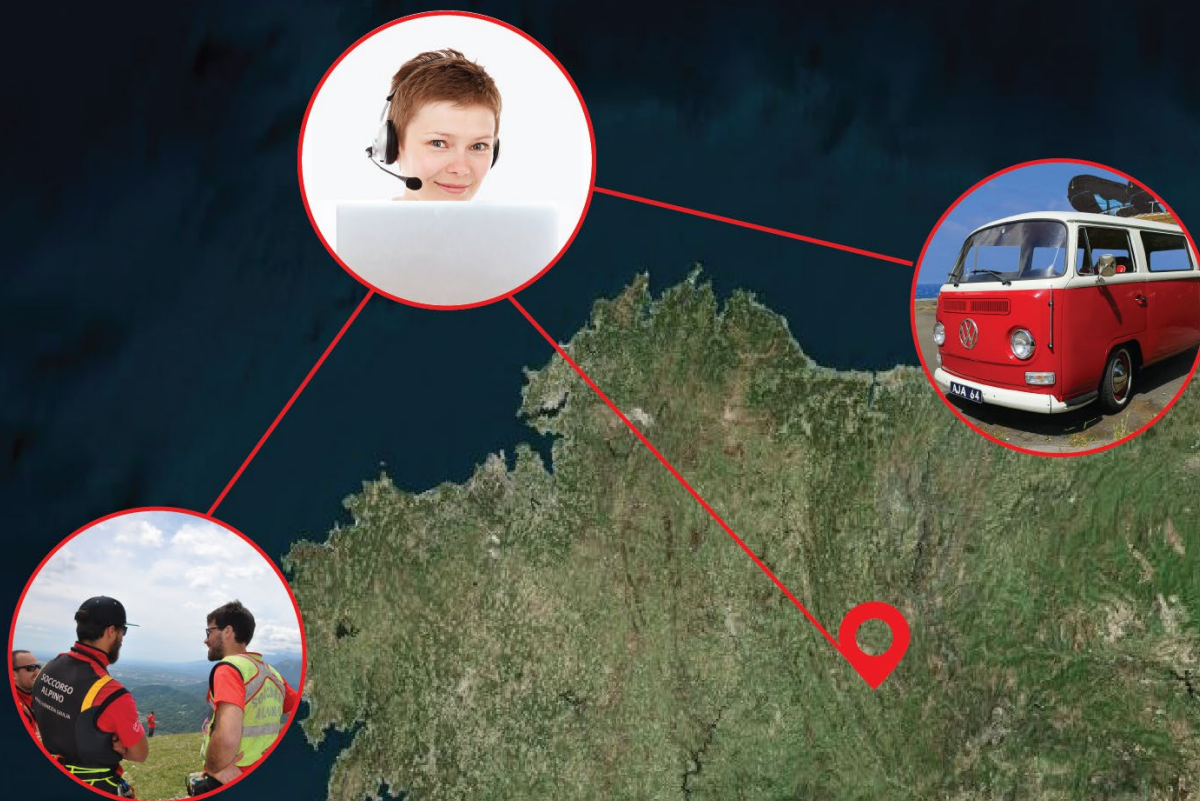




FLYMASTER

Retrieve System Manual



1

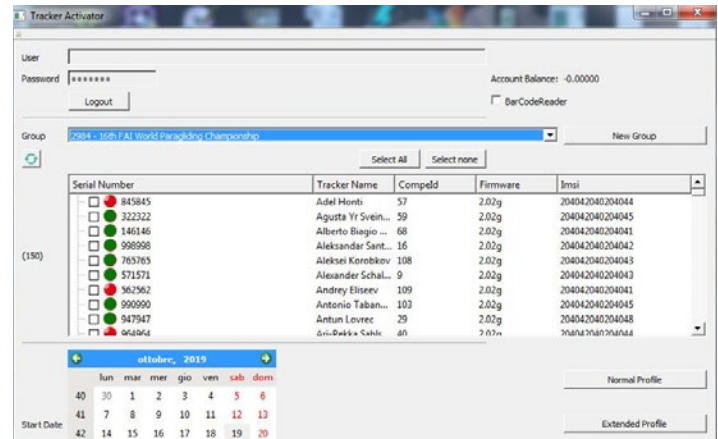
Before you begin

» Get sufficient number of Flymaster trackers for all your pilots and drivers + 1-2 spare ones.

» Check that all trackers are fully charged.

» If you use your own trackers check that you have them activated and that they have the latest firmware.

» Assign and train retrieve staff: 1-2 HQ manager and 1 Take off Manager



HQ Retrieve manager should:

- know flight area roads and boom-out places.
- be computer and smartphone literate.
- speak local language and English.
- have smartphone with SIM allowing international calls.
- have computer to work
- have local emergency services phone numbers.
- have phone numbers of all pilots (both local and home).
- have constant contact with Safety director via mobile or radio.
- have good internet connection and mobile coverage at HQ.

Activities distribution of HQ Retrieve managers:

- 1st - Watch live tracking to check emergency and safe landing report
- 2d. - Watch landing, assign buses and manage drivers.

Take off Retrieve manager should:

- know flight area roads and boom-out places.
- be computer and smartphone literate.
- speak local language and English.
- have smartphone with SIM allowing international calls.
- have local emergency services phone numbers.
- have list of all pilots with competition numbers
- have constant contact with Safety director via mobile or radio.
- ideally have internet connection and mobile coverage at Take off.

