

UAV PHOTOGRAMMETRY SURVEYING

Photogrammetry has been used to obtain information from photographs since the 1800s, but recent advancements in technology has given CTLGroup architects and engineers a new, efficient way of surveying buildings and façades while providing a wide array of useful deliverables for clients.

Photogrammetry

Using images alone, paired with photogrammetric software, CTLGroup can produce as-built CAD drawings, dimensionally accurate 2D & 3D models, and custom animations to share “big picture” information with stakeholders.

While employing the use of unmanned aerial vehicles (UAVs), also known as drones, CTLGroup’s FAA certified UAV pilots can acquire access to hard to reach areas without the use of scaffolding or hands-on measurements, saving our clients time. Often times a building can be fully documented in a single pass.

Advantages

- Obtain as-built drawings efficiently
- Document present condition
- Gain quantitative information on difficult-to-reach areas
- Prepare condition survey (including NDE) work products
- With planning, could automatically overlay quantitative NDE results on orthomosaic or drawing

- Comprehensive full-field measurements, fast
- Scalable to large buildings and small details alike
- Quantitative, and less vulnerable to measurement errors due to difficult access, cold, fatigue, etc.
- Invulnerable to transcription errors
- Supports exports to familiar work products as well as novel visualizations

Use Cases

- As-built drawings unavailable (e.g., lost, destroyed, never existed)
- As-built drawings not already in CAD (e.g., most buildings on earth)
- Obtain as-built and condition survey information and satisfy multiple deliverable requirements in a single pass
- Develop synoptic view – otherwise, typically not possible in dense urban environment (other buildings in the way)

Deliverables

- Orthophotos / orthomosaics (annotated)
- CAD drawings: As-built drawings, Base sheets for field annotation
- Instant condition survey work product, Estimate repair quantities directly from orthomosaic, Total length of cracks, Total area of delamination, etc.
- Advanced animations, etc., for “big picture” explanation
- Dimensionally accurate photorealistic models for stakeholders

