

ACCURATE A-SCAN DATA

# Elios 3 UT Payload



## Safe remote thickness measurements

### **Beyond safe-access A-scans**

Eliminate human risks associated with work-at-height and confined space entry by using the Elios 3 UT to conduct inspections safely from a distance.

### **All the payloads you need - in one**

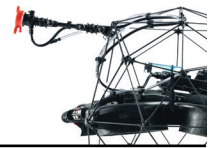
With a visual inspection payload, an embedded LiDAR sensor, and a cutting edge UT probe, the Elios 3 is an all-in-one solution covering most inspection needs.

### **Uplifted efficiency**

Save up to 90% of costs by eliminating unnecessary scaffolding or risky rope access. Inspect with teams of just 2 people and capture UT measurements up to 10x faster.

# Elios 3 UT Payload

## Technical specifications



### UT PAYLOAD

<b>Probe type</b>	Dual element transducer (piezo-composite crystals)
<b>Probe manufacturer</b>	Cygnus Instruments
<b>Measurement Range (material-dependent)</b>	0.8 mm to 250 mm <sup>1</sup>
<b>Measuring Mode</b>	Single Echo, Echo-to-Echo, Multiple Echo (Deep Coat)
<b>Gain and Gate Control</b>	Automatic or Manual Gain and Gate Control
<b>Accuracy</b>	±0.1 mm (±0.004") or 0.1% of thickness measurement whichever is the greatest
<b>Resolution</b>	Display 0.1 mm (0.005") or 0.01 mm (0.0005")
<b>Calibration Mechanisms</b>	Automatic V-path correction for twin crystal probes. Option of One or Two point calibration for twin crystal probes.
<b>Gel acceptable viscosity</b>	1:1 mix of standard UT gel with water for optimal performance
<b>Display</b>	Dedicated UT tab in Cockpit with A-scan display
<b>Certifications</b>	RoHs, CE, FCC, FDA, IC (only for final MP)

1. Maximum measurement range depends on probe configuration, material properties (speed of sound), and temperature. The upper range of 250 mm applies to materials with high acoustic velocity (up to 9000 m/s).

### AIRCRAFT WITH UT PAYLOAD MOUNTED<sup>1</sup>

Modification from nominal specifications

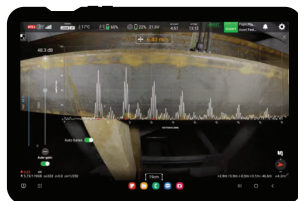
<b>Flight time while hovering<sup>2</sup></b>	7min40 E3 + LiDAR Rev7 + UT with probe
<b>Flight time in normal UT use (4 POM / Minute)<sup>3</sup></b>	7min E3 + LiDAR Rev7 + UT with probe
<b>Operating Temperature Range<sup>3</sup></b>	0°C - 45°C

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)
2. Hovering, No Collisions
3. One measurement every 10 seconds, measurement duration > 5s

### IN FLIGHT

#### Live A-scans

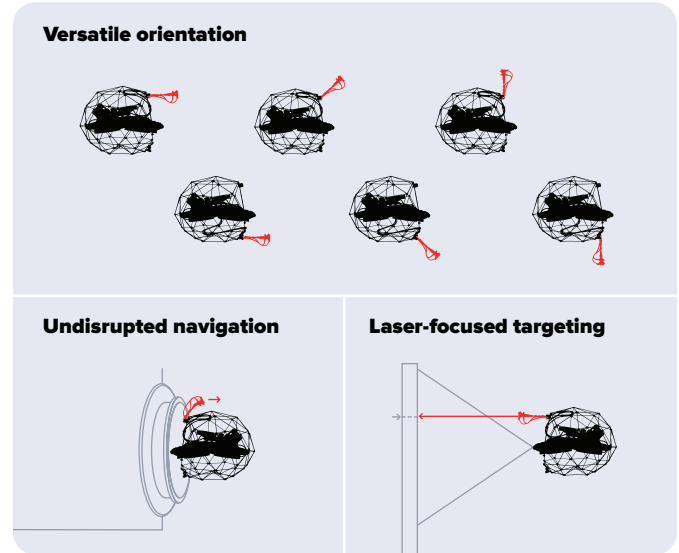
Refine spot measurements in real time



### UT PACKAGE

<p><b>Drone and core module</b></p> <p>The UT payload is available either as a package with the Elios 3 drone or as a standalone payload option for existing Elios 3 users.</p>	<p><b>UT software &amp; reporting</b></p> <p>Visualize, validate, and report UT readings, with synchronized video, A-scan analysis, and location tagged data for reliable reporting.</p>	<p><b>Probe and cleaning module</b></p> <p>The Elios 3 UT Payload comes with an optional set of probes and a cleaning module to ensure accurate readings even in challenging conditions.</p>	<p><b>Online or in-person training options</b></p> <p>From the best flight practices to processing and refining A-scans, our training programs offer comprehensive guidance.</p>
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### SMART PROBE ARM



### MODULAR PROBE HEAD

**Interchangeable probes**

Cover for the widest range of measurement scenarios

- **7.5 Mhz (twin crystal):** Small diameter pipes, thin, corroded plates
- **5 Mhz (twin crystal):** Surfaces with heavily corroded, pitted walls
- **2 Mhz (twin crystal):** Thick walls, dirty surfaces
- **2.25 Mhz (single crystal):** General surfaces and thick coatings

**Interchangeable probe hood**

Match the shape of various surfaces

**Cleaning module**

Remove light dust coating and prepare surfaces for measurement.

### IN POST-PROCESSING

#### Location tagged measurements

Enable precise localization of measurements in real-time

