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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 16 December 2025, 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 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 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 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. At the same time, Member States rely on each other's capabilities when carrying out spacecraft launches. In the same vein, the launch and re-entry operations expose the innate transboundary dimension through the impact which space activities have on the airspace 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 the 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 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 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 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 authorisation in relation to key elements of space infrastructure, such as spacecraft, space debris mitigation, or to cyber risk management rules when providing space 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 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 services. Some Member States have for instance chosen to impose for safety reasons more stringent 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 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 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 services across the Union. Since space services rely on space-based data generated through, and using, the assets of space infrastructure, the provision of space 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 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 rules which harmonise key aspects for space services in the context of authorisation of space activities should be established at Union level, to ensure unhindered provision of space-based data and space 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 services providers access to current and potential new markets, resulting in an increased choice for end users.

(17a) In order to create equal conditions for operating in the internal market, the rules for all space services providers within scope of this Regulation should apply to the extent space-based data and space 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 services providers where they provide space-based data and space services to the Union.

(17b) 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 purposes should be excluded from the scope of this Regulation when they need to be placed under a Member State operation and control, for defence purposes, only for the duration of the respective space mission carried out by the military forces. 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.

(17c) 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.

(17d) 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 primary provider of space-based data 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 operators established in the Union should be subject to an authorisation regime, to address key safety, resilience and environmental sustainability aspects of typical space services which relate for instance to the operation of spacecraft, the provision of launch services. Union space operators of Union-owned assets should be authorised by the 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 authorised by Member States.

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

(41) To enable seamless authorisation processes across the internal market and create equal treatment of all Union space operators the overall duration of authorisations should be maximum 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 authorisation process, with a view to take into account the need for further clarifications and assessments.

(41a) In light of the technical complexity and the length of the preparation of a space mission, applicants should have sufficient time to provide any required information or clarification. Thereby a suspension of the deadlines applicable, in the processes for authorisations, to the national competent authorities, should be also foreseen.

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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 formal 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 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 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 authorisations provided under this Regulation are without prejudice to the obligations of the Member States under the relevant UN Treaties. In that regard, the authorisation 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 or other environmental requirements.

(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 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 authorisation processes for the launch of satellite constellations should be streamlined. Under certain conditions, and subject to a set of safeguards, a simplified authorisation procedure should be available, leading to the issuing of a single authorisation valid for the entire satellite constellation.

(43b) Primary providers of space-based data play a key role as intermediaries between the upstream and downstream sectors as they channel space-based data from space operators towards the various subsequent uses of such space-based data, for the benefit of the entire economy and citizens. In that respect, although the substantive rules which apply to space operators should not apply to them, they still play an important role in the space sector, by ascertaining that the space-based data which they pass down in the value chain originates from space operators that are compliant with this Regulation. Primary providers of space-based data should take all necessary steps to ensure that the data they provide in the Union comply with the requirements of this Regulation, including registration in URSA and obtaining an e-certificate.

(43c) Space services 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 registration of space activities in the Union and on any supervisory measures. The Commission should provide the decision of 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 services providers established in that third country should be established on that basis. Such space services providers should be able to provide space-based data and space 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 services, the Commission should grant a derogation from the requirements laid down in this Regulation for launch services where this is justified by a public interest. Implementing powers should be conferred on the Commission to grant a derogation to the respective third-country launch operator where the public interest condition is met.

(43g) At the same time, swift action in cases of emergency or crisis might be necessary, exceptionally and on a temporary basis, to make use of space-based data or space services provided by space operators which have not been registered in the Union.

(46) Once compliance with the requirements laid down in this Regulation has been established, the registration in the Union Repository of Space Activities (URSA) and the issuing of an electronic certificate (e-certificate), proving that the space-based data has been generated by space objects which are compliant with this Regulation and respectively that the space services are based on space activities and the use and operation of space objects compliant with this Regulation, should enable the free provision of the space-based data and space services across the Union. The Agency should issue to registered space activities the individual e-certificates.

(47) Consolidated lists of all space activities registered 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 registered 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 services provided in the Union make use of data that has been generated by space objects compliant with the requirements of Union law.

(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.

(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 overarching 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 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. When assessing the amount of fines, Member States should, in each individual case, consider all the relevant circumstances of the specific situation, with due regard to, in particular, the nature, gravity and duration of the infringement, the permanence of the damages caused or any previous infringements.

(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 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[8] 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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[8] 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).

(52j) The national competent authorities established under this Regulation shall take duly account of technical assessments and opinions issued by qualified technical bodies, single point of contacts or computer security incident response teams established under Directive (EU) 2022/2555, with a view to ensure supervisory convergence and create a culture which observes the supervisory powers of authorities under that Directive.

(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 authorisation and supervision of Union space operators of Union-owned assets and on the registration and the ongoing supervision of third country space operators providing space-based data and space 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 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 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.

(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 by the International Standardisation Organisation (ISO). Therefore, the authorisation to carry out space activities should be linked to the submission by space operators of specific space debris plans to demonstrate how the launch vehicles and spacecraft would limit debris creation.

(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 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, 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 authorisation to extend 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 light and radio frequency disruptions in their astronomical campaigns. Such disruptions have a direct impact on research and planetary defence capabilities. As a result, mitigation measures should be developed to protect the dark and quiet sky.

(66) Constellations are an asset for the efficient deployment of space 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) To date, the cybersecurity of the space sector has been only partly addressed at Union level through a general applicable framework as laid down by Directive (EU) 2022/2555[9] of the European Parliament and of the Council. The current cybersecurity regime does not comprehensively cover all types of actors and services which are relevant for the space sector. Therefore, cybersecurity requirements should be established as regards the providers of non-public electronic communications networks and services, the entities falling below the size-cap of medium-sized enterprises under Article 2 of the Annex to Commission Recommendation 2003/361/EC[10] and research and education institutions and should equally cover observation data and launches using launch vehicles outside the Union.

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[9] 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)

[10] 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).

(69) At the same time, the cybersecurity baseline across the whole space sector seen in its entirety lacks alignment and coherence. While the resilience of Union-owned assets has been achieved under the components of the Union Space Programme, lower levels of protection may apply to part of the assets from national space infrastructure. Such divergence would only continue to grow and generate asymmetries. In addition, the Union Space Programme operates in an increasingly intertwined architecture integrating national commercial satellites payloads. Thus, the space infrastructure of Member States should adequately level-up to higher levels of resilience to also avoid endangering the security of Union-owned assets and the functioning of the Union Space Programme and ultimately avoid adversely impacting the delivery of space-based data and space services supporting activities as well as critical entities and sectors across the internal market.

(70) The current imbalance is not only caused by the fact that space programmes have been developed under parallel tracks (Union and Member State levels). It is also linked to the absence of a common baseline for cybersecurity and risk management tailored to the specific needs of space infrastructure. While only some Member States adopted a normative approach, the level or depth of such requirements varies across the internal market. The resilience of the space infrastructure depends in many cases on the financial capabilities and ultimately on the willingness of companies to adhere to good risk management practices and integrate cybersecurity into their design and operation of space missions.

(71) To address such gaps and imbalances, a bespoke resilience baseline should be laid down for all the space sector. These rules should apply to the entirety of space infrastructure across the Union, covering Union-owned assets as well as national governmental and non-governmental assets. All ground, space and links segments of space infrastructure should be coherently covered, as well as the digital and physical, both space and ground-based systems and subsystems, with a view to cover all relevant risks, such as cyber and electronic interferences risks as well as physical risks.

(71a) Cybersecurity requirements under NIS2 and this Regulation should be synchronised and coordinated, to ensure the requirements are identical for all types of entities, hereby fostering legal certainty for operators and avoiding unnecessary administrative burden.

(73) Ensuring the cybersecurity of space infrastructure is paramount throughout all phases of design, development and operation of space infrastructure. As a result robust risk management measures should be put in place throughout the lifecycle of space missions with due regard to all key phases. Adequate protection for all assets, systems and data, from design and manufacturing, throughout launch and operation and until the end-of-life stages should be achieved.

(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[11] 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.

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[11] 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).

(83) Moreover, according to Directive (EU) 2022/2557, where a critical entity has carried out other risk assessments or has drawn up documents pursuant to obligations laid down in other legal acts relevant for the critical entity's risk assessment, that entity may use those assessments and documents to meet certain requirements set out in Directive (EU) 2022/2557. That Directive lays down in this regard an explicit possibility for a competent authority under that Directive to declare, in the exercise of its supervisory functions, and under certain conditions, that such assessment is compliant, in whole or in part, with the relevant obligations under that Directive.

(84) Thus, considering the strong linkages between this Regulation and Directive (EU) 2022/2557, competent authorities established under these two acts should cooperate to enhance synergies of their respective actions, notably when risk assessments carried out under this Regulation by Union space operators in scope of that Directive are used to demonstrate compliance with certain requirements of that Directive.

(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.

(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) 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 and reduce costs and support sustainable innovation.

(93a) Acknowledging that space activities occur both on Earth and in space, this Regulation should mandate a comprehensive 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. By minimising adverse effects on Earth and in orbit, this Regulation should promote sustainable practices that protect all environmental domains, reinforcing the commitment to improving the environmental performance of space activities.

(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.

(96) Space operators should consequently be required to calculate the environmental footprint of their space activities throughout the lifecycle of space missions. The qualified technical body should carry out the verification and validation of the calculation of the environmental footprint of space activities, and attest it.

