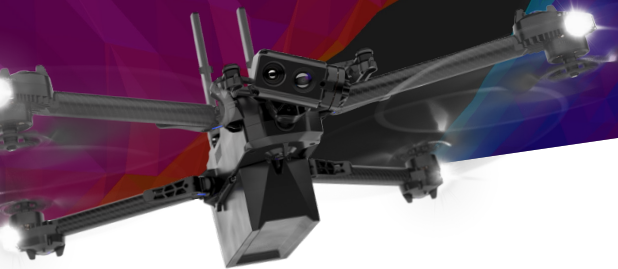# SOLVIOR SUNSYSTEMS – From Aerial 3D Digitization to DWG Drawings, Revit and 3D CAD Design in a BIM Environment

Discover the advantages of drone-based aerial 3D scanning.

Drone-based aerial 3D scanning offers an innovative solution for fast and precise digitalization, opening new dimensions in engineering and architectural design. The resulting highly detailed 3D point cloud enables the creation of files that can be further processed in AutoCAD in DWG format, simplifying and accelerating design workflows.

Perfect accuracy, unmatched detail
Drone scanning enables the production of high-resolution orthophotos that provide a precise foundation for site plans and 2D drawings. Data captured in the EOV coordinate system ensures that designs always align accurately with the real environment.

BIM modeling and AR applications
The generated 3D point cloud can be directly integrated into BIM (Building Information Modeling) systems, elevating building information modeling to a new level. The data can also be utilized in AR (augmented reality) applications, enabling virtual design and visualization in real-world environments.

Faster surveying, more efficient design
Drone scanning can map vast areas within hours, significantly reducing the time required by traditional surveying methods. The data can be easily exported into DWG format, enabling further editing and design in AutoCAD.

Choose the technology of the future and increase your project efficiency with drone-based 3D scanning!

What makes SOLVIOR SUNSYSTEMS 3D aerial digitization different?

• Our licensed professional pilot does not need to spend time planning complex flights, requesting airspace permissions, or performing collision analysis.
• We can fly closer to the surveyed object, enabling the capture of higher-quality data.
• More efficient photogrammetry workflows – the data can be integrated into the most widely used CAD software.

can be exported (including: AutoCAD, Revit, Autodesk Inventor, etc.)
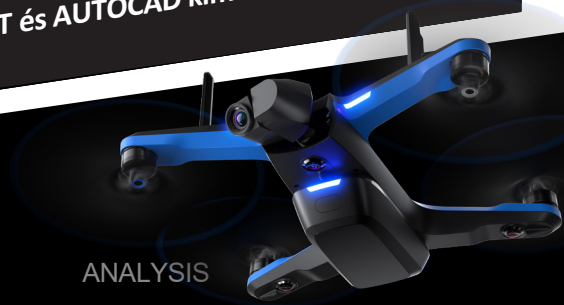

Hidak 3D digitalizálása drónnal.

Meglévő épületegyüttes digitális iker, AR.

