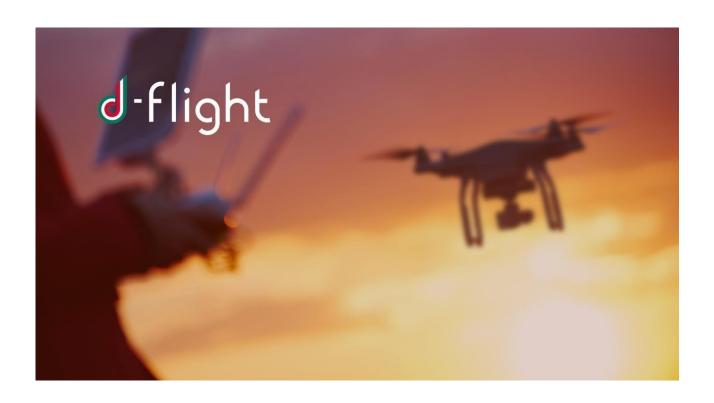


# **D-FLIGHT**

## **User manual**



7<sup>th</sup> VERSION (release 2) June 2021



1.1 ACCESS TO THE SITE	4
1.2 Inscription	5
1.2.1 User inscription	5
1.2.2 Company/P.A. Inscription	
1.3 USER AUTHENTICATION	15
1.3.1 D-Flight portal access	15
1.3.2 Login	15
1.4 MAP NAVIGATION	17
1.4.1 Map View	
1.4.2 Map View and Layers for PRO Users only	20
1.5 PROFILE MANAGEMENT	
1.5.1 View/Edit Data	23
1.5.2 Change Password	27
1.5.3 Remove Account	28
1.5.4 Publishing your data in the UAS Operator List	28
1.5.5 Possible UAS Operator Status	29
1.5.6 European Operator Code	30
1.6 Credits AND E-PAYMENT Management	
1.6.1 Credits	
1.6.2 E-Payment Management	31
1.7 DRONES MANAGEMENT	
1.7.1 Access to <drones management=""></drones>	44
1.7.2 Drone Management (Creation/Modification/Cancellation)	44
1.7.3 Viewing Drone Models / Manufacturers	
1.7.4 Activate QR code	50
1.7.5 Print QR code	51
1.7.6 Reading QR-Code through Mobile App	52
1.7.7 Change Drone Status	52
1.7.8. Declaration	54
1.7.9. Possible Declaration Status	57
1.8 VLOS DRONE OPERATION AREA	58
1.8.1. DOA list	63
1.9 MEASUREMENTS	66
2 DRONE OPERATION PLAN	67
2.1 Mission Type	68
2.2 Mission Data	69
2.3 Pilot Data	73
2.6 Submission and Starting of the mission	
3 TRACKING	80
3.1 Tracking_V0	80
3.2 Tracking_V1	82
4 MOBILE APP	84
	85



# **INTRODUCTION**

The following manual is a guide to the use of basic d-flight services:

- ✓ Inscription
- ✓ User authentication
- √ Navigation maps
- ✓ Navigation maps and layer for PRO users
- ✓ Profile management
- ✓ UAS Operators List
- √ E-payment
- ✓ Drones management
- ✓ Declaration
- ✓ Drone Operation Area
- ✓ Drone Operation Plan
- ✓ Tracking\_V0
- ✓ Tracking\_V1
- ✓ Mobile App
- ✓ GNSS Real Time Monitoring



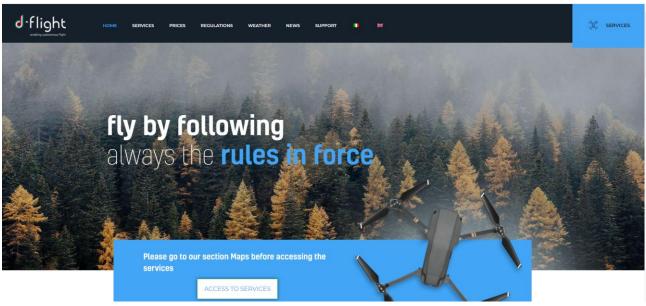
#### 1. GUIDE

## 1.1 Access to the site

The URL to access the site is <a href="https://www.d-flight.it/new-portal/en/">https://www.d-flight.it/new-portal/en/</a>.

The welcome page to the site is shown below.

Use of the Chrome / Firefox / Safari browser is recommended, please do not use IE. It is advisable to activate the activation link in the time indicated by the system (60 min).



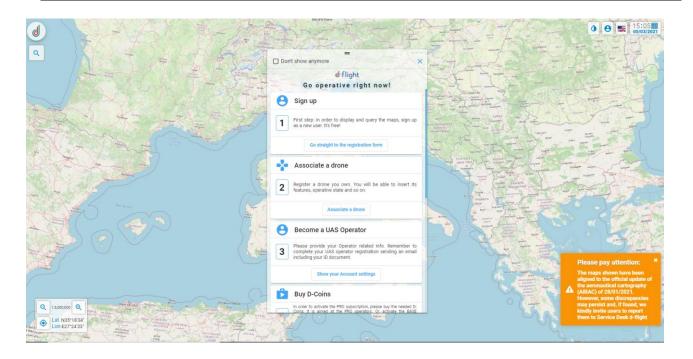
From the welcome page (HOME) it is possible to consult the information relating the SERVICES, PRICES, REGULATIONS, METEO, NEWS, CONTACTS, LINKS and FAQs.

# ✓ CLICK TO ACCESS THE SERVICES



After the click you have the map available (below) that allows you to access the d-flight **SERVICES**.





# 1.2 Inscription

It is the service through which users can be accredited and authenticated to the portal. User enter its personal data and relevant flight qualifications in possession, qualifications and licenses, to create a "Virtual Curriculum".

When a user not yet accredited wants to log in to the system, he must enter his credentials to be able to receive a request to confirm his identity via e-mail, with non-certified email address or certified e-mail address.

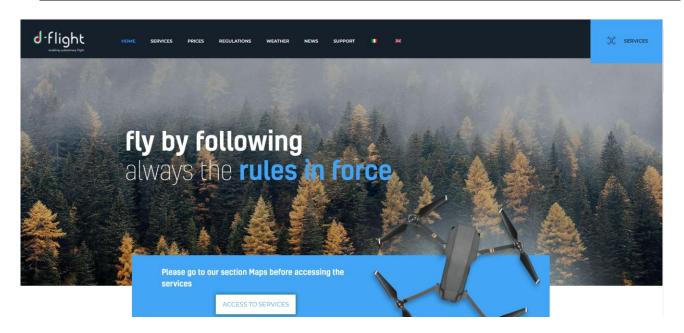
Then the user will receive the email with the login credentials with a temporary password, to activate it he must open the email received and click on the link provided to confirm the inscription and be able to access the platform with the credentials indicated.

# 1.2.1 User inscription

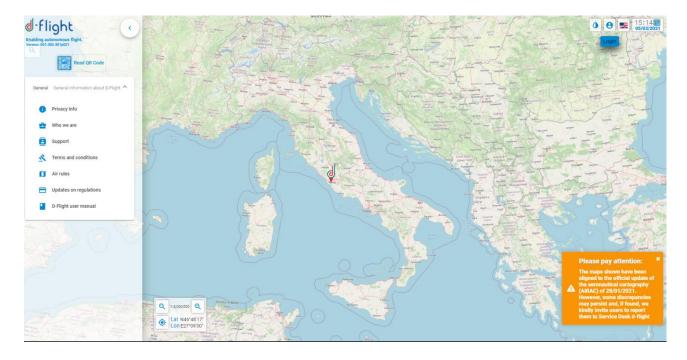
1. From an internet browser connect to the d-flight website (<a href="https://www.d-flight.it/new\_portal/en/">https://www.d-flight.it/new\_portal/en/</a>) and select <a href="https://www.d-flight.it/new\_portal/en/">ACCESS TO SERVICES></a>

Warning: the use of Chrome / Firefox / Safari browsers is recommended, please do not use IF



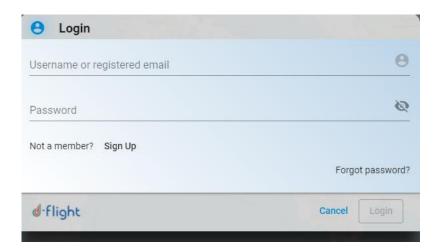


2. Click on user icon (LOGIN) at the top right as shown in the following figure:

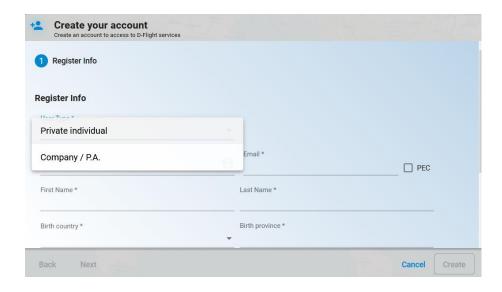


3. The following screen will appear and select < SIGN UP>





After clicking on the icon **<SIGN UP>** you have several steps to do.



# Step 1 Enter the data related to < Register Information>

1. User Typology \* (Private individual, Company/P.A.)

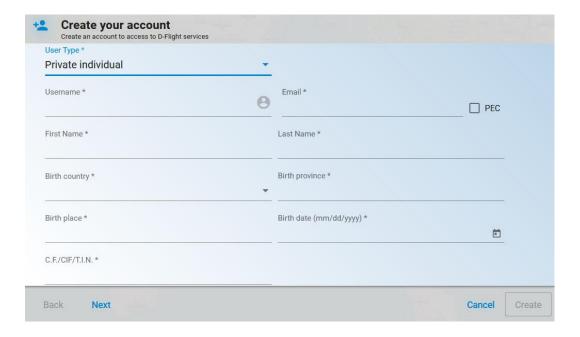
# If Private Individual has been chosen please insert:

- 1. Username \* (user ID nickname) NW. do not use special characters
- 2. Email \*
- 3. Activate the PEC flag if you want to accredit with certified mail
- 4. First Name \*
- 5. Last Name \*
- 6. Birth country\*
- 7. Birth province\*
- 8. Birth place\*

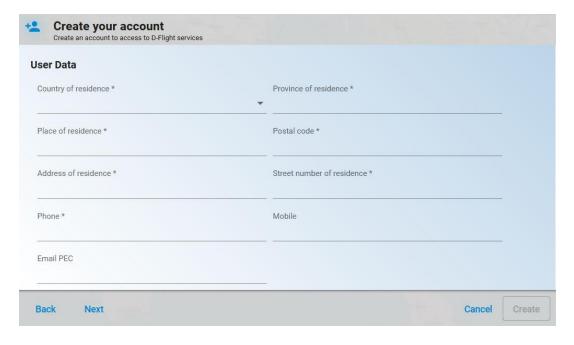


- 9. Birth date\*
- 10. C.F./CIF/T.I.N \*
- 11. Select <Next>.

Attention, fields marked with an asterisk (\*) are mandatory



# Step2 Enter < User data>



- 1. Country of residence \*
- 2. Province of residence \*
- 3. Place of residence \*
- 4. Postal code \*
- 5. Address of residence \*

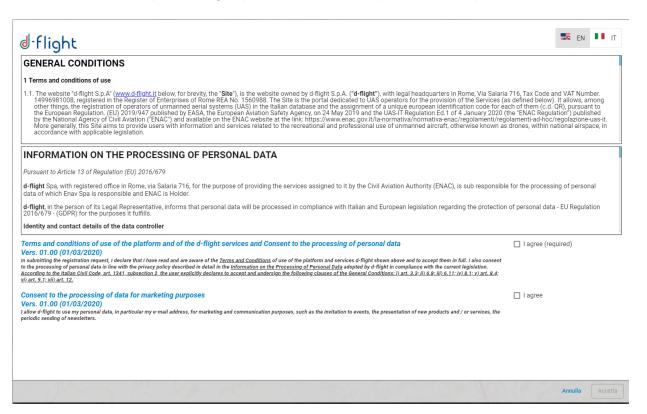


- 6. Street number of residence \*
- 7. Phone\*
- 8. Mobile
- 9. Email PEC
- 10. Select <Create> to continue with the incription

(If you want to go back to the previous page select <Previous>)

Attention, fields marked with an asterisk (\*) are mandatory

<u>Step3</u> After clicking on <*create*> you must accept the platform's Terms and Conditions of Use and consent the processing of personal data to complete the inscription.



<u>Step4</u> After completing the **<User registration>** procedure, you will receive the d-flight email containing the **Activation instructions** at the email address indicated.

Click on "ACTIVATE ACCOUNT".



thank you for registering at D-Flight website. Your account is created and must be activated before you can use it.

After activation you may login by using the following link: https://www.d-flight.it/web-app/ with username and password:

User Name <user>
Password <password>
To activate the account click on the following link: Activate Account

Please note that passwords are personal and non-transferable to others and that under no circumstances D-Flight will be held liable for damage resulting from the loss of passwords and from incorrect use of the service or from the inability to use the service or part of it. The user of the service accepts that D-Flight may, if needed for security reasons and at its sole discretion, revoke the access privilege (password) and activate a procedure for "reassigning" the access keys after having re-ascertained the identity of the entitled person.

The user accepts that the activities carried out on the website after accessing the reserved area may be monitored in order to maintain the performance of the service at an adequate level as well as to ensure the correct use of the service and to protect D- Flight or its users from abnormal use of the service. The content of the Log is confidential and may be exhibited only and exclusively at the request of competent Authorities.

By clicking on the confirmation link you agree to the Terms and Conditions of Use and the policies applied for the Processing of Personal Data set out in the following links:

**Term and Conditions: Term and Conditions** 

Privacy Policy: Information on the processing of personal data

Link is valid for 60 minutes.

#### Please remember that:

- after one hour from receiving the account activation email, if the link is not clicked, the account will be disabled and, you need to accredit again, 48 hours after failure to activate.
- to complete the inscription and therefore the creation of the account it is not necessary to attach any document

The account activation link takes you to the home page of the D-Flight portal. At the first access it is necessary to change the temporary password received via the confirmation email generated by D-Flight.



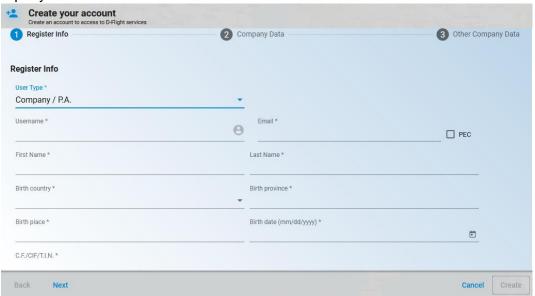
Enter credentials received via email.

Enter new password, confirm it and press <Confirm>.



