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AUTEL ROBOTICS Skycommand Center Flight Control Platform User Manual

Contents

AUTEL

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Product Introduction

The Autel SkyCommand Center is a flight control platform that enables users to manage tasks, equipment, and mission roles for their drones through a computer or mobile device. Using the platform, remote operators can monitor live video in real-time or schedule missions in clusters and access the recorded flight data at their convenience.
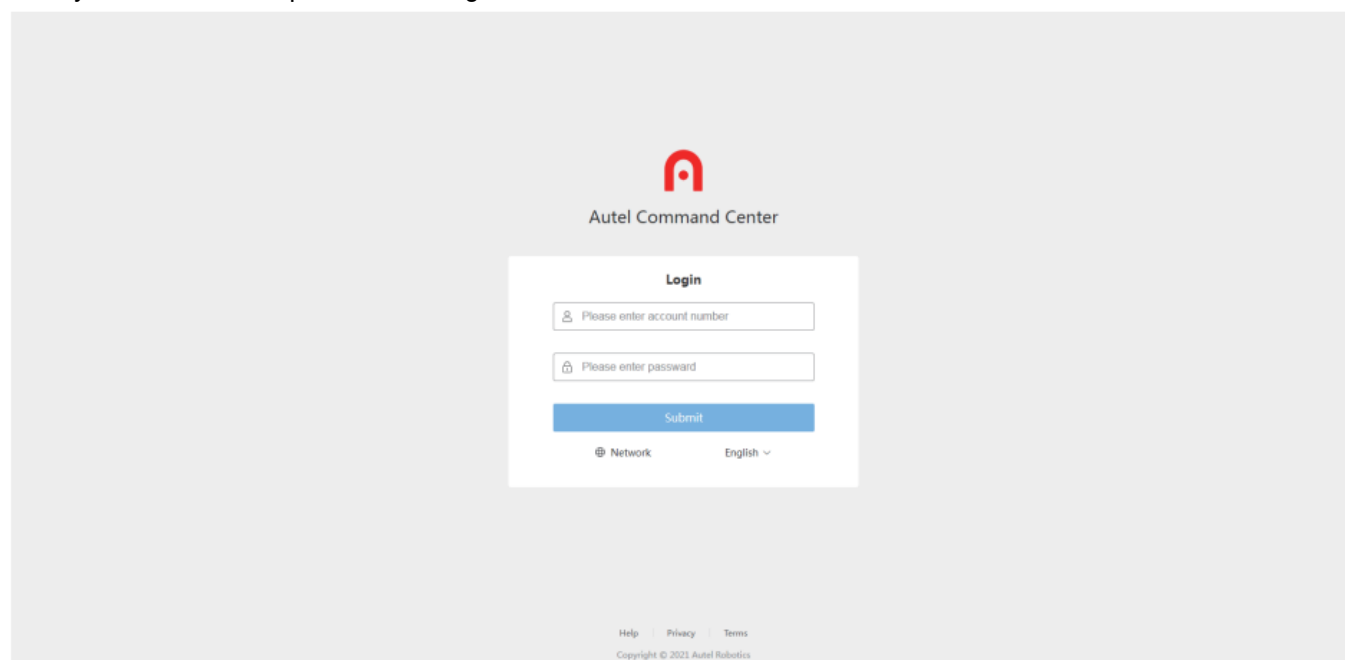
Preparation

- **Computer:** PC or Mac.
- **Browser:** Chrome 55 or above version.
- **Mobile device:** Smartphone or Pad with Android 8.0 or higher system.
- **Network connection:** It is recommended to use a tablet device or a mobile phone with a built-in 4G card.

  Support device: EVO II series, Dragonfish series, EVO Nest.

Require Account

Contact the local dealer to purchase an account; the account is associated with the login name, login password, number of bound aircraft and other information.

Log in

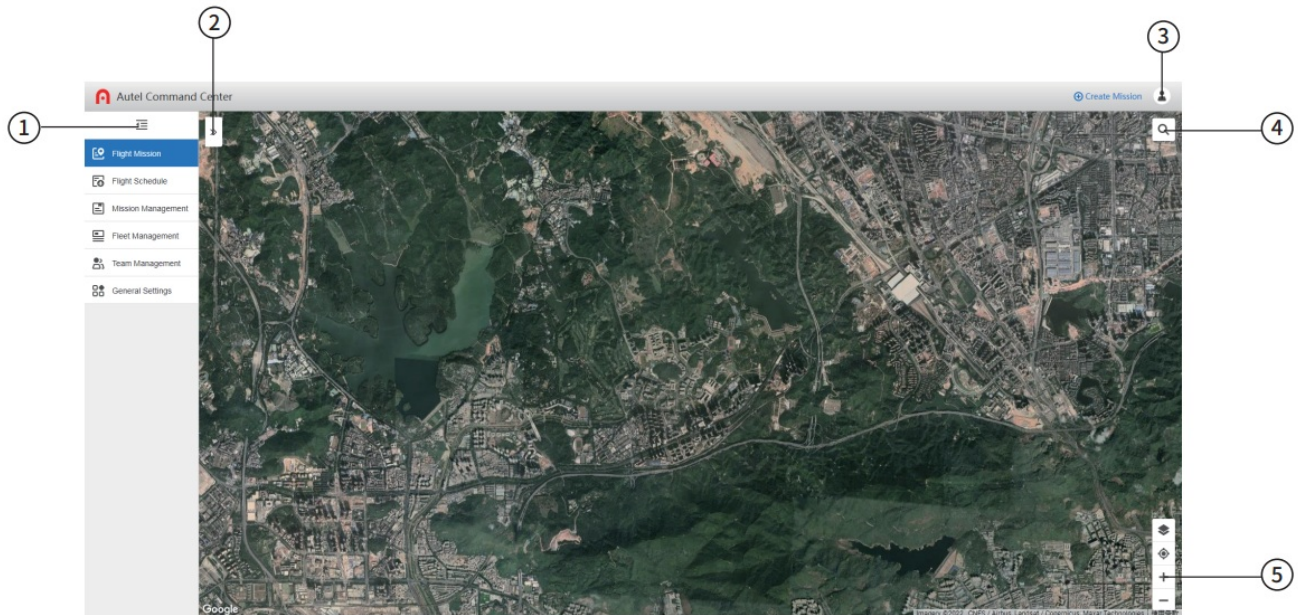Enter your account and password to log in to Autel Command Center.

Interface Description

1. **Flight Mission**

   Display the location of pilot, device and mission status.

   1. **Navigation bar**

      Show/Hide Menu: flight mission, flight schedule, mission management, fleet management, team management, general settings.

   2. **Device list**

      Display real-time status of in-process missions, online aircrafts, online pilots, online nests, and focus on selected objects.

      Note: If there's a device which is performing the system mission, then it will display the route of the mission; if no device performing the mission, then it will display the trailing track.

   3. **Account management**

      Modify User name, avatar, reset password or log out.

      Note: The passwords of users with all levels of authority can be modified, but not retrieved. Users can apply for reset to the team administrator first. If the administrator with the highest authority forgets the password, please contact the local dealer.

   4. **Search**

      After entering the place name, the matching detailed place will be displayed below the input box. Selecting the place on the interface will focus on the location on the map.

   5. **Map**

      Types: Switch between standard, satellite, or hybrid map.

