

COMPLEMENTARY WORKFLOW

Generate vectorized 3D city models from UltraCam imagery



Leverage Vexcel's state-of-the-art UltraCam large-format aerial camera systems and UltraMap photogrammetric processing software, in conjunction with sophisticated RhinoTerrain and DAT/EM software solutions to create true 3D building models up to level of detail (LOD) 3 for informed decision making. Excellent interface

integrations and intuitive user interfaces support the customer throughout the end-to-end workflow. The final watertight city models adhere to CityGML standards, ensuring optimal use in subsequent applications such as urban planning and design, Building Information Modeling (BIM), and virtual reality applications.



1 AERIAL DATA CAPTURE

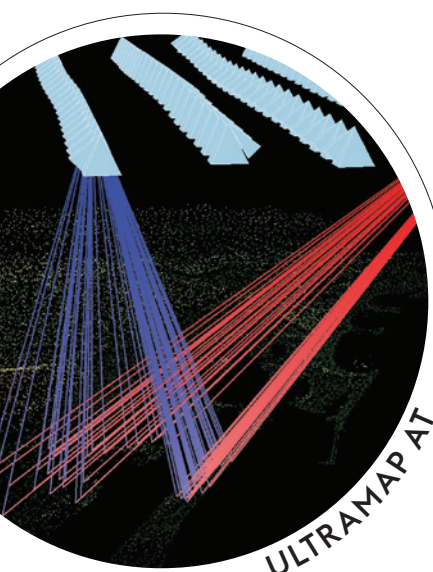
UltraCam nadir only or
nadir and oblique data collection

UltraCam raw imagery
and camera calibration

2 POST-PROCESSING

Automated color balancing and
conversion into standard file formats

UltraCam raw imagery and camera calibration → Radiometrically aligned images in PAN, RGBI, RGB & CIR (8/16 Bit TIFF, JPEG, GeoTIFF, WorldFile)



3 AERIAL TRIANGULATION

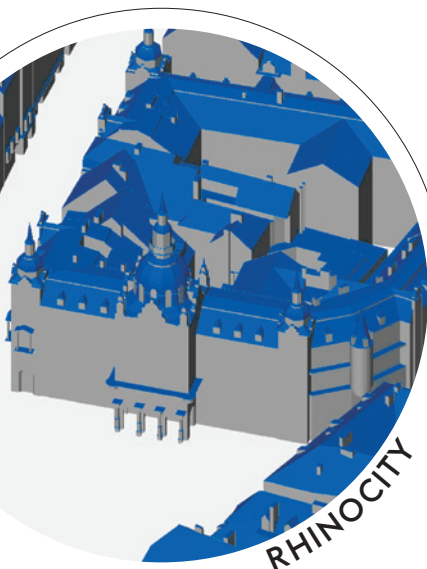
Generation of precise exterior
orientations for entire image block

Post-processed imagery (optional: processed GPS-data and/or GCPs) → Exterior orientations (CSV, Bingo, PAT-B)

4 VECTORIZATION

Digitalisation of vectors in
3D stereographic environment

Exterior orientations and TIFFs → Vectors (Shape file: SHP Multi-PolygonZ)



5 BUILDING MODELING

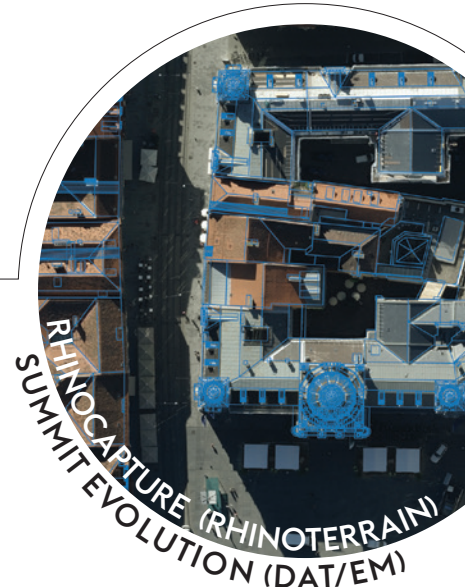
Automated production of watertight 3D models
based on geometry and semantic information

Vectors and building elements (Shape file); optional: auxiliary data, e.g. DTM → Building models (CityGML, CityJSON, 3DTiles, glTF, PostGIS, 3DCityDB, ESRI Multipatch) with valid geometry and topology

6 TEXTURING

Automated texturing with nadir
and oblique UltraCam aerial imagery

Exterior orientations and TIFFs → CityGML, CityJSON, 3DTiles, glTF, PostGIS, 3DCityDB



LEARN MORE
ABOUT ULTRAMAP
& ITS WORKFLOW:
www.vexcel-imaging.com/ultramap

