LEADING   INTELLIGENT   POWERFUL   SOPHISTICATED

Measuring Solutions

LIPSMetric™ for Measuring & Automation

LIPSMetric™ simplifies the measurement of parcels, small, and large objects with:

Key features include

- Instant measurement of objects in one second.
- Support for cubic, non-cubic, and irregular shapes.
- Camera kit devices, SDK, and adaptable software applications.

LIPSMetric™
HA Series Handheld Use

LIPSMetric™
ST Series Static Measuring

LIPSMetric™
Pallet Series Pallet Dimensioning

Metrology Use Cases

Application	Use-Case
Smart Kiosk	Self-Service Parcels Preparation
Smart Logistics	Distribution Centers Parcels Measuring
Smart Factory	In-Motion Conveyor Package Distribution
Convenient Parking Lots	Vehicle Dimensioning and Parking Solutions
Warehouse Management	Pallet Dimensioning for Containers
Recycling & Disposal Centers	Waste Management and Processing

Automation Solutions

LIPSolution™ for Automation Solutions

LIPSolution™ offers complete solutions for operating smart factories and collaborative robots (COBOTs), featuring:

Key features include

- 3D Visual Perception Kits for NVIDIA® AI factories.
- Robotic Pick and Place for palletizing and depalletizing.
- Low latency acceleration for in-cell robotics.
- Perimeter and area detection with virtual fencing.

LIPSAMR™ P Series
AMR Perception

LIPSArm™ R Series
Robotic Arm Gripping

LIPSFence™
Virtual Fence 3D Virtual Fencing

Automated Factories Use Cases

Application	Use-Case
Autonomous Mobile Robots	Mapping 3D Perception and Detection for SLAM
Robotics Pick and Place	Palletizing and Depalletizing
In-Cell Robotics Operations	Low Latency Acceleration on x86
3D Virtual Fencing	High Risk and Sensitive Location Monitoring
COBOT Factories	Factory Operations with Human-Machine Coexistence

