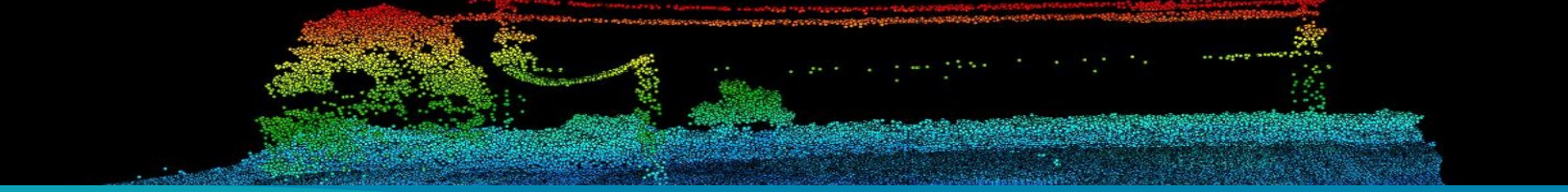
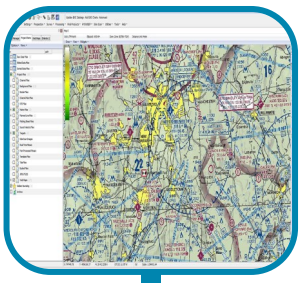
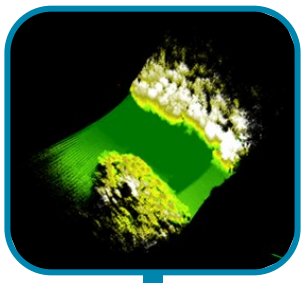
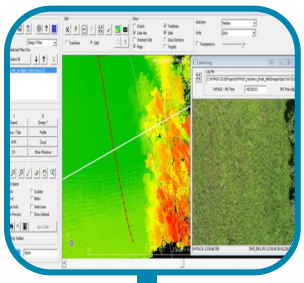


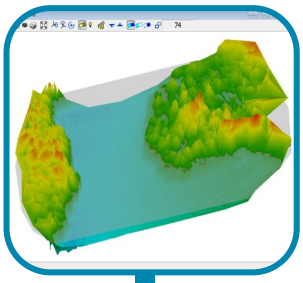
NEXUS 800 Powered by HYPACK

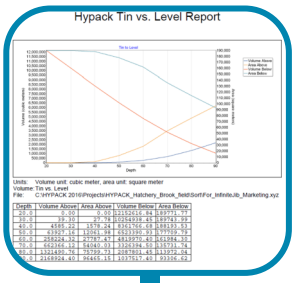
The new NEXUS 800 powered by HYPACK is a full end-to-end solution that represents a new paradigm in UAV data collection by seamlessly harmonizing LiDAR data with photogrammetry. The Nexus 800 is a turnkey system that tightly integrates hardware and software to provide a cutting-edge solution for LiDAR survey planning, data acquisition, post processing and analysis, and product creation.











PLANNING

- Project Creation
- Mission Planning
- Sensor Integration

ACQUISITION

- Real-Time View
- Targeting
- Data Logging

POST PROCESSING

- Data Editing
- Smart Filters
- Point Cloud & Imagery Analysis

DATA ANALYSIS

- Surface Comparison
- Volumetrics
- Contouring

PRODUCT CREATION

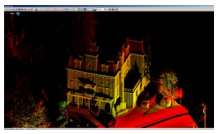
- XYZ, LAS, PTS
- DXF, KMZ, WebGL, STL
- Contours, TIN

Features:

- Complete GNSS aided inertial navigation system
- Single/Dual LiDAR return with a 360 degree field of view
- LiDAR and Photogrammetric data acquisition
- Real-Time Image and Point Cloud viewing
- Correlation of Point Cloud and georeferenced imagery via postprocessing
- On-board Windows® PC for rapid data processing and product creation
- Volume computation and data analysis
- Full flight and software training and support

HYPACK
a xylem brand

Software



Planning, Acquisition, Synchronization & Processing:
HYPACK-HYSWEEP® provides the tools necessary to design your survey, collect and process your LiDAR and photogrammetric data, calculate your volume quantities, generate contours, and export data to XYZ, DXF, LAS, etc

UAV

Platform:

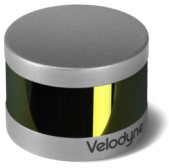
- On-board Windows® PC provides real time views of the quality of data being acquired
- PC live view and control facilitated by a high-speed data link
- Multiple FPV video feeds enhance flight control and safety
- Fully autonomous flight control that is safe to operate with auto-takeoff and landing
- Durable aerial platform is commercially designed for wind resistance and reliability

INS/GNSS

Motion Compensation and Geo-referencing:
Ellipse-D provides unmatched heading, attitude, and position accuracy in real-time and postprocessing. This is the ideal sensor for cost-effective survey.

- Very Low Noise Gyroscopes
- 0.1° Roll and Pitch
- 0.2° Heading (Dual Antenna GNSS receiver)
- 2 cm RTK GNSS Position
- Differential Corrections (RTCM)
- Post-processing capabilities
- 200 Hz Output Rate

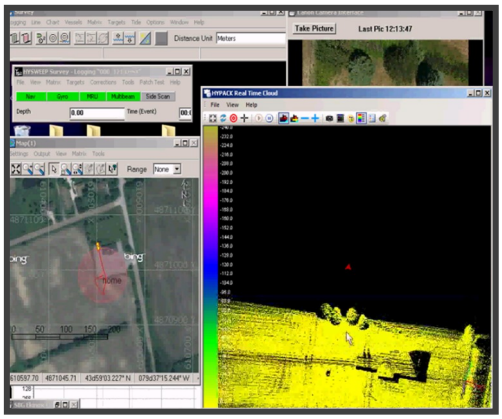
LIDAR



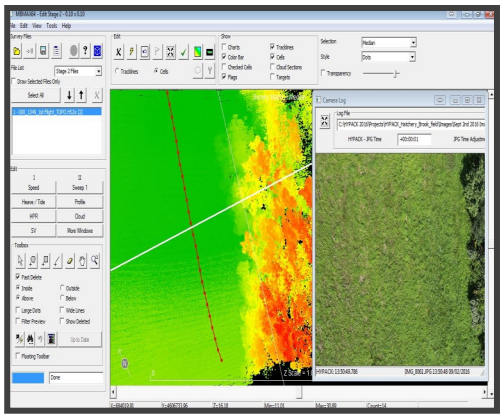
Point Cloud Acquisition:
Velodyne's new Puck LITE™ sensor is the smallest, newest, and most advanced product in the Velodyne 3D LiDAR product range.

- Dual Returns
- 590 Grams
- 16 Channels
- 100m Range
- 300,000 Points per Second
- 360° Horizontal FOV
- ± 15° Vertical FOV
- Low Power Consumption
- Protective Design

Nexus 800 in Operation



HYPACK provides Real-Time Image and Point Cloud Viewing



Navigation and Attitude Correction and Data Correlation