

Product notice

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1 Elios, the collision-tolerant inspection UAV

Discover the first collision-tolerant flying robot, designed for industrial inspection and security professionals. Allowing for the first time access to complex, cluttered or indoor places, Elios is unleashing the potential of UAVs in a number of applications where their use was previously too dangerous or simply impossible.



LOWER DOWNTIME

Decrease downtime and inspection costs, avoid confined space entry and increase worker safety by remotely accessing boilers, tanks, pressure vessels, tunnels and other complex environments inside your plant.



EASY TO PILOT

No piloting experience needed. Simply unpack, insert the battery and fly without risk of collision, damage or injury. The drone is capable of taking off and landing in any variety of environments.



HIGH RESOLUTION IMAGERY

Elios is capable of delivering images up to 0.2 mm/px, even in complete darkness. Along with its LED lighting and thermal imagery, it inspects and explores the unreachable.



SAFE FOR HUMANS

Thanks to its protective cage, Elios is safe to fly close and even in contact with humans and the surrounding environment. It can thus be used when the plant is still in operation without any risk of crash or injury.

1.1 What's in the box

The complete ELIOS purchase includes the following items:

Elios drone pre-series	1
2.4 GHz digital RC and video receiver	1
Samsung android tablet	1
Robot batteries	5
Robot battery chargers	2
Transport case	1
Lipo safe bag	1
Tool box with spare propellers	1
Micro SD cards	2
Spare cage pentagons type 1	5
Spare cage pentagons type 2	2



1.2 Elios: technical specifications

The Elios UAV shall only be used by operators acting for professional purposes and who have fully read and understood the user manual. It shall only be used in full compliance with the environmental restrictions of the user manual.

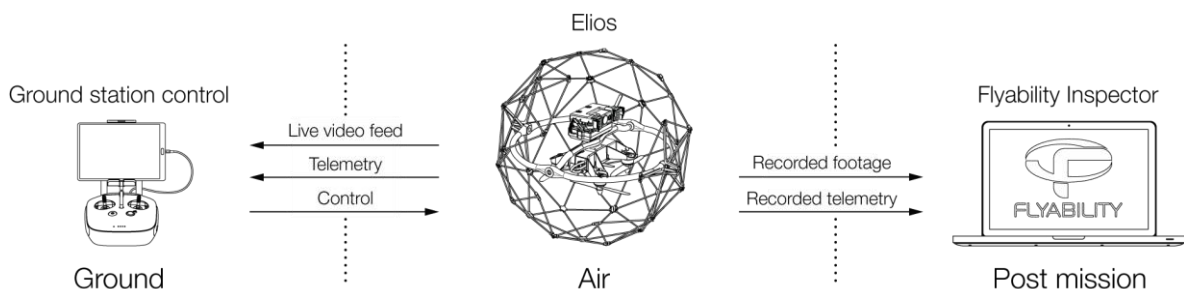
Flight mode	
Modes available to pilot	Manual thrust control, Automatic Altitude Control, High Speed Mode
Fail safe	Auto-landing on low-battery or RC signal loss
Flight system	
Dimension	fits in <400mm sphere
Motors	4 electric brushless motors
Takeoff weight	<720gr incl.battery, payload & protection
Flight time	Up to 10min per battery
Max. climb rate	1.5 m/s (in normal mode), 2.5 m/s (in high speed flight mode)
Max. airspeed	3 m/s (in normal mode), 7 m/s (in high speed flight mode)
Max. impact speed	3 m/s
Wind resistance	max 5m/s (in High Speed flight mode)
Sensors	Autopilot & control IMU, magnetometer, barometer
Materials	Carbon fiber composites, magnesium alloy, aeronautical grade aluminum, high quality thermoplastics
Operating temperature	-10 to +35°C
Wireless communication	
Type	Digital, bidirectional, long range Video and Data downlink to RC, Command and Data uplink to UAV
Frequency	2.4GHz
Range	Up to 5km without any obstruction
System power	
Type	Lithium polymer battery, 3 cells, 2800mAh, 33.08Wh
Charging time	1h
Battery change time	<1 minute

Main camera	
Video	FHD (1920 x 1080) at 30fps, good low light performance. Recorded on board and streamed to pilot and camera operator
Tilting range	+90° up -45° down
Horizontal field of view	Horizontal: 130 degrees°, Vertical: 100°. Total vertical including payload up/down tilt: 235°.
Control modes	Auto with EV correction or full manual mode
Thermal camera	
Video	60x120 pixels at 9fps. Recorded on board
Horizontal field of view	Horizontal: 56°. Vertical: 42°. Total vertical including payload up/down tilt: 177°. degrees
Vertical field of view	42 degrees
Lighting system	
Type	LED, high efficiency 5 arrays of high efficiency LEDs for even lighting in front, top and bottom of the robot. Adaptive light beam controlled by camera pitch, Intelligent auto mode for best pictures and lowest work load
Control modes	Intelligent auto or Manual
Power	11.4W nominal power for front lighting, 28W total installed max.
Mobile application used during flight	
Type	Real Time video and UAV telemetry, status visualization (remaining battery, payload settings, warnings, etc.). Control payload settings and various configurations.
Operating system	Android Optimized for Tablet provided with UAV system

