

Drone Service Application

POWERED by
skeydrone

Version 2

Fy Module

USER MANUAL



Revision identification: 2.0

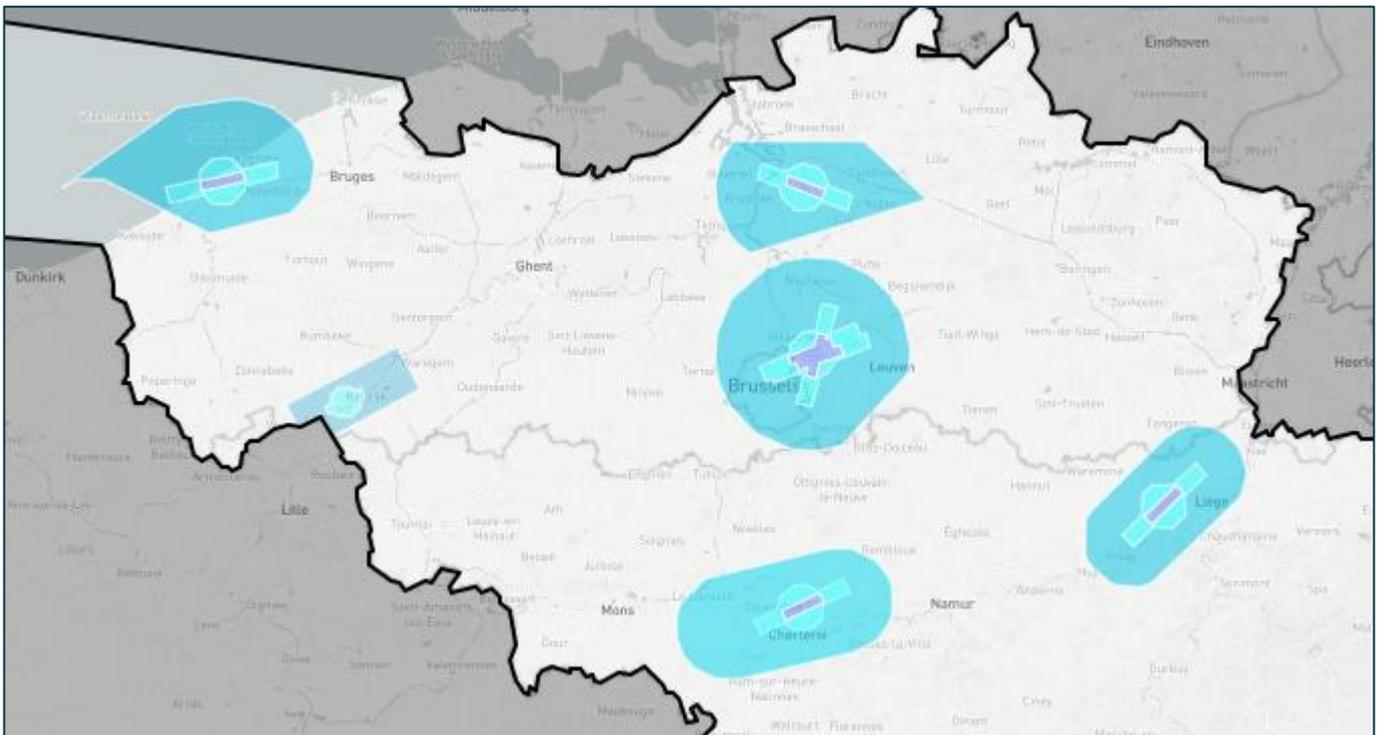
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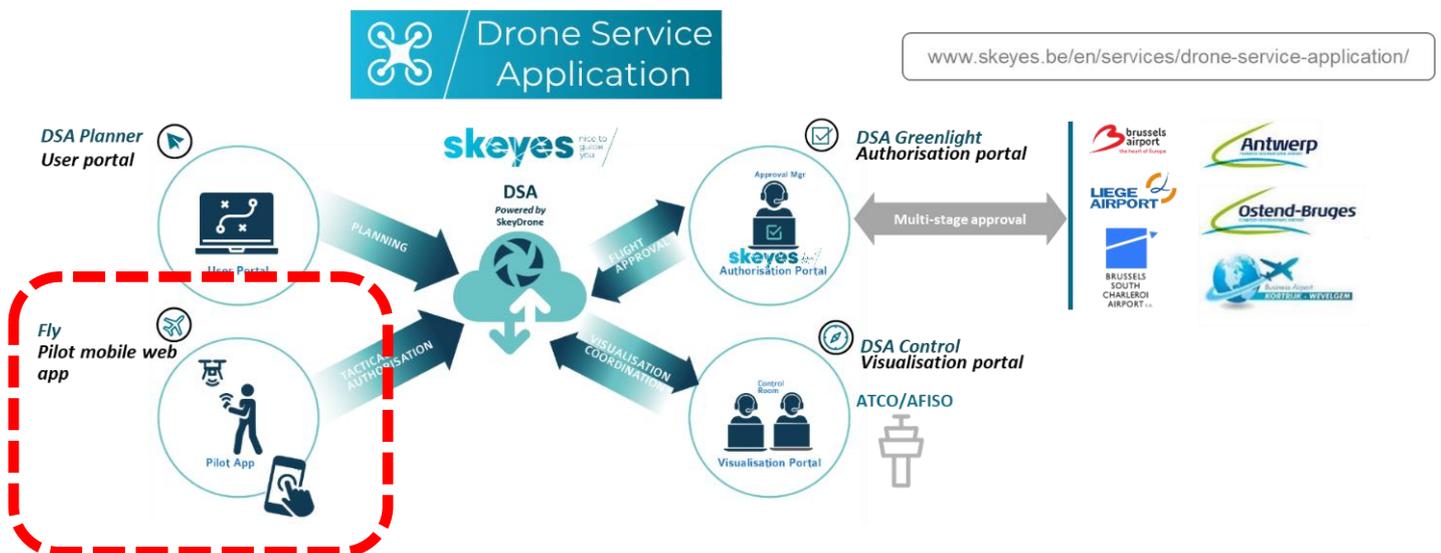
1 Introduction

The skeyes Drone Service Application (DSA) is the tool which all pilots need to use when executing a drone flight in a GeoZone managed by skeyes (for information on all other Belgian GeoZones please visit map.droneguide.be)

The version V2 launched on February 11th will only allow for flight authorisation requests in the VLL2, VLL1 and VLL0 of each civil CTR (zones associated to the airports of Brussels, Ostend, Charleroi, Antwerp and Liège), as well as the Kortrijk EBKT RMZ1 and RMZ2. The VLL2 and RMZ2 airspaces are the subzones furthest away from each of the airports, VLL1 and RMZ1 airspaces are situated closer the runways while VLL0 is the most critical airspace situated over the respective runways.



This manual is dedicated to the **DSA Fly mobile web app module** which allows users to manage the communication flow with the skeyes Air Traffic Controller (ATCO) and to notify “take-off” and “land”.



The DSA Fly module is a Progressive Web Application so you will not find it on any application store but rather on the skeyes website.



More information can be found here:
www.skeyes.be/en/services/drone-service-application/
but this is the URL to use to get going on the DSA Fly module:
<https://fly.skeydrone.tech/>

For it's very first-time use, you will have to open up this URL using your favourite browser on your smartphone.

We however strongly recommend you immediately use your web-browser to **add the URL to your home screen**.