Activities of Take off manager:

- check that trackers are working
- distribute trackers to pilots
- report task to HQ manager or scorer
- optionally monitor situation for Safety director or go to HQ to help HQ managers.

2

Equipment



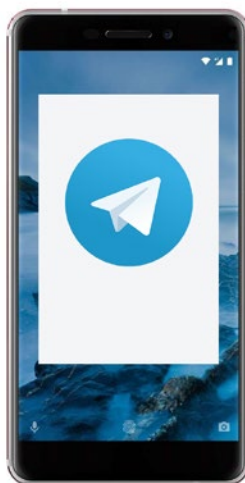
Flymaster live trackers



Flymaster charging station



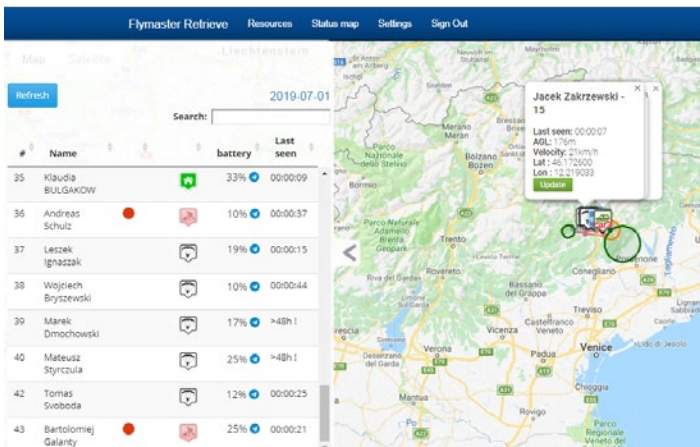
Enough electric plugs



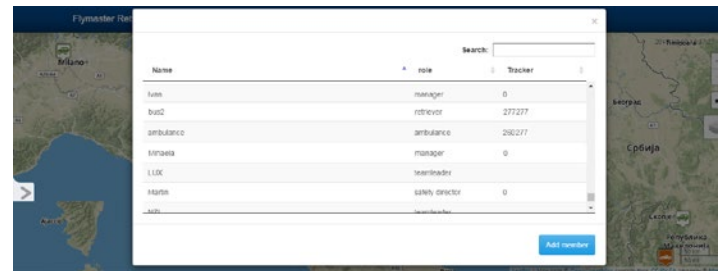
Smartphone with TELEGRAM application installed

3

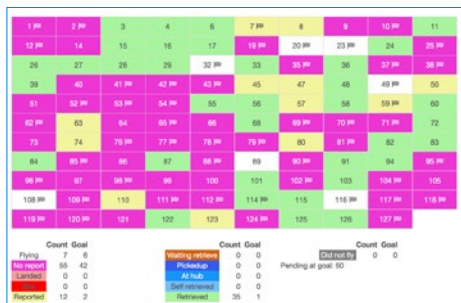
System elements



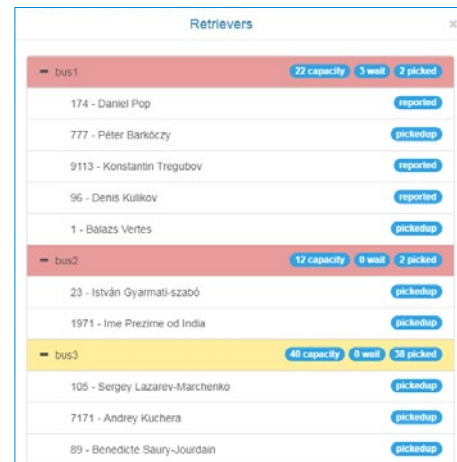
Action map with 0 delay live tracking data



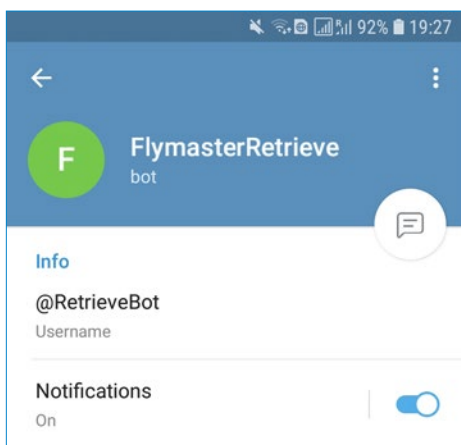
Staff Management



Participants status map



Transport Management

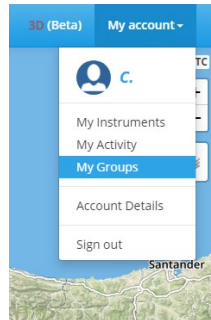


FlymasterRetrieve Telegram bot used to communicate:

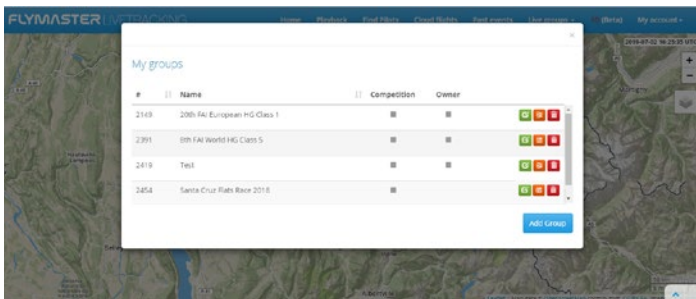
- Safe lading reports,
- Pilots coordinates with map link to drivers,
- Instant request of pilot's last seen coordinates in case of emergency,
- Technical messages both to participants and organizers.

