

# REACTION PAPER: AN EU APPROACH FOR SPACE TRAFFIC MANAGEMENT

## EUROSPACE REACTION PAPER TO JOINT COMMUNICATION: AN EU APPROACH FOR SPACE TRAFFIC MANAGEMENT

### PREAMBLE

On February 15<sup>th</sup> 2022, the European Commission and the High Representative of the Union for Foreign Affairs and Security Policy published the Joint Communication “An EU Approach for Space Traffic Management”<sup>1</sup>, responding to a global issue, already raised in our Eurospace February 2021 Position Paper “STM, an opportunity to seize for the European space sector”<sup>2</sup>.

**The European space manufacturing industry, represented by Eurospace, strongly supports the emergence of an EU approach on STM with regulatory and capability pillars in lockstep.**

**The imperative to act towards an EU approach on STM as well as the measures to support such ambition are in line with the European space industry’s expectations. A unified and comprehensive Europe, able to speak internationally with a single voice on STM, is key to support the European space ecosystem and protect its strategic interests and competitiveness.**

However, while the Joint Communication is well structured, clear and ambitious, the EU proposed timeframe to tackle such a compelling problem is possibly too lengthy and seems to underestimate the urgency for action: while the EU will be seeking broad consensus among Member States, other countries that are moving faster will create their own reference architectures<sup>3</sup> and standards, thus putting at risk the competitiveness of the European space industry. It is therefore key that all national efforts must aim at establishing common and harmonised rules at European level, that could later be made valid worldwide. In the short-term, the EU should seek the quick adoption of pragmatic STM measures focused on leveraging existing institutional and industrial SSA assets, while retaining its longer-term goal of a truly harmonized set of STM regulations. In addition, it is deemed necessary to support EU ambitions with adequate budget lines to make them concrete and further increase European non-dependence.

Eurospace is fully committed to support European institutions achieve the objectives laid out by the Joint Communication. Based on the four avenues proposed by the Joint Communication upon which a concrete EU approach on STM will be achieved, **Eurospace calls on the EU Institutions to consider the following points of attention which we believe will enable the EU approach on STM to quickly reach its full potential.**

<sup>1</sup> [https://ec.europa.eu/info/sites/default/files/join\\_2022\\_4\\_1\\_en\\_act\\_part1\\_v6.pdf](https://ec.europa.eu/info/sites/default/files/join_2022_4_1_en_act_part1_v6.pdf)

<sup>2</sup> [https://eurospace.org/wp-content/uploads/2021/03/eurospace-pp\\_space-traffic-management\\_opportunity-for-europe\\_final\\_february-2021.pdf](https://eurospace.org/wp-content/uploads/2021/03/eurospace-pp_space-traffic-management_opportunity-for-europe_final_february-2021.pdf)

<sup>3</sup> e.g., US Office of Space Commerce’s Open-Architecture Data Repository (OADR), development of commercial radar tracking services for objects in Low Earth Orbit

## EUROSPACE POINTS OF ATTENTION

### THE IMPERATIVE FOR AN EU STM APPROACH

The European space industry concurs with the necessity to act to preserve the safety, security (and defence) and sustainability of space operations, direct result of four drivers.

The Commission defines “New Space Industry” as “*private companies, small and medium-sized enterprises and start-ups that develop novel space technologies and applications.*”

Eurospace believes that “New Space” has regretfully become a loose concept amongst several institutional actors in Europe promoting policy measures aiming at **unclear policy objectives prone to divide rather than to federate private as well as public stakeholders**. Eurospace invites European institutions to remind that “New Space” is essentially an approach towards the way space programmes can be realised today, rather than a subsector of the industrial compartment which as a whole is comprised of large system integrators, independent midcaps, SMEs and start-ups. Eurospace insists on the necessity to avoid the concepts of “legacy” or “new” space, particularly if this is reflected on space companies: what truly counts is a **European industry that delivers efficient and cost-effective products and services to both its institutional and commercial/private customers, and is accessible and competitive on the open markets**. This should of course not prevent the implementation of measures aiming at accessing the capabilities existing in smaller and newer companies, in particular through the removal of unnecessary barriers.

### ASSESSING THE STM REQUIREMENTS AND IMPACTS FOR THE EU

Eurospace **concurrs with the call to have a clear understanding of the requirements and of the potential impact of STM developments** on various European stakeholders by relying on the ability to mobilise the various actors across the civilian and military communities and ensure convergence on common level. In the interests of effectiveness and speed, Eurospace believes that **kicking off a joint analysis of civilian and military requirements (and data policy principles) from the start**, rather than two processes running in parallel, would help reducing a lengthy process at **risk of not converging in the end**.

Eurospace further believes that **securing the involvement of the European industry (manufacturers and operators) in the consultation mechanism for the definition of the requirements is key**<sup>4</sup>. By extension, the work done in the frame of **H2020 projects Spaceways**<sup>5</sup> and **EUSTM**<sup>6</sup> are **critical inputs** the European institutions can rely upon, as well as in the context of our European efforts towards reflecting upon best practices and requirements for STM standards.

In August 2021, the European Commission launched a Consultation Platform on Space Traffic Management ‘Towards a common EU approach on STM’. The Platform included Member States, EEAS, ESA, relevant EU agencies (EUSPA, EASA and EDA), EU standardisation bodies, EU industry (including start-ups), as well as the EUSST Consortium. It met for the first time at the end of September 2021 and for the second and last time at the end of October 2021. **The European space industry recommends the Commission to take inspiration from this approach when it will set up its future “process of consultation and discussion with all relevant EU stakeholders”, as proposed in the Communication.**

<sup>4</sup> In addition, as insurance companies will most likely push for the adoption of the highest level of services, in order to better manage their financial risk, European institutions may need to reflect on the necessity to involve them.