LIPSAMR™
Perception DevKit
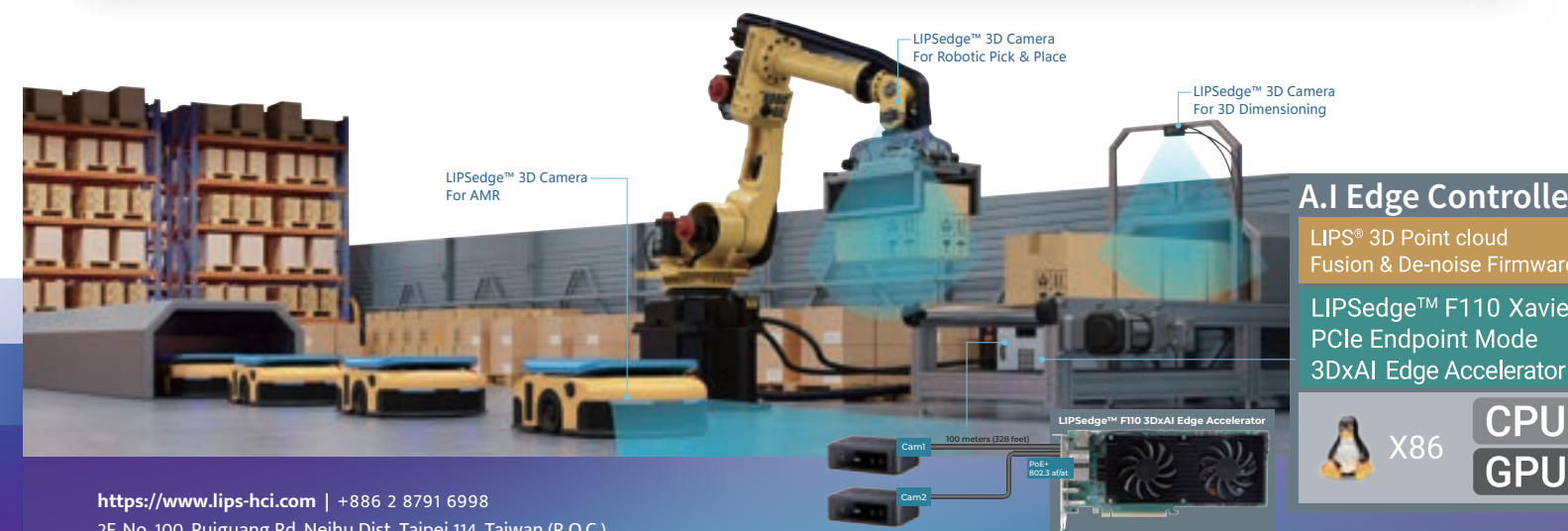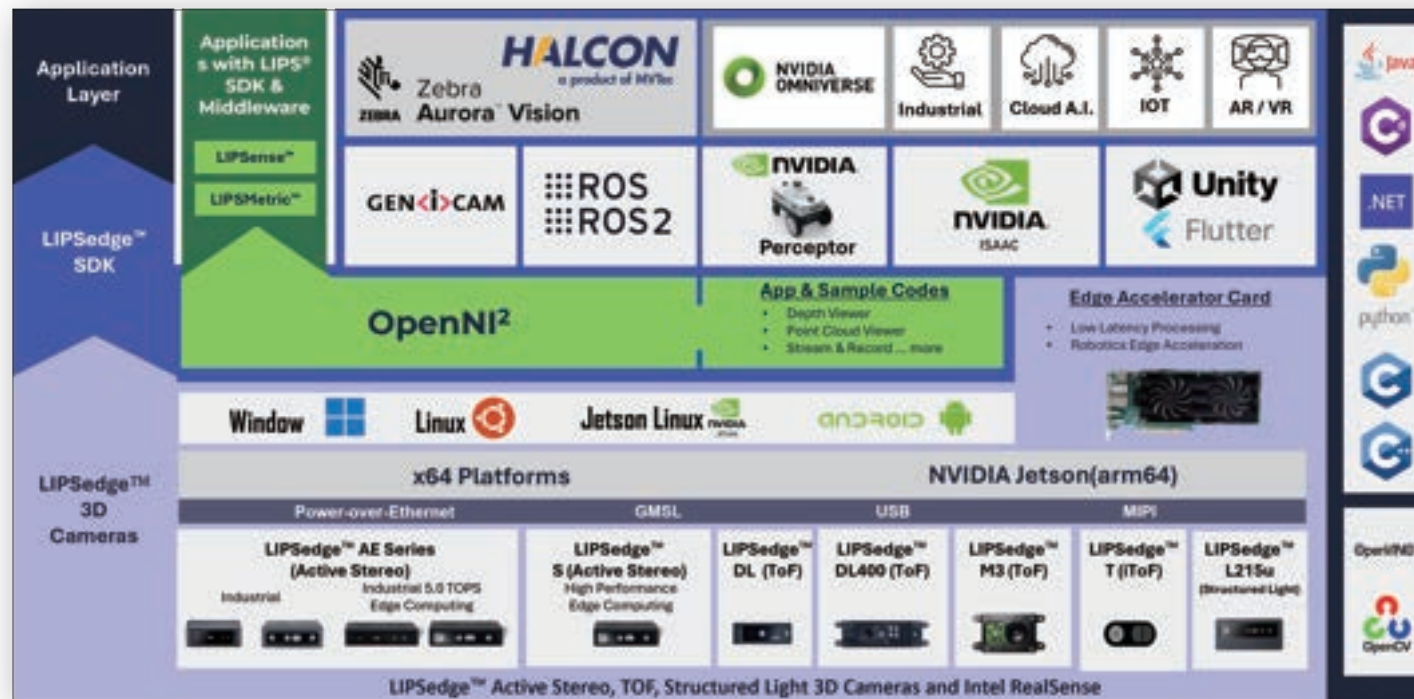
Sense The World.

LIPS
Sense The World

Who We Are

Founded in 2013 by scholars from MIT, LIPS is a global leader in 3D sensing and AI-driven machine vision, empowering industries with cutting-edge innovations and trusted solutions.