2 Software for data post-processing

Upon delivery of the kit, you will be provided with Flyability's software for data post processing, **Flyability inspector**. It was designed as an integrated platform enabling you to simply use all the data recorded during the flight on the two SD cards, one for the video and one for the flight logs. You will be able to extract screenshots, and to visualize the video and thermal feeds frame by frame, the telemetry data (altitude, pitch, roll, yaw, temperature), as well as the points of interests (POI) recorded during the flight.

Post flight video, thermal and log analysis	
Name	Flyability inspector
Type	Video and thermal video viewer (frame by frame) Flight log analysis including point of interests recorded during flight Export of screenshots (and flight data)
Operating system	Windows 10 or Windows 8



We also have the possibility to provide access to a data sharing and asset management cloud platform, developed by our partners, to easily share the data from Elios to your customers or associates, and organize your inspection data. For more information, please contact sales@flyability.com

3 Training

Training is offered as part of the Elios full package. A certified instructor will assist you through the necessary steps to become proficient at piloting and operating the drone in the most challenging conditions.

The course includes notably:

- Development of basic piloting skills
- Beyond line of sight operation
- Data post processing
- Basic maintenance
- Tailor made guidelines for successful operation, including risk assessment and flight planning

Training can be performed at your facilities upon request or at our head offices in Switzerland over a period of 1.5 days. All the exercises presented are also available online on our webinar platform for remote and unlimited access.

4 Support, maintenance and warranty

4.1 Technical support

Upon delivery of the ELIOS, an account will be created on our secured portal "MyFlyability", easily accessible by clicking on the "Login" button on www.flyability.com. Through this platform, you will be able to:

- Download the latest firmware, software, manuals, and get valuable operations recommendations
- Directly contact our support team through a ticket system to submit any support request including ordering of additional or replacement parts, as well as technical and operational advice
- Learn about general safety guidelines on drone usage, responsible mission planning, as well as detailed procedures through checklists to support you during various operations.

Our Flyability Professional Services center offers high level and **unlimited** customer support via e-mail, phone or Skype.

4.2 Maintenance and repairs

To ensure a proper and lasting functioning of your Flyability Elios, each unit should be controlled and serviced by Flyability authorized service center or personnel. To find a partner/distributor near you, please contact our sales team at sales@flyability.com.

A Mandatory Periodical Control (MPC) is required every **50 hours of flight time**. This data is constantly monitored during operations and safely stored on a log file. You will receive a notification when the maximum amount of flight hours will be attained. This includes replacement of certain parts, cleaning of the robot and all required controls. This service and the relevant shipment costs are at not included in the package price.

If a unit is still within its warranty period, any part that has not exceeded its own warranty period and that shows a default will be replaced free of charge unless the default is due to an improper use of the drone.

Any damaged product should be returned to Flyability or an authorized service center for repairs. Our support team will promptly investigate the cause of the accident and proceed with the relevant repair action upon approval by the customer. Any damaged product should be returned to Flyability or an authorized service

center for repairs. Our support team will promptly investigate the cause of the accident and proceed with the relevant repair actions.

You will be notified at each step of the process and receive a quote for approval in case the costs are not covered by the warranty. Please note that products and components presented for repair may be replaced by refurbished goods of the same type. We strongly recommend that you back up your data prior to any repair, as this can be lost in the process.

4.3 Warranty

The Flyability Elios has an overall limited warranty period of 12 months, all the restrictions below shall apply:

Propellers	No warranty (extra pieces provided with the product at delivery)
Propulsion system	50 hours of flight
Battery	6 Months and Charge Cycle less than 200 Times
Battery charger	6 Months
Carbon Fiber Cage	No warranty (spare modules provided with the product at delivery)
Camera lens	Any damage on the lens due to improper cleaning of the lens will not be covered by the warranty.
Replaceable parts	Warranty does not apply to any parts that can be replaced by the end user himself (e.g. propellers)

In case of malfunction during the warranty period and according to the above restrictions, Flyability shall, at its option and expense repair the defective product or part, deliver to the customer an equivalent product or part to replace the defective item.

About Flyability

Flyability is building safe drones for inaccessible places. Based in Switzerland, since its foundation in 2014, the company is the pioneer in the field of unmanned aerial vehicle (UAV) operation indoors and in confined or complex environments.

Spin-off from the EPFL, one of Europe’s leading technical universities, Flyability is the winner of multiple prestigious prizes such as the 1M USD Drones for Good Award from the UAE in 2015. Flyability S.A.



MFE Rentals

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