4 First steps

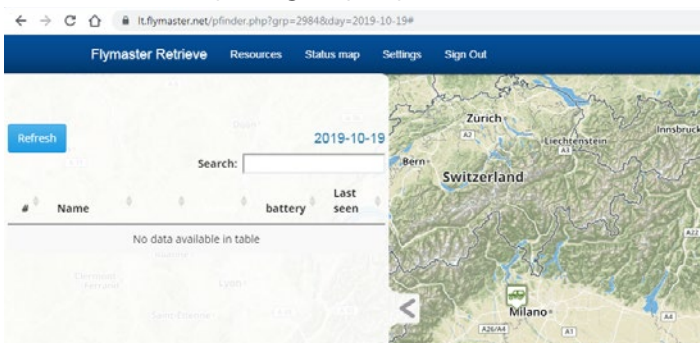
4.1. Go to <https://lt.flymaster.net/?feed=0#>
Login to you account.
In My account Menu
go to My Groups



4.2. Create NEW Group.
Upload FSDB file with your pilots. Remember to
create in FS for each pilot custom attribute "Live"
with his tracker Serial Number.
Your group will get new Flymaster ID: XXXX

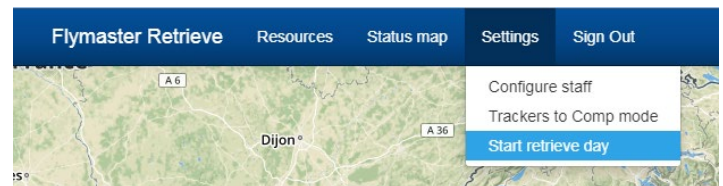


4.3. Your retrieve map will be generated at once.
Go to <https://lt.flymaster.net/pfinder.php?grp=XXXX>
Where XXXX is your group Flymaster ID.

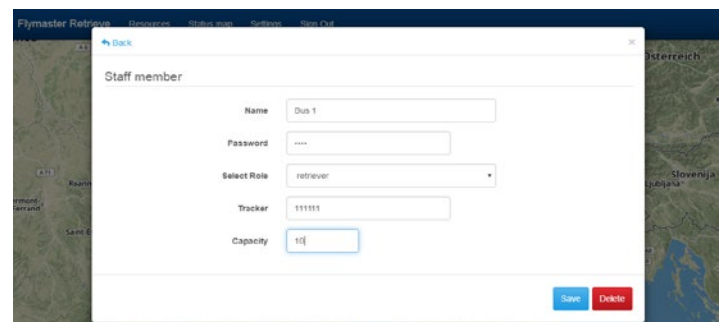


4.4. Pilots will appear in retrieve once live tracking
starts working.

4.5. Start Retrieve Day. You will need to click on
"Start Retrieve Day" every day before task.



4.6. Click on Configure Staff and create new Staff
members.



Here are some useful hints:

- Drivers should have role retrievers, other roles you can select upon your taste.
- Assign trackers only to staff that needs to be tracked - retrievers, ambulance, etc.
- Create retrievers with the same password - it will be easy for drivers' instruction.
- Do not create too complicated passwords and user names - you will have to type them in mobile app after.
- Do not forget to set capacity for retrievers - it will help to automatically control how full the buses are.

5 Connecting Staff

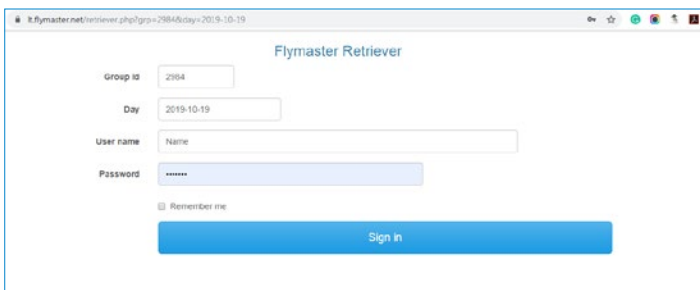
Now when you created your Staff, you can let them login to the map and mobile app

To login into Retrieve map:

Go to the web page of your retrieve group (<https://it.flymaster.net/retriever.php?grp=XXXX>)

Type Username and Password that you created for him in Configure Staff interface.

Enter.



To register into mobile app:

Install Telegram.

Open it.

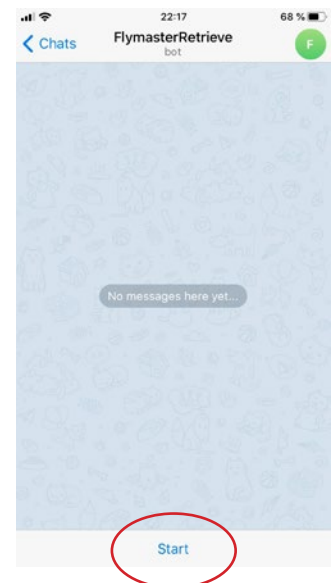
Click on Search icon.

Search for "Flymaster Retrieve".

Open the bot and press START.

Get yourself registered to the competition in the chat bot.

Type in the chat:
REGSTAFF:XXXX:NAME:PASSWORD



6

Connecting Participants

For best performance each pilot should be on Retrieve chat bot. It will allow:

- to make SAFE Landing report that will go to server'
- to send ALL PILOTS notifications.
- to inform about retrieval options.
- to communicate between pilot and organizers

To register into mobile app:

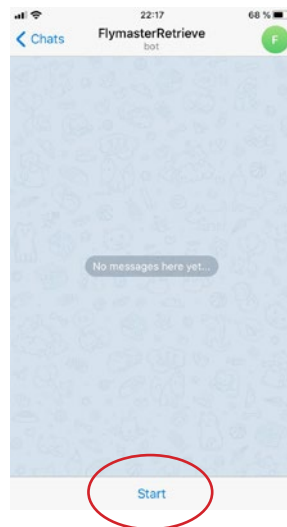
Install Telegram.