(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. This methodology would facilitate comparisons among space systems, streamline calculation processes, reduce administrative burden, enhance clarity, and ensure consistent implementation across the sector.

(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. 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 environment footprint-related database. Published derived or aggregated datasets should not allow for re-engineering or decompiling of data to identify its origin. This would ensure data integrity and confidentiality while enhancing usability, reducing redundancy, and reducing administrative and financial costs for performing 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 be beneficial for the future development of the Union space ecosystem, contributing to the creation of new markets (in-space economy), fostering sustainability and increasing the resilience, adaptability, and scalability of space infrastructure, as well as alleviating risks related to space debris.

(100) While the ISOS technology is inherently dual use, a transparent framework based on key principles should alleviate the risk of capability and technology misuse in the context of providing ISOS. With first in-space operations and services already available in the Union, such as for inspection and transportation, it is necessary to foster in parallel the research and development of ISOS technology and demonstrate dedicated technologies and services in space.

(101) ISOS space missions could be of complex nature and therefore require detailed preparation. A servicer spacecraft performs rendezvous and proximity operations 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 the debris object should be prevented and mitigated through appropriate actions, such as preparing the 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 small-sized enterprises 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.

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

(101d) 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.

(101e) 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.

(101f) 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.

(127) With a view to creating a common approach for Union space operators willing to go further than the baseline mandated by this Regulation in relation to safety, resilience or environmental sustainability of space activities, a Union Space Label should be established. The Union Space Labelling Schemes should bridge the current gaps resulting from the coexistence of different standards or undeveloped practices, thereby helping to building a common approach.

(129) Following a Commission request, the Agency should prepare a candidate scheme, which is a draft labelling scheme for evaluation and approval, for the specified scope and subject matter, without undue delay. The Agency, through public consultations, should evaluate any likely impact of the candidate scheme on the market, especially any potential impacts on SMEs and small mid-caps, on innovation, barriers to entry to market, or entailing costs.

(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 authorisation or 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[12]. 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 technical requirements needed for the deployment of the e-certificate by the Agency, as well as for the dark and quiet skies, 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. The Commission should be empowered to adopt implementing acts establishing common specifications for these essential requirements in limited circumstances taking into account the role and functions of standardisation organisations.

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[12] 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 amount of fees charged by the Agency and the way in which they are to be paid, 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 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 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[13].

[13] 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 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.

(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-based data and space services.

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

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

(a) authorisation of space activities carried out by space services providers established in the Union;

(aa) registration of space activities carried out by space operators established in third countries;

(ab) 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 authorisation and registration of space activities;

(d) establishment of a Union Space Label and capacity-building measures.

Article 2

Scope

1. This Regulation applies to the following space services providers:

(a) space operators;

(c) primary providers of space-based data;

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;

(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 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, when issuing an authorisation for operation or launch, impose stricter requirements than those provided in this Regulation, insofar as such requirements are objectively necessary to safeguard the safety, resilience or environmental sustainability of the operation or launch subject to authorisation on its territory, and that such requirements are consistent with Member States' obligations laid down in Union law.

3. A Member State shall provide all relevant information regarding any stricter requirements imposed 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 and 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:

(-1) ‘space-based data’ means raw or processed data received from outer space, including but not limited to data of interception, of localisation, of transmission of a signal generated by a space object, or observation data, and which originate from the Earth, a celestial body, a space object or from outer space;

(-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 services;

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

(a) operation, control and re-entry of space objects;

(b) provision of launch services;

(c) services provided by a primary provider of space-based data;

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

(-1c) ‘space services provider’ means a space operator or a primary provider of space-based data, providing the services defined in point (14);

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

(a) operation, control and return 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 authorisation’ (‘EUSA authorisation’) means an authorisation certifying compliance of a space activity with the applicable requirements laid down in Title IV;

(1b) ‘overarching national authorisation process’ means the national authorisation process for the carrying out of space activities, which includes both the EUSA authorisation 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, or controlled by a natural person or a legal person that is established in the Union 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 is a Union space operator pursuant to paragraph (1f) or whether it carries out a launch from Union territory and which carries out any of the following:

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

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

(c) provides services to primary providers of space-based data;

(1g) ‘control’ means, for the purposes of points (17) and (19), 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 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 execution of collision avoidance manoeuvres to reduce the risk of collision in outer space;

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

(22) ‘primary providers of space-based data’ means a natural or legal person established in the Union or in a third country, that intends to provide space-based data which have not been placed on the internal market; for the purpose of this point, ‘placed on the internal market' means any space-based data that are derived from space activities registered in URSA and that are placed on the Union market for the first time, with a view to its distribution or use within the Union market, in return for payment or free of charge.

(a) providers of electronic communications services, where the space-based data concerned is communication;

(b) space services providers which ensure the first processing of observation data, before other processing thereof, where the space-based data concerned is observation data;

(23) ‘international organisation’ means an international organisation providing in the Union space services or space-based data generated by space objects placed on an orbit not further than GEO and operated by such international organisations;

(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 (AIT) 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;

(54) ‘cyber threat’ means a ‘cyber threat’ as defined in Article 2, point (8), of Regulation (EU) 2019/881;

(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
AUTHORISATION AND REGISTRATION FOR SPACE ACTIVITIES

Chapter I
AUTHORISATION FOR SPACE ACTIVITIES BY UNION SPACE OPERATORS

Article 6

Authorisation for carrying out space activities

1. A Union space operator may only provide a space service within the Union where it possesses valid EUSA authorisations, as referred to in paragraph 1a, to carry out the space activities necessary for that service.

1a. National competent authorities or the Commission shall issue EUSA authorisations to carry out the space activities referred to in paragraph 1. Those EUSA authorisations shall be part of the overarching national authorisation processes.

1b. The EUSA authorisation shall be issued by the following authorising authorities:

(a) the national competent authority of the Member State in which the applicant has its main place of establishment;

(b) the Commission for Union-owned assets.

For the purposes of this Regulation, "authorising authorities" means the entities whose authorisation is required, pursuant to the first subparagraph, as regards a given space activity.

1c. There may be more than one Member State who choose to exercise their jurisdiction, such as over the territory, the nationality or the facility used for the space activity. The national competent authorities of those Member States, when different from those referred to in paragraph (1b), shall, when carrying out their overarching national authorisation process, recognise the EUSA authorisation issued by the national competent authority of the main place of establishment or the Commission as regards the requirements laid down in Title IV.

1d. Member States may enter into agreements in order to allocate the authorisation and supervision responsibilities attached to a space activity. Such agreements shall be notified to the Commission.

6. Where a space activity has been authorised and that activity subsequently requires the use of ISOS space services provided by a third country space operator or an international organisation, then that ISOS provision may only take place once the authorising authority of the space activity receiving ISOS has updated its authorisation to include the e-certificate of that third country or international organisation ISOS provider.

Article 7

Authorisation process

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

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

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

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

(b) where a third country space operator or an international organisation is involved in the space activity, the information on the status of the URSA registration, registration process or plans to register in URSA;

(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 which the applicant intends to use.

4a. The authorising authority shall send the application to the relevant QTBs designated in accordance with Articles 8(1) and 34(8) without delay.

Where a Member State has designated more than one QTB under that provision, the national competent authority shall send the application to the QTB chosen in paragraph (2), point (d), of this Article, without delay.

4b. Within 30 working days of receipt of an application for authorisation, the QTB shall assess whether the application is complete.

Where an application for authorisation is incomplete, or where further clarification is necessary, the QTB shall set a deadline by which the applicant shall provide any additional information or bring clarification. The deadline referred to in paragraph 6 shall be suspended until that additional information is received.

The QTB shall notify the applicant once satisfied that the application is complete and sufficiently clear.

5. The QTB shall assess the fulfilment of the requirements laid down in Title IV, as applicable. No more than 6 months after having notified the applicant as referred to in paragraph 4b, the QTB shall issue an opinion to the authorising authority as regards the compliance of the planned space activities with the requirements laid down in Title IV, as applicable.

5a. Where the authorising authority is the Commission, the Agency shall assess the application for authorisation and 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. The Agency shall issue a reasoned opinion proposing to the Commission to issue or refuse an authorisation.

6. No later than 12 months from the date of receipt of the application, the authorising authority, taking into account the opinions issued by the QTBs, shall issue the authorisation or reject the application and shall inform the applicant thereof. Where the authorising authority is the Commission, that authorisation or rejection shall take the form of a decision.

6a. Where an authorising authority issues an authorisation pursuant to paragraph 6 of this Article, it shall transmit the information referred to in Article 24(1a) to the Agency in order to enable registration in URSA.

6b. A Union space operator shall immediately report any change in its situation that may require a modification of its authorisation.

6c. Authorisations may be suspended or withdrawn in accordance with Article 30(6) and Article 55(1), point (d).

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;

(b) international organisations with specific technical expertise in matters covered by this Regulation, such as the European Space Agency; or

(c) the Agency, through the Compliance Board referred to in Article 43.

In the case of the Commission, the Agency is designated as the QTB.

3. Member States may only designate international organisations as referred to in paragraph 1, point (b), where those organisations meet the requirements laid down in Title III, Chapter I, Section 3. Such Member States shall ensure that compliance with those requirements is judicially enforceable.

3a. The Agency referred to in paragraph 1, point (c), of this Article shall act as QTB under the configurations of the Compliance Board, as referred to in Article 44(1).

