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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 3 November 2026, in clean version to facilitate readability.

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

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

ANNEX

2025/0335 (COD)

Proposal for a

REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

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

(Text with EEA relevance)

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, C/2026/882, 27.2.2026, ELI: http://data.europa.eu/eli/C/2026/882/oj.
2 OJ C, C/2026/768, 24.2.2026, ELI: http://data.europa.eu/eli/C/2026/768/oj.

Whereas:

(2) Space-based data and operational space services provide invaluable contributions to a vast range of domains, such as internet connectivity, satellite broadcasting, navigation, environmental monitoring and resource management. They enable applications for scientific research, humanitarian assistance, or security and defence operations, supporting activities such as search and rescue missions, communications for command-and-control purposes and reconnaissance capabilities. The market for space-based data and operational space services is expanding rapidly, driving innovation, economic growth, and technological competitiveness. At the same time, these services increasingly support the implementation of public policies of Member States and advance the Union's political agenda as well as the digital and green transitions.

(3) The space sector of the Union has witnessed structural changes over the past decade. These were triggered, among other things, by an increased demand for operational space services and access to space becoming more attainable thanks to technological advancements and cost reduction. 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 what are sometimes referred to as 'New Space' actors, most of which are private companies, has allowed an expansion of the Union space market, revealing at the same time the inherently cross-border nature of space activities.

(4) In the Union, the cross-border nature of the space sector is reflected in transnational supply chains and procurement arrangements for space objects, as well as in the pooling of relevant technology and expertise across several Member States. Launch and re-entry operations highlight the transboundary dimension of those operational space services through the impact they may have on the airspace, land environment and marine environment of several Member States.

(5) The structural changes witnessed by the Union space sector, the growth of operational space services and the increased role of private actors in carrying out operational space services are reflected in the way Member States regulate these operational space services through their national regulatory frameworks and related governance arrangements. 13 Member States have already enacted specific legislation regulating operational space services while several others are preparing to enact similar legislation.

(6) National regulatory interventions are driven by the legitimate needs of Member States to govern the way their space activities are conducted. 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) under which Member States 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 requires national activities to be carried out in conformity with its provisions, explicitly requiring that activities in outer space carried out by non-governmental entities be subject to national authorisation and continuing supervision by the appropriate state party to the OST.

(7) While the OST and the broader UN framework governing outer space activities establish the fundamental principles applicable to space activities, neither contains specific and detailed rules to address the emerging risks associated with the increase of space activities. The non-binding 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. The increasing congestion of orbits, the risk of collision, the risk of disruption of operational space services due to cyberattacks perpetrated on space infrastructure as well as the environmental impact of space activities, pose a challenge for the safety, resilience and environmental sustainability of space activities, for which there is no legislation at international level.

(8) In the absence of updated and detailed technical norms to address emerging safety, resilience and environmental sustainability risks, Member States have pursued their own regulatory and authorisation approaches, with different rules covering satellite operations, launch vehicles and onboard satellites.

(9) These approaches share a common objective, namely setting out national authorisation conditions to address the risks mentioned above. More and more 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. National space legislations vary as to the extent and depth of the specific requirements to address the risks to the safety, resilience and environmental 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 undermine the legal certainty needed by Union space operators.

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

(12) Space objects that do not fulfil the specific requirements laid down in given pieces of national legislation may be prevented from being used for operational space services in the internal market. Some Member States have for instance chosen to impose, for safety reasons, national authorisation requirements for the design of spacecraft that are more stringent than the requirements of other Member States. This divergence renders cross-border trade in the internal market more difficult. In addition, Member States taking a strict stance on safety national authorisation requirements may choose not to allow launches or the operation from their territory of spacecraft that have been authorised in another Member State with 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 operational space services across the internal market might be adversely impacted. In addition, the provision of space-based data might also be adversely impacted because such data are generated from space objects.

(14) National requirements entailing higher costs, such as design requirements to avoid proliferation of space debris, may prompt Union space operators to take advantage of an uneven playing field and favour establishment in Member States with less stringent authorisation requirements.

(15) Given the growing number of Union space operators, the rising number of companies developing launch vehicles and of Member States planning to develop launch capabilities, the cross-border nature of space activities in the Union is likely to intensify. Against this background, the effect of diverging conditions across national authorisation regimes in the internal market is likely to be heightened.

(16) Therefore, to safeguard and improve the functioning of the internal market, a set of uniform, effective, proportionate and technology-neutral requirements which harmonise aspects of safety, resilience and environmental sustainability for operational space services should be established at Union level. This will facilitate the unhindered provision of operational space services across the internal market and stimulate innovation by offering access to current and emerging new markets.

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

(17a) In order to create equal conditions for operating in the internal market, the requirements for all space operators and providers of space-based data within scope of this Regulation should apply to the extent space-based data and operational 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 effectiveness of the pursuit of this Regulation's objectives. Therefore, this Regulation should apply to Union space operators as well as to third-country space operators and to providers of space-based data where they provide operational space services in the Union or space-based data that enter the Union.

(17b) The concept of ‘services’ for the purposes of this Regulation should take as its starting point Article 57 of the Treaty on the Functioning of the European Union (TFEU), which recognises as services those normally provided for remuneration. This may include benefits in kind. Public authorities play an important role in the market for operational space services, and typically rely on operational space services provided by others in their own space activities. In the great majority of cases, it would be artificial and unfeasible to disentangle the roles of public and private actors in this context. Moreover, where public authorities provide space-based data to the broader market as a public service, there is typically a degree of substitutability between that provision and the provision of space-based data by private actors in the internal market. In light of this, and for the sake of legal certainty, the concept of services for the purposes of this Regulation should be defined to include expressly the provision of public services.

(17c) Taking account of the competence of each Member State in defence and national security, 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 the space activity concerned. In addition, even when they are not exclusively so used, space objects should be excluded from the scope of this Regulation where they are operated by, under the control of, or owned by military or defence authorities.

(17d) A Member State may, on occasion, need, for the purposes and the exercise of national security competence, to take temporary control of a space object under its jurisdiction or temporarily to use space-based data generated by a space object. The space object concerned should be exempted from trackability-related requirements of this Regulation for the duration of the respective control or use. In such cases, it is for each Member State to determine, according to the circumstances of each case, whether a given space object falls under that exemption.

(17e) Considering the current regulation of radio spectrum under International Telecommunications Union rules, Union and Member States' 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 govern the allocation or the authorisation of radio spectrum. Moreover, where an entity which is an electronic communications network and services provider acts merely as a user of a facility offered by a space operator, that entity should be considered, for the purposes of this Regulation, to be simply a provider of space-based data. In contrast, where an electronic communications network and services provider operates or controls a satellite, or performs launch operations, it should qualify as a space operator under this Regulation.

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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)

(34a) Operational space services provided by space operators established in the Union should be subject to a EUSA certification regime, to address aspects of safety, resilience and environmental sustainability for typical operational space services which relate to the operation of spacecraft or the provision of launch services. Operational space services provided by Union space operators of Union-owned spacecraft should be certified by the Commission, with technical support from European Union Agency for the Space Programme ('the Agency') established by Regulation (EU) 2021/696 of the European Parliament and of the Council[6], while Union space operators operating spacecraft other than Union-owned spacecraft should be certified by Member States.

(35) To operate Union-owned spacecraft, Union space operators should obtain EUSA certification from the Commission attesting compliance with this Regulation's requirements regarding safety, resilience, and environmental sustainability.

(41) To enable seamless EUSA certification processes across the internal market and to safeguard equal treatment among all Union space operators, the overall duration of the process of EUSA certification should not exceed 12 months, taking account of the complexity of the operational space services involved, with a view to enabling the applicant to get a response without delay. It is necessary to provide for the possibility of suspending time limits in the EUSA certification process, with a view to taking into account possible needs for further clarifications or assessments.

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[6] 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)

(42a) Space operators may be subject to national authorisation by several Member States, each of which exercise its authority in accordance with the relevant provisions of 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. EUSA certification laid down in this Regulation is without prejudice to the obligations of any Member State under the relevant UN Treaties. The EUSA certification process set out in this Regulation is strictly limited to ascertaining the compliance of those aspects of safety, resilience and environmental sustainability that are harmonised by this Regulation. It does not affect national authorisation processes or requirements relating to other matters, such as public order, insurance, ownership of or intellectual property in space objects, public health or environmental matters other than those covered by this Regulation. Accordingly, Member States are not precluded by this Regulation from imposing additional requirements regarding matters that are not addressed by this Regulation. In addition, Member States may maintain or introduce stricter requirements than those laid down in this Regulation pursuant to Article 114(4) and (5) TFEU. For instance, Member States may adopt specific measures to ensure the continuous supervision and control of their space operations, for example in the event of an emergency. It should be emphasised that this Regulation's safety requirements concerning launch are limited to three specific aspects, namely safety and coordination measures during launch and re-entry, flight safety systems, and space debris mitigation for launch vehicles. Other matters concerning launch safety are outside the scope of this Regulation. Further, safety requirements concerning spacecraft are limited to activities in orbit.

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

(42c) This Regulation establishes a high level of protection in respect of the safety, resilience and environmental sustainability matters that it covers. That said, in the light of their obligations under the OST and UN conventions, Member States granting EUSA certification might impose stricter standards regarding those matters. Any such stricter standards must not undermine this Regulation's standards and must be consistent with the Treaties. Given that this Regulation already establishes a high level of protection, any such stricter measures are permissible only where objectively necessary. In line with recital [(42b)], it is appropriate that only the Member State of EUSA certification might apply any stricter standards. In these circumstances, and given that in any event this Regulation ensures that a new common minimum standard applies throughout the internal market, this Regulation achieves a significant step in harmonisation and thereby genuinely improves the functioning of the internal market.

(43) The national competent authorities of each Member State should accept and recognise, as regards the matters covered by this Regulation, EUSA certification issued by the national competent authorities of any other Member State. At the same time, full transparency of any national requirements laid down by a Member State should be ensured, including in respect of any stricter requirements that may be necessary for safeguarding the safety, resilience or environmental sustainability of a space activity carried out on the territory of the Member State issuing the EUSA certificate, including territorial seas. Such information should be provided through a common Information Portal.

(43a) Operational space services involving spacecraft which are designed and developed with substantial involvement of governmental entities present a very low risk of non-compliance with the requirements of this Regulation, given the role of those entities in overseeing and participating in key stages in the development of such spacecraft, including procurement processes as well as design and verification reviews. Spacecraft are typically composed of, in essence, a platform and one or more payloads. The platform provides the structural support and essential systems for the operation of the spacecraft. The payload consists of mission-specific instruments that perform the spacecraft's primary functions. Since the requirements laid down by this Regulation primarily concern satellite platforms, it is appropriate to take into account the influence that payloads may have on the design of those platforms. Where a governmental entity owns all of the payloads on board a spacecraft, it is reasonable to assume that such ownership ensures a substantial degree of governmental involvement in the development of the spacecraft, including its platform. Accordingly, Member States should be able to opt to self-certify compliance with the technical requirements for spacecraft where a governmental entity is closely involved in the development and oversight of the spacecraft, or owns all of the payloads.

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

(43c) Space operators or providers of space-based data that are established in a third country and that aim to provide services in or space-based data into the internal market should be required to undergo checks to establish compliance with the requirements laid down in this Regulation. The Agency should carry out the technical assessments needed for the Commission to establish such compliance and to decide on the EUSA verification of those operational space services in the Union. The Commission should provide the decision of EUSA verification no later than 12 months after having received a complete application from a third-country space operator, considering the complexity of the operational space service involved, with a view to enabling the applicant to have a response without delay.

(43d) All space operators established in a third country should designate in writing one or more legal representatives in the Union, depending on those operators' 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 regarding the receipt of information and of decisions related to the compliance with, and enforcement, of this Regulation.

(43e) Certain third-country jurisdictions may apply safety, resilience and environmental sustainability requirements similar to those laid down in this Regulation. In these cases, a mechanism of equivalence is needed to allow the recognition of a level of protection in those jurisdictions that is equivalent in terms of outcomes to what is required under this Regulation. Accordingly, the Commission should carry out an assessment of the outcomes resulting from the legally binding rules applicable in that third country. Where those outcomes are deemed to be equivalent to those sought by the requirements laid down in this Regulation, compliance with the applicable requirements of this Regulation by the space operators established in that third country should be determined on the basis of that equivalence. Such space operators should be able to provide operational space services in the Union based on an equivalence decision to be adopted by the Commission.

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

(43g) In the event of a natural or man-made disaster as referred to in Decision No 1313/2013/EU of the European Parliament and of the Council[7] or of a significant incident as referred to in Directive (EU) 2022/2557 of the European Parliament and of the Council[8], swift action may be necessary, exceptionally and on a temporary basis, to make use of space-based data or operational space services provided by space operators which have not been entered in the Union Repository for Space Activities (URSA). Where a Member State takes such swift action, it should inform the Commission and the Commission should assess the proportionality and the effectiveness of such action.

(43h) This Regulation lays down common rules concerning operational space services in order to promote the free movement of those services. The ultimate purpose of such services is, in most cases, to enable the provision of space-based data to the downstream economy, in particular for satellite communication and Earth observation. Space operators could circumvent the technical requirements referred to in this Regulation by launching or operating from a third country before providing precisely the same space data to the downstream economy. In light of this risk, and in order to achieve the objectives of this Regulation while respecting the principle of proportionality, it is necessary to impose obligations on a limited number of actors that act as appropriate control points between the operational space services economy and downstream markets. Those actors should be required to ensure that any space-based data they provide in the Union originates from space objects whose activities are entered in URSA, or from space objects whose activities are specifically excluded from the scope of this Regulation, for instance, because the object was launched before ... [*LL please insert date*], or because the activities take place beyond the graveyard orbit.