Open it.

Click on Search icon.

Search for "Flymaster Retrieve".

Open the bot and press START.



To make pilot registered to the competition in the chat bot.

Type in the chat: REG:XXXX:CompID

Example:

Compeld: 2412

PilotNumber: 9991

3 - Message received:

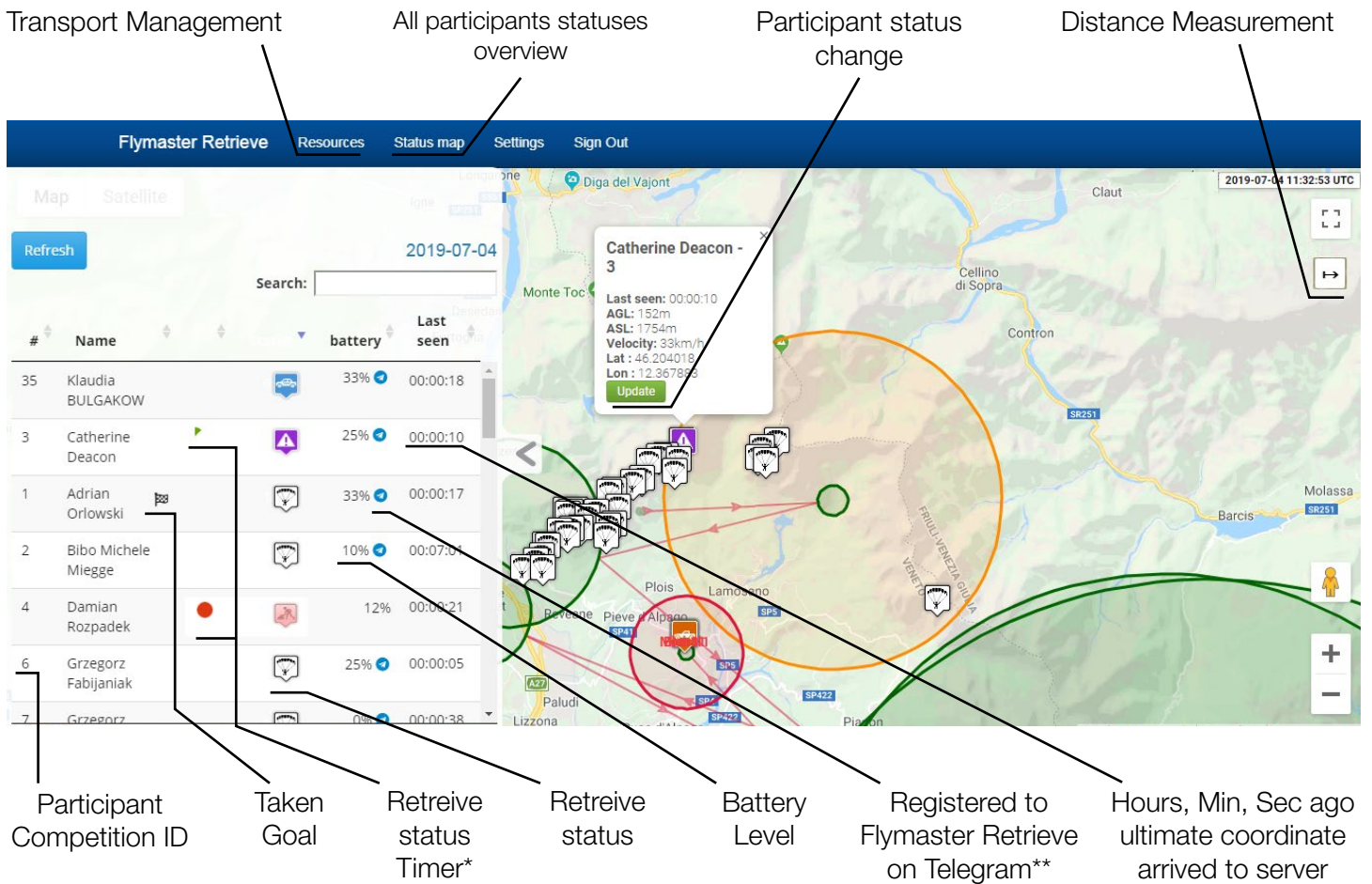
4 - Pilot:

5 - Message received:



7





Retrieve map interface



The screenshot shows the Flymaster Retrieve web interface. The top navigation bar includes 'Flymaster Retrieve', 'Resources', 'Status map', 'Settings', and 'Sign Out'. The main area is divided into a left sidebar and a right map area. The sidebar contains a 'Map' button, a 'Refresh' button, a search bar, and a table of participants. The map area shows a topographic map with participant locations marked by icons. A pop-up window for 'Catherine Deacon - 3' displays details like 'Last seen: 00:00:10', 'AGL: 152m', 'ASL: 1754m', 'Velocity: 33km/h', 'Lat: 46.204018', and 'Lon: 12.367893'. Annotations point to various features: 'Transport Management' points to the top bar; 'All participants statuses overview' points to the participant table; 'Participant status change' points to the 'Last seen' column; 'Distance Measurement' points to the map; 'Participant Competition ID' points to the '#' column; 'Taken Goal' points to the goal icon; 'Retrieve status Timer*' points to the timer icon; 'Retrieve status' points to the status icon; 'Battery Level' points to the battery icon; 'Registered to Flymaster Retrieve on Telegram**' points to the Telegram icon; and 'Hours, Min, Sec ago ultimate coordinate arrived to server' points to the 'Last seen' column.

