

ninox

D R O N E

User guide

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NINOX DRONE – USER GUIDE

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Ninox Drone

Terminology changes

- Pilot > Drone Operator
- Mission Plan > Drone Plan
- Mission Flight > Drone Flight

Introduction

Welcome! If this is your first-time using Ninox Drone, please take a few moments to familiarise yourself with the information in this guide.

Ninox Drone provides recreational and professional Drone Operators with the tools and information needed to fly safely within Norway.

If you are planning to fly within a 5km zone of selected airports*, then your Drone Plan may require approval from Air Traffic Control (ATC). Ninox Drone can provide you with a digital Drone Plan authorization without requiring you to contact the tower directly. If your Drone Plan requires approval then Ninox Drone will let you know when submitting your Drone Plan, allow you to track the approval and update you when a response is received from ATC.

** The current list of airports currently supporting digital Drone Plan authorization and clearance through Ninox Drone are available in the link below.*

<https://operatorportal.ninoxdrone.no/support/contact-us>

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Ninox Drone is a planning and management tool to support your safe operation, but please remember that it is your responsibility to be aware of the rules that are in place to keep everyone safe.

Planning your Drone Plan

The Ninox Drone Operator Portal is a pre-flight planning tool which provides information about airspace regions and ground hazards to help you plan and conduct your Drone Flights safely, efficiently and remain in compliance with regulations.

Flying your drone

The Ninox Drone free app is an in-flight companion for use during the operation itself and helps you to obtain take-off clearance to fly in restricted airspace around airports (see the list above for those that provide a service through Ninox Drone).

Getting Started

Before accessing any of the Ninox Drone services, you will need to register for a free account that you can use to access both the Operator Portal and Ninox Drone mobile app (iOS and Android).

The security of your data is very important to us, so, you will be prompted during the registration and sign-in process for an additional form of identification – a code from an app on your smartphone. This is a process called “Multi-Factor Authentication”.

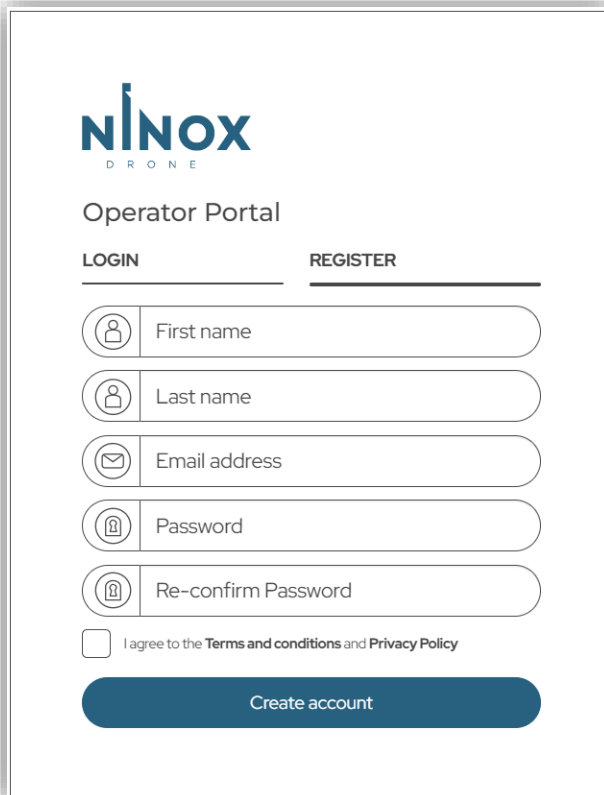


Multi-Factor Authentication (MFA) is a security layer that verifies a user's identity using multiple credential levels – using a password and an alternative ‘factor’ such as a Time-based One-Time Passcode (TOTP) from an app on the user's smartphone

Registration

You will be required to enter some basic details to create an account, including your name and email address.

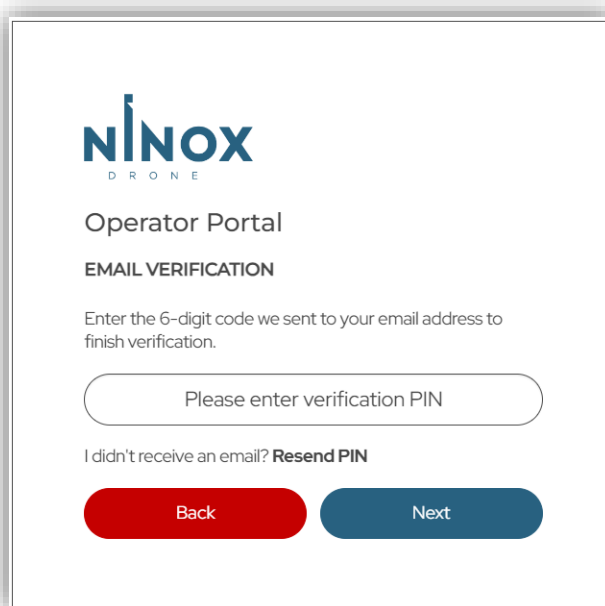
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The screenshot shows the 'Operator Portal' registration page for NINOX Drone. At the top is the NINOX Drone logo. Below it, the title 'Operator Portal' is centered. There are two tabs: 'LOGIN' and 'REGISTER', with 'REGISTER' being the active tab. The registration form consists of five input fields, each with an icon on the left: a person icon for 'First name', a person icon for 'Last name', an envelope icon for 'Email address', a lock icon for 'Password', and a lock icon for 'Re-confirm Password'. Below these fields is a checkbox labeled 'I agree to the Terms and conditions and Privacy Policy'. At the bottom of the form is a large blue button labeled 'Create account'.

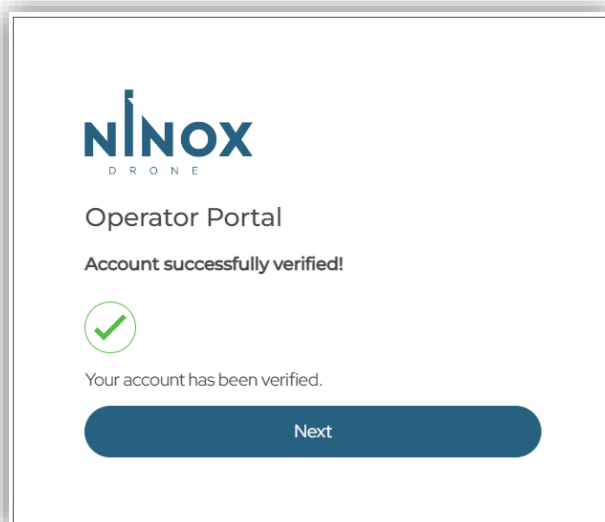
You will need to agree to the Terms of Service before proceeding.

For the next step, you will be asked to verify your email address. A verification pin will be sent to the email address you used in the Registration details. Please enter this pin to proceed.

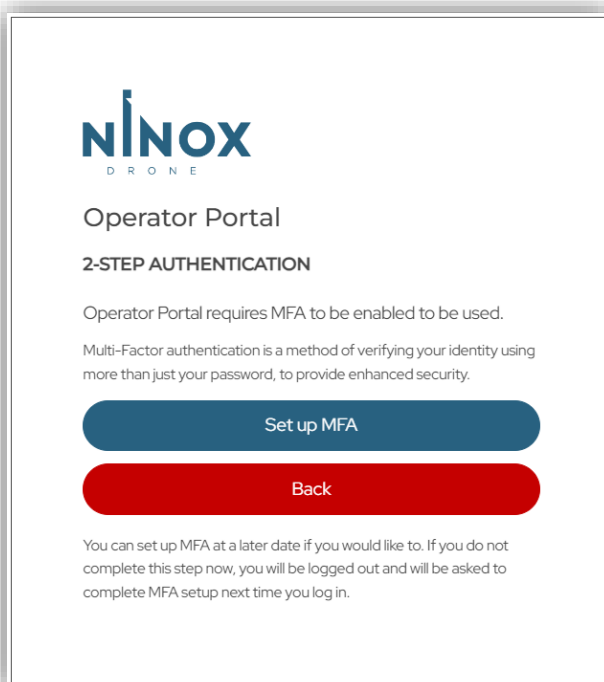


The screenshot shows the 'Email Verification' screen of the NINOX Drone Operator Portal. At the top is the NINOX Drone logo. Below it, the title 'Operator Portal' is centered. Underneath is the section header 'EMAIL VERIFICATION'. A message states: 'Enter the 6-digit code we sent to your email address to finish verification.' Below this message is a large, rounded rectangular input field with the placeholder text 'Please enter verification PIN'. Under the input field, there is a link that says 'I didn't receive an email? Resend PIN'. At the bottom of the screen are two buttons: a red 'Back' button and a blue 'Next' button.

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Next you will need to make your account more secure by setting up Multi-Factor authentication.



You will be asked to select the Multi-Factor authentication method. Currently '**Time-based one-time password**' is the only method supported.

What is a Multi-Factor Authenticator app and which one should I use?

