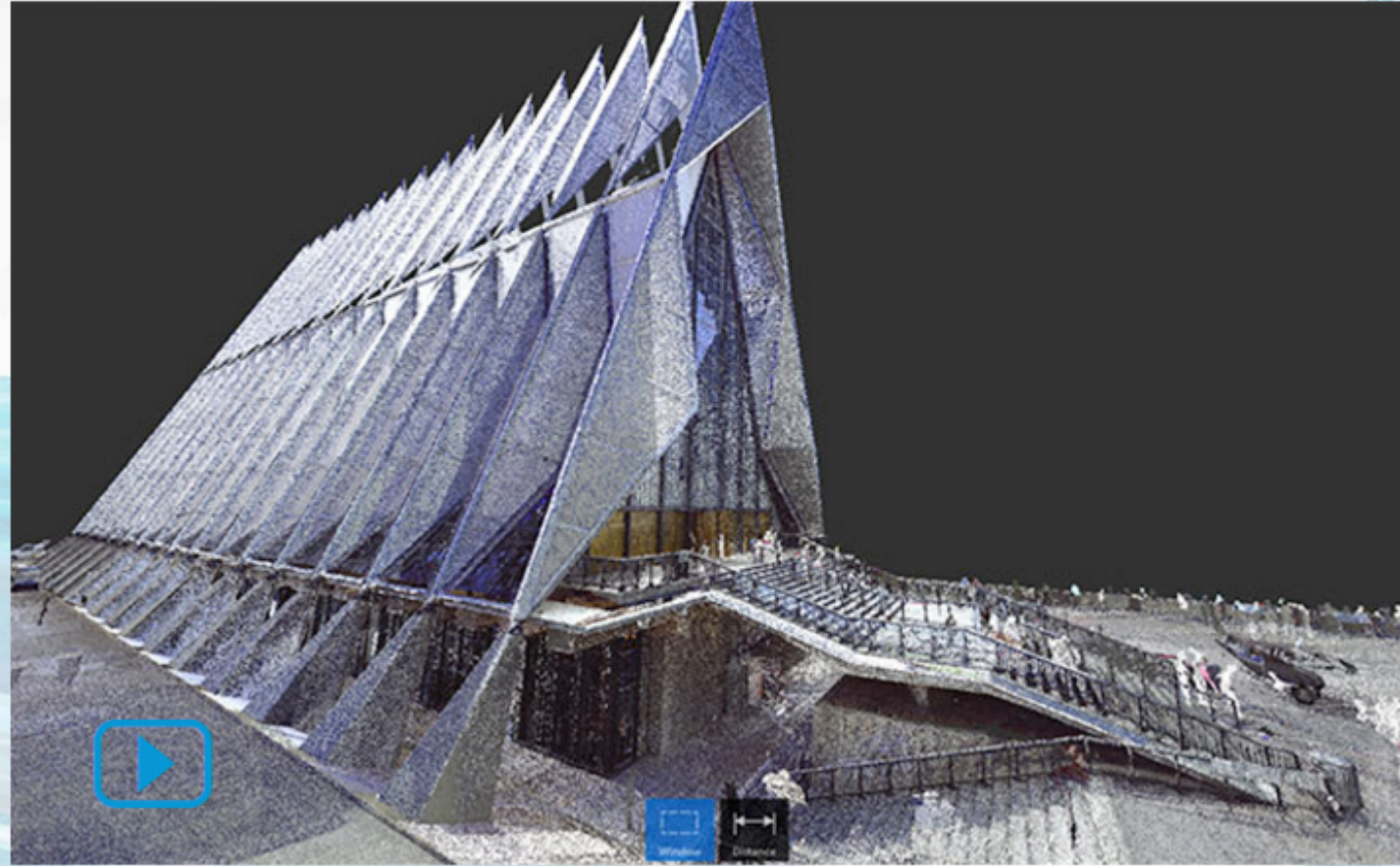


USAFA Cadet Chapel

“Autodesk ReCap has allowed us to document at a detail what we have never had documented for the Cadet Chapel. The complex tetrahedronal structure was very difficult to document by traditional methods. ReCap was really the starting point allowing us to congregate the laser data and the photogrammetry into a single model. This data was then exported for use in Revit. Our minds were blown away with the end results.”

LT. COL. PATRICK SUERMANN,
PROJECT MANAGER
USAFA



The Cadet Chapel is the most popular man-made attraction in Colorado, with more than a half million visitors every year. Groundbreaking began on the iconic landmark Aug. 28, 1959, and was completed in 1963 at a cost of \$3.5 million. The Cadet Chapel's principal designer and architect was Walter A. Netsch Jr. A Chicago native, Mr. Netsch studied architecture at the Massachusetts Institute of Technology, receiving his degree in 1943 and joining the U.S. Army Corps of Engineers. He was 34 when he completed the design for the chapel. Autodesk's Revit and ReCap software were used to deliver the project.

Results

- Accurately captured the architectural details of the unique structure and undocumented as-builts of this cultural icon
- The unique design makes it very difficult to manually measure and inspect
- Scanning and UAV photo captures took a week
- The resulting intelligent 3D model will be used a variety of applications, including airflow, energy cost, robot structure analysis, and special event planning

ACHIEVED WITH

- Faro 330 Laser Scanner
- Leica C10 Scanner
- DJI Phantom with GoPro
- Autodesk ReCap Pro
- Autodesk Revit 2014
- Process Steps
 - 129 laser scans
 - 1,232 GoPro photos of exterior
 - Scan registration in ReCap
 - Modeling of steel structure and other architectural elements in Revit
- Deliverables: RVT & CRP files