

INTECH NDE  
Inspection Solutions

FLYABILITY



ELIOS 3

**DIGITIZING  
THE INACCESSIBLE**

## THE ULTIMATE INDOOR DRONE FOR INSPECTION, MAPPING AND SURVEYING

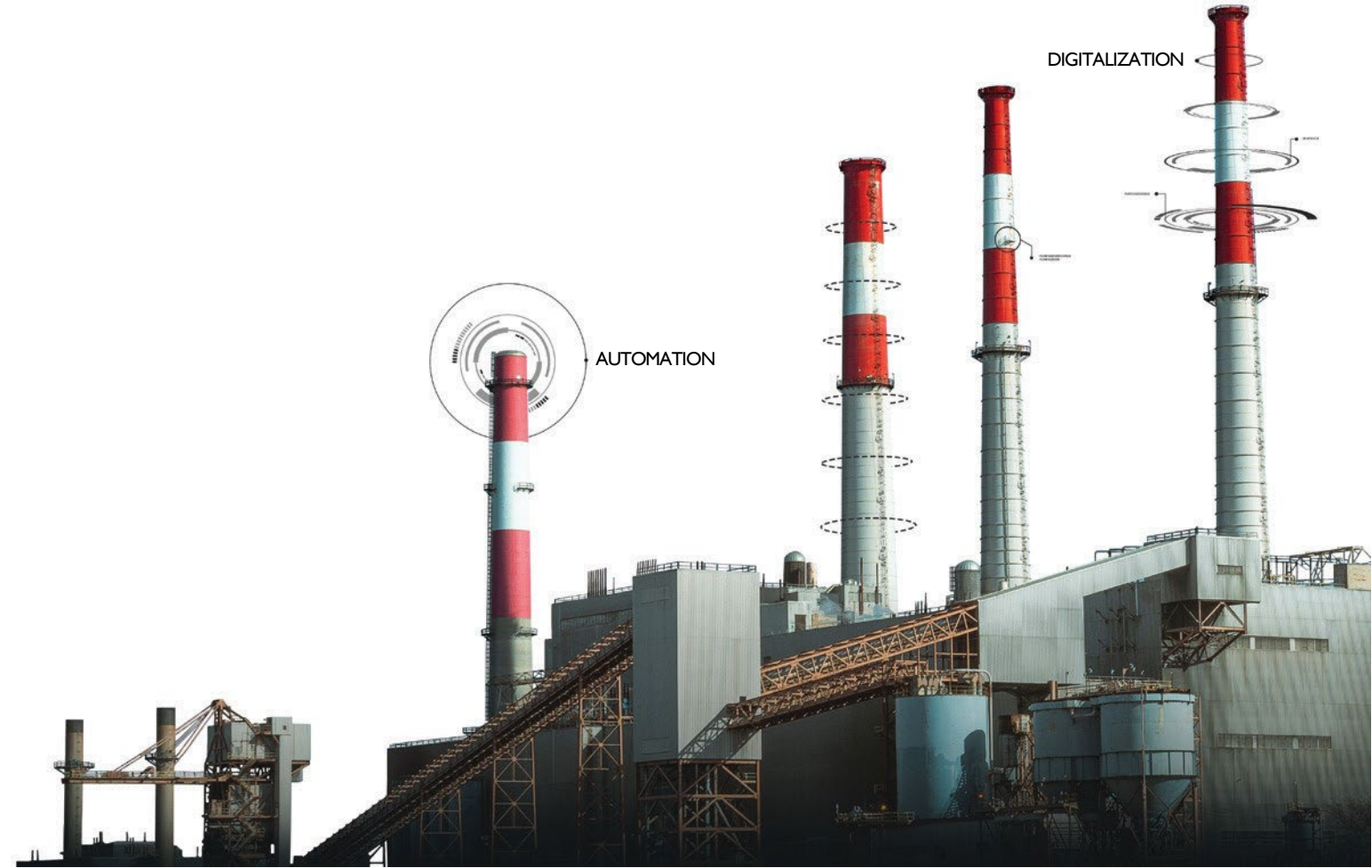
Quickly turn asset data into digital insights, with Elios 3 - the first mapping and inspection indoor drone, offering an unmatched combination of intelligence, versatility and stability.



