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REGULATORY SCRUTINY BOARD OPINION

EU Space Law

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Brussels,
RSB

Opinion

Title: Impact assessment / EU Space Law

Overall 2nd opinion: POSITIVE WITH RESERVATIONS

(A) Policy context

The 2021 EU Space Programme, aimed to increase the safety, resilience, and sustainability of all space activities. This initiative is designed to address the problems: (a) of fragmentation of the single market in the absence of a legal framework at EU or international level; (b) of congested space with higher risks of space debris, increased threat level, and lack of a consistent resilience/security baseline, and (c) of a lack of a framework to monitor and measure the environmental impact of space activities.

(B) Summary of findings

The Board notes the improvements made to the impact assessment report.

However, the report still contains significant shortcomings. The Board gives a positive opinion with reservations because it expects the lead Service to rectify the following aspects:

- (1) The report does not present the analysis of costs and benefits clearly and consistently.**
- (2) The report does not sufficiently explain the impacts on the competitiveness of the EU space sector, including on SMEs and start-ups.**

(C) What to improve

(1) The report should further integrate the analysis of legislative frameworks (e.g. the Network and Information Systems Directive (2022) and the Critical Entities Resilience Directive), clearly identifying the existing policy gaps in an evolving regulatory environment. It should explain whether and how these developments may affect the economic impacts of the policy options, including the baseline scenario.

(2) In describing implementation of the preferred option, the report should provide more information on the envisaged mechanism to ensure compliance with EU requirements by all actors, including non-EU actors. Whereas additional proportionality analysis is provided, the report should better explain how the lighter regimes described are reflected in the policy design, how they will be applied in practice in the options and how they will affect concerned stakeholders, in particular SMEs and start-ups. The report should clearly explain how the size of companies would be reflected when embedding proportionality in the rules.

(3) The report should further develop the analysis of competitiveness. It should further analyse EU competitiveness in terms of the current and emerging actors and activities, in particular New Space. The report should further expand on how the initiative will ensure that the correct level of requirements to foster competitiveness is identified. It should further expand the analysis of international competitiveness, with available evidence on likely developments in the markets of the main space actors and in international markets, the current and potential participation of the EU space sector, and further information on national and international development of standards.

(4) As regards competitiveness of SMEs and startups, the report should expand on their specific challenges, including those due to size and type of activity, as well as the international dimension of SME competitiveness. The report should assess, and quantify to the extent possible, the impact of the envisaged SME mitigation measures.

(5) Following the expanded analysis of costs and benefits, the report should ensure that all estimates and calculations are consistent throughout the report and annexes, and that the same data is reported across all tables, with calculations presented in a clear and structured manner. Assumptions need to be comprehensively explained. The aggregated costs for satellite and launcher manufacturers and operators should be integrated in all relevant tables, ensuring consistency of data used. All of the cost and benefit estimates should be clearly included in the overall economic impacts, which as a result, should clearly differentiate the benefits and costs of each policy option (reflecting as well the voluntary nature of certain options), providing explicit overall values for each option. The report should thoroughly review the presentation of costs and cost savings to identify administrative and adjustment costs in the context of the One In, One Out approach.

(6) The report should significantly improve the initiative's monitoring and evaluation framework, laying down clear, comprehensive and robust indicators allowing to measure progress in performance and ultimately success.

(D) Conclusion

The DG may proceed with the initiative.

The DG should revise the report in accordance with the Board's findings before launching the interservice consultation.

If there are any changes in the choice or design of the preferred option in the final version of the report, the DG may need to further adjust the attached quantification tables to reflect this.

Full title	Impact Assessment Report accompanying the document Proposal for a legislative act for safe, resilient and sustainable space activities in the EU (EU Space Law)
Reference number	Reference number PLAN/2023/214
Submitted to RSB on	1 February 2024
Date of RSB meeting	Written procedure

ANNEX: Quantification tables extracted from the draft impact assessment report

The following tables contain information on the costs and benefits of the initiative on which the Board has given its opinion, as presented above.

If the draft report has been revised in line with the Board's recommendations, the content of these tables may be different from those in the final version of the impact assessment report, as published by the Commission.