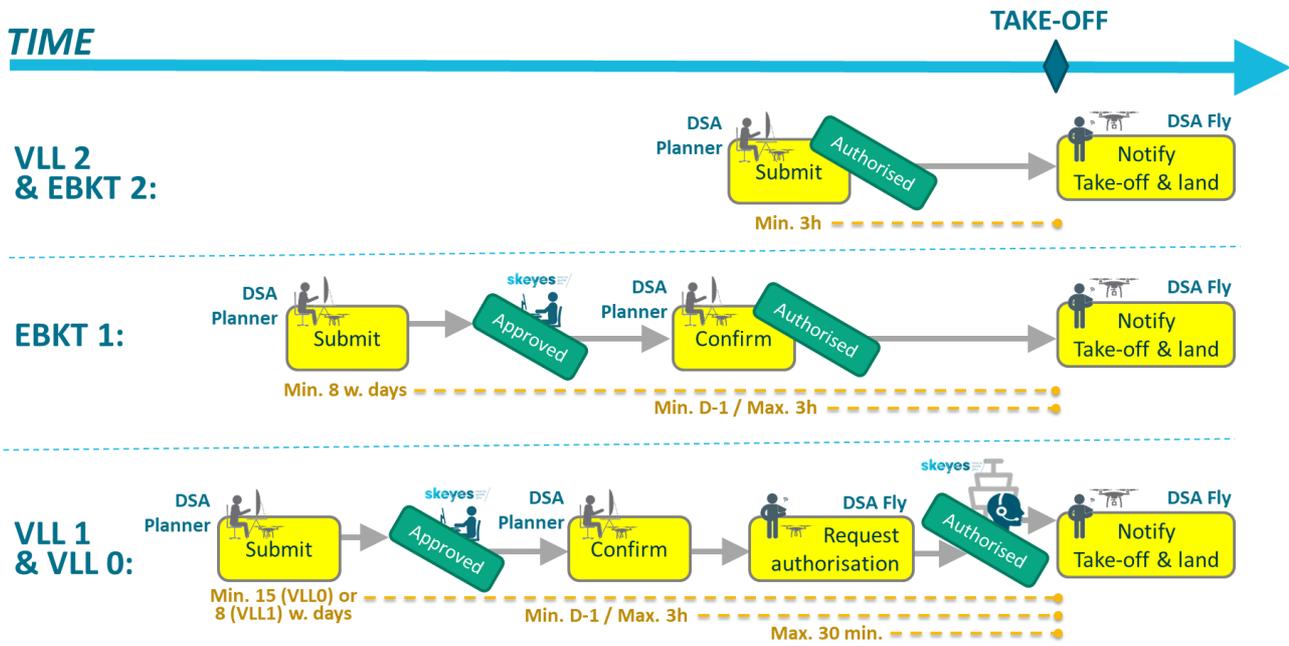
As from then you will be able to use it just as any other app on your phone.

Before you read this manual, we advise you to first read the DSA Planner manual as the DSA Planner module is the place where you will find explanation on how to take the first initial steps to create and submit flight authorisation requests.

Please be aware that the DSA Fly module is used to manage flight authorisations AFTER they have been submitted in the DSA Planner module. You will therefore notice an empty list of flights when you start using the Fly module without first having used the DSA Planner module.

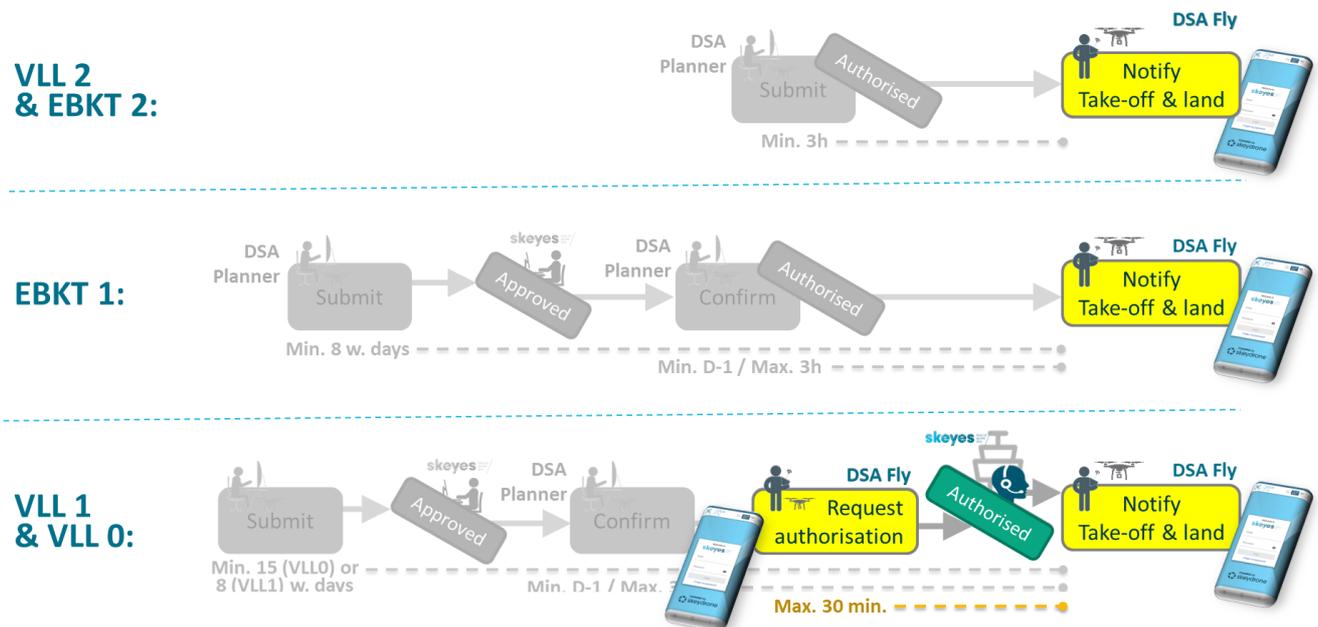
2 Generic timeline of a flight authorisation request

A flight authorisation request starts with a DSA user planning an operation using the DSA Planner module and associating all required attributes to the operation (timing, category, area, height, activity, operator, pilot, and drone) to make it ready for submission to skeyes. As depicted below, the way such submitted flight authorisation request is being treated afterwards by skeyes heavily depends on where the flight has been planned to occur (subzone VLL2, VLL1 and VLL0 of each civil CTR (zones associated to the airports of Brussels, Ostend, Charleroi, Antwerp and Liège, or the Kortrijk EBKT RMZ1 and RMZ2).



Although you will later notice that the fly DSA Fly module can also be used to ‘confirm’ flights (only relevant for flights in EBKT1, VLL1 and VLL0), you will need to use the Fly module for two mandatory actions:

- 1) Requesting authorisation for take-off to the skeyes Air Traffic Controller when flying in VLL1 or VLL0
- 2) Notifying exact timing of “take-off” and “landing” (**mandatory for ALL flights ANYWHERE in EBKT or in any VLL**)



By the way, in DSA we call a flight an OPERATION. The new EU legislation categorises them as either Open, Specific or Certified. Each operation is defined in 3D by its location boundaries (2D area on a map, e.g. a polygon or a circle) and its maximum height (expressed in feet AGL – Above Ground Level).

