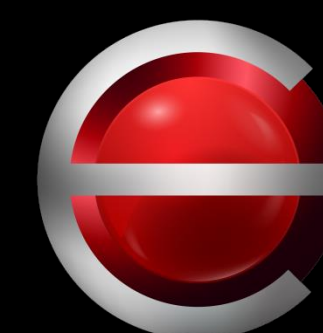




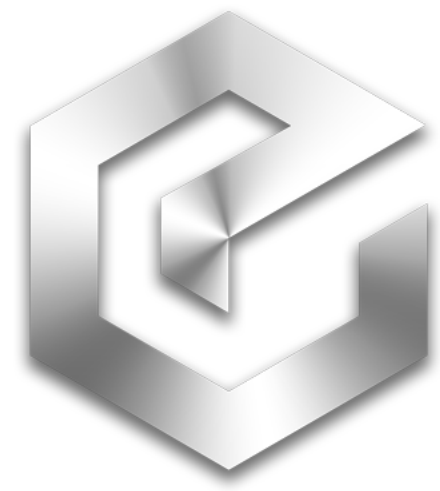
eCapture  
Depth Camera

Stereo Vision Depth Sensing Expert

Powered by



**eYS3D**  
Microelectronics

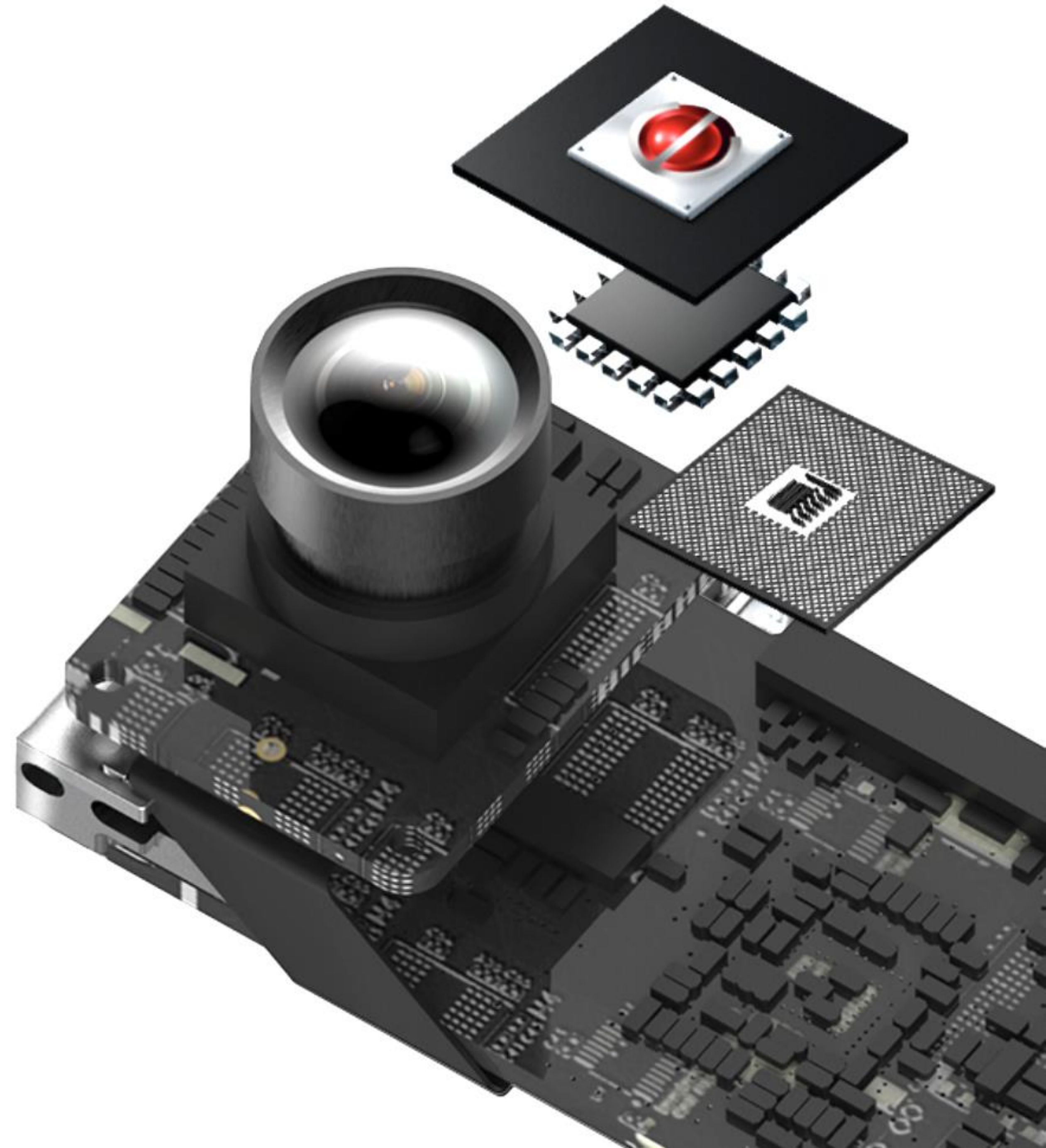


eCapture