## 1.2.2 Company/P.A. Inscription

If **Company/P.A**. has been chosen please insert the data of the Legal Representative of the company:



- Username \* (user ID nickname) NW. do not use special characters
- 2. Email \*
- 3. Activate the PEC flag if you want to accredit with the certified mail
- 4. First name \*
- 5. Last name \*
- 6. Birth country \*
- 7. Birth province \*
- 8. Birth place \*
- 9. Birth date \*
- 10. C.F./CIF/T.I.N \*
- 11. Select <Next>

Attention, fields marked with an asterisk (\*) are mandatory

2 Step2 Enter < Company data>





- 1. Company name \*
- 2. Country\*
- 3. Province\*
- 4. Place\*
- 5. Postal code \*
- 6. HQ Address \*
- 7. Street number \*
- 8. Email PEC \*
- 9. Phone \*
- 10. Mobile
- 11. VAT ID\*
- 12. Click on < next>

## Warning:

- The maximum number of characters that can be used to complete the company name is 32, abbreviations can be entered if the number is greater
- The pilot license is associated only to a private user, therefore it cannot be entered by a company / P.A user.

Attention, fields marked with an asterisk (\*) are mandatory

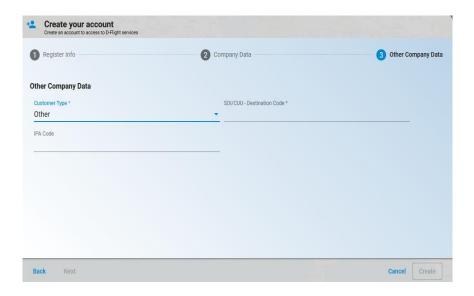
## <u>Step 3</u> Continue by entering **<Other company data>**:

- 1. Customer type \*
- 2. Destination code SDI \*
- 3. IPA code \*
- 4. Click on < Create>

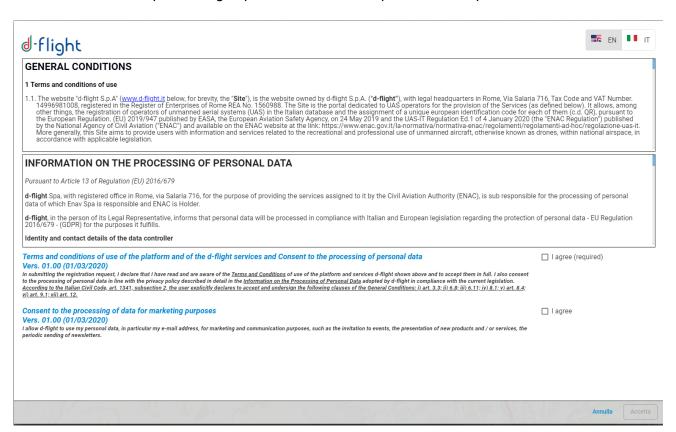
Attention, fields marked with an asterisk (\*) are mandatory

(In case you want to return to the previous page, select < Previous>)





<u>Step4</u> After clicking on <*create*> you must accept the platform's Terms and Conditions of Use and consent the processing of personal data to complete the inscription.



<u>Step5</u> After completing the **<User registration>** procedure, you will receive the d-flight email containing the **Activation instructions** at the email address indicated.

Click on "ACTIVATE ACCOUNT".



thank you for registering at D-Flight website. Your account is created and must be activated before you can use it.

After activation you may login by using the following link: https://www.d-flight.it/web-app/ with username and password:

User Name <user>
Password <password>

To activate the account click on the following link: Activate Account

Please note that passwords are personal and non-transferable to others and that under no circumstances D-Flight will be held liable for damage resulting from the loss of passwords and from incorrect use of the service or from the inability to use the service or part of it. The user of the service accepts that D-Flight may, if needed for security reasons and at its sole discretion, revoke the access privilege (password) and activate a procedure for "reassigning" the access keys after having re-ascertained the identity of the entitled person.

The user accepts that the activities carried out on the website after accessing the reserved area may be monitored in order to maintain the performance of the service at an adequate level as well as to ensure the correct use of the service and to protect D-Flight or its users from abnormal use of the service. The content of the Log is confidential and may be exhibited only and exclusively at the request of competent Authorities.

By clicking on the confirmation link you agree to the Terms and Conditions of Use and the policies applied for the Processing of Personal Data set out in the following links:

Term and Conditions: Term and Conditions

Privacy Policy: Information on the processing of personal data

Link is valid for 60 minutes.

#### Please remember that:

- after one hour from receiving the account activation email, if the link is not clicked, the account will be disabled and, you need to accredit again, 48 hours after failure to activate.
- to complete the inscription and therefore the creation of the account it is not necessary to attach any document

#### Attention:

In the case of inscription as a "Public Administration":

- the methods of payment for the services, in addition to credit cards, include bank transfers (IBAN: D-Flight Spa, Banca Intesa SanPaolo IT77W0306903390100000002200);
- the invoice will be issued in split payment mode.

The e-mail supportopa@d-flight.it dedicated to the Public Administration is also active for the following aspects:

- issue of a quote / quote order, invoice in advance of the transfer, or any supporting documentation (e.g. internal order, DURC, traceability of financial flows, etc.);
- request for inclusion in the CIG invoice and / or references to the determines / orders.

The account activation link takes you to the home page of the D-Flight portal. At the first access it is necessary to change the temporary password received via the confirmation email generated by D-Flight.





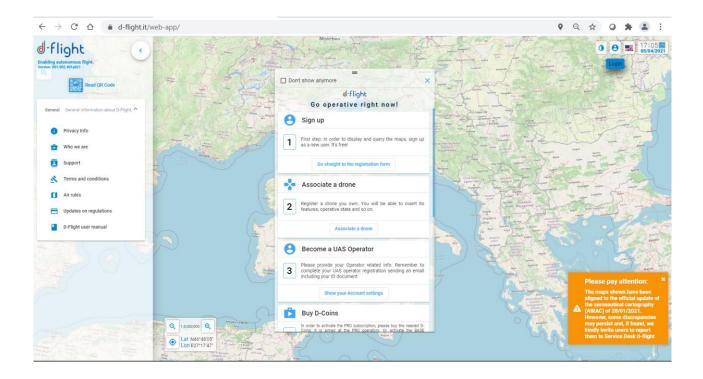
Write credentials received via email in <Username> and <Old Password> . Write a new password, confirm the new password by rewriting it in <Confirm Password>. Press <Confirm>.

## 1.3 USER AUTHENTICATION

The USER AUTHENTICATION section provides information for access to the d-flight portal. After accreditation, it is necessary to change the temporary password that is automatically assigned by the system upon account creation.

## 1.3.1 D-Flight portal access

From an internet browser connect to the d-flight website (https://www.d-flight.it/web-app/)



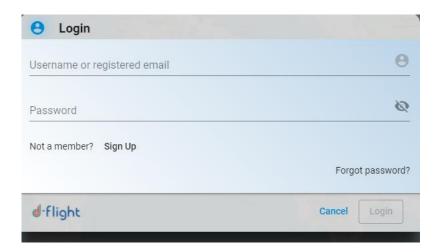
## 1.3.2 Login

Click on the <Login> icon at the top right of the portal home page.

- 1. Insert < Username> or <activation email>
- 2. Insert < Password>
- 3. Select < Login>

Attention: to log in to the system you must be signed up





If you have forgotten your password, use the link <Forgot Password? > and enter the e-mail address used for account activation

After prolonged inactivity, the system performs an automatic logout.

To access the services you will need to login again.



## 1.4 MAP NAVIGATION

## 1.4.1 Map View

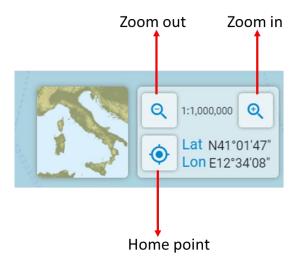
In order to access the map you must be signed up.

The cartographic map allows you to view the air rules in the areas of Italy where you would like to fly, it also allows you to view the no fly zones (reserved air areas).

You can move along the map by holding down the left button and moving the mouse at the same time (like "drag and drop").

# The **map scale** can be changed:

- ✓ Acting on the tabs of zoom in and zoom out (lower left of the screen)
- ✓ Acting on the mouse wheel



#### Air rules can be viewed:

- ✓ With <click left on the map>. The information of the selected point that will activate
  the corresponding area of interest, will appear briefly in the window below
- ✓ The detail of the information of the selected point will be available with click (left) on the info





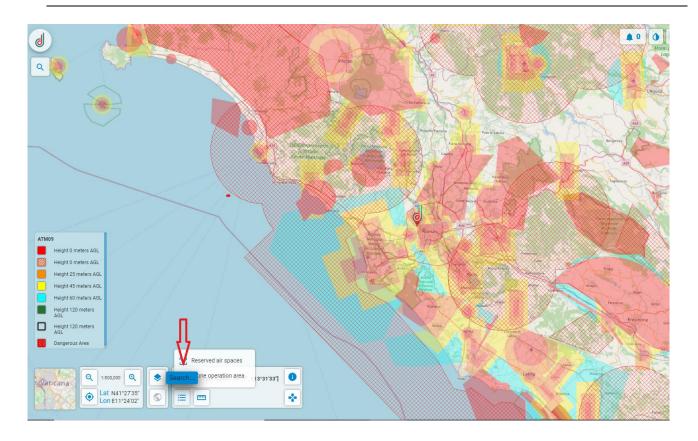
✓ With <right click on the map>. The information of the selected point will activate the corresponding zone and it appear in the pop-up.

The <Information on the selected point> window will show the <air rules> and the <zones involved>.

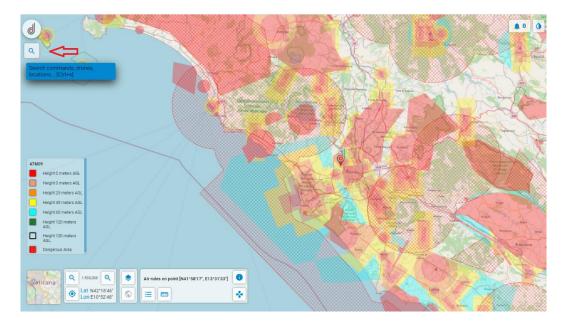
The detail of the rules and zones is available by selecting the drop-down menu. Information on the representation of the "maximum height" is shown in the legend with different colors.

By clicking on the <Search> icon in the menu at the bottom left, as shown in the following figure, you can view the map and access the list of restricted areas.

# d-flight



Through the upper left <search> icon it is possible to activate the <search commands or places> window.

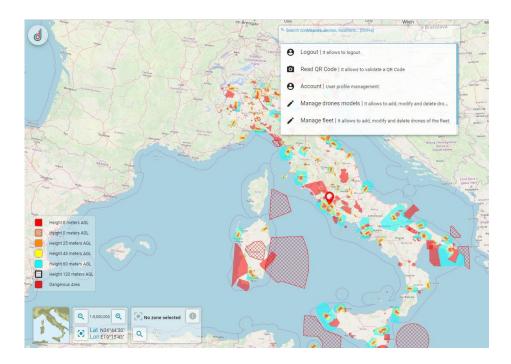


Through the <search commands or places> window is possible:

- Search / Select a site (city) of interest
- · Access the registration
- Read QR



- Manage drone models
- Manage fleet



## In order to look for a site of interest you can:

- 1. Write the name of the site you want to look for (a list will appear within the drop down menu)
- 2. Click on the one you prefer and the system will automatically zoom on the site geographic position.

Or

- 1B. Write the geographical coordinates in WGS 84 format, with lat e lon separated by a space (example 46.1100 11.3083)
- 2B. Press enter and the system will automatically zoom on the site

## 1.4.2 Map View and Layers for PRO Users only

On d-flight, in addition to maps which are accessible to all registered users, the following maps and added value layers are instead available to PRO users only:

#### Maps

Aerial - This map shows orthophotos: geometrically correct and geo-referenced aerial photographs, so that the scale of representation of the photograph is uniform. The map can be considered equivalent to a geographical map

Road - This map that displays vectorial images of roads, buildings and geography in a graphic manner. The map can be considered equivalent to a political map.



Aerial Street - This Aerial map highlights streets and main landmarks for easy identification of places through satellite images (in addition to the openstreetmap, already available on d-flight)

Dark - Map optimized for night viewing

'Aerial', 'Road', 'Aerial Street', 'Dark' Maps include Google Bing data (the data from which the default road map is rendered is licensed by Navteq) and will allow PRO Operators to analyze in more detail the area of operations.

## **Activation**

To activate Maps, open the Map Selection Panel [Pic. below] and click on the desired Map.





## Layers

- Land use includes information relating to the environment on some priority issues for the European Union (air, water, soil, land cover, coastal erosion, biotopes, etc.)
- Census includes information on the number of inhabitants by census section

The 'Land use' layer includes data provided by the CORINE 2018 project (a European program launched in 1985 by the European Commission) and will allow PRO Operators to carry out a preliminary analysis of the ground risk for the preparation of the SORA. The 'Census' layer includes the ISTAT data from the 2011 census and will allow PRO Operators to carry out a preliminary analysis of the ground risk for the preparation of the SORA

To activate the Land Use and Census layers, click on the 'Show Layers' button and select the 'Soil' and / or 'Census' layer [Fig. 2]. NB. The 'Land Use' and 'Census' layers are visible when the zoom is equal to or greater than 1: 20,000 (Land Use) or 1: 50,000 (Census)



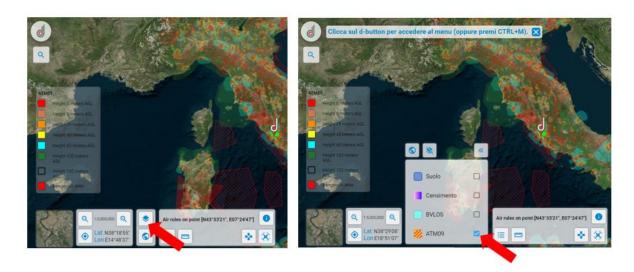






## ATM-09 activated/deactivated

Only for Pro users, the ATM-09 layer ca be activated/deactivated. This operation can be done again from the panel 'Show Layers':





## 1.5 PROFILE MANAGEMENT

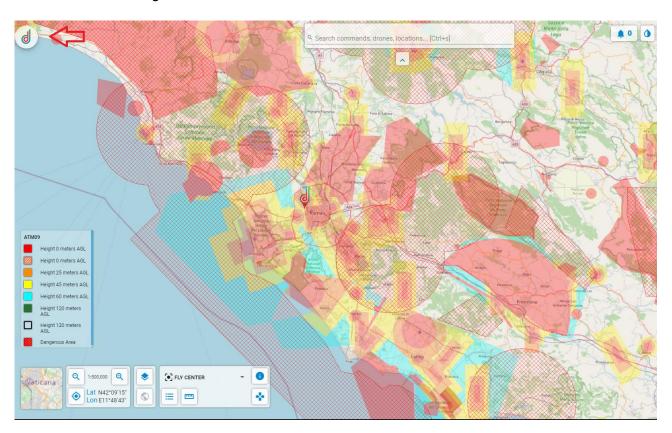
The PROFILE MANAGEMENT section provides information on the procedures for displaying and modifying your profile:

- √ View Data Edit
- ✓ Change PSW
- ✓ User Enabling as Operator

## 1.5.1 View/Edit Data

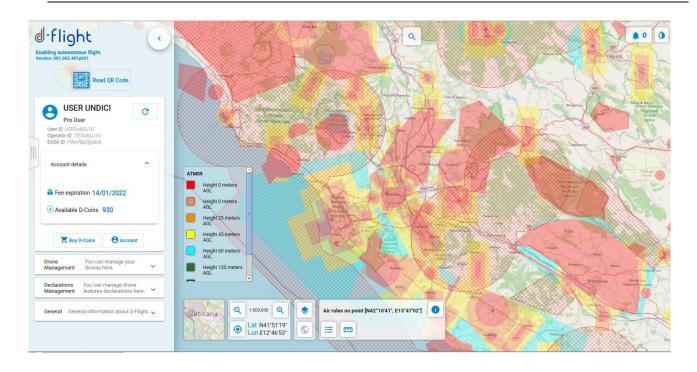
To view the details of your account (Fee expiry and Credits):

Left click on the D-Flight icon.