Any DSA user will need to assign three key assets to each flight authorisation request:



1) The OPERATOR

The operator is the legal entity responsible for the operation and which as of January 1st needs to be registered in the country it resides in. By the way, it could be a company (employing one or more remote pilots), but it just as well can be a natural person (in which case he or she is probably at the same time also the remote pilot). Whichever is the case, you will need to find out who is the person who is prepared to act as CONTACT PERSON for the OPERATOR. It might be yourself or somebody else to whom you would need to request consent.

2) The CREWMEMBERS consisting of minimum A PRIMARY PILOT

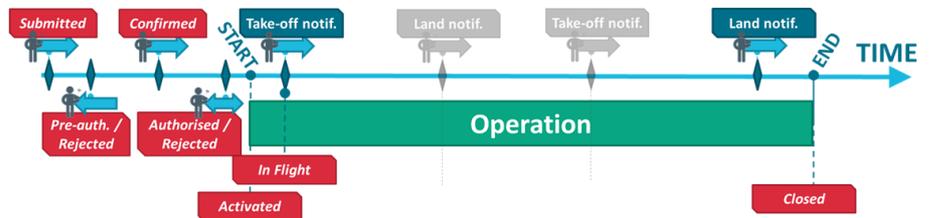
Every drone flight comes with a flight crew. It might be as small as one single pilot, but it might also involve multiple pilots (e.g., one primary pilot and multiple back-up pilots) and one or more observers. The primary pilot is the person that controls the drone during the flight.

3) The UAV (Unmanned Arial Vehicle), better known as drone

There is obviously no drone flight without a drone. They come in all different types and sizes.

Who is allowed to execute each of the steps is depicted in the table below:

Authorisation flow



	Creator	Operator contact	Prime pilot
Create and submit flight authorisation request	Using DSA Planner	-	-
Confirm the flight (not required in VLL2 and EBKT2)	-	Using DSA Planner or Fly	Using DSA Planner or Fly <i>OR</i>
Request (tactical) authorisation (not required in VLL2, EBKT1 and EBKT2)	-	-	Using DSA Fly
Notify take-off & land <i>ALWAYS REQUIRED EVERYWHERE</i>	-	-	Using DSA Fly

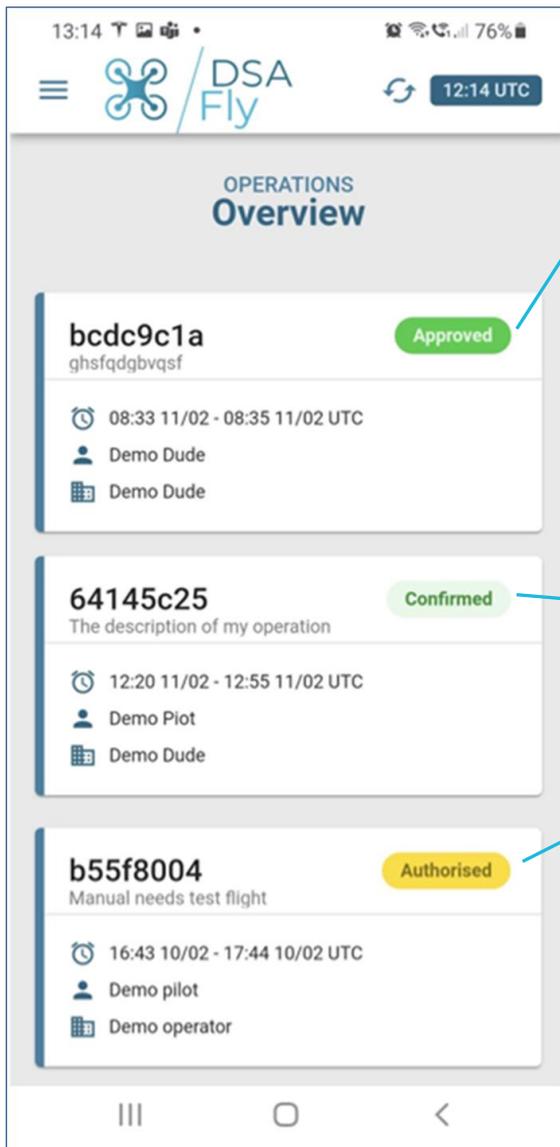
Cancel/discard the flight authorisation request	Using DSA Planner	<i>OR</i> Using DSA Planner	<i>OR</i> Using DSA Planner
Close the operation (declare end of operations before the planned end-time = early termination of the flight)	-	-	Using DSA Fly

3 Login and operations overview screen



Use your skeyes DSA username and password which you choose to register yourself with when you used the DSA Planner module. In case you have not done that yet: please do so now as it makes no sense to start using the Fly module before you created a flight authorization request using that DSA Planner module.

Once you are in the Fly module, you will get to see all relevant operations which you have created in the DSA Planner module and which are prone for further action.

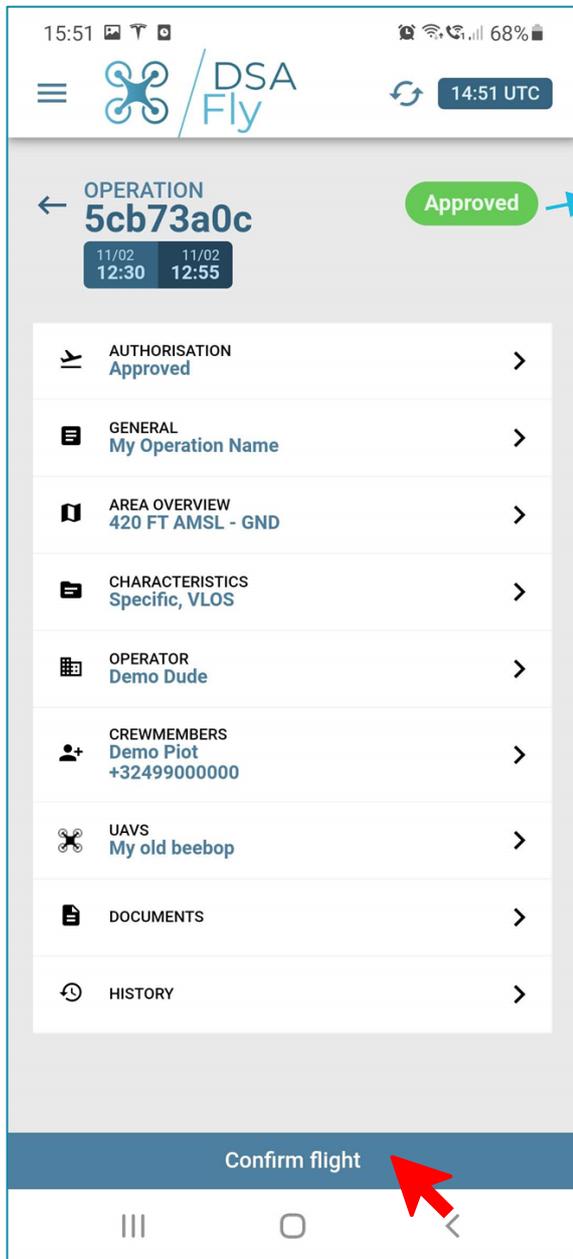


Three types of authorisation request can be seen in the overview:

- 1) **APPROVED OPERATIONS**
 These are operations which have already been approved, i.e. operations which required receiving a pre-authorization by skeyes (SPACC) as they occur in either VLL0, VLL1 or EBKT1. The required next action for these type of operations is to 'confirm' these flight either making use of the DSA Planner or the DSA Fly module. Such 'confirmation' needs to occur no earlier than midnight of the day before the planned flight AND no later than 3 hours before the planned flight. This action can be done by either the Prime Pilot or the Operator Contact person associated to the operation.
- 2) **CONFIRMED OPERATIONS**
 These are the operations which have already been confirmed but which still require an additional tactical flight authorization request to the skeyes Air Traffic Controller as they occur in VLL0 or in VLL1.
- 3) **AUTHORISED OPERATIONS**
 These are operations which have been properly authorized and are ready for mandatory "take-off" and "land" notification.