Detailed overview of benefits – Preferred Option

I. Overview of Benefits (total for all provisions) – Preferred Option	
Description	Comments
<i>Direct benefits</i>	
Reduction of space debris generation, ensuring continuity of operations and mitigating disruption and manoeuvring costs	<p>Industries engaged in space activities, including satellite operators and space agencies, stand to benefit directly from enhanced operational efficiency and cost savings stemming from the establishment of binding and non-binding safety measures. From an economic point of view, the preferred option will provide an annual economic effect to the European satellite operators that can be estimated at 674M€. Putting this benefit in comparison to the costs described in the previous section leads to a net benefit for the European satellite operators of EUR 494 million annually.</p> <p>Additionally, citizens relying on satellite-based services, such as telecommunications and weather monitoring, would experience more reliable and resilient services, contributing to improved overall societal well-being. The regulatory framework thus positively impacts both the space industry and the broader public by fostering a safer and more sustainable space environment.</p>
Reduction of cybersecurity risks ensuring business continuity and mitigating disruption costs	<p>The approach proposed by option 2+ would fortify space systems against potential cyber threats, safeguarding critical infrastructure and sensitive data. Industries involved in space-related ventures, including satellite operators and technology providers, would directly benefit from increased resilience, ensuring uninterrupted operations and mitigating the costs associated with cybersecurity breaches and disruptions. The benefits of cyber protection that would be required under the preferred option would also add to the overall benefits. It is considered that cyber-attacks cost 5 times the costs of cyber protection allowing an annual benefit of EUR 320 million for European manufacturers of space machinery.</p> <p>Beyond the industry, citizens relying on space-based services, such as navigation and communication, would experience enhanced reliability and security.</p>
Companies implementing incentive measures/safety labels would gain share in the EU market and enhance their global competitiveness	<p>Companies proactively adopting non-binding measures on the three key elements covered by the law (safety, sustainability and resilience) and implementing space safe labels stand to gain a competitive edge in the EU market. By showcasing a commitment to safe, sustainable and resilient practices, these companies would not</p>

	only enhance their market share within the EU but also bolster their global competitiveness. The appeal of safety-conscious and incentivized space activities could attract international partners and customers, positioning these companies as leaders in responsible and sustainable space practices.
Improved environmental performance and sustainability in the space sector	The development of a PEFCR method for measuring the environmental footprint of space activities could help industry to systematically identify areas where environmental efficiencies can be achieved. This could lead to potential reduction of resource consumption, energy use, optimization of manufacturing processes, etc. throughout the lifecycle of space activities.
<i>Indirect benefits</i>	
Environmental benefits: reduction of CO2 emissions and achievement of EU and global environmental goals	The systematic implementation of a methodology to assess the environmental footprint of space activities would allow the development and integration of environmentally friendly technologies and practices across the space value chain. As a result, the sector can move towards more sustainable practices that align with EU and global environmental goals.
Creation of new business opportunities in the space cybersecurity, space safety and space sustainability domain (such as: encryption services and technologies; SSA services; collision avoidance systems; green propellants)	Following the establishment of a binding framework regulating the safety, sustainability and resilience of space activities, companies conducting their activities in these sectors could capitalize on the growing demand for compliance with these measures. This legal framework not only ensures responsible space practices but also stimulates economic growth by creating a dynamic market for cutting-edge space services and technologies within the EU.
Stable and clear legal framework fostering private investment in space start-ups and SMEs	Clarity in regulations would instil confidence among investors, mitigating uncertainties associated with legal compliance and potential risks. This stability would reduce perceived barriers to entry, making the space sector more attractive for private investment (NB: on the basis of the commercial growth of current start-ups, the total investment need for the next 7 years is estimated to be EUR 10 billion). As regulations address safety and sustainability, investors are more likely to view space ventures as responsible and forward-thinking, further enhancing the sector's appeal. Compliance with such rules would also make companies eligible for green financing.
Increased awareness on the importance of cybersecurity, safety and sustainability of space operations	The establishment of an EU Space Law would enhance awareness on the importance of space activities and their safety, sustainability and resilience among stakeholders. This increased awareness would extend across governmental bodies, private enterprises, and the general public, fostering a collective commitment to