## INDUSTRY 4.0

# GET READY FOR A NEW ERA OF INTERNAL INSPECTION AND MAPPING

Drone-based inspection is not a technology of the future, it is a necessity for today's digital fast-paced world. With the 4th industrial revolution in motion, organizations are looking to deliver digital transformation of their industrial processes, while cutting costs and bettering workers' environments. Elios 3 helps industrials effortlessly achieve these goals by bringing their inspections and mappings to the next level.





Elios 3 in a salt mine  
Germany



## **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.



FlyAware™ SLAM  
Engine



SLAM-Based  
Stabilization



3D Live Map



3D Reporting



3D Surveying  
Solution



Modular Payload  
Bay



Collision-Resilient  
Rugged Design



Extended Air-Time



Close-Up Inspection  
Dedicated Payload



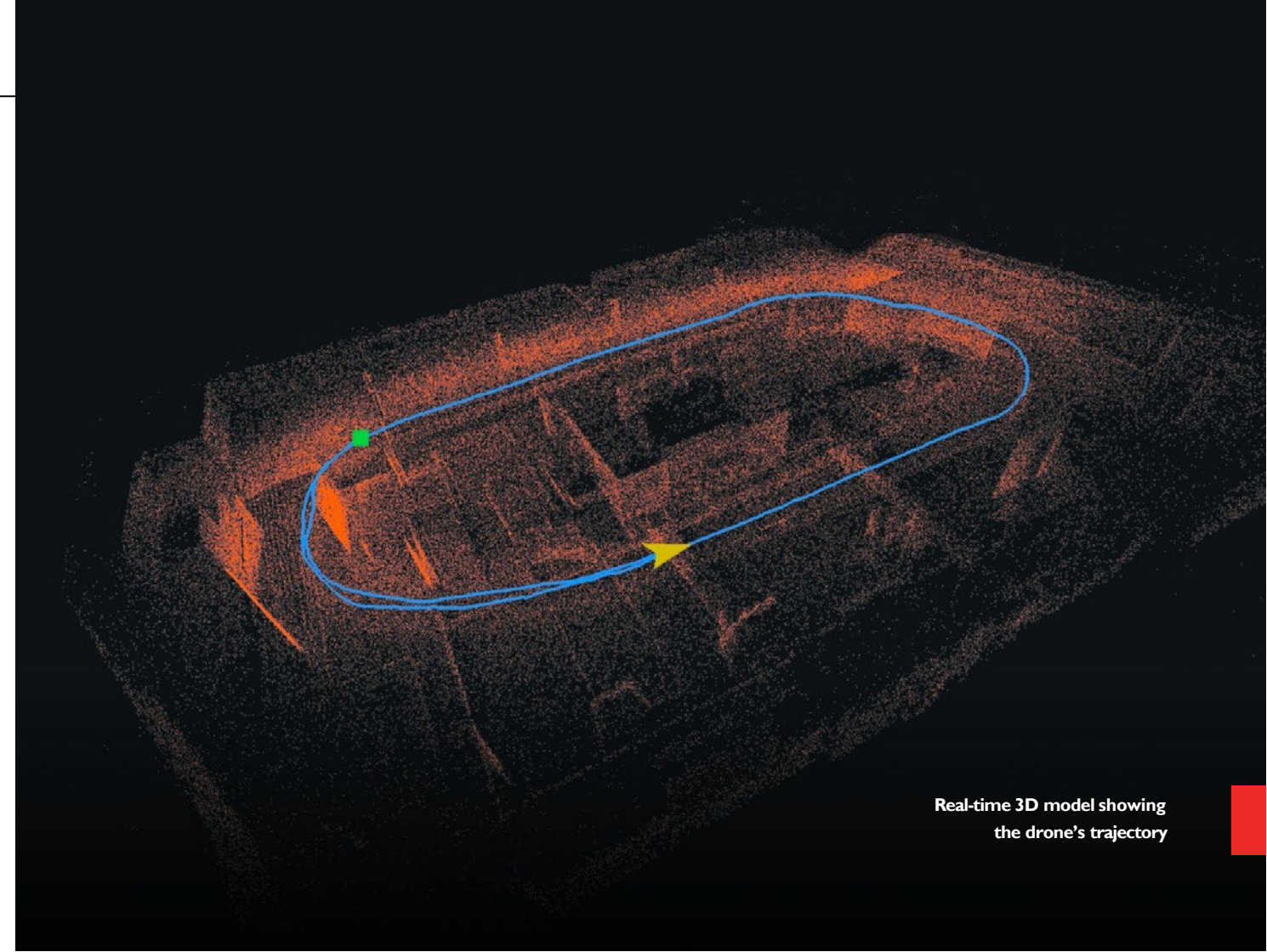
Elios 3 top view



## FlyAware™ SLAM Engine

### Powered by FlyAware™.

FlyAware™ is the unique combination of computer vision, LiDAR technology, and a powerful NVidia graphic engine. Acting as a centimeter-accurate indoor GPS, it builds real-time 3D maps enabling the drone to sense its surroundings instantaneously. Today, Flyaware™ allows for groundbreaking stability and highly accurate locational awareness. Tomorrow, it is the promise of complex confined spaces inspections performed in full autonomy.



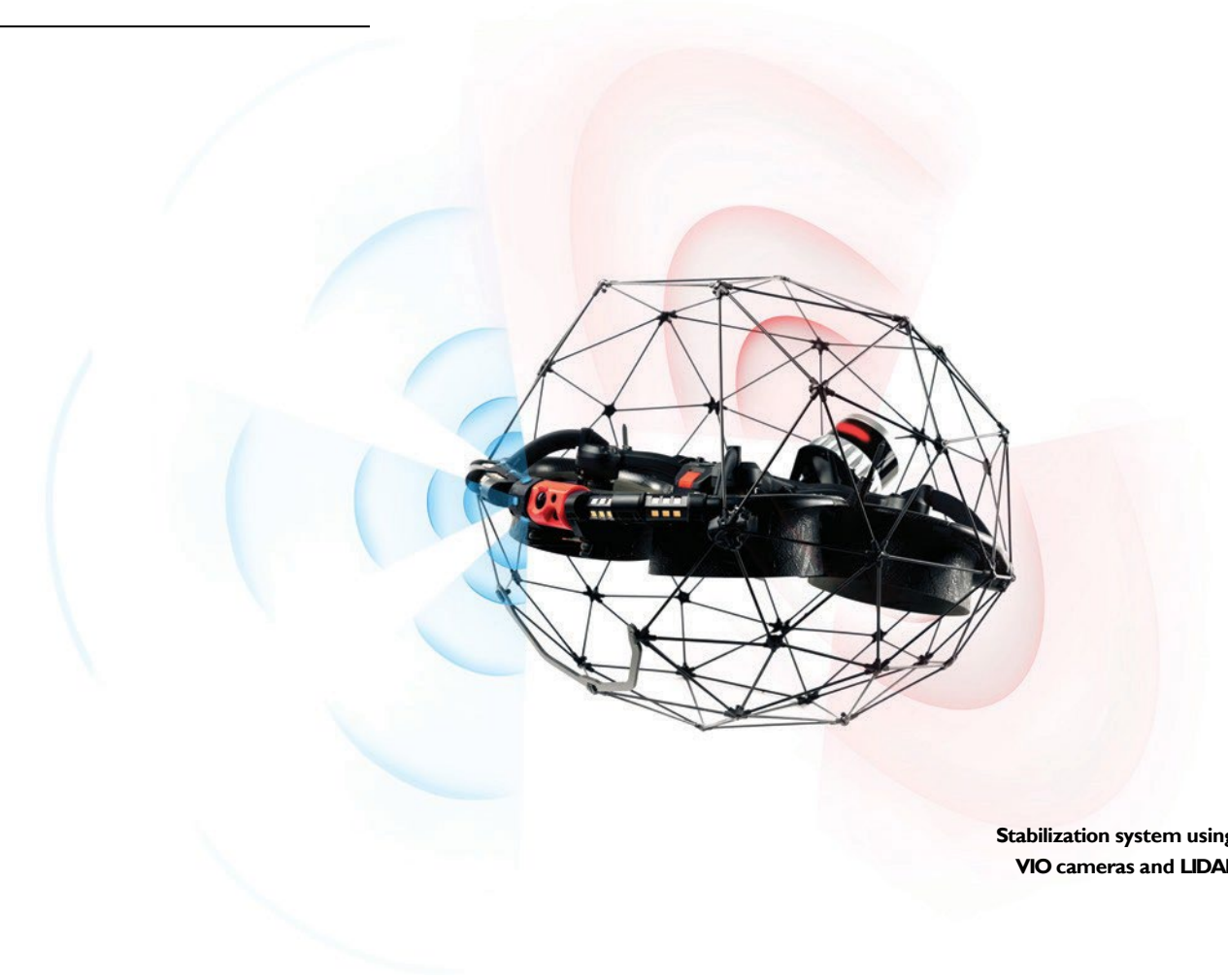
Real-time 3D model showing  
the drone's trajectory