Each of these types of operations are dealt with in their respective sections below.

4 Using the Fly module to confirm an operation, starting from an already APPROVED operation.



Here we start from an operation which has already been approved, i.e. an operation which required receiving a pre-authorization by skeyes (SPACC) as it occurs in either VLL0, VLL1 or EBKT1.

The **required next action** for this type of operations is to 'confirm' the operation by pushing the 'Confirm flight' button.

Such 'confirmation' needs to occur no earlier than midnight of the day before the planned flight AND no later than 3 hours before the planned flight. This action can be done by either the **Prime Pilot** or the **Operator Contact person** associated to the operation.

After pushing that button, you will be presented with a number of options such as changing the UAV or changing assigning the role of prime pilot. These options can also be found in the section 6 below where they will be explained in more detail.

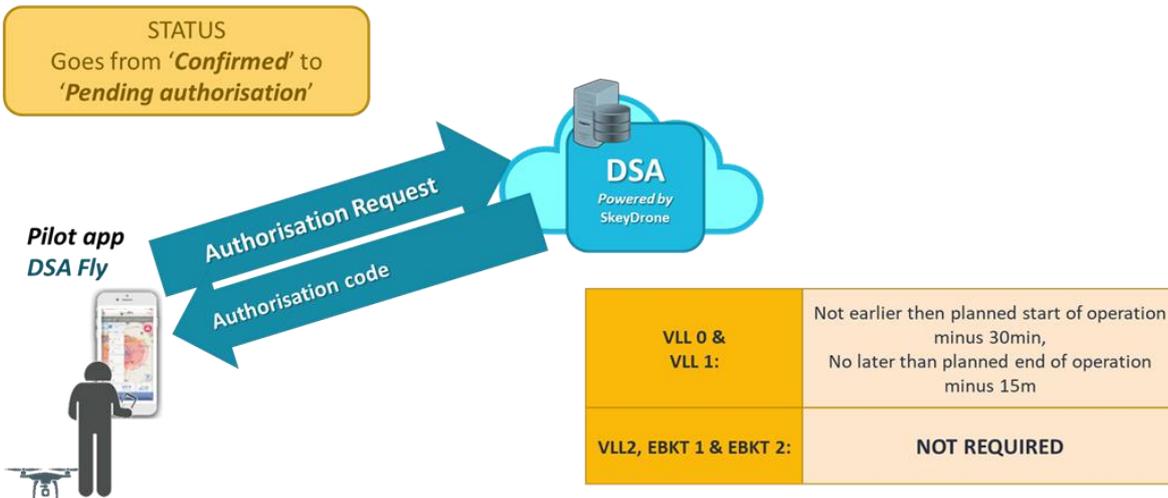
5 Using the Fly module to request tactical flight authorisation to the skeyes Air Traffic Controller, starting from an already CONFIRMED operation for flights in either VLL0 or VLL1.

5.1 Overview

Please be aware that requesting a flight authorisation to the skeyes Air Traffic Controller is only available to DSA users who have been assigned in the DSA Planner module as being the Prime Pilot for a flight planned. The first step in getting tactical approval for take-off from the skeyes Air Traffic Controller is to request an AUTHORISATION CODE from the DSA platform.

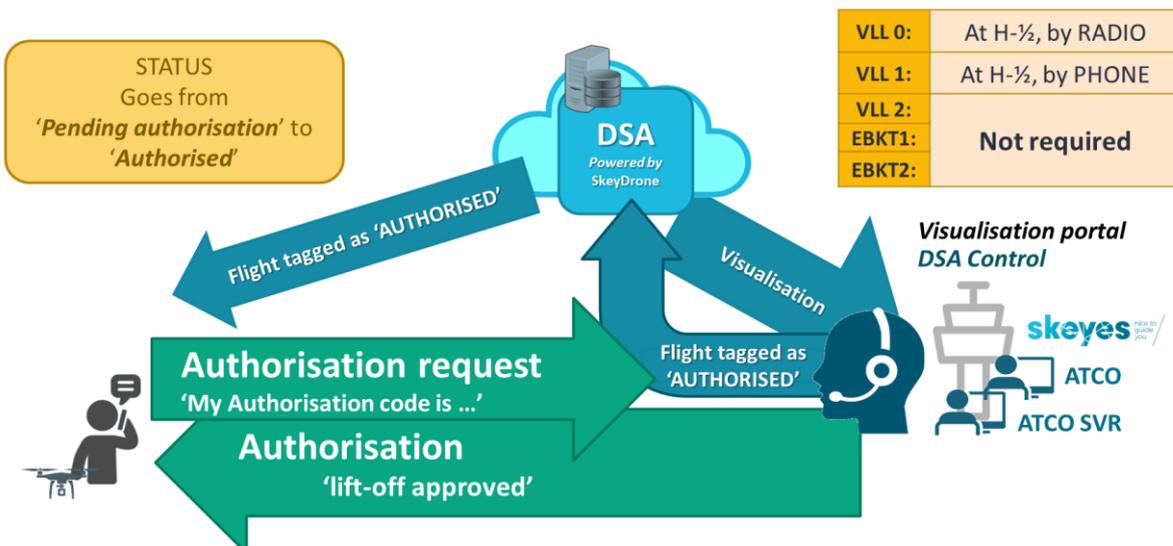
Pilot requests flight authorisation using the DSA Fly tool

Upon Authorisation request, the DSA tool generates an **Authorisation code** that is shown both to the Pilot and the ATCO.

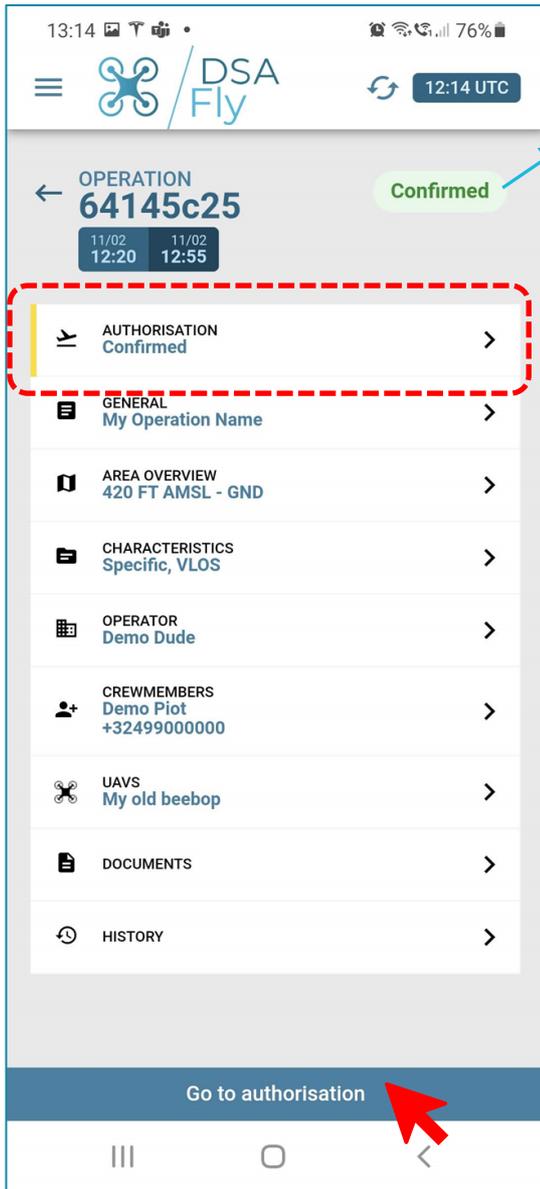


Once you received that AUTHORISATION CODE you will then be ready to get in touch with the skeyes Air Traffic Controller **by phone (in case of flight in the VLL1) or by radio (in case of a flight in VLL0).**