      Focus: When a device is selected in the device list or there is only one device on the map, click Focus to focus on the device.
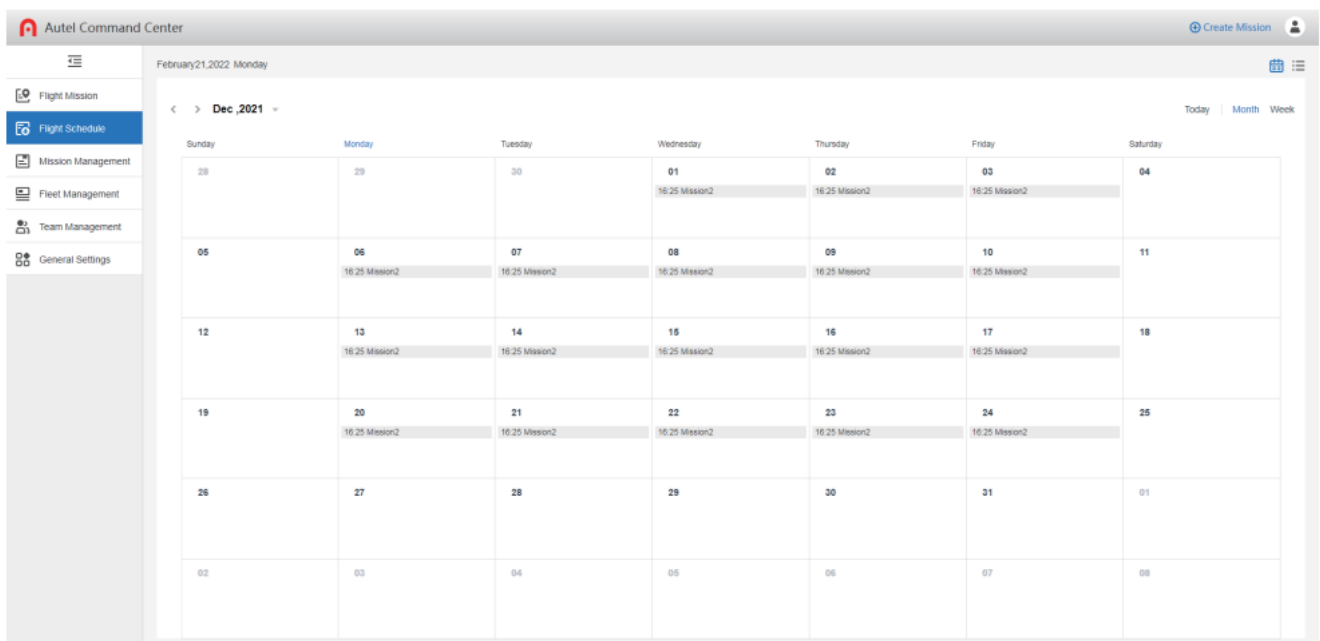
      Zoom in: Zoom in on the map.

      Zoom out: Zoom out the map.

      Note: Or zoom with the mouse wheel.

2. **Flight Schedule**

   Displays the scheduled missions that have been issued; the mission display method (calendar/list) can be switched by clicking the upper right corner icon.

1. **Calendar style**

   Displays by month or week. Click on a mission in the calendar to view the mission details.
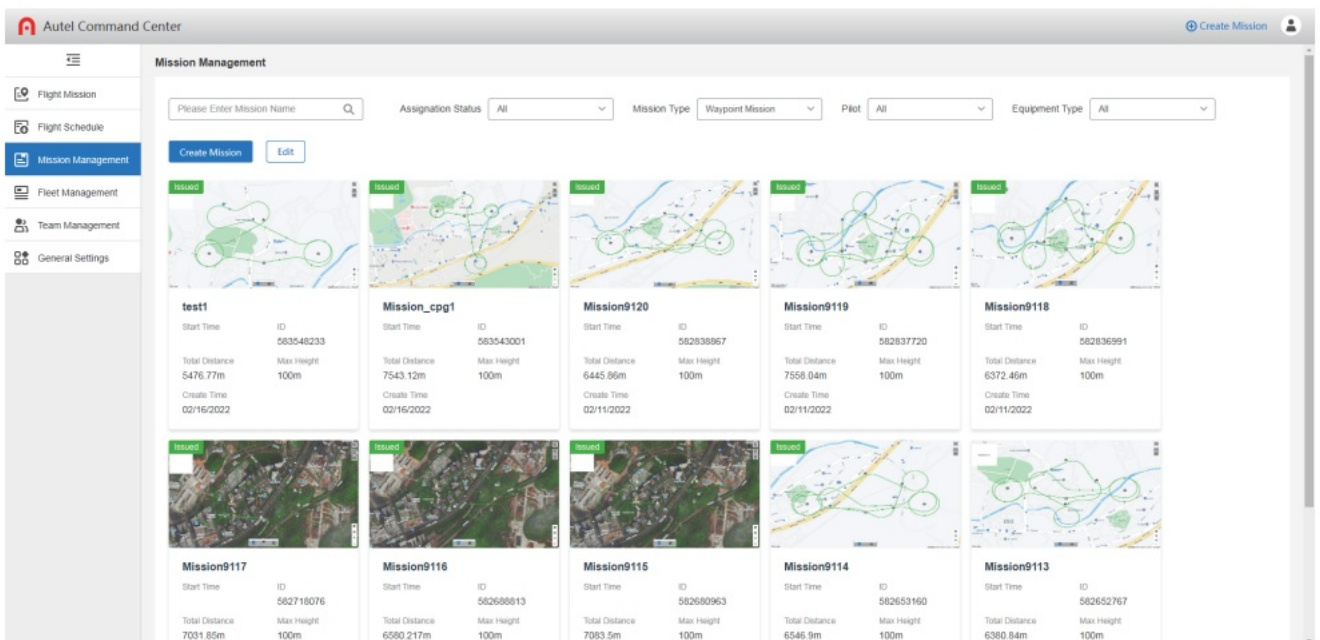
2. **List style**

   Contains information like mission name, mission ID, creation date, execution team, execution pilot, start time, total mileage, total duration, and operations.

   Note:

   Immediate execution-type missions will not be displayed in the "Flight Plan."

   If the mission is created but not issued, it will not be displayed in the "Flight Plan."

3. **Mission Management**

1. **Search box**

   Enter the mission name to search for the corresponding mission.

2. **Assignation status**

   Filter the issued/un-issued missions.

3. **Mission Type**

Filter waypoint missions/manual missions.

4. **Pilots**

    Filter pilot's missions.

5. **New mission**

    Create a flight mission: including name, device, mission type, route parameters, and other informa-tion.

6. **Edit**

    Created missions can be deleted. If the mission is being executed, it cannot be deleted.

7. **Mission Cards**

    Click a single mission card to see the mission details, and you can edit or view the mission route.

4. **Fleet Management**

   Add or edit devices (including aircrafts and Nests), reset Nest passwords, and view the device's flight times, last flight date, flight duration, and other information.

   Note: Log in with an organization account to view all devices under the organization; log in with a team account, view all devices under the team.

1. **Search box**

    Enter the device name or serial number to search for the corresponding device.

2. **Model**

    Filter devices by product model, for example: Select Dragonfish to view all Dragonfish devices.

3. **Team**

   Filter devices owned by the team. Only organization accounts have the filter permission.

4. **Add device**

    The organization account and team account can log in to add devices, but the operator account does not have this permission.
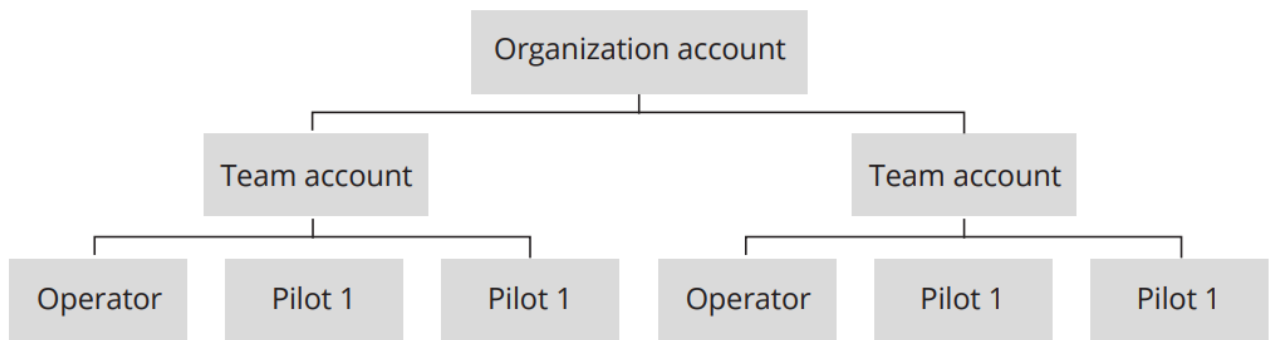
5. **Edit**

    The organization account and team account can log in to edit the device, but the operator account does not have this permission.

