Product Specifications

ScaleCam Vision®

ScaleCam Vision harnesses Foresight's advanced technology to convert accurate depth maps into high-resolution 3D point clouds in the visible spectrum (VIS), offering detailed per-pixel information essential for applications like obstacle detection and terrain analysis. Engineered for the rigors of industrial and agricultural environments, this industrial-grade system boasts an IP66 rating for protection against harsh weather and dust, along with an extended operating temperature range.

ScaleCam Vision ensures superior visibility, durability, and reliable performance, making it the ideal choice for demanding outdoor VIS applications.

Auto Calibration

Foresight has pioneered an innovative approach to tackle the central challenge in stereo vision: creating a precise depth map. By leveraging a specialized algorithm, our automatic calibration technology for visible spectrum (VIS) cameras excels at accurate relative pose estimation. This is essential for constructing an accurate stereoscopic 3D perception, enabling enhanced visual understanding and interaction with environments. Our solution ensures that systems employing VIS technology can achieve superior depth accuracy, crucial for a range of applications from augmented reality to precision robotics.

All outdoor

Tailored for industrial and agricultural settings, our visible spectrum (VIS) technology is built for all outdoor applications. With an IP66 rating and extended operating temperature range, it delivers robust performance in harsh weather and dusty environments, ensuring durability and reliability in extreme conditions.

Object Detection

Detecting objects within an image. Leveraging depth sensing and 3D data, Vis sensor kit offers both 2D and 3D positional information for objects within the scene.

3D Point Cloud

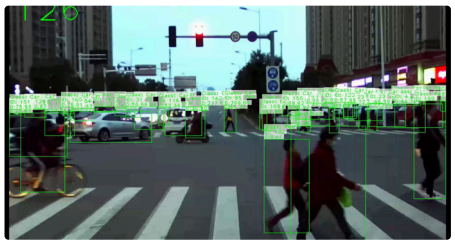
Foresight's point cloud technology for visible spectrum (VIS) sets a new standard in stereo vision by converting accurate depth maps into high-resolution 3D point clouds. These point clouds provide rich, precise per-pixel information, forming a robust foundation for applications such as obstacle detection, terrain analysis, and autonomous vehicle sensor fusion. Leveraging stereoscopic technology, this non-emitting and cost-effective solution offers a superior method for generating detailed point clouds, ensuring enhanced performance and reliability in a variety of settings.

SDK

The Foresight SDK provides developers and integrators with a robust and flexible software interface to access, control, and process data from Foresight's multi-spectral stereo vision systems. It enables the integration of advanced perception capabilities, such as obstacle detection and depth estimation, into automotive, agricultural, industrial, and autonomous platforms. The SDK supports the development and evaluation of perception algorithms, data recording, and system-level integration.

Depth Map

Depth maps captured by the ScaleCam Vision sensor kit calculate the distance value (Z) for each pixel (X, Y) in the image. The distance is expressed in metric units and is calculated from the focal point of the left-side camera to the object.



Classifications Stereo

ScaleCam Vision supports classifications of known objects like cars, trucks, pedestrians, PTW and more.

Drivable Area

ScaleCam Vision sensor kit supports marking of obstacles over the 3D point cloud which allows detection of barriers and obstacles.

ScaleCam Vision

Specifications	30° FOV	90° FOV
OPTICAL		
Field of View:	Max. 36 (H)	Max. 95 (H)
Camera Resolution:	1280 × 720 - Dual 1Mp RGB cameras	1280 × 720 - Dual 1Mp RGB cameras
Pixel Size:	4um x 4um	4um x 4um
Shutter Type:	Rolling Shutter	Rolling Shutter
TECHNICAL		
Baseline (cm):	30	30
Accelerometer:	Up to 12g	Up to 12g
Gyroscope:	Up to 1000°/S	Up to 1000°/S
PHYSICAL		
Dimensions (mm):	500 × 90 × 130	500 × 90 × 130
Weight (gr):	5200 gr	5200 gr
Interface:	USB 3.0	USB 3.0
Mounting Options:	Adapter bracket	Adapter bracket
Ingress Protection Rating:	IP66	IP66
Operating Temperature:	-20 to 60 °C	-20 to 60 °C
Camera Power:	5V DC	5V DC
PERFORMANCE		
Detection Range (Car 1.5m x 2m):	3 - 150m	1 - 50m
Detection Range (Pedestrian 1.5m x 0.5m):	3 - 65m	1 - 30m
Point Cloud Accuracy:	8.5% @ 150m ; 4% @ 65m	7.5% @ 50m ; 5% @ 30m
TECHNOLOGY FEATURES		
Auto Calibration:	✓	✓
Depth Map:	✓	✓
3D Point Cloud:	✓	✓
Object Detection:	✓	✓
Classifications:	✓	✓
Drivable Area:	✓	✓
SDK:	✓	✓
SYSTEM REQUIREMENTS		
ECU:	NVIDIA® Jetson Orin™ Nano 8G	NVIDIA® Jetson Orin™ Nano 8G
Point Cloud Resolution:	640 × 360	640 × 360
Output FPS:	10	10
OS:	Linux, Ubuntu 22.04, Jetpack 6.2	Linux, Ubuntu 22.04, Jetpack 6.2
ECU Power:	9-20V DC (up to 15W)	9-20V DC (up to 15W)
CPU Utilization:	23%	23%
GPU Utilization:	80%	80%
ORDERING INFORMATION		
P/N:	STVS-03030U-K02	STVS-09030U-K02
Warranty:	1 Year	1 Year

*Specifications are subject to change without notice