ATCO approves/denies flight authorisation and tags flight appropriately

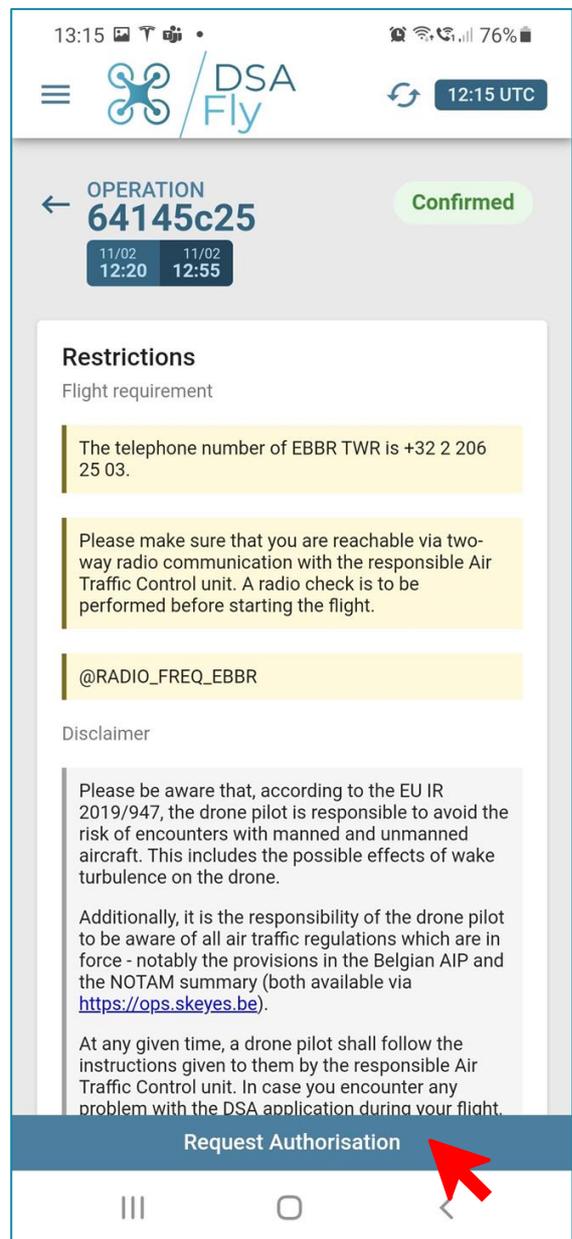


5.2 Screen flow

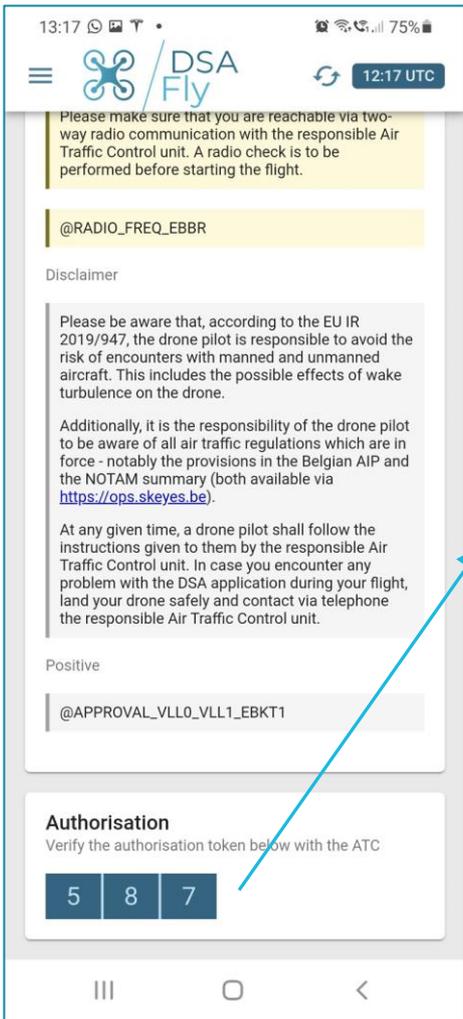


Here we start from an operation which has already been confirmed but which still requires an additional tactical flight authorization request to the skeyes Air Traffic Controller as it occurs in VLL0 or in VLL1.

The yellow tag at the left indicates that an action is required. Two options are however available: you either click on the yellow tab OR click on the 'Go to authorisation' button to take the required next action of issuing a flight authorisation request to the Air Traffic Controller.

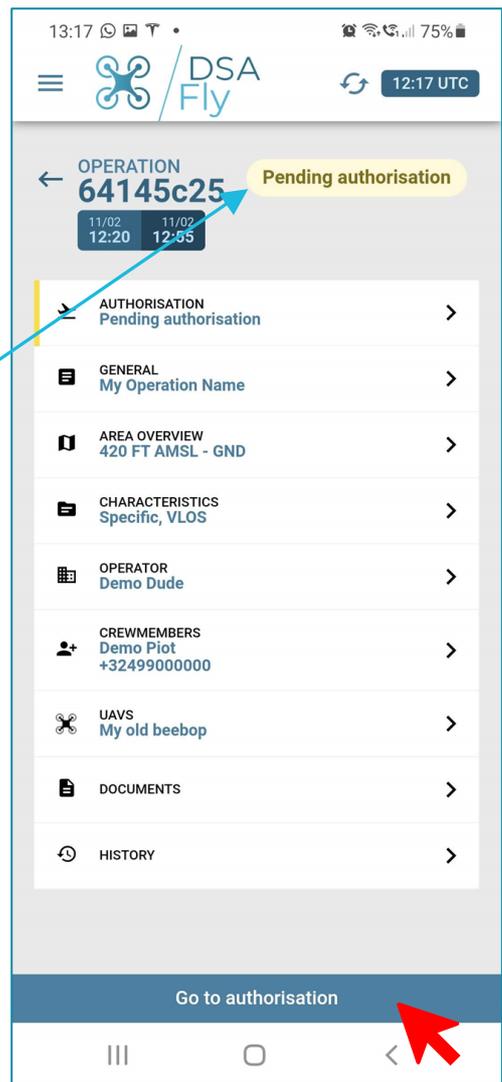


After pushing the 'Go to authorisation' button you will be presented with the relevant flight restrictions and given the possibility to request an **authorisation code** which you will later need when getting in touch (over the phone or by radio) with the skeyes Air Traffic Controller. You can get that code by clicking on the 'Request authorisation' button.



Immediately after pushing the 'Request authorisation' button you will get to see a 3 digit authorisation code at the bottom of your screen (please make sure you scroll down if required). You will later need this 3 digit code when getting in touch (over the phone or by radio) with the skeyes Air Traffic Controller.