5. **Team Management**
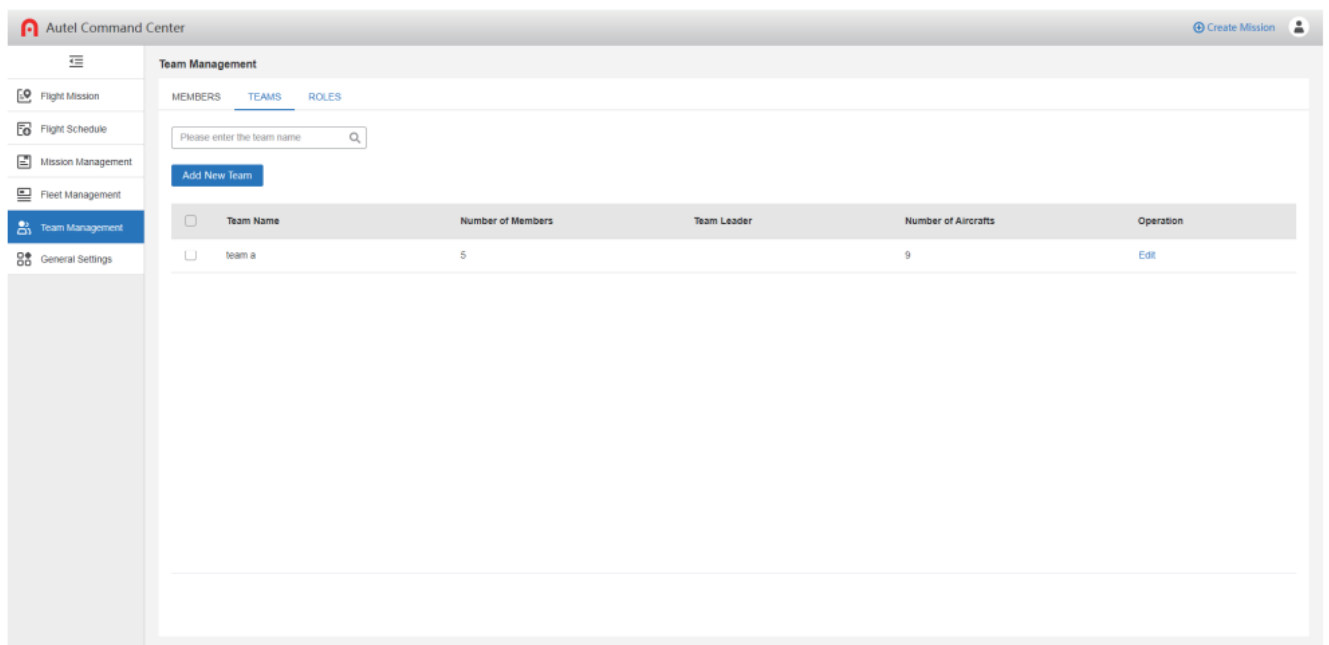
Accounts are divided into organization accounts, team accounts, and operator accounts according to their permission levels. The construction is as below.

1. **Organization account permissions:**
   - create, edit, view and delete team accounts
   - add, edit, view, and delete member accounts
   - reset operator and pilot password
   - edit team leader and operator permissions

Organization account		
Permissions	**Team leader**	**Operator**
Add device	√	**x**
Edit device	√	**x**
View device	√	√
Add new member	√	**x**
Edit member	√	**x**
View member	√	√
Flight control authority settings	**x**	√
Live authority	**x**	√
Create mission	**x**	√
View mission	**x**	√
Edit mission	**x**	√
View flight log	**x**	√
Edit light log	**x**	√

2. **Team account permissions**
   - Support adding, editing, viewing and deleting member accounts
   - Support reset operator and pilot password
3. **Operator account permissions**
   - Support to create and issue missions, no team management authority
   Note: Pilots do not have permission to log in to Autel SkyCommand Center.

6. **General Settings**
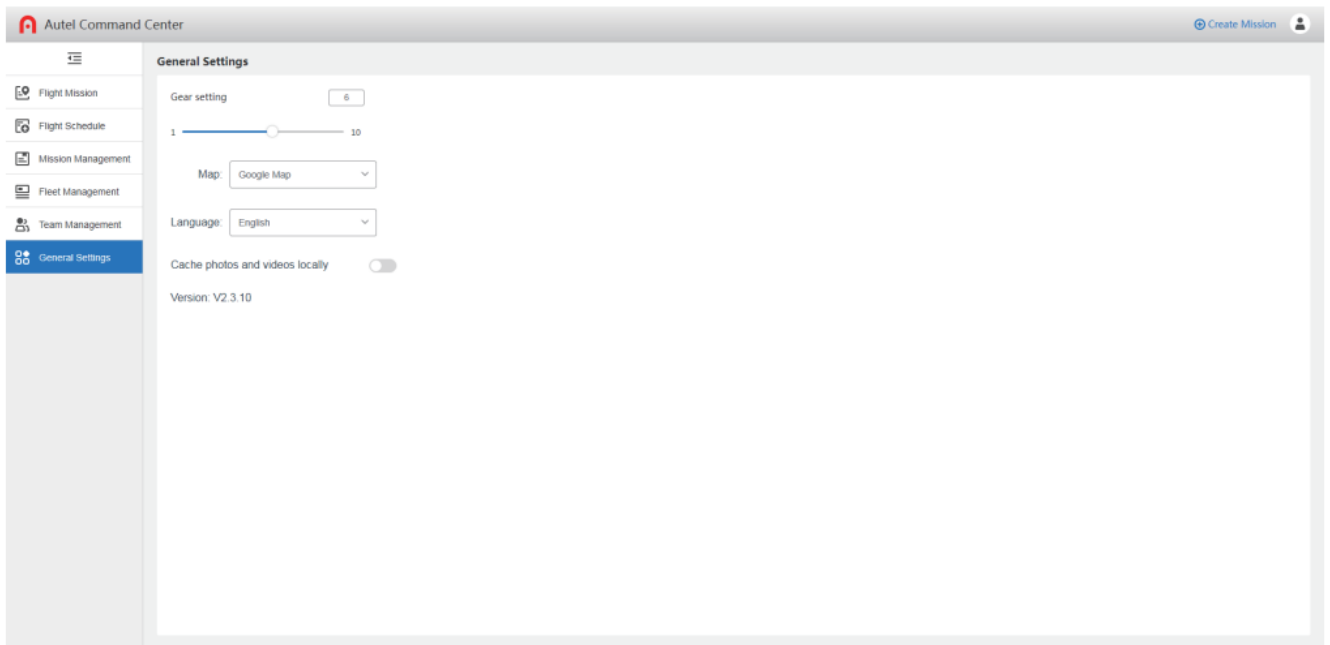
1. **Gear Setting**

   The default value is 1, and the range is 1-10. The larger the value, the greater the range of the stick during remote control.

2. **Language switch**

   Select the system language as Simplified Chinese or English.

3. **Map switch**

   Select the system map as a map or Google Map.

Operation

Note: It is necessary to ensure the smooth operation of the operator's network throughout the process. In following operation instructions, we use the organization account as an example.

1. **Add team and members**

   1. Log in to the organization account, enter the team page under the team management menu, click Add Team, and edit the team name.
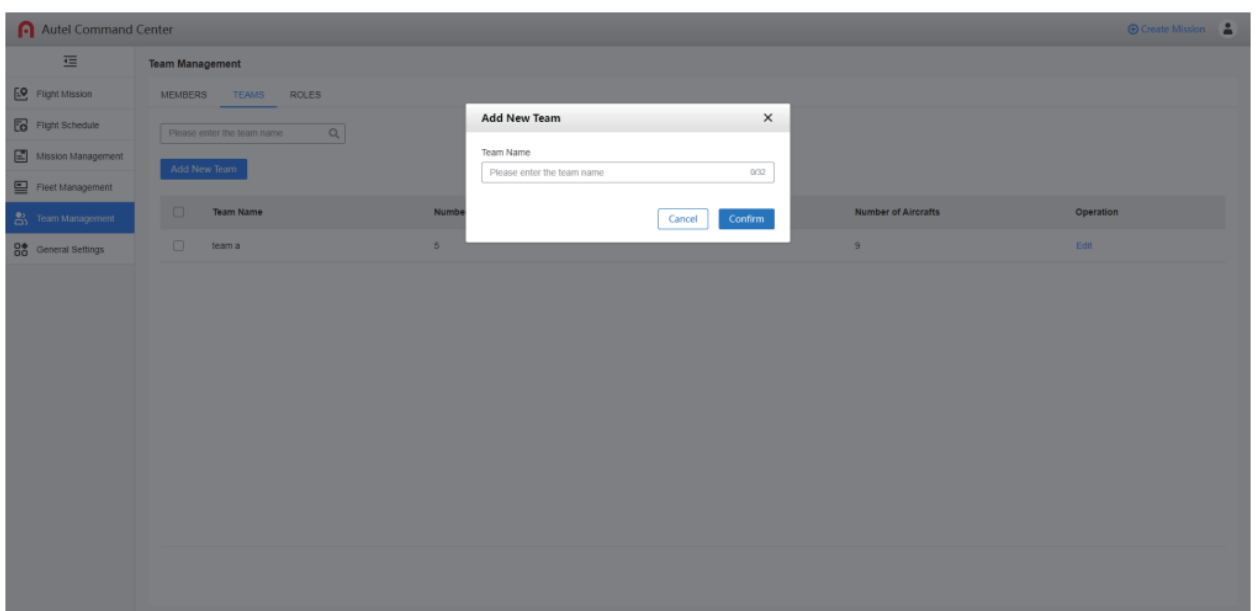
   2. Switch to the member page, click Add member, and edit the member's name, team, role (team leader,

