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The Single European Sky initiative: Between an improved efficiency and national defense

[Dominika Furtak](#)

European airspace management consists of a patchwork of national systems operated by [up to 60 control centers and 37 different monopoly air navigation service providers \(ANSPs\)](#) with different requirements, types of equipment, and charges working in parallel. This fragmentation of airspace is widely portrayed as a serious problem causing safety hazards, reduced efficiency as well as increasing costs, and harmful emissions. The issue becomes even more pressing now, given the capacity crunches in 2018 and 2019 along with the forecasts for the further growth in air traffic. A response to the identified structural inefficiencies has been the Single European Sky (SES). This initiative, launched in 1999, sought to address the problem at the Community level and to enable the best possible performance of the EU's aviation infrastructure. However, even though the transformation has remained part of the agenda under five consecutive mandates of the European Commission, a truly integrated single sky has not been achieved yet. The revision of the SES legislative framework has remained stalled since 2013. Currently, the new European Commission is working to unblock the situation by revising the SES regulatory framework. The update is promoted under the banner of the European Green Deal. It leads to a revival of the debate on the future of European air-space architecture.

Background

The Single European Sky is the flagship initiative of the European Commission reflecting a vision for a structural reform of air navigation services. The goal is to eliminate deficiencies, enhance interoperability, and

improve the overall ANSPs performance. Ultimately, SES envisions the development of an organizationally and technologically integrated pan-European system – a seamless sky where the sectoral division of controlled airspace would follow operational needs rather than national borders. The same applies to determining flight routes. It should be noted that SES vision does not intend to jeopardize the state's “complete and exclusive sovereignty over airspace above its territory” guaranteed under Article 1 of the [Chicago Convention](#) of 1944. Instead, the initiative tries to separate the question of sovereignty from the operational side of the system, in particular the designation of the service providers.

SES originated in 1999 when the Commission started working on a Community framework with the overall objective of improving the performance of air navigation services for the benefit of all users. [Communication from the Prodi Commission](#) stated that: “(...) management of Europe's skies rests on antiquated methods and principles. Europe cannot keep the frontiers in the sky that it has managed to eliminate on the ground; it must allow the freedom of movement of persons, goods, and services beyond such frontiers”. In addition, the Communication emphasized that the participation of the Commission cannot be limited only to research projects applied in fragmented airspace. This passage seems especially valid now, in light of [the criticism raised by the European Court of Auditors](#) (ECA) against the ongoing preoccupation with research and development (R&D) and the actual benefits of this dimension in terms of network defragmentation.

[The first legislative package](#) was adopted in 2004. It created a principal legal framework for harmonization and modernization of airspace management. Among others, it brought about the creation of national supervisory authorities separated from ANSPs, the launch of new channels of communication with stakeholders, unified certification rules, and the interoperability of the European Air Traffic Management Network. However, there was also a discernible difference between the [Commission's original proposal](#) for airspace “treated as a common resource constituting a continuum” and the adopted act: Article 1 thereof emphasizes the principle of national sovereignty over the airspace.

New rules did not cover military operations and training. Instead, SES I laid down the foundations for a re-organization through cross-border Functional Airspace Blocks (FABs), defined initially as “blocks based on operational requirements, reflecting the need to ensure more integrated management of the airspace regardless of existing boundaries”.

The regulatory framework was [revisited and amended in 2009](#) (the so-called SES II) with a focus on the improvement of the network performance in key areas including safety, environment, capacity, and cost-efficiency. The amendments implemented an EU-wide performance scheme with the Performance Review Body (PRB) to support its development, established the Network Manager, and refocused FABs on the integration of air navigation services. Furthermore, Article 13a defined the role of the European Aviation Safety Agency (EASA) with respect to the ATM system in line with the broader trend of extending its institutional remit.

The Single European Sky gridlock

In 2013, the Barroso Commission presented [a new proposal](#) for a recast of the legislative package (SES II+) “in the light of the lack of timely implementation of the SES initiative”. On the one hand, the revision was introduced as a foreseen adjustment to EASA Basic Regulation. At the same time, it was an opportunity to include improvements without departing from the original vision of the Single European Sky. Key elements concerned the institutional and financial independence of the National Supervisory Authorities (NSAs): the strengthening of PRB and the performance scheme; the opening of the support services to competition; consultations with airspace users; the strategic redirection of FABs (by allowing the industry to take a more

prominent role), and the reinforcement of the Network Manager. Furthermore, the update was intended to clarify the new division of competence between EASA, EUROCONTROL, and the European Commission.

The European Parliament adopted its [position](#) in the first reading in March 2014. On this occasion, Vice-President of the Commission, [Siim Kallas, responsible for transport, encouraged the member states](#) with the following words: “The Single European Sky initiative is crucial to boost competitiveness in the aviation sector, create jobs, and contribute to the European economy's growth”. However, the [Council diluted many ideas for advancement](#), i.a. by insisting on the refocusing on FABs established between member states and the ensuring more freedom for national governments. A sore point was also the question of opening services to competition or their partial centralization. Further negotiations on the package were stalled after 2015.