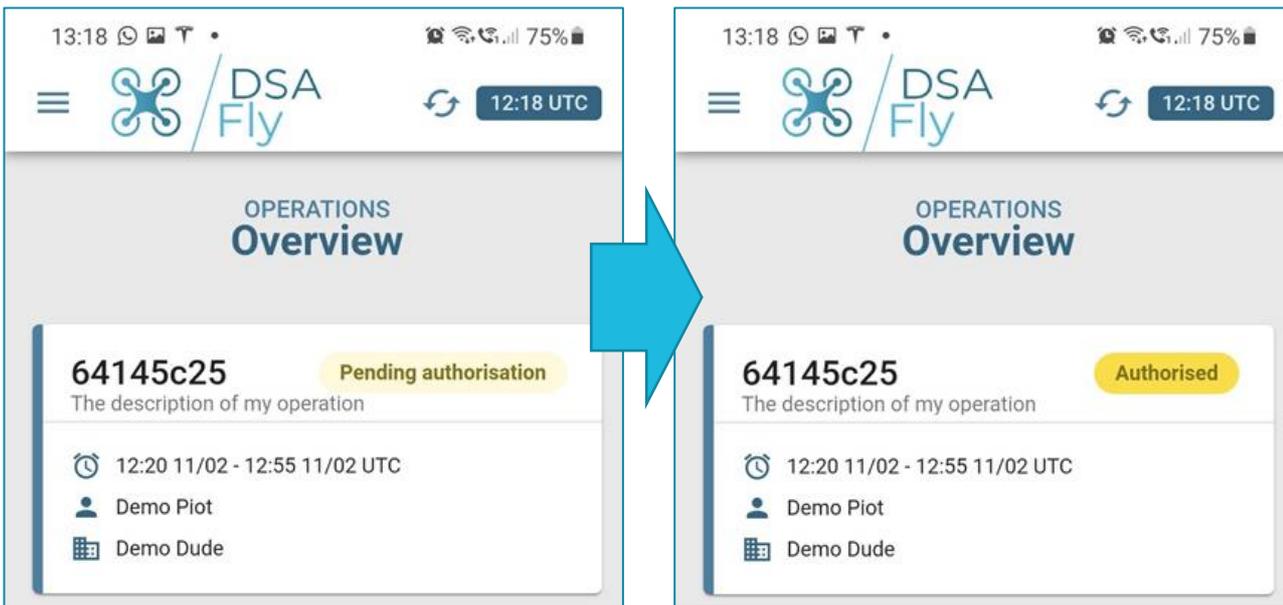
If you now go back to the operation details you will see that the status of the operation has now been changed from 'CONFIRMED' to 'PENDING AUTHORISATION' as you still need final tactical approval from the Air traffic Controller before actual take-off.



You are now ready to get in touch with the skeyes Air Traffic Controller by phone (in case of flight in the VLL1) or by radio (in case of a flight in VLL0).



Once that has been successfully done you will notice in the operations overview screen that the status has changed from 'Pending authorisation' to 'Authorised'.

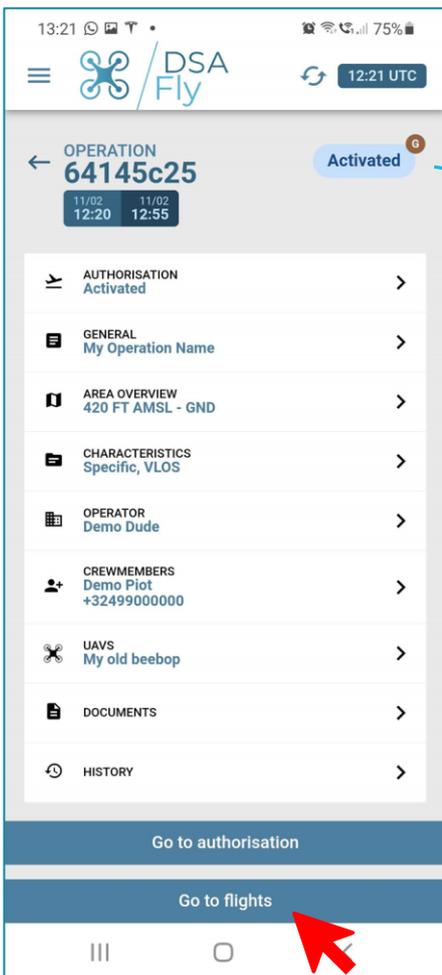
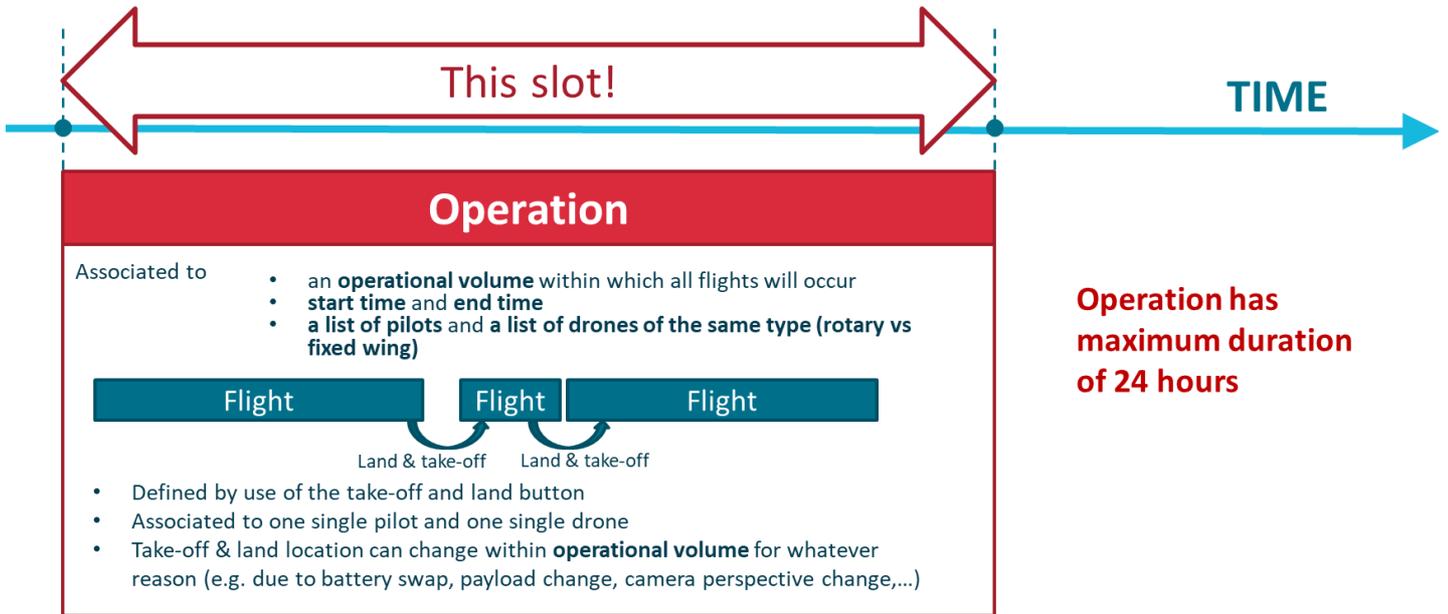


Your operation has now received all required authorisations and you are ready to start your flight with only one more thing to do: notify actual timing by pushing the 'take-off' button in DSA Fly. Please be aware that you will not be able to do so before the planned start-time of your operation (as has been defined when the operation was initially planned using the DSA Planner tool).

