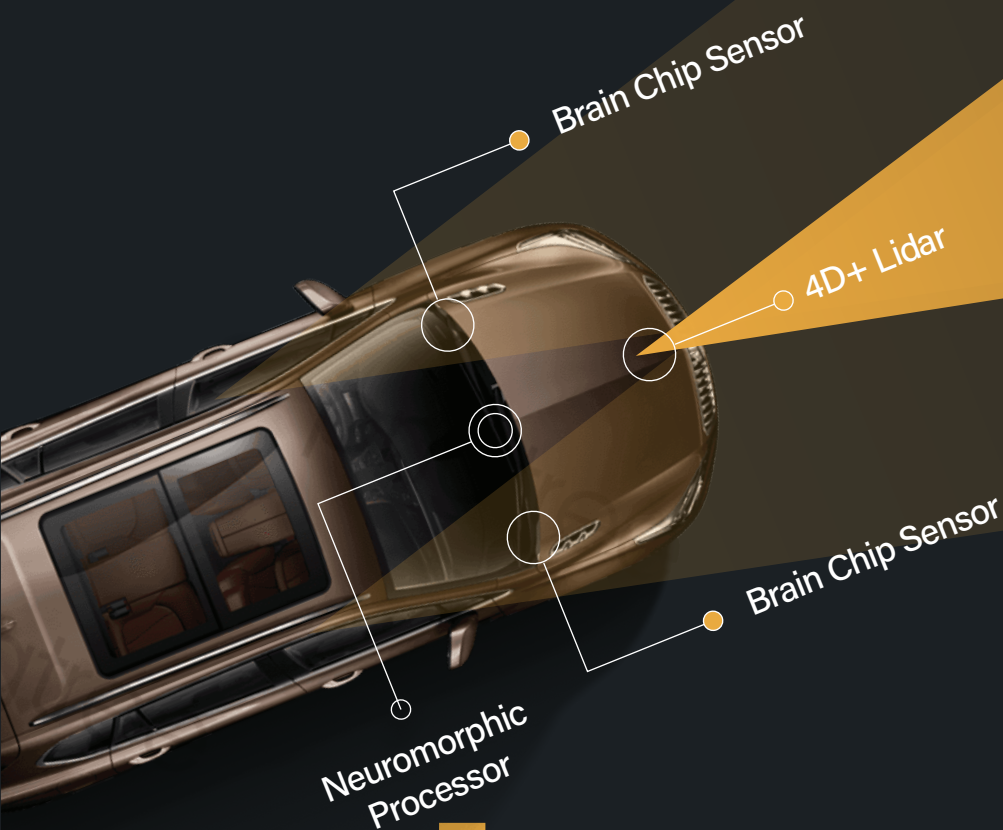




ARTH PHOTONICS

Lidar & Neuromorphic Processors for ADAS Applications



Advanced Technology

4D+ Imaging Lidar With Brain Inspired Neuro Processor



We are introducing one of the cheapest and most advanced -Solid-State Coherent Lidar, enabling ultra-high resolution 4D imaging (3D + Velocity) combined with our Event-Based Neuromorphic Vision Sensors and Neuro Signal Fusion techniques with Artificial Intelligence, for real-time object tracking that allows autonomous systems to perceive and react to the world around them accurately and efficiently

1

4D+ Coherent Solid-State Lidar



Event Readout Based sCMOS Sensor Tracking



Fast Neuromorphic Processor for Ultra Fast Data Processing



4D + Lidar & NMS Sensor Fusion



Infrared Technology
- Immune to Sun Light, Fog, Rain, Can operate 24 x7



Complete Solid-State Tech - No moving parts



Eye Safe



4D + Lidar



Low Cost for High Volume Manufacturing



Complete IP of the Chip/ASIC



Wide FOV (85 x 55 degree)



High Angular Resolution (0.05 degree)



ARTH PHOTONICS

4D+ Imaging Lidar With Brain Inspired Neuro Processor

4D+ Lidar Specifications



300m range @10% Reflectivity

- Ranging Capability enables Car with Speed beyond 150 KM/h to generate collision warning in time



85° x 55° Field of View

- Enables object detection at high curvatures



1.5 Mpts/s

- Points Rate (Multi Returns)



0.05° (H) x 0.05° (V)

- Angular Resolution Enables Pedestrian identification at top speed of 150 KM/h



15 W

- Power Consumption



W 120mm x H 120mm x D 40mm

- Dimensions



500g

- Weight



FMCW- Flash

- Technology



Intensity, Distance, Location, Velocity (4D+)

- Output Data products



20 FPS

- For High-speed moving targets Detection and Collision warning generation within 0.5 second



Optics Design



Electronics Design



Mechanical Design



Software Design



Lidar Test Bed



4D+ Imaging Lidar With Brain Inspired Neuro Processor

Neuro Sensor Specification



300m range

- Enables Car with Speed beyond 150 KM/h to generate collision warning in time



60° x 20°

- Field of View
- Enables objected detection at high curvatures



50Mevents = 50 MEvents

- Points Rate (Multi Returns)



0.05° (H) x 0.05° (V)

- Angular Resolution
- Enables Pedestrian identification at top speed of 150 KM/h



10 W

- Power Consumption



W 100mm x H 100mm x D 30mm

- Dimensions



400g

- Weight



Neuromorphic – EVS

- Technology



AER (Address Event Representation)

- Output Data products
- Data products



1000 FPS

- For High-speed moving targets Detection and Collision warning generation within 0.5 second



ASIC Design



Photonics ic Design



Semiconductor Packaging



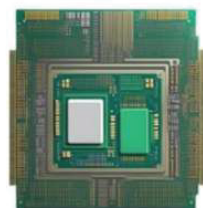
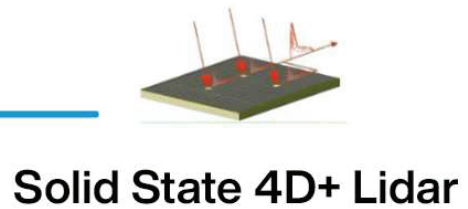
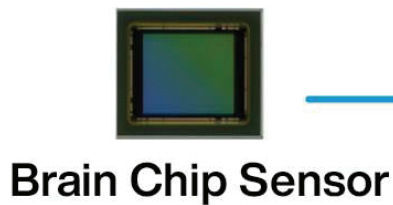
Water test and Characterization



Electro Optical Characterization

4D+ Imaging Lidar With Brain Inspired Neuro Processor

Advanced Sensor Fusion



Contact Us

Email: info@arthphotonics.co.in

www.arthphotonics.co.in



ARTH PHOTONICS