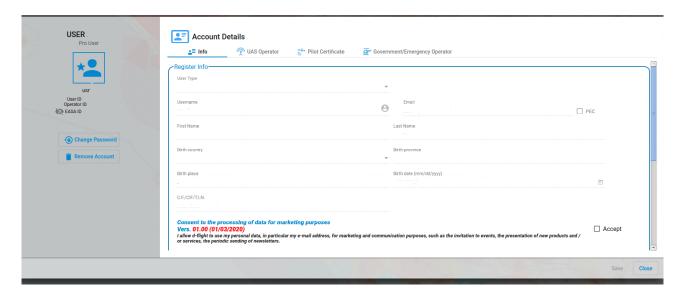
A sidebar will appear with the account details: username, subscription type, User Code, Operator Code, EASA Code, Subscription Expiration and Available Credits.





To update your profile details (left) click on <Account>

The <Account Details> appears. The following Tabs allows viewing and editing of: inscription information, user data, UAS operator activation, pilot license and special profile activation "Government Operator / Emergency".

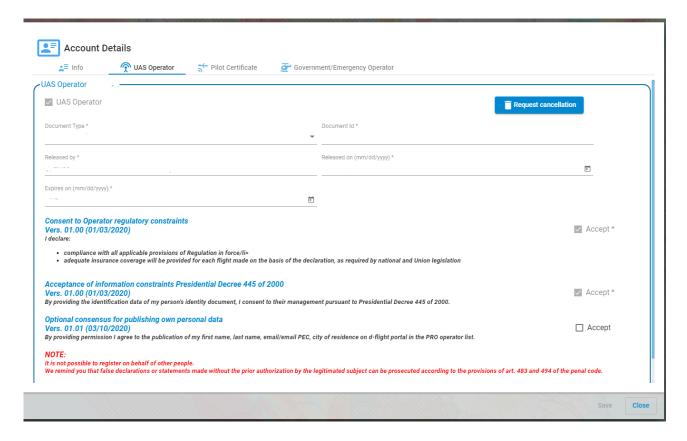


Selecting the <Information> Tab will be possible:

- √ display the <Account Information>
- √ view / modify < User Data>



By selecting the Tab **<UAS Operator>** it will be possible to register further as an operator UAS and obtain the release of QR-Codes



Enter the data requested by the registration form and accept the Consent to the Operator regulatory constraints and to the information constraints Presidential Decree 445 of 2000.

ATTENTION: Before being completely registered as an operator, the user will receive an email with instructions for the activation procedure:

• send by e-mail with which you registered on d-flight to the e-mail address registration@d-flight.it, within two working days, a copy of the identity document, legible and valid, signed, and the operator ID

If you are under the age of 18, you must also attach, still via pdf file, the signed scan of a document of your parent or guardian, valid.

If you are registering a legal personality, and you are not its legal representative, you must also attach, still via pdf file, the proxy of the legal representative and the signed copy of his identity document, currently valid (delegating)

If you are registering a public office o PA, and you are not its Manager in charge, you must also attach, always via pdf file, the proxy of the Manager in charge and the signed copy of his identity document, currently valid (delegating).

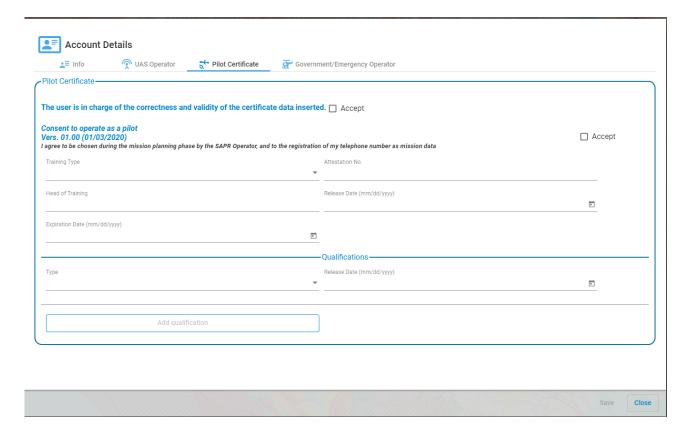
It is not possible to register on behalf of other people.

The pilot license is associated only to a private user, therefore it cannot be entered by a company / P.A user.



Once the required documents have been sent to the email registration @d-flight.it and received the automatic notification of correct delivery email, the registration as UAS Operators must be considered immediately effective; if incorrect and / or incomplete data emerge from the documentary confirmation, D-Flight will promptly send evidence for the necessary changes / additions.

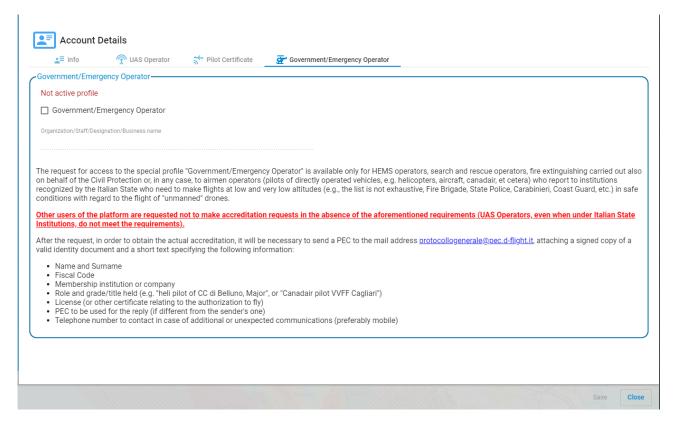
By selecting the **Pilot License** Tab it will be possible to **view** / **modify** the data of your **Pilot License** entered during the registration phase.



Enter the data required by the form and press the <Save> button.

By selecting the Tab **Government/Emergency Operator**> it will be possible to request activation of the special Government/Emergency Operator profile.





Enter the data required by the form and press the <Save> button.

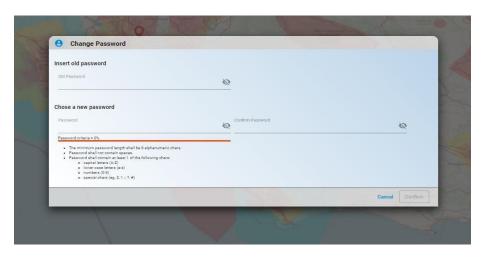
# 1.5.2 Change Password

The <Change Password> function is available in the <Account Details> window.

With **<Change Password>** you can update your password.

- 1. Enter the old password
- 2. Follow the pop-up instructions
- 3. Once all the fields have been updated, select < Save> to complete the procedure
- 4. < Close> to exit without making changes





If they are not followed correctly, the error will be indicated in red

## 1.5.3 Remove Account

The <Remove Account> function is available in the <Account Details> window.

With < Remove Account> it will be possible to DELETE the account created in d-flight

The warning pop-up shown below will appear

- 1. Select:
  - ✓ < Cancel> to exit without make any changes
  - ✓ < Ok> to cancel



- 2. Check the receipt of the user de-activation confirmation e-mail
- 3. Click on the confirmation link

ATTENTION. By performing this procedure you will no longer be able to log in to the d-flight system as a registered user

## 1.5.4 Publishing your data in the UAS Operator List

As an option, PRO users can decide to provide d-flight with their consensus for the publishing of their personal data within the UAS Operator List.

The list is published on d-flight portal and it is accessible to everyone who visits the website.



d-flight is not in way responsible and/or liable for the use or the unlawful processing, by any third party which has access to the site, of personal data published on d-flight portal.

To provide the Consensun for publishing your data, once logged in to d-flight platform:

- 1. Open your 'Account Detail' page
- 2. Go to the 'UAS Operator' menu
- 3. Click on the right box next to "Optional Consensus for publishing own personal data"

You can eventually remove the consensus whenever you want, just clicking again on the box and removing the flag. Once the Consensus is removed, your personal data will be removed as well from the UAS Operator List as soon as the List is refreshed (typically any Monday, or the first following working day in case of holiday).

#### 1.5.5 Possible UAS Operator Status

In the System, each registered Operator can be in one of the following states:

#### ACTIVE

- It is the status assumed by the Operator Account once the related user has performed the "Enable User as UAS Operator" action
- An "Active" Operator can perform all the "operational" actions like (e.g.) purchase a QR-Code, create a "Declaration" and create a Mission for its drones.

#### SUSPENDED

- It is the status assumed by the Operator Account if:
  - The user does not provide consensus for Operator's regulatory constraints and do not accept the informative constraints of Presidential Decree 445
  - The Authority performs a "Suspend Operator" action
- A user with an Operator Account in "SUSPENDED" state must apply the prescriptions received from the Authority (ENAC) in order to obtain the reactivation of its Operator Account; differently, its Operator Account will be "revoked".
- If an Operator Account moves in "SUSPENDED" state, also any QR-Code and Declaration associated to such account will automatically move to a "SUSPENDED" state.
- If an Operator Account is in "SUSPENDED" state, it will move to "ACTIVE" state
  when the Authority performs a "re-activate Operator" action.
- o If an Operator Account is in "SUSPENDED" state, it will move to "REVOKED" state when the Authority performs a "revoke Operator" action.

#### REVOKED

- It is the status assumed by the Operator Account if the Authority performs a "revoke Operator" action
- o This is a "blocking" state for the Operator Account. Only the Authority can change this status by moving the Operator Account to "CANCELED".

## CANCELED

- o It is the status assumed by the Operator Account if the linked user decides to perform the "Remove Operator Account" action (which is allowed only if the Operator Account is in ACTIVE state) or the Authority performs a "Remove Operator Account" action in order to unlock an Operator Account in "REVOKED" state.
- As soon as an Operator Account moves in "CANCELED" state, the user automatically loses all the "Declarations" associated to its drones.
- A user with an Operator Account in "CANCELED" state can perform a new registration as UAS Operator but he/she will have to create again all its QR-Codes



and all the Declarations for its drones (as the ones previously created will have been automatically moved in CANCELED state).

A user with an Operator Account in "SUSPENDED", "REVOKED" or "CANCELED" state cannot anymore perform its operational functions (as in ACTIVE state).

All state transitions are notified to the user by e-mail. Such e-mail will contain the reasons for the state transition and, in case such transition is due to an action performed by the Authority, it will contain the actions required to exit from the "REVOKED" or "SUSPENDED" state (as for "CANCELED" state the user can perform a new registration as Operator).

#### 1.5.6 European Operator Code

As per EASA regulation "*EU Reg. 2019/947*", each to Operator is assigned a European Operator Code composed by 20 characthers (e.g.: ITAaz765d88sfq4z-abc).

Such code is assigned once the enabling procedure (as UAS Operator) is successfully concluded. The code is included in the confirmation e-mail that will be received at the positive completion of the procedure.

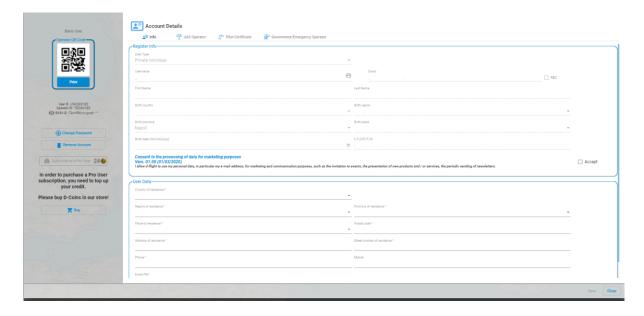
#### Note:

The last three characters of the European Operator Code are considered as "private" and, therefore, are not included in the PDF documents produced by d-flight such as:

- Document for the successful enabling UAS Operator
- Drone declaration for critical operations in standard scenario

The European Operator Code (EASA Id) is shown in the Account details of the user account, in the upper left side, as shown in the following figure.

The QR-Code associated with the EASA Code can be printed and attached to your drone or drones.



If you activate a BASE or PRO subscription and register a drone in your fleet, it is possible to generate dedicate QR code that can be associated to a single drone (see paragraph 1.7.4).



## 1.6 Credits AND E-PAYMENT Management

#### 1.6.1 Credits

With the purchase of credits through d-flight Market Place it will be possible to purchase the basic / pro subscription and activate QR-Code.

Each credit has a value of € 1, once the required amount is reached it can be used for the purchase of the basic / pro subscription and therefore for the activation of the services. In addition, packages associated with the services offered by d-flight are available in the Market place to facilitate the purchase process.

After selecting the packages you want to buy, from d-flight Market Place you are redirected to the page where you can enter the payment methods and finalize the operation. At this point, the credits are available for activate subscriptions and therefore for access to d-flight services.

From the page relating to your user profile, it is possible, through the use of the purchased packages, to be promoted to a basic / pro user. As described in the next section (1.6.2.2 **Subscription Activation** the BASE subscription has a cost of  $\in$  6, while for the PRO subscription it is necessary to pay the fee of  $\in$  24.00. The BASE and PRO subscriptions are valid for one year from the time of subscription.