Expertise in 3D Camera Design
Customization for all tiers

Lens
- Customize design
- Field of View (FoV)
- Low F#
- Relative Illumination Narrow IR band-path filter

Embedded Systems
- Edge Computing
- AI Inferencing
- Machine Learning

SDK & Middleware
- SDK support(OpenNI / OpenCV / NVIDIA Isaac / Halcon/ ROS/ROS2 etc.)
- Middleware support(3D scan / Skeletal tracking / Motion gesture / 3D metrology)

Calibration and Test
- Equipment and software for porotypes and mass production

Illumination
- Range vs. power
- Field of illumination
- Efficient driver
- Eye safety

Image Processing
- Imager setting and control
- Depth map calculation
- Post processing
- Porting to application processor

3D Sensor
- Stereo
- ToF
- Structure Light
- Sensor characterization

Customized Project Design
- ISP Tuning
- Camera Build
- Use-Case Integration

LIPSedge™ SDK | Build Once, Deploy Unlimitedly

LIPSedge™ Active Stereo, TOF, Structured Light 3D Cameras and Intel RealSense

LIPSedge™ 3D Camera For Robotic Pick & Place
LIPSedge™ 3D Camera For 3D Dimensioning
LIPSedge™ 3D Camera For AMR

A.I Edge Controller

LIPS® 3D Point cloud Fusion & De-noise Firmware

LIPSedge™ F110 Xavier PCIe Endpoint Mode 3DxAI Edge Accelerator

X86   CPU   GPU

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A Leader in Spatial Intelligence & Machine Vision.

LIPS
Sense The World

www.lips-hci.com

LIPS Corporation delivers cutting-edge 3D sensing and AI solutions,
empowering industries with unmatched accuracy and performance in machine vision.

Strong Global Leadership Partnerships

Ambarella. AI envisioned™
AMD
intel
NVIDIA

International Award Recognition

台灣精品 2019 TAIWAN EXCELLENCE
iF DESIGN AWARD 2020
VISION SYSTEMS DESIGN 2020 Innovators Awards
embedded award 2024

A NEW ERA OF MACHINE VISION

LIPS's pioneers 3D vision technology, delivering advanced solutions for automation, sensing, and measurement. Our products enhance efficiency, precision, and versatility, redefining machine vision standards.

Scan the QR code to explore our capabilities.

Capture & Edge AI Solution

LIPSedge™ 3D Depth Cameras

LIPSedge™ cameras deliver comprehensive 3D technologies, integrating Active Stereo, Time-of-Flight, and Structured Light methods.

Key features include

- Depth Capture with high precision and accuracy.
- Point Cloud Output with low noise and stability.
- Edge Computing capabilities for on-device processing.

Industrial Use Cases

Application	Use-Case
Autonomous Mobile Robots	Perception and Detection
Smart Retail	Shopper Behavior Flow Tracing
Smart Logistics	Package and Parcel Measurement
Virtual Fencing	High Risk and Sensitive Location Monitoring
Robotics Pick and Place	Palletizing and Depalletizing
Robotics Low Latency	Low Latency Acceleration on x86

- **LIPSedge™ AE Series** — Industrial Active Stereo 3D
- **LIPSedge™ DL & M3 Series** — Time-of-Flight 3D
- **LIPSedge™ L Series** — Structured Light 3D
- **LIPSedge™ F Series** — Edge Acceleration Cards

LIPSense™ Middleware

LIPSense™ middleware enhances 3D camera applications with cutting-edge features, such as:

Key features include

- 3D Body Pose for Multi-Joint Tracking.
- Scanning SDK for industrial and consumer applications.
- Face Recognition with SDK and hardware kits.
- Touchless Interaction with hand and finger tracking.

Industrial and Consumer Use Cases

Application	Use-Case
Interactive Gaming	3D Body Pose for Accurate Motion Sensing
Factory Virtual Fencing	3D Body Pose for Employee Safety
Design & Digitization	Scanning for Virtual Reality Shaping and Modeling
Smart Locks & Security	3D Face Recognition & Anti-Spoofing
Smart Vending Machines	Touchless Interactions for Kiosks
Smart Entertainment	Motion Gesture for Consumer Gaming

Intelligent Sensing Solution

- **LIPSense™** — 3D Body Pose Skeleton Tracking
- **LIPScan 3D™** — Scanning
- **LIPSFace™** — Recognition
- **T110 Touchless** — for Kiosk Interactive Sensing

TIME-OF-FLIGHT

LIPSedge™ DL
ToF — USB SuperSpeed

Ready-to-Use
3D ToF camera outputs both 2D and 3D data with high depth resolution in real time.

Best-in-One
The best-in-one for applications including gaming, entertainment applications, medical and machine vision

Super Speed
Plug & play through USB 3.0 interface that can transfer image and depth data 10 times faster.

