TELEDYNE

Teledyne Geospatial
Solutions for Land and Water

Fathom
Coastal Mapping with an Edge

Map the Gap: Coastal surveys accelerated with **Fathom**



Fathom is the world's fastest, most intuitive aerial topobathy lidar solution. Fathom is comprised of a lidar sensor for deep and shallow water bathymetry. Also included is a built-in topographic lidar and a multispectral camera for the most complete coastal survey at a coverage of 50 km^2/hr.

Fathom delivers data quickly by leveraging real-time quality control with Onboard and scalable processing with a CARIS workflow.

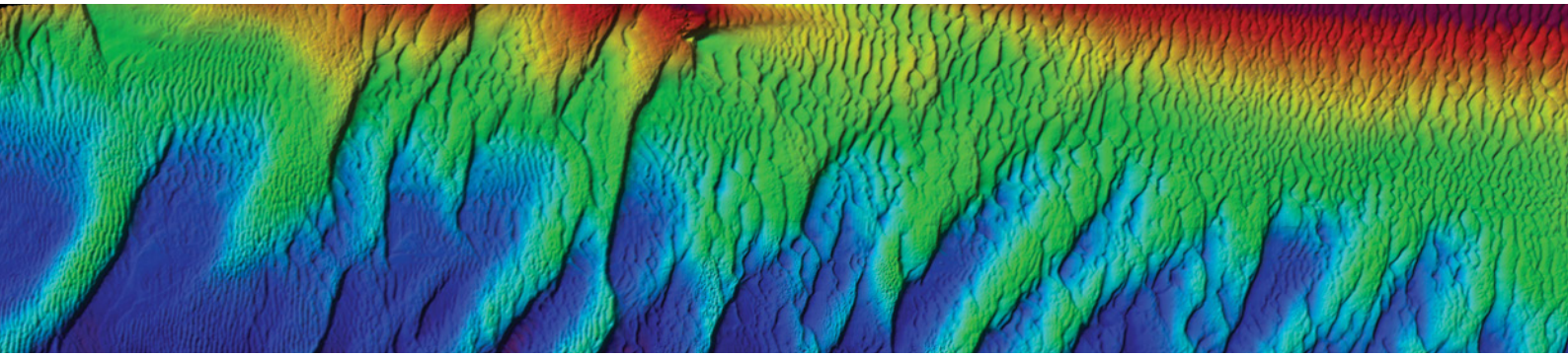
Overcome Cost & Complexity

Holistic Land & Water Data
highest resolution and accuracy: engage multiple lidar modes and a multispectral camera simultaneously

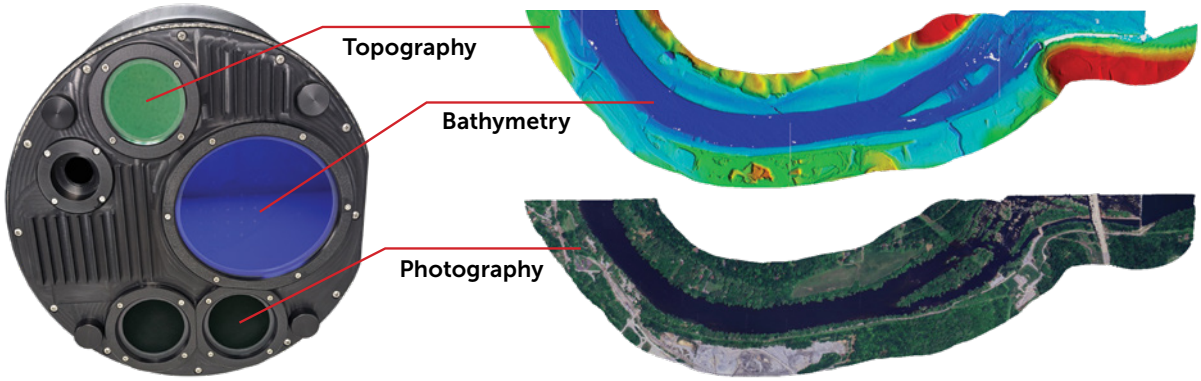
Lower Operational Cost
smaller than typical sensors with lower mobilization cost

Confidence in Collection
with real-time quality control before landing

Rapid Turnaround
with CARIS processing and production pipelines



Richest data, 45x more productive in the intertidal zone, and IHO compliant!



Preliminary Specifications

GENERAL SPECIFICATIONS	
Operating altitude	400-600 m Bathy, 400-1200 m Topo
Digital cameras	PhaseOne GS-120 (RGB + IR, 120 megapixels)
Positioning & Orientation System	Applanix AP+50 with RT-RTX
Gyrostabalization	SOMAG GSM 4000
Flight Management System	Fathom Onboard
Real-time Quality Control	Fathom Onboard
LIDAR BATHYMETRIC MODE	
Wavelength	1064 nm (water surface), 532 nm (bathymetry)
Shallow channels measurement rate	up to 60 khz (each of 4 channels)
Shallow channels maximum depth	~2.1/Kd (15% reflectivity)
Deep channel measurement rate	up to 25 khz (single channel)
Deep channel maximum depth	3.2/Kd (15% reflectivity)
Depth and Horizontal accuracy*	IHO 1a/USGS QL0b accuracy
Field-of-View	35 deg Bathy, 40 deg Topo
Swath width	300m Bathy, 345m Topo (at 475m AGL)
Laser classification	Class 4 laser product: IEC 60825-1 Ed. 3.0 2014
LIDAR TOPOGRAPHIC MODE	
Wavelength	1550 nm
Measurement rate	500-2000 kHz
Vertical and Horizontal accuracy	USGS QL0
PHYSICAL	
Power consumption**	2200 watts (at 28 VDC)
Operating temperature	0-40 deg C
Storage temperature	-20 to +60 deg
Humidity	0 to 95% non-condensing
Sensor head	65 cm x 52 cm x 72 cm 90 kg including GSM & 4band camera
Control & operations rack	7U height, 19 width. 75 kg

*Data accuracy specification are for data acquired at 475m AGL
** Includes full configuration (lidar, cameras, gyrostabalization, Onboard)

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