

ELIOS 3



Digitizing the inaccessible.

Quickly turn asset data into digital insights, with Elios 3, the ultimate indoor drone for inspection, mapping, and surveying.

Much more than a flying camera, Elios 3 is a powerful data-harvesting tool.

Relying on the power of computer vision and LiDAR mapping, Elios 3 is a versatile indoor drone opening doors to a world where performing systematic inspections does not require months of training, reporting is done intuitively on a 3D model of your asset, and situational awareness is built into the piloting app.



Scan to watch video



FlyAware™ SLAM
Engine



SLAM-Based
Stabilization



3D Live Map



3D reporting



3D Surveying
Solution



Modular Payload
Bay



Collision-Resilient
Rugged Design



Close-Up Inspection
Dedicated Payload



Extended
Air-Time



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WWW.FLYABILITY.COM

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ELIOS 3 UT PAYLOAD



Safe remote thickness measurements

Remotely capture A-scans at height and in hard-to-reach areas.

Developed in partnership with Cygnus Instruments, the UT Payload turns the Elios 3 into a flying UTM gauge that can take accurate thickness measurements backed up with high-resolution A-scans in the most challenging areas.



Location-Tagged
UT Measurements



Smart Couplant
Dispenser



Smart Probe
Arm



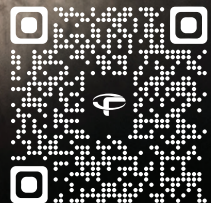
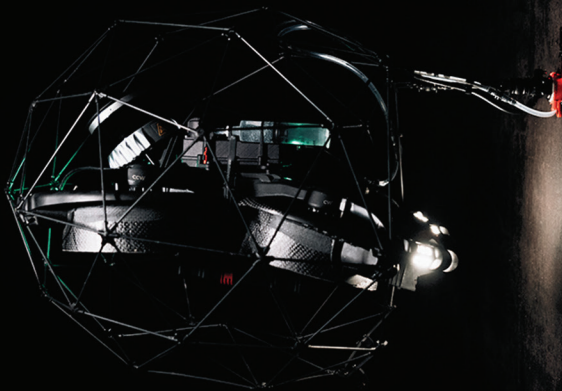
Modular Probe
Head



Cleaning Module



Live A-Scans



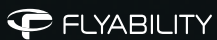
learn more



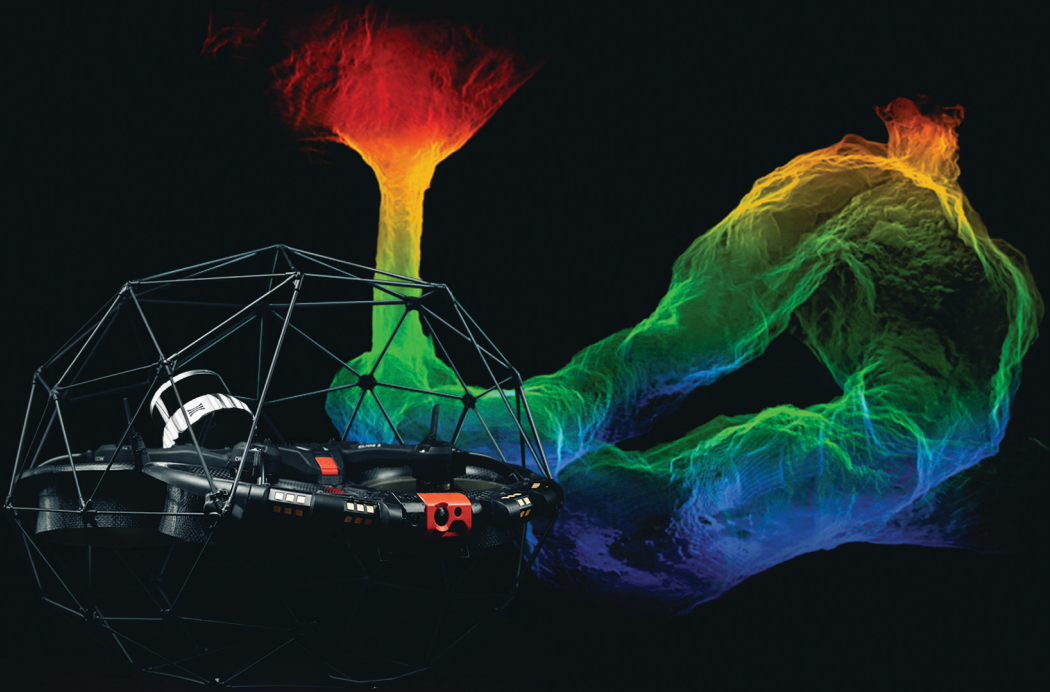
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ELIOS 3 SURVEYING PAYLOAD