## Module Products

### Global Shutter ASV Module

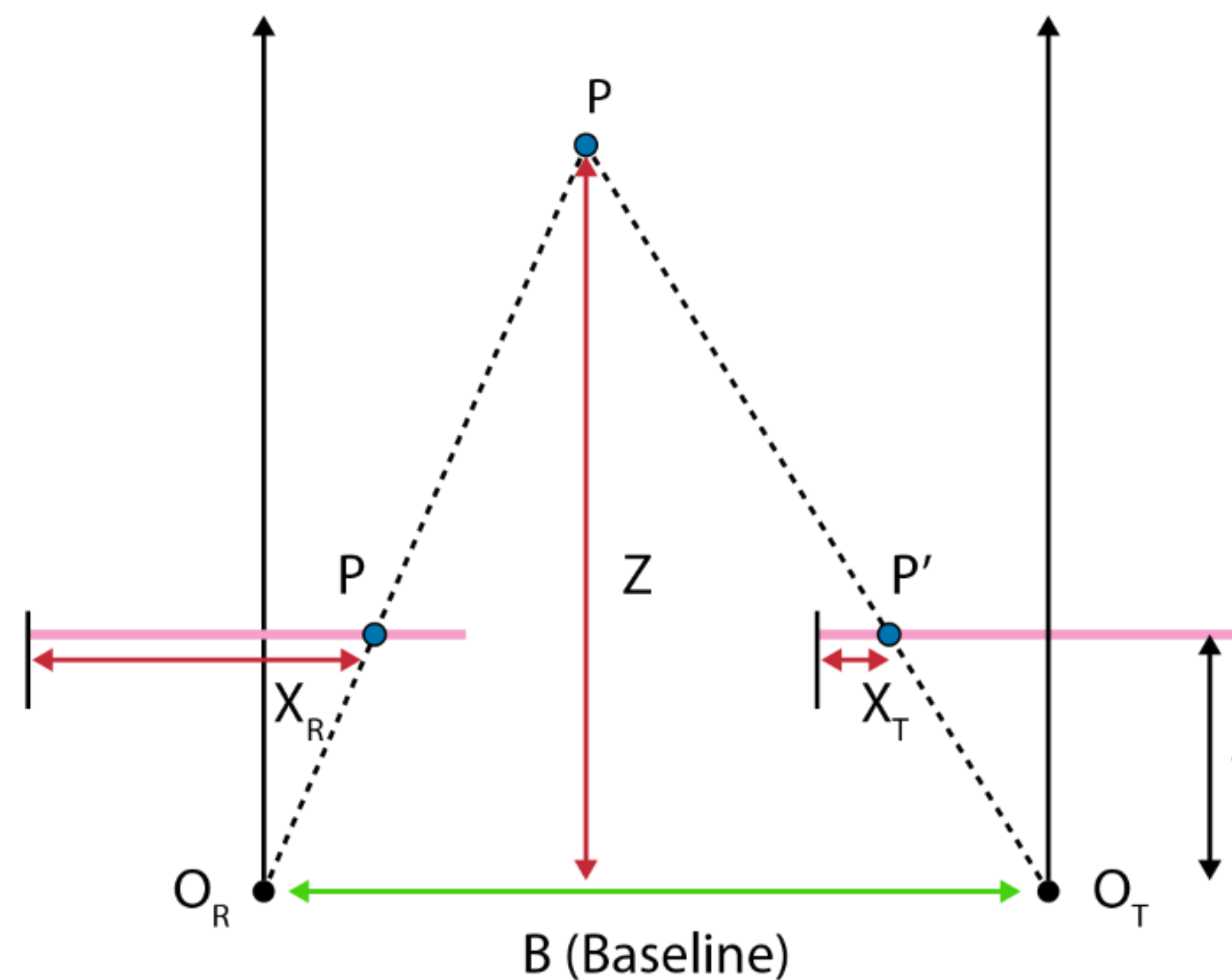
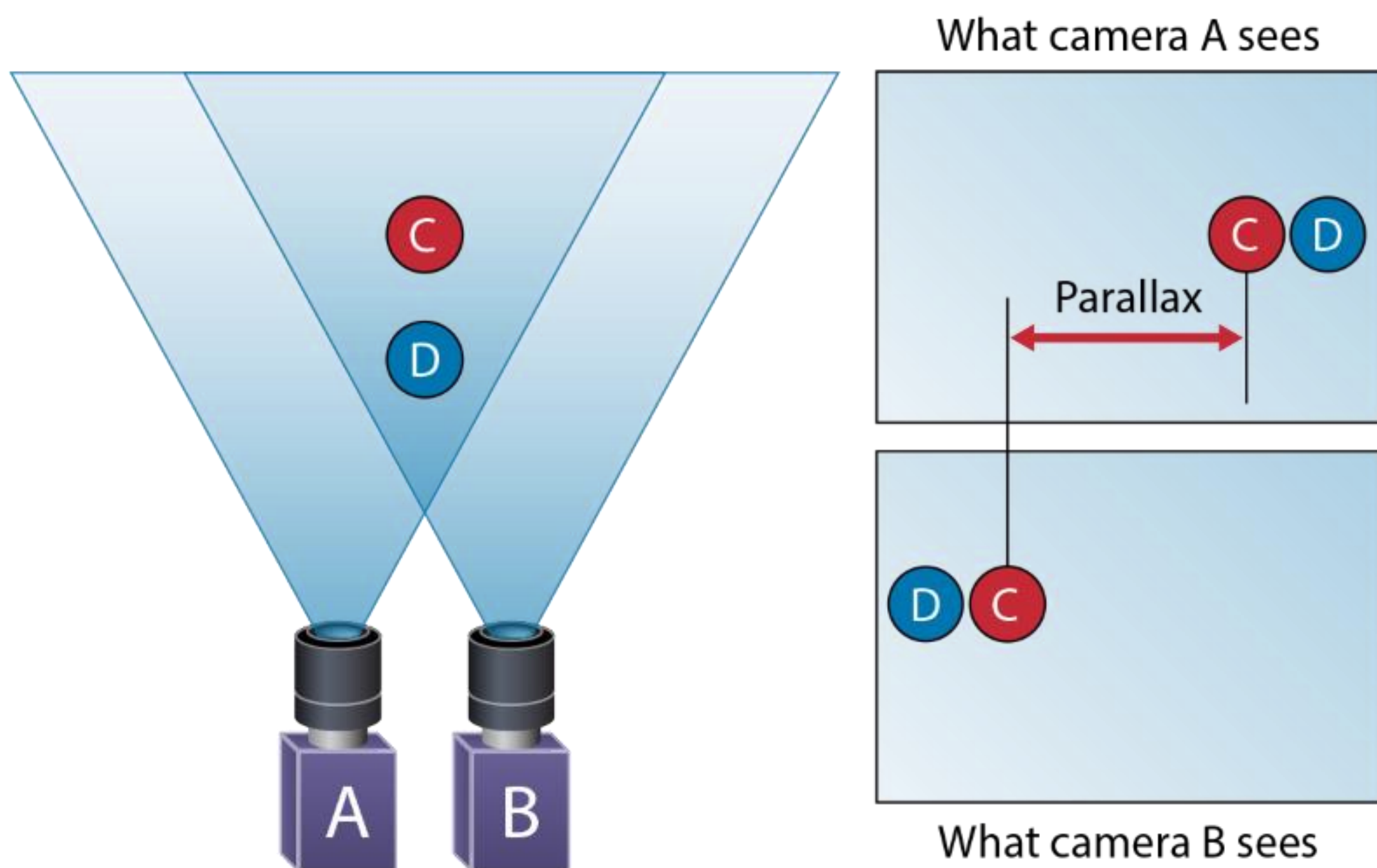
- G100i
- G100



