Skydio

Skydio 3D Scan™

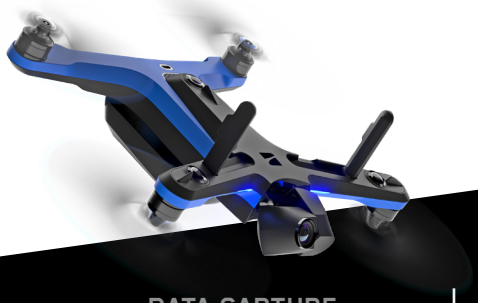
A new era of mapping, structure inspection, and scene reconstruction

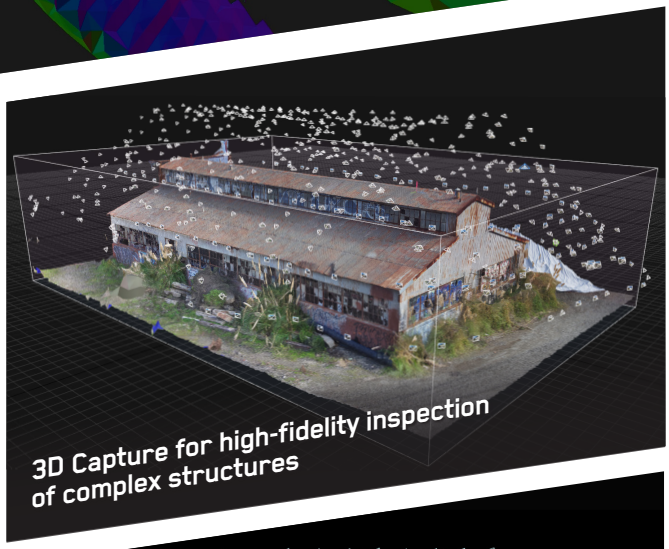
Skydio 3D Scan™ is first-of-its-kind adaptive scanning software built on top of Skydio Autonomy Enterprise, the autonomous flight engine behind every Skydio drone. 3D Scan builds a model of the scene, allowing the drone to automate the data capture process needed to generate 3D models with comprehensive coverage and ultra-high resolution. 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.

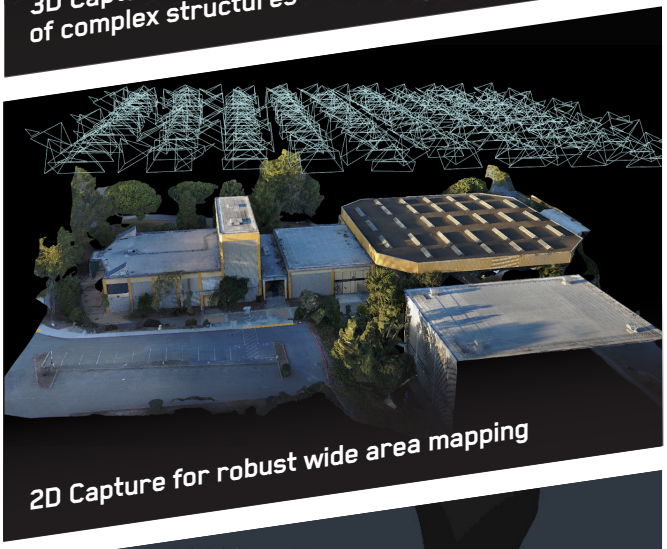
Seamlessly improving existing photogrammetry workflows

The precise, visually geotagged imagery generated by 3D Scan can be exported to any mainstream photogrammetry software (including, but not limited to, DroneDeploy, Pix4D, Bentley ContextCapture and Reality Capture), and will generate higher-quality, higher-resolution models without the mountains of extra data required by traditional capture methods.