	securing space assets, ensuring operational safety, and promoting sustainable practices. This would also encourage collaboration and innovation in addressing the multifaceted challenges faced by space operators and strengthen the strategic position of the EU as a space leader in a global context.
Triggering of similar regulatory efforts at global level	The implementation of a comprehensive legal framework on space activities by the EU could catalyse global regulatory efforts, positioning the EU as a standard-setter, similarly to what was achieved through GDPR in terms of data privacy. The influence of the EU's regulations, driven by its significant role in the space sector, may encourage other nations to adopt similar measures, fostering harmonisation and cooperation on an international scale. The EU's reputation for setting high standards, combined with the inherently global nature of space activities, enhances its potential to shape a unified approach to safety, sustainability, and resilience in the global space industry. By taking the lead on this, the EU could also enhance the global competitiveness of its industry, by ensuring that third countries do not impose their regulation and standards on these three key aspects.
<i>Administrative cost savings related to the 'one in, one out' approach*</i>	
Compliance costs	Affected stakeholders: <ul style="list-style-type: none"> - satellite operators, operators of launch services, manufacturers of space machinery, providers of space-based services - Competent authorities
Prevent internal market fragmentation to do divergent national legal frameworks regulating the safety, resilience and sustainability of space activities	Affected stakeholders: <ul style="list-style-type: none"> - Businesses – reduction in administrative costs related to compliance with different national legislations and the creation of a licensing process per product line instead of per satellite allowing for operations of constellation to save approximately EUR 68 million over the next decade.

(1) Estimates are gross values relative to the baseline for the preferred option as a whole (i.e. the impact of individual actions/obligations of the preferred option are aggregated together); (2) Please indicate which stakeholder group is the main recipient of the benefit in the comment section; (3) For reductions in regulatory costs, please describe details as to how the saving arises (e.g. reductions in adjustment costs, administrative costs, regulatory charges, enforcement costs, etc.); (4) Cost savings related to the 'one in, one out' approach are detailed in Tool #58 and #59 of the 'better regulation' toolbox.

* if relevant

Detailed overview of costs - Preferred Option

II. Overview of costs – Preferred option							
		Citizens/Consumers		Businesses		Administrations	
		One-off	Recurrent	One-off	Recurrent	One-off	Recurrent
Safety, resilience and sustainability measures	Direct adjustment costs	n/a	n/a	<p>For resilience: see specific estimations based on use cases for the costs of measures in the Restricted Annex.</p> <p>In addition, general estimation in resilience: Cost of risk management: ss a proxy, building an inventory management system may vary between EUR 80 000 to 240 000 for a solution of average complexity; and between EUR 240 000 to more than 380 000 for a large-scale system integrated with hardware and providing inventory analytics (most large companies already have this system in place)</p>	<p>For resilience: see Restricted Annex. Costs of implementing the risk management framework for space systems; carrying out risk assessments; detection, protection measures, business continuity measures; risk management for the supply chain. In general, the recurring cost of cyber-protection is considered to be 1% of the annual turnover. In the case of the space manufacturers and operators, it can be considered as a annual costs of EUR 80 million</p> <p>Safety: Cost of establishing, maintaining and promoting the label: In total, this sums up to EUR 3.28 million on an annual basis for the governance costs. Increased costs for satellite operators due to</p>	<p>Environment: Cost of developing the PEFCR specific to space sector: EUR 2 450 million (for EU Commission)</p>	n/a

II. Overview of costs – Preferred option							
		Citizens/Consumers		Businesses		Administrations	
		One-off	Recurrent	One-off	Recurrent	One-off	Recurrent
				Cost of developing a PEFCR for space activities: estimated in EUR 2.5 million Environment: Cost of carrying out a PEFCR for the space activities: around EUR 8 000, and EUR 4 000 in case the PEFCR exists.	the increased technical requirements for debris prevention leading to an increase in manufacturing cost of the satellite platform of 3 to 10%		
	Direct administrative costs	n/a	n/a	For resilience: see estimations for the costs of measures in the Restricted Annex	n/a	Setting-up national security monitoring centres	Increase need for manpower due to the new technical requirements. - 1 to 2 FTEs for MS having an established space sector (11MS) - 4 FTEs for MS developing a space law (5 MS) - 15 FTEs for EUSPA for MS that choose to trust EUSPA as the notifying body - 2 FTE for EUSPA for the development of the label - 1 FTE for ENISA for certification scheme for EUR 4.4M annually