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

Article 9

Authorisation for constellations

1. Space activities involving constellations may be authorised through one single application, provided that they comply with the following criteria, in addition to those set out in Article 7(2):

   (a) all satellites planned to be launched under the space mission fulfil the same user requirements and perform the same tasks in the same manner;

   (aa) all satellites of the constellation comply with the requirements laid down in Title IV;

   (b) the launch of all satellites for the space mission is planned to be carried with URSA-registered types of launch vehicle and from the same launch site.

2. Where a Union space operator intends to carry out a space mission that entails the launch of a satellite constellation, it shall submit to the national competent authority referred to in Article 28 an application, in accordance with Articles 6 and 7, for a single authorisation 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), authorising authorities and QTBs shall assess a single satellite to be launched under the relevant space mission.

Where the authorising authority is satisfied that the criteria laid down in Article 7(2) are fulfilled, the authorisation it issues pursuant to Article 6(1a) and Article 7(6) shall cover the entire satellite constellation (‘single authorisation’).

2b. Union space operators shall notify the relevant national competent authority of any change in the parameters of a satellite that may affect its compliance with Title IV, as well as before launching a new generation of satellites. Upon receiving such a notification, the national competent authorities shall review the single authorisation and, if satisfied that the Article 7(2) criteria are still fulfilled, shall confirm the validity of the single authorisation. No new satellite may be launched before the single authorisation's validity is confirmed.

Chapter III
PRIMARY PROVIDERS OF SPACE-BASED DATA, SPACE OPERATORS FROM THIRD COUNTRIES AND INTERNATIONAL ORGANISATIONS

Article 14

Provision of space-based data and space services by primary providers of space-based data, third country space operators and international organisations

-1. Where space operators place space-based data or space services on the internal market, the relevant space activities shall be registered in URSA and shall carry the e-certificate referred to in Article 25.

-1a. Primary providers of space-based data shall provide space-based data in the Union only where such data have been generated by space activities registered in URSA and carry the e-certificate.

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

2. For international organisations to provide, by virtue of their treaties, space-based data or space services in the Union, the agreements referred to in Article 107 or 108, as applicable, shall be in place.

   The space activities of international organisations providing space-based data or space services in the Union, pursuant to the first subparagraph, shall be registered to 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

Rules applicable to third country space operators

1. The 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 offering space services and space-based data in the Union.

   In addition, third country spacecraft operators 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 registration of their space activities in URSA, 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. Third country ISOS providers shall be subject to the requirements applicable to the Union ISOS providers referred to in Article 101(1).

4a. 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, shall be deemed to comply with the requirements laid down in this Article when they are in possession of a national authorisation.

Article 16a

Legal representative in the Union

1. Third country space operators shall designate in writing one or more 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 and the Agency, 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

Registration for third country space operators

-1. To obtain registration in URSA of its space activities, a third country space operator shall submit an application for registration to the Commission. That application shall contain all the evidence needed to demonstrate compliance with the requirements set out in Article 15. The Commission shall forward the application to the Agency for technical assessment.

-1a. The Agency shall assess the application for registration and shall notify the third country space operator of the outcome of its preliminary assessment. The Agency shall allow that third country space operator to submit a reasoned statement and to provide additional explanation or evidence.

5. Not later than 5 months from the receipt of the application referred to in paragraph -1, the Agency shall provide a reasoned opinion to the Commission on the approval or rejection of the registration in URSA.

6. No later than 12 months from the date of receipt of the application, 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 register the space activities of the third country space operator in URSA.

7. Where an equivalence decision under Article 105 applies, the Agency shall register the space activities of the third country space operator if those activities are authorised in that third country.

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

Article 17a

Suspension or withdrawal of registration

1. The Agency shall make a proposal to the Commission to suspend or withdraw the registration in URSA of a space activity of a third country space operator where, based on documented evidence, the Agency establishes that the third country space operator no longer complies with one or several requirements laid down in Article 15 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 of registration, the Agency shall conduct a dialogue with the third country space operator concerned, on the reasons, context, scope and gravity of the non-compliance, and on the remedies and deadlines necessary for that third country space operator to ensure compliance, with due consideration for any need for technical adaptation.

   During that dialogue, the Agency shall give the third country space operator concerned 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 achieved, or withdraw the registration in URSA. 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 upcoming decision.

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

6. The Agency shall make a proposal to the Commission to end the suspension of the registration in URSA of a space activity of a third country space operator where, based on documented evidence, the Agency establishes that the third country space operator complies with the requirements laid down in Article 15. The Commission shall take a decision ending the suspension indicating the date of reinstatement.

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

8. The Agency shall suspend or withdraw the registration in URSA of a space activity of a third country space operator referred to in Article 15(4a) where the relevant third country supervisory authority has suspended or withdrawn the operating or launching authorisation granted to that space operator.

Article 18

Registration of international organisations

1. Where an agreement is in place as set out under Article 107 or Article 108, Articles 17 and 17a shall apply accordingly.

Article 19

Derogations for launch services

1. A national competent authority may request the Commission to adopt a decision allowing the Agency to register a third country launch service which does not comply with one or more of the requirements referred to in Article 15(2), if the public interest 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.

2. As regards launch services, a Member State shall demonstrate that the launch services provided by a third country launch operator facilitate the access to, and the use of, space, when the following cumulative conditions are met:

(a) no readily available substitute or realistic alternative exist in the Union to the launch services provided by the respective third country launch operator;

(b) the launch services provided by the respective third country launch operator promote the technological capabilities of strategic importance for the Union or Member States.

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.

The application regarding a third country launch service shall propose, where possible, alternative mitigating measures 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 register that derogation in URSA.

Article 21

Emergency clause

1. Where an emergency or crisis occurs, or a large-scale incident or attack 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 services stemming from activities not registered 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 registered 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 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 SERVICES IN THE UNION AND E-CERTIFICATE

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 included in URSA:

   (a) space activities of Union space operators authorised by national competent authorities in accordance with Article 6;

   (b) space activities of Union-owned assets operated by Union space operators, based on an authorisation issued by the Commission in accordance with Article 6;

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

   (d) space activities of international organisations registered pursuant to Article 18.

1a. URSA shall contain the following information:

   (a) the space activities and the duration of the space mission;

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

   (c) the space operator that conduct those space activities including their contact details;

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

   (e) the national competent authority or, as applicable, the third country supervisory authority that granted the authorisation;

2. The information contained in URSA under paragraph 1a, points (a) to (c), shall be publicly accessible without prejudice to Regulation (EU) 2018/1725.

Article 25

Electronic certificate

1. Upon completion of the registration in URSA, the Agency shall issue and manage an electronic certificate (‘e-certificate’) to the space operators.

2. The e-certificate shall identify the space activities and space objects that generate the space-based data or enable the provision of space services. Registration in URSA and possession of a valid e-certificate shall attest conformity with the requirements laid down in this Regulation.

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 first space service making use of that space-based data;

   (c) the e-certificate shall be based on algorithms to ascertain the integrity of space-based data 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 authorisation and supervision of Union space activities and for any market surveillance activity needed to safeguard the use of space-based data in compliance with this Regulation.

1a. Where Member States designate or establish more than one national competent authority, they shall determine those authorities' respective tasks 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 when national competent authorities authorise and supervise space activities in or relating to national space programmes, they shall have appropriate separation of roles and the absence of conflict of interest.

Article 29

Supervisory tasks regarding Union space activities

1. National competent authorities shall supervise space activities carried out by Union space operators 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;

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 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 shall have, in accordance with national law, at least the following investigative powers:

(-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 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;

(b) to order Union space operators to cease conduct which infringes this Regulation;

(c) to take appropriate action to bring an instance of non-compliance to an end;

(d) to take appropriate measures where a Union space operator fails to bring non-compliance to an end;

(da) to impose, or request a relevant administrative or judicial body to impose, an administrative fine or sanction against a Union space operator;

(db) to temporarily suspend, or request a relevant administrative or judicial body to order the temporary suspension of an authorisation 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 authorisation to carry out space activities.

7a. The supervisory 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. In particular, Member States shall ensure that Union space operators have the right to be heard before the adoption of any decision imposing administrative penalties or suspension or withdrawal of an authorisation, and that any such decision is properly reasoned and subject to a right of appeal before a court.

Article 31

Administrative sanctions

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 designating a QTB as referred to in Article 8(1), point (a), shall nominate or establish a public authority responsible for identifying, assessing, designating 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 designating, assessing and monitoring the national QTBs for space activities;

(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 entrusted. 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 point 1, of Annex IX.

2. Where technical assessment activities are carried out in relation to Title IV, Chapter III, a national QTB shall meet, in addition to the obligation referred to in paragraph 1 of this Article, the requirements laid down in point 2, of Annex IX.

3. National QTBs carrying out technical assessment activities in relation to Title IV shall be public bodies.

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);

(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.

5. A national QTB which subcontracts tasks related to the technical assessment shall inform the authority referred to in Article 32 accordingly and shall ensure that its subcontractor meets the requirements referred to in paragraphs 1 and 2 of this Article.

National QTBs shall keep at the disposal of the authority referred to in Article 32 all documents related to the assessment of the qualifications of the subcontractor and to the work carried out by that subcontractor.

Article 34

Process for becoming a national QTB

-1. The public authority referred to in Article 32 shall identify potential applicants to become national QTBs.