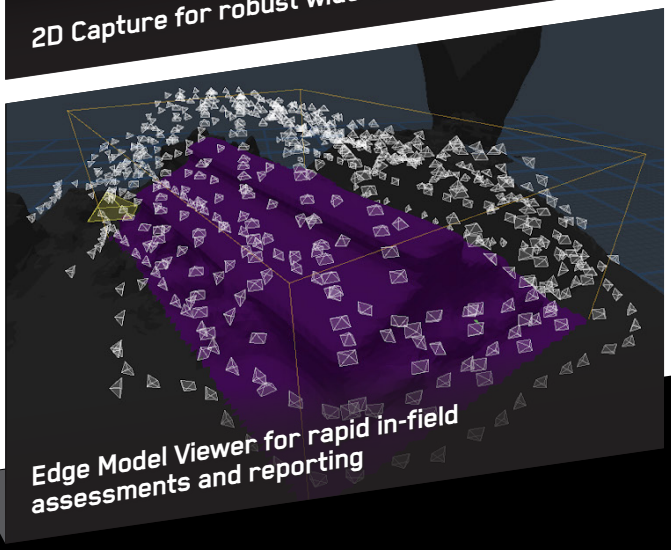




3D Capture for high-fidelity inspection of complex structures



2D Capture for robust wide area mapping



Edge Model Viewer for rapid in-field assessments and reporting

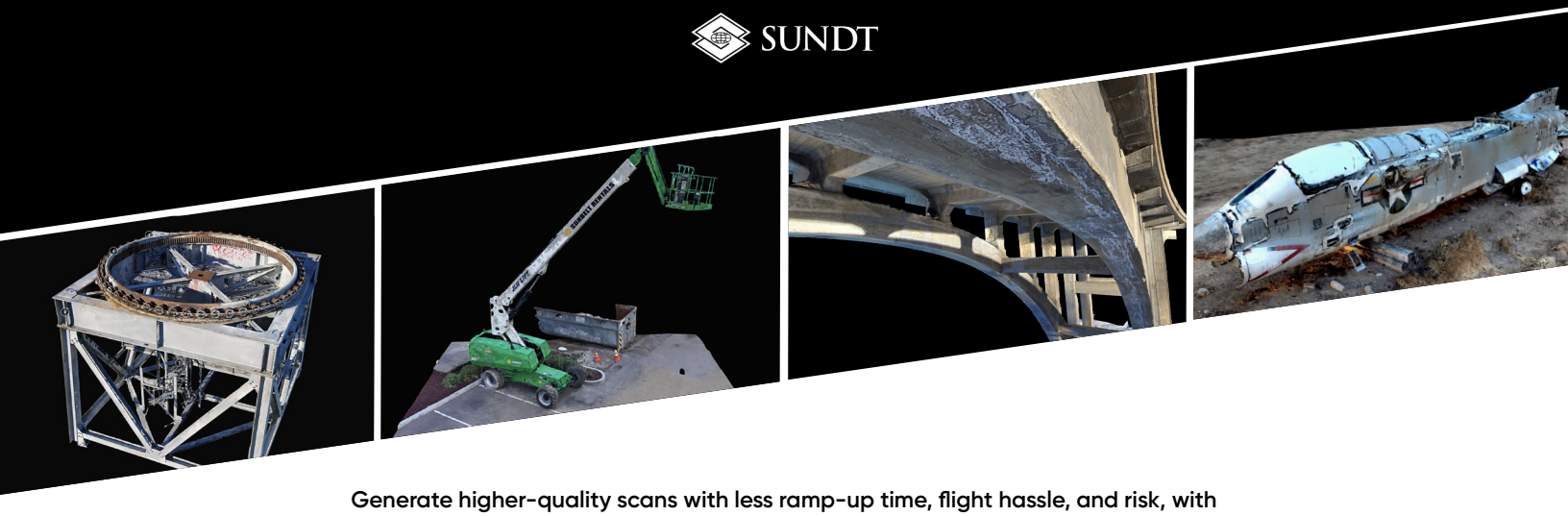
DATA CAPTURE	REINSPECT RATE	HARDWARE COST
up to 75% faster*	up to 30% reduced*	up to 50% lower*

*Based on observed beta 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

SUNDT



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 without reliance on GPS, LTE connection, or base maps.
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	Operator 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	Operator can export scan photos, with full metadata from 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	Operator 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	Operator 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