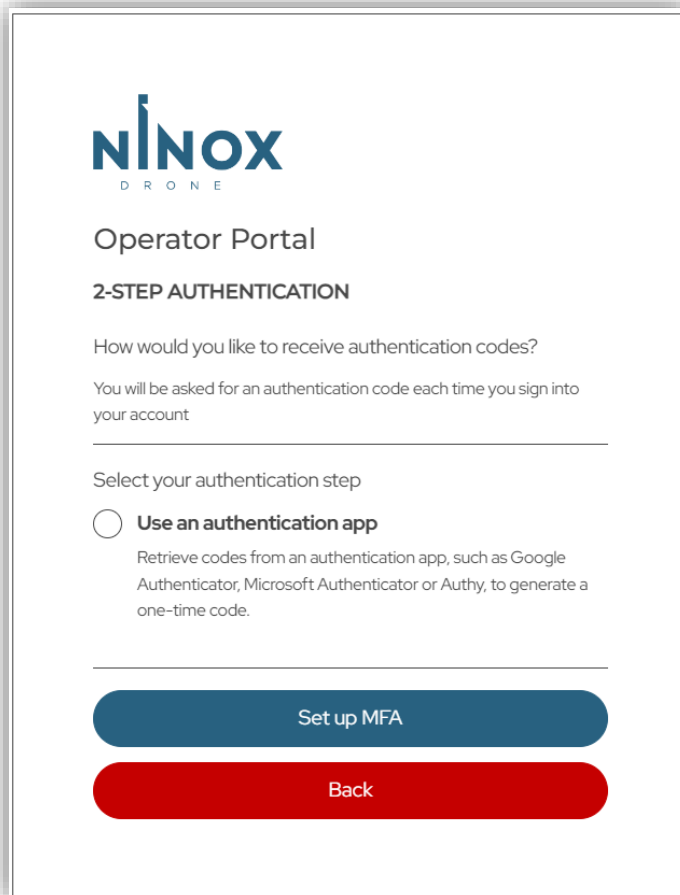
Multi-Factor Authentication has become a popular mechanism for adding an additional security layer on top of passwords to secure your account. There are several smartphone apps which generate, usually, a six character in length one-time passcode that changes every 30 seconds that you will need to enter to gain access to your account.

Popular authenticator smartphone apps are:

- Google Authenticator - This is a free authenticator app from Google available for both Android and iOS.

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- Microsoft Authenticator - Microsoft also has a free authenticator app for Android, iOS, and Windows 10 Mobile.
- There are also desktop authenticator applications – such as “Authy”. If you have an authenticator app that you are currently using there’s no need to switch, just add this to your existing app.



The screenshot shows the Ninox Drone Operator Portal interface for 2-Step Authentication. At the top is the Ninox Drone logo. Below it, the text reads "Operator Portal" and "2-STEP AUTHENTICATION". A question asks "How would you like to receive authentication codes?", followed by a note: "You will be asked for an authentication code each time you sign into your account". A horizontal line separates this from the next section, "Select your authentication step". There is a radio button next to the option "Use an authentication app", which is currently selected. Below this option, it says: "Retrieve codes from an authentication app, such as Google Authenticator, Microsoft Authenticator or Authy, to generate a one-time code." Another horizontal line is below this text. At the bottom, there are two large, rounded buttons: a blue one labeled "Set up MFA" and a red one labeled "Back".

Once you have selected an app and downloaded it to your device, you will need to add an entry for Ninox Drone account. There are usually two options for setting this up such as scanning the (QR) barcode or manually entering your secret key into the app.

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Operator Portal

CONFIGURE TWO FACTOR-AUTHENTICATION

Once configured you'll be required to enter a code created by your chosen Authenticator app.


Step 1: Download and install.

Download and install an authenticator app such as **Google Authenticator** , **Microsoft Authenticator** or **Authy**


Step 2: Provide the key

Open your authenticator app and either scan the QR code **OR** add a new account.

To use manual entry or equivalent: provide the following key by selecting copy to clipboard.



RFCJIHFEMRQGJER7F6IYSVLYAVZBFRR

 Copy to Clipboard

Step 3: Enter verification code


Once the key has been provided enter the 6-digital verification code generated in the auth app into the box below.

Back

Next

Once configured, the app will start to generate a temporary passcode every 30 seconds for you to enter the code field when prompted.

Enter the current code shown on your app (making sure it is for your Ninox account) and click Next. You should see confirmation that your login is complete.



Operator Portal

Success!

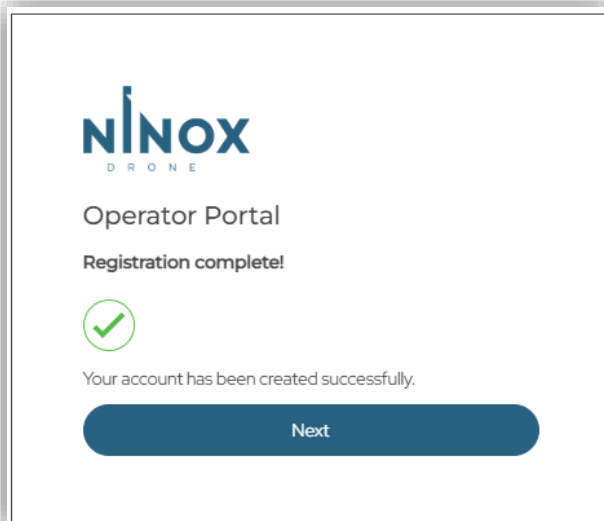
Great job! You have set up multi-factor authentication.

martin.wislonuk@gmail.com

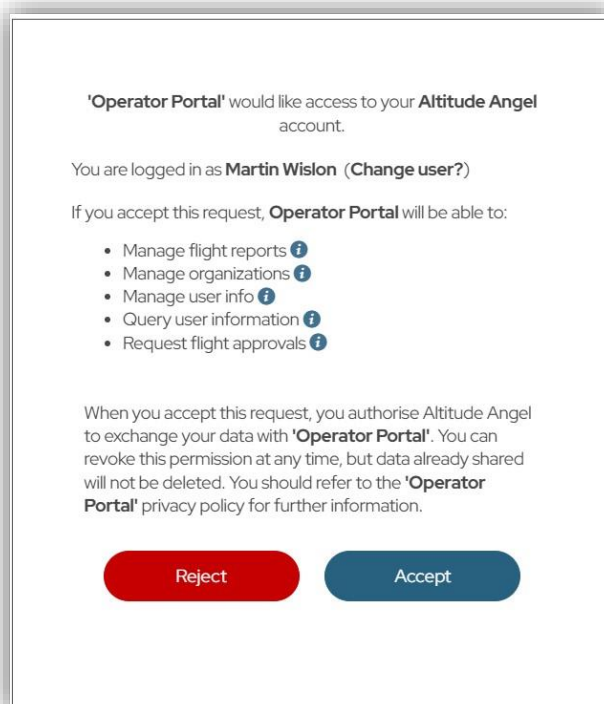
We'll send a verification code to this email if we notice an attempted login from a device or browser we don't recognise.

Continue

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The final step will ask you to grant permission to access the Operator Portal. This is required because your account gives you the ability to access the Operator Portal and the mobile application from a single login. For example, if you decide to download the Ninox Drone mobile app then you will be able to login using the same credentials, and will be presented with a similar screen asking you to enable permissions for the mobile app.



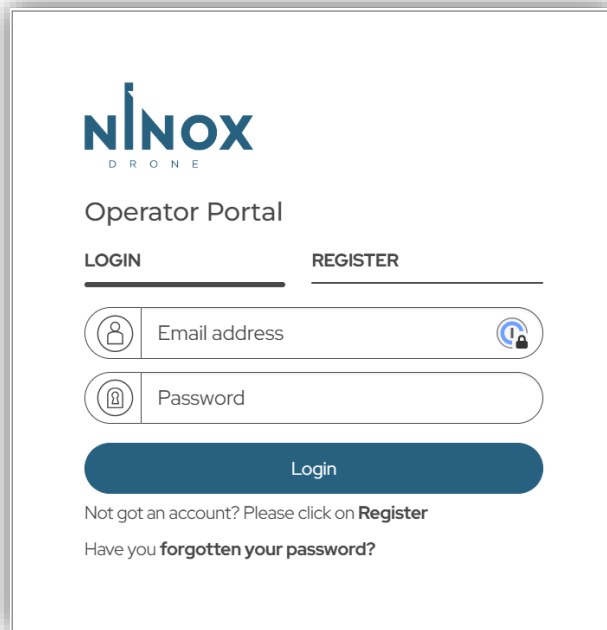
Click Accept and you're all done! You will be successfully logged into the Operator Portal – see **'Creating your profile'** for assistance with your first use of the system.

Signing in

Once you have created a user account, you can use this to access the Operator Portal and Ninox Drone mobile app.