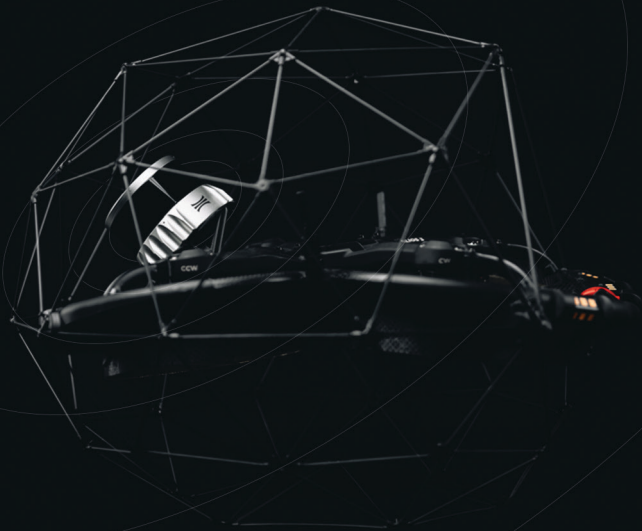


Surveying the inaccessible.

Safely create centimeter accurate scans of hard-to-reach areas.



Flyability's Surveying Payload turns the Elios 3 into a flying mobile scanner that can fit through openings as small as 50x50 cm, and create high resolution scans beyond line of sight, - for rapid insights that are not accessible with traditional tools or other UAV technologies.



From

0.1% drift

Accuracy

+/-

6mm

Precision 1σ

Up to

100m

Range

1.3M pts/sec

Scanning rate

10x

Photon sensitivity



 learn more



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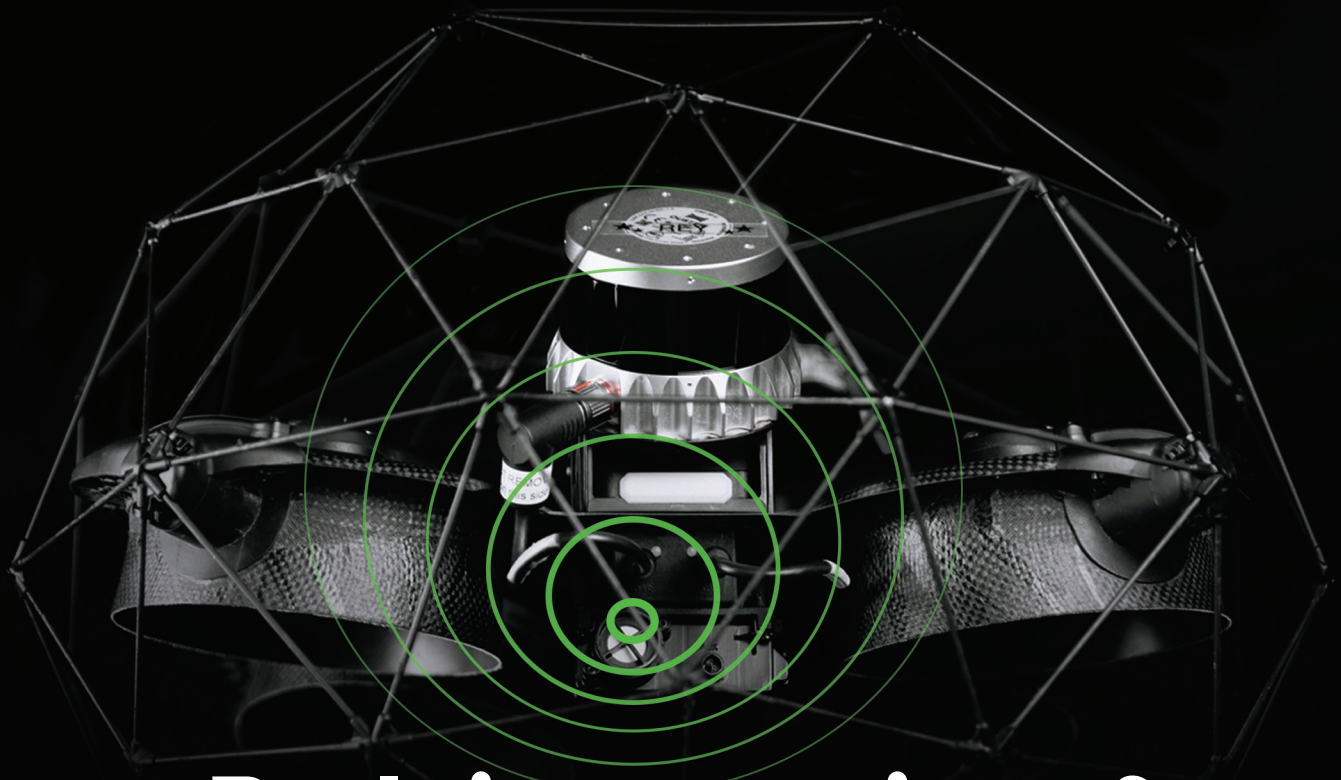
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WARNING OF GAS PRESENCE