*Retrieve Status Timer is a notification to Retrieve Manager showing that this participant has been in this status for inappropriately long time. It's a clockwise circle that is green at beginning, yellow in the middle and red in the end. The time spans for each status vary:

Timer shape/color











				
Auto Landing detection	2 min	4 min	8 min	10 min
Landed	10 min	20 min	30 min	60 min
Needs retrieve	10 min	20 min	30 min	60 min
Needs retrieve (bus assigned)	30 min	60 min	90 min	120 min

** Telegram Icon appears in front of the names of the participants that made registration in FlymasterRetrieve chat bot on Telegram. So you know, that if you write to them, they can see your messages and respond

8

Retrieve statuses

Statuses can be changed by clicking on “Update” button of participant.
The following statuses are used by the system:

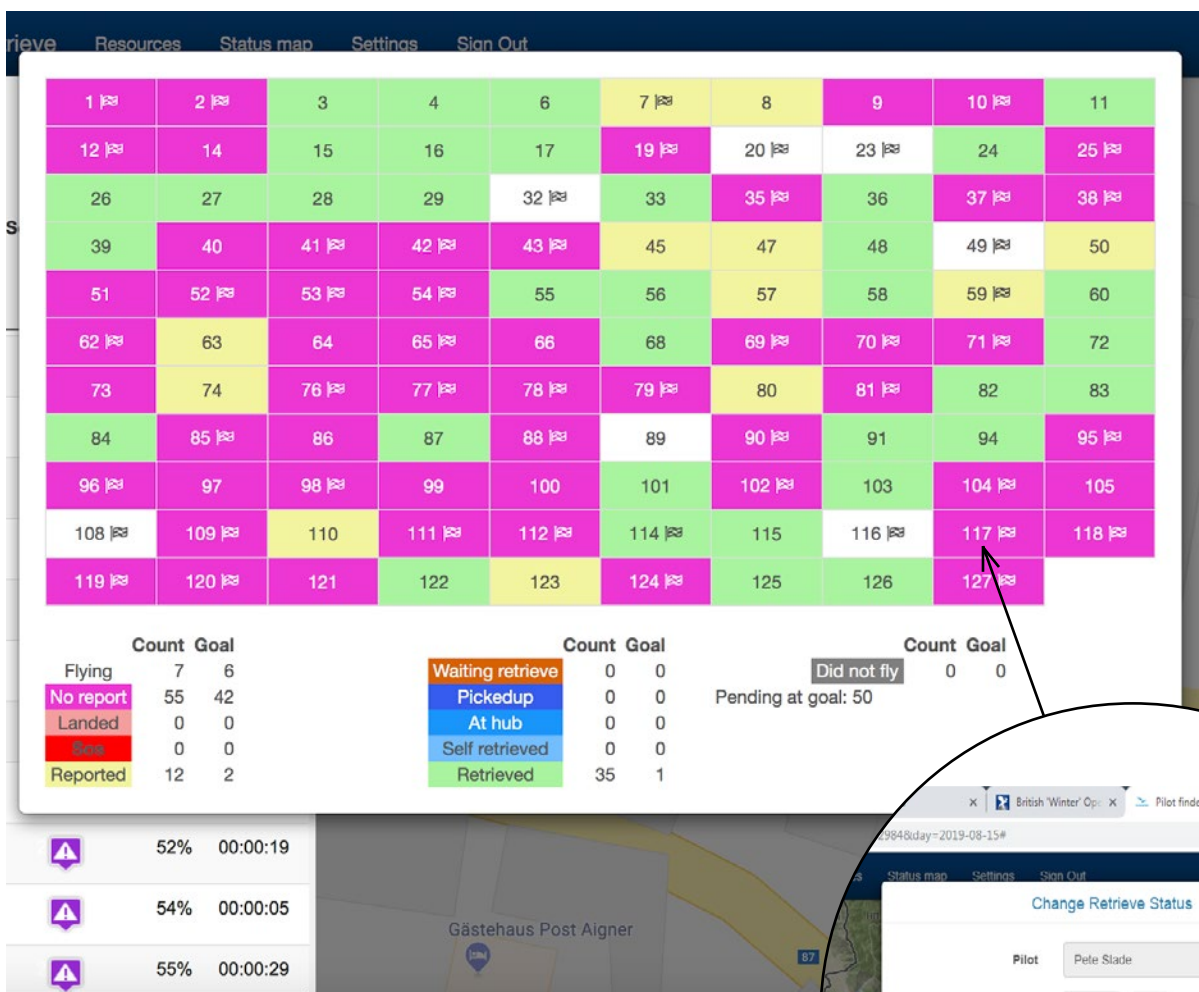
	DNF	The system shows the participant's location as soon as his tracker starts sending data. But it needs to detect a launch in order to activate other statuses.
	Launched	The system detected launch conditions (high vertical or horizontal speed). Paraglider icon is used irrespectively of sport.
	Auto Landing detection	The system automatically detected landing conditions (very low vertical or horizontal speed). Requires maximum attention. Can be false - in this case should be manually changed to Launched.
	SOS	Will appear automatically in case participant sent it via tracker or mobile app. Can be set manually by staff.
	Landed (reported)	Will appear automatically in case a participant has made “Landed Safe” report via Telegram bot or tracker. Can be set manually by staff.
	Does NOT need retrieve	Will appear automatically in case a participant has written “NoRet” in Telegram bot. Can also be set manually by staff.
	Needs retrieve (no bus yet)	Will appear automatically in case a participant has written “Ret” in Telegram bot. Can also be set manually by staff.
	Needs retrieve (bus is assigned)	Will appear when retrieve manager assigns a van or other transport to pick up the participant. The driver of that bus receives a notification.
	Picked up	Will appear only in the table. The participant disappears from the map and you see only the bus which transports him.
	Returned	Status is set manually by staff or automatically in case retrieve manager is using tracker switch-off program by Flymaster.