## 1.6.2 E-Payment Management

The E-PAYMENT MANAGEMENT section provides information on d-flight <u>Market Place</u> portal access and on how to purchase d-flight products:

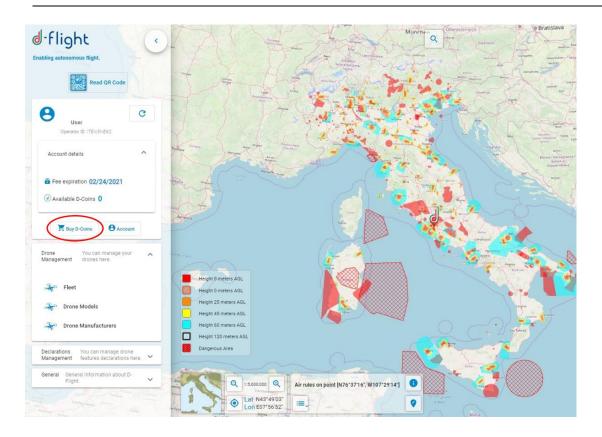
- ✓ Access to the D-Flight Market Place Service
- ✓ Subscription Activation
- ✓ E-Payment. Account Management and Order Monitor
- ✓ Purchase QR-CODE

#### 1.6.2.1. D-Flight Market Place Service Access

Profile: Accredited User

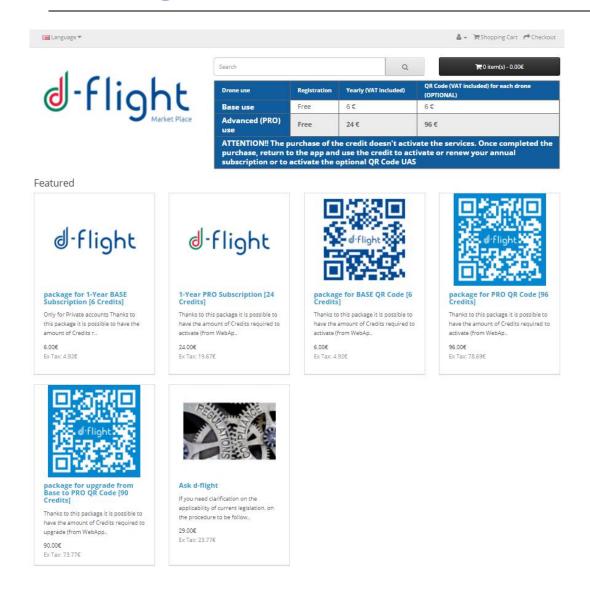
1. From the "Main Page" select the d-flight icon (top left) and select < Buy>





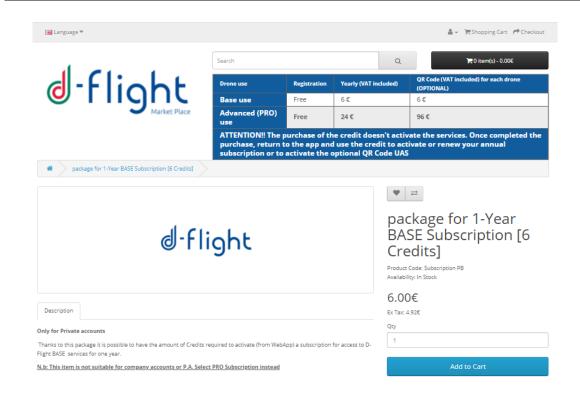
This allows you to access to the d-flight Market Place WEB page, required for the purchase of credits that can be used to subscribe the subscriptions (basic or pro) and / or to buy QR Code.



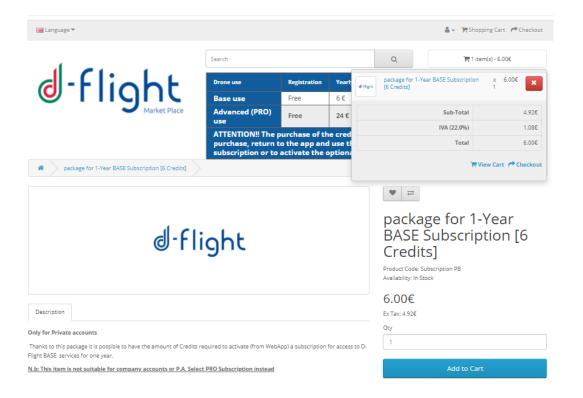


At this point, after selecting a package that you want to purchase, click on <Add to Cart>



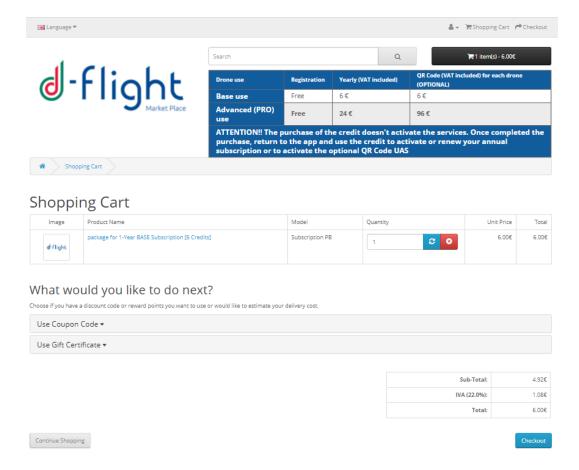


Select the shopping cart (top right).



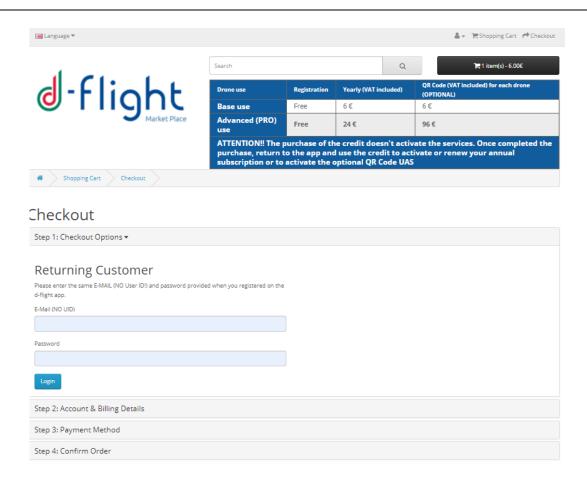


4. Press < View cart> to get a summary of the order and then proceed with the purchase by clicking on <Buy>



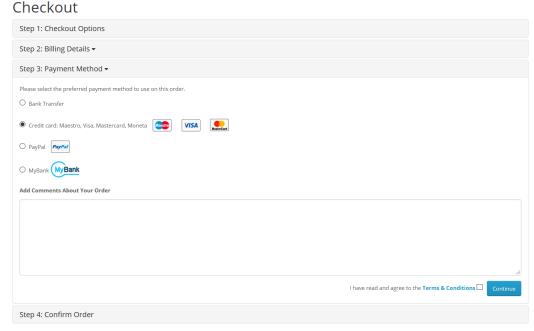
- 5. Or press < Checkout> to purchase immediately
- 6. You will be redirected to the following page, check the credentials with which you are making the purchase, if the credentials are correct select <*Access*>





Attention, the Email address to be entered is the one used to register on the d-flight portal

- 7. Enter the billing details
- 8. Select the payment method and accept the "Terms and conditions"



- 9. Click on < Continue>
- 10. Click on < Order Confirm >



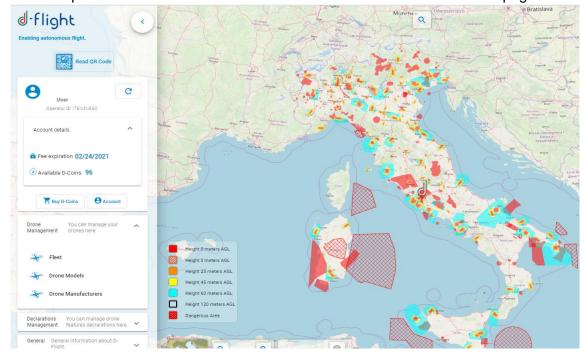
11. If Credit card has been chosen, you are redirected to the following page, where you can enter your credit card details



Attention: in the case of payment by web-credit card, please note that only VISA and MasterCard cards are accepted

12. Click on <Go on> and <Pay>

13. At this point the number of credits available can be viewed from the main page



N.w. if you have chosen to pay by bank transfer:

- send a bank transfer to the following IBAN: IT77W0306903390100000002200
- insert holder: d-flight S.p.a.



- indicate the order ID in the reason for the transfer Instead if you have chosen the web-credit card currency:
  - Enter Card Number
  - Insert CVV2 / CVC2 / 4DBC
  - Enter the Expiration Date
  - Enter the Cardholder
  - Enter an email to confirm the order

Warning: buying a package for a BASE or PRO subscription does not mean being a subscriber. You must proceed with the subscription, as described below.

# 1.6.2.2. Subscription Activation

Profile: Accredited User

After credits purchasing it is possible to activate a subscription which allows the acquisition of functional privileges valid in the time period in which the subscription is considered valid. The following table shows the privileges in relation to the type of subscription subscribed:

Drone User	Registration	Annual Subscription	QR Code (VAT included)
		(VAT included)	for only one drone
Basic User	Free	6€	1 QR code UAS base
			included
			(only at the first activation
			of the subscription)
			6€ to activate other QR
			codes UAS Base
Pro User	Free	24€	1 QR code UAS base
			included
			(only at the first activation
			of the subscription)
			6€ to activate other QR
			codes UAS Base
			96€ to activate other QR
			codes UAS PRO

## < BASIC SUBSCRIPTION >

This subscription allows a User to access basic d-flight services for a cost of 6 €.

With this subscription it will be possible to activate the basic QR Code, the cost of the first BASIC QR code is included in the subscription. Other BASIC QR codes can be activated for a cost of € 6.00 (each).

The basic subscription will be activated once the inscription procedure has been successfully completed.

# < PRO SUBSCRIPTION>

This subscription allows a Pro user to access d-flight services for 1 year for a cost of € 24.00.



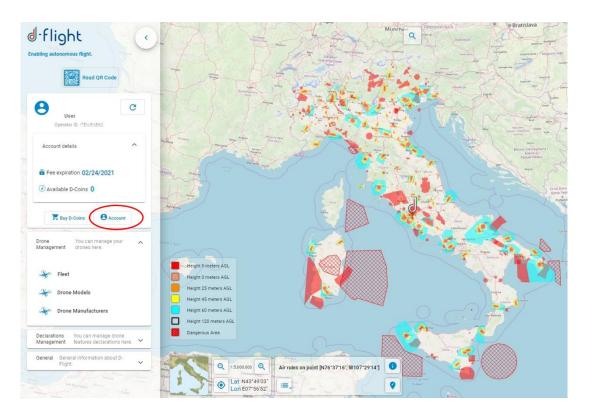
With this subscription, it will be possible to activate the QR Code BASE and PRO, for a cost of € 6 and € 96 (each ones) respectively. The cost of the first BASIC QR code is included in the subscription.

The PRO subscription, unlike the BASE one, will allow the user to make the declaration (BVLOS scenarios) via the d-flight website.

Attention: the Company/ P.A. users can only subscribe PRO subscriptions.

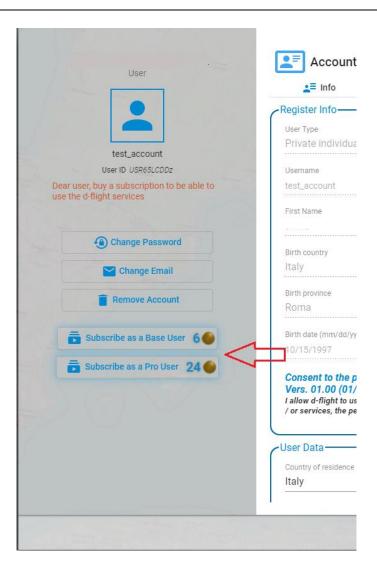
# To proceed with the purchase of the subscription:

- 1. Left Click on d-flight icon
- 2. Left Click on < Account>



 After purchasing a package required to sign up for a subscription, the upgrade to a Basic or Pro subscription will be available in the <Account Details> window.



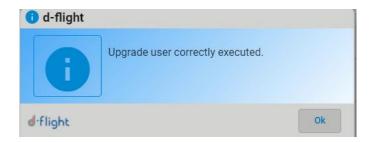


4. Select, for example, Pro subscription

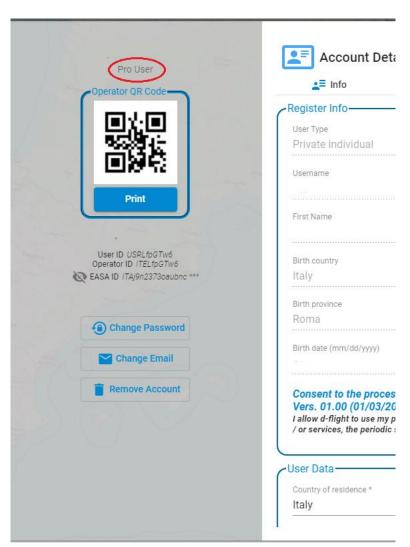


5. Left click on < Ok>





The purchased subscription will appear to the left of the < Account Details >



To complete the subscription registration activities, you will receive an email from d-flight CERTIFIED MAIL with confirmation that the subscription has been successfully activated subscription successfully activated.

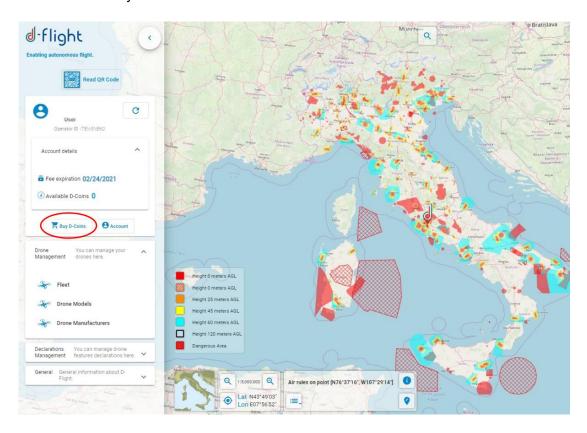


# 1.6.2.3 E-Payment. Account Management and Orders Monitor

Profile: Accredited User (Basic/PRO)

After logging in to d-flight Market Place you can view / edit your D-Flight Market Place account and view your orders.

1. Click on <Buy D-Coin>



- 2. You access the WEB page of d-flight Market Place
- 3. By selecting <My Account> you will have the possibility to access the menus of:
  - ✓ Change Password
  - ✓ Edit your addresses in the address book, to edit or add address
- 4. By selecting < My Orders> you will have the possibility to access the menus of:
  - ✓ View the Order History
  - ✓ View your transaction

# 1.6.2.4. QR-Code Purchasing

After purchasing the credits from d-flight Market Place, you can activate the QR-Codes (see section 1.7.4 Activate QR-Code).

To activate the QR code, you must have signed up for the pro / base subscription.



# 1.6.2.5. Subscription Renewal

The Base and PRO subscriptions are valid for one year. The day after the expiration of a subscription, the user can proceed to renew for a further year by performing the following steps:

- From an internet browser, connect to the d-flight website (<a href="https://www.d-flight.it/web-app/">https://www.d-flight.it/web-app/</a>).
- Authenticate with your credentials.
- Select your username at the top right and click on "account".
- In the new window that opens, on the left you will have the buttons to renew / activate the subscription.



# 1.7 Drones Management

It is the service through which a user can record the data of a drone in his possession with the brand, model, serial number and configuration (UAS).

The drone operator user can print the QR-Code containing information on the Drone, on the owner, on the operator himself and then fly with the drone.

