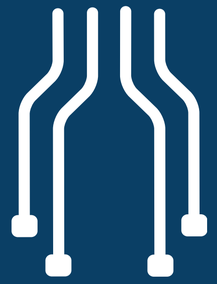
IADYS

User guide

JELLYFISHBOT



2025-02

Summary

IADYS

Start with safety

Warning		The Jellyfishbot is not suited for use with explosive atmospheres or with flammable materials.
Batteries		The batteries belong to Li-ion class 9 category. Always follow your region's safety regulations for handling lithium-ion batteries.
Handle		The Jellyfishbot requires the presence of an attendant. Always lift with your legs, keeping your back straight.
Control		Do not leave the Jellyfishbot unattended, always keep the remote control nearby.
Charge		Do not charge the Jellyfishbot when it's in the water or when it's wet.
Protective		When handling oil leaks, use protective gear, dispose of waste as stated by your region rules. Always clean the Jellyfishbot after use to reduce pollution.

iADYS

Battery precautions

Battery Do's:
- If possible, charge your batteries outside.
- Keep your batteries at room temperature.
- Plug your battery charger directly into a wall outlet.
- Store and charge batteries away from anything flammable.
- Monitor your battery for any odors, changes in shape or color, leaking, or odd noises.
- If you notice any of these conditions, discontinue use immediately. If it is safe to do so, move the device away from anything that can catch fire and call the emergency services.
- Follow your local regulations and safety recommendation when transporting the batteries.

Battery Don'ts:
- Do not charge your batteries near exits and points of egress, including your apartment door, bedrooms door, and windows (particularly near a window with a fire escape).
- Do not charge your batteries in your bedroom.
- Do not charge your batteries on any surface other than the floor.
- Do not place your batteries or charge in direct sunlight.
- Do not charge using an extension cord.

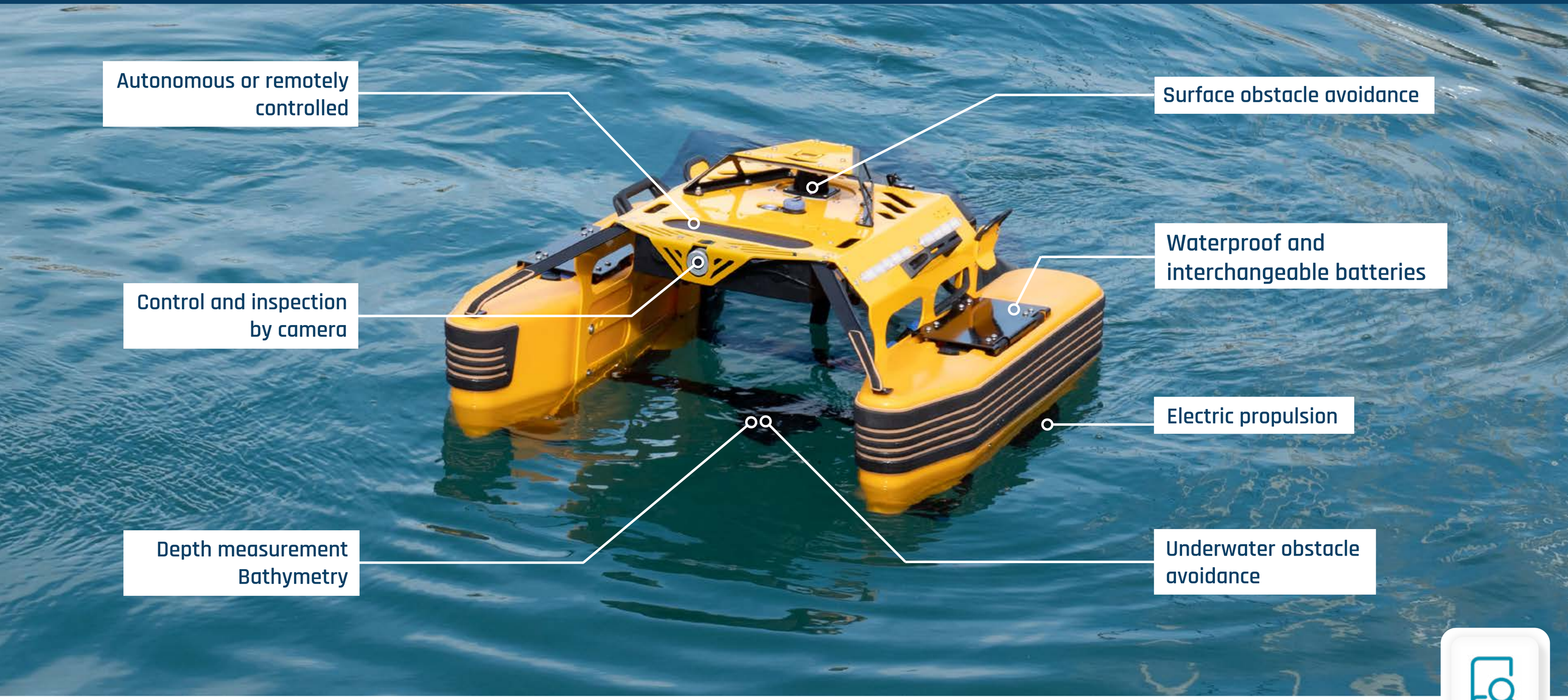
Battery Disposal:
- Putting lithium batteries in the trash or recycling at home is illegal.
- Recycle batteries by taking them to a special waste drop-off site.
- Individually bag batteries and screw end connector cap before disposing of them.