## SLAM-Based Stabilization

### Stone-still stability. No matter the conditions.

The all-new SLAM-based stabilization algorithm catches the tiniest unpredictable movements of the drone and instructs the flight controller to compensate for it. This allows for the drone to float in the air still as a stone even in the toughest conditions. With Elios 3, pilots from all skill levels will succeed at performing complex missions with close to no training.



Stabilization system using  
VIO cameras and LIDAR





## 3D Live Map

### Flawless locational awareness.

The embedded LiDAR constantly scans the surroundings to build a high-density point cloud map. This map is displayed instantly in the Cockpit App, empowering pilots with exceptional locational awareness. A real-time 3D view of the drone's trajectory and environment provides crucial data:



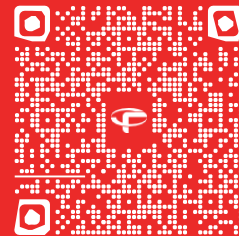
#### Always know where you are.

The drone's position is located precisely so the pilot can easily decide on the optimal route to safely return home.



#### Assess inspection coverage.

Cumulative mapping data shows the completeness of the map so you can instantly assess your inspection coverage.



Scan to watch the demo



3D live map feature on cockpit





## 3D Reporting

### Understand where to focus your maintenance efforts.

From data capture to decision making, Inspector 4.0 and Elios 3 work hand in hand to provide operational continuity, boosting your efficiency through every step of the inspection process.

Thanks to Elios 3's LiDAR, reporting is done intuitively on a 3D model of your asset. Points of interest captured in flight are readily available in a high density point cloud offering a faster, more accurate, and more reliable data localisation system.



