

VEXCEL
IMAGING

ULTRACAM MUSTANG

Reliable partner on the road





ULTRACAM MUSTANG

Maximum efficiency

With over 5 million linear kilometers on the road collected and a history of more than 9 years, the UltraCam Mustang has proven itself as a state-of-the-art system for capturing geo-positioned panoramic imagery and 3D data of street-level scenery.

Imagine how your business will benefit from the UltraCam Mustang mobile mapping system! Designed for maximum collection efficiency, the UltraCam Mustang is now in its 3rd generation and more than 200 systems have been fielded since its introduction in 2007. Whether your clients need roads mapped, 3D surveys, street inventories or visual documentation, the UltraCam Mustang reliably and efficiently captures precise high-resolution imagery and 3D data along any road, track or waterway. For indoor and off-road capture, the UltraCam Mustang can be complemented with the UltraCam Panther portable mapping system.

Thanks to its agile operating software and intuitive user interface, the UltraCam Mustang can be operated by a single driver requiring only one day of training.

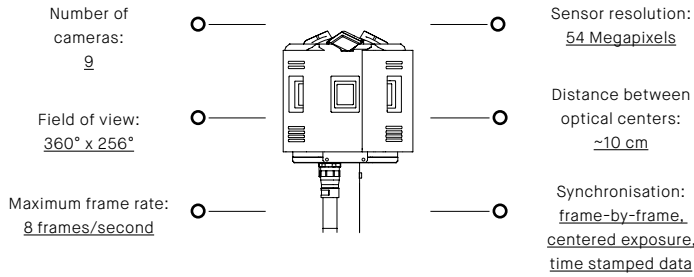


PETER KONTSCHIEDER
HEAD OF MAPILLARY RESEARCH

“Having Vexcel onboard as a Mapillary partner means our roadmapping customers benefit from high quality-imagery captured with Vexcel’s Mustang setup. Vexcel’s imagery, which is superior in sharpness, contrast, and dynamic range, helps us produce some of the world’s best semantic image understanding and image-based 3d reconstruction results.”

Specifications & details

PANORAMIC HEAD

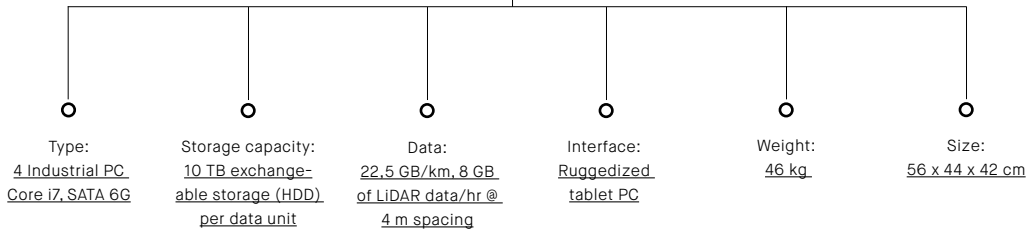


CAMERA

Sensor type	Global-Shutter CCD
Sensor size	2752 x 2200 pixels
Pixel size	4.54 µm
F-number	F2.8 - F9.0, fixed focus
Lens	8.0 mm p-iris, diffraction-limited
Depth of field	1 m to infinity (@ ≥ F4)
Radiometry	Bayer pattern, 12 bit raw; average (lossless) compression ratio 1:1.5



COMPUTER & DATA STORAGE SYSTEM



Optional
Magnetic wheel
sensor:
Installation on various wheel sizes possible, 65 pulses/m (1.5 cm resolution)

GLOBAL POSITIONING

Type	GNSS/INS receiver, GPS L1/L2/L2C, GLONASS L1/L2, SBAS and L-Band
Antenna	Dual frequency GPS and GLONASS Pinwheel
Frequency	100 Hz (IMU/INS), 20 Hz (GNSS)
Gyroscope performance	Input range ± 375 deg/sec
Accelerometer performance	Range ± 10 g, Bias 50 mg, Scale Factor 4000 ppm
Post-processing accuracy RMS	0.020 m horizontal, 0.020 m vertical, 0.015 degrees pitch/roll, 0.030 degrees heading
Synchronization	Time stamped data