Elios 3 Flammable Gas Sensor

In partnership with  NevadaNano



Real-time warning of flammable gases

Achieve greater safety

Reliably detect flammable gases in hazardous areas, enhancing awareness of atmospheric conditions inside your assets to quickly adjust safety measures during drone operations.

Ease permitting process

Complement traditional handheld sensors with airborne detection to ensure continuous flammable gas monitoring, streamlining risk assessments and accelerating permit approvals.

Enjoy greater peace of mind

Reduce stress factors when operating drones in high-risk areas. The gas sensor adds an extra layer of safety and provides real-time awareness of potential hazards.

Important notice: The Flammable Gas Sensor is designed as an extra safeguard for detecting flammable gases. It is meant to complement, not replace, existing safety measures and protocols. However, the sensor itself doesn't alter or minimize the potential risks associated with flying the Elios 3 non-ATEX drone in flammable environments.

Elios 3 Flammable Gas Sensor Payload

Technical specifications



FLAMMABLE GAS SENSOR PAYLOAD

Sensor manufacturer	NevadaNano
Sensor type	Molecular Property Spectrometer™ (MPS™) Flammable Gas Sensor 5.0
Calibration	No calibration required (factory calibrated)
Response time (T90)	< 20 seconds ¹
Operating temperature	0 °C to 50 °C (32 °F to 122 °F)
Humidity range	0% to 95% ¹
Pressure range	80 to 120 kPa ¹
Airflow velocity	7 m/s ¹
Bump Test flow rate	Min: 150 mL/min ¹ Max: 500 mL/min ¹
Keep alive	Max: 3 min
Ingress protection	Splash and dust resistant design
Weight	45.5 g, 1.60 oz

1. Value subject to change

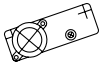
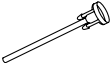
FLAMMABLE GASES DETECTED

The Flammable Gas Sensor is factory calibrated to the accuracy levels shown below, with no need for further recalibration or adjustment. It also detects other gases not listed in the table, including 1-butene, acetylene, ammonia, cyclohexane, decane, diesel, dimethyl carbonate, ethanol, gasoline vapors, hexane, and methanol. However, the sensor does not provide LEL accuracy for these gases and may over- or under-report, so special precautions should be taken when using the MPS to detect them.