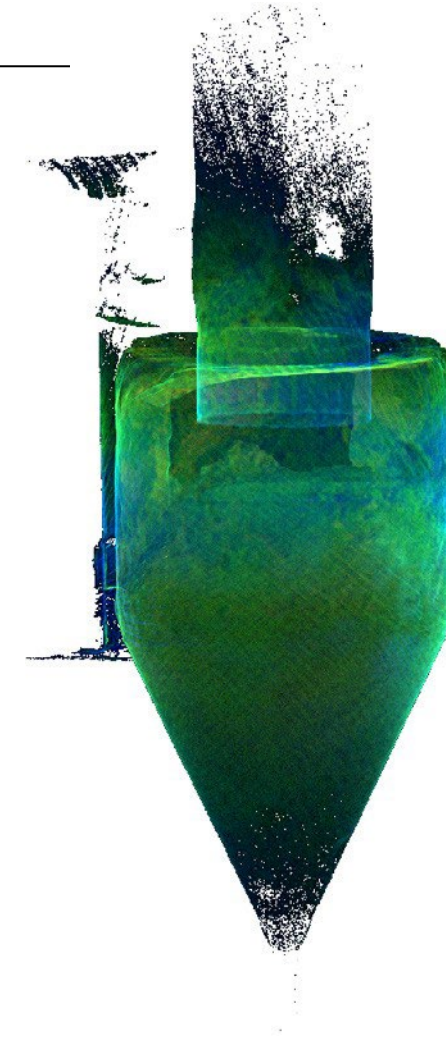
Inspector 4.0 running  
on a Windows PC



## 3D Surveying Solution

### Survey-Grade Point Clouds.

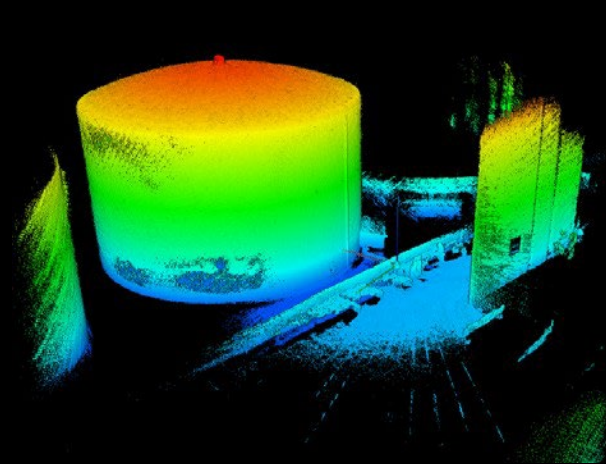
Thanks to an integration with GeoSLAM software suite, Elios 3's LiDAR data can be processed to build survey-grade 3D models of your asset enabling surveyors to map the truly inaccessible.



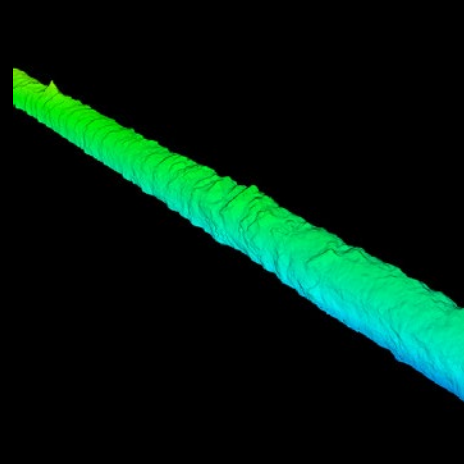
3D model of a cyclone in a cement plant  
created with GeoSLAM Connect