6 Using the Fly module send mandatory “take-off” and “land” notifications starting from an already AUTHORISED operation.

IMPORTANT NOTE:

there can be multiple flights in one and the same operation whereby each “take-off” and “land” needs to be notified using the DSA Fly module:

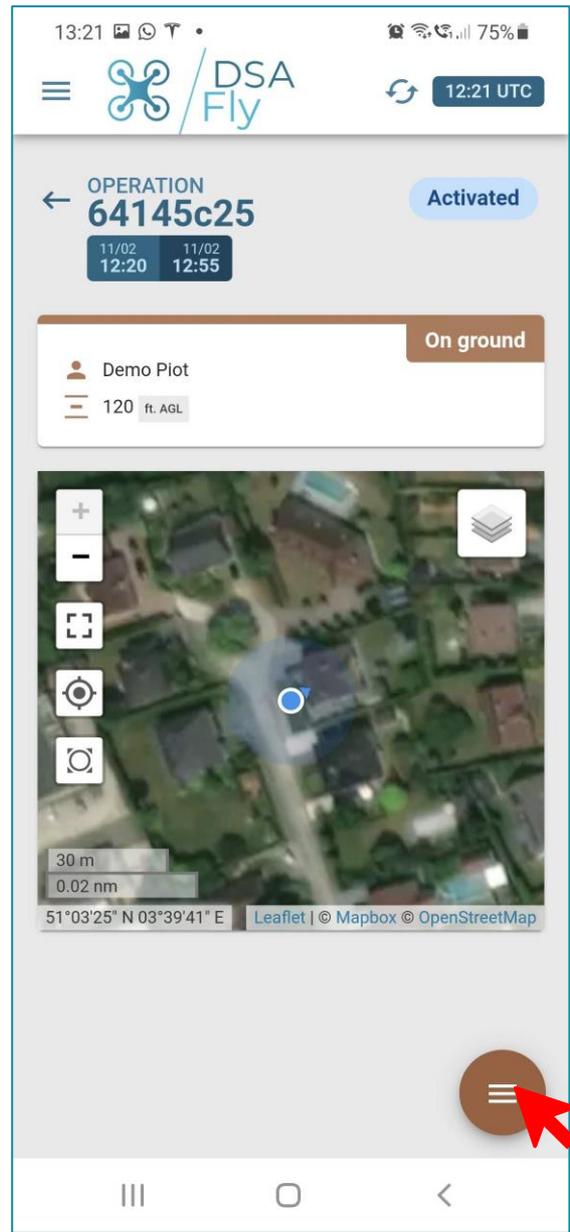
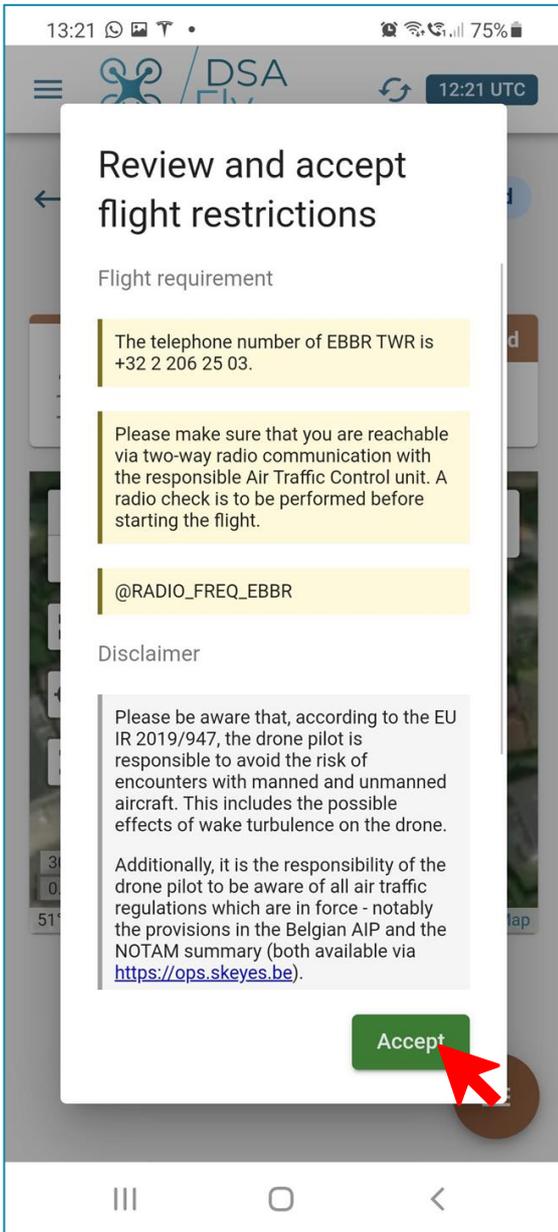


Please be aware that sending mandatory “take-off” and “land” notifications is only available to DSA users who have been assigned in the DSA Planner module as being the Prime Pilot for a flight.

As from the moment the planned start of the operation has passed, the operation will receive the status ‘ACTIVATED’ which means it is available for notification of ‘take-off’ of the first flight. The brown ‘G’-dot indicates the drone is still on the GROUND (i.e. no take-off notification has been sent yet).

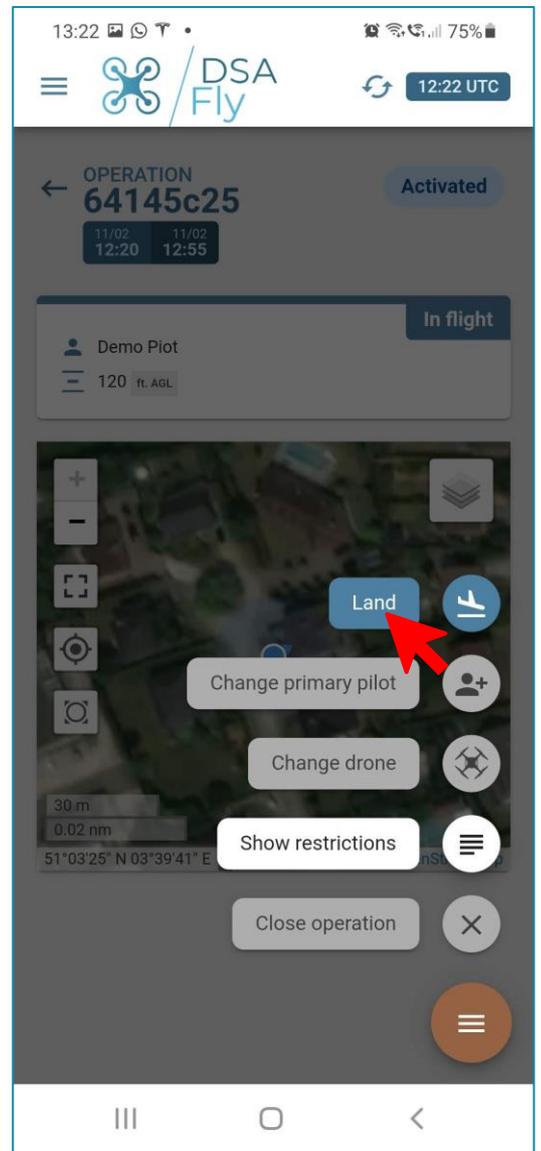
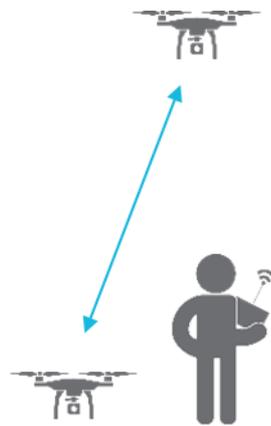
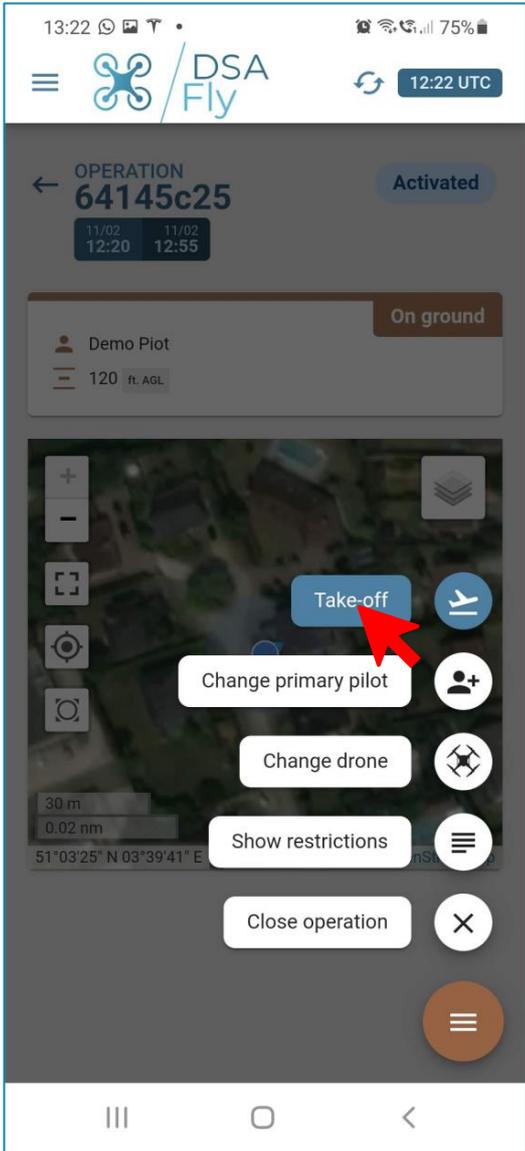
When ever you are now ready for take-off you should click on the ‘Go to flights’ button to send a “take-off” notification.