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Status Map

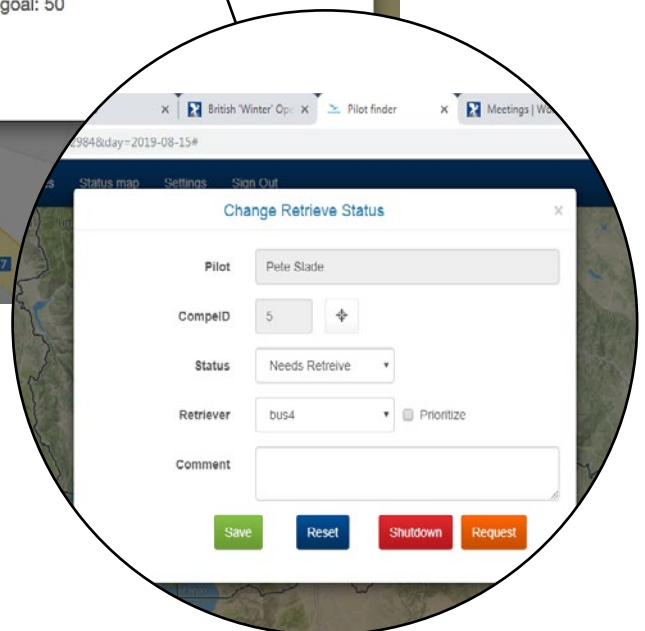
Status map is used to get quick overview of the Retrieve situation.

It has got statistics in the lower part that allow to get quick figures. E.g. “How many pilots are still flying?”



Participants are sorted by Comp ID.

Clicking on Comp ID opens a balloon with pilot's name and possibility to change his retrieve status.



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Transport management

Transport list can be called by clicking on Resources link in the menu. It shows all transportation (retrievers) with trackers assigned.

The manager can always check how many pilots are in the bus or are assigned to the bus to pick up.

The capacity is written in front of bus name.

A bus that still has empty spaces is green. A bus that is full is red.

Retrievers



- 2	3 capacity 2 wait 1 picked
399 - Dominika Kasieczko	pickedup
41 - Eusebio Soares	reported
1177 - Antoni Buljan	reported
- 3	3 capacity 1 wait 0 picked
19 - Kimmo Korhonen	reported
+ 4	3 capacity 0 wait 0 picked
+ 5	3 capacity 0 wait 0 picked
+ 6	3 capacity 0 wait 0 picked
+ 9	0 wait 0 picked
+ 10	54 capacity 0 wait 0 picked
+ 12	8 capacity 0 wait 0 picked
+ 15	0 wait 0 picked
+ tasco	0 wait 0 picked
+ 8	50 capacity 0 wait 0 picked
+ 13	20 capacity 0 wait 0 picked

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Participant instructions

During the competition the effectiveness of the system also depends upon action of participants who are obliged to use special commands in certain cases.

The following instructions is better to print and hand out to pilots during registration.

It is also to be specially explained during General Safety Briefing

PILOTS commands in FlymasterRetrieve Telegram

REG:XXXX:PilotNumber

SOS report an emergency.

SAFE report landed safely.

RET request retrieve.

NORET declare that do not need retrieve.

DNF report did not fly.

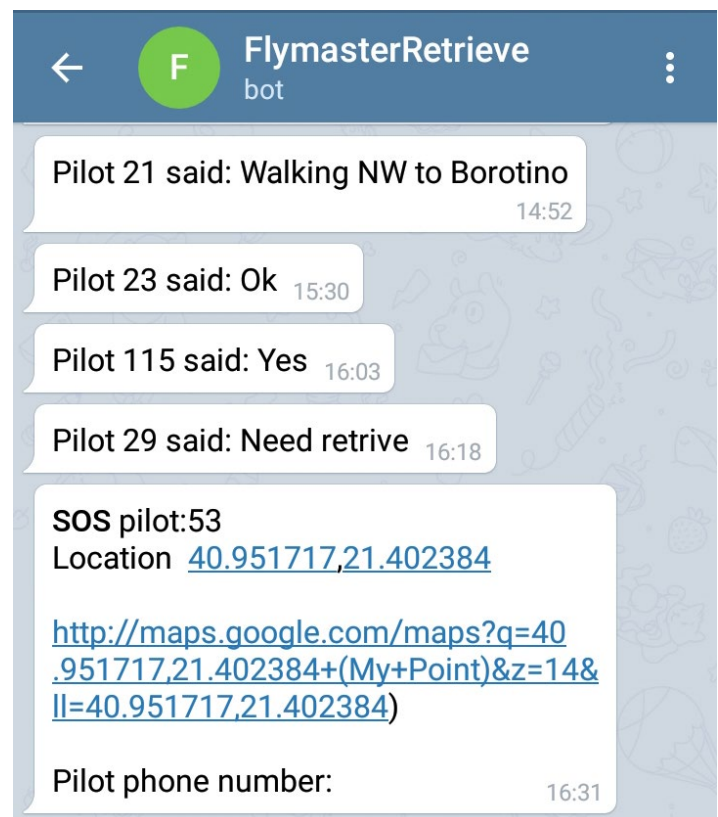
ORG:your message send message to the organizer.