Specifications	
Operating Range	Ideal range 4m
XY Resolution	320x240@30 fps
Depth FoV	74°x58°x88°
Depth Accuracy	≤ 3%
RGB Resolution	1920x1080@30fps
RGB FoV	79°x50°x88°
Interface	USB 3.0 Micro-B

LIPSedge™ DL 400
ToF — USB SuperSpeed

Ready-to-Use
3D ToF camera outputs both 2D and 3D data with high depth resolution in real time.

Best-in-One
The best suitable for applications including Machine Vision, Medical detections, AR/VR, Gaming and Smart Devices.

Super Speed
Plug & play through USB 3.0 that can transfer data simultaneously 10 times faster than its predecessor.

Specifications	
Operating Range	Ideal range 4-6m
XY Resolution	320x240@30 fps
Depth FoV	74°x58°x92°
Depth Accuracy	≤ 3%
RGB Resolution	1920x1080@25fps
RGB FoV	75.4°x60.3°x88.9°
Interface	USB 3.0 Micro-B

LIPSedge™ AT
ToF — Power of Ethernet

PoE + 802.3 at
Supports GigE with PoE that allows data transmission and power supply (802.3 at) up to 100 meters.

Edge Computing
Run Edge Computing with Cyclone V FPGA as open-root.

Preinstalled Onboard SDK
Quickly up and running, while experiencing its lightning-fast and reliable edge processing performance.

Specifications	
Operating Range	Ideal range 8m
XY Resolution	320x240@30 fps
Depth FoV	74°x58°x88°
Depth Accuracy	up to 1% of Distance
RGB Resolution	640x480@30fps
RGB FoV	69°x55°x81°
Interface	PoE

LIPSedge™ M3
ToF — USB

A Tiny Module
A tiny module with TOF technology ready-to-integrate to applications that demand space fitting.

An IMU inside
Built-in 6 axis IMU, which allows precision and accuracy for its position and movement location details.

Build Once, Deploy Unlimitedly
Cross-platform OS support on Windows, Linux, Raspberry Pi Cross-platform Hardware support on Intel and NVIDIA.

Specifications	
Operating Range	Ideal range 4m
XY Resolution	80x60@30 fps
Depth FoV	74°x58°x92°
Depth Accuracy	≤ 0.3%
Interface	USB 2.0 Micro-B

ACTIVE STEREO

LIPSedge™ AE400
Active Stereo — IP67 / IMU

Durability
Ruggedized form factor with IP67 rating and built-in heatsink.

An IMU inside — Built-in 6 axis IMU.

Build Once, Deploy Unlimitedly
Cross-platform OS support on Windows & Ubuntu. Cross-platform hardware support on Intel (x86) and NVIDIA® Jetson (arm).

Develop with LIPSedge SDK
LIPSedge™ SDK supports variety of programming languages and industrial 3D framework.

Specifications	
Operating Range	Ideal range 4m
XY Resolution	1280x720@30 fps
Depth FoV	65°x40°x72°
Depth Accuracy (up to 2 meters and 80% of FoV)	≤ 2%
RGB Resolution	1280x800@30fps
RGB FoV	69.4°x42.5°x77°
Interface	GigE/ PoE

LIPSedge™ AE450
Active Stereo — IP67 / IMU

Long Range
Long range and depth precision with VCSEL.

Highest Depth Quality
Highest depth quality per degree with active stereo.

Global Shutter
Fast response with global shutter.

Persistent Connection
Supports GigE with PoE that allows data transmission and power supply (802.3 af / at) up to 100 meters.

Specifications	
Operating Range	Ideal range 4m
XY Resolution	1280x720@30 fps
Depth FoV	87°x58°x95°
Depth Accuracy (up to 2 meters and 80% of FoV)	≤ 2%
RGB Resolution	1280x800@30fps
RGB FoV	87°x58°x95°
Interface	GigE/ PoE

LIPSedge™ AE430
Active Stereo — Edge-AI — IP67 / IMU

Industrial Ready
IP67-compliant ruggedized casing, built-in heatsink, M12 locked-cable and 6H anti-scratch tempered glass for industrial application.

Compact and Light Weight
Compact size and light weight at 280g, suitable for robotics and Edge-AI.

Depth Enhancement
Improving precision and accuracy per depth pixel capturing.

Open-root with Edge Computing
Run neural network applications at 5.0 TOPS with edge-AI SOC as open-root.

