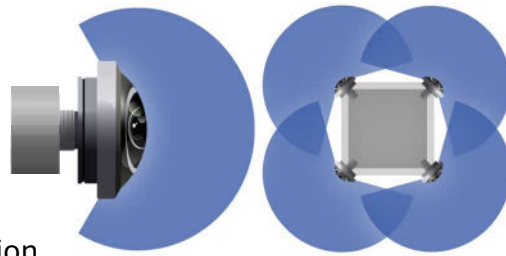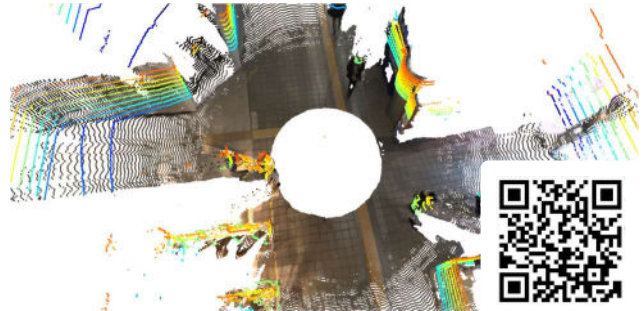# UVIFY

Intro Video

xEye™ /multiple-eye/

Complete Spatial Intelligence in One Solution

UVify xEye™ is a groundbreaking omnidirectional vision and SLAM (Simultaneous Localization and Mapping), depth imaging system, specifically engineered for integration into autonomous mobile robots, unmanned ground vehicles (UGVs), drones, and various robotic platforms. Leveraging advanced visual-inertial odometry and sophisticated deep learning algorithms, xEye™ delivers unparalleled real-time spatial awareness and environmental understanding.

xEye vs LiDAR Demo Video

Key Features

360° Vision Perfected
xEye™ technology integrates omnidirectional imaging with precision depth sensing for complete spatial intelligence—no blind spots, no compromises.

Intelligent Visual SLAM Platform
xEye™ combines advanced visual perception with precision depth sensing and inertial data fusion, delivering robust 3D localization and real-time mapping performance in GNSS-denied environments.

Input Images

360° Image

360° Depth Image

Contact: sales@uvify.com

xEye™ | SEE EVERYTHING. SLAM ANYWHERE.

Jetson-optimized, LiDAR-free visual intelligence engineered by UVIFY.

UNRIVALED 360° DEPTH

- **True Spherical Vision** – Quad-fisheye array fuses into a seamless **250 ° × 250 °** image sphere; no stitching seams, no blind spots.
`
- **Millimeter-Grade 3-D Maps** – Proprietary depth-estimation network rebuilds full geometry, not just a feature cloud.

JETSON-CLASS EFFICIENCY

- **Runs on NVIDIA Jetson** (Orin NX / Orin Nano) at <6 W—no high-end laptop or external GPU required. CUDA-optimized SLAM delivers deterministic latency for real-time autonomy.

PROJECTOR-FREE, LiDAR-FREE

- **Pure vision + AI**—no IR projector, no spinning lasers. Lower power, lighter payloads, zero glossy-surface failures.

BULLETPROOF SLAM

- **360° coverage** means the robot "sees the back," recovering instantly from contact or occlusion. Field-proven to run for days without loss of lock.

THE ONLY SOLUTION OF ITS KIND

- Others solve parts of the problem. xEye™ solves all of it: spherical vision, dense depth, embedded efficiency, and LiDAR-level robustness—without the LiDAR.

Capability	xEYE™	S*	Z*	A*	S*
360° Depth Coverage	**Yes (220 °)**	None (feature map only)	170 °/sensor overlap	Forward stereo only	No – uses RealSense depth
On-board Depth Estimation	**Yes**	No	Stereo disparity	No	Relies on RealSense projector
Jetson-Native	**Yes**	No	No	No	Heavy Jetson + RealSense
LiDAR Required	**No**	Optional add-on	No	Often fused	Yes (for full 3-D)
Output Map	**Full metrically scaled 3-D**	2-D feature cloud	Dense depth slices	2-D / 2.5-D	2.5-D height map
Visual Positioning Capability	**Yes**	No	No	No	No

xEye™ Visual Positioning System (VPS)

- Mapped environments stored in database enable GNSS-free re-localization and autonomous navigation.

Visual Positioning

Mapping

Localization

Ready to Get Started?

To explore xEye's capabilities across different applications, scan the QR code for demonstration videos.

Autonomous Drone

Autonomous Robot

Autonomous Car

Contact: sales@uvify.com

UVIFY