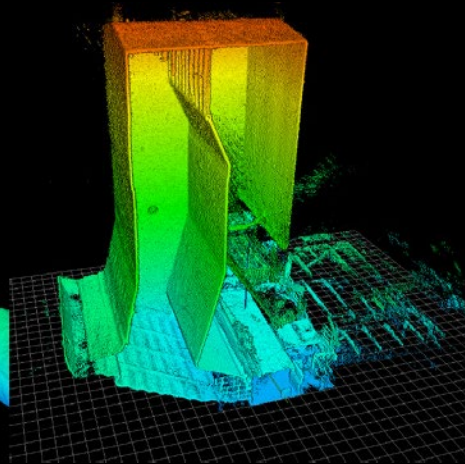
Building facade



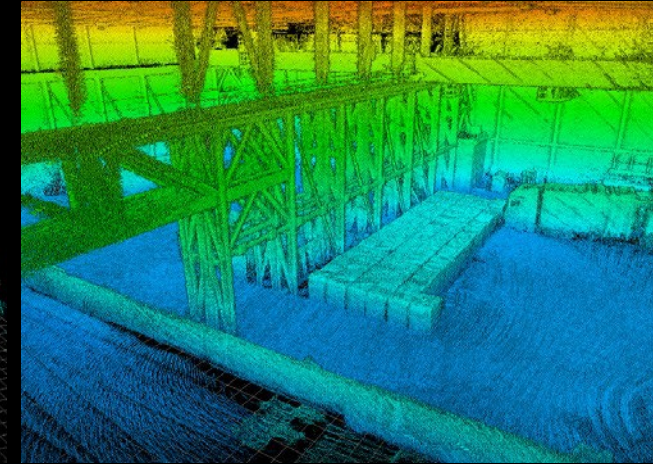
Storage tank



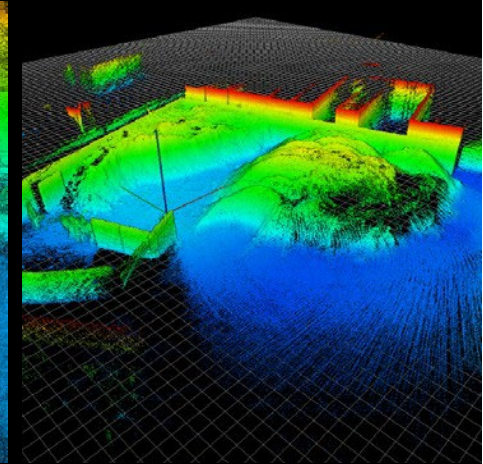
Gallery in an underground mine



Boiler



Warehouse



Indoor stockpile

Examples of 3D models created with GeoSLAM Connect  
in various industrial environments

