

INSPECTION AND MAPPING INDOOR DRONE

Elios 3



Insights beyond human reach

Improved safety

Keep workers from dangerous conditions using remote surveying and inspection capabilities.

Reliable data

Get highly accurate data in the most confined spaces and provide fast operational insights.

Unprecedented access

Complete surveying and inspection tasks in areas that are unsafe or inaccessible to humans.

Cost efficiency

Maximize uptimes and save on equipment & labor costs with remote data collection by drone.

Elios 3

Technical specifications

DESIGNED FOR INDOORS

- Collision-resilient
- Confined space access
- GPS-denied flights

INTUITIVE TO FLY

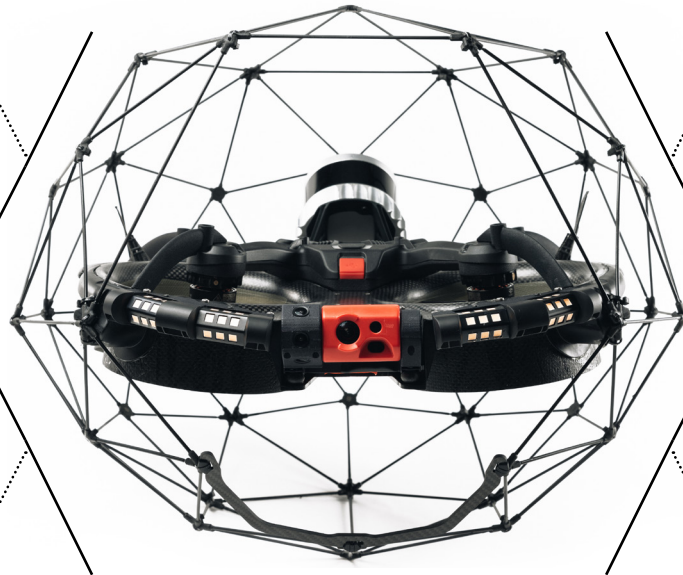
- LiDAR-based stabilization
- Live situational awareness
- Location-tagged data

UNMATCHED VERSATILITY

- Built-in: Visual inspection payload
- Add-Ons: UT, Surveying, RAD, Flammable Gas Sensor

BUILT FOR SUCCESS

- Easy maintenance
- 1-day training to onboard
- Dedicated support team



AIRCRAFT

Dimensions (W x H)	48x38 cm (18.9 x 13.8 in)
Weight (incl. battery)	Aircraft: 1960 g +/-15 g (< 4,32 lbs) Aircraft and LiDAR: 2412 g +/-15 g (< 5,2 lbs)
Max. flight time	11.5 min (Elios 3 base), 9.1 min (Elios 3 + LiDAR)
Ingress protection	Splash and dust resistant design, LiDAR Payload IP68
Max. horizontal speed	Assist mode: 1.5 m/s (4.9 ft/s), Assist-Sport mode: 2 m/s (6.6 ft/s), Attitude mode: 5 m/s (16.4 ft/s), Sport mode: 7 m/s (23 ft/s)
Max. wind resistance	Assist mode: 5 m/s (16.4 ft/s), Sport mode: 7 m/s (23 ft/s)
Operating altitude	W/o payload: -3000 m and +5000 m AMSL W/ payload: -3000 m to +3000 m AMSL
Operating temperature	0 °C to 50 °C (32 °F to 122 °F) ¹
Outdoor compliance	<ul style="list-style-type: none"> ✓ Remote ID ✓ Pilot ID, Geo-Awareness, Altitude fence for EU, CH, N, IS & LIE

1. Valid for batteries pre-condition between 10 °C and 40 °C; 50 °F to 104 °F

OPERATIONAL SAFETY & CRASHWORTHINESS

Safety factors	Collision-resilient patented technology, protective cage in carbon
Impact resistance from falling objects	Impact resistant for a falling rock of 2 cm diameter falling from 1 m high on the drone
Max. safe collision speed	2 m/s (< 6.6 ft/s) in frontal collisions, 2.4 m/s (< 7.9 ft/s) in all spherical directions
Fail safe	Automatic return to signal or video loss
Stabilization system	SLAM Based LiDAR and VIO Cameras

LIDAR PAYLOAD (BASE OPTION)

SLAM based mapping	✓
Handheld functionality	✓
Max. range	45 m
Precision	+/- 1.8 cm
Max. accuracy	0.5% drift

SMART BATTERY

Type	LiPo 6S HV Smart Battery
Nominal voltage	22.8 V
Charging time	1 h
Capacity	99.2 Wh
Operating temperature	10 - 40 °C (50 - 104 °F)

REMOTE CONTROLLER

Max. transmission distance	500 m (1640 ft) in direct visual line of sight
Max. operating time	5 h
Output port	USB-C
Weight	1760 g without tablet (< 3.9 lbs), 2260 g with tablet (< 4.9 lbs)
Tablet model	Samsung Galaxy Tab S7 or S8

SHIPPING CASE

Dimensions (HxWxL)	65 x 45 x 55 cm
Shipping weight	24 kg (< 52.9 lbs)

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Payload menu

VISUAL INSPECTION PAYLOAD (BUILT-IN)



