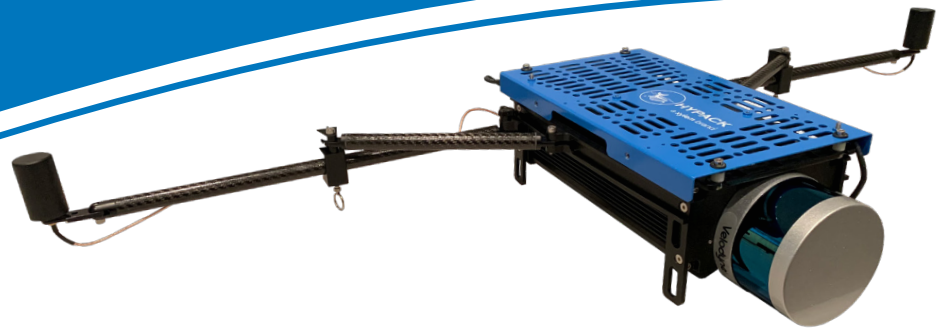




HYPACK
a xylem brand

HYPACK® LiDAR Payload

PORTABLE LIDAR SYSTEM FOR TOPOGRAPHIC SURVEYING



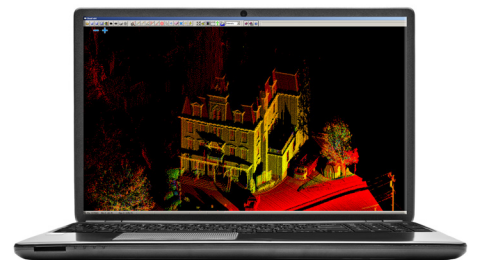
The HYPACK® LiDAR Payload is a complete, portable topographic LiDAR surveying solution with HYPACK® MAX and HYSWEEP® for data collection and processing. Our Payload is platform agnostic and robust; with an IP67-rated enclosure, the Payload is suited for use on aerial, ground and marine vessels or in any surveying environment. We tightly integrate LiDAR and GNSS sensors through our HYPACK software, providing accurate data easily and quickly. Our budget-friendly, end-to-end solution fulfills your LiDAR surveying needs from survey planning to data post-processing.

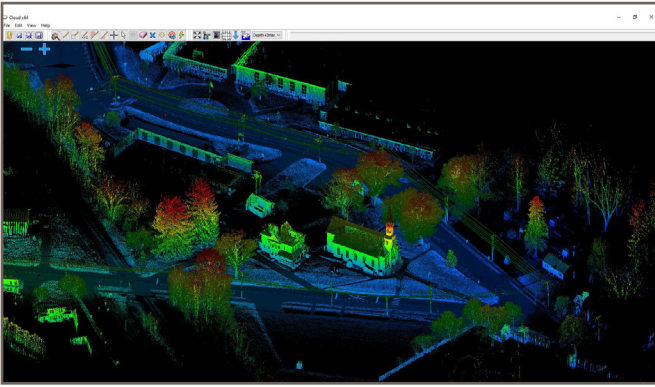
KEY CAPABILITIES

- Pre-calibrated, ready to survey
- Real-time image and point cloud viewing
- Can be mounted on any vehicle platform including UAV's
- Fully contained LiDAR data collection unit with GNSS-aided inertial navigation

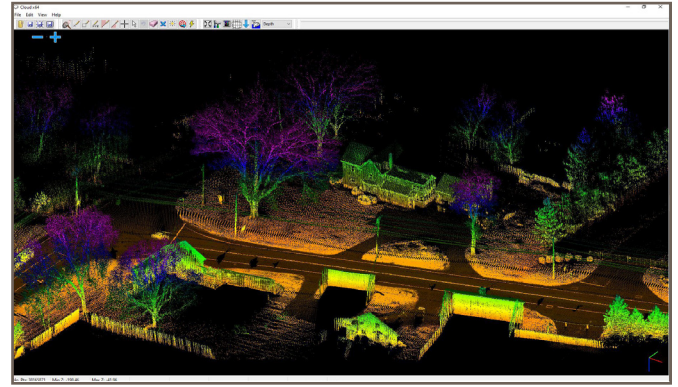
WHAT THE PAYLOAD INCLUDES

- Velodyne VLP-16 LiDAR unit
- Onboard rechargeable power supply with 3 hours run time
- SBG Ellipse-D INS with integrated dual-antenna survey-grade RTK GNSS receiver
- Onboard computer running Windows 10 included with a **HYPACK MAX & HYSWEEP** license

