



Amanda Boekholt 9 September 2021

---

# U-space status in Switzerland

## Latest developments and the next ones to come

---

File: BAZL-014-1/2/7

With the recent adoption of the U-space regulatory package by the European Commission, the Federal Office of Civil Aviation (FOCA) has considered it appropriate to summarize the latest U-space achievements in Switzerland and the next steps to be taken before their application in January 2023. Realistically, there are still many challenges to be addressed in less than two years, but thanks to the joint effort of the Swiss U-space Implementation partnership, some important pieces of the puzzle have already been operationalized or are in the development stage.

### 1. Adoption of the U-space regulatory package

In April 2021 the EU Commission adopted a broad U-space regulatory package. This legislation aims at establishing a framework for U-space, most requirements will be applicable in January 2023 in the EU. The following three Commission Implementing Regulations have been published in EUR-Lex:

- [Commission Implementing Regulation \(EU\) 2021/664 of 22 April 2021](#) on a regulatory framework for the U-space (hereinafter: U-space regulation).
- [Commission Implementing Regulation \(EU\) 2021/665 of 22 April 2021](#) amending Implementing Regulation (EU) 2017/373 as regards requirements for providers of air traffic management/air navigation services and other air traffic management network functions in the U-space airspace designated in controlled airspace.
- [Commission Implementing Regulation \(EU\) 2021/666 of 22 April 2021](#) amending Regulation (EU) No 923/2012 as regards requirements for manned aviation operating in U-space airspace.

### 2. Network remote identification service

The U-space regulatory package introduces a service for network remote identification (hereinafter: NET-RID) that will be mandatory for all drone operators wishing to operate in U-space airspace.

The network remote identification service ensures the identification of drone operators throughout the flight. It shares the registration number of the drone operators and further details about their flights (speed, height, course) with authorized users (citizens, authorities, air traffic services, U-space Service Providers - USSPs). Within the framework of the SUSI partnership, ten members have decided to participate in the operationalization of the service. They have successfully implemented the service, which is now available on a voluntary basis throughout Switzerland for all operators and authorized users. Find more on how to use the service directly on [SUSI's website](#).



### 3. Geo-awareness service

This service provides drone operators with information about static and dynamic airspace information and constraints. It entails the function to collect geographical zones from relevant authorities, distribute the airspace data to affected drone operations and exchange airspace allocation and constraints with all relevant participants. The service benefits the end-users by providing them with official data regarding areas where flight restrictions are in place, as well as a mean to contact the related competent authority that can grant access to the zone.

The FOCA has already published the UAS geographical zone (“Geozone”) data corresponding to the federal Swiss drone map ([map.geo.admin.ch](http://map.geo.admin.ch))<sup>1</sup>. USSPs and drone manufacturers can download the data and use it to provide an initial geo-awareness service. A second iteration of the Swiss drone map is being developed by the FOCA in coordination with the competent authorities. This updated Swiss drone map will combine cantonal and federal information about restrictions with regard to the area of operation of unmanned aircraft (e.g. over and near military and police facilities).

Estimated timeline for the next iteration of geo-awareness services:

- **Q2/2021: Pilot phase**
  - Pilot phase for the second iteration of the Swiss drone map in cooperation with the competent authorities of canton Geneva and Appenzell Innerrhoden
- **Q3/2021: Gathering and Publishing**
  - All federal and cantonal competent authorities define UAS geographical zones and the FOCA publishes the data in a common unique digital format via the RPAS-map
- **Q4/2021: Implementation**
  - USSP and drone manufacturers are free to use the published UAS geographical zones data and provide their own geo-awareness services

### 4. Creation of a Swiss U-space working group (SUSI-OPS)

SUSI-OPS is a sub-group of SUSI comprised of industries and associations involved as drone operators in Switzerland. The SUSI-OPS group supports SUSI members in the implementation of U-space services to ensure that they are operationalized in the most optimal way possible and that they reflect the needs of operators. This is being achieved in particular by participating in the demonstration of the standards and during the first phases of the service implementation.

### 5. Further steps in the implementation of U-space

#### a. UAS Flight Authorization Service

The service is a strategic deconfliction tool, it ensures that UAS operations are free of conflict in space and time with any other notified UAS flight authorization within the same portion of U-space airspace. According to Art. 3 of the U-space regulation this service will be mandatory in U-space airspace. The service does not cover operational authorizations (i.e SORA) nor authorizations provided by competent authorities such as national and local authorities, or skyguide in controlled air-space.

SUSI members are in the process of implementing a related ASTM standard to see how applicable it is in practice and how it interacts with other U-space services.

---

<sup>1</sup> see point 5.b

### **b. U-space airspace designation**

The U-space Regulation Members States the possibility to designate one or more volumes of national airspace as U-space. In accordance with Article 15 of Regulation (EU) 2019/947 those must be made publicly available and called “UAS geographical zones” or “Geozones”. U-space airspaces will be a special case of UAS geographical zones designated with the support of an airspace risk assessment.

### **c. Automated Monitoring**

During the voluntary implementation of the NET-RID service in Switzerland all providers went through a verification and checkout phase in a staging environment before the service deployment. All participants successfully completed both phases supervised by the FOCA against the core performance requirements of the ASTM F3411-19 standard.

The verification process proved to be challenging for practical reasons: The diverse mix of geographically dispersed service providers made orchestrating the tests between the partners more complex. Since this was the first time such a test was organised, developing the test cards and sequence was a manual effort and a logistical challenge.

This manual process can't be used on a large scale and is not efficient for all U-space services. This is why the FOCA with some partners are currently developing “regulatory extensions” to the InterUSS platform – an open source solution used to enable NET-RID – called the “automated monitoring”.

Automated monitoring will allow service and display providers to check their compliance with NET-RID themselves. The service will produce a report of the tests that the providers can use to fix issues if present or submit the report to authorities. The test report will define the success criteria that will automatically determine whether the provider can be authorized for the production environment. This can be seen as a new form of auditing and compliance monitoring: companies can verify their capabilities themselves and present report of tests. In this sense, the regulator disappears as an "intermediary" for conducting audits but focuses on verification of capability. These regulatory extensions provide a scalable mechanism to ensure compliance in a dynamic, complex environment.