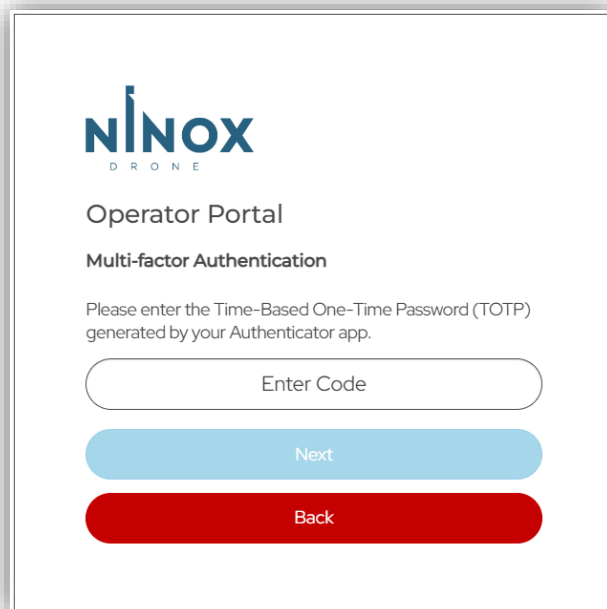
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First enter your email address and password. If you have forgotten your password then use the link to send an email to your registered account, and you will be asked to enter a new password.



The screenshot shows the 'Operator Portal' interface. At the top is the NINOX DRONE logo. Below it, the title 'Operator Portal' is centered. There are two tabs: 'LOGIN' (selected) and 'REGISTER'. The login form consists of two input fields: 'Email address' with a person icon on the left and a lock icon on the right, and 'Password' with a lock icon on the left. Below these fields is a blue 'Login' button. At the bottom, there are two links: 'Not got an account? Please click on **Register**' and 'Have you **forgotten your password**?'.

Click Next, and if multi-factor authentication is enabled on your account, you will be asked to enter the code you set up in your authenticator app – see 'Registration' above. Enter the code shown in your authentication app.



The screenshot shows the 'Multi-factor Authentication' screen. At the top is the NINOX DRONE logo. Below it, the title 'Operator Portal' is centered. Under the heading 'Multi-factor Authentication', there is a text prompt: 'Please enter the Time-Based One-Time Password (TOTP) generated by your Authenticator app.' Below this prompt is an input field labeled 'Enter Code'. At the bottom, there are two buttons: a blue 'Next' button and a red 'Back' button.

Creating your profile

On your first-time logging into the Operator Portal, you will be prompted to create a profile.

The screenshot shows the 'Create user profile' page. On the left is a dark blue sidebar with the Ninox Drone logo, user information (Logged in as: chris wallace), and navigation links (Profile, Logout, Home, MY RECORDS, Drone operators, Organization, Support). The main content area is white and titled 'Create user profile'. It contains a message: 'You must create a user profile before you may use this site.' Below this are input fields for Title, First Name* (filled with 'Andrew'), Last Name* (filled with 'White'), Email Address (filled with 'AWdronesaa@gmail.com'), Contact Number (with a dropdown for country code '+47'), and Contact Mobile Number* (also with a dropdown for '+47'). There are radio buttons for 'Altitude Units' (Feet is selected, Meters is unselected) and a dropdown for 'Language' (set to 'English'). A note at the bottom states 'Fields marked "*" or "Required" are required'. At the bottom right are two buttons: a green 'Create Profile' button and a red 'Cancel' button.

I am a Drone Operator and I fly professionally.

Before you start creating any Drone Plans, you will need to provide some additional information about yourself such as your address and operator registration number.



Click on **Register as a Drone Operator** and fill in the required details.



Your Operator details are the same across all organizations where you are registered as an Operator.

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The screenshot shows the NINOX Drone web application interface. On the left is a dark blue sidebar with the NINOX logo and navigation links: Profile, Logout, Current organizations, Home, My account, Drone operators, Organization, and Support. The main content area is titled 'Provide your drone operator details'. It includes a sub-header 'Additional Profile Details' and a 'User Profile' section. The 'Additional Profile Details' section contains fields for Address Line 1*, Address Line 2, City*, Postcode*, Country* (a dropdown menu currently showing 'Norway'), Registration ID, and an 'Additional Information' text area. There is also a checkbox for 'Allow SMS Contact'. The 'User Profile' section contains fields for First Name* (filled with 'Andrew'), Last Name* (filled with 'White'), Contact Mobile Number* (filled with '+44 7536 105005'), and Email Address (filled with 'AWdronesaa@gmail.com'). A green 'Save' button is at the bottom left of the form.

I am a professional Drone Operator with multiple aircrafts and/or Drone Operators.

To keep track of your aircrafts and/or Drone Operators, you will need to create an Organization and provide basic details such as its name and address.

The screenshot shows the 'Add an organization' form in the NINOX Drone web application. The form is titled 'Add an organization' and has a sub-header 'Provide the organization details'. It contains the following fields: Name*, Contact Number* (with a dropdown for country code showing '+47'), Email Address*, Address Line 1*, Address Line 2, City*, Postcode*, and Country* (a dropdown menu currently showing 'Norway'). There is also a checkbox for 'I am a pilot for this organization'. A green 'Save' button is at the bottom left of the form.

Once your organization is setup, you will be able to invite users to join your organization.

will be able to invite users to join

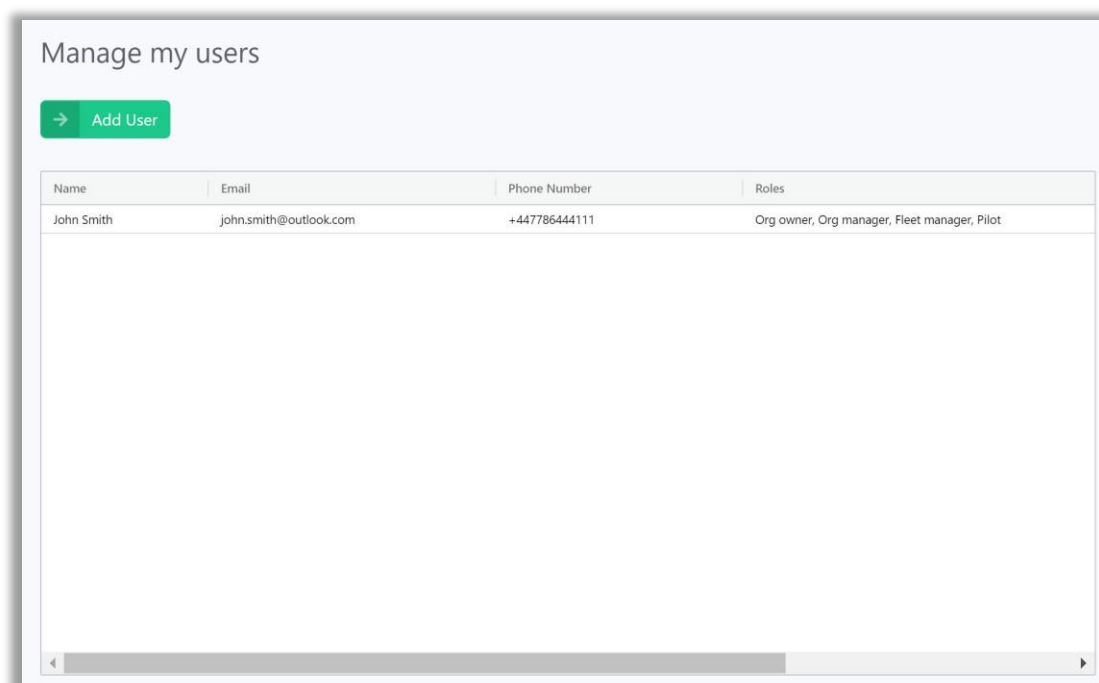
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Roles within an Organization

- **Fleet Manager** - Manages Drone Plans within the organization including maintaining aircraft and Drone Operator information.
- **Org Manager** - Can manage some aspects of the organization including org details and users.
- **Drone Operator** - Registered Drone Operators responsible for flying Drone Plans on behalf of an organization.

Inviting a user to join your Organization

To invite users to join your organization, go to Manage Users under the Organization section. You will find yourself listed with the roles Org owner, Org Manager, Fleet manager and optionally, Drone Operator, if you selected this option while creating your Organization.



To add a user:

1. Click on the 'Add User' button
2. Select the roles you which to invite the user to and click 'Create invite code' to generate an invitation code.

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Invite a user

Select the roles to invite the user to

- ☒ Fleet Manager - Manages flights within the organization.
- ☐ Org Manager - Manages the organization.
- ☐ Pilot - Pilots aircraft for the organization.

→ Create invite code

The created invite will be usable by any user to add themselves to your organization. The invite will be valid for 24 hours and a single use only.

Your invite code

bit7-xjWQ 

Which you can use at

<https://operatorportal.ninnoxdrone.no/users/invite/bit7-xjWQ> 

Once the code is generated, you will need to send it to your recipient and they will have 24 hours in which to click on the link to accept the invitation and join your organization. Invite codes are time-limited and for single-use only. Should you miss the invite do not worry, you can generate new invite codes at any time.



Invite codes are only valid for 24 hours and are single use.

I am a Drone Operator and I have received an invitation to join an organization.

If you have received communication from a known and trusted contact asking you to join an organization, you will need to click on the invite link to accept the invitation.

You will be taken to a landing page which will include the name of the organization you are being invited into and the role(s) you will be performing for that organization.