What is in the box?

 Jellyfishbot	 1 remote control	 1 net frame	 2 batteries	 1 battery charger + Y adapter
 15 macro-waste nets	 1 maintenance kit: 6 spare thruster protective grids, spare caps	3 thruster rinse tanks	 1 protective remote control glove (cold and rain use)	 1 neck strap for the remote control
 1 magnet + 1 pliers	 1 backpack	 Jellyfishbot quick guide	 Please keep the box! You will need it in case of maintenance or support.	

iADYS

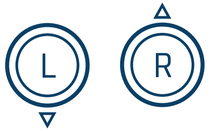
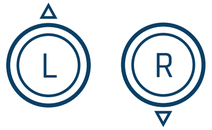
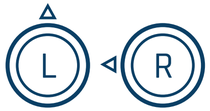
Focus on Jellyfishbot



Remote control features

iADYS

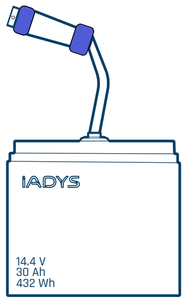
Remote control features

	Movement							
Mode	**Forward**	**Backwards**	**Turn left**	**Turn right**	**Spin left**	**Spin right**	**Transversal left**	**Transversal right**
Basic (control each thurster)	Left UP + Right UP 	Left DOWN + Right DOWN 	Right UP 	Left UP 	Left DOWN + Right UP 	Left UP + Right DOWN 	Left LEFT 	Left RIGHT 
Manual	Left UP 	Left DOWN 	Left UP + Right LEFT 	Left UP + Right RIGHT 	Right LEFT 	Right RIGHT 	Left LEFT 	Left RIGHT 
Auto	-	-	-	-	-	-	-	-

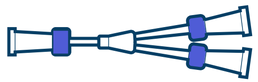
iADYS

Batteries (1/2)

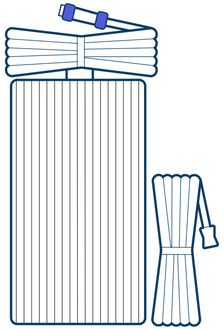
What do I need?



2 Batteries



Y adapter



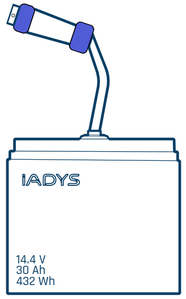
Charger

1. Identify the tags

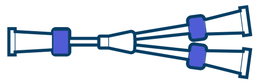
- Before using the Jellyfishbot fully charge the 2 batteries following one of the 2 methods (described on the next page).
- Always use 2 different colored tag batteries. Using same color batteries may produce a charging level error message.
- It is important to charge both batteries together to make sure that their levels are stabilized.

Batteries (2/2)

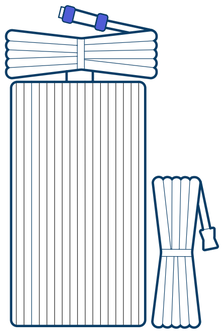
What do I need?



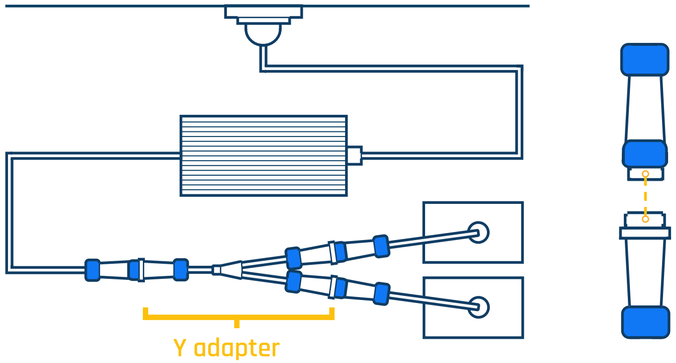
2 Batteries



Y adapter



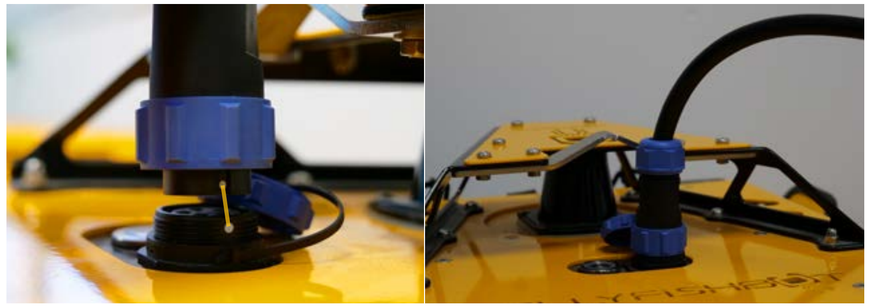
Charger



Batteries' charge method

- Charge the 2 batteries by connecting both of them to the charger with the Y adapter, matching the white dots.
- Full charge is achieved in 3h30. You can check the charge status thanks to the charger's LED.
- Once the batteries are fully charged, place them in their compartments in the Jellyfishbot floats and connect them by matching the white dots.

