

SPHERONLITE

Quality spherical HDR imaging for point cloud colourisation

Image courtesy of Greenhatch



Spherical HDR image



3d colored cloud points

Overview on systematic advantages

> **Precision matching nodal points**

parallax-effects between laser-geometry and camera-color is minimized by two dedicated precision-mounts, which ensure perfect alignment between the nodal point of the laser-scanner and the camera.

> **Perfect color calibration**

the color-image itself is captured in one precise, continuous rotation around the cameras lens-nodal-point, resulting in a geometrically accurate, crisp sharp and highest resolution image: actually up to more than 100 MPixel (when comparing to a DSLR) and in best HDR image quality – offering an outstanding 26 f-stops of dynamic range.

> **Reliable, independant color-image quality**

the color-image is therefore generated from ground truth data and without any guessing of a reprojection-distance: artefacts generated by missing geometry (from e.g. non-cooperating surfaces, etc.) are hence fully avoided.



Create the ultimate HDR color for your 3d point cloud



VISUAL TECHNOLOGIES
spheronVR

Description

The SpheronLite system enables a spheron camera & 3d Laser scanner combination workflow. It creates the ultimate HDR spherical color for a 3d point cloud data set.

The solution consists of a SceneCam camera device for full spherical HDR imaging. The camera is operated from a lightweight touchscreen tablet which attaches directly to any survey tripod.

With one single rotation around the vertical axis the camera scans the complete scene from 'floor to ceiling'.

High dynamic range imaging with the SceneCam is about capturing all levels of light in a scene: from the darkest shadows to the brightest sunlight all in one scan.

The new tribrach tripod adapter heads allows the Spheron Camera lens to be positioned at the same height as a terrestrial Laser scanner unit.

Spheron offers the most accurate spherical imagery, as its camera head rotates around the absolute nodal center position. Requiring no image stitching, the data is captured automatically in one single rotation, resulting in a perfect image with no parallax image distortion issues.

Technical Details

Resolution	SceneCam resolution of 100 megapixels (full spherical image @ DSLR fill-factor).
Dynamic range	High Dynamic Range (HDR imaging) with up to 26 f-stops of dynamic range.
Optics	Fisheye Lens (Nikon 16mm f/2.8D). Individually calibrated for the compensation of spherical distortion, vignetting and chromatic aberration. Providing unlimited view 360° x 180°.
Tripod	Custom designed tripod attachment arm with integrated touchscreen / battery holders, easily mounted onto any survey style tripod. A tribrach adapter is also included allowing a laser device to be height matched to a SceneCam.
Camera operation	Intuitive one-click touchscreen SceneCam [©] operation software presented on a lightweight 10" touchscreen tablet.
Transport Case	One robust and water proof transport Pelicase for camera, tablet and accessories.
Operating time	SceneCam operates more than 8 hours with one battery pack.