The section also provides information for fleet display and QR-code management, in particular:

- √ Access to <Drones Management>
- ✓ Drone Management (Creation / Modification / Cancellation)
- ✓ Enable QR code
- ✓ QR code printing
- √ Reading QR code through mobile app
- ✓ Change Drone Status
- ✓ Declaration

#### 1.7.1 Access to <Drones Management>

To access the display pages:

- 1. Left click on d-flight icon
- 2. Select < Drone Management>



# 1.7.2 Drone Management (Creation/Modification/Cancellation)

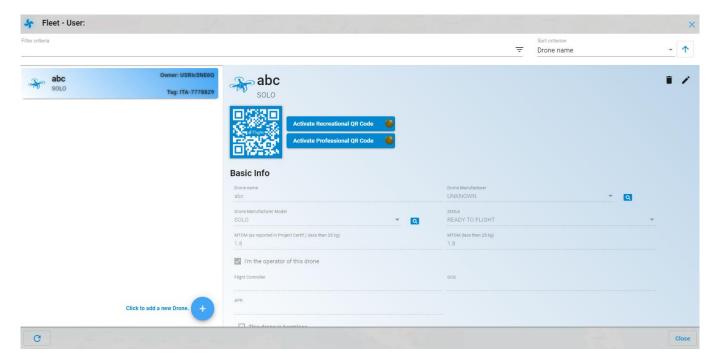
From Drone Management page select < Fleet>



<**Fleet>**: allows viewing, editing and creating drones on your account.

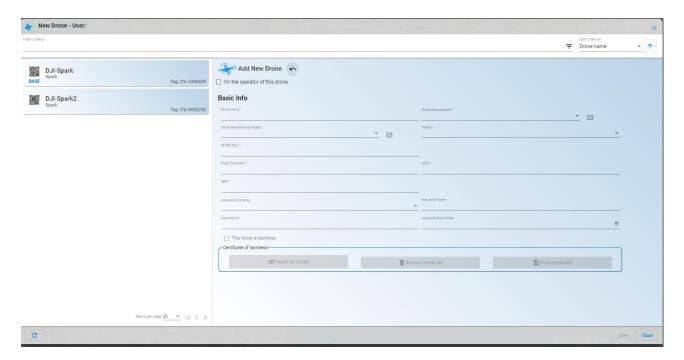
The system retrieves the list of drones for which the user is the owner.

In the case of multiple drones it is possible to carry out searches with Filter or Sorting



To **create a new Drone** click on the icon create drone (+) and enter the data related to the drone.

Declare if you are an operator of the drone to be included in the fleet (box at the top left).





# Enter the following data:

- 1. Name \*
- 2. Drone manufacturer\*
- 3. Drone model\*
- 4. Status\*
- 5. MTOM\*
- 6. Flight Controller
- 7. GCS\*
- 8. APR\*
- 9. Insurance Company
- 10. Insurance Name
- 11. Insurance Id
- 12. Insurance expiry date
- 13. If non-offensive drone insert the flag on "this drone is non-offensive"
- 14. Click on < Save> to complete the entry
- 15. Click on <Close> to exit without saving

Attention, the data marked with the symbol \* are required

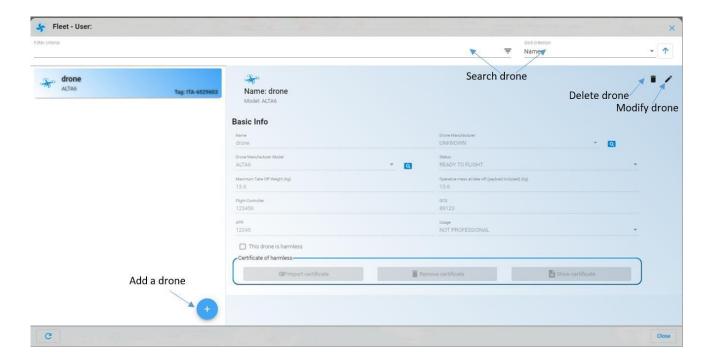
Verification of the harmlessness of the Drone can be carried out:

- ✓ for MTOW less than or equal to 0.3kg, through the checkbox, pursuant to article 12 paragraph 5.
- ✓ for MTOW greater than or equal to 0.3 kg and less than or equal to 2 kg, through the checkbox <This drone is not offensive> plus the certified harmless entry, pursuant to art. 12 paragraph 1.

Attention, the certificate must be imported at the time of saving

To **modify the data related to created drone** select the drone to be modified and click on the edit icon *<modify drone>* 





To make changes, select:

- ✓ <*OK*> to confirm the changes
- ✓ < Cancel> to exit without making changes

To **delete the data related to a drone created** select the drone to be deleted and click on the delete icon *<delete drone>*.

The system asks for confirmation of the cancellation operation.

Select:

- ✓ < OK> to confirm the deletion
- ✓ < Cancel> to exit without making changes:

# 1.7.3 Viewing Drone Models / Manufacturers

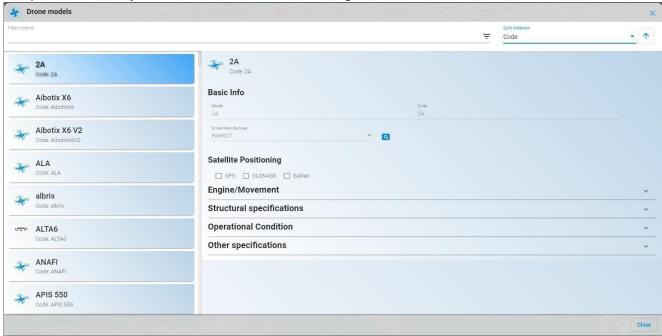
From the Drones Management page select *<Drone Models>* to view drone types





The list of Drones Models is displayed on the left side.

It is possible to carry out searches with filter or sorting criteria



For each model the following are displayed:

- ✓ Basic Information
- ✓ Information on satellite positioning (GPS, GLONAS, Galileo)
- ✓ Engine / Movement information
- ✓ Structural specifications
- ✓ Information relating to operating conditions
- ✓ Other specifications



From the Drones Management page select < Drones Manufacturers > to view drone manufacturers



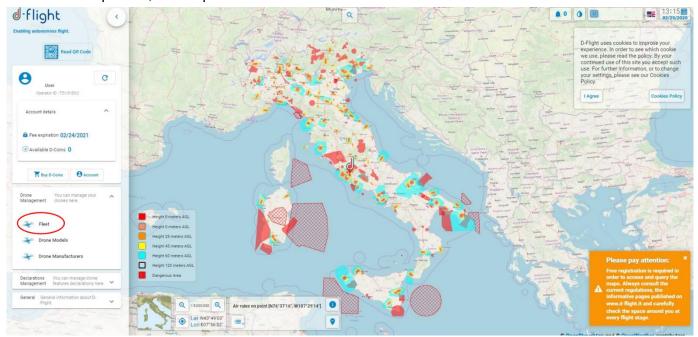
It is possible to carry out searches with filter or sorting criteria. For each manufacturer the information is displayed:

- ✓ First name
- ✓ Legal form
- ✓ Industrial sector
- √ Tax code or VAT number
- ✓ Reference email
- ✓ Web site
- √ Headquarters address
- ✓ Registered office address
- ✓ Production year
- ✓ CEO
- ✓ Division
- √ Number of employees
- ✓ Quality certification
- √ Share capital (KS)
- ✓ Share value (KS)



#### 1.7.4 Activate QR code

Profile: User Operator, subscription Basic or Pro



Attention: the QR-code must be activated by the operator of the Drone so, only if you are an operator of the selected drone you can activate it

After having purchased enough credits from d-flight Market Place to purchase and activate QR-Codes on their drones, the following are activated:

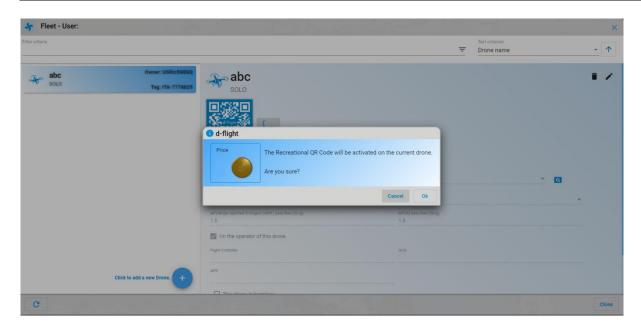
- 1. From the Drones Management page, click on < Fleet>:
- 2. From the list of your drones <select the Drone> for which you want to activate the QR-code
- 3. Select < Activate>
- 4. Select <OK>

Remember that for the activation of the QR-Code it is necessary to have subscribed to a basic or pro type subscription and that it is necessary to flag the box "I am operator of this drone" (for the drone you want to activate the QR-Code) after clicking <modify drone>

1

at the top right of the <Fleet> section.





The QR code is activated.

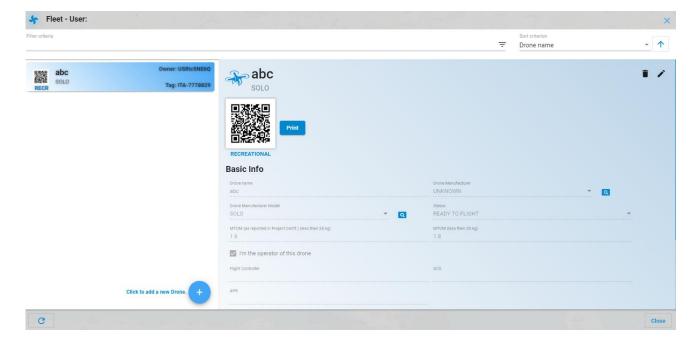
If the drone is deleted from its list, it is necessary to buy back a new QR Code.

Warning: users can activate qr-code only if they are registered as UAS operator

## 1.7.5 Print QR code

Profile: User Operator, subscription Basic o Pro

Once the QR-code is activated, the code can be printed by clicking on the < Print> icon

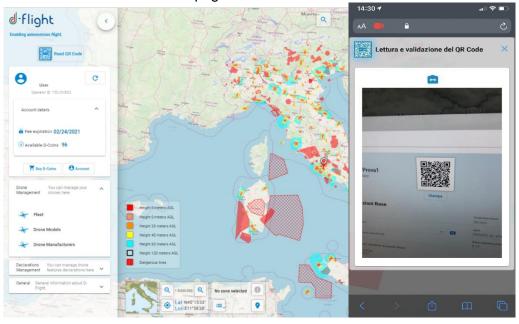




# 1.7.6 Reading QR-Code through Mobile App

After accreditation, purchasing and activating the QR Code, it is possible to decode the QR code which is encrypted by scanning with a mobile device:

- 1. Click on <Read QR-Code>
- 2. Scan the code on the fleet page with the mobile device



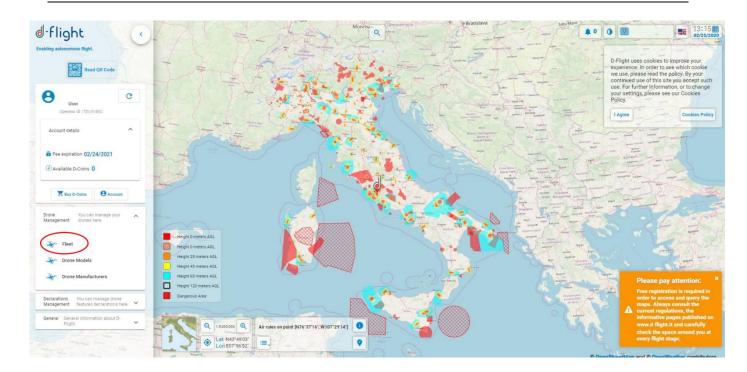
# 1.7.7 Change Drone Status

Profile: User accredited

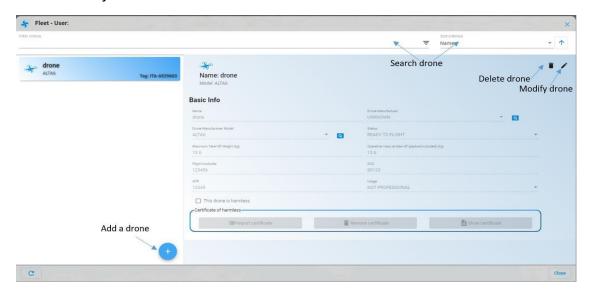
From the < Drones Management> page select < Fleet>

< Fleet>: allows the display, modification and creation of drones on your account. The system retrieves the list of drones for which the user is the owner.





To modify the data related to a drone created select the drone to modify and click on the edit icon <*Modify Drone*>



To make changes, select:

- ✓ <OK> to confirm the changes
- ✓ < Cancel > to exit without making changes

Among the data that can be changed is the "State" of the drone. The possible states are:

- ✓ READY TO FLY for a drone ready to fly
- ✓ IN MAINTENANCE for a drone in maintenance and banned from flying for a short period



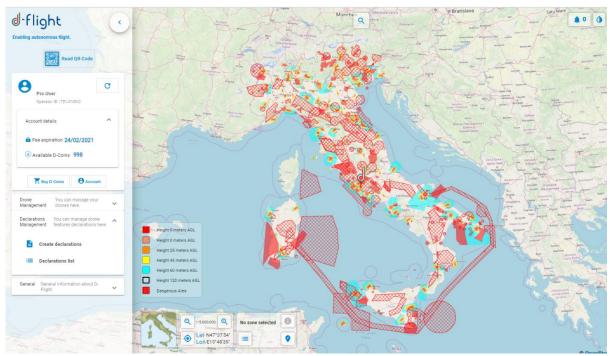
#### 1.7.8. Declaration

As defined in Art. 10 and Art. 11 of the Regulation, mission Declaration must be made by the UAS operator to ENAC to carry out critical specialized missions in accordance with the standard scenarios defined by ENAC itself.

