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.

**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
# 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

---

**HYPACK provides Real-Time Image and Point Cloud Viewing**

**Navigation and Attitude Correction and Data Correlation**

---

**HYPACK**

Designed and supported by: HYPACK, A Xylem Brand, SBG Systems, Velodyne LiDAR, Infinite Jib

56 Bradley St. Middletown, CT 06457 USA  ❖  Tel: +1-860-635-1500  ❖  [www.hypack.com](http://www.hypack.com)