1. In order to be designated as national QTB for one or more matters covered by Title IV, an entity shall submit an application to the relevant public authority, as referred to in paragraph (-1), in the Member State where it is established.

5. The application shall indicate the matters covered by Title IV, in respect of which designation is requested. That application shall be accompanied by a description of the technical assessment activities to be carried out and by 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.

Any valid document related to existing designations of the applicant national QTB under any other Union harmonisation legislation shall also be added.

6. Where the applicant cannot provide an accreditation certificate, it shall provide the public authority referred to in paragraph -1 of this Article with all the documentary evidence necessary for the verification and regular monitoring of its compliance with the requirements laid down in Article 32a.

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 and, in accordance with Article 34a(1), the Commission.

9. A national QTB shall update the documentation referred to in paragraphs 5, 6 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:

   (a) the full details of the technical assessment activities for the matters covered by Title IV to be carried out, any relevant assessment module and an indication of which processes, services or products are covered;

   (b) any relevant attestation of 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 such body will be regularly monitored and 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 the documentary evidence referred to in Article 34(6).

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.

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 fails to fulfil its obligations. That authority shall inform the Commission and the other Member States accordingly.

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 steps to transfer the files of that QTB to another QTB.

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 enabling the Commission to take decisions regarding the authorisation and the ongoing supervision of Union space operators of Union owned-assets and the registration and the ongoing supervision of third country space operators;

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

(c) to register third country space operators and international organisations, in accordance with Articles 17 and 18;

(d) to set-up and manage URSA, in accordance with Article 24;

(da) to manage registration in URSA, and the suspension or withdrawal of such registration, in accordance with Article 17a;

(e) to issue and manage the e-certificate referred to in Article 25(1);

(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);

(j) to contribute to the establishment and maintenance of the Union Space Labelling Schemes, in accordance with Article 111;

(n) upon request by the Commission, to contribute, for matters covered by this Regulation, to the establishment, measurement, reporting and analysis of performance indicators, notably on significant incidents and on collisions;

(o) to provide all necessary technical, scientific and administrative advice and support to the Commission, to allow the latter to carry out its supervisory tasks under this Regulation;

(p) to cooperate with supervisory authorities of third countries or international organisations, and promote and facilitate awareness at international level in respect to the requirements laid down in this Regulation;

Article 41

Agency fees

1. The Agency shall charge Union space operators, third country space operators and international organisations, subject to and in accordance with an international agreement concluded pursuant to Article 107(3) or Article 108, as appropriate, fees in accordance with this Regulation and with the Commission Delegated Regulation referred to in paragraph 3 of this Article. Those fees shall cover the necessary expenditure incurred by the Agency in carrying out tasks related to authorisation and registration pursuant to this Regulation, including the tasks of the Compliance Board referred to in Article 43.

2. The amount of the fee charged to a Union space operator, third country space operator or international organisation shall be proportionate to the turnover of the operator or organisation concerned and the authorisation or registration tasks exercised by the Agency in respect of the operator or organisation concerned.

3. The Commission is empowered to adopt delegated acts in accordance with Article 113 to supplement this Regulation by determining the type of fees, the matters for which fees are due, the amount of the fees and the manner in which they are to be paid.

Article 43

Compliance Board

1. The Compliance Board is established within the Agency. It shall be responsible for:

   (a) issuing reasoned opinions to the Commission in accordance with Article 7 for the authorisation of operators of Union-owned assets as referred to in Article 6(1b), point (b), and carrying out, throughout the duration of such authorisation, technical assessment activities to allow the Commission to exercise the ongoing supervision of such operators to ensure compliance with the requirements laid down in this Regulation;

   (b) carrying out technical assessment activities in relation to the requirements laid down in Title IV before national competent authorities issue authorisations to Union space operators, as regards governmental or non-governmental space assets, where a Member State has decided to entrust the Agency with the task of carrying out such technical assessment, pursuant to Article 8(1), point (c);

   (c) assessing and issuing reasoned opinions to the Commission as regards the ongoing compliance of third country space operators with the requirements laid down in Title IV, in the manner specified in Article 15.

2. For the purposes of paragraph 1, the Compliance Board shall:

   (a) adopt reasoned opinions on technical assessments regarding the fulfilment of the requirements laid down in Title IV, proposing to the Commission the authorisation, in accordance with Article 6, of Union space operators of Union-owned assets, as well as any necessary supervisory measures, including suspension or withdrawal from URSA, throughout the duration of such authorisation;

   (b) adopt reasoned opinions on technical assessments regarding the fulfilment of the requirements laid down in Title IV, where a Member State entrusts the Agency to carry out the technical assessment pursuant to Article 8(1), point (c);

(c) adopt reasoned opinions on technical assessments regarding the fulfilment of the requirements laid down in Title IV, in the manner specified in Article 15, proposing to the Commission the registration of third country space operators in URSA, measures for ensuring the compliance of third country space operators, once registered, with the requirements laid down in Title IV, as well as any needed supervisory measures, including suspension or withdrawal of registration in URSA;

(h) adopt and publish its rules of procedure.

(ha) Before adopting a reasoned opinion, give the applicant the opportunity to be heard on the grounds on which the Compliance Board intends to adopt the reasoned opinion.

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. It may be supported by advice from independent experts.

The Compliance Board shall be supported by a technical secretariat.

3. The Commission is empowered to adopt delegated acts, in accordance with Article 113, to supplement this Regulation, by specifying the criteria for the expertise of the Compliance Board, as well as to specify the details for their designation, tasks and working arrangements.

SECTION 2

POWERS OF THE COMMISSION AND THE AGENCY 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 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 who are entities entrusted with the execution or operation of the components of the Union Space Programme, based on the authorisation issued by the Commission in accordance with Article 6;

   (b) third country space operators;

   (c) international organisations, subject to and in accordance with an international agreement concluded pursuant to Article 107(3) or Article 108, as appropriate.

2. For the purposes of carrying out the technical assessments referred to in Article 40(1), point (a), the Commission may delegate the powers referred to in Articles 49, 50, 51 and 52.

Article 49

Request for information

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

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 referred to in Article 48(1) or their legal representatives shall supply the information requested.

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 conduct necessary investigations of the space operators referred to in Article 48(1).

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 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 referred to in Article 48(1) located in the Union. Where the proper conduct and efficiency of the inspection so require, the Commission or Agency may carry out the on-site inspection without prior notice.

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 space operators referred to in Article 48(1) 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.

5. Space operators referred to in Article 48(1) shall submit to the on-site inspections ordered by 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.

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 accompany 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 or Agency shall apply for such an authorisation. The Commission or Agency 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 or Agency 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 or Agency for detailed explanations, in particular relating to the grounds the Commission or Agency 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 or Agency's file. In accordance with the Treaties, the legality of the Commission or Agency'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 their tasks set out in this Regulation by means of interaction with the legal representatives of the third country space operators referred to in Article 16a, the Commission and the Agency 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 all the following conditions are met:

   (a) the concerned third country space operators consents to the conduct of an inspection in a third country; and

   (b) the relevant third country authority consented 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 53

Procedure for investigation by the Commission

-1. The Commission may on its own initiative, upon request by a Member State or upon complaint, investigate any infringement of this Regulation.

Where the Commission has serious indications of the possible existence of facts liable to constitute infringements of the technical requirements laid down in Title IV, the Commission shall open an investigation.

2. Officials conducting the investigation shall have the power to request information, in accordance with Article 49, to carry out investigations, and respectively, on-site inspections, in accordance with Articles 50 and 51.

2a. On the basis of its investigation, the Commission shall decide if one or more infringement of those technical requirements has been committed by the persons subject to an investigation and, in such a case, shall consider whether to take supervisory measures in accordance with Article 55, to impose a fine in accordance with Article 56, or both.

Article 55

Supervisory measures of the Commission

1. Where, in accordance with Article 53(2a), the Commission finds that a person has committed an infringement of the rules referred to in Article 53(-1), it may, based on a decision, take one or more of the following actions:

(a) establish the existence of an infringement and require the concerned Union space operator of Union-owned assets, third country space operator or international organisations referred to in Article 48(1), point (c), to bring the infringement to an end;

(b) where necessary, on the basis of a prima facie finding of infringement, order interim measures to avoid any irreparable damage;

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

(d) suspend or withdraw the authorisation of the concerned Union space operator of Union-owned assets, or respectively the registration in URSA of the concerned third country space operator or international organisation referred to in Article 48(1), point (c);

(e) issue a public notice indicating the Union space operator of Union-owned assets or third country space services provider or international organisation referred to in Article 48(1), point (c), 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 criteria referred to in Article 54(2).

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

(b) previous infringements perpetrated by that Union space operator of Union-owned assets;

(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 Union space operator of Union-owned assets 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, in accordance with Article 53(2a), the Commission finds that a person has committed an infringement of the rules referred to in Article 53(1), it may, based on a decision, impose a fine on that person. The Commission may also impose a fine on any person who obstructs its 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 breach, 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 Union space operators of Union-owned assets, and respectively third country space operators or international organisations referred to in Article 48(1), point (c), 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), an investigation as referred to in Article 50, or an on-site inspection as referred to in Articles 51.

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. 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 Union space operators of Union-owned assets and third country space operator or international organisation referred to in Article 48(1), point (c), located in the Union, which are subject to the proceedings, 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 persons 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 AND SUSTAINABILITY IN SPACE

SECTION 1
LAUNCH VEHICLES

Article 58

Launch Safety Plan

The Union launch operator shall submit to the national competent authority a Launch Safety Plan in accordance with point 3, of Annex I.