Officially, the SES II+ proposal remained blocked due to the disagreement between Spain and the United Kingdom over the application of its provisions to the Gibraltar airport. It was also emphasized that too little time had passed to evaluate the effectiveness of the 2009 package to propose credible amendments. However, [Baumgartner and Finger](#) indicate more persistent causes of gridlock. They linked this to the divergent interests of various stakeholders and the conflicting roles of national governments as policy-makers, regulators, and owners, which entail concerns about employment, local manufacturing, defense, etc. More generally, one can speak of the lack of political will to push through a revision that involves the delegation of power to the network level and a further privatization. In line with this, Baumgartner and Finger discussed a misunderstanding over the political postulate of airspace defragmentation, whereas [Motyka and Njoya](#) pointed to a different understanding of sovereignty and national efforts to retain full control over their airspace. These elements also manifest themselves in the current debate over revision.

New SES upgrade proposal

In September 2020, the Commission proposed an [upgrade of the Single European Sky regulatory framework](#) under the general theme of a “more sustainable and resilient air traffic management”. This includes [amended proposals on the SES implementation](#) and [EASA Basic Regulation](#) accompanied by [Staff Working Document](#) entitled “A fresh look at the Single European Sky”.

In terms of the context, the submitted document referred to the sectoral policy, especially the 2015 Aviation Strategy for Europe, which called on the Council and the European Parliament to adopt the SES II+ package. It also emphasized consistency with the European Green Deal. The revision was preceded by a discussion on the future of SES launched by DG MOVE in October 2018. This led to the publication of the report of the Wise Persons Group in April 2019. The additional thrust for legislative work came from ECA reports (published in [2017](#) and [2019](#)) and a Pilot Project commissioned by the European Parliament on the architecture of the European Airspace.

In September 2019, the European Commission and Finnish Presidency organized a High-Level Conference on the Future of Single European Sky. The event resulted in the proclamation of the [Joint Stakeholder Declaration](#). The document urged decision-makers to consider the necessary action towards the SES implementation. Furthermore, it encouraged “European institutions to simplify the regulatory framework and institutional set-up to make the European ATM fit for purpose, allowing it to respond to present and future needs”. Next, the Council held a political debate on this matter in December 2019. The majority in the Council endorsed further works based on the SES II+ proposal.

In the 2020 proposal, the European Commission once again evokes the need to implement the ultimate SES vision and remove the inefficiencies still present in the ATM system. The update intends to “enable the sector to better realize its economic potential while operating more sustainably”. Generally, the new pro-

posal is another attempt to deliver the SES vision under the theme of “moving from patchwork to network”. The overall objectives have remained the same. The same is also the environmental target of a 10% reduction in CO₂ emissions. However, some means were modified. There are two reasons for that. First are developments in technology, traffic (sustained growth until early 2020, sharp drop due to Covid-19 pandemic), and political context (most notably, the Paris Agreement). Secondly, the amendments are intended to overcome controversies which caused gridlock. For instance, the Commission upheld the idea of a legal separation of the NSAs from other entities in order to ensure their maximum independence, but it introduced an additional economic certification of ANSPs (issued by national authorities) and designation of providers for a maximum of 10 years to ensure the periodic reassessment. Hence, strengthens the position of national authorities when compared to the proposal from 2013. The failure to reform Functional Airspace Blocks led to the removal of requirements on their mandatory use altogether.

Other amendments envisage the introduction of a mechanism for the modulation of charges at Union-wide level (according to the environmental footprint of the airspace user) and integration of regulatory body into EASA followed by strengthening its role. The new regulation would entrust ANSPs with drafting performance plans and allow service providers, as well as airport operators, to procure support services under market conditions. The Commission’s proposal also gives the possibility of introducing a common unit rate (in case of significant network problems) and improving access to operational data on the cross-border and Union-wide market.

The document was submitted to the European Parliament and the Council, and once again SES became the subject of deliberation by policy-makers. [European Economic and Social Committee issued its opinion](#) in December 2020. In the European Parliament, the file was assigned to the Committee on Transport and Tourism (TRAN). The Committee adopted its [negotiating position](#) in June 2021. It reconfirmed the readiness of the MEPs to start inter-institutional talks. A discussion in the Council on 3 June 2021 led to an [agreement on the general approach](#) to the reform. However, there are instances of the potential watering down of initial provisions. For example, the Council agrees on the key objectives, but insists on a considerable margin of freedom for national authorities, keeping FABs as a formula for cooperation, and maintaining the previous charging system. One can also anticipate strong opposition from military circles, as indicated during the [joint meeting](#) of the European Parliament's Committee on Transport and Tourism and Subcommittee on Security and Defence (SEDE) in March 2021.

