

# smart eye ► TUCO-3D

## 3D 360° PANORAMIC IMAGING

### GENERAL

The centrepiece of our smart eye TUCO-3D panorama scanner is an innovative sensor head comprising a dynamic stereo vision line sensor that continuously rotates at ten revolutions/sec generating 3D 360° distortion-free panoramic views.

The dynamic stereo vision line sensor, allows high-speed rotations even in difficult lighting conditions, thanks to the high temporal resolution and to the wide dynamic range of the detectors. The large panoramic field of view of 360° in azimuth in 3D and continuous monitoring ensure to not miss events. Exploiting the on-chip processing of the dynamic vision sensor, TUCO-3D provides panoramic edge depth maps, suitable for low-cost transmission.

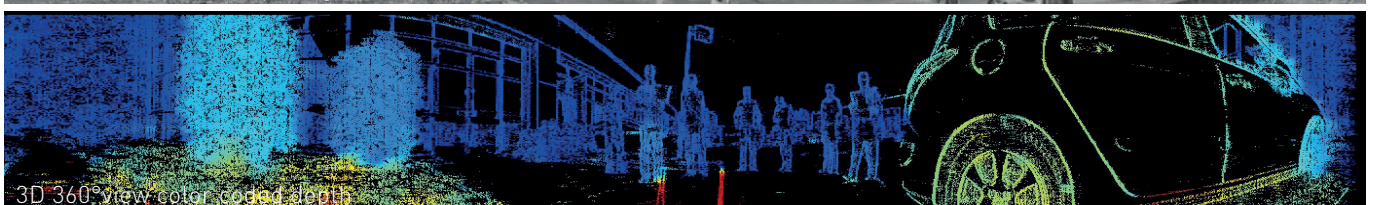
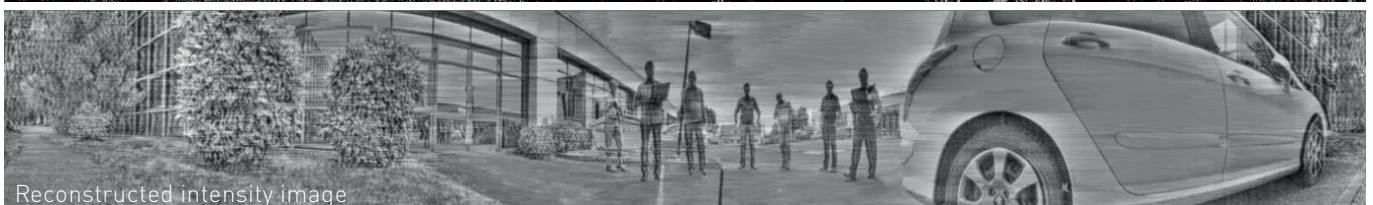
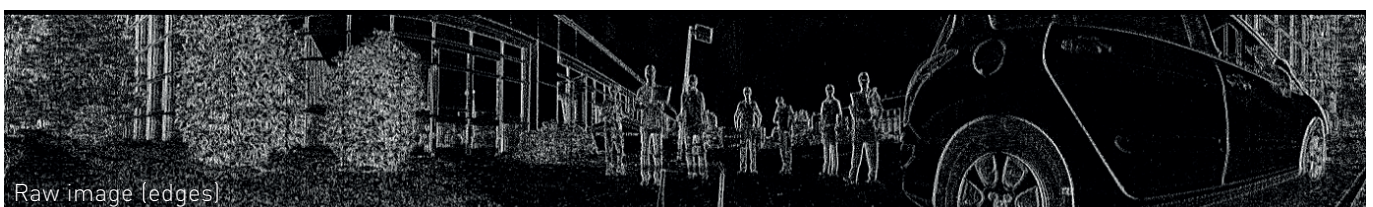
A user friendly tool allows the real-time display and recording of the panoramic edge depth maps. Operating in the MS® Windows environment by using a tool with graphical user interface (GUI) ensures easy setting of data quality and clear display of the panoramic grey-scale or edge-images.

### ADVANTAGES

- Extremely wide area coverage: 360° in azimuth
- Panoramic views in 3D world coordinates
- High vertical resolution (1024 pixel)
- Fast image rate: ten 360° scans per second
- Wide intra-scene dynamic range of over 120 dB makes it perfectly suitable for outdoor applications
- Passive operation (no laser or additional light required)
- Abstract scene representation

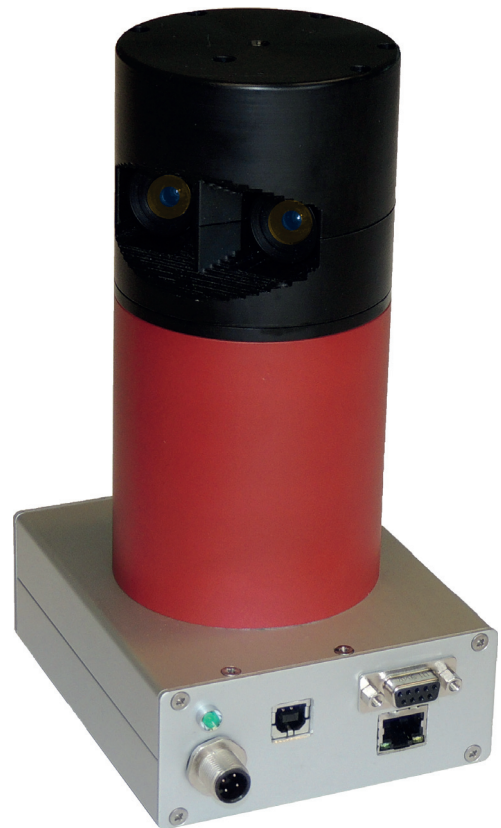
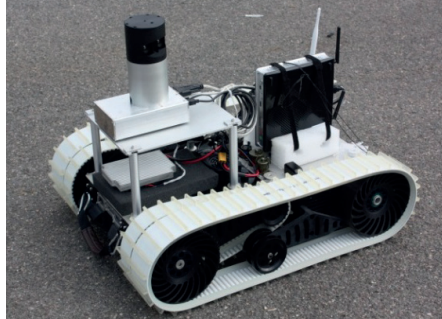
### APPLICATIONS

- Autonomous vehicles
- Search and rescue
- Collision avoidance
- Patrolling robots



## SPECIFICATIONS

▶ Lens focal length:	4.5 mm	8 mm	12 mm	16 mm
▶ Vertical FOV:	48.9°	28.7°	19.37°	14.59°
▶ Horizontal FOV:	360°	360°	360°	360°
▶ Image resolution:	2300(H) x 1024(V)	4100 (H) x 1024 (V)	6200(H) x 1024(V)	8300(H) x 1024(V)
▶ Depth:	3D camera coordinates			
▶ Scanning speed:	3600°/sec (10 rps)			
▶ On-chip compression:	> 30			
▶ Detector type:	CMOS (Dynamic Vision Sensor)			
▶ Dynamic range:	> 120 dB			
▶ Output:	Gigabit Ethernet			
▶ Power supply:	12 VDC / ~1 A			
▶ Weight:	1.42 kg			
▶ Dimensions				
Top (DIA x H):	80 x 140 mm <sup>2</sup>			
Bottom (W x L x H):	110 x 125 x 70 mm <sup>3</sup>			



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