BEAMAGINE

L3CAM

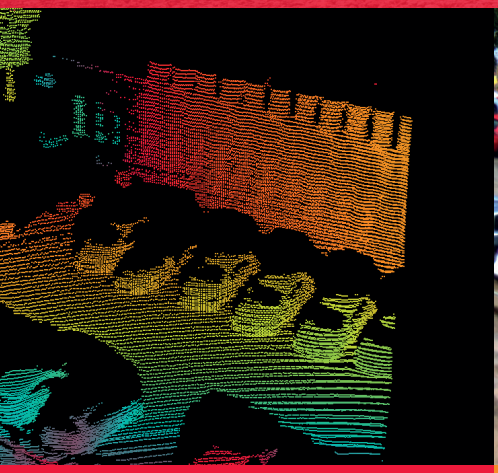
CONCEIVED TO ELIMINATE FALSE ALARMS

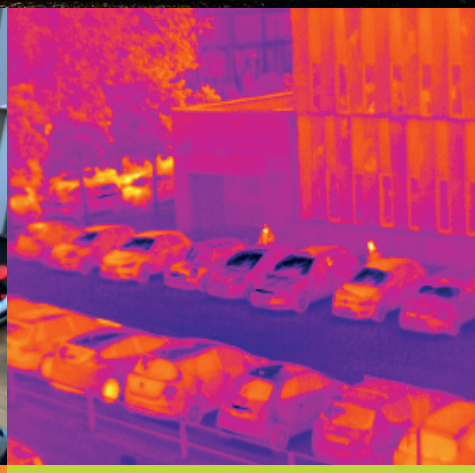
AT A GLANCE

- Integrated camera system composed by 3 imaging modes:

  • High-resolution and solid-state 3D LIDAR
  • RGB camera
  • Thermal camera

- In-house calibrated embedded data fusion
- Camera alignment guaranteed from in-house calibration
- Vibration tolerant
- Stable in all weather conditions (rain, snow, fog, dust, and wind)

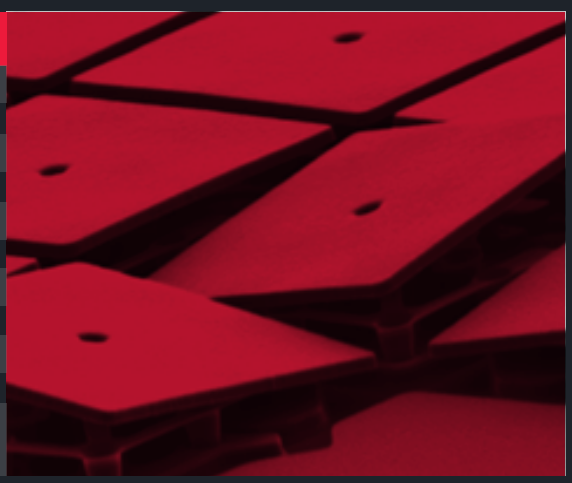




PATENTED SOLID - STATE SCANNING

- Based on a proprietary MEMS scanning system (12 patents)
- No mechanical moving elements
- High tolerance to shock and vibration
- Large entrance pupil diameter
- Long range

OPTICAL PERFORMANCE			
		50% reflectivity	10&
Range: Class 1	Ambient light	180m	80m
Range: Class 3R	400W/m2	400m	180m
Field-of-view (HxV)		60 x 20˚	
Image resolution		460 x 150 px	
Frames per second		10 Hz	
Angular resolution (HxV)		0.13˚ x 013˚	
Point rate		700 Kpx/s	
Range accuracy		+2cm	
Returns		4	
Laser		1064nm Class 1 eye-safe per IEC 60825-1:2014 (Class 3R available)	



HIGH RESOLUTION FOR SAFE NAVIGATION

Range without image resolution is not enough to determine whether the space in front of the vehicle is drivable or not. At long distances (>100m), even large objects like vehicles are only few pixels at the point cloud, which causes unreliable detection.

Additionally, small cross-section objects like rocks, slopes or debris need to be detected, otherwise the autonomous driving becomes unsafe.

That is why high resolution at the vertical axis is required. The L3CAM, with a vertical resolution down to 0.1º, has been specially designed to deal with this drivable space detection use case in mind.

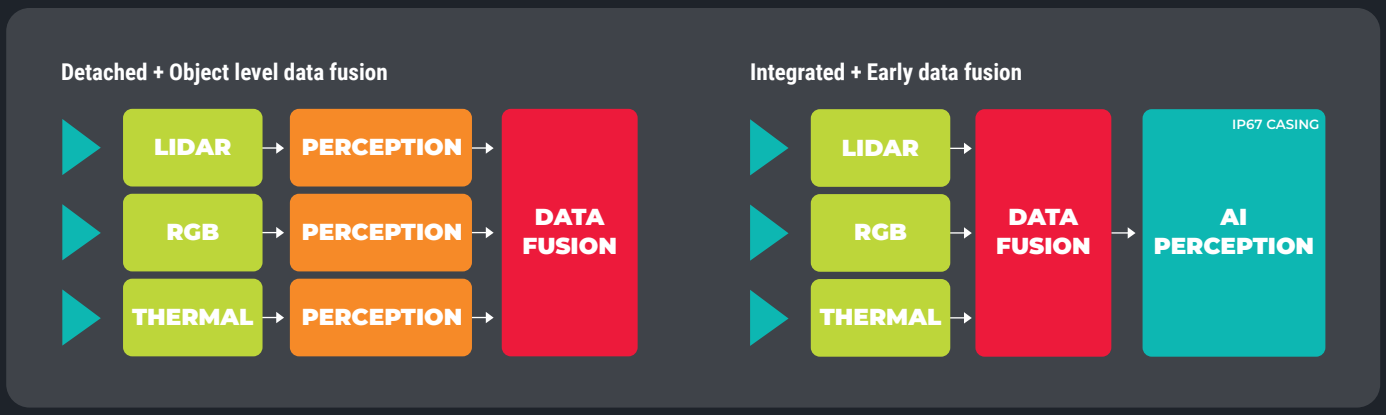
CONGRUENT DATA FUSION

L3CAM is based on an integrated and early data fusion approach. This makes the camera combination result fully congruent and boosts performance at a later AI perception software stage.

Early data fusion overcomes issues related to the object level approach

- No parallax issues
- Safer and more reliable
- Higher robustness at the later AI stage

	DETACHED	INTEGRATED
	The cameras are placed in different locations	**Cameras are integrated into the same housing**
Mechanical alignment	Made by the user	Made in house
Calibration	Made by the user	Made in house
Software integration	Complex, made by the user	Made in house
Date fusion	Made by the user	Made in house
Misalignments	Very likely	No
Parallax error	Yes	No
Recalibrations	Yes	No
Installation cost	High	Minimum



FOR ANY KIND OF AUTONOMOUS VEHICLE

ABOUT US

At Beamagine, we are committed to the development of LIDAR and imaging systems to the highest possible industry standards. Due to the nature of our highly technological products, this encompasses the combination of high-tech expertise in optomechanics, electronics, and software, all of which requires careful prototyping and industrialization.

BEAMAGINE

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