II. Overview of costs – Preferred option							
		Citizens/Consumers		Businesses		Administrations	
		One-off	Recurrent	One-off	Recurrent	One-off	Recurrent
							<p>Ongoing obligations (For EUSPA receiving the significant incidents from space operators operating EU owned assets); for national monitoring security centres costs for the processing of the data received in the context of incident reporting + assessment.</p> <p>Total overhead cost of EUR 4.4 million annually</p> <p>Monitoring the specific features for the light regime</p>
	Direct regulatory fees and charges	n/a	n/a	n/a	n/a	n/a	n/a
	Direct enforcement costs	n/a	n/a	EUR 100 000+ for the licensing requirements	<p>Safety: Recurrent ROM cost estimate, can be reduced through technology developments:</p> <ul style="list-style-type: none"> - Small, Medium to Large Satellites: ~3 - 10% platform cost 	<p>Setting-up relevant national authorities</p> <p>Monitoring compliance with the risk management rules: For the EU ECO label + annual fee for the</p>	EUR 2-3 million for EUSST

II. Overview of costs – Preferred option							
		Citizens/Consumers		Businesses		Administrations	
		One-off	Recurrent	One-off	Recurrent	One-off	Recurrent
					- Cubesat/ nanosat: < EUR 300 000 Safety; Cost of applying and using the label: For the EU ECO label the following applies: Micro-enterprises pay between EUR 200 to 350; SMEs pay between 200 to EUR 600; all other companies pay between EUR 200 to 2000+ annual fee for the use of the Ecolabel. The maximum annual fee is capped at EUR 18 750 for micro-enterprises and SMEs; and, EUR 25 000 for all other companies	use of the Ecolabel. The maximum annual fee is capped at EUR 18 750 for micro-enterprises and SMEs; and, EUR 25 000 for all other companies	
	Indirect costs	n/a	n/a	For resilience: see Restricted Annex	For resilience: see Restricted Annex	n/a	n/a
Costs related to the 'one in, one out' approach							

(1)

II. Overview of costs – Preferred option							
		Citizens/Consumers		Businesses		Administrations	
		One-off	Recurrent	One-off	Recurrent	One-off	Recurrent
Total	Direct adjustment costs	n/a	n/a	Familiarisation with new requirements: N.A.	EUR 290 million (on an annual basis)	n/a	n/a
	Indirect adjustment costs	n/a	n/a	n/a	n/a	n/a	n/a
	Administrative costs (for offsetting)	n/a	n/a	n/a	1,5 FTE leading to a total overhead cost of EUR 2.4 million annually.	59 FTEs	n/a

Estimates (gross values) to be provided with respect to the baseline; (2) costs are provided for each identifiable action/obligation of the preferred option otherwise for all retained options when no preferred option is specified; (3) If relevant and available, please present information on costs according to the standard typology of costs (adjustment costs, administrative costs, regulatory charges, enforcement costs, indirect costs;). (4) Administrative costs for offsetting as explained in Tool #58 and #59 of the 'better regulation' toolbox. The total adjustment costs should equal the sum of the adjustment costs presented in the upper part of the table (whenever they are quantifiable and/or can be monetised). Measures taken with a view to compensate adjustment costs to the greatest extent possible are presented in the section of the impact assessment report presenting the preferred option.



Brussels,
RSB

Opinion

Title: Impact assessment / EU Space Law

Overall opinion: NEGATIVE

(A) Policy context

The 2021 EU Space Programme, aimed to increase the safety, resilience, and sustainability of all space activities.

