

PRECISE RADIATION SENSING

Elios 3 RAD Payload

Powered by  MIRION
TECHNOLOGIES



Remote radiation detection and localization

Identify, locate, and monitor radiological dose fields

Quickly deploy the Elios 3 RAD from a convenient area to better understand radiological conditions.

Empower dose planning & decision-making

When planning interventions, estimate the total dose workers will be exposed to and identify hot spots to minimize human exposure.

Reach higher safety standards

Evaluate how much personnel dose exposure was avoided over time by leveraging the Elios 3 RAD's cumulative dose measurement.

Elios 3 RAD Payload

Technical specifications



AIRCRAFT WITH RADIATION PAYLOAD MOUNTED¹

Modification from nominal specifications

Flight time²	7min30s w/ LiDAR 9min45s w/o LiDAR
Max operating temperature	45 °C (113° F) w/ LiDAR 50 °C (122° F) w/o LiDAR
Max wind resistance	4 m/s (13.1 ft/s) in assist mode 6 m/s (19.7 ft/s) in sport mode
Maximum altitude	2000 m (7,218 ft) w/ LiDAR 3000 m (9,843 ft) w/o LiDAR
Crashworthiness	Max 1 m/s for direct frontal contact on the sensor
Outdoor compliance	Limit to indoor use only in the US ³

1. Because of the weight added to the aircraft by the payload, Elios 3's specifications is altered as stated above when flown with the payload
2. In ideal flight conditions, with a new battery
3. When mounted on the drone, the radiation sensor blocks the GPS signal of the Remote ID module preventing outdoor flight in the United States of America

DATA INTEGRATION

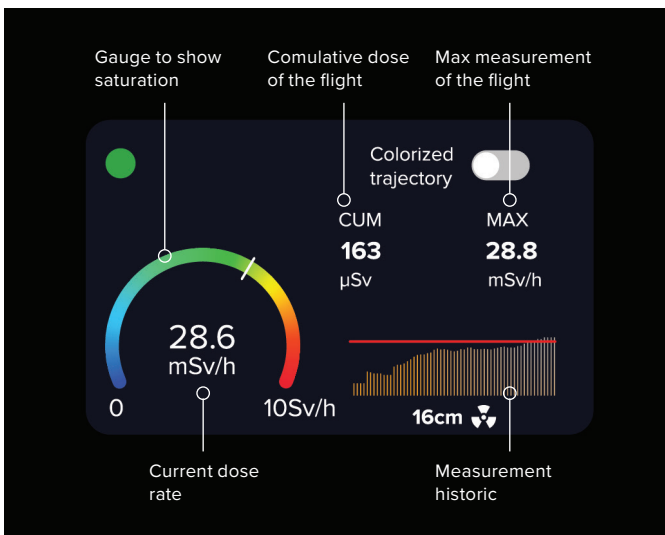
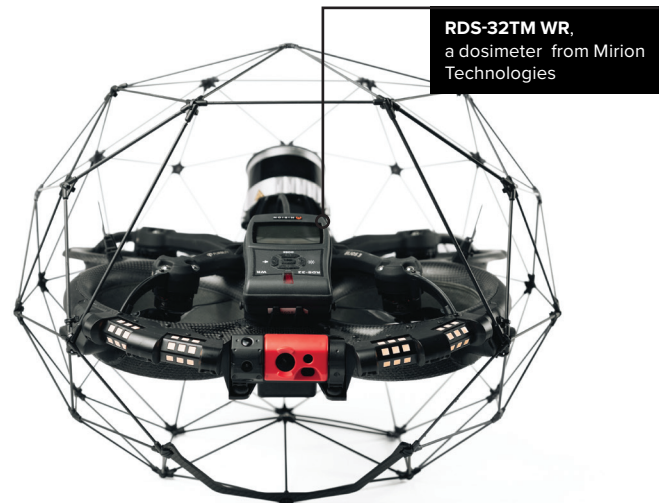
Data refresh rate	0.5 Hz (measurement made every 2 seconds)
Cockpit's radiation data display widget	Information displayed: <ul style="list-style-type: none"> • current dose-rate • max dose rate of the flight • cumulative dose of the flight • 1 min measurement historic
Cockpit's live radiation map¹	Drone trajectory colorized according to dose rate measured along the flight path
Post flight integration on Inspector	Information available: <ul style="list-style-type: none"> • localization of dose rate on 3D map of the asset¹ • chart showing dose rate over time Possibility to generate a report with associated dose rate at selected points of interest

1. The association of dose rate measurements with drone position may be affected by the speed of the drone due to the detector's convergence time. Slower drone speeds will yield more accurate results.

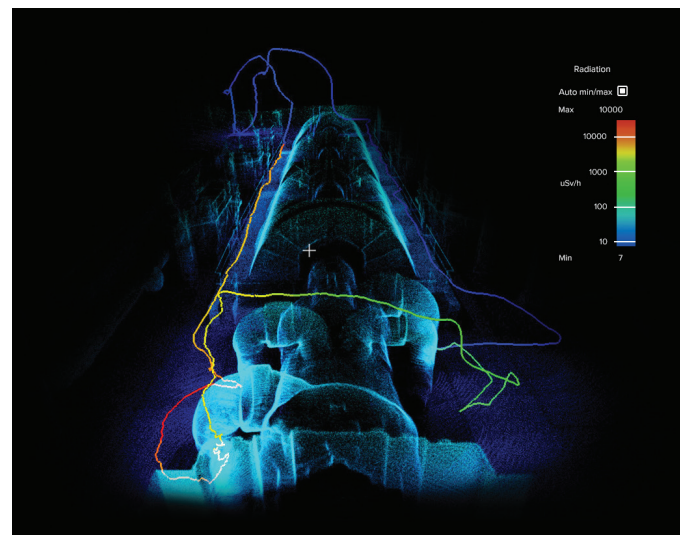
RADIATION PAYLOAD¹

Detector supported	Mirion RDS-32TM WR
Technology	Energy-compensated GM tube and energy-compensated Si diode
IEC energy range	55 keV GM tube / 65 keV Si diode to 1.8 MeV
High energy response to Cs-137	4.4 MeV: GM tube 220%, Si diode 120% 6.7 MeV: GM tube 260%, Si diode 200%
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
Dose rate linearity	-15% to +22% 0.3 µSv/h to 10 Sv/h

1. Specification for the RDS-32TM WR provided by Mirion, complete specification of the sensor available on Mirion's website. The sensor will yield an attenuated dose rate result when the heavy components of the drone such as the battery or main body are standing in the way between the detector and the radiation source.



i In-flight radiation reading in Cockpit



i In-flight localization and characterization of hot spots in Cockpit