The military perspective

Among stakeholders, the most vocal critics of the ATM reform are service providers together with associations representing air traffic controllers. [Efthymiou and Papatheodorou](#) showed that ANSPs are of great interest and have quite high power on this subject. However, the main obstacle on the path from patchwork to a more integrated network may prove to be the skeptical approach of the circles responsible for national defense and security policy.

The Single European Sky applies only to general air traffic and does not cover military operations and training. Nevertheless, civil and military aviation activities are tightly interlinked, as they share the same airspace. Often, they have a joint infrastructure. Moreover, the military authorities may also reserve some zones for military usage only. This creates significant inefficiencies for commercial aviation. Especially considering the limited airspace and the location of European air bases. In consequence, collaboration is necessary in regard to procedures for the flexible use of airspace (FUA) or the concept of free route airspace (FRA) in which users can freely plan a route between entry and exit points. In broader terms, security concerns are part of the rationale behind member states' reluctance when it comes to ceding control over their skies. Therefore, it is essential to maintain interoperability between civil and military systems and avoid any adverse impact on national defense capabilities.

The creators of the SES were aware from the very beginning of the importance of military involvement to its success. [Baumgartner and Finger](#) wrote even about the potential of armed forces to block the entire program. For this reason, vice President of the European Commission Loyola de Palacio invited national defense representatives to work on the SES I package. Also in later years, military authorities were encouraged to provide expertise and enhance cooperation on ATM reform.

Despite that, European militaries continue to express concern about the direction of proposed changes, which can have a detrimental effect on the future of SES. This also was evident during the aforementioned joint TRAN-SEDE meeting. In his intervention, General Claudio Graziano, Chair of the EU Military Committee, complained about the lack of sufficient consideration for military needs and constraints in SES II+ and for threats it may pose to the European citizens. As a representative of the Committee composed of the chiefs of defense of the EU member states, the General voiced concerns about the implications of the discussed developments for international operations and air force training that must adapt to commercial traffic flows. In his opinion, the Commission's performance-driven approach leads to the "blurring of borders" that can harm further civil-military cooperation and the general resilience of the defense system. Given the importance of the armed forces, it seems necessary to resolve such doubts in order that the reform can be achieved. As indicated by [Chantal Lavallée](#), the allocation of EU funding capital may be an additional asset for the European Commission.

The environmental dimension

Currently, the SES initiative is an important part of the program of the Von der Leyen Commission. The initiative was mentioned in [the Communication on The European Green Deal](#) as part of a "basket of measures" aimed at delivering the headline promises of the EGD and contributing to the EU's decarbonization. In [the 2020 Commission Work Program](#), the proposal for a regulation was classified as one of the pending initiatives that should receive priority attention.

More details were provided in the ["Sustainable and Smart Mobility Strategy"](#) of December 2020. Here SES was mentioned three times. First, in the remit of flagship 1 entitled "Boosting the uptake of zero-emission vehicles, renewable & low carbon fuels and related infrastructure". The Commission comes out of the position that a more efficient traffic management can provide "substantial environmental gains". Thus, it can be an additional path to improve energy efficiency and emission reduction, next to technological advancements (e.g., SAFs and hydrogen propulsion), which require more time and financial resources. Furthermore, the Commission pointed to the potential 10% reduction in emissions and additional gains in non-CO₂ mitigation.

Next, smart traffic management is also expected to contribute to the decarbonization of airports itself under flagship 2 entitled "Creating zero-emission airports and ports". The drive to complete and implement SES is also part of the key area of action no. 6 "Making connected and automated multimodal mobility a reality". In this regard, the need for further investments was emphasized, thus referring to the technological dimension of smart traffic management. The initiative is seen as a way to improve the efficiency of ATM that "should therefore be completed without delay". To sum up, the two overarching goals listed together are: "to avoid capacity crunch and reduce CO₂ emission". In this way, a long-running initiative is included in the priority reform program which may translate into a greater determination of the European Commission and additional arguments in favor of the reform.

Furthermore, compared to previous legislative proposals, the update in question shows a weight shift toward the green dimension. The 2020 proposal aims "to remove current inefficiencies in ATM that are detrimental to the environment" and strengthen aspects that can further contribute to this environmental agenda. The explanatory memorandum linked the reform directly with the environmental commitments

of the EU and the EGD priorities. Combating climate change is also a rationale for introducing innovations, such as the modulation of charges. Such a framing does not change the essence of the proposed revision, nor the environmental ambitions. Instead, it appears to effectively link the SES with the objectives of key importance to the current European Commission. At the same time, this move pushes a stalled debate out of the sole confines of the aviation industry, beyond the issue of airspace control and opening borders. It adds new arguments that might tip the balance in favor of the network. However, one must also bear in mind that a 10% reduction in CO₂ emissions, which is still repeated in the discussion over the new proposal, should be seen rather as an aspiration than as a target for the coming years. The question remains whether decision-makers and the policy community will allow fulfilling these aspirations even partially and whether the approved measures will be sufficient to produce a real change.

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