# How Stereo Vision Works

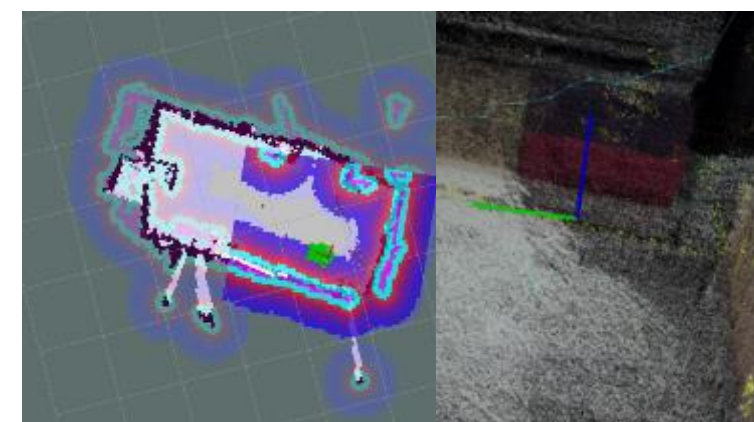
The distance extraction in stereo vision is based on triangulation between two sensors whose baseline ( $B$ ) and focal plane ( $f$ ) is known. The disparity – a key parameter all triangulation methods - is calculated by processing the images of both sensors (rectification and matching algorithm) and extracting the correspondences.

The maximum detectable depth range is proportional to the baseline ( $B$ ) and the sensor resolution. The final depth resolution is mainly limited by matching and calibration errors.





# LifeSense Depth Camera G100i



Example Application  
Robotic vSlam for Navigation

## Product Description

The eCapture™ Depth Camera G100i is a Stereo Depth Camera with an on-board IMU for vSlam. The camera includes 2 RGB sensor pairs for various resolutions of stereo RGB and depth disparity/distance map output via USB. Global shutter and wide FoV lenses make the product ideal for Robots, AGV/AMR, G2P as well as other fast motion depth capturing developments. The camera is designed to ease the setup process and offers flexibility. It is suitable for a wide range of depth applications in moving systems with excellent indoor and outdoor depth output performance. Small batch minimum order quantity makes the camera ideal if you are installing depth in your product for the first time or plan small volume production. The eCapture™ G100i is also available in lower cost bulk packaging (Module Only) for small and mid volume production quantities in Robotics design.

The eCapture™ Depth Camera G100i includes the eCapture™ SDK supporting Windows®, Linux and Android OS with support for multiple different programming languages and wrapper APIs.

## Getting Started

**To Buy : Please Contact an Authorized Distributor or ([www.ecapture.com](http://www.ecapture.com))**

- eAP87606HWM10: Single Camera Unit, USB Cable, Flexible Tripod
- Bulk Packs of Module Only (MOQ 20)

*Preliminary*

## Camera Features

<b>Environment</b>	Outdoor/Indoor	
<b>Depth Technology</b>	Active IR Stereo ( Global Shutter )	
<b>Depth FOV (H x V)</b>	H100 x V67	
<b>Depth Output Resolution &amp;Frame Rate</b>	Up to 1280 x 720p	( USB End Point 2 streaming out )
	Up to 60FPS	( Supports various *color image +depth map modes )
<b>RGB Output</b>	1280 x 720 or Left+Right 2560 x 720	( USB End Point 1 streaming out )
<b>Multi-Camera Sync</b>	6-pin Header	
<b>Minimum Depth Distance (Min-z)</b>	25cm, Varies depending on MTF Index	
<b>Maximum Range</b>	350cm, Varies depending on performance accuracy & ambient conditions	
<b>Total Power</b>	< 2.50W	

## Major Components

<b>Sensor</b>	2 x AR0135 (GS) : RGB Pair
<b>Lens H x V x D</b>	H114.7 x V89 x D137.2 Degree FoV Lens
<b>Processing Chip</b>	1 x eSP876 HD Depth Map Processor
<b>Illuminators</b>	2 x eYs3D 830nm IR Dot Projectors
<b>IMU</b>	TDK 9-axis IMU

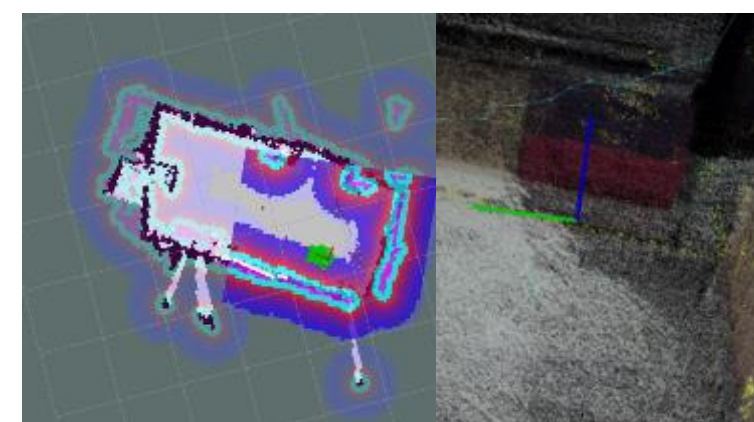
## Physical

<b>Enclosure Material</b>	Plastic
<b>Stereo Baseline</b>	6.0cm
<b>Connector</b>	1 x USB3.2 Gen 1x1 and/or USB2.0 Micro-B
<b>Product Dimension Length x Depth x Height</b>	116.5 x 29.5 x 35.8mm