Safe Landing can also be done by quickly pressing Tracker red button 3 times. But one needs a practice to do it correctly. A longer pressure launches SOS signal.

SOS signal can be launched by pressing red button of a tracker for a long time (20-30 sec) or sending SOS message to retrieve chat. Both actions trigger sending participants last seen coordinates to Flymaster retrieve chat.

The main duties of participant is to report Safe landing within 10 min after landing and ask for a retrieve only when he is in a place where a car can arrive to pick him up.

In some cases like in case of Auto Landing detection FlymasterRetrieve on Telegram by itself remind pilot to make Safe report back. It offers a buttons so all can be done in 1 click.



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Driver's instructions

The following instructions is better to print and hand out to drivers.

Retrieve bus commands in FlymasterRetrieve Telegram

REGSTAFF:XXXX:Name:Password register as staff member.

LOAD:number,number,... report pilots picked up.

UNLOAD:number,number,... report pilot got off the bus.

UNLOAD:ALL report all pilots got off the bus.

PILOT:CompID:message send a message to a pilot.

POS!number get the coordinates of a pilot

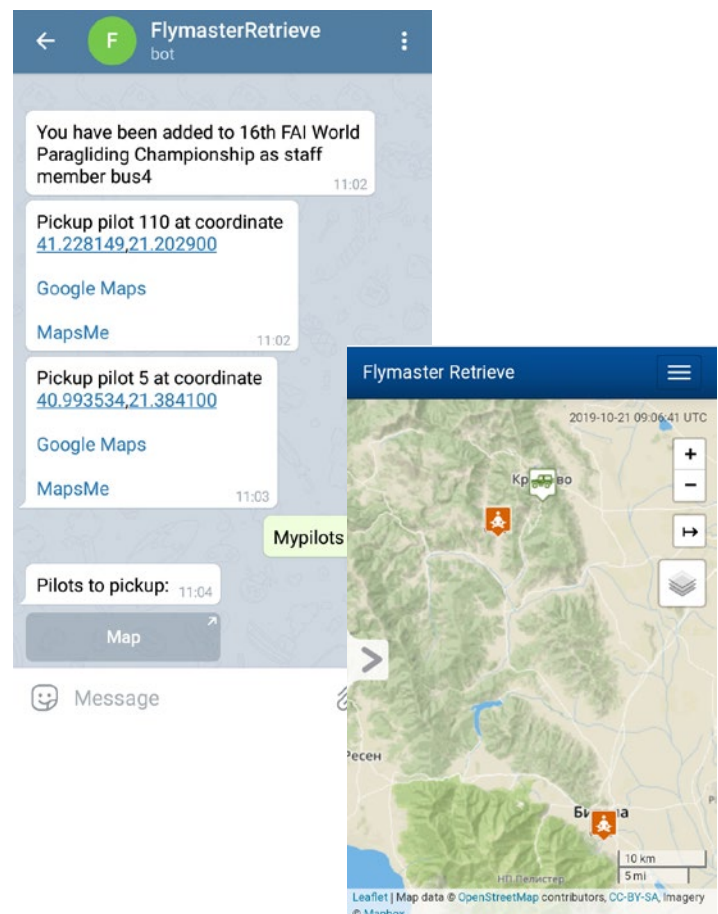
MYPILOTS shows list of pilots this driver needs to pickup.

Command LOAD changes the status of a participant from Need Retrieve to Picked up. His icon disappears from the map and now his status can be only accessed via Status map or Participants table.

Command Unload returns a participant icon back to map. So that Retrieve manager can control his movements again.

Each time a manager assigns a pilot to pick up to any bus (retriever), the driver (registered on Telegram Flymaster retrieve chat) receives a notification with new pilot coordinates and map links.

By typing a command MyPilots the driver can get a message with map link where all his pilots will be shown.





Manager's instructions

All list of commands can be called by typing ? or HELP in FlymasterRetrieve chat.

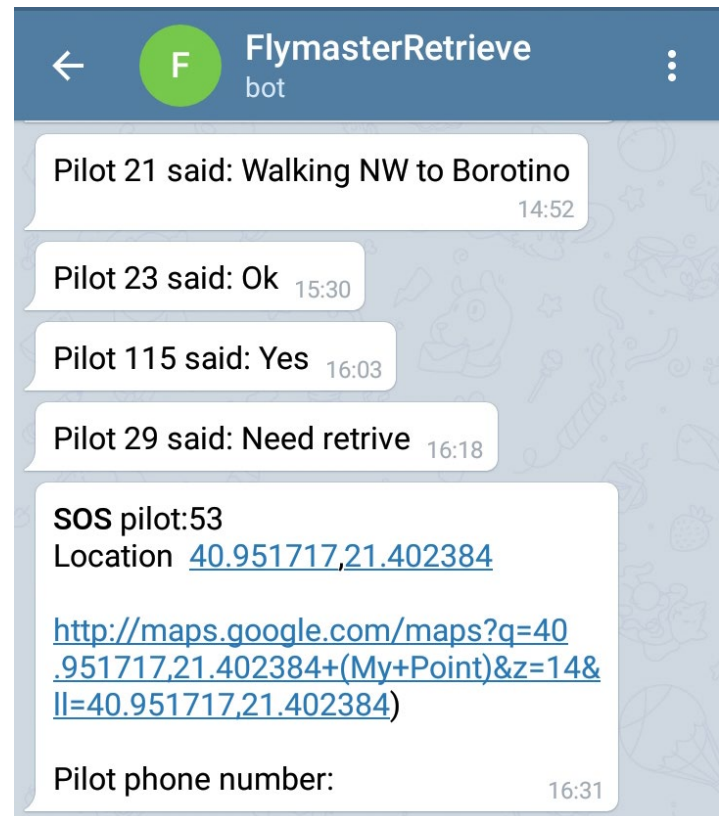
A list of all commands in FlymasterRetrieve Telegram