REVIT és AUTOCAD kimenetek (DWG, STP.)
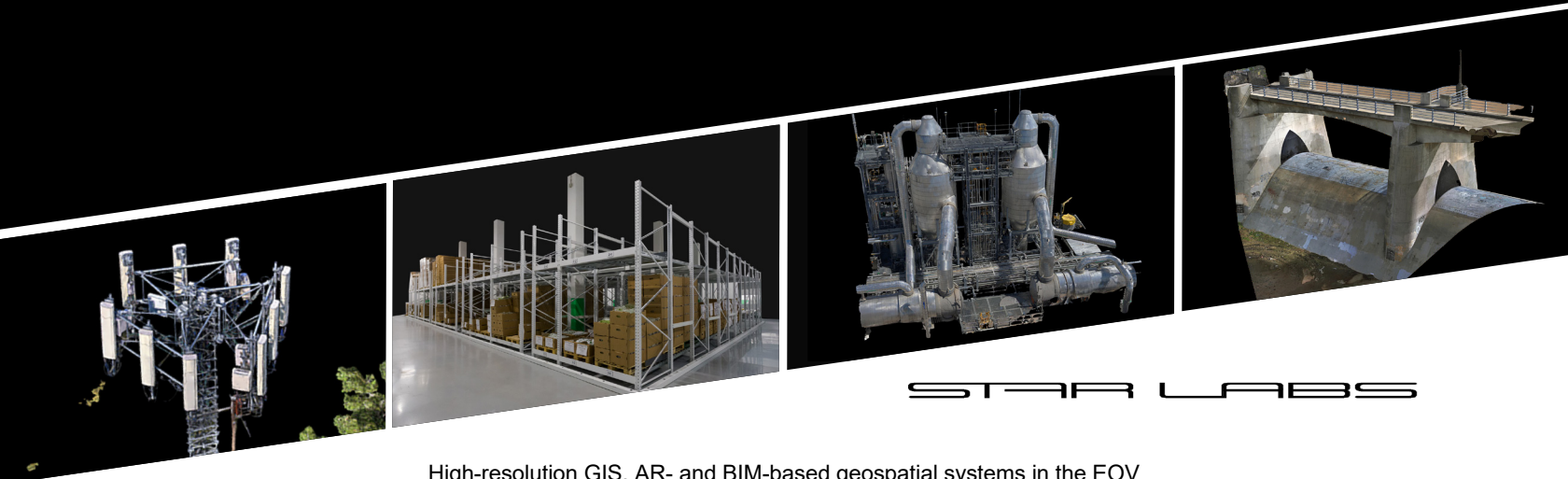
SCANNING   ENGINEERING   ANALYSIS

According to virtual construction engineer Zoltán Gyubák, the use of 3D Scan has delivered significant results. The technology enables our company to work faster in the field and to support business development, operations, and close-out processes more efficiently.

STAR LABS

High-resolution GIS, AR- and BIM-based geospatial systems in the EOV coordinate system with direct AutoCAD, Archicad, and Revit outputs.

COMPREHENSIVE 3D RECONSTRUCTION

ADAPTIVE CARTHOGRAPHY	A revolutionary aerial data acquisition system built on Archicad and Revit foundations that iteratively generates a global point cloud of complex surfaces using contour-following motion planning software. It reduces the need for manual pilot planning and photogrammetric image capture through simple automation.
2D AUTOCAD SECTION	The drone flies in a planar lawnmower pattern with full obstacle avoidance while capturing cross-directional photos to generate 2D orthomosaics. The pilot can define the scan using the same mission planning tools as in 3D Scan or leverage the 2D GPS Capture function to plan the flight from the ground via a touchscreen interface.
3D TERRAIN FOLLOWING	The drone autonomously navigates within the user-defined scanning space, ensuring comprehensive imaging of all surfaces with predefined resolution and overlap. It enables complex scans even in GPS-denied environments, such as indoors or under overhangs, without requiring prior knowledge of the structure.
VISUAL GEOFENCING	Operators can define operational boundaries by restricting the drone to a user-specified scanning volume. This approach provides greater accuracy than GPS-based methods, as the boundaries adapt to the scanning volume, and it reduces ground risks in environments such as crowded areas, bridges, highways, or tactical BVLOS-permitted zones.
VISUALIZATION	An edge computing solution that allows the pilot to view a simplified 3D model of the scanned scene in a web application delivered directly by the drone to a laptop or mobile device in the field. It enables the operator to verify full scene coverage and perform on-site inspection using a spatial index.
DATA Export	Operators can seamlessly upload and export scan photos with full metadata from Skydio Cloud or from the drone's SD card for use in third-party photogrammetry software.
TRACEABILITY	Using computer vision, the drone visually repositions itself so it can resume scanning exactly where it left off, even without GPS. This reduces flight time and prevents the collection of redundant data from multiple separate scans that could slow down 3D reconstruction.
REAL TIME AR	Operators can view scanned surfaces in real time through an augmented reality (AR) interface. This allows the user to identify potential gaps and track scanning progress. Completeness verification reduces the need for re-flights while ensuring full coverage.
ANALYZING	Operators can view a static overview image of the entire scene, where an augmented reality (AR) drone appears in real time as it navigates the area. This gives the pilot better visibility of the drone's position in 3D space without needing to track its GPS location and heading on a map. It enhances safety, supports progress tracking, and enables compliance with Civil Aviation Authority requirements.