operator, pilot), login account and password in the pop-up window.
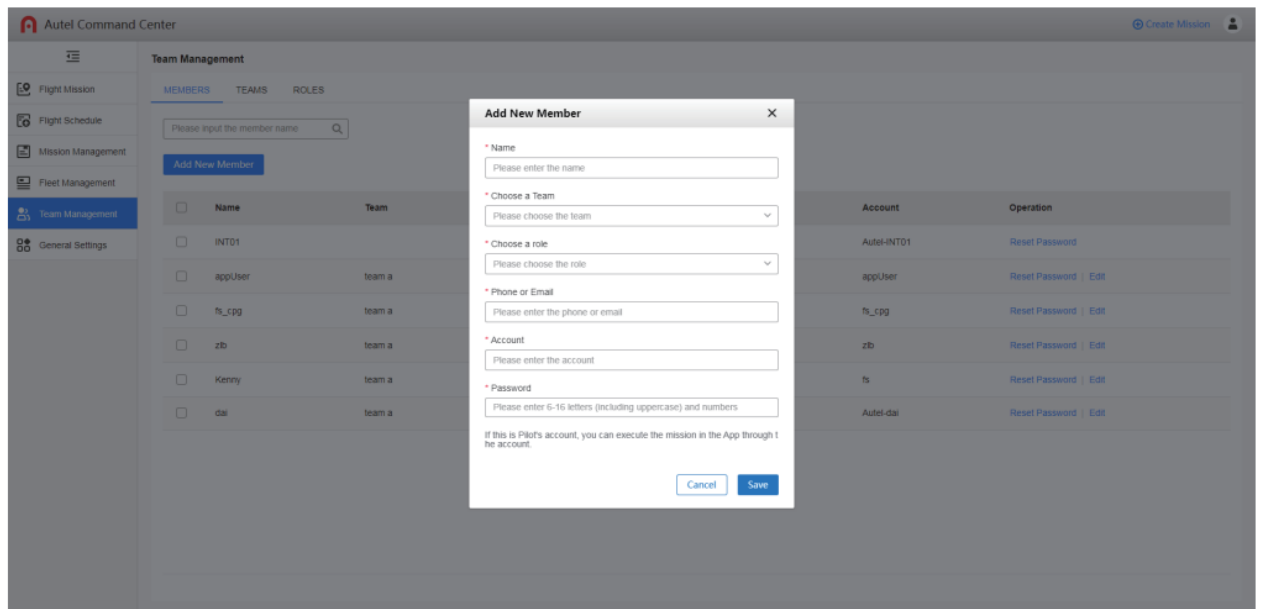
3. Switch to the role page and assign permissions according to different member roles.
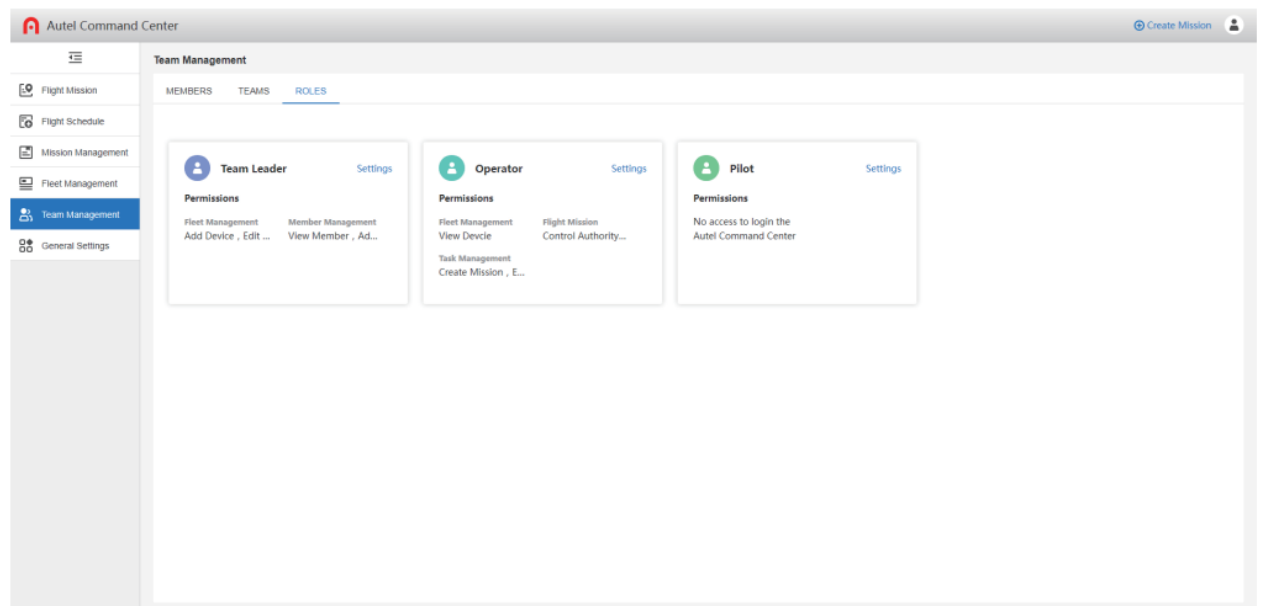
2. **Add equipment**

    1. Log in to the organization account, enter the fleet management page, you can choose to add a drone or a Nest, and enter the device name, serial number, and team in the pop-up window. After entering the serial number, the device model will be displayed according to the result of automatic matching.
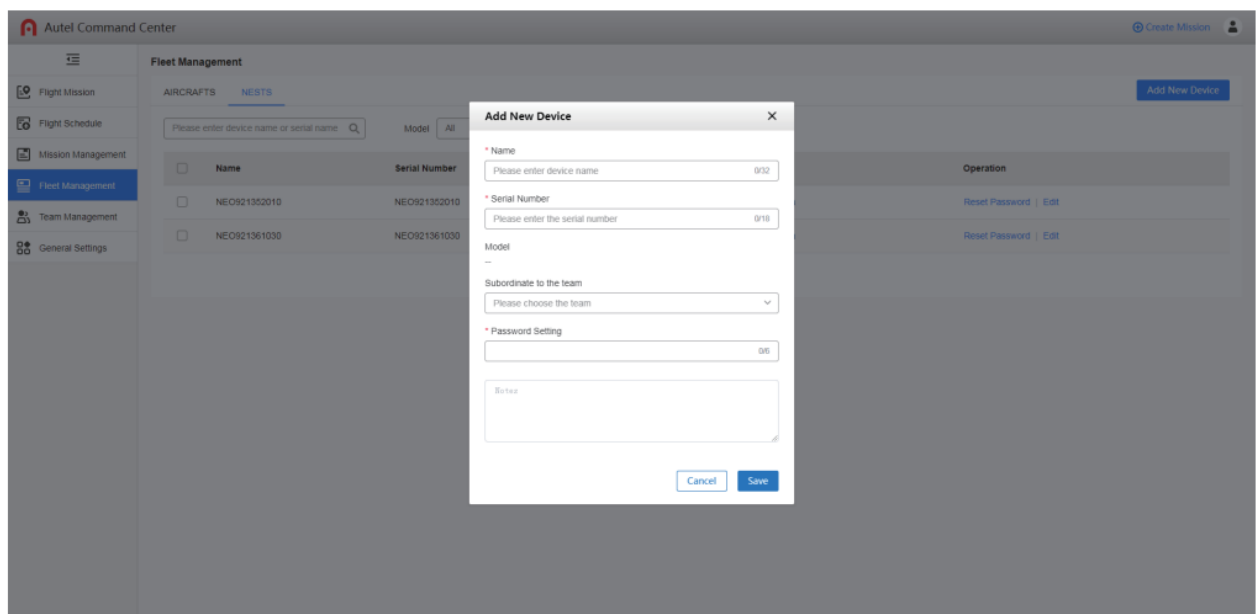
Note: When adding a Nest for the first time, enter the Nest name and serial number. After the Nest model is automatically recognized, a password input field will appear. Enter a 6-digit password for Nest authentication, and the password can be modified. When the Nest App is used for the first time, the Nest verification pop-up window will pop up, and you need to enter the server address and the corresponding 6-digit password; when the Nest has been added in the fleet management and powered on, the Nest will appear on the map.

3. **Create a mission**

   1. Log in to the organization account, enter the mission management interface, click "New mission", edit the mission name, equipment type (multi-rotor/fixed-wing), and mission type. After editing, click Configure Mission to enter the configuration interface.