RET request retrieve.
NORET declare that do not need retrieve.
SOS report an emergency.
SAFE report landed safely.
TOFF sign takeoff sheet.
DNF report did not fly.
ORG:your message send message to the organizer.
WHOAMI request registration status.
REGSTAFF:XXXX:Name:password register as staff member.
REGTEAM:XXXX:Name:password register as teamleader.
FRIEND:SerialNumber:password register as friend to receive messages from instrument.
WHEREIS:SerialNumber get location of friend.
LOAD:number,number,... report pilots picked up.
UNLOAD:number,number,... unload pilots from bus.
UNLOAD:ALL unload all pilots from bus.
UNLOAD:ALL:busid transfer all pilots to new bus.
RETURN:number,number,... return all pilots to headquarters.
RETURN:ALL return all pilots to headquarters.
PILOT:number:message send a message to a pilot.
PILOTS:message send a message to all pilots.
TEAMLEADERS:message send a message to all teamleaders.
TEAMLEADER:Name,Name,...:message send a message to specific teamleaders.
MYPILOTS shows list of pilots I need to pickup.
MYBUS shows list of pilots in my vehicle.
RETRIEVER:name:message send a message to a staff member.
RETRIEVERS:message send a message to all retriever cars.
LIST:RETRIEVERS get a list of all retrievers
LIST:PILOTS get a list of all pilots
LIST:TEAMLEADERS get a list of all teamleaders
POS:number get the position of a pilot

14 Emergency

SOS signal can be launched by pressing red button of tracker for a long time (20-30 sec) or sending SOS message to retrieve chat. Both actions trigger sending participants last seen coordinates to Flymaster retrieve chat.

In case Emergency signal was received by radio or phone call the manager can change the status of pilot in question to SOS - this will also trigger sending his coordinates to FlymasterRetrieve chat



In case Emergency signal was received by radio or phone call the safety service managers can get the last seen coordinates of the pilot in question by typing POSI in FlymasterRetrieve chat.





Teamleader's instructions

During the FAI Category 1 events it is possible to create users with permissions of Teamleaders. They will not have access to Retrieve map but will be informed about the location and SAFE landing report of their National TEAM pilots. Usually they are created with the nation 3 letter code name (e.g. AUS) and individual password. Please contact support@flymaster.net to activate this function.

Teamleader commands in FlymasterRetrieve Telegram

REGTEAM:XXXX:Name:Password register
as teamleader member.

PILOT:CompID:message send a message
to a pilot.

POS!number get the coordinates of his team
pilot

MYPELOTS shows list of pilots of the team
with coordinates.

When a team pilot sends Landed SAFE report
teamleader receives a notification about his safe
landing and coordinates.

16

Usual workflow

- Create a group on <https://lt.flymaster.net>.
- Record group ID (XXXX) that will be used in all Retrieve registrations via chat later.
- Upload FSDB with pilots. Tracker serial numbers shall be written to custom attribute Live.
- Go to retrieve map: <https://lt.flymaster.net/pfinder.php?grp=XXXX>, where XXXX is you group number.
- Create retrieve staff members.
- During registration distribute intructions for Pilots.
- Pay attention to Safe Landing report and tracker on time return issues at the Safety Briefing.
- Give instructions to Drivers and Teamleaders.
- Make sure all pilots and Retrieve staff have Telegram installed and that they have made the registration in the FlymasterRetrieve chatbot.
- Train safety staff to get coordinates of pilots via chatbot.
- On a competition day, go to Retrieve map and Start retrieve day. Do this every competiton day.
- Distribute trackers.
- Mark all undistributed trackers as DNF. Do not forget that for scorer you will need to separate DNF from ABS pilots.
- Set task.
- Make sure at least 1 retrieve staff memeber watches live tracking during Take off window open. Pilots may land near start and their coordinates will be useful.
- During task it is better to have min 2 staff members operating Retrieve: one check safe landing report and alarms in case of unreported landing, the other manages transportation.
- Safety and Meet directors may also look on Retrieve map to get general statistics.
- Train the drivers to report pilots they pick up by LOAD command. Remind them to send UNLOAD command upon return.
- Alternatively manager can set statuses to pilots as Picked up and Returned.
- Advise pilots how to get to main road by sending instructions via FlymasterRetreive chat. You have the map and polygon ruler to check distances.
- Trackers must be returned in time sufficient for them to be fully charged. Use "Request" button to remind the pilot to bring it. You can access the button by clicking on "Update" in the balloon of the pilot on the map or on Pilot's number in the Status map.