

Use case variations of Near Field Lidars

EPIC Online Meeting on LIDAR 2.1 Applications for 2021

Dr. Thorsten Beuth, Valeo Schalter und Sensoren GmbH

Valeo Lidar portfolio

2016



Valeo SCALA® Gen 1

2021



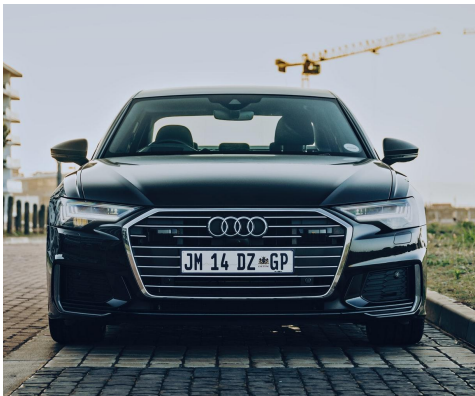
Valeo SCALA® Gen 2



Near Field Lidar

Long range
dTOF
restricted vFOV

Close range
Sun resistant AMCW
high vFoV



Malusi Msomi

| |  Privately operated Vehicle Level 2+ Level 3/4 | |  Semi Truck Level 3 Level 4 | |  Robotaxi Level 4 |  Droids Level 4 |
|-------|--|---|--|---|--|--|
| FRONT |  | |  | |  |  |
| SIDE | |  | |  |  |  |
| REAR |  | | |  |  |  |

Near Field Lidar properties



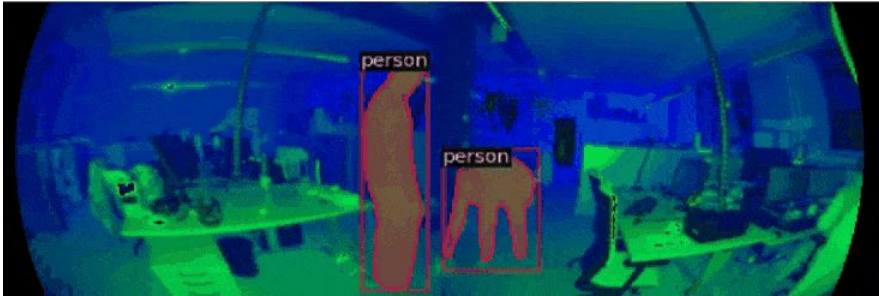
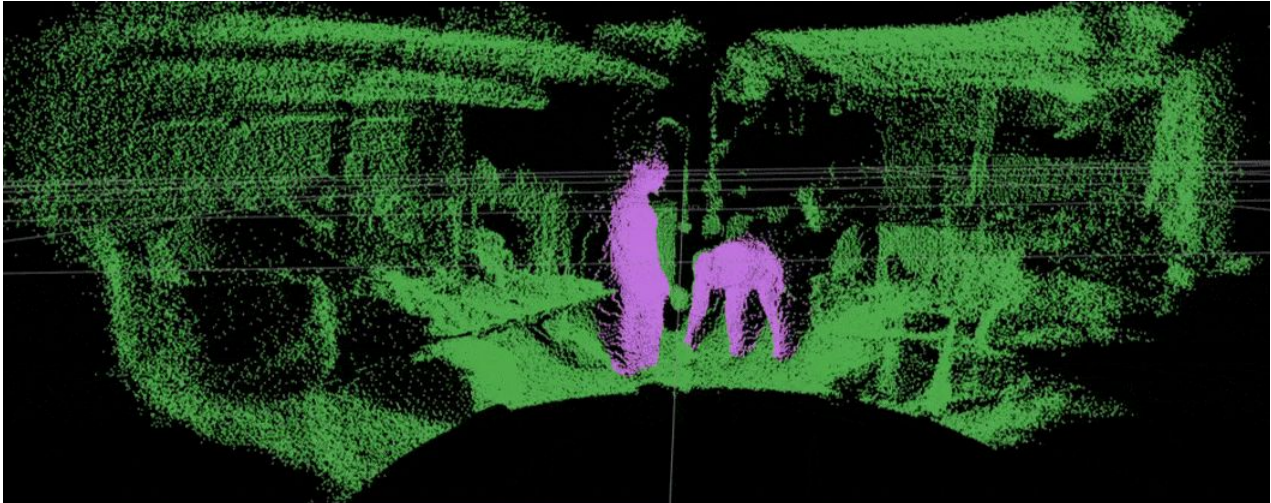
Near Field Lidar

| | |
|-------------------|----------------|
| Technology | Flash Lidar |
| Center wavelength | 940 nm |
| Range @ 10% | 9 m |
| Maximum Range | 150 m |
| Resolution | 0.4° x 0.4° |
| FPS | Up to 80 Hz |
| FOV | h 100° x v 80° |
| FOV coverage | 100% |