To make the declaration it is necessary to have already made the declaration foreseen payment to ENAC on the ENAC website, as reported on the Authority's website <a href="https://www.enac.gov.it/sicurezza-aerea/droni/fatturazione-droni">https://www.enac.gov.it/sicurezza-aerea/droni/fatturazione-droni</a>

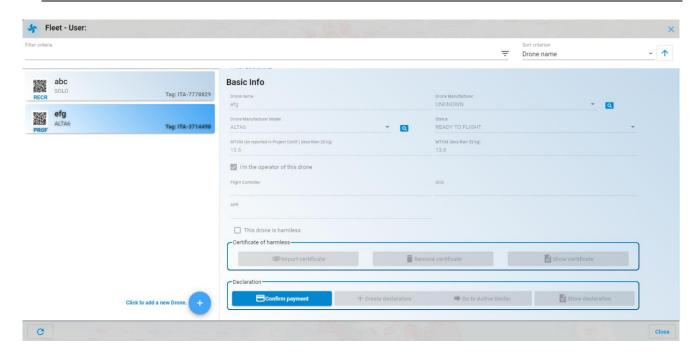
In order to make the declaration from the d-flight website:

- 1. Log in to the platform
- 2. Click on the d-flight logo
- 3. Access the Management of declarations section and open the drop-down menu



- 4. Click on < Create declarations>
- 5. After clicking, the following page will open

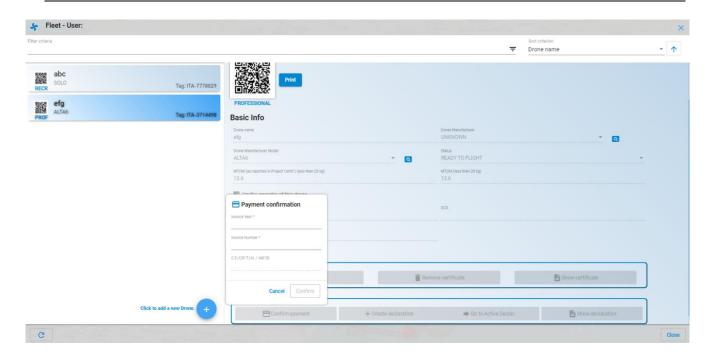




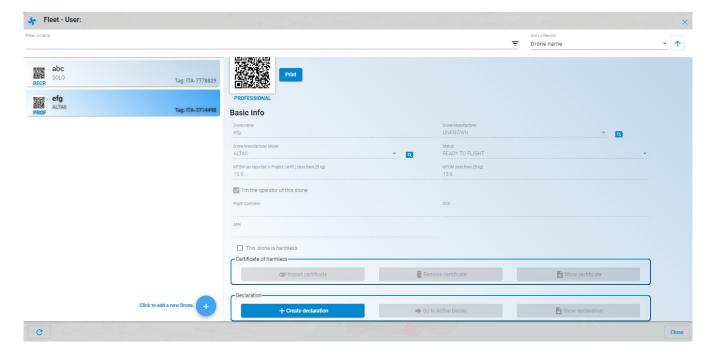
## ATTENTION: the declaration can be made only if:

- a pro subscription has been subscribed
- the scheduled tariff was paid to ENAC
- the upgrade to UAS operator user has been carried out
- a QR-Code Pro has been activated
- the drone for which you want to make the declaration is not harmless
- in the 'Account Details' section having entered all the necessary information contained on your account page (including the PEC) and having flagged all the required consents.
- in the 'Drone management' section for the selected drone the check 'This drone is harmless' has not been ticked
- 6. To continue with the declaration, click on *<Confirm payment>* and complete the insertion of the required fields as shown in the following figure:
  - invoice year
  - invoice number



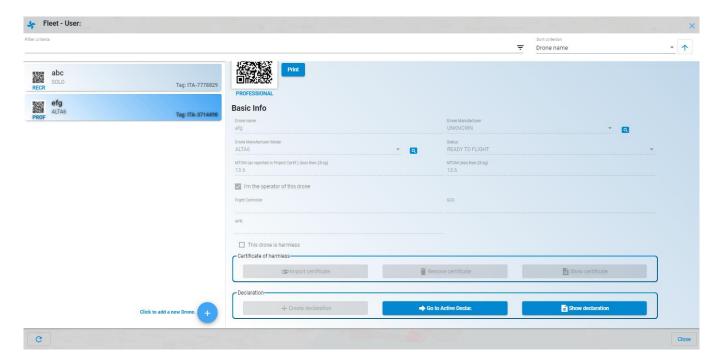


7. Once the payment has been confirmed, it is possible to proceed with the creation of the declaration



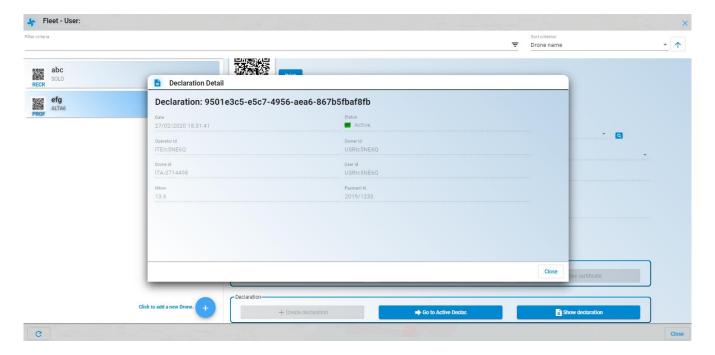
- 8. Click on < Create declaration> and if you want to continue press < Ok> otherwise press < Cancel>
- 9. To view if the declaration has been activated click on < Go to active declaration>





At this point the list of active declarations is available .

If you want to view the declaration made, click on *<Show declaration>*, at this point the detail of the declaration will open as in the following figure:



# 1.7.9. Possible Declaration Status

Each declaration registered in the system can be in one of the following states. Since each declaration is associated to the "couple" Operator Account-Drone, it can change its status in relationship to a change in the status of the Operator Account and/or the Drone to which it refers:



#### ACTIVE

- o It is the status assumed by a Declaration after its creation (in relationship to a given Drone). If a Declaration is in ACTIVE state, the UAS Operator is authorized to perform his operational services with the drone in conformance with what is referred in the Declaration.
- The state of a Declaration follow 1 to 1 the evolution of the state of the Operator Account to which it is associated but, differently from the Operator Account Status, a Declaration permanently remains in "CANCELED" state (if it reach this state).

#### SUSPENDED

- It is the status automatically assumed by a Declaration in case the Operator Account of the Drone to which it is associated moves in SUSPENDED state.
- If a Declaration is in SUSPENDED state, the Operator Account of the Drone associated to the Declaration is temporarily not authorized to perform the operational services with that Drone.

## REVOKED

 It is the status automatically assumed by a Declaration in case the Operator Account of the Drone to which it is associated moves in REVOKED state due to an action of the Authority.

#### CANCELED

 It is the status automatically (and permanently) assumed by a Declaration in case the Operator Account of the Drone to which it is associated moves in CANCELED state or in case the status of the associated Drone (permanently) moves to CANCELED.

The status of each declaration is indicated in Tab containing its detailed information as illustrated in the figures included in §1.7.8. Declaration.

# 1.8 VLOS DRONE OPERATION AREA

This service allows the declaration of a NON-CRITICAL VLOS mission by a accredited user and subsequently its activation / deactivation, allowing the user to plan and activate their VLOS mission and make it visible to all users logged on the portal. This service constitutes an important contribution to situation awareness regarding the flight zone in which the user is interested, allowing him to find out if there are already active VLOS missions at the same time and in the same space.

The service allows the user to draw on the map the area where he will want to carry out his VLOS-type mission. The mission will be plannable if it respects the flight rules in the area concerned. Immediately before starting the flight, the pilot must have activated localization on the device used and sharing with the browser and will have to start the mission; only at that moment will the area he designed become visible on the map to all d-flight users present at that moment on the portal. The visualization will be anonymous, as the system will not present any data concerning the user (including drone) who planned and activated the mission.

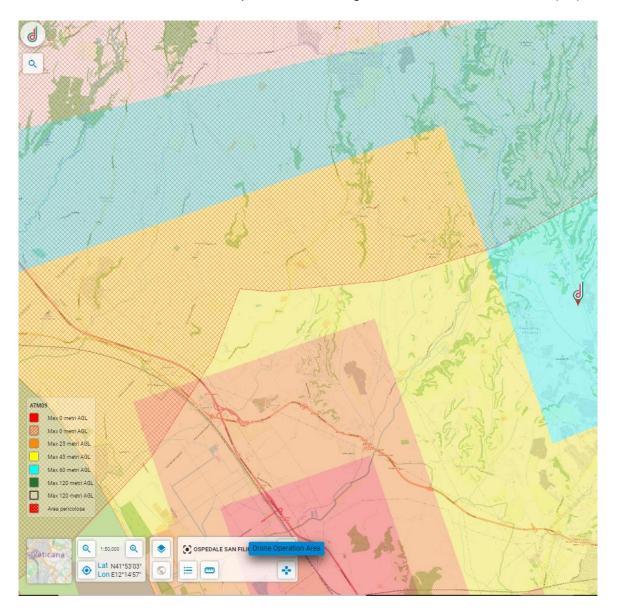
At the end of the mission, the pilot will have to "end" the mission, and the planned area will no longer be visible otherwise the system will remove this area automatically after a timeout time from the start.



In order to access the VLOS Drone Operation Area it is necessary to be registered on dflight as **UAS operators**, to have a drone with **active Qr-Code** and in a **ready-to-fly status**.

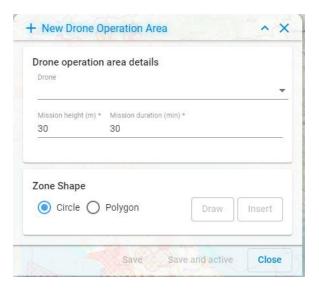
An operator user must:

- 1. log in to the d-flight portal
- 2. select the VLOS Drone Operation Area flight declaration addition button (\*).

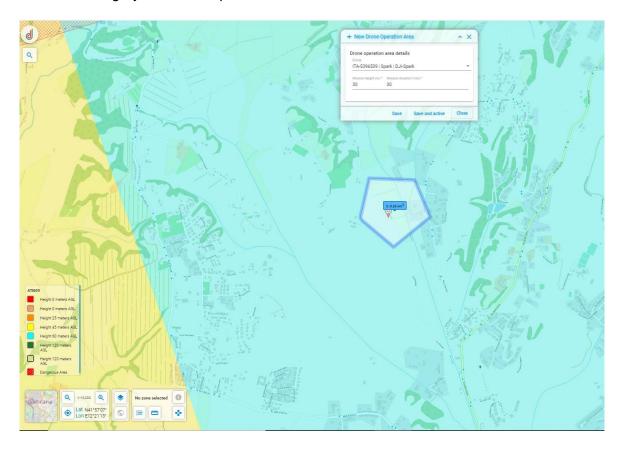


- 3. The application presents a panel with the mandatory data of the mission:
  - Drone Details
  - Maximum flight height of the mission, maximum 120 m
  - Mission duration in minutes
  - Type of geometry: circle or polygon



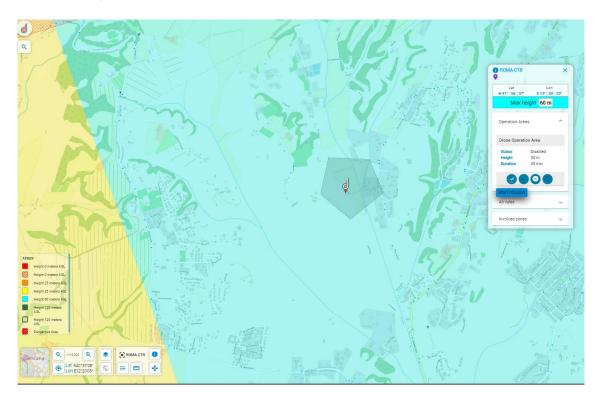


- 4. select the *<draw>* button and start defining the area that will interest you with your VLOS mission
- 5. save pressing on the button. Once the mission has been saved it is in the "DECLARED" state, the declared mission is displayed on the map only for the user creator with a grey color, in a special information window.





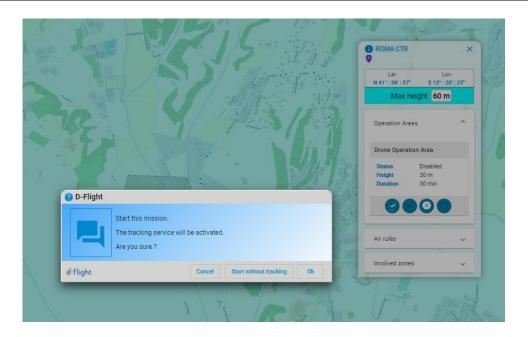
6. To activate the mission, select the grey area and click on *<Start>* and then on *<Ok>*. At this point, the activation time is saved, the polygon changes color to green and is visible to all users in pink. The detailed information panel will be visible only to the user who created the mission.



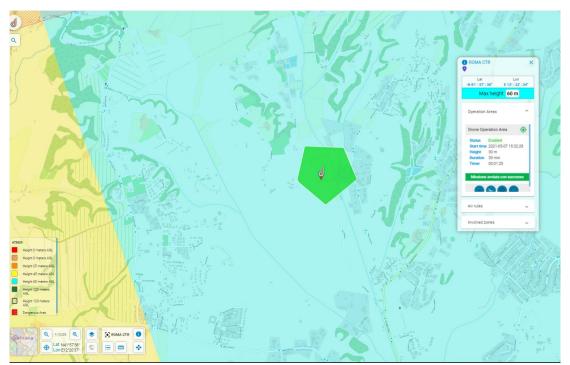
ATTENTION. The user must be inside the area declared to ACTIVATE the mission, having activated the location on the device used and sharing it with the browser

7. on the other hand, the user can *save and start* the mission directly with the appropriate button. Press <Ok> to start the mission with operator tracking; press <Start without tracking> to start the mission without operator tracking.





8. The mission is "ACTIVE", the activation time is saved, and the drawn polygon will become green and visible to all users in pink, while the detailed information panel will be visible only to the user who created the mission.



ATTENTION. The user must be inside the area declared to ACTIVATE the mission, having activated the location on the device used and sharing it with the browser

9. select the *<Stop mission>* button on the information panel to end the mission





ATTENTION. If the user, after starting a mission, does not terminate it, the system automatically ends the mission after a time of 10 minutes in addition to the number of minutes entered during the declaration phase starting from the moment of start.

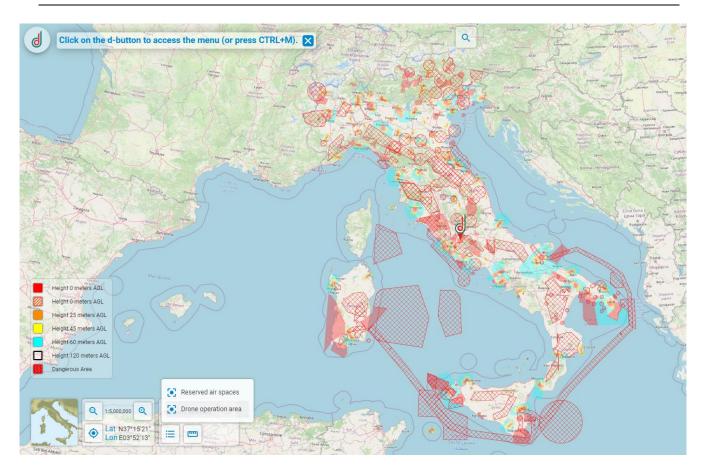
### **ATTENTION:**

- Each user can declare only one mission at a time.
- The designed area must be outside of regulated and forbidden areas.
- The maximum height must be compatible with that of the most restrictive area intersected by the declared area (the system automatically updates the maximum height).
- The user must be within the area declared for the mission, having activated location on the device used and sharing it with the browser.
- The size of the area has a maximum extension of 1km, the user can move during the flight as long as he always keeps the drone in VLOS.

## 1.8.1. DOA list

You can access the list of your own disabled, enabled, accomplished and cancelled Drone Operation Area missions by clicking on the button where on the Drone Operation Area you can view the list mentioned above:





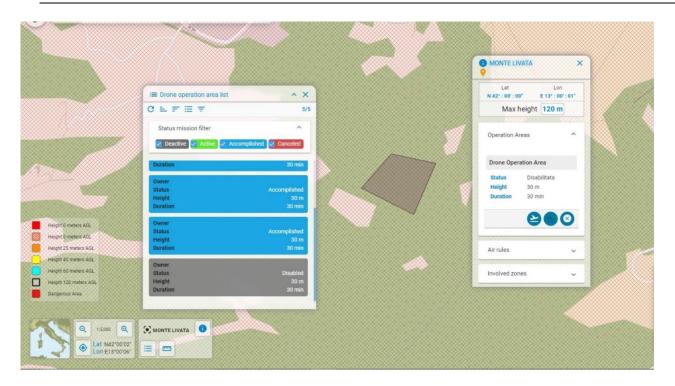
ATTENTION: only the DOAs in the geographical area displayed on the screen are displayed.

