Leica Pegasus:Swift
Mobile Reality Capture

Leica Pegasus:Swift –
fast 3D digitisation on the go

The Leica Pegasus:Swift is a vehicle independent, mapping solution combining LiDAR and high resolution 360° seamless panoramic images for applications such as utility right-of-way documentation, open pit mapping, autonomous car validation and simulations, digital-twin city planning, and transportation clearances. Leveraging Leica Geosystem's trusted mobile mapping platform, the new Pegasus:Swift is the the perfect digitisation solution enbling a lower barrier to entry for mobile reality capture. Providing an application flexible platform, which is light weight, highly efficient in volume capture, making fast decisions and project invoicing based one mass 3D digitization possible.

Multi-beam LiDAR enables the capture of more points with each rotation. Time savings are further increased with an industrial, yet removable, USB 3.0 hard drive, enabling the user to save the data directly on the removable drive and connect the same drive seamlessly to any PC or server with a USB 3.0 interface. The additional sync ports and the integrated external USB 3.0 increasing the flexibility by providing sensor expansion options.

SEAMLESS IMAGERY WITH 360° CAMERA

- 360° 24 MP camera system providing stitching free images
- Point cloud and 360° image can be viewed together as overlay
- FFC (Flat Field Correction) for high resolution imagery in variety lighting condistions
- Point cloud colourised by 360° camera
- Telescopic pole - enables easy storage to prevent damage

INCREASED FLEXIBILITY WITH EASIER DATA TRANFER

- Additional sync ports to connect sensors, e.g. multibeam sonar
- Removable solid-state Hard Disk with integrated USB 3.0 connection
- Integrated external USB 3.0 port for optional interface

DATA SHARING INDEPENDENT FROM WEB BROWSER

Access and sharing data at anytime from anywhere from the cloud to enable faster visualisation, data delivery and project invoicing.

- Visualisation of captured data
- Complete storage in the cloud
- Point cloud rendered in any browser without need for plug-in
- Images are calibrated to point cloud, can be used to navigate and measure

Location Digitalisation

In combination with the Leica Pegasus:Manager workflow, the software offers efficientl feature extraction of 3D scenes and assets. The software package is a single workflow solution for automated feature extraction by multiple modules which can be added when needed. A data exchange module also eases localisation for 3rd party software packages.Visualisation of captured data in Pegasus:WebViewer provides access and the possibility to share your data at anytime from anywhere from the cloud - enabling faster visualisation, data delivery, and project invoicing. Through the complete storage in the cloud and the point cloud rendering in any browser, without any plug-in, the images are calibrated to the point cloud therefore allowing you never to miss data in the point cloud – all enabled by the web browser solution of the Pegasus:Manager.

Smart City

Digitisation of city infrastructures, planning, and optimization of resources is the foundation of the Smart City. The Pegasus:Swift enables your business to grow by offering the best solution for this market. Seamless 360° imagery calibrated to the digital point cloud will help you deliver easily realised data assets. More sensor expansion ports mean additional ways to capture the city in ones and zeros.

Pegasus:Manager

Efficient, easy workflows, from mission planning to batch extraction and Jetstream collaboration to online web-sharing

Pegasus:Manager is the new Reality Capture software client for mobile mapping, a single desktop application for processing, analysing, and extracting features from point clouds and images acquired by the Leica Pegasus Mobile Mapping systems. The Leica Pegasus:Manager desktop client, composed of different modules and enables a tailor-made software suite aligned to your industry focus or project scope. Accurate mission planning, data processing, automated feature extractions, integrated quality reporting, and online publishing makes Leica Pegasus:Manager an efficient single workflow for high-precision deliverables. As an option, Leica Pegasus:Manager can publish Jetstream files to enable Cyclone users to combine multi-sensor projects into a single file for convenient data sharing.

Mission Planning

Design your mission to achieve the best results:

- The Mission planning module calculates the ideal time slot to collect data based on favourable GNSS satellite constellations and the ideal sun position for best imagery.
- The module can support GNSS coverage affected by urban structures to provide an estimation of mission accuracy.

Blur Tool

Comply with the latest privacy regulations in one click:

- A sophisticated machine learning algorithm automatically detects relevant subjects to be anonymised.
- Pedestrians, cars, cyclists and other subjects are identified and anonymised 30 times faster than editing manually.

Pegasus:Manager Viewer

Leica Pegasus Viewer is a free software that allows you to quickly check the quality and accuracy of your acquired data from the Pegasus mobile mapping system. It displays the captured mission, and allows the user to seamlessly navigate through the images and point clouds. The Leica Pegasus Viewer enables you to take measurements from the imagery and LiDAR data, and to create reports by combining GIS information with Pegasus imagery and LiDAR data.

Mobile Mapping Software Customer Care Package

The Software Customer Care Packages for Mobile Mapping customers ensures the Basic CCP package. The Basic CCP includes Software Customer Support and Software Maintenance obtained by our Mobile Mapping professionals and Software experts.

my Learning

Online Video Tutorial

Increase your product knowledge and productivity.