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) the implementation of the coordination requirements laid down in point 1.1, of Annex I with the national competent authorities regarding air traffic services, the collision avoidance space services provider and the air traffic service providers that could be impacted;

(b) the performance of a risk assessment - the Launch Collision Avoidance ('LCOLA') - in accordance with point 1.2, of Annex I;

(c) the calculation and limitation of the casualty risk at launch and re-entry, in accordance with point 1.3, of Annex I.

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

(a) select, among existing methods, the method 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 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., point (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).

Article 60

Flight safety system

1. Launch vehicles shall either incorporate tracking devices or establish means of tracking that enable real-time monitoring of the launch vehicle position and of velocity.

2. Launch vehicles shall incorporate at least a telemetry data transmitting system for monitoring the launch vehicle performance data, 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 risk scenarios in accordance with point 2.1, of Annex I.

4. Following the risk assessment, Union launch operators shall implement mitigatory measures, including, where necessary, adding an on-board neutralisation system, in accordance with point 2.2, of Annex I.

Article 61

Space debris mitigation for launch vehicles

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

   (a) limitation of planned release of debris into Earth, during nominal operations, through the implementation measures set out in point 1.1, of Annex II;

(b) protection against accidental fragmentation, through the implementation measures set out in point 1.2, of Annex II and point 1.3, of Annex II;

(c) end-of-life disposal, in accordance with point 2, of Annex II.

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

(a) a debris control plan, in accordance with the technical and operational requirements laid down in point 3.1, of Annex II;

(b) an end-of-life disposal plan, in accordance with point 3.2, of Annex II.

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;

(c) establish the threshold of probability of the risk of accidental fragmentation in orbit due to internal causes;

(d) establish the threshold of the risk of fragmentation due to collision and the point in time when this is calculated from;

(f) develop the calculation method of the probability of successful disposal and the percentage threshold referred in point 2.5, of Annex II.

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 in the application referred to in Article 7.

   Union spacecraft operators shall take into account the existing spacecraft and the debris in orbits 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 recognised and state of the art 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 possesses the technical means to allow trackability and precise determination of the orbital position, in accordance with point 1, of Annex III.

   Union spacecraft operators shall ensure that systems at the ground segment are able to process data in an existing recognised data format, in accordance with point 2, of Annex III.

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

Article 63a

Spacecraft manoeuvrability

1. Union spacecraft operators shall ensure that a spacecraft is designed, produced, and operated in a way that allows the spacecraft to have and enable manoeuvrability capabilities for orbits with an apogee above 400 km.

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

   (a) comply with the requirements set out in point 2, of Annex IV, and allow to respond to a high interest event alert, in accordance with Article 64(5);

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

   The ground segment shall be capable of receiving orbital forecasts and process data in accordance with point 2, of Annex III.

Article 64

Collision Avoidance

1. Union spacecraft operators shall subscribe to the collision avoidance services provided 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, including orbit raising, 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 of any of the following:

(a) any planned changes to the operation;

(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) any unplanned changes to the operations as laid down in point 2.4 of Annex IV, including regarding problems encountered during the lifetime of the space mission and the disposal phase, without undue delay.

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 requirements therein.

4a. The Commission shall, by means of implementing acts, adopt rules specifying the collision avoidance requirements laid down in point 2, of Annex IV, taking into account relevant European or international standards.

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

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

Article 65

Re-entry services

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 entity in charge of re-entry service in the Space Surveillance and Tracking (SST) sub-component referred to in Article 58(2) of Regulation (EU) 2021/696.

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

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 and decides that one of the two concerned spacecraft have 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 under the coordination 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 propose a strategy for action. That strategy shall take into consideration at least the following elements:

   (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 of the spacecraft;

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

(f) the age of the spacecraft;

(g) the phase and type of the respective space mission.

4. Where one of the two spacecrafts is not subscribed to the Union CA entity, the Union CA entity shall establish contact with the respective 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, taking into consideration the elements of the strategy for action referred to in paragraph 3.

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 inform the other Union spacecraft operator about the intended action.

6a. The Union CA entity shall inform the relevant national competent authorities of the strategy for action and its implementation.

6b. 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 elements referred to in paragraph 3 of this Article.

When preparing the standardisation requests referred to in the first subparagraph, the Commission may take into account 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.

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 report 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 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 point 1.1, of Annex V;

(b) limitation of risk of accidental fragmentation, in accordance with points 1.2 and 1.3 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;

(d) implementation of a failure response plan, 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 with point 4.2, 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 as referred to in point 1.1, of Annex V;

(b) develop measures to limit risk of fragmentation to:

(i) limit the internal causes of fragmentation and the risk of collision referred to in point 1.2.1, point (a), of Annex V;

(ii) develop the design and manufacture requirements to limit the risk of fragmentation due to collision referred to in point 1.3, points (a) and (b), of Annex V;

(iii) develop the method to calculate the probability of collision and the threshold referred to in point 1.3, points (c) and (d), of Annex V;

(c) specify the end of life measures by:

(i) determining the threshold for the probability of successful disposal and the method for calculation referred to in point 3.1.2, of Annex V and point 3.1.3, of Annex V;

(ii) defining the maximum orbital lifetime in LEO before re-entry, referred to in point 3.4.2, of Annex V;

(iii) developing the requirements related to re-entry for LEO, referred to in point 3.5.4, of Annex V, point 3.5.6, of Annex V and point 3.5.8, of Annex V;

(iv) setting out the specific requirements for end of life for MEO, referred to in point 3.6, of Annex V;

(d) specify the technical conditions for soft passivation referred to point 1.2.1, point (e)(v)(2), of Annex V, and for passivation for re-entry referred to in point 1.2.1, point (f), of Annex V;

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 order of preference laid down in point 3.3, of Annex V, in order to reflect and adapt such order to the technological progress as regards ISOS.

Article 71

Mission extension

1. Where a Union spacecraft operator wishes to extend a space mission, that Union spacecraft operator shall submit to the national competent authority a request for extension at the latest six months before the planned end of the concerned space mission.

2. Upon request submitted in accordance with paragraph 1, the national competent authority may decide to extend the duration of a space mission carried out by a Union spacecraft operator beyond the period of the initial authorisation, provided that the spacecraft still meets the requirements laid down in Annexes III, IV and V and the Union spacecraft operator informs 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

Light and radio pollution

1. Union spacecraft operators shall establish a plan containing measures that are adequate to limit light and radio pollution in accordance with paragraph 2. 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 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 disruptions for 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.

When preparing the standardisation requests referred to in the first subparagraph, the Commission may take into account 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.

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

Article 73

Constellations

1. Union spacecraft operators of a constellation of 11 or more satellites shall:

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

(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 101 or more satellites shall, in addition to paragraph 1:

(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;

(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 tackle the high number of manoeuvres related to the anticipated number of required collision avoidance.

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

(a) specify the risk of intra-constellation collision, in accordance with point 1.2, point (c), of Annex VI;

(b) limit light and radio pollution, in accordance with point 2.1, of Annex VI.

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

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 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;

(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 under paragraph 1 and paragraph 6 of this Article are consistent. To this end, the Commission shall prepare the draft implementing acts based on exchange of advice and cooperation with relevant cybersecurity and space experts.

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) of the space activities they carry out in accordance with Article 97.

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

(a) an environmental footprint declaration (EFD) containing;

(i) contact details of the Union space operator;

(ii) information about the planned space activities and the relevant environmental impact categories with their results;

(b) the EF study supporting the results of the EFD, including a 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

1. The EF of space activities shall cover the space activities carried out on Earth, in any of the Earth orbits, including graveyard orbits, and evaluate the magnitude of their potential environmental impacts.

2. The calculation of the EF shall cover all the activities carried out throughout the lifecycle of a space mission, including during initial stages, such as design and development, during the manufacturing phase, the operation phases and the end-of-life stages.

3. The EF of space activities carried out under the Union Space Programme and the Union Secure Connectivity Programme shall cover the components referred to in Article 3(1), points (a) to (c) and point (e), of Regulation (EU) 2021/696 and in Article 1 of Regulation (EU) 2023/588.

4. The Commission is empowered to adopt implementing acts, in accordance with the examination procedure referred to in Article 114(2), to specify the method of calculation of the EF of space activities, by taking into account scientifically sound assessment methods and the relevant international standards aligned with the Commission Recommendation (EU) 2021/2279[14]. Those implementing acts shall be reviewed to take into account scientific and technological developments and adapt to technological progress.

Article 98

EF verification

2. A QTB shall carry out the technical assessment of the application as part of the EUSA authorisation process, including verification and validation, in accordance with point 2.1. of Annex IX.

Article 99

Transmission of datasets to the Union EF-related database

1. Before applying for authorisation, 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.

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[14] 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, p. 1, ELI: http://data.europa.eu/eli/reco/2021/2279/oj).

3. The Commission shall ensure the confidentiality of the data that is included in the disaggregated datasets.

4. The aggregated datasets referred to in paragraph 1 shall be made publicly available by the Commission through the Union EF-related database.

Article 100

Use of disaggregated 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).

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:

(a) the main features of the 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;

(b) where space debris objects are threatening other spacecraft and increase the risk of orbit pollution, the requirements needed to enable removal of debris objects from orbits by means of ISOS (active debris removal), including those requirements applicable to the concept of operations.