Gas	Formula	Class	Detection Range [%LEL]	% Volume of gas at 100 %LEL ¹ (ISO 10156)	MPS Accuracy 0 to 50 %LEL ¹ (ISO 10156)	% Volume of gas at 100 %LEL ¹ (IEC60079-20-1)	MPS Accuracy 0 to 50 %LEL ¹ (IEC60079-20-1)
Butane	C ₄ H ₁₀	4	0-100	1.8 %VOL	±5 %LEL	1.4 %VOL	±5 %LEL
Ethane	C ₂ H ₆	4	0-100	3.0 %VOL	±5 %LEL	2.4 %VOL	±5 %LEL
Hydrogen	H ₂	1	0-100	4.0 %VOL	±5 %LEL	4.0 %VOL	±7 %LEL
Isobutane	HC(CH ₃) ₃	4	0-100	1.8 %VOL	±5 %LEL	1.3 %VOL	±9 %LEL
Isobutylene	C ₄ H ₈	4	0-100	1.8 %VOL	±5 %LEL	1.8 %VOL	±5 %LEL
Isopropanol	C ₃ H ₈ O	4	0-100	2.0 %VOL	±10 %LEL	2.0 %VOL	+20 %LEL
Methane	CH ₄	3	0-100	5.0 %VOL	±3 %LEL	4.4 %VOL	±3 %LEL
MEK	C ₄ H ₈ O	5	0-100	1.4 %VOL	±5 %LEL	1.5 %VOL	+16 %LEL
Pentane	C ₅ H ₁₂	5	0-100	1.5 %VOL	±5 %LEL	1.1 %VOL	±6 %LEL
Propane	C ₃ H ₈	4	0-100	2.1 %VOL	±6 %LEL	1.7 %VOL	±8 %LEL
Propylene	C ₃ H ₆	4	0-100	2.4 %VOL	±5 %LEL	2.0 %VOL	±5 %LEL
Acetone	C ₃ H ₆ O	5	0-100	2.5 %VOL	+20 %LEL	2.5 %VOL	+24 %LEL
Ethylene	C ₂ H ₄	4	0-100	2.7 %VOL	-12 %LEL	2.3 %VOL	-14 %LEL
Heptane	C ₇ H ₁₆	5	0-100	1.1 %VOL	±12 %LEL	0.85 %VOL	±15 %LEL
Octane	C ₈ H ₁₈	6	0-100	1.0 %VOL	±12 %LEL	0.8 %VOL	±15 %LEL
Styrene	C ₈ H ₈	6	0-100	1.1 %VOL	-20 %LEL	1.0 %VOL	-17 %LEL
Toluene	C ₇ H ₈	6	0-100	1.2 %VOL	±12 %LEL	1.0 %VOL	±13 %LEL
Xylene	C ₈ H ₁₀	6	0-100	1.1 %VOL	±12 %LEL	1.0 %VOL	±13 %LEL

1. Accuracy is guaranteed for methane and hydrogen across the full environmental range. For other gases, accuracy typically meets published tolerances under standard conditions of 20°C and 50% RH, and when oxygen is present in the air. Additionally, the airflow generated by the drone's propellers can disperse gas concentrations around the sensor and interfere with the accuracy of gas measurements. For more precise readings, it is recommended to land the drone and turn off the propellers.

FLAMMABLE GAS SENSOR PACKAGE

 Sensor	 Sensor mount	 Bump test tool	 Spare filters
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AIRCRAFT WITH GAS SENSOR PAYLOAD MOUNTED

Modification from nominal specifications

Payloads compatibility	Rev6 and Rev7 LiDAR Payloads, RAD Payload, UT Payload
Flight time while hovering ¹	Elios 3 + Lidar Rev6: 9 min 8 sec Elios 3 + Lidar Rev7: 8 min 39 sec Elios 3 + Lidar Rev7 + RAD Payload: 7 min 26 sec Elios 3 + Lidar Rev7 + UT Payload: 7 min 31 sec

1. All tests run at Sea Level, 20°C, 0% humidity, no wind, in ASSIST, Lighting by default (20W), new battery full capacity 98.8Wh, 100% to 0% on tablet (a margin of 10% is kept by the system).

IN-FLIGHT READING

- Sensor status
- Gauge defined thresholds
- Max recorded LEL % value
- LEL % live value
- Gas class