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

8 Directive (EU) 2022/2557 of the European Parliament and of the Council of 14 December 2022 on the resilience of critical entities and repealing Council Directive 2008/114/EC (OJ L 333, 27.12.2022, ELI: http://data.europa.eu/eli/dir/2022/2557/oj).

(43i) These anti-circumvention obligations should be effective and proportionate. To that end, the Regulation specifically targets satellite communication and Earth observation to address the risk of circumvention because those activities account for the bulk of the satellites generating space-based data that enters the Union. In addition, the obligations should apply to those actors acting as control points and retaining a close link with the space economy, including space operators themselves. Further, they should apply to public authorities that already function as a control point before the space-based data enter the market. For satellite communication, this corresponds to the relevant Member-State authorities that have competence in respect of landing rights. For Earth observation, those are public authority users, which are contracting authorities as defined in Directive 2014/24/EU of the European Parliament and of the Council[9], as well as Union institutions, bodies and agencies, that procure Earth observation data. Those actors account for a significant portion of Earth observation data purchases in the Union. These authorities should promote the use and uptake of data coming from satellites that are compliant with obligations laid down in this Regulation to ensure that space orbits remain safe and resilient. The obligations laid down in the Regulation should not cover the purchase of space-based data for research and educational purposes.

(46) Once compliance with the requirements laid down in this Regulation has been established, the entry in URSA attests to the fact that the operational space services of a space object providing space-based data services in the Union comply with this Regulation. For operational space services carrying out an Earth observation mission, entry in URSA should be accompanied by the issuance of an electronic certificate (e-certificate).

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

(47) Consolidated lists of all operational space services entered in URSA should be made accessible to the public, through the URSA website, thereby ensuring transparency of all space activities provided in the Union. The information publicly accessible in URSA should ensure compliance with Regulations (EU) 2016/679[10] and (EU) 2018/1725[11] of the European Parliament and of the Council, as applicable, and not contain any sensitive commercial data or data subject to intellectual property rights.

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

(52a) Member States play an essential role in the enforcement of this Regulation. To take into account the inherent differences across institutional structures at national level, and to safeguard existing arrangements, Member States should designate or establish one or more national competent authorities which should 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 point of single contact for that Member State, to facilitate communication with the Commission.

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

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

(52b) The minimum 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 on the basis of their national authorisation process or, as appropriate, the regimes laid down by Member States for governmental entities carrying out a national space programme. The specific character of certain entities should be acknowledged, including that of governmental space agencies which carry out national space programmes and which may not necessarily be subject to national authorisations in the same way as other space operators. Consequently, Member States should ensure, as regards these entities, an appropriate supervision that respects and implements the requirements of an appropriate separation of roles and of an absence of conflicts of interest.

(52c) 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) It is important that national competent authorities cooperate with each other and exchange good practices on the application of this Regulation, for instance through providing mutual assistance and conducting joint investigations 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 applicable rules.

(52f) National competent authorities should, in most cases, rely on the technical knowledge and expertise of qualified technical bodies which are able to carry out technical assessments and verifications to ascertain that the requirements laid down in this Regulation are met.

(52g) Acknowledging the need for preserving flexible arrangements, Member States should remain free to choose to rely on the support of the Agency or of international organisations with technical expertise for carrying out such technical assessments. Member States might use different qualified technical bodies for the different technical areas covered by this Regulation. Member States may, for example, use as a national qualified technical body a part of the administrative structure of a national competent authority, a national space agency or, where relevant, the national competent authorities designated in Article 8 of Directive (EU) 2022/2555 of the European Parliament and of the Council (NIS2)[12].

(52h) Member States intending to establish and use qualified technical bodies for operational space services should make use of the accreditation system provided for in Regulation (EC) No 765/2008 of the European Parliament and of the Council[13] when designating a notifying authority for the assessment and monitoring of qualified technical bodies.

(52i) To ensure a consistent level of quality, expertise and integrity in the performance of the technical assessment regarding 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 have at their disposal the electronic notification tool developed and managed by the Commission in the context of notified bodies for other areas of internal market (NANDO information system).

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[12] 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, ELI: http://data.europa.eu/eli/dir/2022/2555/oj).

[13] 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) In order to ensure an appropriate and effective enforcement of the requirements laid down in this Regulation, which is Union harmonisation legislation, the system of market surveillance and compliance established by Regulation (EU) 2019/1020[14] should apply. Market surveillance authorities designated pursuant to this Regulation should have all enforcement powers laid down in this Regulation and in Regulation (EU) 2019/1020 and should exercise their powers and carry out their duties independently and impartially.

(52j) The effective exercise of the Agency's tasks under this Regulation requires appropriate governance structures. A Compliance Board should be established within the Agency and entrusted with carrying out all technical assessments necessary to support the Commission in taking EUSA certification and EUSA verification decisions and in the Commissions performance of the supervisory tasks set out in this Regulation.

(52k) To ensure sound and independent functioning of the Agency, the members of the Compliance Board should act independently and in the interests 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.

(52l) 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 by setting up technical configurations on matters of safety, resilience and environmental sustainability, taking into account the aim of a balanced participation of Member States.

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[14] Regulation (EU) 2019/1020 of the European Parliament and of the Council of 20 June 2019 on market surveillance and compliance of products and amending Directive 2004/42/EC and Regulations (EC) No 765/2008 and (EU) No 305/2011 , ELI: http://data.europa.eu/eli/reg/2019/1020/oj.

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

(52n) In relation to the powers of investigation and inspection, access to the premises of Union space operators of Union-owned spacecraft 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 that request, or where documents to which a request for information relates risk being removed, tampered with, or destroyed. Such access should be based on the agreement of the relevant third-country authority.

(52p) All Agency and Commission powers are to be exercised in full respect of the fundamental rights and principles recognised in the 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, as well as the rights of defence. Accordingly, this Regulation is to be interpreted and applied in accordance with those rights and principles.

(52q) Furthermore, a set of procedural rules should be envisaged for the exercise of investigative powers. Where the Commission suspects the existence of facts liable to constitute one or more infringements of this Regulation, it should conduct investigations in full respect of the rights of defence of the Union space operator or third-country space operator concerned.

(53) The number of spacecraft in orbit has been rapidly growing due to increased launch capabilities and the development of satellite constellations. This has resulted in a greater risk of congestion of certain orbits, which in turn has led to an increased likelihood of collision of satellites and the proliferation of space debris. In addition, the geopolitical landscape presents risks not just for the cybersecurity of space infrastructure, but also risks of physical contact with or proximity to other elements of space infrastructure. These are challenges of a global nature which many space-faring nations have started to address.

(55) Access to space is crucial for European Union's strategic autonomy. However, increased launch traffic also has consequences for the safety for the launch and re-entry and for safety in the air and on ground. Increased space launch traffic might also have an impact on the economic, environmental and efficient performance of the Single European Sky. The risk of disruption of air and maritime traffic needs to 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 can appropriate cost-sharing mechanisms for the use of the airspace 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 relevant impacted authorities and air traffic service providers. The increasing risk of collision with aircraft during the transition phase of space launch and re-entry can be supported by well-established aviation safety methodologies and best practices on risk assessment.

(55a) This Regulation does not affect any Member State's rights or responsibilities under the Convention on International Civil Aviation.

(56) Launch activities are inherently risky and can cause irreversible damage if not managed properly. Rules should consequently be laid down to ensure that launch vehicles are trackable and that they undergo a risk assessment which identifies and facilitates the implementation of 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 major source of debris. The risk of collision between space objects could put an already congested Low Earth Orbit (LEO) under pressure, which creates a risk for future access to space. In terms of mass, most space debris comes from parts of launch vehicles.

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

(59) Collision avoidance services need a spacecraft to be able 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 at the space segment level and at the ground segment level.

(60) Owing to increased debris and traffic in orbit, the use of a collision avoidance service should be a mandatory space safety requirement for all spacecraft. A mandatory subscription to a collision avoidance service should be at the core of space safety requirements. As a result, the entity in charge of delivering a collision avoidance service would need to demonstrate certain capabilities.

(60a) Since national competent authorities deliver the national authorisations to Union space operators for all phases of a space mission, access to data is needed for each individual authorised spacecraft until the end of life. Developed as part of the SSA component under Regulation (EU) 2021/696, the EU-SST Partnership, or any successor entity, using its sensors and well-developed know-how, has demonstrated its ability to manage a high number of spacecraft and therefore its suitability to be the EU-SST collision avoidance entity ('EU-SST CA entity') in charge of the collision avoidance service. To fully leverage existing capabilities, the Union spacecraft operators should rely on the EU-SST CA entity to perform the monitoring during the in-orbit and end-of-life phases. They may also use other commercial collision avoidance services. In addition, the obligation to use the EU-SST CA entity does not preclude Member States from developing national collision avoidance systems.

(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, also limiting the risk that such an alert triggers different reaction strategies, which in themselves could potentially lead to a collision. As regards collision avoidance and orbital traffic rules, to ensure efficient collision avoidance services, Union spacecraft operators and the EU-SST CA entity should cooperate, in particular when there is a high-interest event alert.

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

(62c) Owing to the increasing number of high-interest event alerts, Union spacecraft operators should be able to react to such alerts more frequently. Upon receipt of a high-interest event alert, the collision avoidance provider would propose a list of recommendations for action 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 atmospheric drag would, in such case, ensure in a natural manner, a short orbital lifetime of that spacecraft.

(64) It is common practice that spacecraft operators be granted an extension of a space mission. However, when applying for such 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 the generation of debris.

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

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

(68) It is essential to ensure a high and coherent level of cybersecurity resilience as regards space activities covered by this Regulation. NIS2 is the horizontal legislation laying down measures to achieve a high common level of cybersecurity across the Union. It is appropriate to rely on that horizontal legislation to the greatest extent possible. To that end, the Commission should be required to adopt a sector-specific implementing act under NIS2 addressing the specificities and complexities of such space activities. At the same time, NIS2 and that implementing act follow a different logic to this Regulation and have a different scope. NIS2 is generally a minimum harmonisation measure, has significant variation in national implementing laws, relies on ex post supervision, is limited to the ground segment of certain space activities, and does not include all space operators, such as ones based in third countries and small and medium-sized enterprises (SMEs) as defined in Article 2 of the Annex to Commission Recommendation 2003/361/EC[15]. This Regulation requires ex ante certification, permits stricter measures in a more targeted way, and has a broader scope as regards space operators. Accordingly, it is necessary to refine and extend the NIS2 regime in the following ways. First, this Regulation should directly oblige space operators to comply with the space operator implementing act adopted under NIS2. Second, the NIS2 competent authority of the Member State certifying the relevant space activities (or the Commission, in the case of Union-owned spacecraft) should be responsible for certifying compliance with those requirements. Accordingly, only that Member State could apply measures stricter than the implementing act, insofar as justified under this Regulation. Third, the relevant NIS2 requirements should be duplicated in this Regulation in order to cover space operators or activities that fall outside of NIS2. A parallel implementing act should implement those requirements. The Commission should ensure that the two parallel implementing acts are as consistent as possible in order to ensure a uniform regime.

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

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

(80) The complexity of supply chains 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 necessary integrity checks, especially in the integration or assembly of components in various systems of space infrastructure. To address such risks, Union space operators should take into account the vulnerabilities specific to each direct supplier or service provider and the overall quality of the products and cybersecurity practices of their suppliers or service providers, including their secure development procedures.

(82) Directive (EU) 2022/2557 sets out key minimum harmonisation rules aimed at enhancing the resilience of critical entities and improving 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 covered by 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, the systems and subsystems part of space infrastructure, engineering systems, power systems and propulsion systems.

(86) Beyond the laying down of rules on incident handling and investigation, an incident reporting mechanism by Union space operators of Union-owned spacecraft should be established, filling existing gaps in incident reporting. Union space operators of Union-owned spacecraft should report on significant incidents to the security monitoring structure of the Agency. To achieve coherence with the general framework on cybersecurity, such mechanism should be aligned with the incident reporting required pursuant to Directive (EU) 2022/2555 (NIS2).

(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 NIS2 or Directive (EU) 2022/2557. Consequently, the reporting rules under these two Directives should continue to apply in full to Union space operators that are as essential or important entities, or 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 space infrastructure, Union space operators should report significant incidents affecting national assets of space infrastructure to the national competent authorities under this Regulation which in turn should pass on related summary information to the Agency.

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

(93a) Acknowledging that space activities occur both on Earth and in space, this Regulation should cover the environmental sustainability of the entire life cycle of operational space services. 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 life-cycle assessment calculation for operational space services.

(95) The increasing adoption of a life cycle assessment framework by space operators and its integration as a contractual requirement highlight that framework's importance 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 environmental footprint studies, based on life-cycle assessment, is crucial for optimising resource use, improving operational efficiencies and identifying innovation opportunities. Therefore, this Regulation should require that the life-cycle assessment be calculated on the basis of accepted international practices, in order to ensure accurate, consistent, transparent practices promoting the reusability of data, while avoiding disproportionate adjustment costs for space operators. In the longer term, the harmonisation of life-cycle assessment should be completed through the establishment of a harmonised European standard and its promotion as a recognised international standard, so that it can progressively replace the different standards currently applied by space operators.

(97) To ensure clarity and consistency among existing environmental impact measurements of space activities, the Commission should develop a detailed Union methodology for calculating the environmental footprint of space activities, based on scientifically sound assessment methods or international standards, such as those outlined in Commission Recommendation (EU) 2021/2279[16]. This methodology would facilitate comparisons among space systems, streamline calculation processes, reduce administrative burden, enhance clarity, and ensure consistent implementation across the sector. Union space operators should be able to apply it on a voluntary basis. The coexistence of different calculation methods should be limited in time, since full comparability of the environmental impacts of operational space services can only be achieved through the use of a single method. Once such an international standard has been adopted, Union space operators should calculate the environmental footprint of space activities accordingly. In order to ensure legal certainty and to take into account the duration of space mission preparation, an adequate transitional period should be laid down.