This initiative is designed to address the problems: (a) of fragmentation of the single market in the absence of a legal framework at EU or international level; (b) of congested space with higher risks of space debris, increased threat level, and lack of a consistent resilience/security baseline, and (c) of a lack of a framework to monitor and measure the environmental impact of space activities.

(B) Summary of findings

The Board notes the additional information provided and commitments to make changes to the report.

However, the Board gives a negative opinion because the report contains the following significant shortcomings:

- (1) The report does not explain clearly the scope of the initiative, and who specifically will be covered by which rules and how these will be enforced. It is not clear on the mitigating measures and lighter regimes envisaged for SMEs.**
- (2) The analysis of the costs and benefits, including for the ‘One-In, One-Out’ assessment, is not sufficiently developed. The impacts of potential mitigation measures are not assessed.**
- (3) The report does not sufficiently analyse the impacts on the cost and international competitiveness of the EU space sector, in particular on SMEs.**

(C) What to improve

(1) The report should better define the scope of the initiative. It should clarify the types of activities and the actors that will be covered by the legislative act. It should be clear how it will cover space-related products and services in the EU, or provided to EU public authorities, businesses and citizens. It should also be clear if it includes non-EU operators, under what conditions, and how effective enforcement would work.

(2) The report should better explain the key policy choices. It should be clearly stated who would design, how, and when, the different components of the policy measures, e.g., requirements, licences, labels, and mitigation measures. The report should provide a clear presentation of the mitigating measures and lighter regimes envisaged, in particular for SMEs. It should detail how relevant criteria such as size or criticality will be applied in a proportionate manner in the various options.

(3) The report should further develop and better present the impact analysis so that it is clear what the impacts are for each option. The benefits to all affected stakeholders should be better explained and wherever possible monetised, in particular savings due to the reduction of the level of administrative burden, the reduced risk of cyber-attacks and safer products/deployment. The cost analysis should include an explicit identification of the administrative and adjustment costs, feeding into a comprehensive presentation of the ‘One-In, One-Out’ approach. Together with the unit cost and relative value estimates already provided, the report should provide the estimates at the aggregate level and in absolute values. It should provide a summary table of all available estimates, including the total costs and benefits of the options explaining the preferred option in greater detail in Annex 3. The analysis should correctly take account of the voluntary character of certain options or part of the options by differentiating the estimates of the costs and benefits according to the assumed take-up rates or explain on what basis it was concluded that all options would result in the same level of the increase in manufacturing costs.

(4) Based on a strengthened cost and benefit analysis, the report should deliver a more detailed assessment of the impacts on SMEs and the emerging new start-ups. It should assess thoroughly impacts of the envisaged exemptions, specific regimes, or other mitigation measures.

(5) The assessment of the impacts on the competitiveness of the EU space sector, in particular SMEs should be presented in a more structured and detailed manner. The report should be more granular on the short-term and long-term impacts on competitiveness. As regards international competitiveness, the report should describe the global market dynamic and the market share of EU companies. It should fully assess the potential risks for EU operators in case competitors established in other jurisdictions offer similar products or services at lower price due to less stringent standards on safety, security or sustainability or lower production cost. It should substantiate its assessment with an analysis of all relevant factors, including relative position of EU actors, expected developments of the sector in the EU and globally, upscaling opportunities within the EU, etc. The analysis should be reflected coherently in the competitiveness check in Annex.

(6) The report should also bring forward the evidence regarding the environmental challenges, supply chain pressures, and raw material dependency.

(7) The stakeholder views need to be clearly presented and systematically referred to throughout the report. Stakeholder categories should be clearly identified and differentiated, including innovative space start-ups and Member States.

(8) The report should set out clearly what success will look like. It should explain how this will be monitored and when an evaluation will take place.

Some more technical comments have been sent directly to the author DG.

(D) Conclusion

The DG must revise the report in accordance with the Board's findings and resubmit it for a final RSB opinion.

Full title	Impact Assessment Report accompanying the document Proposal for a legislative act for safe, resilient and sustainable space activities in the EU (EU Space Law).
Reference number	PLAN/2023/214
Submitted to RSB on	15 November 2023
Date of RSB meeting	13 December 2023