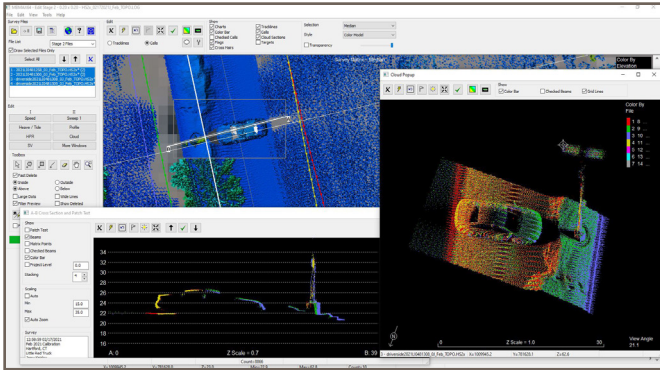




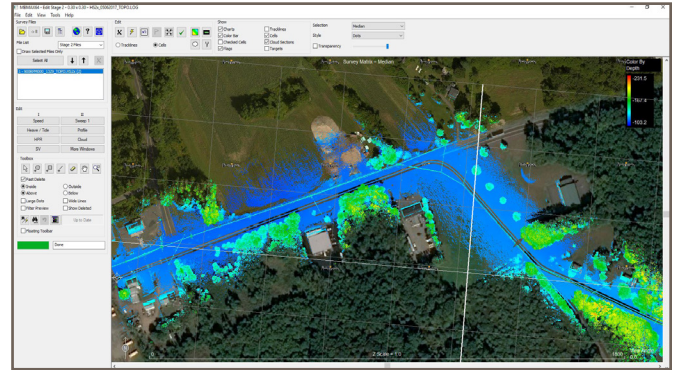
Topographic LiDAR Data Collected with the Payload Mounted on a Land Vehicle



Topographic LiDAR Data Collected with the Payload Mounted on a Land Vehicle



Processing LiDAR Data in MBMAX64: Map, Profile and Cloud Displays



MBMAX64: LiDAR Point Cloud Overlaid on GeoTIFF

HYPACK® LiDAR Payload Specifications

Total System Uncertainty (Accuracy)

- Using 4 channels ($\pm 3^\circ$)
 - High & Moderate Reflective Surfaces X,Y = ± 3 cm, Z = ± 5 cm @ 40 m.
 - Low or Poorly Reflective Surfaces X,Y = ± 5 cm, Z = ± 9 cm @ 40 m
 - Accuracy Compliance USGS LiDAR Base Specification Version 1.2, November 2014 Meets Quality Level: QL1 (data filtered to 90° swath width)
- NOTE: Using more channels increases uncertainty and RTK corrections are highly recommended

PC: Pico 500

- 6th gen Intel® Core™ i7 processor
- 16 GB memory
- Supports USB, Ethernet, and HDMI connections
- HYPACK MAX and HYSWEEP License

LiDAR: Velodyne VLP Puck Lite

- 16 channel dual return LiDAR unit
- Range: 100 meters

LiDAR Payload Weight

- 4.3 kg

GNSS/ Inertial Navigation System: SBG Ellipse 2-D

- Roll / Pitch 0.1°
- Heading 0.2°
- Velocity 0.03 m/s
- Position
 - Single point L1/L2: 1.2m
 - SBAS: 0.6m
 - DGPS: 0.4m
 - GLONASS (Optional)
 - RTK: 2 cm - 3 cm via NTRIP or Radio
 - PPK: Using SBG's Qinertia
 - Autonomous, RTK via NTRIP or Radio



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