Red shows cancelled missions, blue accomplished missions, grey deactive ones.

It is also possible to search faster for the desired mission by activating the filters available in the "Status Mission Filter" toolbar.

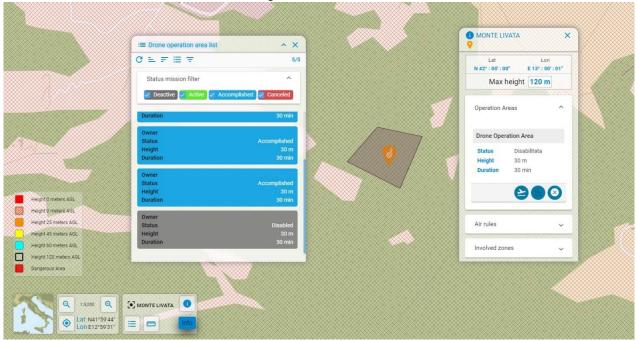
When selecting a DOA in the list, the cursor points directly to the chosen area, in the example in the following figure there is a mission accomplished and disabled:





It is also possible to activate DOAs in a deactive state:

1. click with the right button inside the area to which you are redirected or click on the information icon after selecting the area with the left mouse button



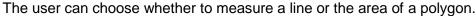
- 2. click the start mission icon
- 3. At this point the selected area will turn green and the mission will be "Enabled"

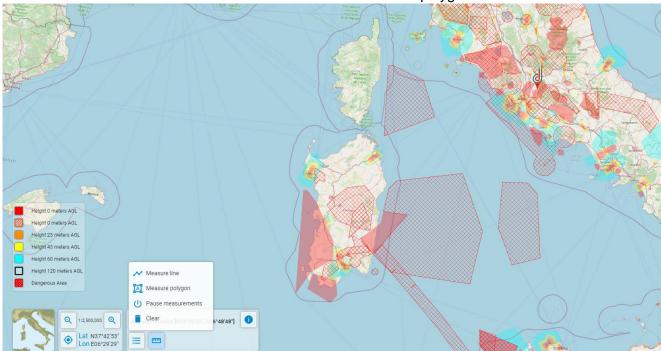


# 1.9 MEASUREMENTS

This service allows the user to measure the length of a line and the area of a polygon.

You can access the service by clicking on the icon





To make a measurement:

- 1. Click on "line measurement" or "polygon measurement"
- 2. Draw the line or polygon
- 3. Click with the left mouse button on the last drawn point

At this point, the line or area of the drawn polygon will be measured.



4. To delete the measurements made, click on the "Clear" button.



## 2 DRONE OPERATION PLAN

Users can access the Mission Planning & Validation service only if they:

- 1. are accredited
- 2. have signed a Pro subscription
- 3. are upgraded to UAS operator user
- 4. have an active QR-Code (BASE and / or PRO)
- 5. have at least one drone ready to fly



To access the service, click on the <DOP> icon

We recommend to use a device equipped with a mouse for easier editing the mission geometry.

Entering and submitting of a mission is NOT available from the Mobile App.

The Drone Operation Plan (DOP) service allows the user who meets the above characteristics to plan a mission by providing the following information (indicated with \* the mandatory information):

# 1. Type of mission:

- **A.** Drone \* (only drones ready to fly for which you are an operator will be displayed)
- **B.** Mission type \* (From the drop-down menu it will be possible to select one of the following mission types. Only missions compatible with the characteristics of the selected vehicle will be displayed.
  - VLOS:
  - Critical with a means declared harmless (i.e. with "weight including payload" of the vehicle not greater than 300gr or not greater than 2Kg with recognition of "harmlessness" issued by the ENAC);
  - Critical in standard scenario (IT-STS-01 and IT-STS-02) VLOS
  - BVLOS PDRA (IT-PDRA-01 to IT-PDRA-09)
  - VLOS and BVLOS critical in non-STD scenarios

#### 2. Mission data

- A. Name of the mission \*
- B. Maximum height, including air risk buffer \*
- C. Space-time information affected by the mission \*
- D. Floor buffer \*

## 3. Mission pilot data

- A. Pilot license
- **B.** Pilot ID
- C. Team members

### 4. Authorizations:

**A.** Authorizations necessary to carry out the mission (the data is mandatory depending on the mission identified)

Below panel by panel the instructions on data entry.





To access the service, click on the button < Mission>



After clicking, you can enter all the details relating to the mission:

- 1. Mission type
- 2. Mission data
- 3. Pilot data
- 4. Authorization (optional)

# 2.1 Mission Type

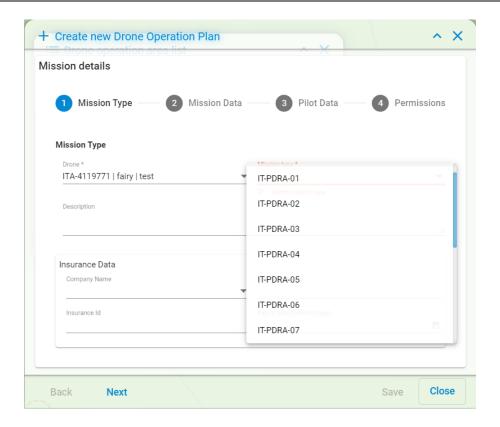
In this phase the user can retrieve the list of drones that he operates and fill in the *Drone field* \*.

Subsequently in the *Mission Type* \* section, the system allows the operator user to define the scenario in which the drone can operate, in relation to its weight.

There is also the possibility to insert a *Description* of the mission to be carried out.

Attention the fields with asterisk (\*) are mandatory





After selecting the drone from the user fleet, the system retrieves the details of the insurance policy defined in the drone database, displaying the information:

- Name of the insurance company
- Name of the insurance package
- Policy ID
- Expiry date

## The user can:

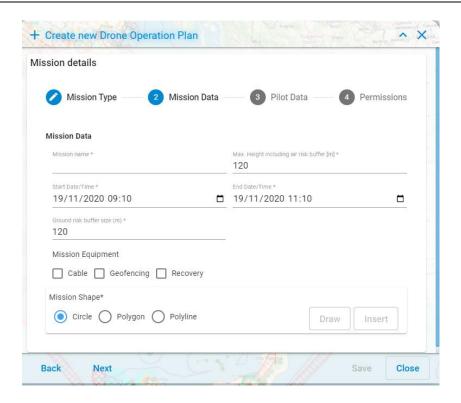
- 1. confirm the insurance defined for the drone;
- 2. specify the details of an insurance policy that applies to the mission only, by entering:
  - 1. Name of the insurance company
  - 2. Name of the insurance package
  - 3. Policy ID
  - 4. Expiry date
- 3. Leave the fields empty/Deleting the info automatically retrieved

After entering all the necessary information, click on <**Next>** to continue otherwise on <**Close>** to cancel.

#### 2.2 Mission Data

Within this section, the User has the possibility to enter the spatial and temporal data of the mission:





- Mission Name \*
- Maximum Height \* [m] including air risk buffer
- Start Date / Time \*
- End Date / Time \*
- Buffer size \* [m]

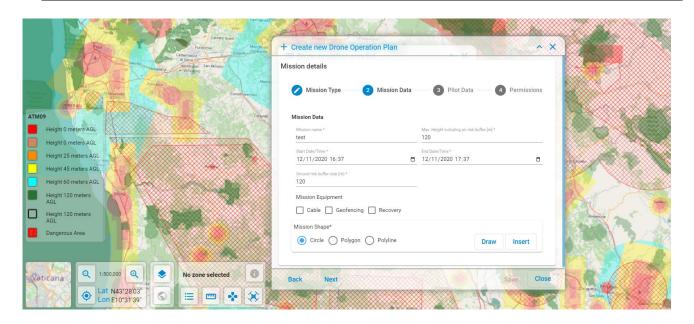
Attention fields with an asterisk (\*) are required

The user must also enter the mission geometry. This can be done in three ways:

- 1. Selecting the type of mission geometry
  - Circle
  - Polygon
  - Polyline

Then clicking on the 'Draw' button.





At this point it will be possible to draw the selected geometry on the map.

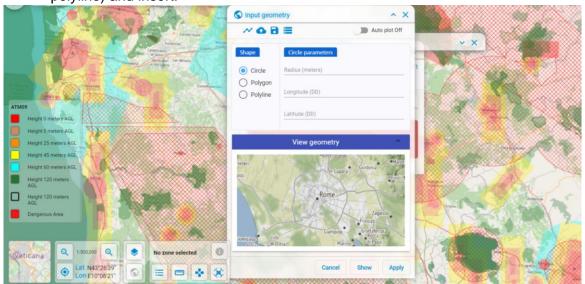
Before drawing, we recommend that you zoom to the maximum value on the area of interest.

To cancel the drawing, press "Esc".

- 2. Selecting the type of mission geometry
  - Circle
  - Polygon
  - Polyline

Then by clicking on the 'Insert' button

At this point it will be possible to modify the type of geometry (circle, polygon, polyline) and insert:



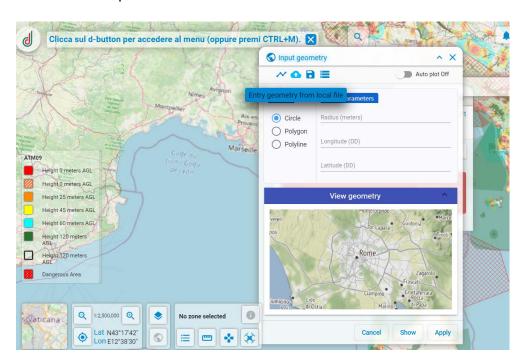
- For the circle: Latitude and Longitude of the circle and maximum radius (in meters)
- For the polygon: Latitude and Longitude of each point

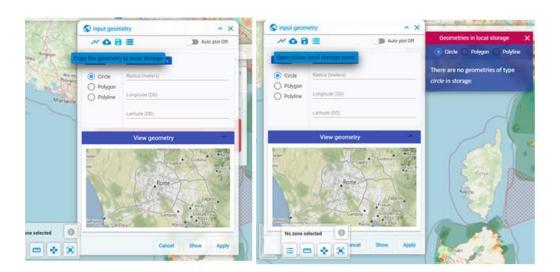


• For the polyline: Latitude and Longitude of each point

To view geometry creation on the map activate Auto Plot To cancel the inserted mission geometry, press "Esc".

3. Finally it is possible to import a geometry from a local file whose format can be: wkt, kml, geojson and view the geometry inserted in the "Geometry View" panel and in the map if Auto Plot has been activated



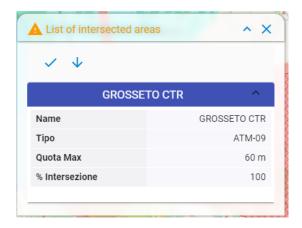


It is also possible to save the geometries created on local storage by clicking on the icon and view them through the storage panel by clicking on the icon.



Once all the necessary information and geometry have been entered, click on **<Next>** to continue otherwise on **<Back>** to return to the previous panel.

Once the mission geometry has been defined, the system will check if the Drone Operation Plan intersects areas for which flight restrictions are foreseen. In the event of an intersection with geographical areas for which the mission parameters conflict with the mission parameters (maximum flight altitude), a window will be shown with the list of affected areas and the type of constraint violated.



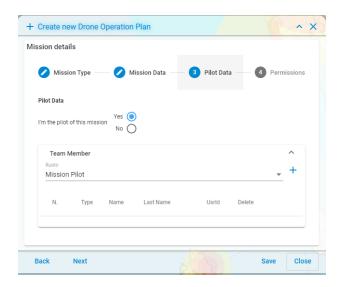
# At this point you can:

- Reduce the maximum flight altitude by pressing on
- Accept the restrictions and proceed with the request for authorizations by clicking on

#### 2.3 Pilot Data

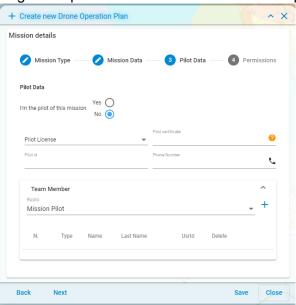
The next step is to enter the pilot's data in the mission plan.

In the event that the operator is the pilot of the mission, select "Yes" next to the words "I'm pilot of this mission" and press next.





In the event that the mission pilot does not correspond with the operator who is planning the mission, select "No" next to the wording "I'm a pilot of this mission" and enter the pilot data.



The system allows the operator user to define the pilot of the drone, by entering the information:

- Pilot License
- Pilot ID (identification of the registration on d-flight)
- Telephone number

After inserting the pilot data, it is possible to bring the list of people involved in the mission, characterized by the following information:

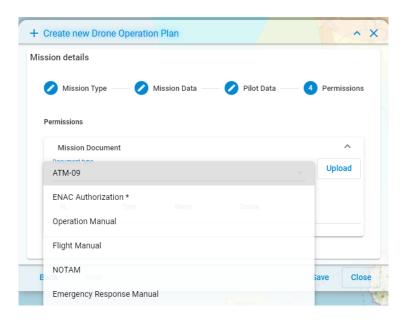
- Role
- Type
- First name
- Surname
- User id (d-flight ID)

Enter all the necessary information, click on **<Next>** to continue otherwise on **<Back>** to return to the previous panel or on **<Close>** to cancel and exit the service.

## 2.4 Authorizations

In this panel it is necessary to enter in pdf format the necessary authorizations to carry out the mission (the data is mandatory depending on the mission identified).





You can view all types of documents expected by the system. Those with an asterisk \* are required for the type of mission planned. Click on "Upload" to upload a file.

### 2.5 Saving the mission

Once you click on **<Save>** the mission is saved on the system and a unique identifier is generated.

In this state, the mission is not visible to other users and is displayed on the map (only by the user who created it) in yellow.

## 2.6 Submission and Starting of the mission

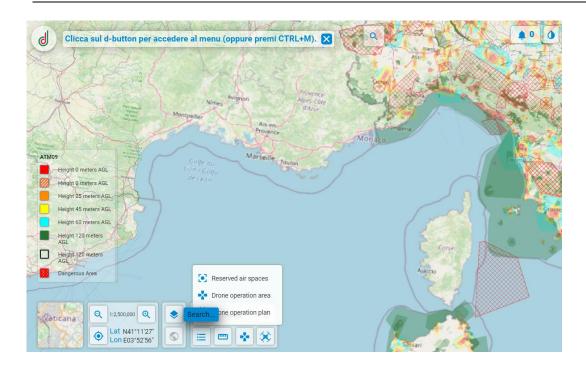
Subsequently, the saved mission must undergo the validation process by clicking on the **Submit for approval>** button. The result of the validation process will be communicated by e-mail (approved by the system / rejected - with possible request for modification).