Specifications	
Operating Range	Ideal range 4m
XY Resolution	1280x720@30 fps
Depth FoV	65°x40°x72°
Depth Accuracy (up to 2 meters and 80% of FoV)	≤ 2%
RGB Resolution	1280x720@30fps
RGB FoV	69.4°x42.5°x77°
Interface	GigE/ PoE
Form Factor	Compact design with only 280g weight

LIPSedge™ AE470
Active Stereo — Edge-AI — IP67 / IMU

Industrial Ready
IP67-compliant ruggedized casing, M12 locked-cable and 6H anti-scratch tempered glass for industrial application.

Compact and Light Weight
Compact size and light weight, suitable for robotics and Edge-AI.

Long Range
Suitable for detections that require long distances and enhanced range 3D depth mapping.

Highest Depth Quality
Highest depth quality per degree with active stereo.

Specifications	
Operating Range	Ideal range 4m
XY Resolution	1280x720@30 fps
Depth FoV	87°x58°x95°
Depth Accuracy (up to 4 meters and 80% of FoV)	≤ 2%
RGB Resolution	1280x800@30fps
RGB FoV	87°x58°x95°
Interface	GigE/ PoE
SoC	Edge-AI support

ACTIVE STEREO - STRUCTURED LIGHT - EDGE ACCELERATOR

LIPSedge™ S205p
Active Stereo — Edge-AI — PoE / IP67 / IMU

High Performance
High-resolution video encoding with optimized **CVflow** and Ambarella CV2 edge computing for high performance.

Long Range
Supports long-distance detection with enhanced 3D depth mapping.

Near-infrared Sensing
High sensitivity to near-infrared light enables zero-light imaging and enhances 3D depth mapping visibility.

HD RGB Output with 1280x800 pixels

Specifications	
Operating Range	Ideal range 6m
XY Resolution	1280x720@30 fps
Depth FoV	87°x58°x95°
Depth Accuracy	≤ 2%
RGB Resolution	1280x800@30fps
RGB FoV	90°x65°x98°
Interface	GigE/ PoE
SoC	Edge-AI support

LIPSedge™ L215u
Structured Light — USB

Precise and Accurate
Up to 0.3% @ 100cm accuracy and great for 3D scan, 3D measurement, and 3D facial recognition.

Sunlight Resistance
Supporting 940nm wavelength VCSEL light source can be used indoors and outdoors.

Precision with VCSEL Technology
Adopting VCSEL Technology which allows precise and depth precision with narrow beams, making possible high output and

Specifications	
Operating Range	Ideal range 1m
XY Resolution	1280x720@30 fps
Depth FoV	50°x74°x84°
Depth Accuracy	≤ 0.3%@100cm
RGB Resolution	1280x800@6fps
RGB FoV	45.89°x38.86°x58.89°
Interface	USB2.0

LIPSedge™ F110
World's 1st NVIDIA AGX Xavier based PCIe PoE+ Endpoint-Mode Edge Accelerator

Empowering next-generation 3D Vision and A.I.

Edge Accelerator

Industrial Ready Edge Accelerator for GigE/ PoE RGB-D Camera with GenICam

PoE+ 2 ports with PSE

PCIe Endpoint Mode
- High Bandwidth with PCIe 4.0
- Low Latency Transmission with GPUDirect via RDMA
- Scale-Up Architecture for Robotics Vision with x86
- Cleverboot™ Interconnect for Multi-OS Systems
- Edge Computing with NVIDIA® CUDA and OpenCL

Accelerate 3D Point cloud De-noise, Stitching & Fusion

Compatible with LIPSedge™ 3D Camera and SDK Wrappers
Extended Library Support from NVIDIA ISAAC, Jetson Jetpack SDK and more.

Root Port Deployment from single lane to multi-lanes

Specifications	
Module	NVIDIA Xavier AGX 32GB
HDMI	1x HDMI type A
LAN	1x 1000Base-T RJ-45 (Optional)
	2x 2.5Gbase-T RJ-45 PoE 802.3at
USB	2x USB 3.2 Gen1 type-C
	1x USB type-C OTG only
	1x USB 3.0 eSata combo port
Pin Header	Full 40-pin pin header
	(5x GPIO, 1x I2C, 1x Debug UART)
Expansion Slot	1x M.2 M key PCIe only
Power Connector	1x 8-pin backward connector
Fan Connector	1x 4-pin fan connector
Boot Sequence Control	Build-in MCU
TPM	TPM 2.0
Storage	Micro SD
Power Input	9~19V input
Supported OS	Linux, Ubuntu 18.04 / 20.04 LTS