GEOMETRY

Type	Multi beam rotating LiDAR
Field of view	360° horizontal x 40° vertical
Channels	32
Data rate	700.000 points/sec
Useable range	70 m
Accuracy	+/- 2 cm (@ 25 m)
Rotation speed	10 Hz (600 rpm)
Angular resolution	0.18° (horizontal/azimuth), 1.3° (vertical)
Synchronization	Time stamped data



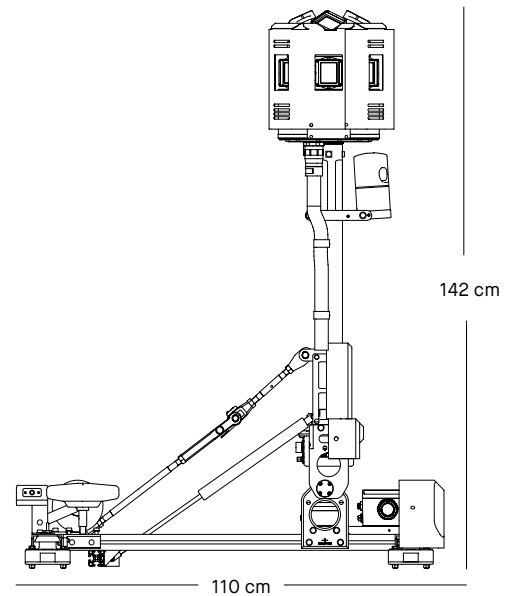
Total power consumption: 660 W



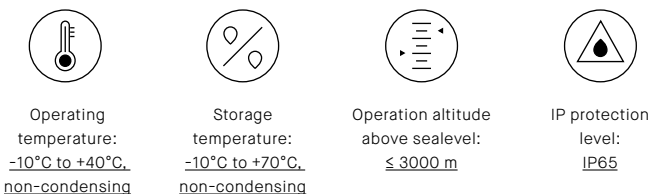
Power strategy: System powered by car battery



Dimensions: 134 x 63 x 41 cm (hinged)



OPERATIONAL SPECIFICATION



DATA FORMATS

Calibration	XML for parameters
Imagery	JPEG, TIFF (GeoTIFF)
Geometry	LAser File Format (LAS) - coordinates, reflectivity, color by images
Trajectory	NMEA, KMZ

● MORE THAN THE SUM OF ITS PARTS

The UltraMap Terrestrial Essentials processing suite fuses an unmatched panoramic image quality, precisely geo-referenced data products and dense colored point clouds to one seamless meaningful abstraction of the real-world.



○ SOPHISTICATED

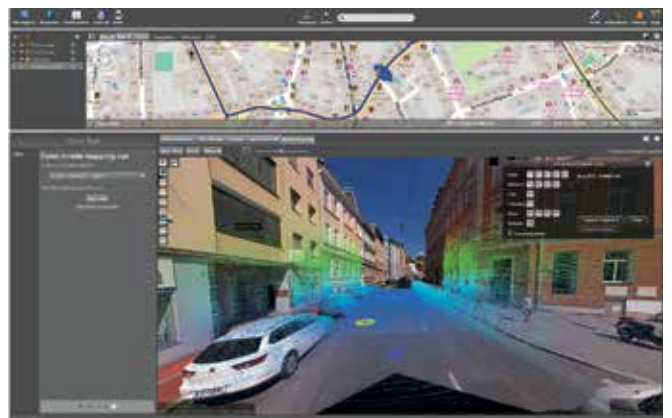
After the data has been captured, it is downloaded and processed with algorithmic capabilities beyond the current state of the art.



○ BOOSTING EFFICIENCY

BOOSTING EFFICIENCY

Export functionality to standard file formats allows users to easily plug data into existing workflows and business processes.



○ LEVERAGE YOUR DATA

Manage, view, extract, publish, share and embed your mobile mapping data in other workflows by using the comprehensive Orbit GT Mobile Mapping software.



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