



Skydio 3D Scan™



Superior mapping, structure inspection, and scene reconstruction

Skydio 3D Scan™ is first-of-its-kind adaptive scanning software built on top of Skydio Autonomy Enterprise, the autonomous flight engine behind every Skydio drone. 3D Scan builds a model of the scene, allowing the drone to automate the data capture process needed to generate 3D models with comprehensive coverage and ultra-high resolution. And with Indoor Capture, you can fly where others can't to capture a building's interior, and its contents. That means crews can perform higher quality inspections in less time and with minimal pilot training.

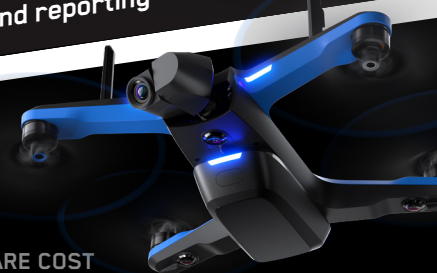
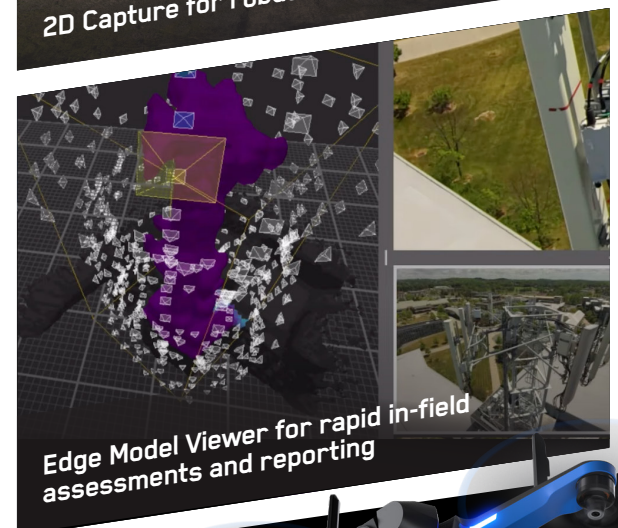
Never trade off quality for safety again. Legacy 3D modeling based on manual drones requires pilots to fly far from their inspection subjects to avoid collisions, while trying to guarantee sufficient data capture using rudimentary waypoint flights or simply guess-as-you-go manual flight. The result is an inefficient and high-risk process for even the most skilled pilots, lengthier photogrammetry processing times, and ultimately lesser model quality.

Key Benefits

- **Simplify Data Capture** - spend less time focused on planning complex flights and worrying about collisions.
- **Never Trade off Quality for Safety Again** - get closer to the inspection subject to capture higher quality data.
- **Improve Photogrammetry Workflows** - export to the most popular photogrammetry software (including, but not limited to, DroneDeploy, Pix4D, Bentley ContextCapture, and Reality Capture) without the mountains of extra data required by traditional capture methods.

Capture Modes for Your Use Case

- **3D Capture** - Autonomously capture a structure's surface from every angle with complete coverage and ultra-high-definition to generate 3D models with minimal pilot oversight.
- **3D Tower Capture** - Simplify scans of vertically shaped structures, like telecom towers, with optimizations designed to make the scan process faster and even more efficient.
- **2D Capture** - Generate 2D orthomosaics with the ability to angle the camera upward or downward, flying a planar pattern with the same mission planning tools as 3D Scan.
- **Indoor Capture** - Fly in constrained spaces to create detailed digital twins of a building's interior, its contents, or both.
- **2D GPS Capture** - Plan 2D mapping flights day or night with the drone on the ground, using a touch screen interface to save and repeat.