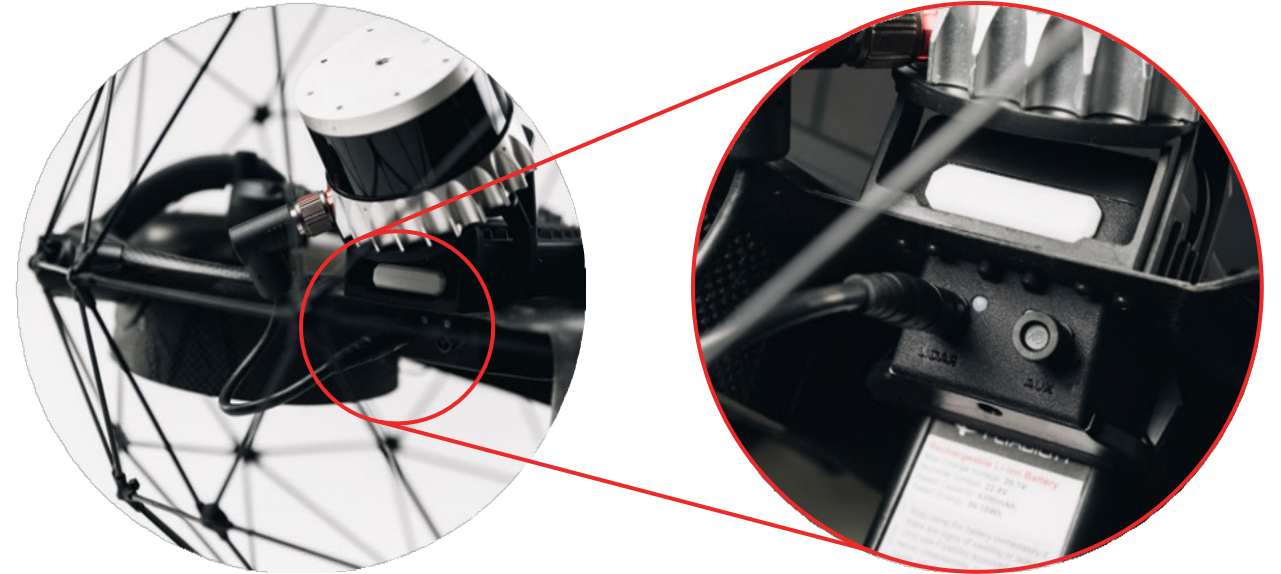




## Modular Payload Bay

**A versatile and future-proof inspection tool.**

The modular payload bay features two ports. One dedicated to the LiDAR and one for auxiliary payloads. This unique integrated design provides aerial capabilities for a range of upcoming indoor applications. It turns Elios 3 into a versatile, future-proof tool, configured to fit your mission needs.



Zoom on the payload bay connectors

## Collision-Resilient Rugged Design

### Ready for the tough work.

Designed after Flyabilty's patent-pending collision-resilient flight controller, Elios 3 is fit for use in the most complex industrial settings. With its signature cage and unique reversing motors, Elios 3 is the only drone in the market that can recover from flipping upside-down without crashing. The rugged IP-44 design allows for the inspection and mapping of harsh environments without concern for water splashes and dust.

\*Elios 3 is not certified IP-44 but it has been designed to comply with such rating according to the ingress protection code.



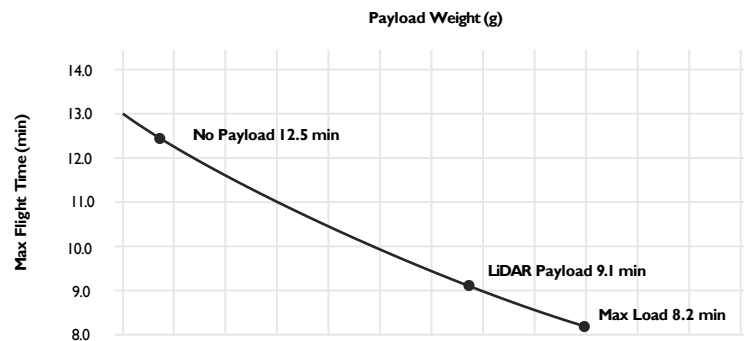


## Extended Air-Time

Do it all in one go.

The Elios 3 offers up to 12.5 minutes of flight time\* so you can go the extra mile in every single flight. With a new insert & lock mechanism battery manipulations are easier than ever.

\*Flight time without a payload mounted on the payload bay.