Role Responsibilities:

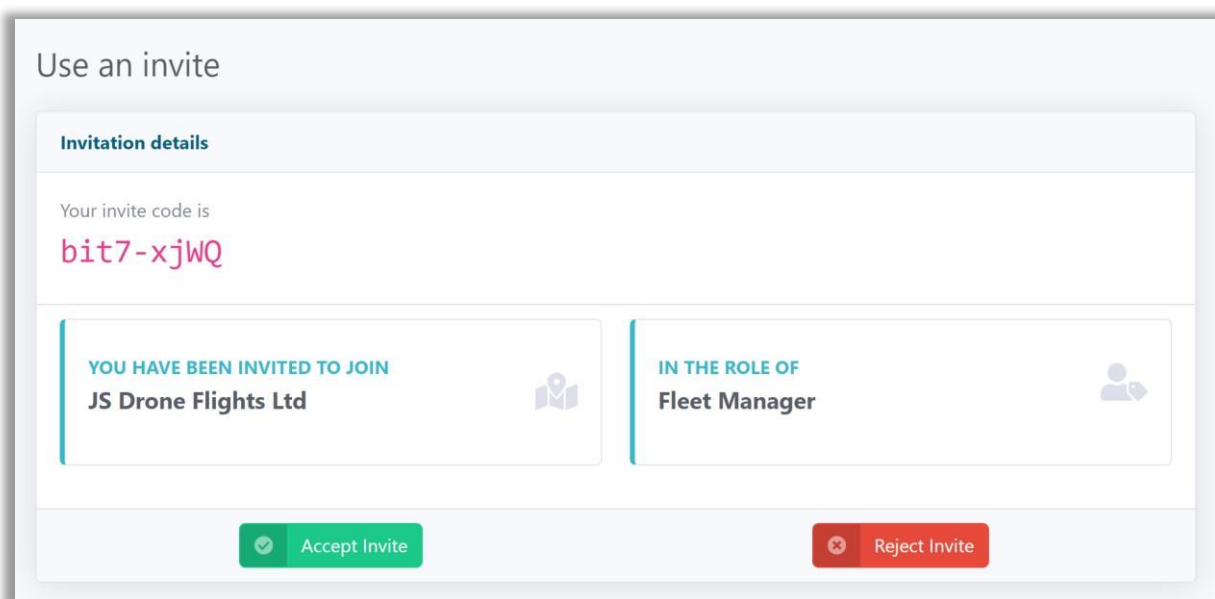
- **Fleet Manager** - Manages Drone Plans within the organization including maintaining aircraft and Drone Operator information.
- **Org Manager** - Can manage some aspects of the organization including org details and users.
- **Drone Operator** - Registered Drone Operators responsible for flying Drone Plans on behalf of an organization.



If this is your first time using the Ninox Drone system, you will need to register for a free account (see section above on Registration)

Once you have signed into Ninox Drone, you may accept or reject the invite to join the organization and the role within it.

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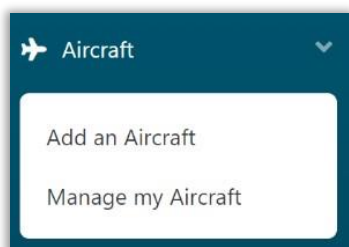


Managing your fleet

Those users in the 'Fleet Manager' or 'Org Manager' roles can manage the aircraft, Drone Operators and Drone Plans within an organization.

Before you can create Drone Plans under an Organization, you will need to have invited at least one Drone Operator and added at least one aircraft.

I want to add an aircraft to my fleet



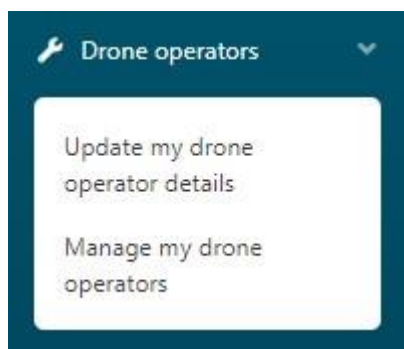
Click on **Add an aircraft** and complete the required details.



Your aircraft will be saved under the current organization context. Make sure you've (created and) selected the right organization before adding.

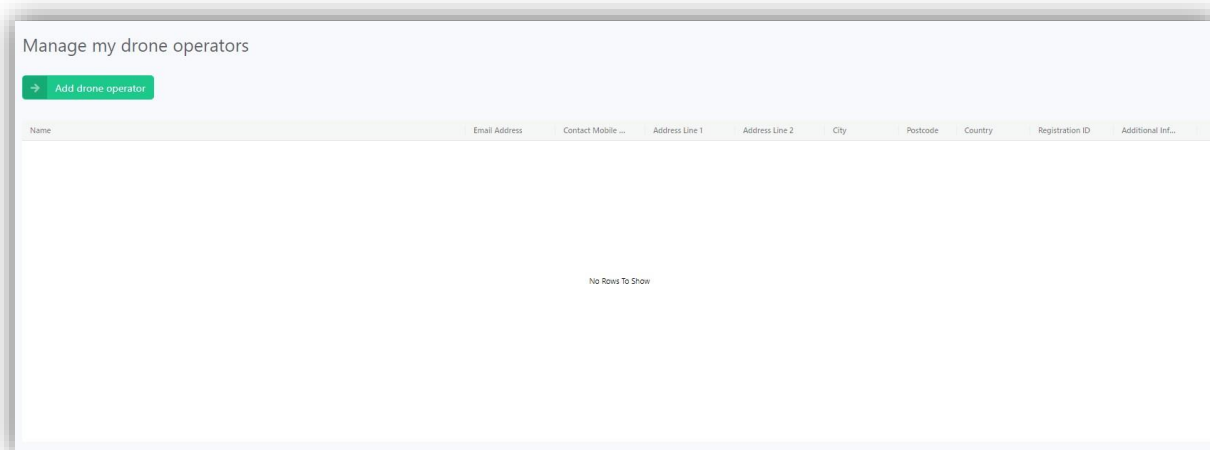
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I want to add an operator to my fleet



Click on **Manage my drone operators** and complete the required details.

Then click **Add drone operator**.



You can then follow the same steps as inviting any other user to your organization – detailed above under '**Inviting a user to join your Organization**', just make sure you select the 'Drone Operator' role.

Invite a user

Select the roles to invite the user to

☐ Fleet Manager - Manages flights within the organization.

☐ Org Manager - Manages the organization.

☒ Pilot - Pilots aircraft for the organization.

→

Create invite code

The created invite will be usable by any user to add themselves to your organization. The invite will be valid for 24 hours and a single use only.

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Your Drone Operator will be invited under the current organization context. Make sure you've (created and) selected the right organization before adding.

Creating a Drone Plan

Drone Plans are created by defining an area of operation, assigning an aircraft and drone operator and then submitting. Your Drone Plan request will be processed and, depending on the geography, may require an ATC clearance. The Ninox Drone platform will automatically route your request to the appropriate ATC facility for a digital clearance. Any updates to your Drone Plan status will be communicated with you via email and SMS (if selected). You can also track the status of a request through the Ninox Drone Operator Portal and mobile app.



Ninox Drone uses a 2-step approval process. You will first require prior approval to undertake a Drone Plan. If successful, you must then request Take-Off clearance at the station of the operation itself.

I am a drone operator and I fly professionally.

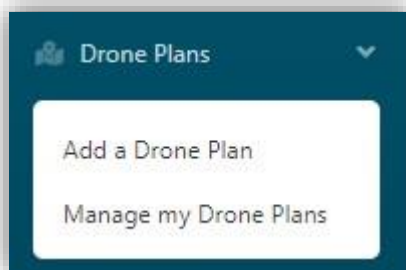
If you are creating a Drone Plan that you will fly yourself then we recommend you select the 'Personal' organization. You will be automatically assigned as the Drone Operator and may not need to provide some optional details that are only necessary when submitting on behalf of an organization.

I am a fleet manager, creating a Drone Plan that will be assigned to one of our Drone Operators.

Make sure you've created the Organization profile (see the steps above under '**I am a professional Drone Operator with multiple aircrafts and/or Drone Operators.**') and selected it under the Organization context menu.

Drone Plan steps

Regardless of your use role, Drone Plans are created in the same way.



To start, click on **Add a Drone Plan**.