LED	
OFF	Charger not plugged
ON	Charger plugged but not charging
ON	Battery charging
ON	Green - Batteries fully charged



Jellyfishbot's charge method

- Check that the Jellyfishbot is fully dry and turned OFF.
- Place 2 batteries in their compartments and connect them by matching the white dots.
- Open the connector port next to the ON/OFF button and connect the charger directly by matching the white dots.
- Full charge is achieved in 3h30. You can check the charge status thanks to the charger's LED.

IADYS

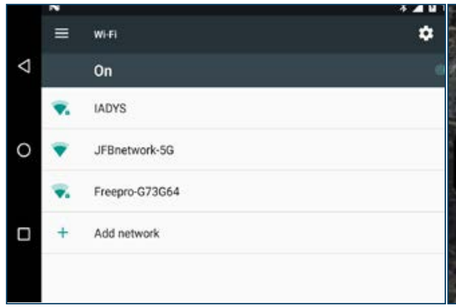
Turning ON

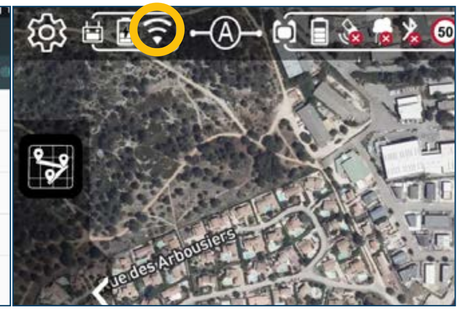
1. Turning on the Jellyfishbot

- Press the ON/OFF button on the robot, it will start blinking. Note that it's not a touch button, you have to firmly press it, not just touch the top.
- Once the LED is fixed, it's ready to go.

2. Turning on the remote control

- Extend the antennas.
- Press the ON/OFF button for 3 seconds.
- Once the remote control is on, swipe up to unlock and launch the JellyfishApp.





3. Connect the remote control to Internet (WiFi)

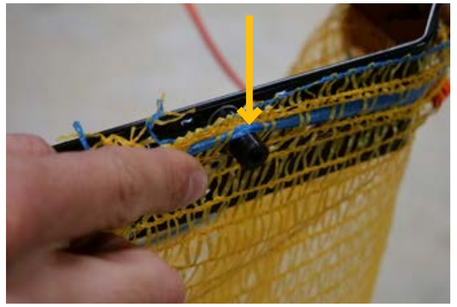
- You need internet access to download the map where you intend to use the Jellyfishbot.
- Swipe down the screen of the remote control to access to its settings, then press and hold the WiFi icon.
- Select your WiFi network (only 2.4 GHz and 5 GHz frequencies are supported) and connect.
- Once back in the Jellyfish App, the WiFi status of the remote control is connected.

IADYS

Fitting the net on

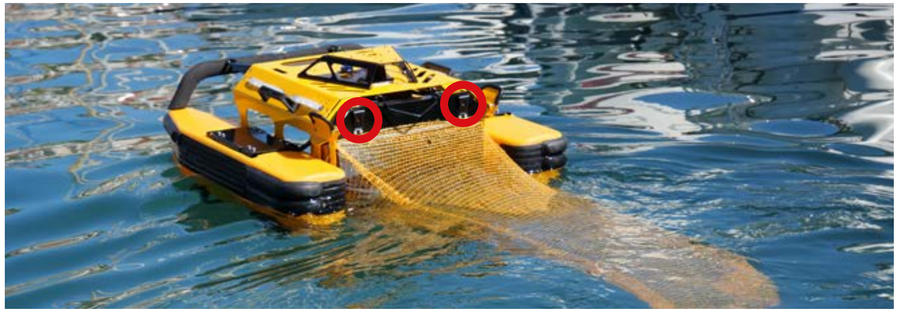
Fix a reusable net

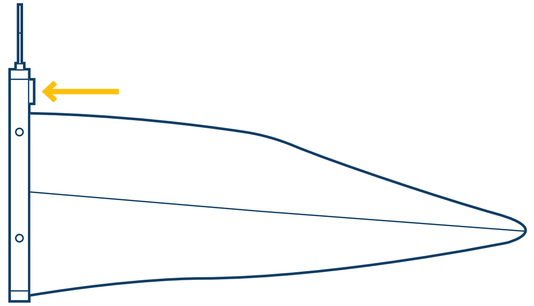
- Check that the holding clips are pointing into the net and back of the robot.
- Place the entry points of your net in the anchor point.
- Scratch the top of the net around the frame.



Fix a disposable net

- Check that the holding clips are pointing into the net and back of the robot.
- Attach anchor points at the blue marker line.
- Use the 6 external anchor points to match the holes of the robot net.





