall meet the organisational, quality management, resource-related and process-related requirements necessary to fulfil its tasks.

The organisational structure and operation of a national QTB, as well as the allocation of responsibilities and reporting shall be such as to ensure confidence in the performance of tasks and in the results of its technical assessment activities.

1.5. At all times, and for each procedure in the technical assessment, a national QTB shall:

(a) have at its disposal personnel possessing the necessary technical knowledge and appropriate and sufficient experience to perform technical assessment tasks;

(b) use procedures which take into account the specificities of the space operators and of the space activities, including the structure, degree of complexity of processes or technology, mass or serial nature of the production processes:

(c) possess the necessary means to perform all the technical and administrative tasks for technical assessment activities, including having access to all necessary data, equipment or facilities.

1.6. The personnel of a national QTB which is in charge of carrying out technical assessment activities shall have:

(a) appropriate understanding and knowledge of the matters covered by this Regulation, of relevant standards regarding matters covered by this Regulation, or relevant provisions of Union and national law;

(b) sound knowledge of the specific requirements for which a technical assessment activity is carried out;

(c) sound technical and vocational training covering all technical assessment activities in relation to which a national QTB has been notified;

(d) the ability to draw up certificates, records and reports demonstrating that technical assessments have been carried out.

1.7. A national QTB shall be capable of carrying out tasks in relation to matters covered by this Regulation with the highest degree of professional integrity and requisite competence in specific fields, whether such tasks are carried out by the national QTB itself or are being carried out by an external party on its behalf and under its responsibility.

When a national QTB delegates part of its tasks, it shall have sufficient internal competence to effectively evaluate the way in which the external party executes such tasks on its behalf.

When a national QTB delegates part of its tasks, it shall inform the authority referred to in Article 32 accordingly and shall keep all documents related to the assessment of the qualifications of the external party, evidence of compliance with this Annex, where applicable, evidence of meeting the requirements with Section 8 of Commission Recommendation (EU) 2021/2279, and evidence of the work carried out by the external party.

1.8. A national QTB shall ensure the permanent availability of administrative, technical, legal and scientific personnel with knowledge and experience of the relevant technologies of space activities and the technical requirements laid down in this Regulation.

1.9. A national QTB shall have in place documented procedures to ensure that its personnel and any relevant committees, subsidiaries, subcontractors or associated body or, as applicable, personnel of external bodies, handle the confidential information to which it comes into possession during the performance of technical assessment, in compliance the professional secrecy requirement laid down in Article 115, except when disclosure is required by law.

The staff of a national QTB shall observe professional secrecy regarding all information obtained in carrying out the tasks in relation to matters covered by this Regulation.

1.10. The staff of a national QTB shall hold or be in a position to obtain in due time, a valid personnel security clearance certificate.

1.11. A national QTB shall hold an appropriate liability insurance for carrying out its technical assessment activities.

1.12. A national QTB shall participate in the coordination activities as referred to in Article 39.

1.13. A national QTB shall take part, directly or through representation, in the activities of the European standardisation organisations, or shall at least ensure that it is aware and up to date with relevant standards in the areas falling into the matters covered by this Regulation.

1.14. A national QTB shall operate in accordance with fair and reasonable terms and conditions, in particular taking into account the interests of SMEs in relation to fees.