You will be guided through the following steps:

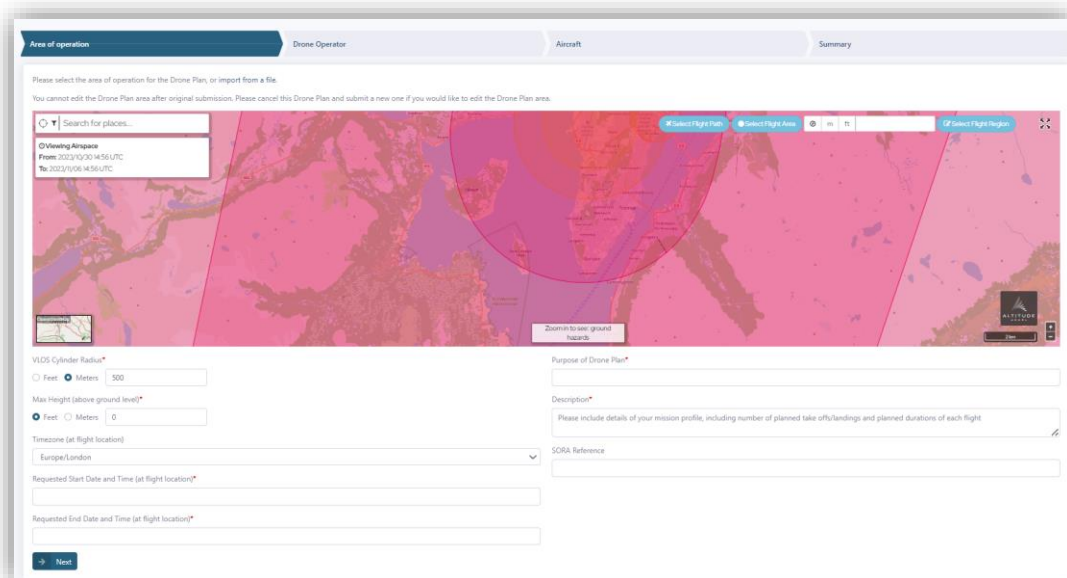
- **Step 1: Area of operation**
- **Step 2: Drone Operator**
- **Step 3: Aircraft**

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- Step 4: Summary

Step 1: Area of operation

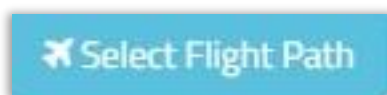
Firstly, you will be asked to define the Drone Plan area of your Drone Plan and provide some basic details about the operation.



The system provides 4 different options to define your Drone Plan area:

- **Drone Plan Path:** Use this if your Drone Plan will be conducted as a series of waypoints.
- **Drone Plan Area:** Use this to define a cylindrical area within which your Drone Plan will take place.
- **Drone Plan Region:** Use this to define an irregular area within which your Drone Plan will take place.
- **GeoJSON Import:** Use this to import an operation area created through an external application and exported in GeoJSON format.

Drone Plan Path



To create a series of waypoints, click on **Select Drone Plan Path**.



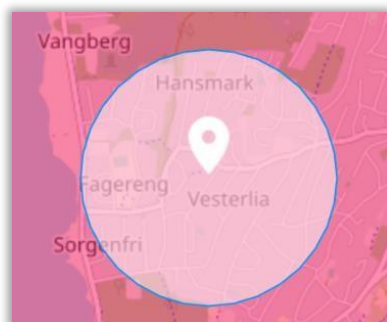
Click **Done** to complete your Drone Plan Path.

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Drone Plan Area

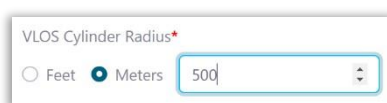


To generate a cylindrical operation volume, click on **Select Flight Area**.



Click on the map to select the centre-point of where your Drone Plan will be taking place.

Adjust the size and datum of the radius of your Drone Plan area.



Click **Done** to complete your Drone Plan Area.

Drone Plan Region

To define an irregularly shaped operation volume, click on **Select Flight Region**.

Click on the map to add a series of border points. Your Drone Plan region must form a complete boundary. Click again at the start (first) border point to complete the region.



Click on your intended route to create a series of waypoints. To complete the region, click again in the same position as your final waypoint.

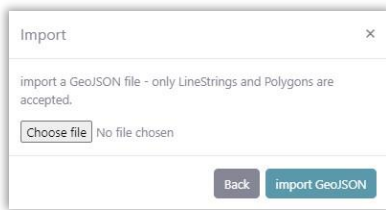
Click **Done** to complete your Drone Plan Region.

GeoJSON import

Please select the area of operation for the mission, or import GeoJSON

If you have created your operation through another planning tool, then you can import it into Ninox Drone. Click **Import GeoJSON**.

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Click **Choose file** on your system, select the file, click **Open** and then **import GeoJSON**.



Your operation area should now be visible on the map.

You can now complete the remaining Drone Plan steps, starting with the other **Area of Operation** fields.

VLOS Cylinder Radius*

☐ Feet ☒ Meters 500

Max Height (above ground level)*

☒ Feet ☐ Meters 0

Timezone (at flight location)

Europe/Oslo

Requested Start Date and Time (at flight location)*

Requested End Date and Time (at flight location)*

Purpose of Drone Plan*

Description*

Please include details of your mission profile, including number of planned take offs/landings and planned

SORA Reference

→ Next

Step 2: Drone Operator

Next select the **Drone Operator** that will be flying the Drone Plan.

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The screenshot shows the 'Drone Operator' step of the registration process. The top navigation bar has four tabs: 'Area of operation', 'Drone Operator' (active), 'Aircraft', and 'Summary'. The form contains the following fields:

- Select Drone Operator: A dropdown menu with 'Martin Wilson' selected.
- First Name: A text field with 'Martin' entered.
- Last Name: A text field with 'Wilson' entered.
- Contact Mobile Number: A text field with '+47 11122233444' entered, preceded by a flag icon.
- Allow SMS Contact: A checkbox that is unchecked, with a red note below it stating 'Allow SMS Contact must be checked to proceed'.
- Email Address: A text field with 'martin.wilsonuk@gmail.com' entered.
- Observer mobile phone number: A text field with a placeholder 'Enter a phone number' and a flag icon.
- Registration ID: A text field.
- Additional information: A text area.
- Address Line 1: A text field with '34 Example Address' entered.
- Address Line 2: A text field.
- City: A text field with 'Tromsødal' entered.
- Postcode: A text field with 'TR1 3RD' entered.
- Country: A dropdown menu with 'Norway' selected.

At the bottom, there are 'Back' and 'Next' buttons.



Once the Drone Plan has been submitted, the selected Drone Operator will have visibility of the operation through their Operator Portal login (it will be listed in the Drone Plans under the 'Personal' organization context), and in their mobile app.

Step 3: Aircraft

Finally, select the **Aircraft** that will be used.

The screenshot shows the 'Aircraft' step of the registration process. The top navigation bar has four tabs: 'Area of operation', 'Drone Operator', 'Aircraft' (active), and 'Summary'. The form contains the following fields:

- Select Aircraft: A dropdown menu with 'Survey Drone' selected.
- Colour: A text field with 'Grey' entered.
- Markings: A text field.
- Maximum Take-Off Mass (MTOM): A text field with '1.8' entered, followed by a 'kg' unit.
- DJI Flight Controller Number: A text field with a question mark icon.
- ICAO Address: A text field with a question mark icon.
- Manufacturer Name: A text field with 'DJI' entered.
- Model Name: A text field with 'Mavic 3' entered.
- Airframe: A dropdown menu with 'VTOL' selected.
- Registration Number: A text field with a question mark icon.
- Additional details (this information is not shared): A text area with a question mark icon.

At the bottom, there are 'Back' and 'Next' buttons.

Step 4: Summary

In the **Summary** step, you will need to read and review the submission terms, along with your entire Drone Plan detail.

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Step 1: Area of operation Step 2: Pilot Step 3: Aircraft **Step 4: Summary**

Review details

Please review the details you have entered into this Mission Request for accuracy and completeness, and then click Create at the bottom of the page.

By submitting you understand and agree to the following:

- Submission of this form does not constitute any approval of clearance to cross or enter any controlled airspace.
- I understand and accept the Altitude Angel Privacy Policy and Portal Terms of Use, and authorise Altitude Angel to process information in this request.

Area of operation

Search for: [input]

Map showing flight path and area of operation.

Max Altitude: 100m
Timeszone: Europe/Oslo
Start Time: 06/10/2020 1:00 PM
End Time: 06/10/2020 2:00 PM

Purpose: Survey
Description: Bridge survey
SORA Reference:

Pilot

First Name: John
Last Name: Pilot
Contact Mobile Number: +471234567890
Email Address: john.pilot@altitudeangel.com
Address Line 1: The House
Address Line 2: On the street
City: Oslo
Postcode: 1234 City name
Country: Norway
Registration ID:
Additional Information:

Aircraft

Manufacturer Name: DJI
Model Name: M210
Airframe: Fixed-wing
Registration Number:
Colour: Black & Red
Markings: None
Maximum Take Off Mass (MTOM): 4.7 kg
Serial Number:
ICAO Address:
Additional Information:

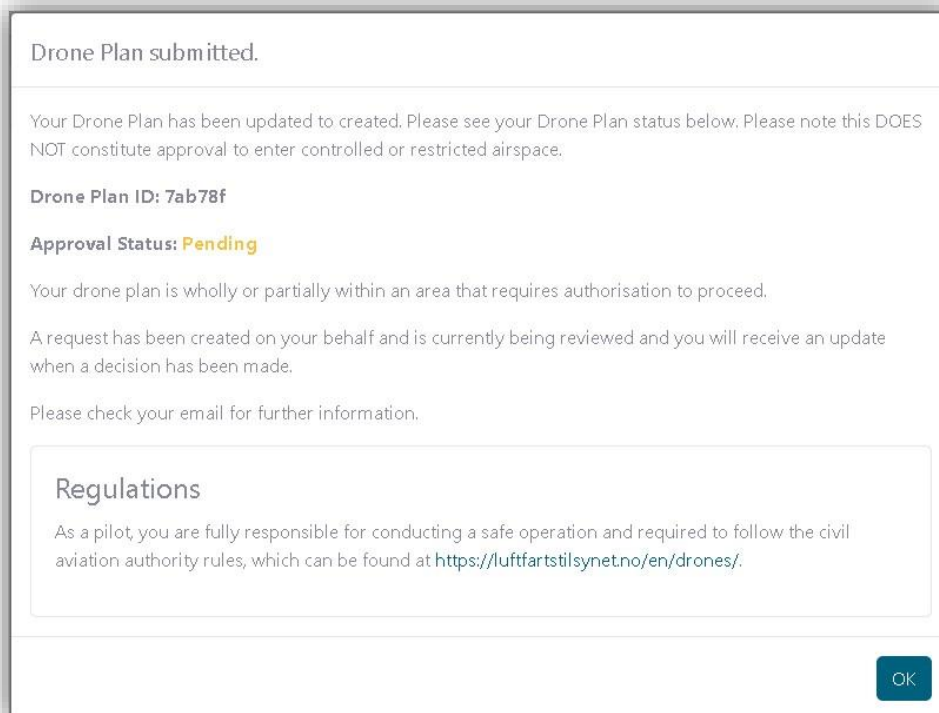
Back **Create**

Then click **Create** to submit your Drone Plan.