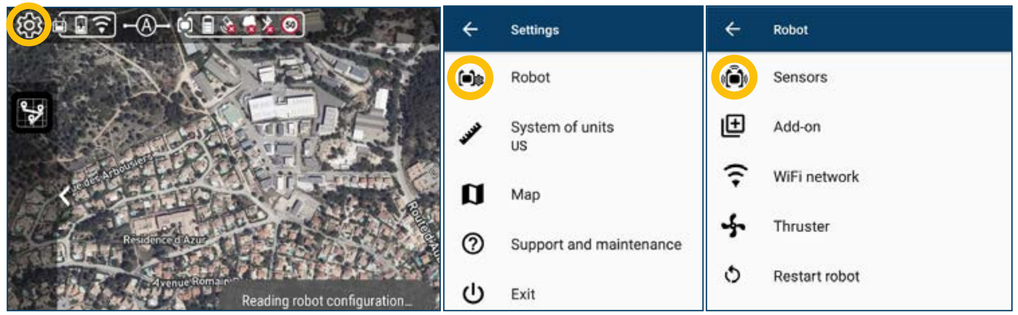
Place the net frame

- Fix the frame on its location, at the back of the robot, with the end of the net pointing back.

Launching (1/2)

1. Before the launch

- Check that all the connectors are properly tightened and the battery enclosures closed.
- Place the net frame on the Jellyfishbot.
- Turn on the Jellyfishbot and the remote control.

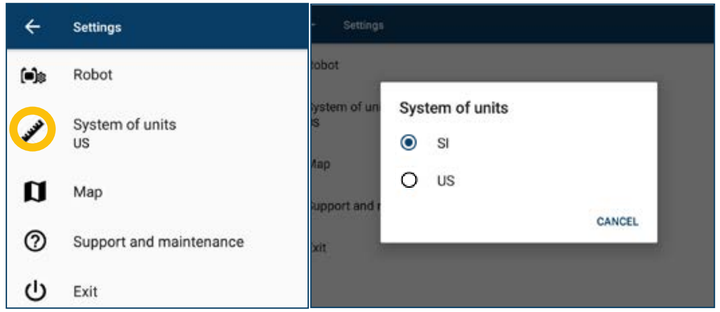


2. Launch JellyfishApp

- On the main screen of the app, open the settings menu on the top left.
- Choose Robot > Sensors for calibration.

3. Calibrate the IMU

- Click on 'IMU calibration'.
- Follow the instructions on the screen.



4. System of units

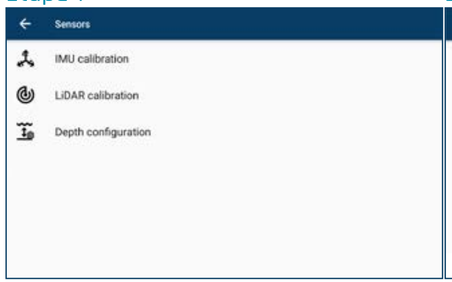
To change the system of units used in the remote control:

- Settings -> System of units
- Select SI (International System of Units) or US (United States customary units)

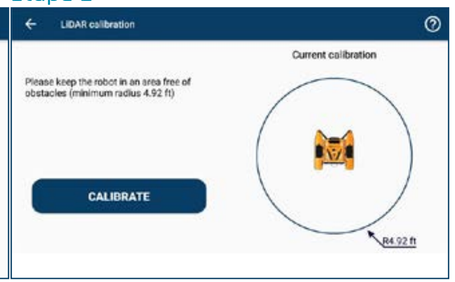
IADYS

Launching (2/2)

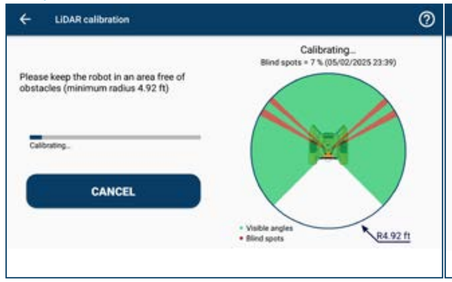
Etape 1



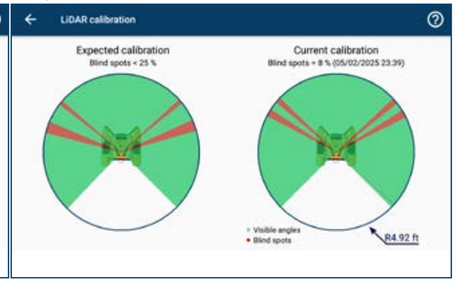
Etape 2



Etape 3



Etape 4



5. Calibrate the LiDAR

- In the ‘Sensors’ menu click on ‘LiDAR calibration’.
- Follow the instructions on the screen and start the calibration by clicking on the ‘CALIBRATE’ button.
- When calibrating, the current calibration is displayed on the right of the screen with the visible angles and the blind spots.
- When the calibration is done, compare the result with the expected one. If needed remove the remaining obstacles around the robot, and clean the LiDAR. Then restart the calibration.