DATA CAPTURE
up to
75% faster*

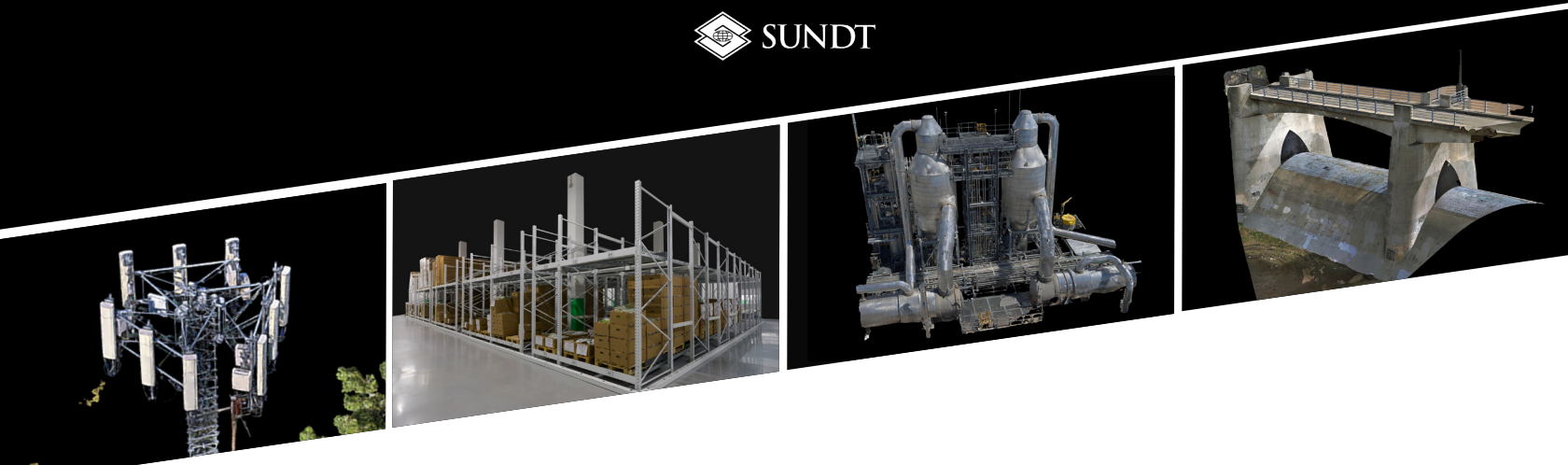
REINSPECT RATE
up to
30% reduced*

HARDWARE COST
up to
50% lower*

*Based on observed customer results

"We have been amazed by the results we achieved using 3D Scan. Our teams will be able to get in the field faster and better serve our clients through the business development, operations, and close-out processes."

DEAN MILLER, VIRTUAL CONSTRUCTION ENGINEER



Generate higher-quality scans with less ramp-up time, flight hassle, and risk, with a suite of features designed for maximum usability, precision, and control.

3D SCAN FEATURES

ADAPTIVE MAPPING	Groundbreaking airborne data capture engine built on top of Skydio Autonomy to iteratively build a global map of complex surfaces using contour-hugging motion planning software. Reduces the need for pilots to plan photogrammetry capture flights by hand or settle for rudimentary automation.
2D CAPTURE	Drone will fly a planar lawnmower pattern with full obstacle avoidance while capturing cross-hatched photos to generate 2D orthomosaics. User can define the scan through the same mission planning tools as 3D Scan or leverage 2D GPS Capture to plan flights from the ground with a touch screen interface.
3D CAPTURE	Drone will navigate autonomously through a user-defined scan volume, ensuring comprehensive capture of imagery to capture every surface at a predefined resolution and overlap. It enables complex scans, even in GPS-denied environments such as indoors and below overhangs, without requiring any prior knowledge about the structure.
VISUAL GEOFENCING	Operators can specify operating bounds by constraining the drone to the user-defined scan volume. Delivers higher precision than GPS-based methods by using boundaries that adapt to the scan volume, and helps reduce ground risk, e.g. crowded areas, bridges, highways, or in a tactical BVLOS waiver area.
EDGE MODEL VIEWER	Edge-computing solution that allows the operator to view a simplified 3D model of a scanned scene on a web app served directly from the drone to their laptop or mobile device in the field. Allows the operator to validate that they have full coverage of the scene, and use a spatial index to perform an in-field inspection.
DATA EXPORT	Operators can seamlessly upload and export scan photos with full metadata from Skydio Cloud or the drone's SD card for use in 3rd party photogrammetry software.
MULTI-BATTERY SCANS	Drone visually relocalizes with computer vision to pick up a scan where it left off, even without GPS. This saves flight time and prevents the collection of redundant data from multiple disconnected scans that can slow 3D reconstruction.
REAL-TIME AR COVERAGE	Operators can see a real-time augmented reality (AR) view of the surfaces that have been scanned. Allows the user to identify any capture gaps and track progress of the scan. Validating completeness reduces the re-fly rate to ensure complete coverage.
AR OBSERVER	Operators can view a static overview image of the entire scene showing an augmented reality (AR) drone in real time as it navigates the area. The operator achieves increased awareness of the position of the drone in 3D space, instead of following the drone's GPS location and heading on a map. This provides enhanced safety, progress tracking, and ability to stay in compliance with FAA regulations.



Contact enterprise@skydio.com today to learn more about integrating Skydio 3D Scan.

Designed and assembled in the USA