To make sure you are well aware of all the flight restrictions you will have to first click on the 'Accept' button.



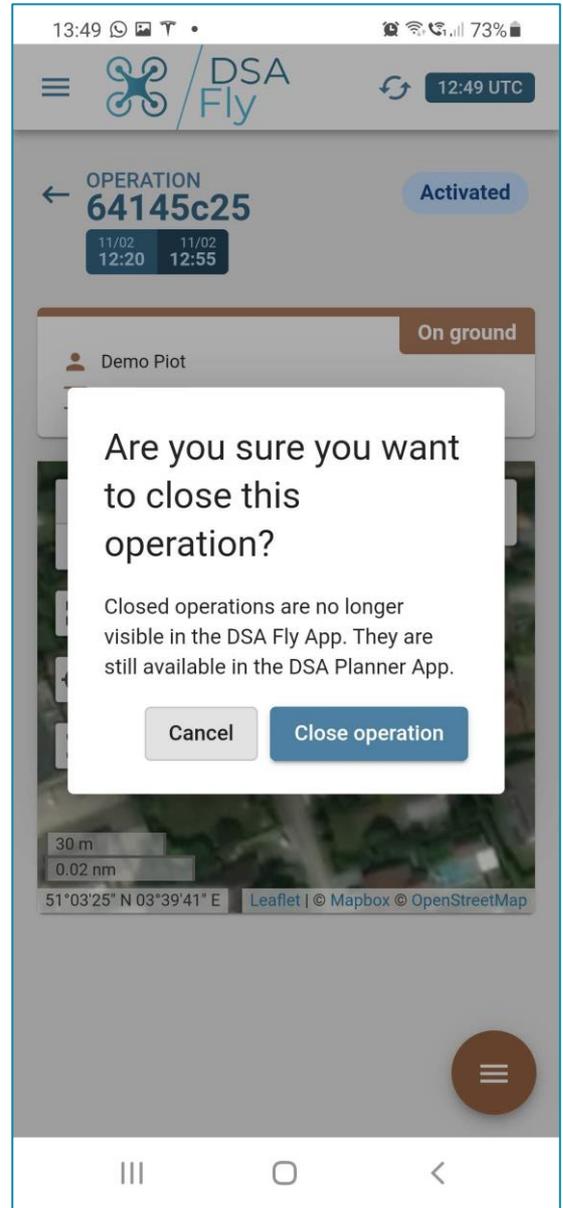
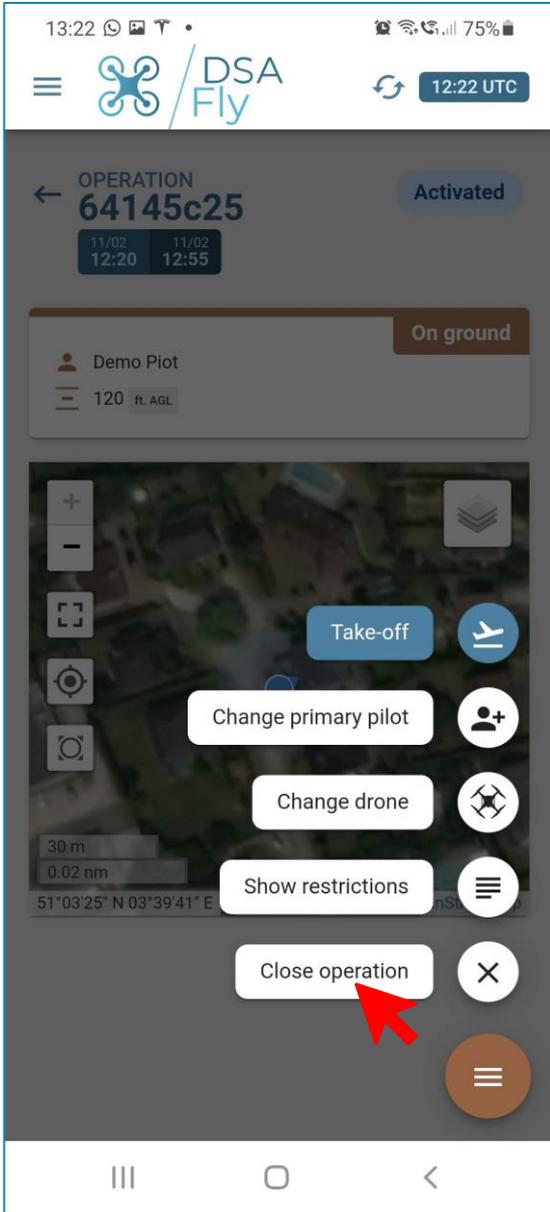
You will now be presented with the possibility to notify “take-off” and to eventually still make some last minute changes to who will be the prime pilot and which drone will be used (out of the list of pilots and drones which got assigned to the operation when initially being planned using the DSA Planner module).

You should now make sure you push the “Take-off” and “land” button between each flight being part of the same operation.



In case you are sure you have finalized all your planned flights before the planned end of the operation, we strongly advise you to close the operation so the Air Traffic Controller knows you will not be airborne anymore.

You can do so by clicking on the 'Close operation' button (only available if the drone is on the ground, i.e. after you pushed the "land" button).



HAVE A SAFE FLIGHT!