6. Launch in the water

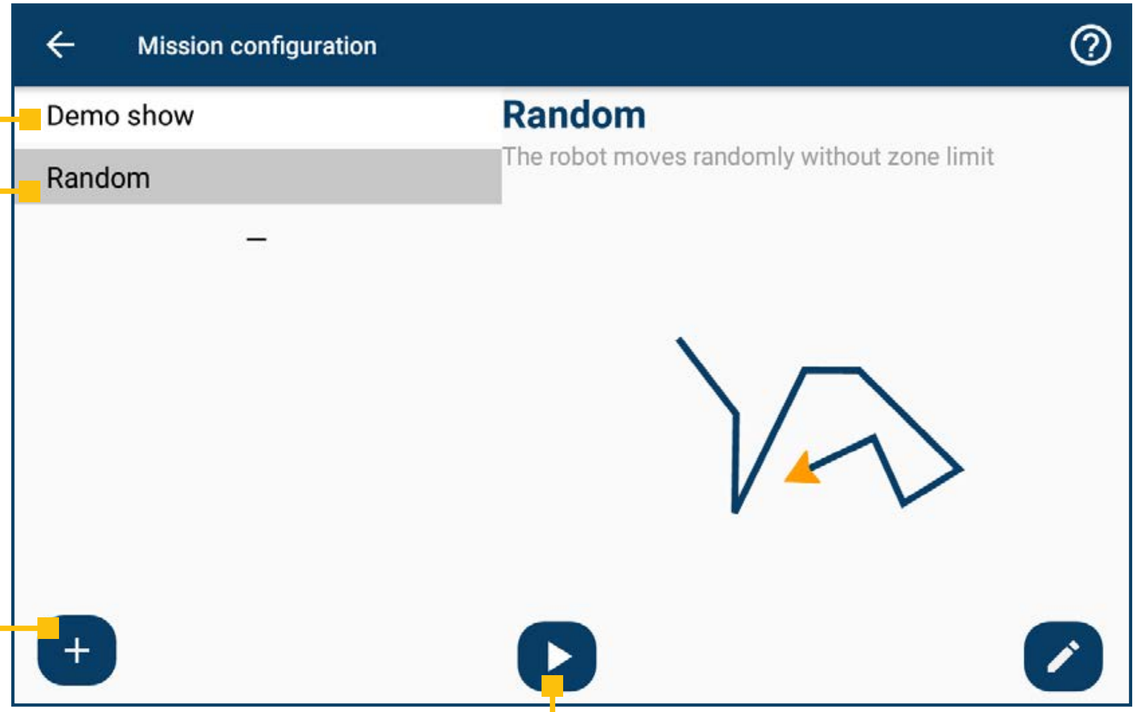
- Before launching the Jellyfishbot, check that you are in manual mode (on your remote control) and operate a small amount of thrusters, to check that they are responding well.
- Lift the Jellyfishbot with the handles and place it in the water. It can be easier by sitting on the deck.
- You can use IADYS’ trolley if the deck is too high.

The equipment shown is not included with the robot. Contact your sales representative to obtain one.

IADYS

Missions

On the main screen, click on the mission configuaration icon.



Choose one of the 2 predefined missions:

- Random navigation or demo show navigation. Click below for details

Predefined missions

Create a new navigation mission:

- Waste collection or Bathymetry. Click below for details

Mission set up

Bathymetry

Launch the selected mission:
- If the button is disabled check that you are in auto mode (on your remote control)

Predefined missions

Random mission

- Designed for closed bassin (more than 10 m^2 - 100 sq.ft.)
- Autonomous sailing, random way, no zone limits.

Demo show mission

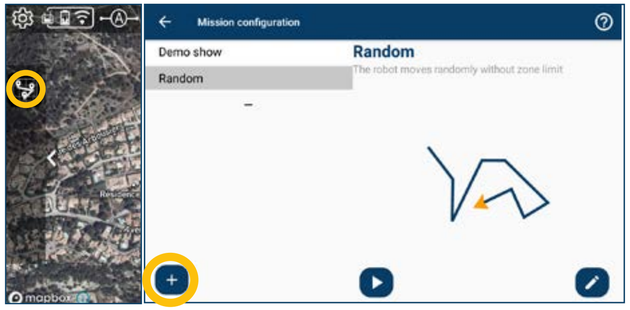
- Designed for closed bassin (less than 10 m^2 - 100 sq.ft.)
- Autonomous sailing, random way, no zone limits.

- Mission configuration
- Play/Pause
- Stop
- Information

Mission execution

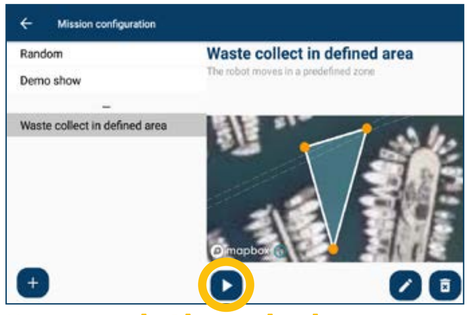
You can manage the current mission by the left-hand side menu.

Mission set up



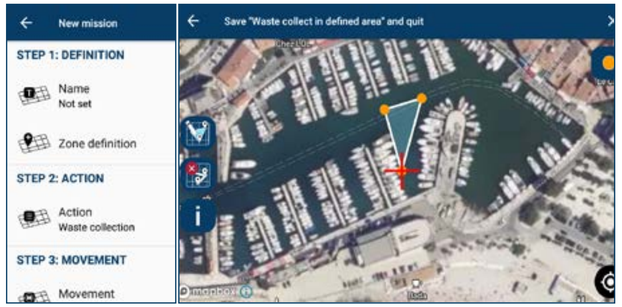
1. Run a mission in a defined area

- Open the mission settings.
- Choose the '+' button and follow the instructions.



3. Launch the mission

Click on the play button: the Jellyfishbot joins its work area.



Edit mission

Delete all markers

Information

Add markers

2. Set up the mission

- In 'Definition', fill the Name.
- In 'Zone definition', define the area you want to cover by selecting with the orange button at least 3 points.
- In 'Action' and 'Movement', keep the default values.
- Save the mission by clicking on the back button.