5. The Commission shall, by means of implementing acts, taking into account European or international standards or methods in place or under development, lay down:

(a) the design principles for the dedicated SSI referred to in paragraph 2;

(b) the design principles for Composable and Exchangeable Functional Satellite Modules (satAPPs) that can be connected to a spacecraft to deliver new spacecraft functionality or payload, making use of SSIs referred to in paragraph 2.

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

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) a light and radio pollution plan in accordance with Article 72, for spacecraft intended to remain in orbit less than one year;

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

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

   (e) redundancy function for passivation, as referred to in point 1.2.1, point (e)(iv), of Annex V.

   For the purposes of point (c), 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 (d), 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, and 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 REGIMES FOR 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;

(c) the legal and supervisory framework of that third country provides for an effective equivalent system of recognition of space operators authorised under third country legal regimes; 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.

3. The Commission may attach specific conditions to the equivalence decisions, such as where the scale and scope of the space-based data or the space services provided by third country space operators are likely to be of strategic importance for the Union, or to ensure that the Commission, the Agency and the national competent authorities have the necessary tools to prevent regulatory arbitrage.

3a. The equivalence decision shall specify whether it is granted for a definite period.

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

Such arrangements shall specify at least:

(a) the mechanisms for the exchange of information between the Agency, and the relevant supervisory authorities of the third countries concerned, including access to all information regarding the third country space operators authorised in the third countries, which are requested by the Agency;

(b) the mechanisms for a prompt notification to the Agency, where a third country competent authority deems that the third country space operators, which the Agency has registered in URSA, pursuant to Article 24, infringe the conditions of authorisation in that third country, or other law which those third country space operators are obliged to adhere to;

(c) the procedures concerning the coordination of supervisory activities, including, where appropriate, on- site inspections, in cooperation with the national competent authorities of relevant Member States.

6. The Commission shall, in cooperation with 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 agreements for cooperation with third countries on matters covered by this Regulation, in particular for:

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

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

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

2. The Agency may cooperate with the relevant supervisory authorities of third countries, other than those referred to in paragraph 1, point (b), and, subject to the approval of the Commission, may conclude Memorandums of Understanding and working arrangements with such authorities or with bodies of international organisations.

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 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 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 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 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 services or space-based data in the Union.

The Agency shall register without delay in URSA 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 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. The Commission may, by means of contribution agreements, entrust an international organisation with the implementation of tasks for the operation of Union owned-assets.

Those contribution agreements shall set out the conditions and the practical and operational arrangements for the control 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 authorisations 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 control of the application by that international organisation of the requirements laid down in Title IV, with due regard to its institutional framework.

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 and to strengthen the cooperation between the Union and ESA.

2. The agreement shall set forth the conditions for the implementation by ESA of the requirements laid down in Title IV, and the practical and operational arrangements for ensuring the control of the application of such requirements, and in particular:

(a) where ESA is not the operator of the Union-owned assets, the arrangements needed for ESA to carry out the technical assessment allowing the Commission to assess the compliance of the Union space operator of Union-owned assets, with the requirements laid down in the Regulation, with a view to issuing the authorisation and carrying out the ongoing supervision referred to in Article 6(1b), point (b);

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

(c) any support which may be provided by ESA regarding the technical specifications needed for standardisation, under the supervision of the Commission, while taking into account the existing international technical standards for space activities.

3. ESA may provide support to Member States by carrying out technical assessments, pursuant to Article 8(1), point (b).

The agreement referred to in paragraph 1 shall set out the conditions for ESA to be recognised as a QTB.

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

Title VI
SUPPORTING MEASURES

Chapter I
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, ENISA and international organisations, as appropriate, guidance materials, methodologies and best practices on the following:

(a) the use, in the context of public procurement procedures carried out at national level, of Union Space Labels issued in accordance to Article 112(4);

(b) requirements applying to areas under development, such as ISOS or orbital traffic rules;

(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 on-board safety systems and the development of ISOS technologies and concepts.

Article 110

Information portal

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 carry out the following tasks:

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

(b) provide compliance checklists to facilitate voluntary adherence to the Union Space Labelling Schemes established pursuant to Article 111(4), first subparagraph;

(c) support any relevant single point of contact setup by the Member States;

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

3. Member States shall inform the Commission of any national helpdesk portals established to manage queries on rules, procedures and authorisation processes.

Chapter II
UNION SPACE LABEL

Article 111

Union Space Labelling Schemes

1. The Commission shall develop a Union Space Label to promote enhanced voluntary adherence to high standards of protection of space activities.

   The Union Space Label shall be composed of Union Labelling Schemes which shall provide a comprehensive set of technical requirements established at Union level, as referred to in paragraphs 2 and 3.

2. The Union Space Labelling Schemes shall establish the technical safety, resilience or environmental sustainability requirements to:

   (a) limit the risks associated to space debris;

   (b) improve the safety and sustainability of space objects;

   (c) reduce the light pollution of spacecraft;

   (d) reduce the radio pollution of spacecraft;

   (e) safeguard the resilience of space infrastructure, in particular as regards critical assets and the resilience of the supply chain;

   (f) enable in space operations and services;

   (g) contribute to reducing the environmental impacts of carrying out space activities.

3. Following a request by the Commission, the Agency shall prepare a candidate scheme, or propose an update of an existing Union Space Labelling Scheme.

A Union Space Labelling Scheme may specify one or more of the following protection levels for the specific space missions, services or products that it covers: ‘basic’, ‘substantial’ or ‘high’.

In such a case, it shall ensure that the specified protection level is commensurate with the level of protection associated with the requirements laid down in the respective Union Space Labelling Scheme.

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

(a) a template for the elements of the Union Space Label Scheme, including their duration;

(b) Union Space Labelling Schemes prepared by the Agency under paragraph 3.

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

5. The Agency shall maintain a dedicated website providing updated information on, and publicising, the Union Space Labelling Schemes and the Union Space Labels.

Article 112

Award and use of a Union Space Label

-1. The Union Space Label shall be a document issued by the Agency to a space operator, attesting that a given space object has been evaluated for compliance with the technical safety, resilience or environmental sustainability requirements laid down in a Union Space Labelling Scheme.

1. Where a space operator intends to obtain a Union Space Label, that space operator shall submit to the Agency an application for Union Space Label accompanied by a technical file demonstrating the fulfilment of the requirements established in the Union Labelling Scheme(s) for which the Union Space Label is sought.

2. The Agency shall provide to the Commission an opinion as regards the compliance of the application with the requirements of the relevant Union Space Labelling Scheme(s).

3. Based on the Agency's assessment, the Commission shall decide on the applications.

4. The Agency shall issue Union Space Labels to space operators whose applications have been approved by the Commission for a duration which shall be specified in the corresponding Union Space Labelling Scheme.

5. The Agency shall verify regularly on its own initiative, or upon complaint, the compliance of a holder of a Union Space Label with the requirements of the respective Union Space Label. Where the Agency establishes that the holder of a Union Space Label does not meet the requirements, it shall inform the Commission, which will take a decision whether to revoke the Union Space Label. Before revoking the Union Space Label, the Agency has to allow the holder of the Union Space Label to submit a reasoned statement.

6. The holder of a Union Space Label shall inform the Agency of any subsequently detected irregularities concerning the labelled space mission, service or product, that may have an impact on its compliance with the requirements of the respective Union Space Label.

7. Any false or misleading advertising or use of a Union Space Label or of a logo which is likely to be confused with a Union Space Label shall be prohibited.

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 may take into account existing European or international standards in place or under development, to simplify the development of standards, in accordance with Regulation (EU) No 1025/2012.

2. Where the conditions referred to in paragraph 3 are fulfilled, the Commission shall adopt implementing acts establishing common specification covering the technical requirements which provide the means to comply with the essential requirements referred to in paragraph 1.

3. The implementing acts referred to in paragraph 2 of this Article shall be adopted in any of the following cases where the Commission has requested, pursuant to Article 10(1) of Regulation (EU) No 1025/2012, one or more European standardisation organisations to draft a standard for the essential requirements referred to in paragraph 1, first subparagraph, of this Article, and one of the following situations occurs:

(a) requirements are not covered by harmonised standards, or parts thereof, the references of which have been published in the Official Journal of the European Union;

(b) requirements are covered by harmonised standards, or parts thereof, the references of which have been published in the Official Journal of the European Union, but application of those standards or parts thereof result in non-compliance with the essential requirements, or

(c) where the Commission considers that there is a need to address an urgent concern.

Those implementing acts shall be adopted in accordance with the advisory procedure referred to in Article 114(3).

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 41(3), Article 44(3), Article 56(9), first subparagraph, Article 70(4), Article 93(7), second subparagraph, 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 41(3), Article 44(3), Article 56(9), first subparagraph, Article 70(4), Article 78(3), Article 79(4), Article 82(4), Article 83(5), Article 84(5), Article 85(4), Article 86(4), Article 92(4), Article 93(7), second subparagraph 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 41(3), Article 44(3),Article 56(9), first subparagraph, Article 70(4), Article 93(7), second subparagraph, 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.

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

3. Where reference is made to this paragraph, Article 4 of Regulation (EU) No 182/2011 shall apply.

4. The Committee referred to in the first subparagraph of paragraph 1 of this Article shall meet in specific different configurations as follows:

   (a) Safety configuration;

   (b) Resilience configuration;

   (c) Environmental sustainability configuration;

   (d) ISOS configuration;

   (e) Space-based data configuration.

