MOVIA™ Air System

Solid-state lidar payload module for most advanced UAVs

MicroVision's MOVIA™ Air System is equipped with MicroVision's pure solid-state lidar sensor MOVIA™ and autonomous navigation software to redefine perception and autonomy for commercial and the most advanced defense UAVs. The drone-agnostic module allows situational awareness in darkness, urban clutter, and contested environments and thereby unlocks a range of different applications.
The resulting 3D map created by the module can be streamed to the ground in real-time, either for visualization or to autonomously explore unknown environments, even in GNSS-denied areas.

Applications

Real-time Precision when every Second counts

MicroVision's payload module cuts through darkness and dense, unknown terrain to reveal obstacles and locate missing persons faster. Rescue units can use it to assess collapsed structures, for nighttime searches supported by detailed point clouds or safe navigation through hazardous zones.

Enhancing even more Security when needed

Enhancing protection and situational awareness by detecting objects, movements, and structural changes in real time, MicroVision's lidar payload modules enables faster threat assessment. Security teams can monitor - day or night, in any weather - large or hard-to-reach areas safely and efficiently.

Transforming Surveying Efficiency

Transforming modern surveying with precise 3D data capture by penetrating vegetation and mapping terrain with centimeter-level detail, MicroVision's payload module enables surveys, site planning, and volume calculations. Delivering reliable, high-density point clouds help surveyors to work to be safer, faster, and with unmatched precision.

Precise Navigation in Unknown Terrain

Enabling precise navigation in unknown environments and communicating with operators or other units, the payload modules support missions such as infrastructure inspection, environmental surveying, and autonomous exploration. The payload modules ensure reliable path planning, and safe operation even without GNSS.

Core Components

- MOVIA™ Sensors
- Camera
- Companion Processor
- Autonomous Exploration Software
- Optional: Power Module

MicroVision®

Technical Data MOVIA™ Air System

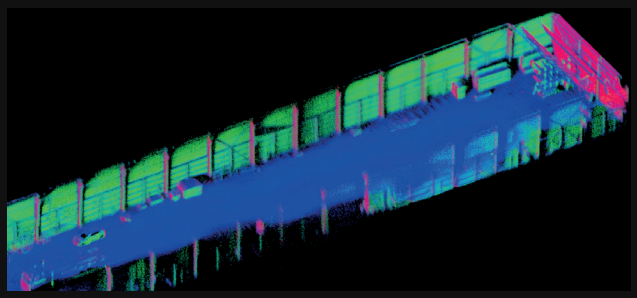
Feature	Specification
Maximum Power Consumption	Full system: < 25 W
Typical Power Consumption	Full system: < 18 W
System Field of View	**Combined Lidar and Camera field of view coverage:** Forward: enabling complex navigation and vertical mapping Downward: maximising ground coverage for mapping
Compatible Lidar Sensors	MOVIA™ L 60°, MOVIA™ L 120°, MOVIA™ S 180°
Map Resolution	Configurable, 5-100 cm cubes
Mapping Altitude	0.5 m - 50 m
Map Attributes	RGB texturing, elevation, surface inclanation, traversability, semantic labels, obstacle occupancy, optical reflectifity

3D Mapping and Measurement

Front Camera View into a Storage Facility Building

By utilizing 3D measurement, here in the example of a storage facility, the mapping module transforms unknown areas into detailed representations of the environment like paths (drivable/non-drivable), textures, surfaces, changes and irregularities in the ground - even in areas where no GNSS is available.

Total View: 3D Map in GNSS-denied Environment, colored by Camera RGB Values



Total View: 3D Map in GNSS-denied Environment, colored by Surface Inclination

Technology & Innovation

Key features

3D real-time Mapping

Indoor & close Sky Operations

Autonomous Exploration in complex Environments

ATAK compatibel

Sensor modes

Aerial Usage

Passive Mode

Photon Energy Mode

Low Power