(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 operational space services 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 for space activities. In alignment with the principles laid down in the Regulations (EU) 2022/868 [17] and (EU) 2023/2854[18]of the European Parliament and of the Council, the Commission must ensure robust confidentiality of datasets before they are published or shared in the Commission environmental footprint database.

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

17 Regulation (EU) 2022/868 of the European Parliament and of the Council of 30 May 2022 on European data governance and amending Regulation (EU) 2018/1724 (Data Governance Act) (OJ L 152, 3.6.2022, p. 1, ELI: http://data.europa.eu/eli/reg/2022/868/oj).

18 Regulation (EU) 2023/2854 of the European Parliament and of the Council of 13 December 2023 on harmonised rules on fair access to and use of data and amending Regulation (EU) 2017/2394 and Directive (EU) 2020/1828 (Data Act) (OJ L, 2023/2854, 22.12.2023, ELI: http://data.europa.eu/eli/reg/2023/2854/oj).

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

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

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

(101a) Certain space operators should benefit from dedicated exemptions from the rules laid down in the different areas covered by this Regulation. Recognising the specific nature and objectives and, where relevant, experimental character of research and education space activities, which remain instrumental in advancing scientific knowledge and technological capabilities, including In-Orbit Demonstration and Validation (IOD/IOV), this Regulation should include certain exemptions for research and education institutions, with a view to accommodating their specific needs and characteristics, while maintaining an appropriate level of safety of the orbits.

(101b) Space operators that qualify as SMEs or are research or education institutions and carry out IOD/IOV operational space services should be exempted from the life-cycle assessment for space activities. However, it is imperative that these exemptions be limited to avoid any circumvention, ensuring that fundamental sustainability objectives are not undermined.

(101c) The Union should seek gradually to conclude international agreements for mutual recognition with third countries. Until any such agreement is concluded with a given third country, the Commission might adopt an equivalence decision relating to that country. Equivalence should be assessed based on the comparison of the overall outcomes of the relevant legal and supervisory framework of the third country with that of the Union. It should not require point-by-point replication of Union technical requirements.

(101d) In the event that an equivalence decision or an international agreement has not been finalised within a reasonable period, it is appropriate that the Union or Member States have access to space activities necessary for their vital interests or for ongoing cooperation with third-country space agencies, including on research activities. In those circumstances, the Union or Member States should be able, upon request to the Commission or on the Commission's own initiative, to have access to space services and data from third-country space operators that are public entities not yet entered in URSA.

(101e) Certain technologies are of strategic importance for the Union, in particular where they are critical for the security, resilience, economic prosperity, or technological sovereignty of the Union. In particular, Regulation (EU) 2019/452 of the European Parliament and of the Council[19] identifies critical technologies and dual-use items, including artificial intelligence, semiconductors, cybersecurity, aerospace and defence technologies, as areas requiring scrutiny in the context of foreign direct investment. Furthermore, Regulation (EU) 2021/696 recognises the strategic and security-sensitive nature of space infrastructures and associated technologies, while NIS2 and Directive (EU) 2022/2557 underline the importance of space technologies underpinning essential and critical services for the functioning of the economy and society. In line with this regulatory framework, for the purposes of this Regulation, technologies may be considered to be of strategic importance where they contribute to essential functions or economic security, or entail security or defence implications.

[19] Regulation (EU) 2019/452 of the European Parliament and of the Council of 19 March 2019 establishing a framework for the screening of foreign direct investments into the Union (OJ L 79I, 21.3.2019, p. 1, ELI: http://data.europa.eu/eli/reg/2019/452/oj).

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

(101g) ESA is an international organisation with which an appropriate relation should be established. It has extensive expertise in the space domain and an important partner in the implementation of the Union Space Programme. ESA develops and operates, as appropriate, in accordance with dedicated agreements, assets of space infrastructure for the Union Space Programme and the Union Secure Connectivity Programme. ESA is a central driver for developing technical standards for space activities and concluded a Framework Agreement with the European Community in 2004[20]. However, as ESA is not subject to Union law, the conditions for the implementation of this Regulation to ESA should be defined in an international agreement based on Article 218 TFEU, with due regard to ESA's status and institutional framework.

(131) With a view to facilitating and accompanying 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 of the provision of guidance and assistance to space operators in the preparation of technical dossiers for EUSA certification or EUSA verification on matters covered by this Regulation, as well as of a set of measures for capacity building and funding.

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[20] Framework Agreement between the European Community and the European Space Agency (OJ L 261, 6.8.2004, pp. 63–68)

(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 the approach to technical harmonisation and standards and on Regulation (EU) No 1025/2012 of the European Parliament and of the Council[21]. Since this Regulation is the first regulatory approach at Union level in the area, a balanced and gradual approach should be taken also as regards standardisation. The essential requirements needed for the deployment of the e-certificate, for optical and electromagnetic interference, for ISOS and for other standards as necessary, should be developed through the standardisation process. The Commission should accordingly request the European standardisation organisations to develop standards in relation to such essential requirements. In exceptional cases, the Commission should be empowered to adopt implementing acts establishing common specifications for these essential requirements, taking into account the role and functions of standardisation organisations.

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[21] 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 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, and acknowledge technological progress as regards ISOS. The power to adopt acts in accordance with Article 290 TFEU should be delegated to the Commission to supplement this Regulation by specifying for ISOS the operational mode and the requirements needed for active debris removal, by specifying the imposition of fines and periodic penalty payments. 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 operational space services or space-based data in the Union until the conclusion of international agreements, to confirm, in the event of an emergency, the adequacy and proportionality of the use of space-based data or operational space services based on space activities not entered in URSA, 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 and spacecraft constellations, to specify the content and templates for reporting of significant incidents, to specify the Union environmental footprint method for operational space services, to lay down the common specifications covering the technical requirements for the design principles of Spacecraft Service Interfaces and functional modular systems for ISOS, for the e-certificate and for dark and quiet skies. Those powers should be exercised in accordance with Regulation (EU) No 182/2011 of the European Parliament and of the Council[22].

(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 operational space services and thereby to 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.

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[22] 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).

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

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

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

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

HAVE ADOPTED THIS REGULATION:

Title I
GENERAL PROVISIONS

Article 1

Subject matter

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

2. To achieve a high common level of safety, resilience and environmental sustainability of space activities, where the operation or use of space objects serves to provide operational space services or space-based data in the Union, this Regulation lays down harmonised rules on:

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

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

(aa) EUSA verification of operational space services carried out by space operators established in third countries, where no equivalence decision has been adopted pursuant to Article 105 or no international agreement has been concluded pursuant to Article 106;

(ab) EUSA verification of operational space services carried out by international organisations, subject to agreements concluded pursuant to Article 107 or 108, as applicable;

(ca) market surveillance, governance, supervision and enforcement matters concerning space activities; and

(d) capacity-building measures.

Article 2

Scope

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

3. This Regulation does not apply in respect of:

(-a) space objects generating operational space services or space-based data, where those space objects:

(i) serve exclusively to provide operational space services or space-based data to defence or national security authorities, irrespective of the space operator or the provider of space-based data;

(ii) are operated by or under the control of military or defence authorities for the entire lifetime of the space object; or

(iii) are owned by the military or defence authorities;

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

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

(ca) operational space services that are to be provided beyond the graveyard orbit, as well as corresponding transit flights;

(d) space objects launched before ... [*36 months from the date of entry into force of this Regulation*].

3a. Space objects used for operational space services or generating space-based data, that are used temporarily for conducting defence or military operations or are placed temporarily under operational control of military, defence or national security authorities, shall be exempted from the requirements laid down in Title IV, in particular Article 63, for the duration of those operations.

Article 3

Free movement

1. A Member State shall not restrict, for reasons related to safety, resilience or environmental sustainability as covered by this Regulation, the provision of operational space services or space-based data in the Union stemming from space activities entered in the Union repository for space activities (URSA) in accordance with Article 24.

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

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

   (b) consistent with that Member State's obligations under Union law.

3. Any Member State that adopts provisions pursuant to paragraph 2 of this Article shall provide, via the Information Portal referred to in Article 110, all relevant information regarding the stricter requirements concerned.

Article 4

National security clause

1. This Regulation shall be without prejudice to the responsibilities of each Member State for safeguarding national security or to the power of each Member State 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 any Member State's defence or national security.

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

Article 5

Definitions

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

(-1) ‘service’ means a service normally provided for remuneration, or a service provided by a public authority to others whether or not for remuneration;

(-1a) ‘space-based data’ means any type of data, whether raw or processed, including associated metadata, that is acquired by, transmitted or broadcast through, or exchanged with, a spacecraft, or that relates to the position, orbit or behaviour of space objects, irrespective of whether such data are acquired, generated or received in outer space or on Earth;

(-1b) ‘space activity’ means:

(a) an operational space service; or

(b) the service of providing space-based data;

(-1c) ‘operational space service’ means any of the following services:

(a) operation, control and disposal of spacecraft;

(b) provision of launch services;

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

(-1d) ‘provider of space-based data’ means a public or private entity established in the Union or in a third country, including an international organisation, that provides the service of providing space-based data;

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

(a) operation, control and disposal of a space object (‘spacecraft operator’) that provides space-based data or ISOS;

(b) operation and control of the launch 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 any object launched, or intended to be launched, to outer space, including a spacecraft or its component parts and the launch vehicle or parts thereof;

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

(1b) ‘EU Space Act verification’ or ‘EUSA verification’ means a verification of compliance with the applicable requirements laid down in Title IV of an operational space service provided by a third-country space operator or by an international organisation;

(1c) ‘national authorisation process’ means a national authorisation process for the carrying out of space operations and includes both the EUSA certification process and any other operational space service national authorisation process required by national law;

(1f) ‘Union space operator’ means a space operator which:

(a) is established in the Union, controlled by a natural or legal person that is established in the Union or in a third country, and is subject to the national authorisation process of a Member State; or

(b) carries out a launch from the Union territory;

(1g) ‘third-country space operator’ means a space operator established in a third country, and that is not a Union space operator pursuant to point (1f), and which:

(a) provides operational space services to Union space operators,

(b) acts as a provider of space-based data directly to users in the Union, or

(c) acts as a provider of space-based data to providers of space-based data that provide those space-based data within the Union;

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

(1i) ‘in-space operations and services (ISOS)’ means activities carried out in space (in orbit and in outer space), with a view to providing 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 objects in space excluding last-mile delivery services, as well as of non-operational and defective objects (space debris) in space, with a servicer spacecraft with a high degree of autonomy, including platforms or larger structures;

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

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

(3) ‘constellation’ means a group of space objects consisting of two or more operational spacecraft that are subject to an orbital deployment plan and that operate in orbit to achieve a common space mission under the control of one or more space operators;

(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 that is carried out using one or more space objects;

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

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

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

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

(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 reducing the risk of accidental fragmentation and to achieve long-term clearance of orbits;

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

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

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

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

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

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

(42a) ‘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;

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

(44a) ‘space infrastructure’ means space-based or ground-based elements, systems and sub-systems or parts thereof, used to carry out space activities, through the interaction and operation of the ground segment, the space segment and the link segment, which is the communication pathway established between a spacecraft and a ground segment or between two spacecraft in orbit;

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

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

(47d) ‘small mid-cap enterprises’ means enterprises as defined in point (2) of the Annex to Commission Recommendation (EU) 2025/1099[23];

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[23] Commission Recommendation (EU) 2025/1099 of 21 May 2025 on the definition of small mid-cap enterprises (OJ L, 2025/1099, 28.5.2025, ELI: http://data.europa.eu/eli/reco/2025/1099/oj).

(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) ‘life cycle assessment’ means the compilation and evaluation of the inputs, outputs and potential environmental impacts of an operational space service throughout its life cycle;

(60b) ‘environmental footprint’ means a life cycle assessment-based method and scientific tool designed to measure, quantify, and communicate the potential environmental impacts of operational space services;

(71) ‘common specification’ means a technical specification as defined in Article 2, point (4) of Regulation (EU) No 1025/2012, other than a standard, that provides the means to comply with certain requirements established under this Regulation;

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

Title II
EUSA CERTIFICATION AND EUSA VERIFICATION FOR SPACE ACTIVITIES

Chapter I
EUSA CERTIFICATION FOR OPERATIONAL SPACE SERVICES BY UNION SPACE OPERATORS

Article 6

EUSA certification for carrying out operational space services

1. A Union space operator may provide an operational space service within the Union only if it possesses valid EUSA certification.

1a. A Union spacecraft operator may use a launch service or an ISOS only if that service is entered in URSA.

1b. The EUSA certification to carry out operational space services as referred to in paragraph 1 shall be issued by one of the following certifying authorities, as applicable:

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

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

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

(ii) the Commission, as regards Union-owned spacecraft.

1c. Where more than one Member State exercises jurisdiction over an operational space service for reasons deriving from international obligations, for instance based on the territory, the nationality or the facility used for that service, any such exercise of jurisdiction shall comply with Article 3(1) and shall not call into question EUSA certification.

Article 7

EUSA certification process

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

(a) to provide operational space services within the Union; or

(b) to enable space-based data generated by its operational space services to be provided within the Union in accordance with Article 23a.