- Benefit from online video tutorials for software
- Available for Mobile Mapping customers with valid CCP

Leica Pegasus:Swift specifications

360° SPHERICAL CAMERA

Type of camera	Dual fish-eye camera
Sensor	24 MP panoramic camera system (2 x 12 MP)
Pixel size	3.45 µm
Coverage	360° FOV with single stitching line

SCANNER

Wavelength:	903 nm
Beam Size @ Screen	12.7 mm (Horizontal) x 9.5 mm (Vertical)
Beam Divergence Horizontal	0.18° (3.0 mrad); Vertical: 0.07° (1.2 mrad)
Measurement Range	Up to 100 m
Accuracy	±2 cm (Typical)
Field of View (Vertical)	+10.67° to -30.67° (41.33°)
Angular Resolution (Vertical)	1.33°
Field of View (Horizontal)	360°

CONTROL UNIT

Multi-core industrial PC, low power consumption, 1 TB SSD hard disk with USB3 interface. USB, Ethernet, and wireless connections available through the battery system. Service support available through remote interface.

BATTERY SYSTEM PERFORMANCE*

Battery Adapter Box: Wifi and ethernet connection, 2x USB connectors, Acoustic and visual low voltage alarm, dual power plug.

Typical operating time	12 hrs, single power battery version; 24 hrs, dual battery version
AC input voltage	100 min to 240 max VAC autoranging
AC input power (charge cycle)	350 W Max
AC input frequency	50/60 Hz
Time to full charge	11.0 max h starting 0 %
DC output	24V / 70Ah single; 24V / 140Ah dual

BATTERY

Weight Interface Box	1.8 kg
Weight Battery Box	18.5 kg (without batteries)
Size Interface Box	16.5 x 9 x 20 cm
Size Battery Box	68 x 35 x 44 cm

GNSS/IMU/SPAN SENSOR

Includes triple band – L-Band, SBAS, and QZSS for GPS, GLONASS, Galileo, and BeiDou constellations; single and dual antenna support; wheel sensor input; IMU without ITAR restrictions.

* Battery performance varies upon specifications and quality of chosen battery.

ENVIRONMENTAL

Operating temperature	0° C to + 40° C, non-condensing IP protection level IP52.
Storage temperature	– 20° C to + 50° C, non-condensing

TYPICAL ACCURACY

Horizontal accuracy	0.030 m RMS
Vertical accuracy	0.020 m RMS
Conditions	Without control points or any double passes adjustments, open sky conditions

PRODUCTIVITY

Data produced per project (compressed)	1.4 GB/km
Data produced after post processing (panorama creation images and point cloud colourising)	3 GB/km
Post processing time	7min/km inlcuding panoramic and colourising

EXPORT OPTIONS

Images	JPEG and ASCII for photogrammetric parameters
Point cloud	Binary LAS 1.2. X,Y,Z, intensity, RGB values Colourisation by camera pictures, Recap, E57 Hexagon Point Cloud Format

OPTIONAL ACCESSORIES

Wheel sensor
1,000 pulses per rotation, IP 67, integrated time stamping of wheel sensor data (handled by GNSS controller). Processing of wheel sensor data is integrated with the Kalman filtering based trajectory computational software. A variety of wheel sizes supported.

SENSOR PLATFORM

Weight	31 kg (without case)
Size	79.4 x 60 x 80.7 cm (Mast extended)

	BASIC CCP»	BLUE CCP»	BRONZE CCP»	SILVER CCP»	GOLD CCP»
CUSTOMER SUPPORT	✓	✓	✓	✓	✓
FW / SW MAINTENANCE	✓	✓	✓	✓	✓
EXTENDED WARRANTY	-	-	✓	✓	✓
HARDWARE MAINTENANCE	-	✓	-	✓	✓
BACKUP SYSTEM	-	-	-	-	✓

Hardware Customer Care Packages available for 1/2/3 Years

Leica Geosystems – when it has to be right

Revolutionising the world of measurement and survey for nearly 200 years, Leica Geosystems, part of Hexagon, creates complete solutions for professionals across the planet. Known for premium products and innovative solution development, professionals in a diverse mix of industries, such as aerospace and defence, safety and security, construction, and manufacturing, trust Leica Geosystems for all their geospatial needs. With precise and accurate instruments, sophisticated software, and trusted services, Leica Geosystems delivers value every day to those shaping the future of our world.

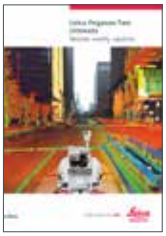
Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications.

Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous — ensuring a scalable, sustainable future.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 20,000 employees in 50 countries and net sales of approximately 3.8bn EUR. Learn more at hexagon.com and follow us @HexagonAB.

Swiss Technology
by Leica Geosystems

Leica Pegasus:Manager
Mobile Mapping Desktop



Leica Pegasus:Two Ultimate
Mobile Reality Capture

Leica Pegasus: Backpack
Mobile Reality Capture

Leica Pegasus:Two
Mobile Reality Capture

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- when it has to be **right**

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