<sup>5</sup> <https://spaceways-h2020.eu/>

<sup>6</sup> <https://eustm.eu/>

Going forward, the European Commission should seek to avoid duplication of consultation mechanisms in order to facilitate the timely emergence of a consensus and, beyond, to accelerate the implementation of concrete actions rather than the multiplication of assessment studies.

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## ENHANCING EU OPERATIONAL CAPABILITIES TO SUPPORT STM

The European space industry **supports the role of the EU SST Partnership as a key operational capability.**

However, making reference only to EU SST as operational capability is **not considering all strengths available in the EU** and the **existence of already operational industrial services**. A stronger involvement of the European industry, alongside the capabilities owned by the members of the EU SST partnership, is vital to guarantee high revisit, swath of observation and ultimately strategic autonomy with respect to US capabilities.

In this regard, the European space industry welcomes EU SST proposals and measures in favour of a stronger involvement of the industry as presented to Eurospace in December 2021. In order for these measures to be fully effective, the following criteria should be applied:

- Quick implementation, at the speed of relevance, in order to translate the newfound European vision of STM into concrete actions;
- Adequate funding amounts, in order to fully enable industrial involvement in a sustainable manner;
- No duplication or redundancies with existing industrial systems and services at European level;
- Harmonisation with EDIDP/EDF in terms of studies and capability development in order to leverage the opportunities offered by civilian-military duality in the field of SST/SSA.

In addition, in view of the new services being announced by the EU SST, assessing the feasibility and relevance of selecting industrial players as operators of such services may also be considered, in analogy with what is done already in the frame of EGNOS and Galileo Service Operator (GSO) contracts. Strong consideration should also be given in that respect to the possibility for EU SST to implement various tiers of services, including fee-based services, for instance for non-EU operators. This would support the emergence of a European SSA market with EU SST acting as an institutional anchor customer, rather than impede it using an entirely free-of-charge service model at odds with European economic and strategic imperatives.

Finally, enhancing EU operational capabilities to support STM also means **defining a Capabilities Development Plan with the relevant gap analysis and budget** (similarly to what is done with defence capabilities). Eurospace therefore promotes its inclusion as part of Action 2.

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## FOSTERING STM REGULATORY ASPECTS

The space sector needs to move towards global space debris regulations applicable to all missions. There is multitude of standards and laws that apply or do not apply depending on different factors (e.g., customer, launching state). It is therefore very complex and can lead to loopholes where no standards apply for some missions. In addition, either regulations are completely missing or they are outdated (i.e., rules of orbital traffic for spacecraft, reliable of end-of-life measures that apply per constellation and not just per single satellite, fail-safe deorbiting procedures, regulation surrounding active removal missions<sup>7</sup>).

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<sup>7</sup> Regarding debris removal, there is currently no business case, hence no significant intrinsic motivation by industry to actively engage. A legal framework for operators to deorbit significantly quicker than 25 years (hence debris removal and deorbiting becoming a major aspect of any space mission) can be envisaged. The EU could also act as an anchor customer when it comes to active debris removal.

The European space manufacturing industry therefore welcomes the development of a legal framework at European level for STM as isolated initiatives on STM will only result in an increase of competitiveness imbalances between countries and their respective space sector.

But **current standardisation efforts are already ongoing at ISO**, with a strong push from the USA notably, and a structural inability for Europe to speak with a common voice within such fora. As a result, the **proposed deadlines (end 2023) may be too late to preserve European interests**.

In the interest of effectiveness and speed, the European space sector believes that **standardisation efforts being performed in the frame of the ECSS and ISO need to be further prioritised and strengthened at European level, in order to ensure that European preferences and views are shared globally**. As such, the establishment of the *“necessary forum to ensure that effective information and coordination regarding the standards and guidelines developed at the international level is in place in the EU”* could very well **allow for close cooperation and exchange with the ECSS mirror working group on STCM and contribute to it with key inputs**. Created in 1995 to set up and maintain a coordinated set of industry standards for space systems design development and manufacturing, it brings together ESA, national agencies and industry (through Eurospace) to share the financial and technical efforts to establish the standards.

Finally, the implementation of a new legal framework and standards could benefit from the use of a collaborative platform to stimulate cooperation between satellite owners/operators regarding the adoption of rules and best practice and the sharing of relevant information. This would be a way to implement soft regulation (voluntary subscription) without placing excessive burdens on the industry at first, and to gradually evolve into a compulsory system with built-in incentive mechanisms.

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## PROMOTING THE EU STM APPROACH AT THE INTERNATIONAL LEVEL

Eurospace **fully supports a proactive role for the EU in promoting its EU STM approach worldwide**. As pointed out in the Eurospace February 2021 Position Paper, by being proactive, the European Union will allow the European space sector to **use agreed rules and procedures at its advantage and avoid instead a potential loss of competitiveness on the global stage**.

Cooperation is indeed key. As such, the **privileged discussion with the US**, more than the promotion of a multilateral approach, seems to be a **more productive path to follow** as STM capabilities are currently only located in the EU and the US (and possibly in China).

However, **preserving European sovereignty and autonomy should be included as a must while promoting collaboration and interoperability, with reciprocity and mutual benefit as common rules, with the US and other like-minded third parties**.

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## CONCLUSIONS

In order to enforce and monitor a global STM regulation, the European space industry wonders if the European Commission is already looking at possible enforcement solutions such as creating a central licensing authority for the use of outer space. Besides, Industry would recommend assessing the pros and cons of either:

- Progressively ensuring that European institutional actors stop buying products as well as services based on infrastructures not respecting the European STM-related norms and standards;
- Developing a label granting bonus points in the evaluation of public tenders for respecting European norms and standards, or delivering services based on assets respecting those norms and standards.