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 59(3), Article 61(3), Article 63(2), Article 64(4a), Article 61a(2), Article 70(3), Article 73(4), Article 93(8), Article 97(4), Article 101(5), and Article 111(4).

5b. The Committee referred to in the first subparagraph of 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 existing standards and methods related to space activities and requirements 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 the environmental, economic and social impacts on the space sector, 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 authorisations regarding assets planned to be launched three years after the date of entry into force of this Regulation for which the critical design review phase ended 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
The President

For the Council
The President [...]

Annex I

SAFETY AT LAUNCH REFERRED TO IN ARTICLES 58, 59 and 60

1. Safety at launch and re-entry as referred to in Article 59

1.1. Coordination requirements

Union launch operators shall implement the following notification and coordination requirements:

(a) Before launch or re-entry, a Union launch operator shall notify timely:

(i) the European Network Manager and affected Air Navigation Service Providers (ANSPs), in order to minimise the impact on 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 and;

(ii) the maritime authorities, to set-out the procedures for the issuance of the Notice to Mariners.

(aa) Before launch or re-entry, a Union launch operator shall implement a real-time coordination process with ANSPs or maritime authorities to manage and mitigate the risks associated to non-nominal or failure scenarios.

(b) The requirement laid down in points (a) and (aa) shall not apply where the Union launch site or Union spaceport operator has already notified the ANSPs and the maritime authorities.

1.2. Launch collision avoidance (LCOLA)

1.2.1. The LCOLA shall be carried out before launch.

1.2.2. The LCOLA shall be carried out with the support of the relevant entity referred to in Article 64(1).

The Union launch operator shall ensure that the entity referred to in Article 64(1) obtains the predicated ephemerides for the launch vehicle.

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.

1.2.4. The Union launch operator shall assess and mitigate the risks related to collision in line with point 1.3, of Annex II.

1.2.5. The Union launch operator shall define the launch closure window according to the LCOLA assessment.

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.

2. Flight safety system as referred to in Article 60

2.1. Risk assessment

2.1.1. In their risk assessments, Union space operators shall identify potential failure scenarios that could make the launch vehicle hazardous.

2.1.2. The failure scenarios referred to in point 1 shall include scenarios for deviation from the flight corridor, dangerous fall-back phases, non-nominal flight control behaviour, and failure to achieve orbit.

2.1.3. In the risk assessments, Union launch operators shall set out specific rules for controlled or un-controlled re-entry. In the case of controlled re-entry, Union launch operators shall identify all possible failure scenarios, including those linked to the propulsion object placed in orbit becoming a hazard, in particular in the case of failure to control the level or direction of thrust.

2.2. Neutralisation

2.2.1. The on-board neutralisation system shall be either activated remotely or automatically through an on-board algorithm. For automatic systems, Union launch operators shall submit the detailed data and validation test results.

2.2.2. Specific rules for controlled re-entry shall be in place.

On-board automatic systems shall be in place, and criteria to ensure controlled re-entry shall be defined, in line with point 2.1.3

3. Launch safety plan as referred to in Article 58

The launch safety plan shall include at least the following elements:

(a) the measures of coordination between the Union launch operator and the ANSP and maritime authorities in line with point 1.;

(b) the result of the LCOLA, in line with point 1.2;

(c) the result of the calculation of the collective casualty risk at launch and re-entry, in line with point 1.3;

(d) the risk assessment of the failure scenario of the flight safety system, in line with point 2.1 and, where applicable, mitigations measures, including neutralisation in line with point 2.2.

Annex II

SPACE DEBRIS MITIGATION FOR LAUNCH VEHICLES REFERRED TO IN ARTICLE 61

1. Limitation of debris

1.1. Limit the projected generation of debris

1.1.1. Launch vehicles shall be designed to limit the generation of debris during nominal operations in accordance with the following requirements:

(a) For single-spacecraft launches, the total number of launch vehicle orbital stages and resulting debris objects shall not exceed one.

(b) For multi-spacecraft launches, the total number shall not exceed two.

(c) Launch vehicles deployed in GEO protected orbit shall remain outside the GEO protected regions for at least 100 years.

(d) Launch vehicles deployed in MEO shall be disposed at the end of its mission, in accordance with the measures and the indicated safe region specified in the implementing act referred to in Article 61(3), point (b).

(e) The orbital lifetime of a launch vehicle deployed in LEO, shall be the one specified in the implementing act referred to in Article 61(3), point (a).

(f) The limitation of the risk of components becoming detached from the launch vehicle and being placed in orbit which shall be carried out through the measures laid down in the implementing act in accordance with Article 61(3), point (a).

For the purpose of this Annex, ‘GEO protected region’ means a segment of the spherical shell defined by the following: lower altitude = geostationary altitude minus 200 km; upper altitude = geostationary altitude plus 200 km; -15 degrees ≤ latitude ≤ +15 degrees; geostationary altitude: 35.786 km is the altitude of the geostationary Earth orbit.

1.1.2. The requirements referred to in point 1.1.1., (a) and (b), shall not apply to the pyrotechnic system and to the solid or hybrid propellants.

1.2. Avoiding fragmentation in orbit due to internal causes

1.2.1. The probability of accidental fragmentation due to internal causes shall be limited in the manner specified in the implementing act referred to in Article 61(3), point (c).

1.2.2. The launch vehicle shall be designed and operated in a way so that at the end of the space mission, passivation of all components is carried out in the following manner:

(a) All energy reserves on board shall be permanently depleted or shall be in such a state that their depletion is unavoidable, within a reasonable period of time, or that they do not present a risk of generating debris.

(b) All means of generating energy on board shall be permanently deactivated, or all equipment directly supplied by energy production means shall be placed in a state such that such equipment entails no risk of generating debris.

(c) Following the end of life, the launch vehicle shall be in a stable condition with minimal internal energy.

1.3. Avoiding fragmentation due to collision

In accordance with the implementing act referred to in Article 61(3), point (d), mitigating measures shall be implemented to limit the likelihood of collision between:

(a) launch vehicle elements and launched objects;

(b) launch vehicle elements and existing space objects in orbit (crewed, un-crewed and debris).

2. End of life disposal

2.1. Design coordination between the Union launch operator and spacecraft mission designer

The Union launch operator shall collaborate with the mission designer of the spacecraft to be launched in the context of the respective space mission with a view to design the launch phase of the space mission in a way that facilitates the disposal of the launch vehicle upper stage and considers the specification of the final injection orbit.

2.2. Disposal of launch vehicle in LEO

The disposal of launch vehicles in LEO shall be performed by one of the following means, chosen in the following order of preference based on technical feasibility:

(a) A launch vehicle in LEO shall be de-orbited by controlled atmospheric re-entry.

The design shall allow for the demise (‘design for demise’) or deliberate destruction of the launch vehicle orbital stage.

(b) If a controlled re-entry is not possible, and the casualty risk for an uncontrolled re-entry is low, the launch vehicle may instead be placed in a decay orbit, for the orbital lifetime specified in the implementing act referred to in Article 61(3), point (a). In that case:

(i) the casualty risk shall be computed, by using a standardised method with a limited risk on ground, in accordance with the provisions of point 1.3, point (a), of Annex I;

(ii) the design shall allow for the demise (‘design for demise’) or the deliberate destruction of the launch vehicle orbital stage.

2.3. Disposal of launch vehicles in MEO

The disposal of launch vehicles in MEO shall be performed in an orbit that does not interfere with GEO protected regions and valuable orbits for a limited amount of time, in line with point 1.1.1, point (d).

2.4. Disposal of launch vehicles in GEO

The disposal of launch vehicle in GEO shall be performed by placing the launch vehicle in a graveyard orbit, ensuring that it remains outside GEO protected region for a period of at least 100 years, under the effect of natural disturbances.

2.5. Probability of successful disposal

2.5.1. The launch stage of a space mission, and the launch vehicle orbital stage, respectively, shall be designed in such a way to have a high probability of successful completion of the disposal actions.

2.5.2. The probability of successful completion of the disposal actions shall be calculated considering at least the following elements: 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.

2.5.3. The calculation of the probability of successful disposal actions, and the percentage threshold, shall be done in accordance with the method set out in the implementing act referred to in Article 61(3), point (f).

2.5.4. Union launch operators shall carry out an identification of the systems and capabilities required for successful disposal actions, including:

(a) estimations and uncertainties related to the successful disposal;

(b) the amount of propellant required to support disposal or re-orbit manoeuvre;

(c) the power requirements for disposal or re-orbit manoeuvre;

(d) the control requirements for disposal or re-orbit manoeuvre;

(e) the communication requirements for disposal or re-orbit manoeuvre.

3. Space debris mitigation plans

3.1. Debris control plan

The debris control plan shall include at least the following elements:

(a) Evidence of compliance to the restrictions on planned debris generation, including relevant results from testing and analysis;

(b) Evidence of compliance with the orbital lifetime;

(c) Evidence of compliance with the requirement on probability of accidental fragmentation and measures to mitigate the risk such as choice of materials;

(d) Evidence of compliance with the passivation measures, including relevant results from testing and analysis, and to the probability of successful passivation.

3.2. End-of-life mission disposal plan

The end-of-mission disposal plan shall include at least the following:

(a) The description of the planned disposal method for both nominal and non-nominal scenarios.