Data output

4K video, 12MP photos, Thermal imagery

4K CAMERA

Sensor
12.3 MP 1/2.3" CMOS

Video resolution
4K / 30 fps

GSD resolution
Up 0.18mm/pix

Focal lens
2.71 mm

FOV
180° tiltable camera pod

THERMAL RADIOMETRIC CAMERA

Sensor
Lepton 3.5 FLIR

Resolution
160 x 120

Accuracy
From ±5°C or ±5%

Frame rate
9 fps

Thermal sensitivity
≤50 mK

LIGHTING SYSTEM

Light output
16000 Lumens

Modes
Normal,
dustproof lighting,
oblique lighting

UT PAYLOAD (ADD-ON)



Data output

UT Spot Measurements

PROBE

Manufacturer
Cygnus Instruments

Probe type
Dual element transducer

Measuring mode
Mode 2 (Single Echo)
and Mode 3 (Echo-to-Echo)

PROBE

Gain and gate control
Automatic or manual
gain and gate control

Accuracy
±0.1 mm (±0.004")

Resolution display
Display 0.1 mm (0.005")
or 0.01 mm (0.0005")

IN FLIGHT

- ✓ Live A-scans data
- ✓ Real-time A-scan refinement

IN POST-PROCESSING

- ✓ Location-tagged UT measurements
- ✓ A-scan review and refining

SURVEYING PAYLOAD (ADD-ON)



Data output

Point clouds

SENSOR

Configuration
Ouster OSO 128 beams
REV 7 sensor

Accuracy
From 0.1% drift

Precision
1σ +/- 6 mm, 2σ +/- 12 mm

Range
Up to 100 m

SENSOR

Scanning rate
1.3 M pts / sec

Photon sensitivity
10x Handheld
functionality

IN POST-PROCESSING

Software
FARO Connect (partner solution)

Features
✓ Data alignment,
✓ Georeferencing,
✓ Point cloud filtering

Export formats
LAZ, LAS, E57

FLAMMABLE GAS SENSOR (ADD-ON)



Data output

Real-time warning

SENSOR

Configuration
NevadaNano Flammable
Gas Sensor 5.0

Type
Molecular Property
Spectrometer™

Calibration
No calibration required
(factory calibrated)

SENSOR

Response time
< 20 seconds

Humidity range
0% to 95%

Pressure range
80 to 120 kPa

IN FLIGHT

- ✓ Real-time warning of flammable gases
- ✓ 14+ flammable gases detected, including Hydrogen
- ✓ Comprehensive reading: live LEL % values and gas class

RAD PAYLOAD (ADD-ON)



Data output

Radiation levels

DETECTOR

Configuration
Mirion RDS-32TM WR

Dose rate measurement range
0.05 μSv/h to 10 Sv/h

IEC dose rate measurement range
0.3 μSv/h to 10 Sv/h

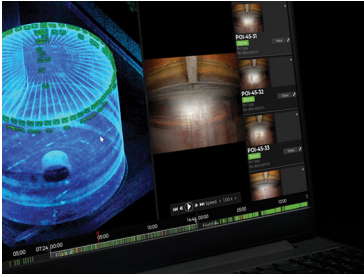
IN FLIGHT

- ✓ Comprehensive radiation reading: current and cumulative dose rate along with max recorded value

IN POST-PROCESSING

- ✓ Precise localization of radiation sources on a 3D map of the asset
- ✓ Easy reporting

1. Depending on probe and configuration, material, temperature.



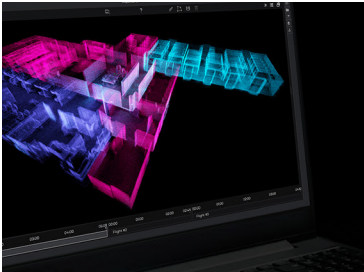
Inspector

Inspector, the companion software for Elios 3, lets you effortlessly visualize and analyze Elios 3 inspection data within a 3D model of your asset. With advanced tools for real-time analysis, 3D mapping, and reporting, it turns inspection data into actionable insights, making it easy to organize and interpret.



Flyability Cloud

Centralise, sync and easily share all your Elios 3 data on the Cloud, accessible from any device without file transfers or installations. Review inspection footage with an online viewer that displays annotations and points of interest on a digital twin of your asset.



Asset Management

Automatically merges data from subsequent inspection flights into a single view of your asset, integrating real-time spatial alignment and point cloud visualization for a comprehensive digital twin that simplifies analysis and enhances decision-making.



Training simulator

The Flyability Training Simulator recreates the Elios 3 flying experience, enabling pilots to safely practice navigation and refine skills in realistic industrial scenarios—all without additional hardware. This free tool supports on-demand learning, helping users master inspections efficiently.

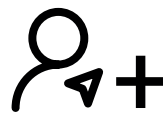
TRAINING

80+

Global training facilities

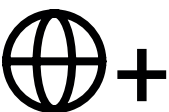
2500+

Certified Elios drone pilots



Complete training programs to master our drones and payloads.

SUPPORT



Global Support & Services



Knowledge base available online with how-to guides, videos and technical help for your drones.