2. The application for EUSA certification to carry out an operational space service shall be complete, accurate and not misleading and shall contain the following:

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

(i) for launch operators, the requirements set out in Title IV, Chapter I, Section 1, and in Title IV, Chapter II to IVa;

(ii) for spacecraft operators, the requirements set out in Title IV, Chapter I, Section 2, and in Title IV, Chapter II to IVa;

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

(ba) for spacecraft operators, the mission duration;

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

(d) where the Member State has designated more than one qualified technical body (QTB) under Article 31a(1), the QTB chosen by the applicant.

2a. The Commission shall adopt, by means of implementing acts, a template for the application for EUSA certification referred to in paragraph 2 of this Article. That template shall provide for a declaration by the applicant that all information submitted as part of the application is accurate, complete and not misleading. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 114(2).

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

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

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

5a. Where the certifying authority is the Commission, the Union space operator of Union-owned spacecraft shall submit the application for EUSA certification to the Commission, which shall transmit it to the European Union Agency for the Space Programme (the Agency) without delay. The Agency shall confirm that the application is complete, assess the application in accordance with Article 43 and, within 30 days after the confirmation that the application is complete, shall notify the applicant of the outcome of its preliminary assessment. The Union space operator of Union-owned spacecraft may submit a reasoned statement and provide additional explanation or evidence. No later than five months after having confirmed that the application is complete, the Agency shall issue a reasoned opinion proposing to the Commission to issue or to refuse EUSA certification. In the case of an application related to an envisaged mission extension, that time-period shall be two months.

6. No later than 12 months after the date of receipt of the application, the certifying authority, taking into account the opinions issued by the QTBs, shall issue the EUSA certification or reject the application and shall notify the applicant accordingly. Where the certifying authority is the Commission, that certification or rejection shall take the form of a decision.

6a. Where a Union spacecraft operator wishes to extend a space mission, that operator shall submit to the certifying authority a request for such an extension at the latest six months before the previously planned end of the space mission concerned. That request shall be complete, accurate and not misleading, and aim to demonstrate that the spacecraft still meets the requirements laid down in Title IV, Chapter I, Section 2. No later than six months after having confirmed that the application is complete, the certifying authority, taking into account the opinions issued by the QTBs, shall issue the EUSA certification if the application demonstrates that the spacecraft still meets the requirements laid down in Title IV, Chapter I, Section 2, or otherwise reject the application and shall in either case notify the applicant accordingly.

7. Where a certifying authority issues a EUSA certification pursuant to paragraph 6 of this Article or a mission extension pursuant to paragraph 6a, it shall transmit the information referred to in Article 24(1a) to the Agency in order to enter the operational space service in URSA and for operational space services carrying out an Earth observation mission issue the e-certificate referred to in Article 25.

7a. A Union space operator shall promptly report to the certifying authority any change in its situation that may affect the compliance of certified operational space services with the applicable requirements of this Regulation, including, where relevant, the use of ISOS space services.

7b. EUSA certification may be suspended or withdrawn pursuant to Article 30(1) or Article 55(1), point (d), as applicable.

Article 7a

Self-certification

1. By way of derogation from Article 7, a Member State may opt to self-certify, through a national procedure without the involvement of a QTB, compliance with the technical requirements for spacecraft laid down in Title IV, Chapter I, Section 2, and Title IV, Chapter II to IVa, where at least one of the following requirements is met:

   (a) a governmental entity owns the majority of the spacecraft platform;

   (b) a governmental entity owns all of the payloads on board the spacecraft;

   (c) a governmental entity performs the spacecraft operation;

   (d) a governmental entity owns the majority of the constellation or exercises effective control over that constellation;

   (e) a governmental entity is party to a joint mission with a third-country public entity for the purpose of any space activity.

2. Where a Member State uses the option laid down in paragraph 1 to confirm compliance in accordance with that paragraph, the national competent authority of that Member State shall issue EUSA certification.

3. In order for the Agency to enter in URSA the relevant operational space services and, where relevant, to issue the e-certificate referred to in Article 25, the national competent authority referred to in paragraph 1 shall transmit the information referred to in Article 24(1a), points (b), (c), (d) and (f) and may transmit the information referred to in Article 24(1a), point (a).

4. For the purpose of this Article, 'governmental entity' means an entity that meets all of the following criteria:

(a) it is part of, or wholly owned by, a government, including any political subdivision or local authority thereof;

(b) it does not carry on a trade or business and has the principal purpose of:

(i) fulfilling a government function; or

(ii) managing or investing that government's or jurisdiction's assets through the making and holding of investments, asset management, and related investment activities for that government's or jurisdiction's assets;

(c) it is accountable to a government regarding its overall performance, and provides annual information reporting to that government; and

(d) its assets vest in a government upon dissolution and, to the extent it distributes net earnings, such net earnings are distributed solely to that government with no portion of its net earnings inuring to the benefit of any private person.

Article 7b

Suspension or withdrawal of EUSA certification for Union-owned spacecraft

1. Where the Agency has reasonable grounds to suspect that a Union space operator of Union-owned spacecraft no longer complies with one or more applicable requirements of this Regulation, the Agency shall conduct a dialogue with the Union space operator concerned, with a view to remedying the situation in line with the objectives of this Regulation. That dialogue shall cover in particular the nature, context, scope and gravity of the suspected non-compliance, as well as the potential remedial measures and associated timeframes necessary for that Union space operator to restore compliance, with due consideration for any need for technical adaptation.

2. Where matters cannot be resolved to the Agency's satisfaction through the dialogue referred to in paragraph 1 in a timely manner, and in any event, within three months after the initiation by the Agency of that dialogue, the Agency shall propose to the Commission the suspension or withdrawal of the EUSA certification of the operational space service concerned. That proposal shall include an estimation of the time necessary for the adaptation of any relevant contracts.

3. The Commission shall without delay take a decision on the Agency's proposal, with the Union space operator concerned having the opportunity to be heard beforehand. Where appropriate, the Commission may exercise its powers under Chapter II, Section 2. Where the Commission decides to withdraw the EUSA certification concerned, it shall indicate the effective date of that withdrawal, which shall not be later than 16 months after the date of notification of the withdrawal decision.

5. From the receipt of the proposal referred to in paragraph 2, the Commission shall, without delay, inform the Member States concerned of the possibility of a decision suspending or withdrawing the EUSA certification concerned.

6. Where, based on documented evidence regarding an operational space service for which a EUSA certification has been suspended in accordance with paragraph 3, the Agency is satisfied that that Union space operator has restored compliance with the applicable requirements of this Regulation, the Agency shall make an appropriate proposal to the Commission. The Commission shall take a decision regarding that proposal without delay and in any event within two months after receiving the proposal from the Agency.

Article 9

EUSA certification for constellations

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

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

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

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

2a. In order to assess compliance with the criterion set out in paragraph 1, point (aa), the technical assessment of an application pursuant to paragraph 2 may be carried out on the basis of a single representative satellite to be launched under the relevant space mission.

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

2b. In the event of a change in the parameters of any satellite in a constellation that may affect the compliance of that satellite with Section 2 of Chapter I, Chapter II and Chapter III of Title IV, the Union spacecraft operator shall notify without delay the relevant certifying authority.

2c. Before launch, Union spacecraft operators shall notify without delay the relevant certifying authority of the launch of any additional satellites within a EUSA-certified constellation including relevant information about any updated satellite designs, any introduction of new generations of satellites, and any replacement of failed satellites.

2d. Upon receipt of any of the notifications referred to in paragraph 2b or 2c of this Article, the certifying authority shall review the single EUSA certification and, where it is satisfied that the Article 7(2) criteria are still fulfilled, shall confirm the validity of the single EUSA certification. This review shall not unduly delay the deployment of updated or replacement satellites where compliance is maintained. No new satellite or updated satellite incorporating a change that may affect compliance with the applicable requirements may be launched before the validity of the single EUSA certification is confirmed.

Chapter III
PROVISION OF OPERATIONAL SPACE SERVICES BY SPACE OPERATORS FROM THIRD COUNTRIES OR BY INTERNATIONAL ORGANISATIONS

Article 14

Provision of operational space services by third-country space operators or by international organisations

1. A third-country space operator may provide an operational space service or space-based data within the Union only if the relevant operational space services are entered in URSA in accordance with Article 17 or 17a.

2. International organisations may provide an operational space service or space-based data within the Union only in accordance with an agreement referred to in Article 107 or 108, as applicable.

Article 15

Requirements applicable to third-country space operators

1. Where a third-country spacecraft operator provides operational space services or space-based data in the Union, it shall be subject to the requirements applicable to the Union spacecraft operators laid down in Articles 61a, 63, 63a, 67, 70 to 73, 75, 75a, 96, 97, 99, 101a and 101b.

   In addition, a third-country spacecraft operator providing operational space services or space-based data in the Union shall:

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

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

2. Third-country launch operators shall, for each type of launch vehicle, and not per launch, be subject to the same requirements as those laid down in Article 61 in respect of Union launch services.

3. When providing space services to Union space operators, third-country ISOS providers shall be subject to the same requirements as those laid down in Article 101 in respect of Union ISOS providers.

Article 16a

Legal representative in the Union

1. Before providing operational space services in the Union, or enabling the provision of space-based data in the Union in accordance with Article 23a, a third-country space operator shall designate in writing one or more natural or legal persons in one of the Member States to act as its legal representative in the Union and inform the Agency thereof in accordance with Article 17 or Article 17a, as applicable.

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

Article 17

EUSA verification process for third-country space operators

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

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

(b) enable space-based data generated by its operational space services to be provided within the Union in accordance with Article 23a.

-1a. To obtain EUSA verification of its operational space services, a third-country space operator shall submit an application to the Commission, which shall forward the application to the Agency for technical assessment without delay. That application shall be complete, accurate and not misleading, and contain details of the legal representative designated under Article 16a and all the evidence needed to demonstrate compliance with the requirements set out in Article 15. The Agency shall check whether the application is complete, assess the application in accordance with Article 43 and, within 30 days after the confirmation that the application is complete, shall notify the third-country space operator of the outcome of its preliminary assessment. The third-country space operator shall be able to submit a reasoned statement and to provide additional explanation or evidence. No later than five months of having confirmed that the application is complete, the Agency shall issue a reasoned opinion proposing to the Commission either to accept or to refuse EUSA verification. In the case of an envisaged mission extension, that time-period shall be two months.

-1b. Without prejudice to paragraph -1a, evidence demonstrating compliance which cannot be sent by a third-country space operator to the Agency due to national export control legislation shall be replaced by an attestation by the relevant national authority certifying the relevant compliance.

6. No later than 12 months after 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. Where the Commission's decision is to accept EUSA certification, the Agency shall enter in URSA the relevant operational space services of the third-country space operator and, where applicable, issue the e-certificate referred to in Article 25.

6a. Where a third-country spacecraft operator wishes to extend a space mission, that operator shall submit to the Commission a request for extension at the latest six months before the planned end of the concerned space mission. That request shall demonstrate that the spacecraft still meets the applicable requirements laid down in Title IV, Chapter I, Section 2. No later than six months after having confirmed that the application is complete, the Commission, taking into account the opinions issued by the Agency, shall issue the EUSA verification or reject the application and shall notify the applicant thereof.

6b. A third-country space operator shall promptly report to the Commission any change in its situation that may affect compliance of the verified operational space services with the applicable requirements of this Regulation.

6c. The process for suspension or withdrawal of EUSA verification for third-country space operators shall follow, mutatis mutandis, the procedures set out in Article 7b for the suspension or withdrawal of EUSA certification for Union-owned spacecraft.

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

8a. The Commission shall adopt, by means of implementing acts, a template for the application for EUSA verification referred to in paragraph -1 of this Article. That template shall provide for a declaration by the applicant, or on its behalf by its legal representative, that all information submitted as part of the application is accurate, complete and not misleading. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 114(2).

Article 17a

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

1. Third-country space operators that are established in a third country for which the Commission has adopted an equivalence decision in accordance with Article 105, or with which the Union has concluded an international agreement in accordance with Article 106, shall be deemed to comply with the requirements laid down in Article 15 where their space activities are authorised or otherwise lawfully carried out under the legal and supervisory framework of that third country.

2. To have its operational space services entered in URSA, a third-country space operator from an equivalent jurisdiction in accordance with Article 105, or a mutually recognised jurisdiction in accordance with Article 106, shall:

(a) inform the Agency of the legal representative designated under Article 16a; and

(b) demonstrate that the relevant operational space services are authorised or otherwise lawfully carried out and subject to the applicable supervision under the legal and supervisory framework of that third country.

Where the requirements of points (a) and (b) of the previous subparagraph are fulfilled, the Agency shall enter the relevant operational space services in URSA and, where applicable, issue an e-certificate as referred to in Article 25.

3. Upon demonstration that the relevant third-country supervisory authority has extended the authorisation or equivalent legal basis allowing the relevant space activity to be carried out, the Agency shall extend the corresponding entry in URSA.

4. Where the relevant third-country supervisory authority has suspended, withdrawn or otherwise terminated the authorisation or equivalent legal basis allowing the relevant space activity to be carried out, the Agency shall suspend or withdraw the corresponding entry in URSA.

5. The Commission shall adopt, by means of implementing acts, a template for the request for entry in URSA referred to in paragraph 2 of this Article. That template shall provide for a declaration by the requester that all information submitted as part of the request is accurate, complete and not misleading. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 114(2).

Article 19

Derogations for launch services

1. A national competent authority may request the Commission to adopt a decision allowing the Agency to enter in URSA a third-country launch service which does not comply with one or more of the requirements referred to in Article 61, if the conditions referred to in paragraph 2 of this Article are met.

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

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

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

(b) specify all the requirements laid down in Article 61, 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 61 are met;

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

The application regarding a third-country launch service shall describe, where possible, alternative mitigating measures taken by the third-country launch service operator to ensure that the objectives pursued by the requirements referred to in Article 61 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 61 that are not subject to the application for derogation, including any alternative mitigating measures.