Mission configuration

Play/Pause

Stop

Manual mode

Information

4. Mission execution

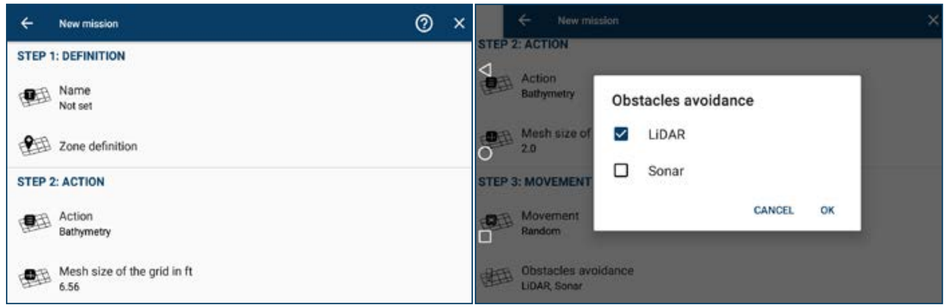
You can manage the current mission by the left-hand side menu.

IADYS

Bathymetry (1/5)

1. Definition of a bathymetry mission

- Open the mission settings
- Choose the '+' button and follow the instructions on the screen.



2. Set up the mission

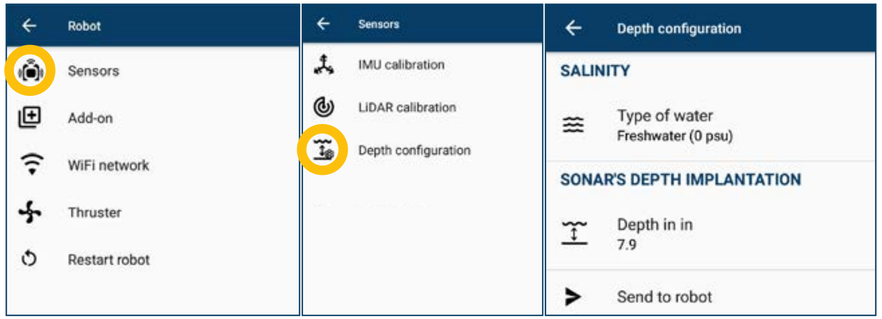
- In 'Definition', fill the name.
- Define an area by selecting with the orange button at least 3 points.
- In 'Action', select 'Bathymetry' and keep the default values of the mesh size 2.0 or specify a wanted value.

Smaller mesh sizes mean more measurement points and longer survey times. We recommend adjusting the mesh size to suit the bathymetry area.

- In 'Movement', keep the random movement and select the wanted obstacles avoidance sensors: LiDAR and/or Sonar.
- Save the mission by clicking on the back button.

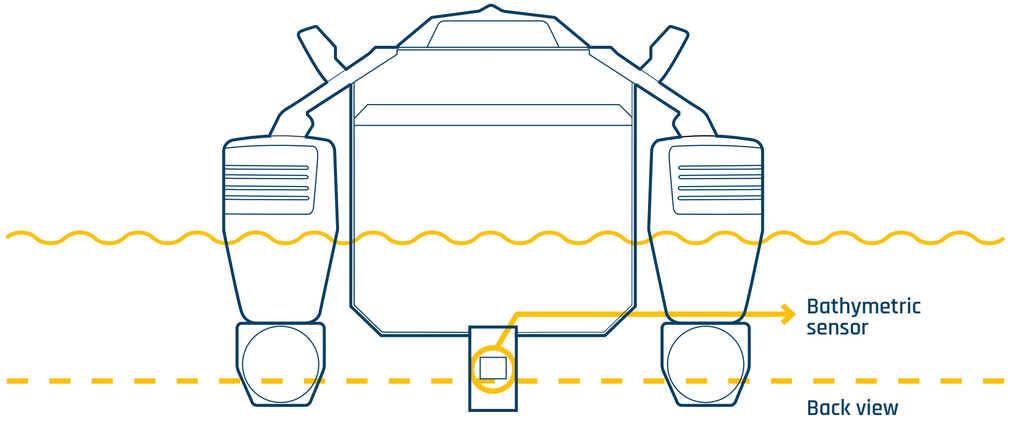
Note that when the water is turbid or contains a lot of waste, it is advisable to deactivate the sonar to prevent the robot from spending its time attempting to avoid false obstacles.

Bathymetry (2/5)



1. Set up the bathymetric probe

- Go to settings.
- Select ‘Robot’.
- Select ‘Sensors’.
- Select ‘Depth configuration’.
- Select the type of water: fresh, salty or personnalized.



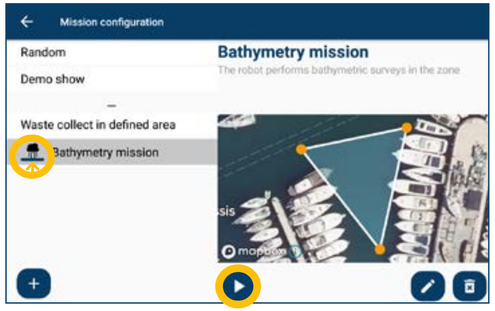
2. Adjust the depth of the sonar (if needed)

The sonar is set at 7.9 cm depth (default value).
If the robot’s buoyancy changes (new load or density of the water), you can adjust the probe’s implantation depth by measuring the distance between the bottom surface of the sonar and the water surface.

