

Higher Airspace Operations (HAO)

What is the higher airspace?

Answer

The higher airspace is the volume of airspace above altitudes where the majority of air services are provided today (i.e. above around FL550, or 17 km altitude).

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26/04/2023

Link:

<https://www.easa.europa.eu/en/faq/137860>

What are the limits of the higher airspace?

Answer

The lower and upper limits of the higher airspace are not clearly delineated. The lower limits depend on the classification of airspace and services provided today in Member States and vary between FL500 and FL660. The upper limit is linked to the issue of the delineation between airspace and space and is a larger question, not yet solved at international level. It is probably in the range between 80 and 120 km altitude.

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<https://www.easa.europa.eu/en/faq/137861>

What kind of operations will take place in the higher airspace?

Answer

Both air transport and space operations will take place in the higher airspace. However, space operations will simply transit through the higher airspace, like they will transit through the airspace below FL550. Both air transport and space operations will take place in the higher airspace. They will therefore need to be taken into account in order to avoid risks for other

traffic.

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<https://www.easa.europa.eu/en/faq/137862>

Are there already operations taking place in the higher airspace in Europe?**Answer**

Yes, operations have been taking place from European continental territory and in European airspace for some time, e.g. scientific/weather stratospheric balloons¹, sounding rockets or military HALE RPAS transiting above Europe at FL550-FL600.

[1] Sounding rockets and stratospheric balloons have been launched from Northern Europe (SE, NO) for more than 50 years.

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<https://www.easa.europa.eu/en/faq/137863>

Are there European HAO projects under development?**Answer**

A number of European industrial projects are under development, as reflected in the demand analysis performed in the [ECHO 1 project from the SESAR JU/Eurocontrol](#). Some of these projects are in contact with EASA for certification/design approval, and/or prototype tests.

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<https://www.easa.europa.eu/en/faq/137864>

Which rules apply in the higher airspace?**Answer**

The [HAO Roadmap](#) recommends that flights which are performed by aircraft principally in the

airspace, even if passing shortly in transit through orbital space, in the course of an Earth to Earth flight remain subject to air law . The EU and Member States, within the limits of their respective (shared) competences, are therefore competent to regulate air transport operations taking place in the higher airspace.

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Link:<https://www.easa.europa.eu/en/faq/137865>**Who is competent to regulate operations in the higher airspace?****Answer**

The EU is competent to regulate civil air transport operations in the airspace within the limits of the Treaty (Art. 100 TFEU), the SES regulations and the EASA Basic Regulation along with their implementing regulations. The Member States remain competent for all other aspects of air transport, notably for military operations.

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Link:<https://www.easa.europa.eu/en/faq/137866>**Do Member States have a say on the use of the higher airspace?****Answer**

In accordance with Article 1 of the Chicago Convention, every State has complete and exclusive sovereignty over the airspace above its territory. The higher airspace is part of the airspace and therefore this provision applies.

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Link:<https://www.easa.europa.eu/en/faq/137867>**Will these HAO operations not be exclusively for privileged people?****Answer**

In some limited cases, Higher Airspace Operations (HAO) business models indeed target tourist experience or fast transportation, which will be used by a small proportion of the EU citizens. These projects however allow technological developments, for instance in the field of green energy, that could potentially benefit the entire air transport ecosystem, through spin-offs. Furthermore, the majority of HAO projects will benefit the whole EU community through large-scale services such as connectivity and communications, Earth observation, scientific tests and measurements, security and defence, civil protection and support to disaster management, emergency delivery (e.g. repairs and maintenance for critical infrastructures), etc.

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Link:<https://www.easa.europa.eu/en/faq/137868>**Will the design of Higher Airspace Operations (HAO) vehicles need to be certified?****Answer**

For HAO vehicles qualifying as aircraft under the scope of Regulation (EU) 2018/1139, being produced in sufficient numbers and for which existing certification specifications apply, no particular action will be needed at EU level, as current regulation (Commission Regulation (EU) 748/2012) will apply as it is. For HAO vehicles qualifying as aircraft under the scope of the EU regulations which do not fall in the scope of existing certification specifications, special conditions would have to be developed on an ad hoc basis.

HAO vehicles qualifying as aircraft under the scope of EU regulations but being designed and produced in limited quantity for research, scientific or experimental purpose, they will be considered in the perimeter of Annex I of Regulation (EU) 2018/1139, and hence in the remit of each NAA's State of Registry. For HAO vehicles qualifying as UAS under the EU regulations, in principle existing and upcoming certification specifications for the specific and certified category of UAS will apply.

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<https://www.easa.europa.eu/en/faq/137869>

My company is developing a new project related to HAO (vehicle, aerodrome/stratoport, engines, etc.) and would like to know how to proceed to comply with applicable regulatory requirements

Answer

Enquiries can be addressed to HAO [at] easa.europa.eu.

Depending on the level of maturity of the project, ad hoc support could be provided by EASA through [pre-application contracts](#) .

EASA is also developing guidance on the concept of 'regulatory sandbox' tests, to support initial tests and demonstrations. Regulatory sandboxes can be defined as a legal framework set up for a limited time by a regulator that allows start-ups and other innovative actors to conduct live experimental operations covering limited area in a controlled environment under a regulator's supervision. Pilot projects are welcome to apply for these tests.

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Link:

<https://www.easa.europa.eu/en/faq/137870>

Will Higher Airspace Operations (HAO) impact on environment be evaluated?

Answer

Research will have to be conducted to ensure a better scientific understanding of the impact of HAO vehicles on the environment (e.g. study on the local noise impact and noise certification levels of high-speed HAO aircraft, study on non-CO2 effects, etc.). Furthermore, environmental impact assessments identifying potential environmental metrics and limits which can be used in new environmental protection requirements necessary to certify HAO vehicles will have to be performed.

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Link:

<https://www.easa.europa.eu/en/faq/137871>

Will information security aspects of Higher Airspace Operations (HAO) be considered?

Answer

The [HAO roadmap](#) recommends re-evaluating the current scope of the information security regulations, in order to assess the need to extend the applicability of already existing

requirements (e.g., CS-XX.1319, Part-IS) to new aviation products and approved organisations (e.g. spaceports). The purpose of the re-evaluation would be to assess if certain activities and the relevant organisations (under EASA approval) may pose information security risks with the potential to generate events that can have direct consequences on the safety of flight. In doing this, several inputs such as the type of the operations and the interfaced organisations should be considered.

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<https://www.easa.europa.eu/en/faq/137872>