      Note: There are 3 entries for creating a mission:, the quick add entry on the right side of the top navigation bar, the add entry for when the online mission list under the mission flight tab is empty, and the "new mission" entry under the mission management tab.
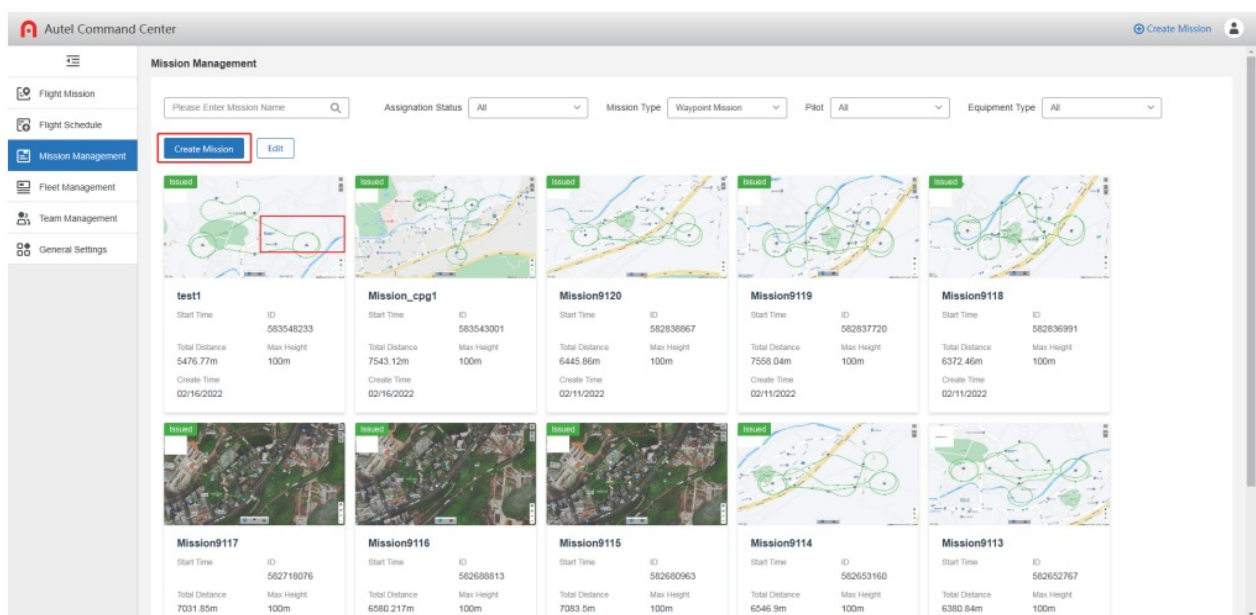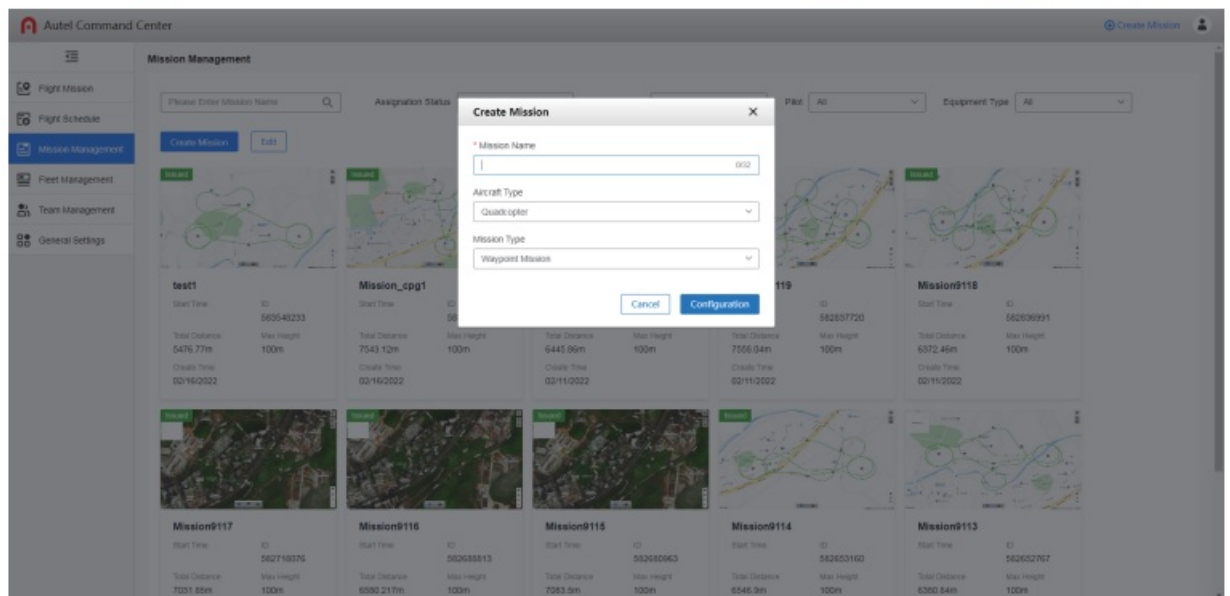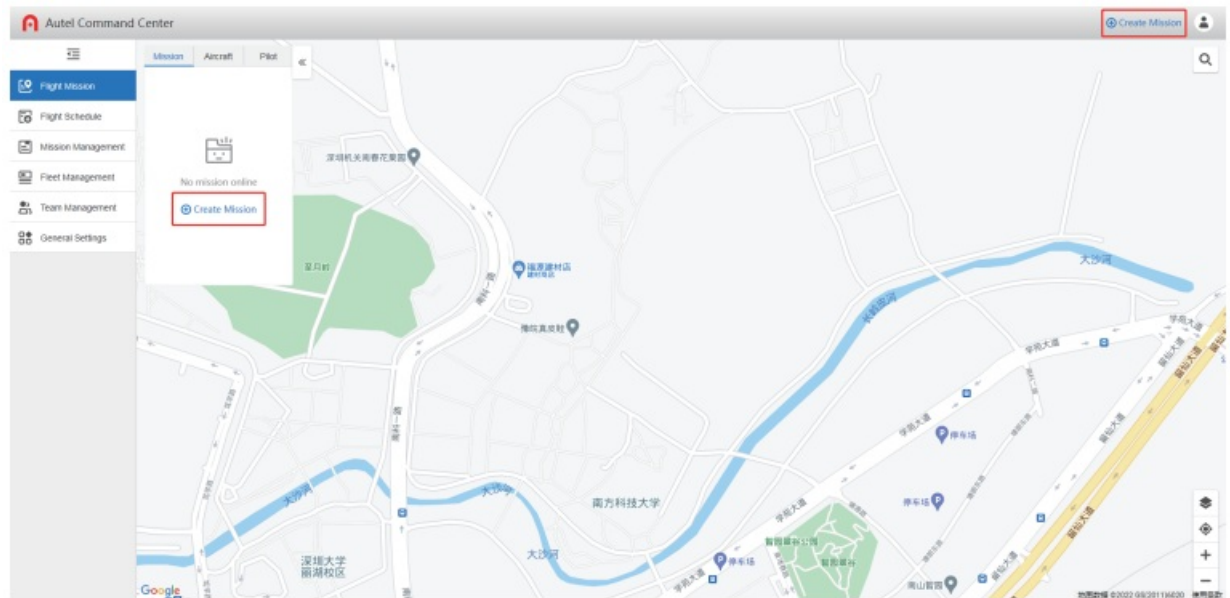
2. **Mission configuration**