5. Within one month 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 of this Article 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).

5a. For Union-owned spacecraft, the Commission shall, on its own initiative, assess whether the conditions referred to in paragraph 2 are met, prepare an application in accordance with paragraph 3 and follow the procedure referred to in paragraphs 4 and 5.

Article 21

Emergency clause

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

1a. Without prejudice to reporting obligations under civil protection legislation, the affected Member States or Union institutions shall inform the Commission as soon as possible on the use of space-based data or operational space services stemming from activities not entered in URSA and, where applicable, of the expected duration of such use. 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 operational space services based on space activities not entered in URSA, as well as its duration where applicable.

Chapter IV
PROVISION OF SPACE-BASED DATA AND OPERATIONAL SPACE SERVICES IN THE UNION AND E-CERTIFICATE

Article 23a

Provision of space-based data in the Union

1. Providers of space-based data may provide space-based data concerning Earth observation to contracting authorities as defined in Directive 2014/24/EU, or to Union institutions, bodies or agencies, only if the data were generated:

   (a) through an operational space service entered in URSA and carrying the e-certificate referred to in Article 25; or

   (b) through an operational space service or by a space object excluded from the scope of this Regulation in accordance with Article 2(3).

2. For the purposes of this Article, the provision of space-based data for purely research or educational purposes does not constitute the provision of space-based data.

3. Contracting authorities as defined in Directive 2014/24/EU, as well as Union institutions, bodies and agencies, shall ensure that all space-based data concerning Earth observation used to provide the services that they procure were generated by a space object whose operational space services are entered in URSA and that those space-based data carry an e-certificate as referred to in Article 25.

4. The relevant authorities under Decision 676/2002/EU or Directive (EU) 2018/1972 shall use as a criterion for landing rights whether the satellite communication service is generated by a space object whose space activities are entered in URSA.

Article 24

Union Repository for Space Activities

1. The following operational space services shall be entered in URSA:

(a) operational space services provided by Union space operators for which national competent authorities have taken a decision to grant EUSA certification in accordance with Article 6;

(b) operational space services of Union-owned spacecraft operated by Union space operators for which the Commission has taken a decision to grant EUSA certification in accordance with Article 6;

(c) operational space services of third-country space operators for which the Commission has taken a decision to grant EUSA verification pursuant to Article 17 or 17a;

(d) operational space services of international organisations that are party to an agreement under Article 107 or 108.

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

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

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

(c) the space operator that conducts those operational space services;

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

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

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

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

Article 25

Electronic certificate for Earth observation mission

2. For operational space services carrying out an Earth observation mission, the entry in URSA and, the possession of a valid electronic certificate ('e-certificate') shall attest conformity with the applicable requirements laid down in Title IV of 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 certify that given space-based data are generated through the use of a clearly identified space mission and space object;

(b) the e-certificate shall allow the tracking of the flow of space-based data, from their generation by a given space object, to their incorporation into the operational space service making use of those space-based data;

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

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

Title III
GOVERNANCE ASPECTS

Chapter I
GOVERNANCE IN THE MEMBER STATES

SECTION 1
NATIONAL COMPETENT AUTHORITIES

Article 28

Designation or establishment of national competent authorities

1. Each Member State shall designate or establish one or more public authorities to act as national competent authority, responsible for the EUSA certification and supervision under this Regulation.

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

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

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

Article 29

Supervisory tasks regarding Union operational space services

1. National competent authorities shall be responsible for enforcing this Regulation and shall monitor and supervise operational space services carried out by Union space operators.

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 (EU) 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 (EU) 2022/2555.

The supervisory tasks pursuant to Directive (EU) 2022/2555 referred to in the first and second subparagraphs of this Article shall be exercised in a manner that does not undermine the supervision referred to in Article 30 of this Regulation.

Article 30

Supervisory powers

Each Member State shall ensure that its national competent authority or authorities 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, including the powers of suspension or withdrawal of EUSA certification.

Article 31

Penalties

Member States shall lay down rules on penalties applicable to infringements of this Regulation and shall take all measures necessary to ensure that they are implemented. The penalties provided for shall be effective, proportionate and dissuasive. Member States shall, without delay, notify the Commission of those rules and of those measures and shall notify it of any subsequent amendment affecting them.

SECTION 2

NATIONAL QUALIFIED TECHNICAL BODIES

Article 31a

Qualified technical bodies

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

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

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

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

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

4. Each Member State shall inform the Commission of its choice pursuant to paragraph 1 and of any changes thereto.

4a. The national competent authority may delegate technical supervisory powers referred to in Articles 29 and 30 to the appropriate national QTBs. Decision-making, investigatory and enforcement powers shall remain with the national competent authority or other public authority, as applicable.

4b. For the Commission, the Agency is hereby designated as the QTB.

4c. Where a technical assessment has already been carried out by a QTB referred to in paragraph 1 in respect of the same applicable requirements and the same relevant technical configuration, the certifying authority and the QTB carrying out the assessment shall take due account of that assessment and avoid unnecessary duplication, unless a new assessment is duly justified.

Article 32

Designation of national QTBs

1. Member States making use of national QTBs shall designate a notifying authority that shall be responsible for setting-up and carrying out the necessary procedures for assessing and designating the national QTBs, notifying them to the Commission and subsequently monitoring them. The notifying authority shall:

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

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

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

2. Member States may decide that the assessment and monitoring referred to in paragraph 1 is to be carried out by a national accreditation body within the meaning of, and in accordance with, Regulation (EC) No 765/2008.

2a. Each Member State shall notify the Commission of the notifying authorities or national accreditation bodies that it has designated. The Commission shall make that information publicly available.

Article 32a

Requirements for national QTBs

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

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

Article 34a

Notification process

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

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

4. Where a notification is not based on an accreditation certificate delivered by an accreditation body referred to in Article 32(2), Member States shall provide to the Commission and the other Member States evidence attesting the competence of the national QTB and shall ensure that it continues to meet the requirements laid down in Article 32a.

5. A body may perform activities as QTB only if the Commission or any Member State has not raised objections within two months from the date of the notification, where that notification includes an accreditation certificate, or within three months from the date of notification, where it includes other documentary evidence.

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

Article 37

Changes to notification

1. The notifying 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. That authority shall inform the Commission and the other Member States as soon as restriction, suspension or withdrawal occurs.

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

Article 39

Coordination of QTBs

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

SECTION 3A

MARKET SURVEILLANCE BY MEMBER STATES

Article 39a

Market surveillance for space activities

1. Member States shall organise and carry out market surveillance for space activities.

2. Member States shall confer on their market surveillance authorities the powers of market surveillance, investigation and enforcement necessary for the application of this Regulation.

3. Market surveillance authorities, as defined in Article 3(4) of Regulation (EU) 2019/1020, shall exercise the powers required by this Article efficiently and effectively and in accordance with the principle of proportionality.

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) for the purposes of Article 31a(4b), carrying out the technical assessments for Union-owned spacecraft in accordance with Article 7(5a) and Article 7b;

(b) carrying out the technical assessments in accordance with Article 7, when it is designated as QTB under Article 31a(1), point (c);

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

(d) setting up and managing URSA referred to in Article 24, implementing the entries in URSA, including updates, suspensions or withdrawals, resulting from decisions taken by the competent certifying authority or by the Commission in accordance with Articles 7, 7a, 17, 17a and 19;

(da) issuing and managing the relevant e-certificates for each operational space service carrying out an Earth observation mission and entered in URSA as referred to in Article 25;

(db) publishing summary information concerning any suspension or withdrawal decisions referred to in Article 7b;

(dc) setting-up and managing the Information Portal referred to in Article 110;

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

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

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

(p) upon request of the Commission, providing administrative support for cooperation with international organisations or supervisory authorities of third countries.

Article 43

Compliance Board

1. A Compliance Board is hereby established within the Agency. That Board shall be responsible for carrying out technical assessments and related reasoned opinions regarding the fulfilment of applicable requirements of this Regulation. Such reasoned opinions shall be addressed to:

(a) the Commission for Union-owned spacecraft, as referred to in Article 31a(4b) for compliance requirements laid down in Title IV;

(b) any Member State that has designated the Agency pursuant to Article 31a(1), point (c) for compliance requirements laid down in Title IV;

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

Before the Compliance Board adopts a reasoned opinion, the applicant concerned shall have the opportunity to be heard on the grounds on which the Compliance Board is minded to adopt its reasoned opinion.

2. The Compliance Board referred to in paragraph 1 shall adopt and publish its rules of procedure.

Article 44

Technical configurations of the Compliance Board

1. The Compliance Board shall have three configurations:

   (a) the Safety Compliance Technical Board;

   (b) the Resilience Compliance Technical Board;

   (c) the Environmental Sustainability Compliance Technical Board.

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

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

2a. In respect of Union space operators of Union-owned spacecraft, the Security Accreditation Board referred to in Regulation (EU) 2021/696 shall act as the Resilience Compliance Technical Board referred to in paragraph 1, point (b), of this Article.

2b. In respect of Union space operators of Union-owned spacecraft, the rules of procedure referred to in Article 43(2) shall lay down detailed rules for the attribution to specific members of the Compliance Board of responsibility of overseeing the handling of given applications for EUSA certification. These attribution rules shall take as their point of departure the place or places of establishment of the applicant.

SECTION 2

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

Article 48

Scope and exercise of powers by the Commission

1. For the purpose of ensuring compliance with this Regulation, the Commission shall exercise the supervision of:

   (a) Union space operators of Union-owned spacecraft;

   (b) third-country space operators.

Article 49

Request for information

1. The Commission may request, by simple request, or require, by a decision, in particular, space operators referred to in Article 48(1) or legal representatives designated under Article 16a to provide any information that is necessary for the Commission to carry out its supervisory tasks. The Commission shall bring such a request or decision to the attention of the competent authority of the Member State in which the space operator is established or located.

1a. When sending a simple request for information under paragraph 1 of this Article, the Commission shall state the legal basis and purpose of the request, specify the information requested, set a time limit within which that information is to be provided, inform the addressee that there is no obligation to provide the requested information but that, in the event of a voluntary reply, the information provided must be correct and not misleading, and indicate the possibility of a fine pursuant to Article 55(1), point (c), where the reply contains incorrect or misleading information.

2. When requiring the provision of information by decision under paragraph 1, the Commission shall state the legal basis and purpose of the request, specify the information that is required, set a time within which that information is to be provided, indicate the possibility of a fine 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. A space operator referred to in Article 48(1) or its legal representative shall supply the information required in accordance with paragraph 2 of this Article.

3a. Where relevant, the Commission shall, without delay, send a copy of the simple request or the 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 concerned is situated.

3b. No request under this Article shall require the disclosure of information referred to in Article 4(2), or information or documents protected by applicable fundamental-rights guarantees.

Article 50

Power of investigations

1. The Commission may, on its own initiative, including on the basis of any information received pursuant to a request under Article 49, upon request by a Member State or upon complaint, conduct investigations of the space operators referred to in Article 48(1) concerning any suspected infringement of this Regulation.

2. The officials of the Commission shall exercise investigation powers upon the production of a written authorisation from the Commission specifying the subject matter and purpose of the investigation. That authorisation shall also specify the actions to be carried out, as well as the possibility of a fine pursuant to 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 a Technical 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) 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 investigation, and to record the answers.

(ca) request or require information in accordance with Article 49.

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. The competent authority may request that the investigation be modified.

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

Article 51

On-site inspections in the Union

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

1a. The officials of the Commission and other persons authorised to conduct an on-site inspection may enter any of the business premises, land or property located in the Union of the Union space operators which are subject to an investigation decision adopted under Article 50. They shall have all the powers set out in Article 50(4) as well as the power 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 inspections mutatis mutandis.

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

6. The officials of the national competent authority of the Member State where the inspection is to be carried out shall be entitled to attend the on-site inspection and shall, where appropriate and in accordance with national law, assist the Commission at its request.

7. The Commission shall carry out investigatory tasks and on-site inspections, as provided for in this Article and in Article 50, in close collaboration with the national competent authorities. It may require the national competent authorities to carry out those tasks or inspections. To that end, the national competent authorities shall have at least the same powers as those set out in this Article and in Article 50.

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

Article 51a

Judicial authorisation and fundamental rights

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

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

3. The powers conferred on the Commission under Articles 49, 50 and 51 shall not be used to require the disclosure of information or documents whose disclosure would violate the Charter of Fundamental Rights.

Article 52

On-site inspections outside the Union

1. Where the Commission cannot fulfil the tasks set out in this Regulation by means of interaction with the legal representatives, designated under Article 16a, of a third-country space operator, the Commission may carry out on-site inspections at any business premises, land or property of that third-country space operators that is located outside the Union, if the relevant third-country authority consents to the inspection and without prejudice to national export control legislation.

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

Article 55

Supervisory measures of the Commission

1. Where the Commission on the basis of the investigation referred to in Article 50(1) and having heard the space operator concerned, makes a finding of the existence of an infringement by a space operator of this Regulation, it may, based on a decision addressed to the space operator concerned, take one or more of the following actions:

   (a) require the space operator concerned to bring the infringement to an end;

   (c) impose a fine or a periodic penalty payment;

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

   (e) issue a public notice indicating the space operator responsible for the infringement and the nature of the infringement.

Where applicable, the Commission shall promptly notify its decision to the national competent authority of the Member State where the Union space operator of Union-owned spacecraft is established.

2. When taking the actions referred to in paragraph 1, the Commission shall consider the nature, gravity and duration of the infringement, having regard to at least the following criteria:

(b) previous infringements perpetrated by that space operator;

(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;

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

(g) potential systemic consequences that such infringement may entail.