(b) The confirmation regarding the collaboration between the Union launch operator and the spacecraft mission designer, including the specification of the final injection orbit.

(c) Evidence of compliance with the description on the adherence to the threshold of probability of successful disposal, including the relevant verification and analysis.

(d) The identification of systems and capabilities.

Annex III

TRACKING AND SOFTWARE REFERRED TO IN ARTICLES 63 and 63a

1. Tracking

A spacecraft shall be trackable, according to the following principles:

1.1. Union spacecraft operators shall either have themselves the technical means, or shall rely on external sources, to transmit the position of the spacecraft to the Union CA entity, in line with the requirements laid down in points 1.3. and 1.4.

1.3. The level of precision of the tracking of the location in orbit may take into account the existence of variations according to the region concerned and the size of the object.

1.4. The tracking system may be based on either passive or active tracking.

1.5. As soon as possible after injection, Union spacecraft operators shall share with the Union CA entity the necessary up-to-date information to monitor the risks of collision with the catalogued space objects that the respective spacecraft may encounter.

1.6. The information referred to in point 1.5. shall include, at least, the following elements:

(a) ephemeris, from the Union spacecraft operator's own orbit restitution means, or from the space monitoring systems;

(b) a strategy for action, in line with Article 65a;

(c) covariances.

2. Ground-based 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-based 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) space service provider

Third country space operators shall ensure that the CA provider they subscribe to, pursuant to Article 15(1), second subparagraph, point (b), complies with the following requirements:

1.1. General requirements

(a) The technical means to assess collision – a CA system – and compliance with the requirements of Section 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 decision 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 positional 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) checking 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

2.1. In the case of manoeuvrable spacecraft, Union spacecraft operators shall be able to perform CA manoeuvres.

2.2. In the case of non-manoeuvrable spacecraft, Union spacecraft operators shall cooperate with the Union CA entity under best efforts.

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.

2.4. The Union spacecraft operator shall notify the Union CA entity about:

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

(b) any change regarding the end of the space mission;

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

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

(e) any action planned and taken after a high interest event alert.

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.

2.6. The Union spacecraft operator shall provide the Union CA entity with the radius of the sphere englobing its spacecraft, or an upper-bound estimation.

2.7. Union spacecraft operators and the Union CA entity shall define at the time of spacecraft service registration:

(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).

Annex V

SPACECRAFT SPACE DEBRIS MITIGATION REFERRED TO IN ARTICLE 70

1. Limit spacecraft fragmentation

1.1. Limitation of projected generation of debris

To limit the planned generation of debris during nominal operations, the following requirements shall be implemented:

(a) A spacecraft shall be designed to limit the generation of debris, in accordance with the requirements set out in the implementing act referred to in Article 70(3), point (a).

(b) Each planned debris estimated to be in orbit for the period of time specified in the implementing act referred to in Article 70(3), point (a), shall be justified in the Debris Control Plan.

(c) Union spacecraft operators shall put in place measures for the design of pyrotechnic devices and solid rocket motors in line with the requirements laid down in the implementing act referred to in Article 70(3), point (a).

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:

(a) The probability of accidental fragmentation of a spacecraft in Earth orbit shall be limited, in accordance with the requirements laid down in the implementing act referred to in Article 70(3), point (b)(i), until its end of life.

The calculation of the risk of accidental fragmentation of a spacecraft shall follow a standardised method, taking into account all known failure modes.

(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.

Specific rules regarding passivation for re-entry shall be specified in the implementing act referred to in Article 70(3), point (d).

1.3. Avoiding fragmentation due to collision

To limit the fragmentation caused by collision, the following requirements shall be implemented:

(a) Spacecraft shall be designed and manufactured, and space missions shall be respectively designed, in a way that limits the risk of collision, in accordance with the requirements laid down in the implementing act referred to in Article 70(3), point (b).

(b) Spacecraft shall be designed and manufactured to limit the risk that a space debris or meteoroids causes the spacecraft or its component(s) to fragment, and, where tethers are used, additional measures shall be implemented to mitigate the risk of collision with space objects and meteoroids, in accordance with the requirements laid down in the implementing act referred to in Article 70(3), point (b).

(c) The probability of collision with a space object and meteoroids shall be calculated before launch for the entire lifetime of the spacecraft, and the risks shall be limited, in accordance with the threshold laid down in the implementing referred to in Article 70(3), point (b).

(d) The calculation of the probability of collision shall follow the standardised method laid down in the implementing act referred to in Article 70(3), point (b).

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

3.1.1. Union spacecraft operators shall calculate and adhere to assigned limits on the probability of successful disposal.

3.1.2. The probability of successful disposal shall be high and shall be calculated according to the requirements set out in the implementing act referred to in Article 70(3), point (c).

3.1.3. At the design phase, the calculation by Union spacecraft operators of the probability of successful disposal shall be based on recognised method, based on state of the art, set out in the implementing act referred to in Article 70(3), point (c), and shall include:

(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.

3.1.4. The probability of successful disposal shall be reassessed after launch, taking into consideration any changes in the operational status of the spacecraft.

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;

(f) Removal by ISOS.

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.

3.4.2. For LEO, the orbital lifetime, after the end of the mission, and before re-entry into the atmosphere, shall be limited in accordance with the requirements set out in the implementing act referred to in Article 70(3), point (c).

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.

3.5.5. The re-entry shall analyse the risk for the environment due to the substances which might survive the re-entry.

3.5.6. In case the spacecraft contains radio-active materials, the conditions set out in the implementing act referred to in Article 70(3), point (c)(iii), shall be followed.

3.5.7. Spacecraft 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.

3.5.8. For a spacecraft that survives a planned re-entry and is of a size determined in accordance with the implementing act referred to in Article 70(3), point (c)(iii), Union spacecraft operators shall register to a re-entry service, able to:

(a) follow the re-entry;

(b) make predictions on potential landing site.

3.5.9. The re-entry service referred to in point 3.5.8 shall inform the relevant air traffic and maritime authorities of any expected re-entry.

3.6. Removal of spacecraft in MEO

Removal from Earth orbits outside of the protected orbital regions to an orbit not interfering with protected regions and valuable orbits within a number of years specified in the implementing act referred to in Article 70(3), point (c).

3.7. Removal of spacecraft in GEO

Removal from Earth orbits outside of the protected orbital regions in an orbit not interfering with protected regions and valuable orbits within 100 years after its end of life.

3.8. Failure response

3.8.1. The Union spacecraft operator shall draw up a failure response plan in line with point 4.3.

3.8.2. The Union spacecraft operator shall implement the failure response if a critical system for the disposal process fails.

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,

4.2. End of life disposal plan

The end of life disposal plan shall contain at least the following:

(a) a description of adherence to the threshold of successful disposal laid down in point 3.1.2.

(b) for Union spacecraft operators in LEO, a description of the selected disposal method, in line with the options laid down in point 3.3, point 3.4 and point 3.5.

(c) for Union spacecraft operators in MEO, a description of the adherence to the requirements laid down in point 3.6.

(d) for Union spacecraft operators in GEO, a description of the adherence to the requirements laid down in point 3.7.

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, including:

(i) a dedicated operational mode for the service operation (removal), and making use of the integrated removal interface (if applicable) to de-risk a provided in-space service by the servicer spacecraft;

(ii) the technical means and the specific mission mode.

Annex VI

CONSTELLATIONS REFERRED TO IN ARTICLE 73

1. Intra-constellation requirements

1.1. For constellations and mega-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 mega-constellations 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, to be specified in the implementing act referred to in Article 73(4), point (a).

2. Additional reporting requirements

2.1. For constellations and mega-constellations, Union spacecraft operators shall take specific measures to ensure limitation of light and radio pollution to be specified in the implementing act referred to in Article 73(4), point (b), first subparagraph;

2.2. For mega-constellations 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 authorisation;

(c) Union spacecraft operators shall, after one year of operation, demonstrate the effectiveness of measures taken to address the light and radio pollution which have been explained in their application for authorisation. If such measures are not effective, Union spacecraft operators shall initiate the development of technical solutions through research to diminish the measured pollution 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 centers

(a) The respective control centers 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

1.1. A national QTB shall be established under national law and shall have legal personality unless it is part of a national competent authority.

1.2. A national QTB shall be independent from:

(a) a space services provider referred to in Article 2(1), 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 services provider referred to in Article 2(1), 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 services providers 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.

1.3. A body belonging to a business association or professional federation that represents undertakings which are involved in the design, development, production, provision, assembly, use, maintenance, testing, or operation of a product which a technical body assesses, or respectively undertakings which are involved in the use or operation of a service, activity or process that such technical body certifies, may only be considered as a national QTB, under this Regulation, if such body meets the requirements of independence and absence of conflict of interest.

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 any relevant criteria applying to:

(i) the space services providers referred to in Article 2(1), such as the criteria of size of such space services provider or the specific sector of space activities;

(ii) the objective elements, such as 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 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 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.

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 Regulation, Title IV.

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. 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.

2. Specific requirements for national QTBs carrying out tasks of verification and validation of the environmental footprint study

2.1. National QTBs that carry out technical assessment of matters covered by Chapter III of Title IV, shall meet, in addition to the requirements laid down in section I of this Annex, the requirements and shall follow the verification process, as laid down in Section 8 of the Commission recommendation C(2021)9332.