NW: For the BVLOS PDRA missions it is possible to enter, save and submit your mission only starting from 4 days before and up to a maximum of 24 hours before the date / time scheduled for the mission itself, and only after having obtained the necessary authorizations from ENAC. Any changes to the mission must respect the same constraints.

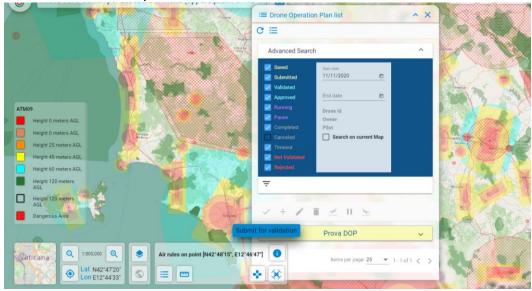
## - How to submit the mission?

1. To submit the mission, you must open the list of 'Drone OPeration Plans' accessible from **the search button** of the Rules of the air:





2. Subsequently, by clicking on the mission of interest, it is necessary to click on the 'v' shaped button



3. An email will be sent to the d-flight inscription address with confirmation of the validation or with the 'rejection' of the mission and an indication of the error / incompatibility parameters.

The following are the two scenarios:

- mission validated
- mission rejected



#### **Mission Validated**

The validated and approved mission is displayed on the map in blue color, only by the user who created it, except for the BVLOS PDRA approved missions: these are visible in pseudo-anonymous form also to other BASE and PRO users on the appropriate layer that can be activated / deactivated, in the event that their start date / time falls within the next 24 hours.

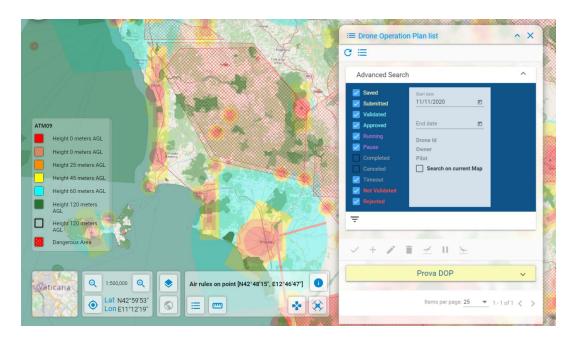
Once the mission has been approved, you can access the list of missions, select the validated mission and click on:

- 1. start mission (to start the mission if within the scheduled time interval)
- 2. cancel mission (to cancel the mission)

Once you have clicked on start mission, you can pause the mission with the **<Stop>** button, end the mission with the **<Complete>** button or resume the mission with the **<Resume>** button.

Running missions are displayed in purple on the map by all users logged into the d-flight portal. For your own missions only, by pausing, the color changes from purple to grey. Your missions are displayed with a black border, unlike the others.

The missions in an expired, completed and cancelled state can only be viewed on the map in grey by the user who created them. To access missions in an expired, completed and cancelled state, you need to select the appropriate filters in the list of DOPs, within the advanced search menu:



The table below shows the list of error codes and the description of their meaning. In case of rejection of the mission, it will be necessary to return to the DOP list, select the mission of interest and modify what is indicated in the email received.



## **Mission Rejected**

If the mission is not validated, the user receives an email with a list of all errors / incompatibilities found during validation.

The table below shows the list of errors / incompatibilities that the user can receive with their description.

The user will have to access the mission and modify what is indicated in the email, and then submit the mission again.

NW. For the BVLOS PDRA missions the above time constraints are also valid for the modifications: it is possible to insert, save and submit your mission only starting from 4 days before and up to a maximum of 24 hours before the date / time scheduled for the mission itself, and only after having obtained the necessary authorizations from ENAC.

The rejected mission is displayed in red on the map and is visible only to the user who created it.



Failure received by e-mail	Code	Description	What to do?
DRONE_MTOW_CHECK,	800002	MTOW entered is outside the minimum and maximum limit	You can change the drone selected for the mission, choosing a drone with a MTOM in line with the selected scenario.  You can verify your drone's MTOM from the page 'Fleet Management'. If the value you find is not correct, please open a ticket on  Service Desk Portal (https://www.d-flight.it/new_portal/contatti/) to request the update.
DRONE_MAX_SPEED_CHECK,	800004	The maximum horizontal speed of the drone inserted is higher than that foreseen by the scenario	You can change the drone selected for the mission, choosing a drone with a max horizontal speed in line with the selected scenario.  You can verify your drone's max horizontal speed from the page 'Drones Models'. If the value you find is not correct, please open a ticket on Service Desk Portal (https://www.d-flight.it/new_portal/contatti/) to request the update.
DRONE_MAX_DIMENSION_CHECK,	800032	The drone dimensions are larger than those foreseen for the selected scenario	You can change the drone selected for the mission, choosing a drone with dimensions in line with the selected scenario. You can verify your drone's dimensions from the page 'Drones Models'. If the value you find is not correct, please open a ticket on Service Desk Portal (https://www.d-flight.it/new_portal/contatti/) to request the update.
MISSION_MAX_HEIGHT_CHECK,	800019	The height entered for the mission exceeds the one foreseen by the selected scenario	Please update the mission modifying the maximum height: enter a max value in line with ATM09 and with the selected scenario, or attach the necessary documents in case of deviations from ATM-09
MISSION_RECOVERY_REQUIRED_CHECK,	800026	The recovery equipment for the mission has not been entered	Please update the mission including the requested data in the panel 'Mission Data'
MISSION_GEOFENCING_REQUIRED_CHECK,	800028	No geofencing entered for the mission	Please update the mission including the requested data in the panel 'Mission Data'
MISSION_REMOTE_PILOT_REQUIRED_CHECK,	800030	No remote pilot entered for the mission	Please update the mission including the requested data in the panel 'Pilot Data'
MISSION_MIN_BUFFER_CHECK,	800023	The minimum buffer entered for the mission is invalid	Please modify the mission updating the buffer as per the requested scenario instructions
PILOT_LICENSE_TYPE_CHECK,	800037	the pilot qualifications are not compatible with the type of pilot license required for the selected scenario	Please update the mission including the requested data in the panel 'Pilot Data'
ACTIVE_DECLARATION_CHECK,	800039	No declaration is active for the selected drone	Please activate the declaration for the drone selected for the mission (par 1.7.8) or plan a new mission with a new drone in line with requirements
BVLOS_MODULE_CHECK,	800054	BVLOS authorization missing for the selected mission	Please update the mission including the requested document in the panel 'Authorization'
DOCUMENTS_CHECK	800051	Authorization documents missing	Please update the mission including the requested document in the panel 'Authorization'
Intersected mission start/end time		Your BVLOS Mission intersects another BVLOS mission already approved, within the same time/space area.	Please modify the mission selecting a different time/date or geographical area



### 3 TRACKING

## 3.1 Tracking\_V0

The "Tracking\_V0" service allows the user to share his/her position with d-flight. The position will be shared on the map, in pseudo-anonymous form (the drone license plate will be shown for the traces relating to the Drone Operation Plan, the user ID for the traces relating to the Drone Operation Area), with all other users logged in to the portal in relation to the area of interest, with a view to situation awareness. In particular, Italy has been divided several areas of interest and users belonging to the same area of interest, viewing the map (always in the area of interest) with a zoom equal

to or greater than 1: 25000 they will be able to view the tracks of other d-flight users.

The position will be accompanied by the following information:

- drone license plate or user ID
- location

The tracks will be shown in green, red, orange or gray, depending on the "status" with respect to the planned mission:

- green trace: no anomaly
- red trace: the position is within a no-fly area (i.e. NFZ / ATM09)
- orange trace: the position is outside the planned area
- grey trace: data transmission error

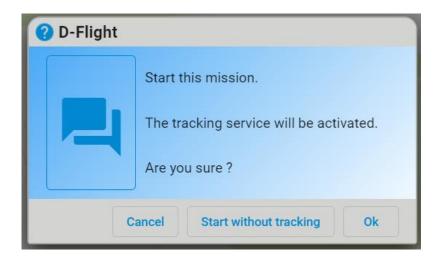
Below an example of grey trace



To activate the "Tracking - V0" service, or to send the position, it is necessary

- 1. accept the sending of the position by your device
- 2. When your mission starts (by clicking on the icon \_\_\_\_\_ through the DOP or DOA service), agree to start the tracking service [Ref. next figure]





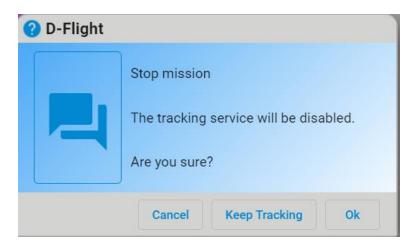
You can also activate the tracking service in another time while the mission is running by clicking on the icon again.

You can start missions (from DOP or DOA) even without sharing your track, by clicking on 'Start without tracking'.

To block the sharing of your track, you can at any time click on the complete mission



and deactivate the tracking service by clicking on 'Ok'



It is also possible to end the mission and keep the tracking service active by clicking on 'Keep Tracking'. In this case, the track will be shared until you log out from the

AT .

platform or you can click again on the complete mission icon to disable the service.



## 3.2 Tracking\_V1

The "Tracking - V1" service, allows the user to share the position of their drone with d-flight. The position will be shared on the map, in pseudo-anonymous form (the license plate of the drone will be shown for the traces relating to the Drone Operation Plan, the user ID for the traces relating to the Drone Operation Area), with all other users logged in to the portal in relation to the area of interest, with a view to situation awareness.

In particular, Italy has been divided into several areas of interest and users belonging to the same area of interest, viewing the map (always in the area of interest) with a zoom equal to or greater than 1: 25000 they will be able to view the tracks of other d-flight users..

The position will be accompanied by the following information:

- drone license plate or User ID
- coordinates (Lat / Lon) of the drone's position
- mission Status
- duration of Mission
- start / end date
- quote

The drone track will be shown in addition to the pilot's position (fixed). The drone track will be joined to the pilot one's, by a line that qualitatively shows the distance between the two and allows you to recognize the position of the pilot associated with the operation.

The drone track is represented by a dashed line and is also highlighted with the following colors green, red, orange or gray, depending on the "status" of the planned mission:

- green track: no anomaly
- red track: the position is within a no-fly area (i.e. NFZ / ATM09)
- orange track: the position is outside the planned area
- gray track: data transmission error

To activate the "Tracking - V1" service, (i.e. to send the position of the drone), it is necessary to

- equip your drone with a device capable of sending all the necessary information to d-flight
  in the exact format (as described in the interface document available here <a href="https://www.dflight.it/new\_portal/en/guide-manuali/">https://www.dflight.it/new\_portal/en/guide-manuali/</a>)
- or equip your GCS with an application capable of sending all the necessary information to d-flight in the exact format (as described in the interface document available here <a href="https://www.d-flight.it/new\_portal/en/guide-manuali/">https://www.d-flight.it/new\_portal/en/guide-manuali/</a>)

and accept the sending of the position by your device, if you also want to share the position of the pilot (tracking V0) at the date and time scheduled for the mission, access the "Drone Operation



Plan" or "Drone Operation Area" service from a laptop or Mobile or Mobile App and start the mission (by clicking on Start) by selecting the start option with tracking.

The Tracking service on the pilot position will then be interrupted upon completion of the mission, by selecting the option to deactivate the service or on log-out from the platform. The drone position tracking service must be interrupted by the device (drone or GCS) that sends the messages at the end of the mission.



## 4 MOBILE APP

D-flight Mobile APP allows to access the d-flight platform on mobile devices allowing, in particular, to have access to the following services:

SERVICE	BASE User	PRO User
Map Navigation	Х	Х
Registration	X	Х
User Authentication	Х	X
Purchase of QR Code BASE	X	Х
Purchase of QR Code PRO	-	Х
Declaration	-	Χ
VLOS Drone Operation Area	X	Χ
Drone Operation Plan – Planning	-	-
<b>Drone Operation Plan – Mission Start/Termination</b>	-	Χ
Tracking	X	Χ

The functionalities indicated in the previous table are described in this document.

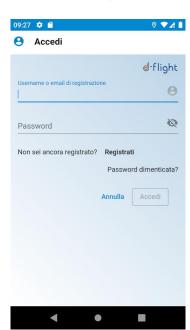
Some services are available only to "PRO Users" as indicated in the table.

D-Flight Mobile APP is currently available for Android devices.

In order to install and access the "Mobile APP":

- Connect to Google Play Store at <a href="https://play.google.com">https://play.google.com</a> and serach for "D-Flight" (or directly access to this link)
- Download and install on your device the application
- In the log-in screen, provide your d-flight website credentials or perform a new registration.







### 5 GNSS REAL TIME MONITORING

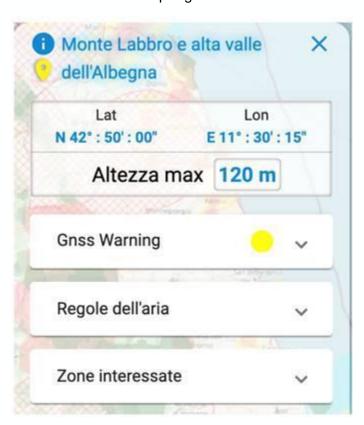
The GNSS Real Time Monitoring service is dedicated to PRO users only.

This service allows users to view on the map an indication of any malfunction status of the GNSS signal.

The service can be accessed

- 1. Accessing the map with a zoom level equal or higher than 1:100.000
- 2. By right-clicking on the map

If the GNSS signal is corrupted (e.g. due to problems on a GNSS satellite / interference due to significant ionosphere phenomena) an Alert (red traffic light) or a Warning (yellow traffic light) relating to the signal status in the selected map region.



In both Alert and Warning conditions, flight with navigation based exclusively on GNSS is strongly discouraged, as the signal performance is not as reliable as nominal performance.

The signal status is relative to reference conditions with respect to the ground. The service does not take into account the morphology of the terrain, or the actual condition of the drone - in other words, the GNSS signal could work in a nominal way (ie on the map there are no alarms) but if the



user is inside a gorge or in the shadow of an obstacle, however the GNSS communication could be impaired and the flight affected. It is therefore recommended to also pay attention to the information available on the GCS.

Finally, in the event of an alarm, by clicking on the detail expansion arrow it is possible to consult the following values on the GNSS signal:

- Minimum HDOP: index of the quality of the satellite arrangement in the horizontal reference condition
- Minimum VDOP: index of the quality of the satellite arrangement in the vertical reference condition
- Minimum elevation: the minimum elevation in degrees between the satellites visible in the reference condition (useful for evaluating the width of the local horizon, or the degree of visibility of the drone)
- Hor error: the estimate of the error in meters in the horizontal reference condition
- Error Up: the estimate of the error in meters in the vertical reference condition
- HPL: maximum horizontal error in meters estimated by EGNOS in the reference condition
- VPL: maximum vertical error in meters estimated by EGNOS in the reference condition