Article 56

Fines and periodic penalty payments

1. In the decision referred to in Article 55, the Commission may impose a fine on a space operator.

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

(a) the maximum amount shall be up to 2 % of the total worldwide annual turnover, calculated in accordance with Article 5(1) of Council Regulation (EC) No 139/2004[24], of the space operator concerned in the preceding financial year;

(b) when determining the level of the fine to be imposed, the Commission shall take into account the nature, gravity and duration of the infringement.

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[24] Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings (the EC Merger Regulation) (OJ L 24, 29.1.2004, p. 1, ELI: http://data.europa.eu/eli/reg/2004/139/oj).

5. Irrespective of the any decision pursuant to paragraph 1 of this Article, the Commission may impose periodic penalty payments to compel space operators to:

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

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

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

6. A periodic penalty payment shall be:

(a) effective and proportionate;

(b) imposed for each day of delay; and

(c) imposed for a maximum period of six months after the date of notification of the decision of the Commission, unless it is determined, in a review of that measure at the end of the period or six 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 or 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) methods and criteria for establishing the amounts of fines or periodic penalty payments;

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

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

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

Article 57

Right to be heard

1. The Commission, before taking a decision pursuant to Article 55 or Article 56(5), shall give the space operator concerned the opportunity to be heard on the findings and grounds on which the Commission intends to adopt a decision.

   The Commission shall base its decisions only on findings on which the space operator concerned has had an opportunity to be heard.

2. The rights of defence of the space operators concerned by an investigation referred to in Article 50(1) shall be fully respected throughout. To facilitate the exercise of their right to be heard, those space operators shall be entitled to have access to the file held by the Commission, subject to the legitimate interest of other entities in the protection of business secrets or of other information covered by the obligation 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 REQUIREMENTS

Chapter I
SAFETY OF SPACE ACTIVITIES

SECTION 1
LAUNCH VEHICLES

Article 58

Launch Safety Plan

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

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

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

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

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

Article 59

Safety and coordination measures during launch and re-entry

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

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

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

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

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

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

   (b) before launch, the performance of an LCOLA risk assessment using relevant LCOLA support services, in particular those provided by the EU-SST CA entity, providing the information necessary for that assessment, in particular predicted ephemerides, to that entity and to the national competent authority, in accordance with the implementing acts referred to in paragraph 3, points (a) and (aa);

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

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

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

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

3. The Commission shall, by means of implementing acts, building, to the maximum extent possible, on existing recognised European or international standards and methods:

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

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

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

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

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

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

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.

Article 60

Flight safety system

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

2. A Union launch operator shall equip the launch vehicle with at least a telemetry data transmitting system and shall monitor launch vehicle performance data during flight.

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

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

Article 61

Space debris mitigation for launch vehicles

1. Union launch operators shall limit debris creation by respecting the following requirements:

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

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

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

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

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

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

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

(a) establish a time limit (‘orbital lifetime’) for the disposal of any debris left in Low Earth Orbit (LEO) by a launch vehicle and specific measures for the pyrotechnic system and the solid or hybrid propellant;

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

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

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

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

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

(e) develop the conditions and order of preference for the disposal, including by means of re-entry, of launch vehicles that are in LEO;

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

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

SECTION 2

SPACECRAFT

Article 61a

Positioning in orbit

1. Before launch, Union spacecraft operators shall draw up an analysis of the choice of orbit taking into account, in particular, existing spacecraft and debris in the relevant orbital region, including the reasons for the selected orbit.

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

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

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

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

Article 63

Trackability

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

1a. As soon as possible and no later than three days after injection of a spacecraft into space, the Union spacecraft operator concerned shall transmit to the EU-SST CA entity the up-to-date information needed to monitor the risks of collision between that spacecraft and catalogued space objects. That information shall include at least ephemerides, including all planned manoeuvres and covariances.

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

1c. As soon as possible and no later than three days after injection into space, Union spacecraft operators shall demonstrate that each spacecraft is identifiable by space surveillance systems.

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

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

Article 63a

Spacecraft manoeuvrability

1. Union spacecraft operators shall ensure that each spacecraft designed to operate in an orbit with an apogee above 400 km is manoeuvrable.

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

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

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

Article 64

Collision avoidance

1. Union spacecraft operators shall subscribe to the collision avoidance services provided for free by the CA provider in charge of the Space Surveillance and Tracking (SST) sub-component referred to in Article 58(2) of Regulation (EU) 2021/696 (the 'EU-SST CA entity'). This is without prejudice to any subscription by Union spacecraft operators to other governmental or commercial collision avoidance services.

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

2a. Spacecraft with collision avoidance capability shall be designed and operated so as to have their collision avoidance capability available as soon as possible and at the latest five days after injection into space.

3. During operation, Union spacecraft operators shall inform without delay the EU-SST CA entity and any relevant national competent authority of any change to the operation that may affect a spacecraft's collision risk, manoeuvrability, orbit, disposal phase or end-of-life phase, and of any other change in the spacecraft's ability to respond to a high-interest event alert.

3a. Union spacecraft operators shall inform the EU-SST CA entity and any relevant national competent authority of the decision to start the disposal phase and to initiate the end-of-life phase, by providing the relevant information at least three months before the start of the procedure, or without delay in the event of an anomaly requiring an urgent start of the disposal phase.

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

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

Article 65

Re-entry of spacecraft

1. At the time of re-entry, Union spacecraft operators shall provide the necessary data and information, including information on the position and status of the spacecraft and its ability to communicate, to any relevant national competent authority and to the Union entity in charge of re-entry service referred to in Article 55(1), point (c) of Regulation (EU) 2021/696.

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

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

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

Article 65a

Orbital traffic rules concerning high-interest events

1. When the EU-SST CA entity publishes a high-interest event alert between two manoeuvrable spacecraft with one of the two concerned spacecraft having to perform a Collision Avoidance Manoeuvre, the proposed manoeuvre 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 EU-SST CA entity, Union spacecraft operators shall seek to agree on a strategy to implement the collision avoidance manoeuvre with the support of that EU-SST CA entity, within a reasonable period.

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

4. Where one of the two spacecraft operators is not subscribed to the EU-SST CA entity, the registered spacecraft operator shall either contact the non-registered spacecraft operator directly and inform the EU-SST CA entity accordingly, or request the EU-SST CA entity to contact the non-registered operator.

5. Following successful contact under paragraph 4, the EU-SST CA entity shall, to the extent possible:

   (a) exchange information with the non-registered spacecraft operator on the tools and methods used for calculation of collision risks;

   (b) exchange all the necessary data and calculation results with the non-registered spacecraft operator to ensure avoidance of the collision;

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

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

(a) protection of crewed vehicle;

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

(c) the operational capacity for collision avoidance manoeuvres;

(d) the state and age of the spacecraft;

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

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

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

Article 67

Contact list database for high-interest event alerts

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

3. The Agency shall share the contact list database with the EU-SST CA entity.

Article 70

Space debris mitigation

1. Union spacecraft operators shall limit the generation of space debris, in particular by taking all of the following measures:

   (a) ensuring no planned generation of debris into Earth orbit, during nominal operations, in accordance with the implementing act referred to in paragraph 3, point (a), including avoiding intentional break-up of a spacecraft or launch vehicle orbital stage;

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

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

      (i) the calculation and adherence to the assigned limits of probability of successful disposal; and

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

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

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

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

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

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

3. The Commission may, by means of implementing acts, building, to the maximum extent possible, on existing recognised European or international standards or methods:

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

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

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

(bb) develop a method to calculate before launch the probability of collision with space objects and meteoroids for the entire lifetime of the spacecraft, including the time period between the end of the mission and re-entry or for at least 100 years after the end of the mission, and the related acceptable threshold;

(c) specify the end-of-life measures by:

(i) selecting, among existing methods and taking into account the elements referred to in point 3.1 of Annex V, the method to calculate the probability of successful disposal and define the threshold on this basis;

(ii) defining the maximum orbital lifetime in LEO after the end of life, or after injection into space for non-manoeuvrable objects, and before re-entry;

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

(iv) setting out the time during which a spacecraft that has been moved outside of the protected regions in MEO shall remain in an orbit that does not interfere with those protected regions and with MEO valuable orbits;

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

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

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

Article 71a

Supervisory reviews and updates from the EU-SST CA entity

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

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

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

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

Article 72

Optical and electromagnetic interference

1. Union spacecraft operators shall draw up and implement a plan setting out adequate and proportionate technical and operational measures to minimise optical and electromagnetic interference with a view to:

   (a) preserving the darkness of the night sky; and

   (b) protecting astronomical observations across the electromagnetic spectrum.

1a. The plan referred to in paragraph 1 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, shielding, or other appropriate mitigation measures;

   (b) a description of the technical and operational measures implemented by the Union spacecraft operator throughout the space mission and disposal phase to minimise the impact of satellites on astronomical observations, including interference resulting from wanted or unwanted emissions.

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 and to minimising unintended electromagnetic radiation.

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

Article 73

Constellations

1. Without prejudice to paragraph 2, Union spacecraft operators of a constellation of 10 or more satellites shall:

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

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

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

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

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

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

(i) the full constellation deployment's impact on the orbit congestion as referred to in Article 61a(2);

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

(iii) ensure that the orbit chosen minimises the number of high-interest events.

(b) limit the consequences of dead-on arrival spacecraft, by injecting spacecraft at an orbit allowing a short re-entry period and presenting limited collision risks;

(c) ensure that the requested probability of successful disposal referred to in Article 70(1), point (c), is commensurate to the number of spacecraft, and at least higher than the threshold laid down in the implementing act referred to in Article 70(3), point (c)(i);

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

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

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

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

(a) develop a method to specify the risk of intra-constellation collision and establish the applicable thresholds regarding injection orbit, probability of successful disposal, casualty risk and orbital lifetime in LEO after the end of the mission;

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

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

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

Chapter II
RESILIENCE OF SPACE INFRASTRUCTURE

Article 75

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

1. This Regulation shall be without prejudice to Directive (EU) 2022/2555 (NIS2) 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 operational 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 that Directive.

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

3a. For the purposes of this Chapter, the national competent authorities shall cooperate with the competent authorities designated or established pursuant to Article 9(1) of Directive (EU) 2022/2557 whenever necessary for ensuring consistency in the application of this Regulation and that Directive 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 (NIS2) shall comply with the implementing act referred to in Article 21(5), second subparagraph of that Directive.

2. Paragraphs 3, 4 and 5 of this Article shall apply to all of the following:

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

   (b) third-country space operators;

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

   (d) Union space operators of Union-owned spacecraft.

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

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

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

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

Article 93

Reporting of significant incidents

-1. An incident shall be considered to be significant in accordance with 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 computer security incident response teams (CSIRTs) 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 one 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 one month from the date of the handling the significant incident.

5b. The CSIRTs established pursuant to Article 10(1) of Directive (EU) 2022/2555 or the competent authority established pursuant to Article 8(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 way of derogation from paragraph 7 of this Article, Union space operators of Union-owned spacecraft shall report significant incidents affecting the Union-owned spacecraft to the structure referred to in Article 34(4) of Regulation (EU) 2021/696. In addition, they shall:

(a) send the early warning referred to in paragraph 7, point (a) 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 to specify in further detail the content of the information to be reported pursuant to paragraph 5c or 7, and to lay down the templates and procedures for the reporting of that information. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 114(2).

Chapter III
ENVIRONMENTAL SUSTAINABILITY FOR SPACE ACTIVITIES

Article 96

Life-cycle assessment for space activities

1. Sustainability for the purposes of this Regulation shall cover environmental sustainability in space and environmental sustainability on Earth.

2. Union space operators shall submit, in their application as referred to in Article 7, a life-cycle assessment study. That study shall indicate the calculation method applied pursuant to Article 97 for the operational space services subject to EUSA certification and contain the outcome of the calculation, including the details of the calculation and reference to the datasets used.

Article 97

Life-cycle assessment calculation for space activities

2. The life-cycle assessment shall cover the life cycle of the operational space services subject to EUSA certification, including initial life-cycle phases, such as design and development, the manufacturing phase, the operation phase and the end-of-life phase. It shall cover, in accordance with accepted international practices on life-cycle assessment, a definition of the goal and scope of the operational space service, an inventory analysis, an impact assessment and an interpretation of the results.

2a. By way of derogation from paragraph 2, Union space operators may, on a voluntary basis, calculate the life-cycle assessment in accordance with the Union environmental footprint method laid down in paragraph 4. A Union space operator that chooses to apply the Union environmental footprint method shall apply it in its entirety for the space activity concerned.

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

4a. 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 Union environmental footprint method for space activities and to promote the recognition of that method by international standardisation organisations.

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

4b. The implementing act referred to in paragraph 4 shall cease to apply and Union space operators shall calculate the environmental footprint exclusively in accordance with the Union environmental footprint standard referred to in paragraph 4a as from the date of entry into force of that standard. A life-cycle assessment carried out in accordance with paragraph 2 and submitted as part of an application for EUSA certification before that date shall remain valid for the purposes of that certification.

Article 99

Transmission of datasets

1. Union space operators and their suppliers may, on a voluntary basis, make life-cycle inventory datasets available to the Commission.

1a. The Commission shall make publicly available, free of charge, life-cycle inventory datasets drawn up on the basis of the Union environmental footprint method referred to in Article 97(4), while ensuring the protection of confidential business information and trade secrets, in particular by publishing them in a form that does not allow the identification of that entity or the reconstruction of the underlying data.

Chapter IV
IN-SPACE OPERATIONS AND SERVICES

Article 101

In-Space Operations and Services

1. The Commission shall launch independent technological and market assessment studies to demonstrate technological maturity, reliability and sectoral readiness of ISOS and shall issue and publish an ISOS report by 30 June 2032. If the ISOS report is negative, the Commission shall prepare new ISOS reports as part of the evaluation referred to in Article 116. Where any such report is positive, Union space operators providing or receiving ISOS shall comply with the requirements laid down in this Article and in Annex VIII within 18 months following the publication of the ISOS report.