New insert and lock mechanism to ease battery manipulations



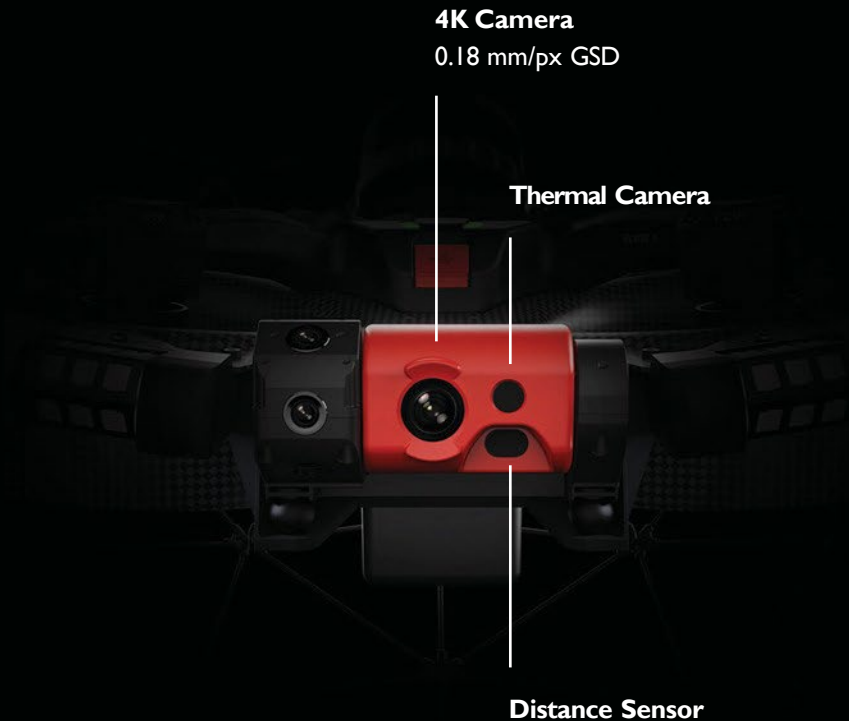


## Close-Up Inspection Dedicated Payload

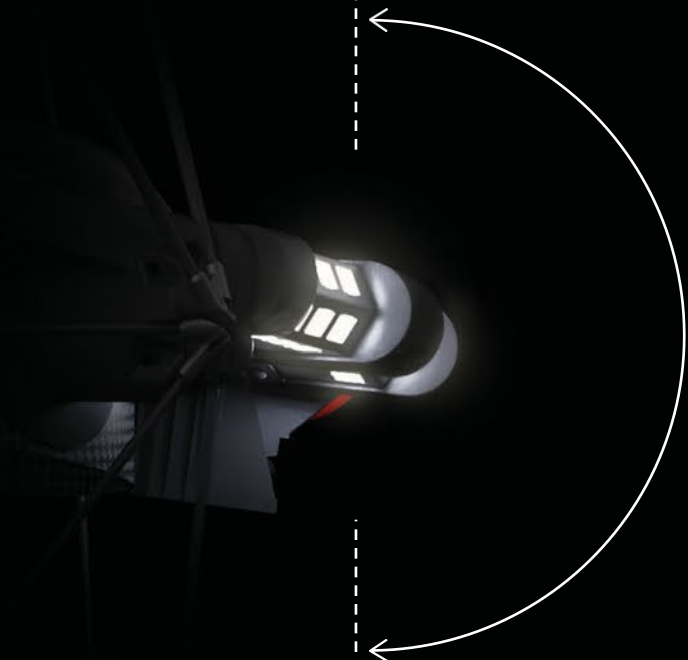
### Supercharging data quality

The static payload now comes with a fully unobstructed 180° field of view to a 4K camera, a thermal camera, and a distance sensor. The lighting system has been rethought from the ground-up to bring an even more powerful and homogeneous lighting experience. Thanks to the industry-leading oblique and dust-proof lighting system, looking for pitting, cracks, or build-ups becomes as natural as doing it manually with a flashlight. Elios 3 close-up inspection payload delivers stunning image quality, consistently smooth, even in the complete dark.

Supercharging data quality



Supercharging data quality



Unobstructed  
180° FoV



Ingenious lighting system

**Oblique Lighting**  
Detect pitting, cracks,  
or build-ups

Ingenious lighting system



Dust-Proof 16K Lumen Lighting

Traverse dirty places without losing sight of your objective

**INTECH NDE**  
Inspection Solutions

JUST LIKE YOU,

**WE WANT VISUAL INSPECTIONS TO A SAFE, FAST AND  
ECONOMICAL ROUTINE**







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Inspection Solutions

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# INTECH NDE

Inspection Solutions

## **British Columbia**

140 – 8851 Beckwith Road  
Richmond, B.C.  
V6X 1V4

Tel: 604 276 8006

Fax: 604 276 8725

Toll Free: 1 800 677 8884

## **Alberta**

6211 Roper Road  
Edmonton, Alberta  
T6B 3G6

Tel: 780 448 9575

Fax: 780 466 1280

Toll Free: 1 888 576 7756

## **Ontario**

#48 1200 Speers Road  
Oakville, Ontario  
L6L 2X4

Tel: 289 430 0286

Fax: 780 466 1280

**[www.intechnde.com](http://www.intechnde.com)**



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