- Configure route parameters

  You can configure route parameters first and then add waypoints. You can also click to add waypoints directly on the map; if you configure route parameters first and then add waypoints, the flight altitude of the generated waypoints defaults to the flight altitude in the route configuration. It is the reference base; when no waypoints are added, only waypoints can be added first.
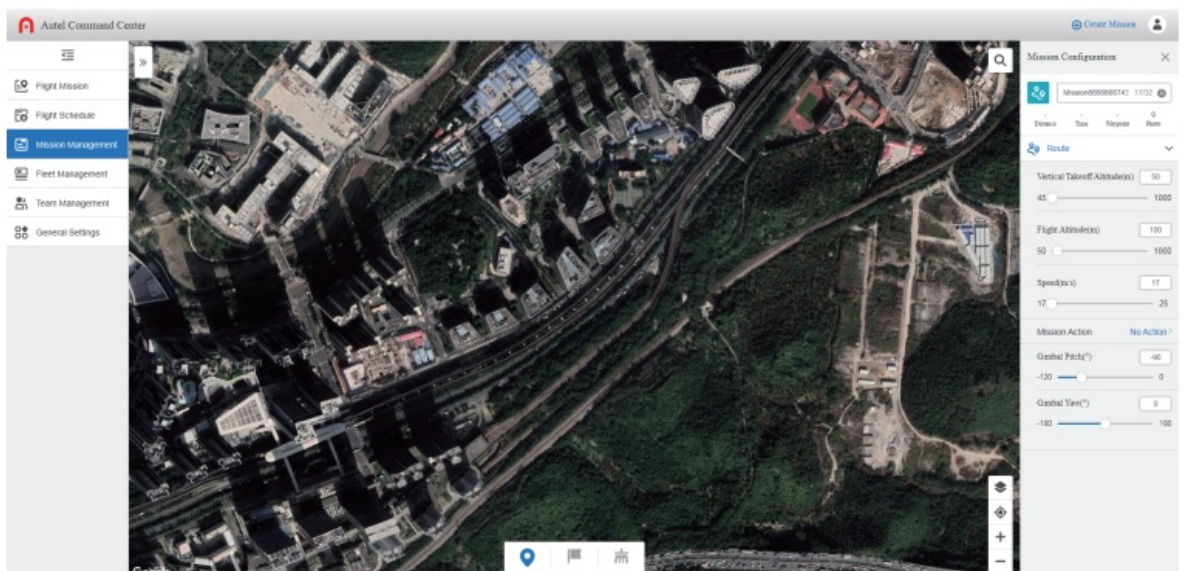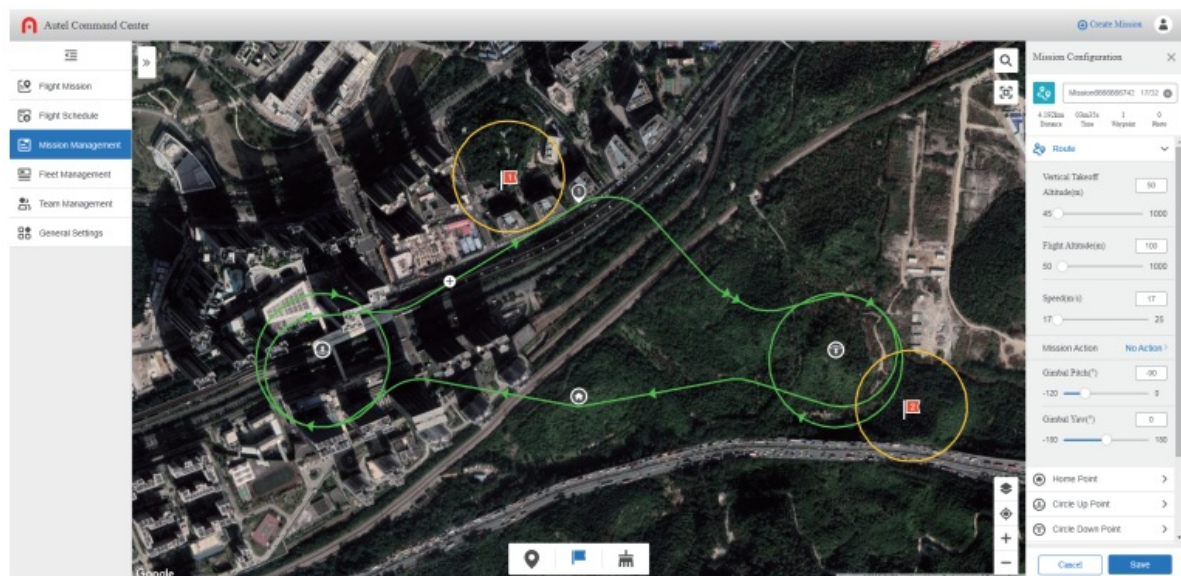
- Add waypoint

  After adding a waypoint, click the waypoint again to edit the waypoint parameters or delete the waypoint. The last waypoint added by the multi-rotor device is the end point by default. While the fixed-wing device generates the waypoint, it also generates the route, return point, ascending circle point and descending circle point.
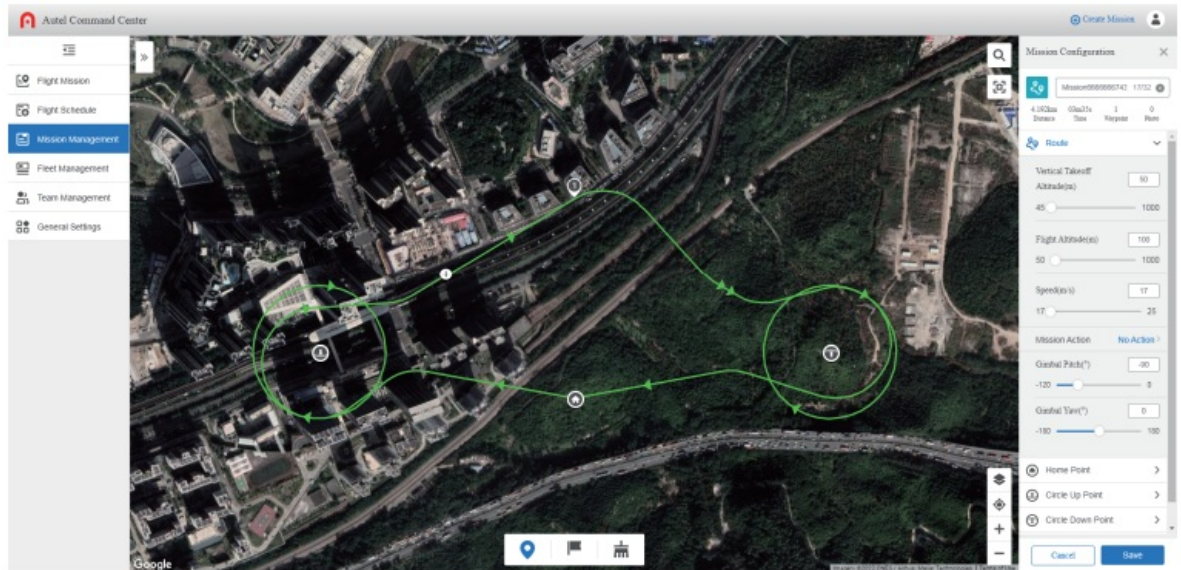
- Add observation points

  Click the observation point icon at the bottom of the configuration interface to configure the observation point parameters. When the fixed-wing aircraft flies within the flight segment associated with the observation point or within the action radius of the observation point, the gimbal will face the observation point; when the multi-rotor aircraft reaches the waypoint associated with the observation point, the gimbal will face the observation point.

	Mission Parameters	Multi-rotor	Fixed-wing
Route	vertical take-off height	×	45–1000 m
	height type	Relative height Absolute height	×
	flight altitude	10–800 m	50–1000 m
	flight speed	4–36 km/h	17–25 m/s
	Gimbal pitch angle	0°–90°	-120°–0°
	Pan tilt angle	×	-180°–180°
	mission action	×	Timing photo (photograph interval) Fixed distance photography (photography spacing) start recording
	Disconnected action	Return Continue the mission	×
	yaw angle	Along the route Manual Customize	×
	camera action	No action Timing photo (photograph interval) Fixed distance photography (photography spacing) Start recording Stop recording Photograph	×
	complete the action	Return Hover	×
Waypoint	flight altitude	10–800 m	50–1000 m
	flight speed	4–36 km/h	×
	Waypoint Action - Flyby	Camera action (no action, start video recording, stop video recording, take photo, timed photo, fixed distance photo) Heading when flying (along route, manual, custom) Gimbal pitch angle (0–90°)	Can be set, but does not support adding camera actions

	Waypoint Action - Hover	Camera action (no action, video recording, photo taking, timed photo taking) Heading when flying (along route, manual, custom) Gimbal pitch angle (0~90°)	×
	Waypoint Action - Circling	×	Radius (10~500 m) Number of laps (1~99)
	Associated observation points	support	support
	waypoint coordinates	latitude and longitude	latitude and longitude
	Gimbal pitch angle	×	-120~0°
	Pan tilt angle	×	-180~180°
Home point	vertical landing height	×	50~1000 m
	The drone position is the home point	×	When turned on, the drone will return to the take-off position; when turned off, the home point is the home point
	waypoint coordinates	×	latitude and longitude
Circle up point	flight altitude	×	50~1000 m
	Hover radius	×	100~500 m
	waypoint coordinates	×	latitude and longitude
Circle down point	flight altitude	×	50~1000 m
	Hover radius	×	100~500 m
	waypoint coordinates	×	latitude and longitude
View point	association	Associate Waypoint	Associated segment
	Action radius	×	100~500 m
	waypoint coordinates	latitude and longitude	latitude and longitude
	Elevation correction	×	DEM correction Manual correction

Note: When creating a fixed-wing mission, one observation point can be associated with up to 5 flight segments, and the associated flight segments of two observation points cannot be repeated. When creating a multi-rotor mission, you can only add 1 camera action when you select the waypoint action and select "fly over". Multiple camera actions can be added when "Hover" is selected.