2. For Union-owned spacecraft, spacecraft with a weight of at least 50 kg that are operated by Union space operators shall possess a minimal technical capacity to receive in-space services, including be equipped with dedicated Spacecraft Service Interfaces (SSI) and with a dedicated operational mode for the service that ensures a cooperative behaviour of the client spacecraft and minimises the risk of collision and malfunctions after the service.

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

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:

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

   (b) the design principles for functional modular systems that can be connected to a spacecraft to deliver new spacecraft functionality or payload, making use of SSIs referred to in paragraph 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) the Union spacecraft operator explains in the application why manoeuvrability capabilities were not implemented in the spacecraft;

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

(iii) the Union spacecraft operator specifies how it can respond to a high-interest event through means other than propulsion;

(b) an optical and electromagnetic interference plan in accordance with Article 72, for spacecraft intended to remain in orbit less than one year;

(ba) the end-of-life disposal plan as referred to in Article 70(2), point (b), for non-manoeuvrable spacecraft for an orbit below 400 km;

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

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

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

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

2. By way of derogation from paragraph 1, the relevant national competent authority may, for safety reasons, decide not to apply one or more of the exemptions referred to in paragraph 1 on a case-by-case basis, by taking into consideration the size and the weight of the spacecraft, as well as the risk profile, the duration and orbit of the mission.

Article 101b

Light regime for environmental sustainability

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

2. All other operational space services carried out by Union spacecraft operators that are research and education institutions or SMEs shall be exempted from the requirements of Title IV, Chapter III until 31 December 2031.

Title V
EQUIVALENCE DECISIONS, INTERNATIONAL AGREEMENTS AND INTERNATIONAL ORGANISATIONS

Article 105

Equivalence for third countries

1. The Commission may adopt, on the basis of a detailed assessment of the overall outcomes of the relevant legal and supervisory framework of a third country, an equivalence decision stating that that framework 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. That decision shall be adopted as an implementing act in accordance with the examination procedure referred to in Article 114(2).

2. The legal and supervisory framework of a third country shall be considered equivalent to this Regulation only if it fulfils 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 which ensure outcomes equivalent to those resulting from the applicable requirements laid down in Article 15; and

   (ca) that third country has undertaken to ensure, and within a reasonable period does ensure, reciprocal and non-discriminatory market access for Union space operators, including, where appropriate, through a unilateral equivalence decision recognising the Union legal and supervisory framework or through an international agreement under Article 106.

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

3a. The equivalence decision shall specify that it is granted for a defined period and shall, before any renewal, be subject to reassessment. Where appropriate, it shall be superseded by the conclusion of the international agreement referred to in Article 106 or through unilateral equivalence decision recognising the Union legal and supervisory framework.

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

Such administrative arrangements shall specify at least:

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

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

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

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

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

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

Article 106

International agreements with third countries

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

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

(b) ensuring the mutual recognition of, respectively, technical assessments carried out for the purpose of EUSA certification under Articles 7 or 7a, and technical assessments by relevant authorities or technical bodies of third countries;

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

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

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 operational 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 operational 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 operational 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 without delay whether the request is made for a third-country public entity.

4. Following a positive assessment of the third-country public entity, the Commission shall adopt without delay a decision allowing the third-country public entity to provide operational space services or space-based data in the Union.

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

The Commission decision shall apply until the date when an international agreement concluded with the respective third country takes effect, governing the conditions for a third-country public entity to provide operational 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. Where the Commission entrusts an international organisation with the implementation of tasks for the operation of Union-owned spacecraft under Regulation (EU) 2021/696 or Regulation (EU) 2023/588[25], the relevant contribution agreements shall set out the conditions and the practical and operational arrangements for the supervision of the application by that international organisation of the requirements laid down in Title IV.

2. Where an international organisation operates spacecraft other than Union-owned spacecraft, the relevant Member States shall ensure the compliance of that international organisation with the requirements laid down in Title IV, in the context of the EUSA certification referred to in Article 6(1).

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

   The agreements referred to in the first subparagraph shall set out the conditions and the practical and operational arrangements to ensure the supervision of the application by that international organisation of the requirements laid down in Title IV, with due regard to its institutional framework. Once an agreement is concluded, the Agency shall enter in URSA the space activities compliant with the requirements laid down in this Regulation in accordance with any relevant conditions laid down in that agreement.

Article 108

Relations with the European Space Agency

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

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[25] 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).

2. That agreement shall specify in particular the following:

(-a) the conditions for ESA to be recognised as a QTB under Article 31a(1), point (b), in compliance with Annex IX;

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

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

(c) any support that ESA may provide regarding the technical specifications needed for standardisation and for the technical preparation for the implementation of Title IV, Chapters 1, 3 and 4, under the supervision of the Commission.

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

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

Title VI
CAPACITY-BUILDING MEASURES

Article 109

Capacity building

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

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

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

(ba) the calculation of the life-cycle assessment for operational space services in accordance with Article 97(2a), including the collection, development and quality assurance of life-cycle inventory datasets specific to the space sector;

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

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

Article 110

Information portal and point of single contact

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

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

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

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

(ca) listing any additional requirements imposed pursuant to Article 3(2).

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

Title VII
TRANSITIONAL AND FINAL PROVISIONS

Article 112a

Standards

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

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

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

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

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

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

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

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

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

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

(2) do not comply with the request; or

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

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

Article 113

Exercise of the delegation

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

2. The power to adopt the delegated acts referred to in Article 56(9), Article 70(4) and Article 101(4), 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 by ... [12 months of the entry into force of this Regulation].

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

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

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

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

7. A delegated act adopted pursuant to Article 56(9), Article 70(4) and Article 101(4), shall enter into force only if no objection has been expressed either by the European Parliament or by the Council within a period of two 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 two months at the initiative of the European Parliament or of the Council.

Article 114

Committee procedure

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

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

Where the committee delivers no opinion, the Commission shall not adopt the draft implementing act and Article 5(4), third subparagraph, of Regulation (EU) No 182/2011 shall apply.

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

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

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

Article 115

Professional secrecy

2. Without prejudice to the exchange and use of information in accordance with this Regulation, the Commission, the Agency, the national competent authorities, QTBs, their officials, servants and other persons, including auditors and experts, working under the supervision of these entities, as well as officials and civil servants of other authorities of the Member States shall not disclose information obtained or exchanged by them pursuant to this Regulation and of the kind covered by the obligation of professional secrecy

3. Information covered by the obligation of 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 subject to the obligation of professional secrecy.

4a. Information obtained or exchanged in the course of implementing this Regulation shall be used only for the purposes of this Regulation, unless the provider of the information agrees otherwise.

Article 115a

Protection of classified information

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

Article 116

Evaluation and review

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

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

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

Article 117

Reports to the Commission

Within two years of the date of application of this Regulation and every three years 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 matters with an impact on the functioning of the internal market and elements on public and private spending needs.

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

Article 118

Transitional period

1. For EUSA certification of activities related to assets planned to be launched more than three years after the date of entry into force of this Regulation and for which the critical design review phase ended less than 24 months after the date of entry into force of this Regulation, this Regulation shall only apply eight years after entry into force of this Regulation.

2. National competent authorities, as regards Union space operators, and the Agency, as regards third-country space operators, shall ascertain the end of the critical design review stage referred to in paragraph 1 at the moment when the space operators submit the proof obtained from the relevant entity entrusted by contract with the technical approval of the design of the spacecraft.

Article 118a

Amendment to Directive (EU) 2022/2555

In Article 21(5) of Directive (EU) 2022/2555, the following subparagraph is added: ‘By ... [date], the Commission shall adopt implementing acts laying down the technical, methodological and sectoral standards necessary with regard to Union space operators as defined in [Article 5(17) of EU Space Act] that qualify as essential or important entities.’

Article 119

Entry into force and application

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

It shall apply from ... [*36 months from date of entry into force of this Regulation*].

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

For the European Parliament	*For the Council*
The President	*The President [...]*

Annex I

SAFETY AT LAUNCH REFERRED TO IN ARTICLE 59

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

1.2. Launch collision avoidance (LCOLA)

1.2.3. The method or methods selected 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) an acceptable maximum collision probability;

(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 other objects involved during the launch, and with objects already in orbit;

(ca) for habitable objects, the probability-of-collision thresholds shall be higher than the acceptable maximum collision probability.

1.2.3a. the probability of the launch vehicle, including its client spacecraft, colliding with an object of interest, meaning any object involved in any situation that could affect space objects or the situation on Earth, shall be adjusted according to:

(a) whether the spacecraft is habitable;

(b) the size of the object;

(c) whether the spacecraft is active.

1.3. Casualty risk

The casualty risk at launch and at re-entry shall be limited by the application of the following measures:

(a) The calculation of the collective risk for casualties due to launch and re-entry shall be performed 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 re-entry of any element of the launch vehicle;

(iv) the dispersion on the ground of the debris and nocive gases and the evaluation of the effects thereof;

(v) the reliability of the launch vehicle for the launch phase, including, where applicable, during the recovery phase;

(vi) the reliability of the deorbiting manoeuvre of the launch vehicle element put into orbit, in the case of controlled re-entry.

(b) The casualty risk shall be limited to a threshold, duly taking into account the differences in the types of risks entailed by the following risk scenarios:

(i) risk at launch;

(ii) risk at re-entry (controlled and un-controlled);

(iii) risk for the recovery phase of reusable launch vehicle elements.

Annex III

GROUND SEGMENT SOFTWARE REFERRED TO IN ARTICLE 63

2. Ground segment software requirements

2.1. The ground segment shall be capable of providing a daily orbital forecast, including manoeuvres, for the spacecraft, for up to:

(a) 7 days at minute level intervals, and in accordance with the Consultative Committee for Space Data Systems (CCSDS) format in LEO;

(b) 14 days at minute level intervals and in accordance with CCSDS format in MEO;

(c) 14 days at minute level intervals and in accordance with CCSDS format in GEO.

2.2. The ground segment shall provide rank 7 covariance formation (position, velocity, drag) for 7 day trajectory forecasts.

2.3. The ground segment shall be able to process any relevant CCSDS data format, and in particular Orbital ephemerides Messages (OEM) and Conjunction Data Messages (CDM), for the collision avoidance operations.

For the purpose of Annex III and IV, ‘conjunction data messages’ means information about a conjunction between two space objects.

Annex IV

COLLISION AVOIDANCE REFERRED TO IN ARTICLES 15 AND 64

1. Requirements for the choice of the collision avoidance (CA) provider

1.1. General requirements

(a) The technical means to assess collision – a CA system – and compliance with the requirements of point 1 of this Annex.

The CA system shall be either external or in-house, provided that in the case of an in-house system, adequate mechanisms are in place to ensure the independence of the respective CA provider.

(b) The CA provider shall provide to its users a recommendation with sufficient time to enable manoeuvres on quality conjunction assessment results on an operational timeframe.

(c) The CA provider shall ensure collision avoidance service provision for all phases of the mission (from launch to disposal).

1.2. Requirements for the input ingestion

(a) The CA provider shall be able to ingest orbits in standard format and associated covariance, including planned manoeuvres.

(b) The CA provider shall be able to ingest data from various sources, such as ephemerides provided directly by spacecraft operators, orbits from catalogue of space objects and Conjunction Data Messages (CDMs) provided by external data source.

(c) The CA provider shall be able to compute covariance information in exceptional cases when not included in the data source.

1.3. Requirements regarding data Quality Check

(a) The CA provider shall perform data quality checks to assess the data from space operators.

(b) Where appropriate, the CA provider shall perform calibration of sensors' data.

1.4. Requirements for the CA process

(a) The CA provider may use existing catalogues and CDMs in the operational collision avoidance service.

(b) The CA provider shall support the screening of ephemerides, the time histories of both operational and predicted positions and velocities that incorporate all planned manoeuvres.

(c) The CA provider shall perform the following tasks for spacecraft operation, by making use of available sources of internal and external information:

(i) identifying conjunctions within the screening volume adapted to the orbit regime of the protected spacecraft;

(ii) assessing the risk of the conjunctions, based on the probability of collision and, when appropriate, on geometry (miss distance and radial distance) criteria;

(iii) generating CDMs;

(iv) providing users with a diverse, user-selectable set of conjunction and CA "Go/No-Go" manoeuvre metrics, to assess the collision risk and to develop an appropriate course of action;

(v) allowing that mitigation actions decrease the risk level of the conjunctions to be mitigated, and do not unduly increase the risk level of other conjunctions.

(d) The CA provider shall use collision probability estimation techniques whose soundness is generally accepted, such as those used by the EU-SST CA entity, and appropriate for a given encounter.

(e) The CA provider shall be able to coordinate with other CA providers, especially in case of high-interest event.

1.5. Timeliness requirements

(a) The CA provider shall periodically assess the risk of conjunction.

The recommended time interval shall be once per day, per GEO spacecraft, and once per hour, per LEO/MEO spacecraft (provided that new information is available).

(b) The CA provider shall have one person available to provide support within 1 hour, on a 24h/7 days basis.

2. Requirements for Union spacecraft operators

2.3. Union spacecraft operators shall provide to the EU-SST CA entity information about its operational orbit(s), in the form of predicted positional and velocities time histories that incorporate all planned manoeuvres, including realistic covariances:

(a) 1 day before performing planned manoeuvres for non-automatic CA system;

(b) as soon as possible for automatic CA systems.