3. Send the settings to the robot

- Select ‘Send to robot’

Bathymetry (3/5)



1. Launch the bathymetry mission

- Select Bathymetry mission and follow instructions.
- The progress bar below the icon shows the connection to the IMS.
- Launch the Bathymetry mission by clicking on the play button: the Jellyfishbot joins its work area.

- Mission configuration
- Play/Pause
- Stop
- Manual mode
- Information

2. Mission execution

Note that the area is currently only covered by a random path. This mode of operation is effective for covering 90% of the area, whatever its shape.

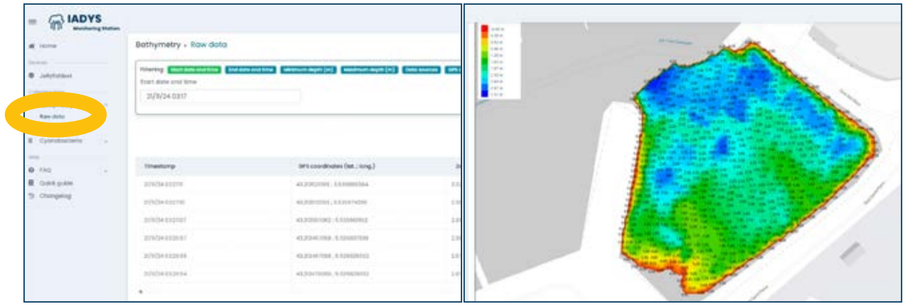
To cover the remaining 10% more quickly, switch to manual mode via the mission control menu button.

Manual mode via the radio control selector stops bathymetry measurement. This mode is useful for moving the robot without recording measurements.

Bathymetry (4/5)

1. In JellyfishApp

- Once the bathymetry is done, you will need an Internet access on the robot to send the data collected to IADYS Monitoring Station (IMS). No need to connect the remote control as well.
- On the top left side, open the settings menu.
- Select: Robot > WiFi network and enter your WiFi network name and password and send them to the robot: once connected the bathymetry data are directly sent to your IMS' account.



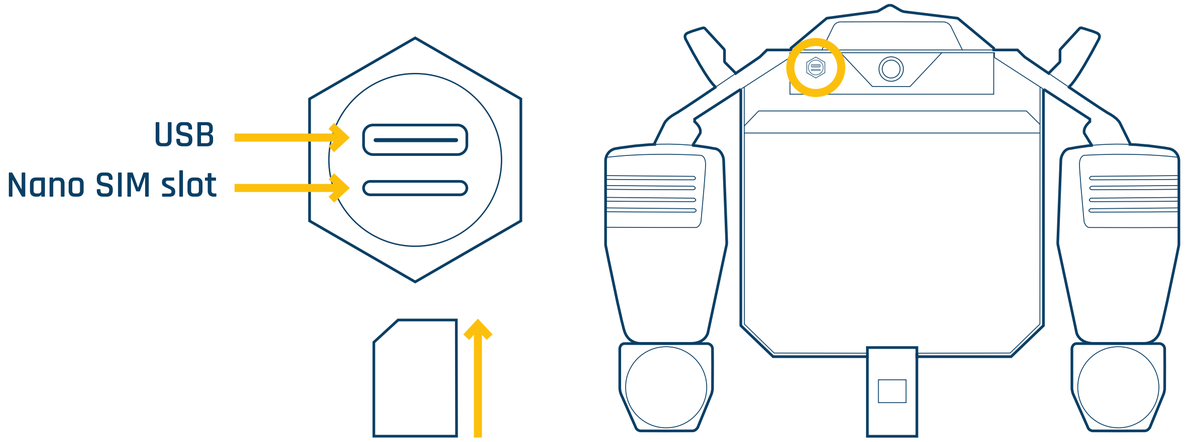
2. In IMS

- Log on to the online platform IMS with a computer, mobile phone or tablet.

Link to IMS

Note that it's not necessary to have an Internet connection while bathymetry is being carried out.

Bathymetry (5/5)



To install the Nano format SIM card

- Turn off the robot if it is on.
- Unscrew the waterproof Nano SIM and USB connector cap.
- Push the SIM card into the Nano SIM slot until it clicks (cut corner forward and marking on top).
- Screw the cap back on, tightening it just enough to ensure a tight seal.

To remove the SIM card

- Turn off the robot if it is on.
- Unscrew the waterproof Nano SIM and USB connector cap.
- Push the SIM card in until it clicks and let it come out by the action of the spring.
- Remove the SIM card.
- Screw the cap back on, tightening it just enough to ensure a tight seal.

Jellyfishbot maintenance (1/4)

What do I need?

1 pliers

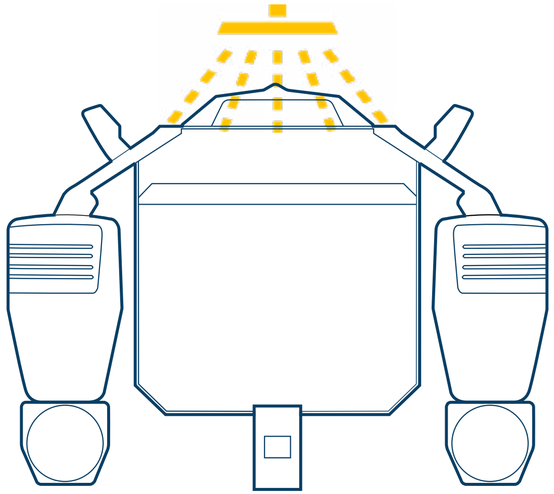
As every tool used on water, it's important that you clean it after every usage.