3. After the parameter configuration is completed, click Save to return to the mission management interface.

4. **Issue missions**

   1. "Undelivered" missions can be filtered in the delivery status.
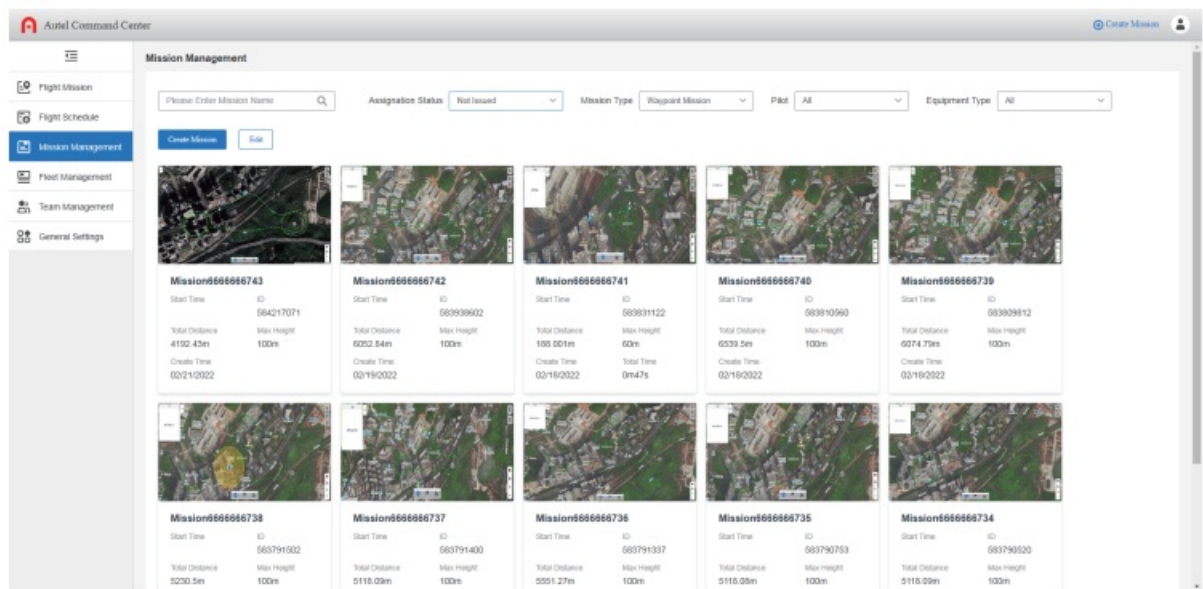
2. Click the mission to enter the details page of the un-issued mission. At this time, click "Edit" to continue editing the route.
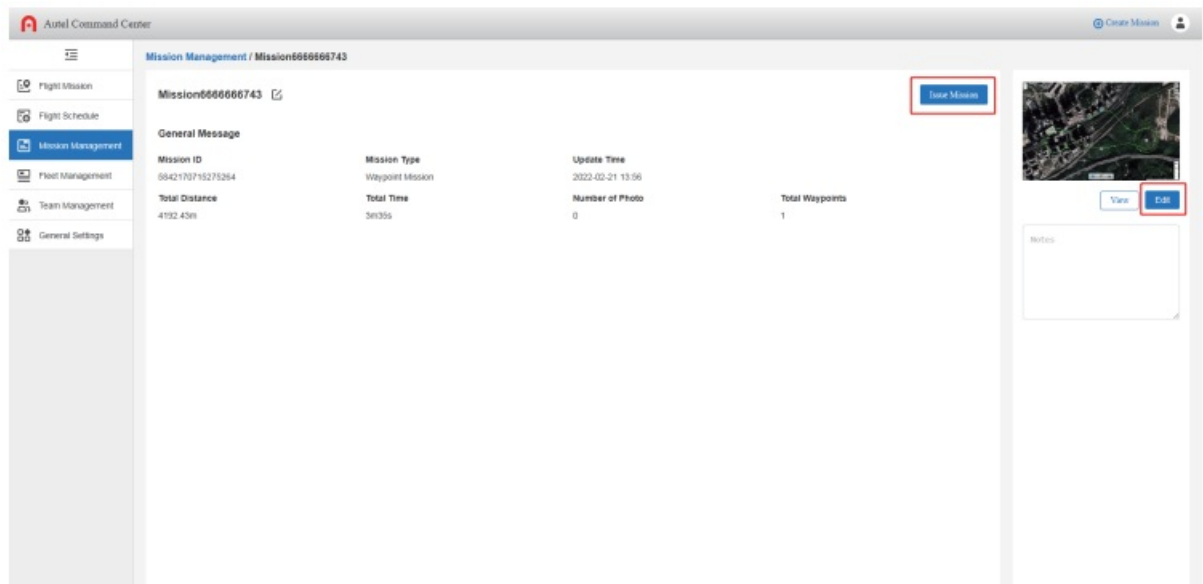
3. Click "Issue Mission", select the execution object (Nest/Pilot), execution type (immediate execution/planned execution), period, start time and validity period in the delivery pop-up window, and finally click OK to send the mission to App side.
   Note: If the system recognizes that there is a Nest under the account, it will select the Nest to execute by default.

5. **Perform missions**
   1. Pilots can log in with the username and password created by the command center on the app side, and can view the system missions issued by the command center.
   2. Click the mission card to enter the mission details page, and click the take-off button to start the mission.
      Note:
      The pilot can download the missions issued by the command center to the local. If there is a newly assigned mission, the App will receive a notification and prompt again 10 minutes before the mission starts. If you want to perform the hands-on flying mission of the Nest, you can first find the available Nest on the map through the Nest list, and then click the one-key take-off icon ( ) of the Nest drone on the map, and the drone can be remotely controlled in the background.

6. **Live video**

1. All aircraft connected to the command center will start live broadcast by default after they are powered on, and the live broadcast window will appear in the upper right corner. During the execution of the mission, the mission route, waypoint, and the current position of the aircraft are displayed on the map.
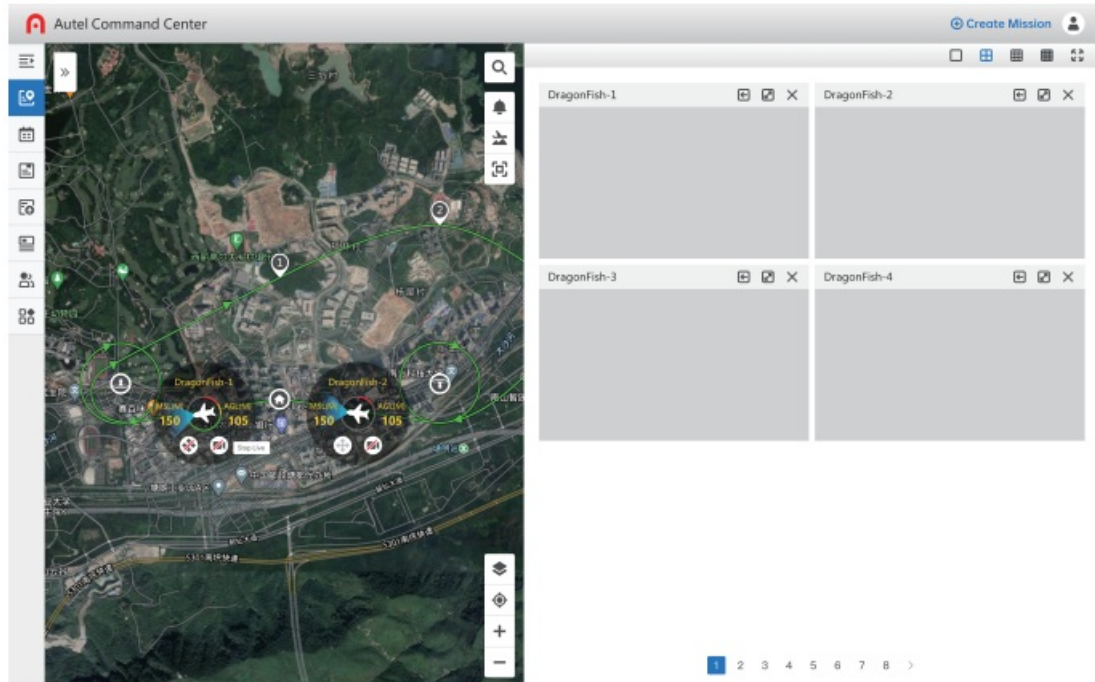
Note:

The display area of the live broadcast window in the upper right corner is displayed according to the actual number of live broadcasts. It supports up to 32 channels of live video broadcasts. Users can choose 1, 4, 9, or 16 grids to watch.