2.5. The Union spacecraft operator in charge of a manoeuvrable spacecraft shall provide a contact point available to respond:

(a) within 8 hours on a 24h/7 days basis for LEO;

(b) within 24 hours, on a 24h/7 days basis for MEO and GEO.

2.7. Union spacecraft operators and the EU-SST CA entity shall define at the time of subscription to the EU-SST CA entity:

(-a) any element needed for the establishment of the service and its implementation in orbit, such as the radius of the sphere englobing its spacecraft, or an upper-bound estimation;

(a) as regards the elements related to the safety distance requirement, the limit above which the risk of collision is considered high enough to trigger a high-interest event alert and a statement of the reasons for setting that limit;

(b) specific requirements according to the different phases of the mission (launch, transit, passivation, EOL-operations).

2.8 In the case of non-manoeuvrable spacecraft, Union spacecraft operators shall meet the requirements referred to in point 2.7 and shall cooperate with the EU-SST CA entity under best efforts.

Annex V

SPACECRAFT SPACE DEBRIS MITIGATION REFERRED TO IN ARTICLE 70

1. Limit spacecraft fragmentation

1.2. Avoiding fragmentation due to internal spacecraft causes

1.2.1. To limit the risk of accidental fragmentation caused by on-board source of energy, the following requirements shall be implemented:

(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.

(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 permanently isolated and the battery drained, unless it is demonstrated that non-passivation cannot result in accidental disintegration post end of life.

3. End of life

3.1. Probability of successful disposal

3.1.3. The implementing act referred to in Article 70(3), point (c), shall take into account the following elements:

(a) an assessment of the probability that a space debris or meteoroid impact prevents the successful disposal of the spacecraft;

(b) an assessment of uncertainties in the availability of resources, such as propellant, required for the disposal;

(c) the inherent reliability of equipment necessary to conduct the disposal, and a monitoring of the equipment, including the subsystems, units and functions used solely for disposal.

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 manoeuvres for disposal, shall be maximal.

(b) Throughout the space mission and until 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.

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. Disposal systems shall be protected from space debris and meteoroids.

3.2.5. Union spacecraft operators shall be able to maintain communication links and active tracking for the duration of the mission and of the 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;

(d) After any manoeuvres during the disposal phase, 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;

(f) Removal by ISOS of spacecraft equipped with SSIs, or removal by ISOS of spacecraft without SSIs using appropriate space debris mitigation measures.

For the purpose of point (b), ‘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.

3.5. Rules for re-entry for LEO

3.5.2. Union spacecraft operators shall demonstrate that the risk of in-orbit collision with crewed stations is minimised:

(i) as of three days after injection into space;

(ii) during any phase of the space mission; and

(iii) as of three days after the de-orbiting and re-entry 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 probability of casualties per re-entry, including design for demise, as specified in the implementing act referred to in Article 70(3), point (c)(iii).

(3.5.3a) Union spacecraft operators shall implement all measures to reduce, as a matter of priority, the risk to the ground in the event of premature or accidental re-entry.

3.5.4. In drawing up the implementing act referred to in Article 70(3), point (c)(iii), the Commission shall specify the highest probability of casualties per re-entry. That probability shall:

(-a) be expressed as a maximum probability of having at least one victim (collective risk);

(a) be as low as possible; and

(c) include casualties on ground, as well as regards air traffic and maritime traffic.

4. Space debris mitigation plans

4.1. Debris control plan

4.1.1. A debris control plan shall be developed by considering each item containing stored energy. When developing such plans, Union spacecraft operators shall have due regard to systems that are most likely to cause accidental fragmentation of a spacecraft, such as notably:

(a) the electrical systems, especially batteries;

(b) the propulsion systems and associated components;

(c) the pressurized systems;

(d) the rotating mechanisms.

4.1.2. When drawing-up the debris control plan, a system level risk assessment approach shall be used.

4.1.3. The debris control plan shall list at least the following:

(a) a description of adherence to the restrictions on the planned debris generation,

(b) a description of adherence to the requirement on probability of accidental fragmentation,

(c) a description of adherence to limiting the risk of fragmentation due to collision,

(d) a description of the adherence to space reliability of design,

(e) a description of the operational procedures for quality and reliability control,

4.3. Failure response plan

The Union spacecraft operator shall develop a failure response plan that shall include at least the following elements:

(a) the criteria for selecting, from the alternative disposal methods, the one showing the lowest level of risk for a spacecraft being left in an operational orbit;

(b) the criteria for initiating the passivation contingency actions;

(c) for Union spacecraft operators in MEO and GEO, steps to remove spacecraft to an alternative orbit, and passivate it before any further critical systems are lost;

(d) steps to ensure the safe re-entry of the spacecraft from LEO, and to passivate it before any further critical systems are lost;

(e) the component of existing or future spacecraft that share components that could lead to a similar failure of the critical system (lessons learned);

(f) a removal plan that assesses the possibility of removal to be carried out by an ISOS service provider.

Annex VI

CONSTELLATIONS REFERRED TO IN ARTICLE 73

1. Intra-constellation requirements

1.1. For constellations, the debris control plans referred to in Article 70(2), point (a), shall, with a view to addressing the collision risk during orbital lifetime, include a report on intra constellation collision risks, listing the measures taken for mitigating that risk.

1.2. For constellations of 100 or more satellites the following shall apply:

(a) the spacecraft design and operations shall enable the implementation of a high level of automation as part of the collision avoidance strategy;

(b) Union spacecraft operators shall consider orbits, as well as a constellation geometry, that allow sufficient separation between satellites and that minimise the intra-constellation collision risk, including in cases of in-orbit failure, Launch and Early Operations (LEOP) and disposal;

(c) during the disposal phase and after the end-of-life, Union spacecraft operators shall analyse the risk of intra-constellation collisions and keep it at the lowest level possible, as provided in the implementing act referred to in Article 73(4), point (a).

2. Additional reporting requirements

2.1. For constellations, Union spacecraft operators shall take specific measures to ensure limitation of optical and electromagnetical interference as provided in the implementing act referred to in Article 73(4), point (b), first subparagraph;

2.2. For constellations of 100 or more satellites that following shall apply:

(a) the debris control plan referred to in Article 70(2), point (a), shall include an analysis that demonstrate that specific care has been taken to avoid collision with the international space stations for any phase of the space mission;

(b) a report shall analyse, after one year of operation, the probability of intra and inter-collision risks, and compare it with the one calculated at the time of the granting of the EUSA certification;

(c) Union spacecraft operators shall, after one year of operation, demonstrate the effectiveness of measures taken to address the optical and electromagnetical interference which have been explained in their application for EUSA certification. If such measures are not effective, Union spacecraft operators shall initiate the development of technical solutions through research to diminish the measured consequences for their next generation spacecraft in the respective constellation;

(d) Union spacecraft operators shall in case of transit from the injection orbit to the final orbit:

(i) prepare a plan for transit and demonstrate that the probability of collision is limited;

(ii) report on the functioning of vital systems is due before reaching operational orbit.

Annex VIII

IN-SPACE OPERATIONS AND SERVICES (ISOS) REFERRED TO IN ARTICLE 101

1. General provisions

1.1. General principles in carrying out ISOS

(a) For the purposes of this Annex, a client object shall be understood as a space object, including spacecraft or space debris, that receives ISOS.

(b) The Union ISOS provider and the Union space operator of the client object shall conclude a dedicated ISOS-related contract.

(c) Any ISOS shall be carried out only after the Union ISOS provider and the Union space operator of a client object have explicitly and unequivocally consented to start carrying out the agreed operation or set of operations, as applicable.

(d) The ISOS contract referred to in point (b) shall include a dedicated service plan describing in detail the mission concept for the respective ISOS and the infrastructure of both the client object and the servicer spacecraft.

(e) The servicer spacecraft and the client object shall be designed and manufactured, and the corresponding service mission shall respectively be designed, in a way that limits the risk of collision.

(f) During the ISOS operation, the physical separation between the ISOS servicer spacecraft and the client object shall be carried out in a way that minimises the generation of space debris.

For the purpose of this Annex, ‘ISOS operation’ means the execution of the planned ISOS tasks involving one or more space objects and ‘ISOS servicer spacecraft’ means a spacecraft specifically designed for the purpose of providing specific ISOS.

1.2. Coordination of control centres

(a) The respective control centres of the ISOS servicer spacecraft and the client object shall ensure appropriate coordination, by sharing all data, including the telemetry, that is necessary to ensure the safety of the respective operations.

(b) Except where the client object is space debris, the Union ISOS provider and the Union space operator of a client object shall identify, for each phase in the carrying out of ISOS, the control centre with decision-making authority for joint operations in the area of proximity, including during the attach phase, as well as the control centre which controls the composite object in the attached phase.

2. Service provision

2.1. ISOS servicer spacecraft and service compatibility to client object configuration

The design of the ISOS servicer spacecraft and the operational service concept shall be compatible with the design and operation of the client object, respectively or, where the client object is space debris, with the condition of the debris.

2.2. Due diligence obligations regarding the potential impacts on third parties

2.2.1. Union ISOS providers shall take all appropriate measures to prevent:

(a) interference with an object, other than the client object, that generates harm;

(b) disruption, including interruption, of any operation carried out by a third-party spacecraft;

and, where such prevention is not possible or is not immediately possible, shall adequately mitigate potential adverse impacts when carrying out ISOS.

2.2.2. The Union ISOS provider shall define in the operational concept a safe zone where presence of a third party will lead to non-engagement or withdrawal of the ongoing ISOS operation.

2.2.3. Where anomalies occur, or where unforeseen events, including those caused by the carrying out of ISOS, lead to potential adverse impact on third-party space objects, the

Union ISOS provider shall immediately notify the space operator of the third-party space object impacted.

2.2.4. The Union ISOS provider shall closely cooperate with the EU-SST 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 initiating the separation, the Union ISOS provider shall set out, in the operational concept, standby or transit points.

(b) During the service operation the Union ISOS providers shall conduct a GO/NO-GO testing at every appropriate timing/sequence and shall only continue the service operation when the GO condition is met. When the GO conditions are not met, a cancel command shall be triggered either autonomously or by a command sent from the ground segment.

(c) During the approach phase, and after the separation, the on-board systems of the ISOS servicer spacecraft shall be able to assess the risk of collision between the ISOS servicer spacecraft and the client object, in real time, and shall be capable of autonomously triggering an avoidance manoeuvre to place the ISOS servicer spacecraft on a path non-colliding with the client object.

2.4. Qualification of the system and servicing concept - Prior testing

Except for non-reversible ISOS operations, Union ISOS providers shall, for the purposes of ascertaining the proper system functioning for the planned ISOS, carry out tests in orbit at least before engaging in the first service operation or in the first step and only if no danger is posed to any other space object.

Annex IX

QUALIFIED TECHNICAL BODIES REFERRED TO IN ARTICLE 32a

1. General requirements for QTBs

1.2. A QTB shall be independent from:

(a) any space operator, where that QTB carries out a technical assessment regarding matters covered by this Regulation;

(b) any competitor of a space operator, as regards the carrying out of the technical assessment regarding matters covered by this Regulation;

(c) any other entity that has an economic interest in a product, process or service, including risk management, regarding matters covered by this Regulation.

1.4. A QTB shall be organised and managed in a way that safeguards its independence, objectivity and impartiality in carrying out its activities. For that purpose, a QTB shall ensure that:

(a) procedures to safeguard and document its impartiality are set up and guaranteed throughout its activities, and that such procedures apply both to the top-level management and to the personnel carrying out technical assessment activities;

(b) the 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, which might influence the technical assessment;

(c) it has policies and procedures to distinguish between the tasks it carries out in that capacity and any other tasks;

(d) the 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, notably consultancy services;

(e) the remuneration of the top-level management and of the personnel of the QTB carrying out technical assessment tasks shall not depend on the number or results of technical assessments being carried out;

(f) transparency is ensured regarding the procedure for carrying out technical assessments.

A 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 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 QTB shall:

(a) have at its disposal personnel possessing the necessary technical knowledge and appropriate and sufficient experience to perform technical assessment tasks;

(b) use procedures which take into account the specificities of the space operators and of the space activities, including the structure, degree of complexity of processes or technology, mass or serial nature of the production processes;

(c) possess the necessary means to perform all the technical and administrative tasks for technical assessment activities.

1.6. The QTB personnel carrying out technical assessment activities shall have:

(a) appropriate understanding and knowledge of the matters including the relevant standards covered by this Regulation;

(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 QTB has been notified;

(d) the authority, where appropriate, to draw up certificates, records and reports demonstrating that technical assessments have been carried out.

1.7. A 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 QTB itself or are being carried out by an external party on its behalf and under its responsibility.

When a QTB delegates part of its tasks, it shall have sufficient internal competence to effectively evaluate the way in which the external party executes such tasks on its behalf.

When a QTB delegates part of its tasks, it shall inform the authority referred to in Article 32 accordingly and shall keep all documents related to the assessment of the qualifications of the external party, evidence of compliance with this Annex, where applicable, evidence of meeting the requirements with Section 8 of Commission Recommendation (EU) 2021/2279, and evidence of the work carried out by the external party.

1.8. A QTB shall ensure the permanent availability of administrative, technical, legal and scientific personnel with knowledge and experience of the relevant technologies of space activities and the technical requirements laid down in this Regulation.

1.9. A 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 QTB shall observe professional secrecy regarding all information obtained in carrying out the tasks in relation to matters covered by this Regulation.

1.10. Where appropriate, the staff of a QTB shall hold or be in a position to obtain in due time, a valid personnel security clearance certificate.

1.11. A QTB shall hold an appropriate liability insurance for carrying out its technical assessment activities.

1.12. A QTB shall participate in the coordination activities as referred to in Article 39.

1.13. A QTB shall take part, directly or through representation, in the activities of the European standardisation organisations.