You will be shown a submission confirmation, with a **Drone Plan ID** and **Approval status**.

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- **Drone Plan ID** – the identifier for your Drone Plan. Referenced in the list of your submitted Drone Plans and the communications (email/SMS) you receive about the Drone Plan.
- **Approval status** – the current approval status for the Drone Plan. If the area of operation requires an ATC clearance, then the Ninox Drone system will route this for you automatically and you will receive updates through the Operator Portal and via email/SMS. If your Drone Plan takes place outside the airspace serviced by Ninox Drone, then you will be informed as such and expected to follow the national and local rules and regulations applicable to the operation.



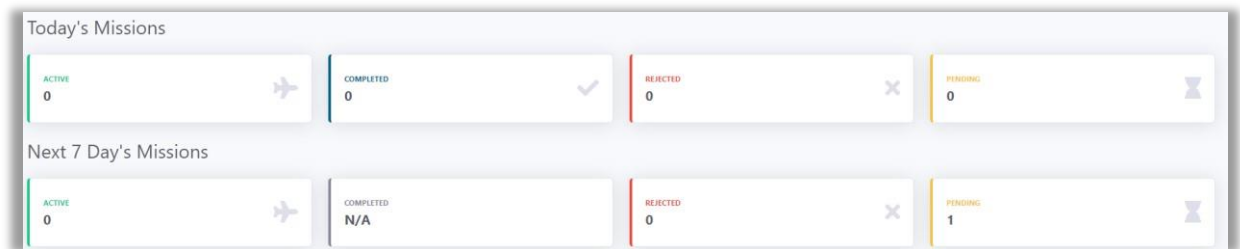
If your Drone Plan approval = 'Pending' then you DO NOT have clearance to enter controlled or restricted airspace and must wait for the approval to come through the Ninox Drone system.



Don't forget that the Drone Plan approval is only the first part of a 2-step approval process. You must still request Take-Off clearance when you are ready to start the Drone Plan.

Tracking your Drone Plan approval

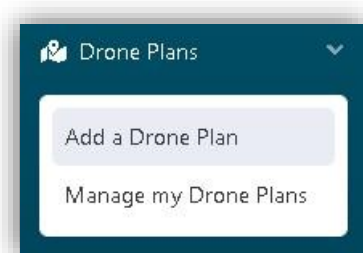
The dashboard of your Operator Portal will list the summary of your Drone Plan approvals. The statistics are based on the operation dates you entered for each Drone Plan.



Dashboard statistics are only available for Organizations (not 'Personal' Drone Plans).



Dashboard statistics are for the current selected organization only.



You can view, track, update, delete and report a safety incident under **Manage my Drone Plans**.

Your Drone Plans will be listed with some of the key operational details, as well as the current **Approval status**.

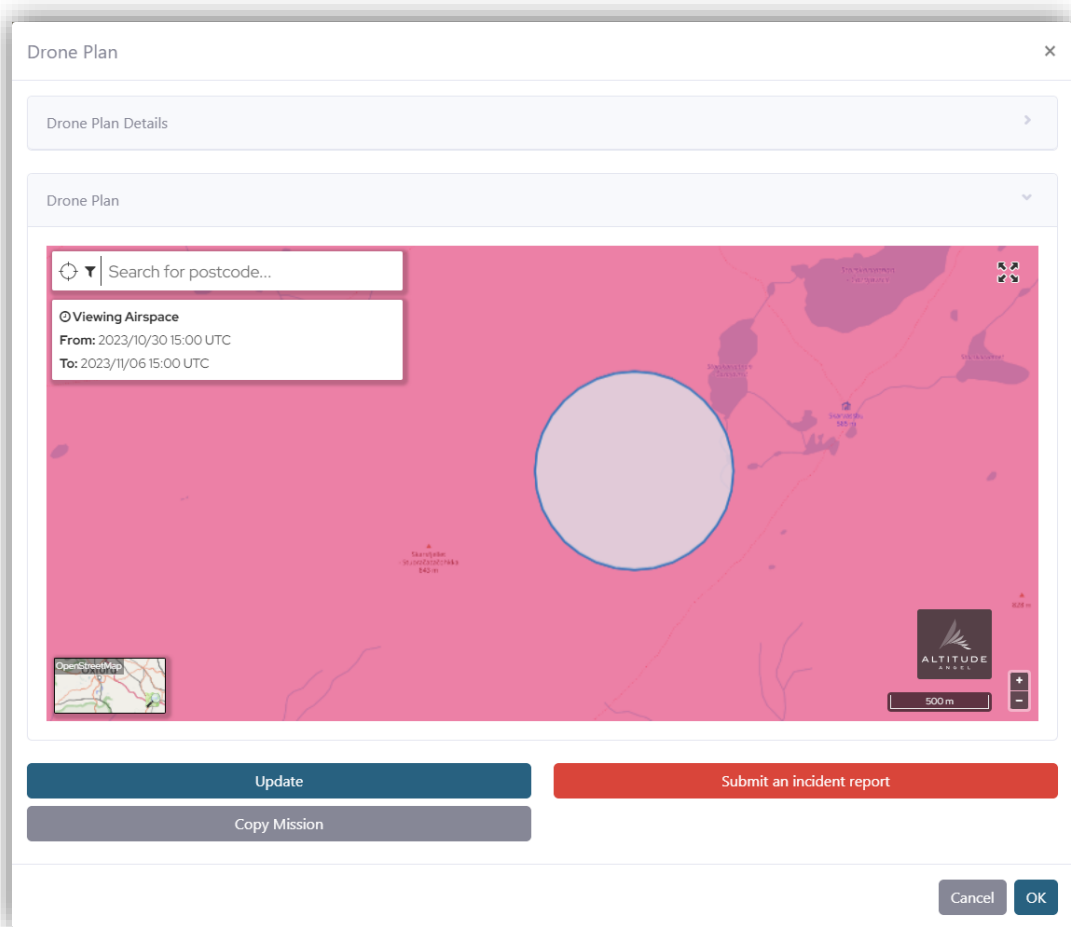
	Purpose	Flight Plan ID	Mission Status	Approval Status	Start (Europe/London)	End (Europe/London)	Max Altitude
  	Survey	4112d6	Submitted	Pending	19/08/2020 12:00	19/08/2020 13:00	100m AGL



These controls allow you to **View**, **Update** and **Delete** a Drone Plan. Note that **Update** will not be available if the Drone Plan start time has lapsed.

Click **View** will display the full Drone Plan detail, including the area of operation. Click on the **Drone Plan Details** and **Drone Plan** accordions to expand/collapse the detail.

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You can also **Update** your Drone Plan from this page. This will not be available if the Drone Plan start time has lapsed. You can also use the **Copy Mission** option to create a duplicate of the flight plan speeding submission of similar or follow up flights.

Flying a Drone Plan

Ninox Drone provides the Drone Operator with the ability to request and receive a digital Take-Off clearance directly from the appropriate ATC facility.

Once clearance has been received and the Drone Plan is underway, you will be able to receive instructions from ATC (such as 'Hold' or 'Return to home') and acknowledge them so that the controller has assurance you will comply with the command.