7. **Remote control**
    1. The PC terminal of the command center can apply to the pilot for the control right of the device, and click the remote control icon (⊕) in the background to issue a control right request.
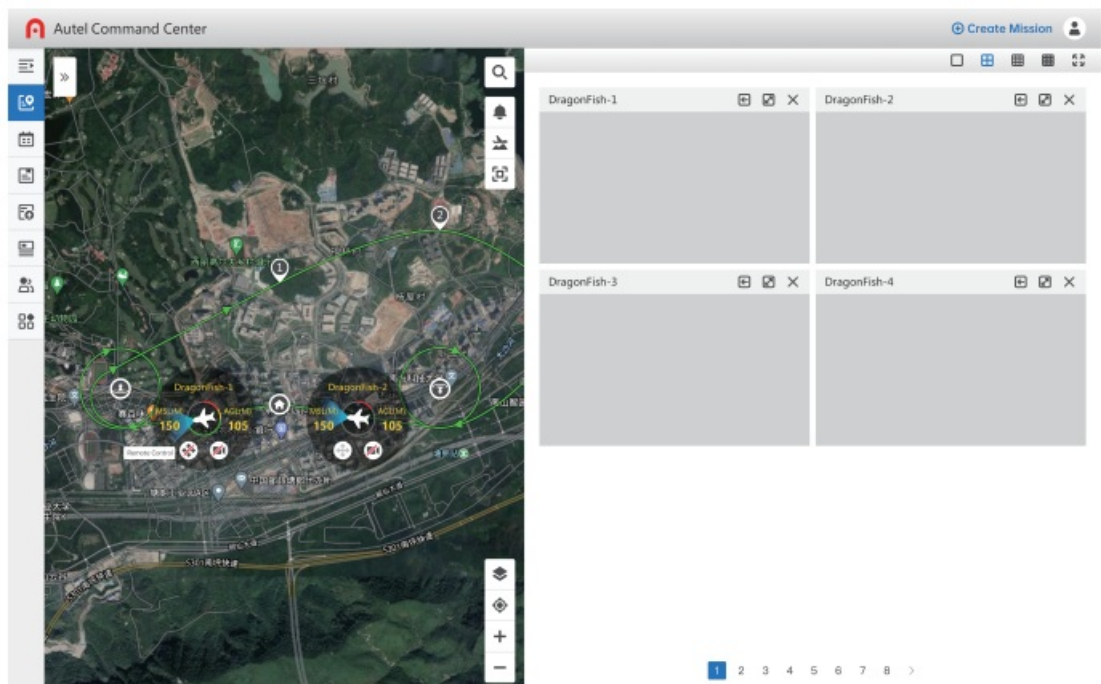
    2. When the pilot receives the application notification on the App, the pilot can choose to accept or reject the application.
    3. The command center can only remotely control one aircraft at the same time. When one account is

performing remote control, other accounts can no longer apply for the control right.

Note: If the object applying for control in the background is the Autel Dragonfish fixed-wing UAV, the pilot must first set the ground station gear to A before transferring the control right.

4. During the background remote control process, the App only has a display function and cannot perform any operations. If the pilot wants to regain control, he can click the exit icon in the upper right corner of the interface, exit the background remote control, and return to the previous non-remote control interface. If the aircraft has not completed the mission, the mission will continue from the stop point.

Shortcuts for remote control	Definition
W	Ascend
S	Descend
A	Turn Left
D	Turn Right
↑	Move Forward
↓	Move Backward
←	Move Left
→	Move Right
Hold down the left mouse button and drag the mouse	Adjust the pitch angle of the gimbal
MouseWheel	Zoom in/out

Note:

After the multi-rotor aircraft is remotely controlled during the execution of an automatic mission, it does not support manual directional control, but only supports returning home.

The multi-rotor gimbal only supports the control of the pitch angle, not the heading angle.

8. **Quick missions**

When the background of the command center is under remote control, a quick mission can be created and executed.

1. Click the quick mission icon on the remote control interface to activate the quick mission.
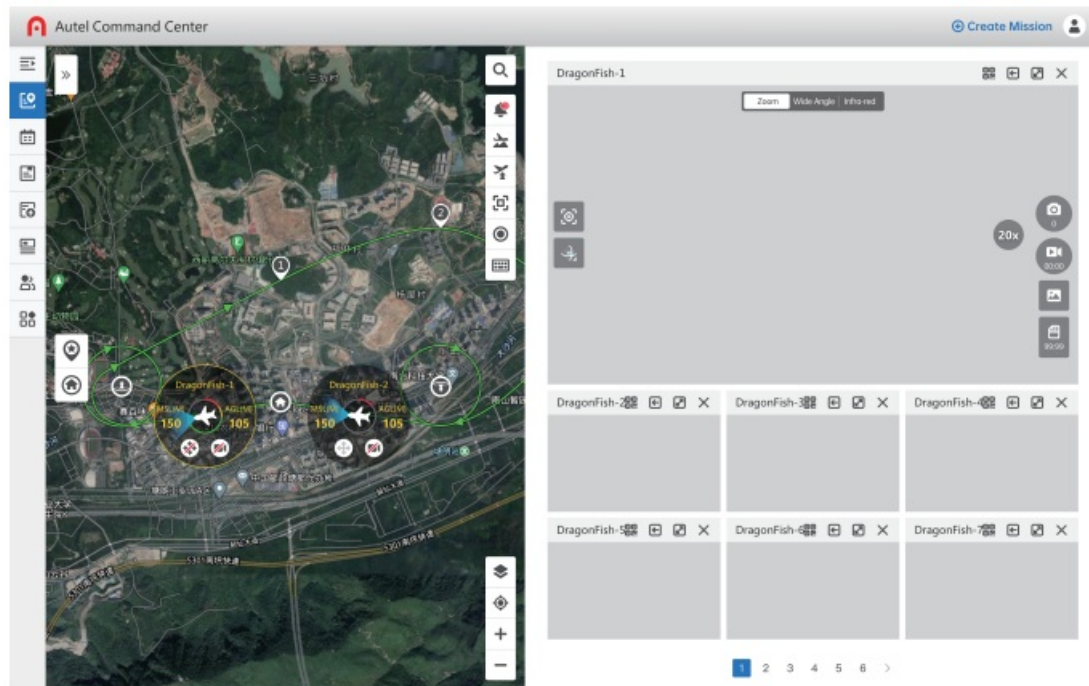
2. Click on the map to generate a quick mission point. The quick mission point can be dragged and dropped with the mouse, and the mission parameters can be edited in the pop-up parameter configuration bar.

3. After editing, click "Go", and the system will prompt whether to suspend the current mission, click "OK", the device will fly to the quick mission point.

   Note:

   To return to the previous route mission, click the ( ) icon.

Icon instruction

Mission flight	👤	Edit account information
	⊚	Obstacle avoidance off
	⊚	Obstacle avoidance on
	🔋	Finished charging
	🔋	Not charged
	🔋	Charging
	🔋	Low battery
	🔋	The battery is fully charged
	👤	Pilot position
	🚁	Multi-rotor drone
	✈	Fixed-wing UAV
	✳	Nest & Drone
	⋎	Nest drone takes off with one click
	Ⓗ	Nest
	⌖	Target focus
	⊕	Find drones (available only with fixed-wing units)
	⊗	Find drones - drone locations
	⏱	Vertical speed
	⏱	Horizontal speed
	📏	Aircraft altitude
	✈	Aircraft distance
	✈	One-click height change (only available for fixed-wing equipment)
	⌂	Back to home

Live streaming	⇥	Live screen to the right
	⇤	Live screen to the left
	◼◀	Click to start live
	⧄◀	Click to close live
	⤢	Full screen
	⤦	Exit Full Screen
	🔔	Alarm prompt
	☐	1 Square
	⊞	4 Square grid
	⊞	9 Square grid
	⊞	16 Square grid
Remote control	✥	Apply for remote control
	⌂	Back to home
	📷	Take a photo
	▶◀	Record
	▮▮◀	Pause recording
	◉	Reference point
	⛶	Center route
	⌨	Remote control shortcut description
Quick mission	◉	New quick mission
	⤓	View elevation data
	⤴	Back to waypoint mission
Flight plan	⊟⊟	Display in card
	☰	Display in list
Mission management	✎	Mission renaming
	▼	Orientation in flight
	⚑	Click to add observation point

Documents / Resources

Autel Skycommand Center User Manual	**AUTEL ROBOTICS Skycommand Center Flight Control Platform** [pdf] User Manual Skycommand Center, Flight Control Platform, Skycommand Center Flight Control Platform

References

- **Autel Robotics Enterprise Drone, Quadcopter & UAV for Sale | Leader in Drones**