After every use:

1. Empty the Jellyfishbot waste net.

2. Clean the waste net if it's a reusable one, else dispose of it following your local recycling policies.

3. Check that all the connectors are properly tightened and give the Jellyfishbot a rapid fresh water shower (it is IP67 waterproof, it can take on some water).



4. Visually check the Jellyfishbot thursters, protections and structure to make sure everything is OK. Remove any waste that may be stuck on them with the pliers.

5. Charge the batteries.

Tutorial: clean and reuse the Jellyfishbot nets.

IADYS

Jellyfishbot maintenance (2/4)

What do I need?

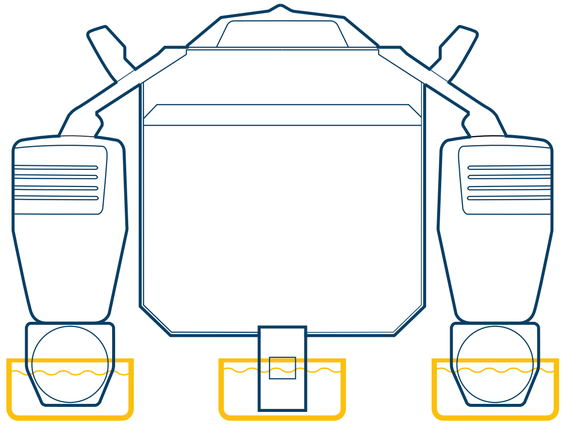
3 thruster rinse tanks

At least once a week:

1. Place the thruster rinse tanks so that each one contains a thruster.

2. Fill the thruster rinse tanks with fresh water.

3. Once all the thrusters are in fresh water, make them rotate at low speed for about 30 seconds so that salt and small particles are removed from the interior of the thrusters.

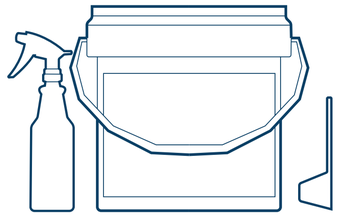


Tutorial: rinse the thrusters of the Jellyfishbot after use.

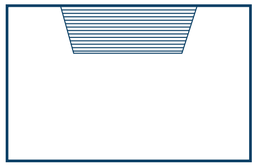
IADYS

Jellyfishbot maintenance (3/4)

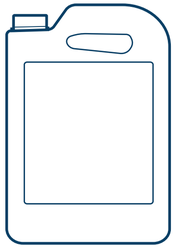
What do I need?



Film-forming protection



Wipes



Cleaning product without rinsing

If you plan to use the Jellyfishbot in a polluted oil environment:

To protect the Jellyfishbot from oil, we recommend applying film-forming protection 24 hours before operating in a polluted oil environment.

1. Dissolve one dose of film-forming protection in 1 liter/ 34 fl.oz. of water (cleans up to 2 m^2 / 20 ft^2).
2. Carefully spray over all equipment avoiding sensitive parts (camera, LiDAR, sonars).

To clean the Jellyfishbot after use in a polluted environment:

1. Use protective gear when handling the unit.
2. Remove the waste net and dispose of it.
3. Use the cleaning product without rinsing and rub with a wipe.

Note: materials contaminated by oil are considered hazardous waste and should not be thrown away with household waste.
Check with your town hall, local recycling center or waste management center to find out the places accepting hazardous waste.

The equipment shown is not included with the robot. Contact your sales representative to obtain one.

Reboxing (4/4)

What do I need?

Box

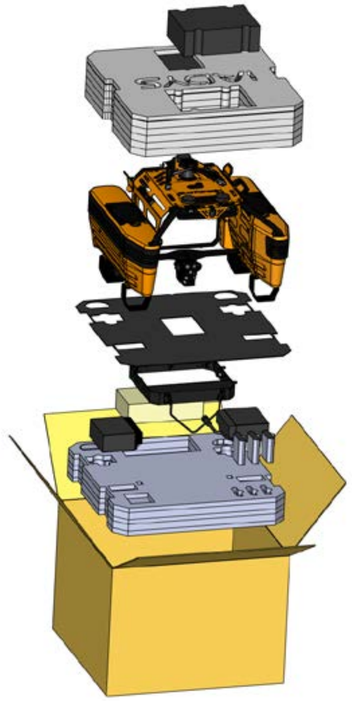
In case of maintenance or transportation:

1. Open the Jellyfishbot box and empty the contents, making sure to leave the protective foam for the accessories at the bottom of the box.

2. Place the Jellyfishbot.
Make sure the thrusters match the holes in the foam. Take care when lifting the robot.

3. Place the foam top cover, engraved IADYS.

4. Finish with the remote control and close the box with strong tape.



Note that if you have subscribed to the maintenance service by IADYS, once a year you will have to send back the Jellyfishbot to IADYS.

support@iadys.com