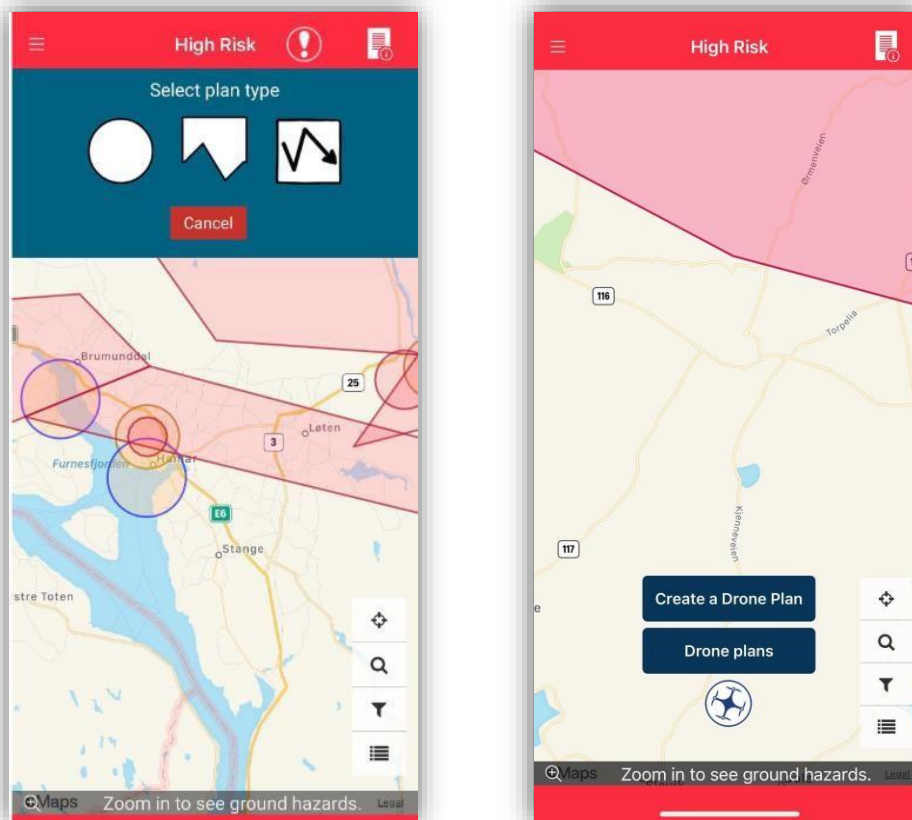
We recommend your CONOPS include a check, at least 1 day before the Drone Plan, that the assigned Drone Operator is correct and available to carry out the Drone Plan. If not, then you can update the Drone Plan assignment as required.

I'm a Drone Operator and I'm flying a Drone Plan today

Firstly, you'll need to make sure you have installed the 'Ninox Drone' app, available from the Apple and Google Play app stores.

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Upon loading the application, you will be asked to accept the terms of use for the app and then will be presented with our air and ground safety map, centred on your location (subject to sharing that through your device settings).



You will be able to use several app features without signing in:

- Exploring the map;
- Viewing the air and ground features that you should be aware of when flying your drone;
- Filter the air and ground map layers to display; • Submit an incident report; and
- Submit feedback.

The following app features are only available after signing in:

- Creating a Drone Plan;
- Viewing your Drone Plans;
- Requesting Take-Off clearance;
- Receiving and acknowledging in-Drone Plan ATC instructions; and
- Declaring a state of emergency, during a Drone Plan, to ATC.

You will be asked to sign in after tapping on any feature where it is required or can chose to do so by opening the main menu, tapping **Settings** and then **Login**. You can use the same details as you use to sign into the Operator Portal.

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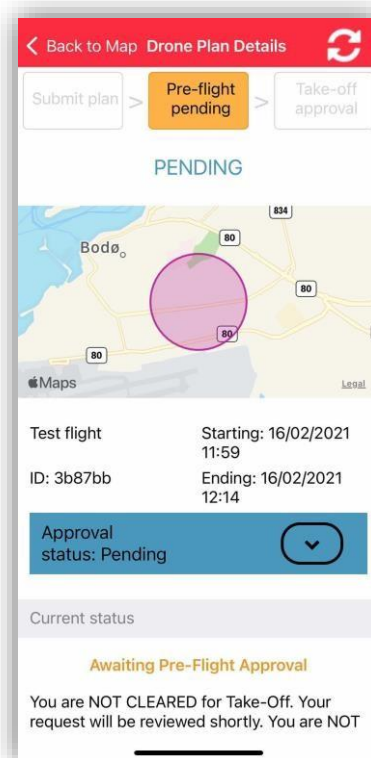
If you don't have a Ninox Drone account but are expecting a Drone Plan to be assigned to you then please complete the 'I am a Drone Operator and I have received an invitation to join an organization.' section of this guide, before continuing here.

Requesting Take-Off clearance

So, you have been assigned a Drone Plan, it has been approved and you're ready to request Take-Off clearance? You'll find your Drone Plans all listed under **Drone Plan Reports** (under the main menu), or by moving the map to the area of the Drone Plan, tapping on the plan and then **Manage Drone Plan Report**.

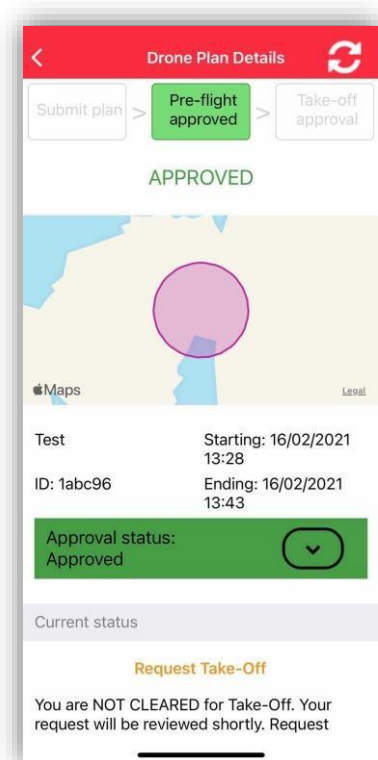


*Only Drone Plan plans that are **APPROVED** (or **NO SERVICE** – meaning it is outside the areas serviced by Ninox Drone) and taking place in the next 7 days will be shown on the map.*



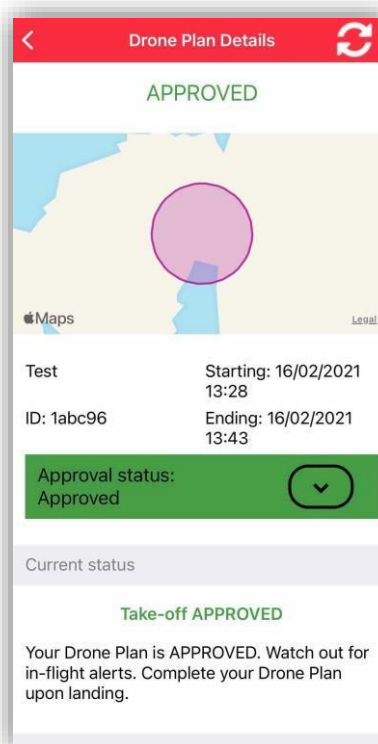
The **Drone Plan Details** will show the Drone Plan area and summary details. Provided the approval conditions have been met, then you will have the option to **Request Take-off**.

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Your Take-Off is now **PERMISSION PENDING** and you must wait for ATC to issue the Take-Off clearance before proceeding with the Drone Plan.

When ATC issue the clearance, you will receive a push notification and the Drone Plan status will be updated to **Take-off APPROVED** and you may proceed. Have a safe Drone Plan!

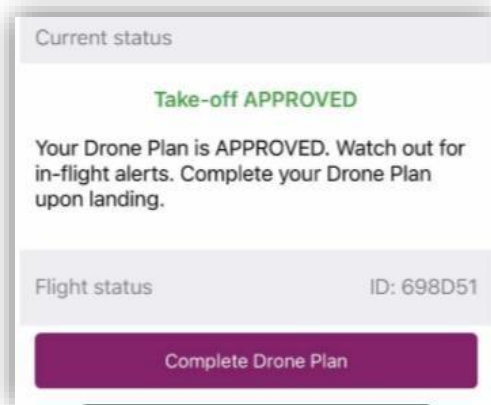


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During your Drone Plan, you/your observer MUST pay attention to the mobile app as you may receive additional instruction and/or information from the ATC facility where you are flying.

Completing the Drone Plan



When your Drone Plan has concluded, you are required to **Complete** your Drone Plan through the Ninox Drone app, so that the controlling ATC facility is notified.



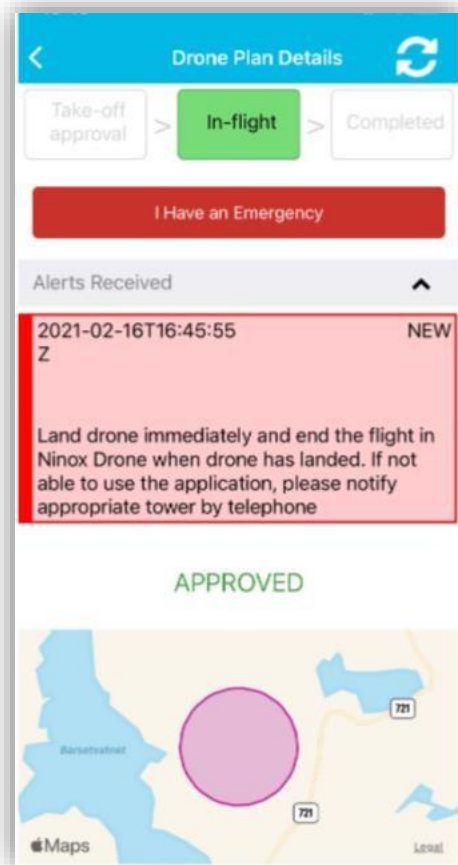
The system will automatically remind you to complete the Drone Plan if you have failed to do so once the end time has been reached. If the Drone Plan is not marked complete, Ninox Drone will auto complete after 3 hours

ATC alerts

The Ninox Drone system also supports Air Traffic Control (ATC) issuing instructions and alerts to drone operators that are conducting Drone Plans in the controlled airspace under that facility.