## Application & Benefits

<b>Usage Scenario</b>	Fast Motional and Movable Electronics	
	<b>vSlam</b>	<b>Object Recognition</b>
	<b>Robotics, AGV/AMR, Drone</b>	<b>Skeleton/Gesture, Gaming</b>
	<b>Object Avoidance</b>	<b>Quick Proto-type for new product</b>

# LifeSense Depth Camera G100



Example Application  
Robotic vSlam for Navigation

## Product Description

The eCapture™ Depth Camera G100 is a Stereo Depth Camera with 100 Degrees of FOV for SLAM and wide-angle depth capture . The camera includes 2 RGB Sensor pairs for various resolutions of stereo RGB and depth disparity/distance map output via USB. Global shutter sensors and wide-angle lenses make the product ideal for Robots, AGV/AMR, G2P as well as fast motion depth capturing development. The camera is designed to ease the setup process and offers flexibility. It is suitable for wide range of depth applications in fast moving systems with excellent indoor and outdoor depth output performance. The eCapture™ G100 is also available in lower cost bulk packaging (Module Only) for small and mid volume production quantities in Robotics design.

The eCapture™ Depth Camera G100 includes the eCapture™ SDK supporting Windows®, Linux and Android OS with support for multiple different programming languages and wrapper APIs.

## Getting Started

**To Buy : Please Contact an Authorized Distributor or ([www.ecapture.com](http://www.ecapture.com))**

- eAP87606D100 Single Camera Unit, USB Cable, Flexible Tripod
- Bulk Packs of Module Only (MOQ 20)

*Preliminary*

## Camera Features

<b>Environment</b>	Outdoor/Indoor	
<b>Depth Technology</b>	Active IR Stereo ( Global Shutter )	
<b>Depth FOV (H x V)</b>	H100 x V67	
<b>Depth Output Resolution &amp;Frame Rate</b>	Up to 1280 x 720p	( USB End Point 2 streaming out )
	Up to 60FPS	( Supports various *color image +depth map modes )
<b>RGB Output</b>	1280 x 720 or Left+Right 2560 x 720	( USB End Point 1 streaming out )
<b>Minimum Depth Distance (Min-z)</b>	20cm, Varies depending on MTF Index	
<b>Maximum Range</b>	350cm, Varies depending on performance accuracy & ambient conditions	
<b>Total Power</b>	< 2.50W	

## Major Components

<b>Sensor</b>	2 x AR0135 (GS) : RGB Pair
<b>Lens H x V x D</b>	H114.7 x V89 x D137.2 Degree FoV Lens
<b>Processing Chip</b>	1 x eSP876 HD Depth Map Processor
<b>Illuminators</b>	2 x eYs3D 830nm IR Dot Projectors

## Physical

<b>Enclosure Material</b>	Polished Metallic
<b>Stereo Baseline</b>	6.0cm
<b>Connector</b>	1 x USB3.2 Gen 1x1 and/or USB2.0 Micro-B
<b>Product Dimension Length x Depth x Height</b>	99.55 x 27.4 x 29.03mm

## Application & Benefits

<b>Usage Scenario</b>	Fast Motional and Movable Electronics	
	<b>vSlam</b>	<b>Object Recognition</b>
	<b>Robotics, AGV/AMR, Drone</b>	<b>Skeleton/Gesture, Gaming</b>
	<b>Object Avoidance</b>	<b>Quick Proto-type for new product</b>



# Software Development Kit



Windows 10/8.1 64-bit



X86: Linux Ubuntu 18.04/16.04 64-bit  
Nvidia TX2 : ARM Linux Ubuntu 18.04



Android 8 & 9



X86: Linux Ubuntu 18.04/16.04 64-bit  
Nvidia TX2 : ARM Linux Ubuntu 18.04



V-SLAM, real-time control integration



AI lib and AMR platform integration



Tracker, AOI, feature detection image recognition development



Skeleton/gesture in gaming development



eYs3D Viewer

eYs3D Quality Test Tool

Debugging Tool

Calibration Tool

Firmware Update Tool