You will receive these as **Alerts** within the Ninox Drone mobile app, so we recommend you apply the appropriate device settings to be aware of any alerts and maintain a vigilant watch.

Any alert you receive will be listed under **Alerts Received** on the **Drone Plan Details** page, and a push notification and SMS message triggered to notify you.

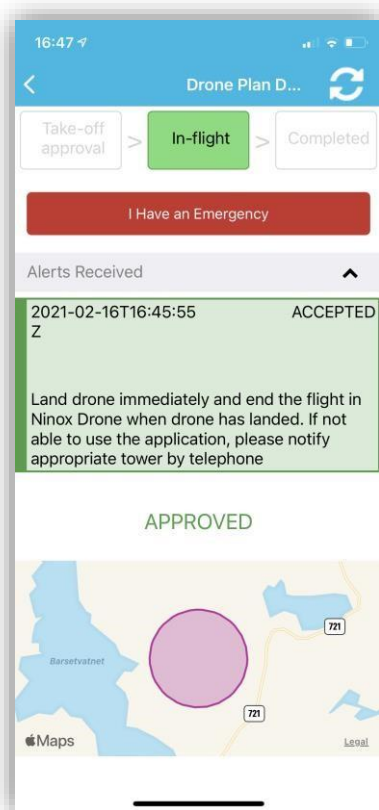


You are required to acknowledge these alerts, so that ATC are aware that you have received, understood and will comply. You will need to click continue to resume your flight.

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Successful acknowledgement of an alert will be shown under your list of **Alerts Received**.





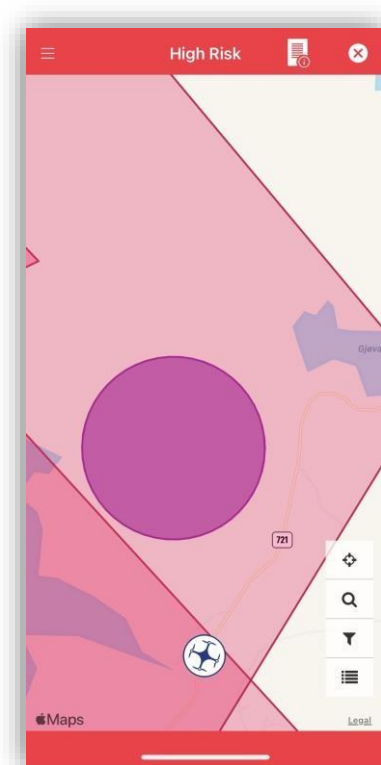
When operating in an area under control of an airport facility, you **MUST** accept and comply with all ATC instructions. Failure to do so could have serious consequences.

Declaring an Emergency

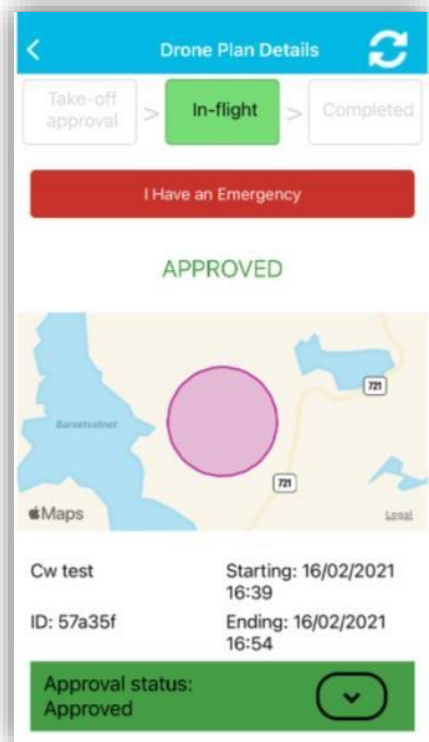
If you find yourself in difficulty during a Drone Plan, then you are strongly encouraged to use the **Drone Plan Emergency** feature within the Ninox Drone mobile app.

When a **Drone Plan Emergency** is declared, the system will route that information through to the appropriate ATC facility managing your operation and advise them that you are in difficulty so that an appropriate contingency response can be issued (via an Alert), and the Controller can enact mitigating action in their airspace.

A **Drone Plan Emergency** can be initiated from the map view via the X icon in the header, or from the **Drone Plan Report** page.

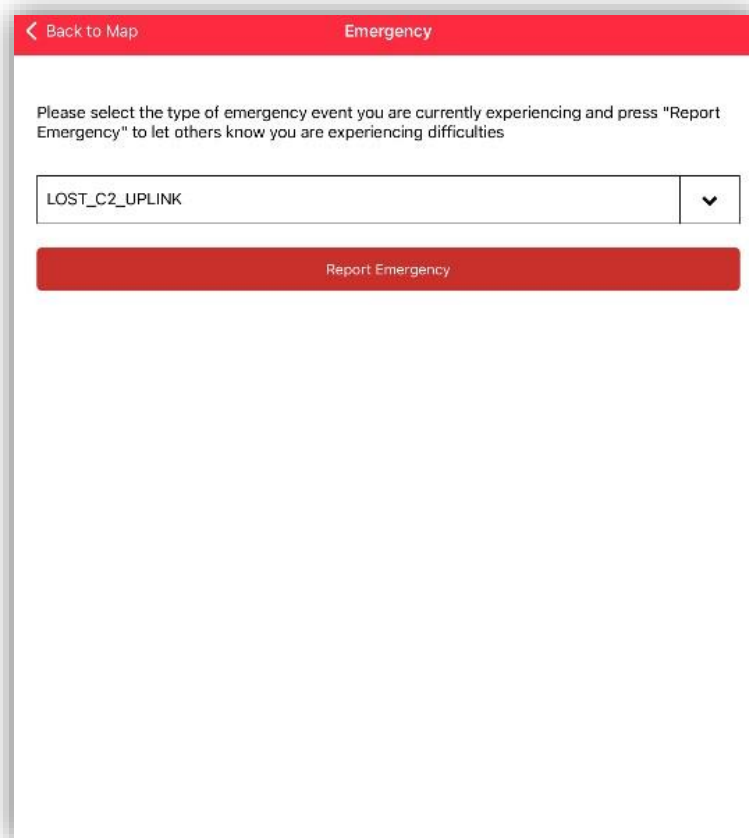


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Select the most appropriate type of emergency event and then tap **Start Emergency**.

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If you resolve the issue, or the incident concludes, then you can **End Emergency** from the same page. The ATC facility will be notified, and normal operation can resume.



Please familiarise yourself with the emergency states below, so that you can notify the ATC facility with an accurate identification of the issue.


Emergency state	Description
LOST_C2_UPLINK	The operation has lost command or control uplink to the vehicle.
LOST_C2_DOWNLINK	The operation has lost downlinks from the vehicle.
LOST_NAV	The vehicle no longer has sufficient navigation sources.
LOST_SAA	The vehicle's sense and avoid solution is no longer reliable.
LOW_FUEL	The vehicle does not have enough power to complete its Drone Plan. Still enough fuel to safely land or potentially return to base.
NO_FUEL	The vehicle is either completely without fuel or has only enough fuel to land immediately.
MECHANICAL_PROBLEM	The vehicle is experiencing a mechanical problem necessitating initiation of a contingency response.

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SOFTWARE_PROBLEM	The vehicle or some component of the required platform ground equipment is experiencing a software problem.
ENVIRONMENTAL	There are conditions in the environment necessitating initiation of a contingency response. Generally, these will be weatherrelated phenomena.
SECURITY	There is a security incident interrupting this operation.
TRAFFIC	The density or type of air traffic near the vehicle necessitated a contingency response.
LOST_USS	The operation has lost at least some portion of expected USS services.
OTHER	Some cause not captured in any other category. Please enter a brief description in the text field provided.

Incident reporting

If an incident occurred during your Drone Plan, whether it involved your aircraft or not, you are encouraged to file an Incident Report. The Ninox Drone system provides links within the Operator Portal and mobile app that will route you to the **Aviation Safety Reporting** system at <https://www.aviationreporting.eu/AviationReporting/>. The system is an EASA programme promoting a 'Just Culture' across all airspace users, regardless of the type of flying. You can find out more about 'Just Culture' here: <https://aviationreporting.eu/AviationReporting/Culture.aspx>.

You can find the **Submit an incident report** link from the Drone Plan view in the Operator Portal (see Tracking your Drone Plan approval), or via the  icon in the mobile app.

What do I do if I get stuck?

Use our drone operator community forum at <https://support.ninoxdrone.no> to share knowledge, experience and seek assistance with the Ninox Drone system. Our moderators are also on-hand to help you with any technical assistance and general support. We welcome input and feedback from the community to help us develop the technology and procedures that will truly unlock the potential for drone operations in Norway.

If you require operational, rather than technical, assistance then please contact the appropriate ATC facility for your Drone Plan:

Current ATC facilities - <https://operatorportal.ninoxdrone.no/support/contact-us>

You will also find assistance within the Operator Portal under the **Support** menu. Which is kept updated with FAQs (Frequently Asked Questions), resources and helpful contact information.