Excellent indoor and close outdoor surveillance

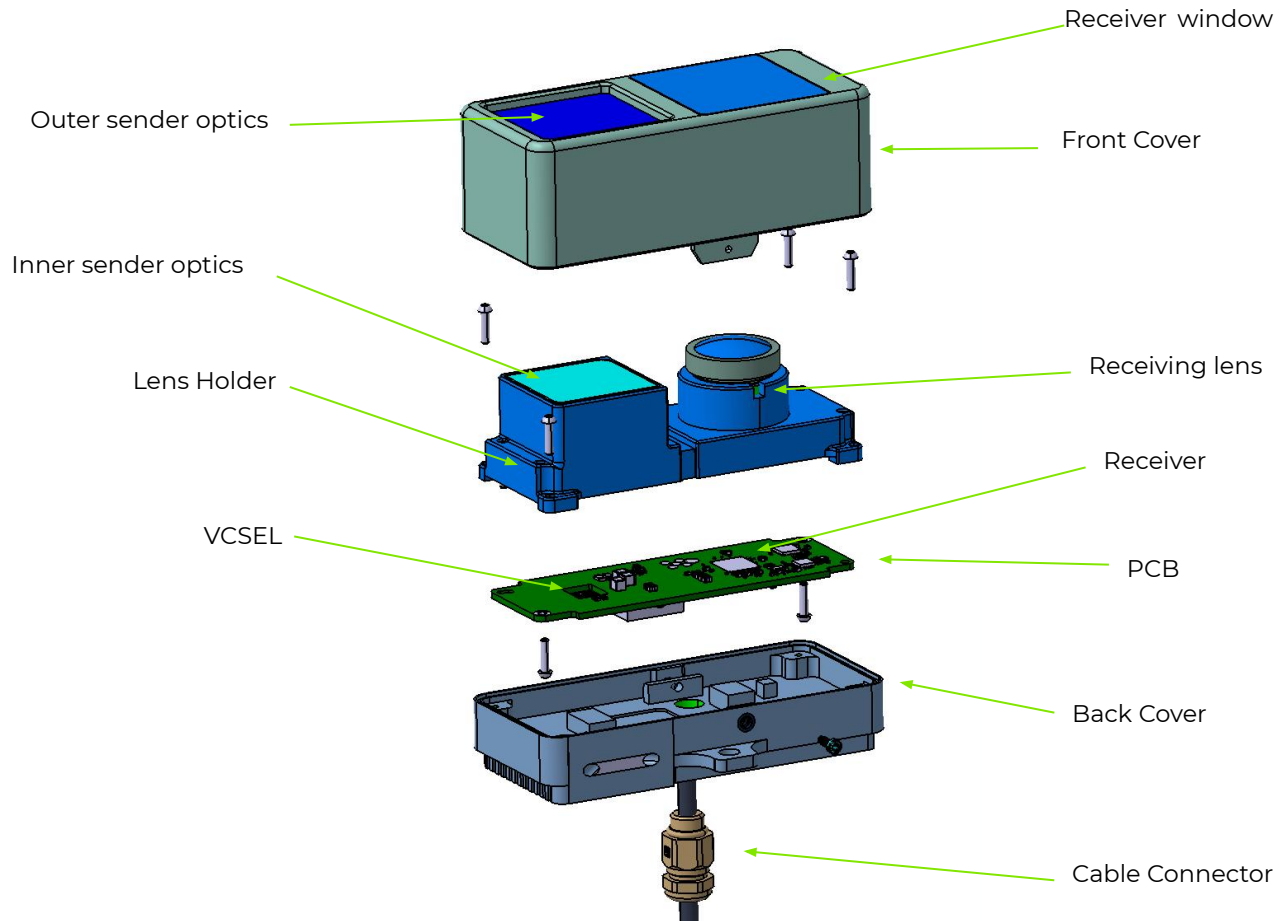
Camera-like 3d surveillance with active illumination.

Raw Data Point cloud of two sensors in fusion, unfiltered

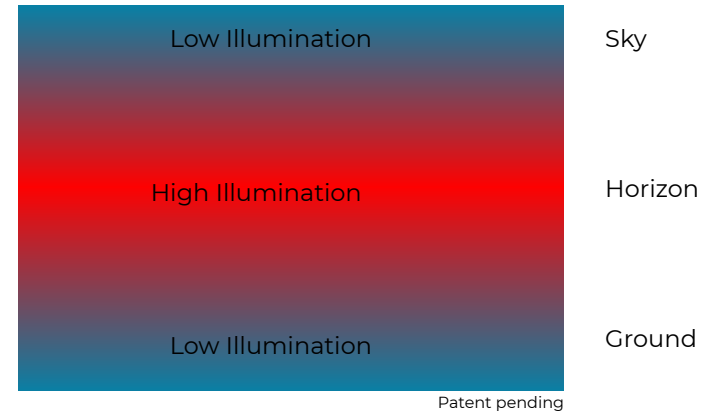


Object and pedestrian recognition

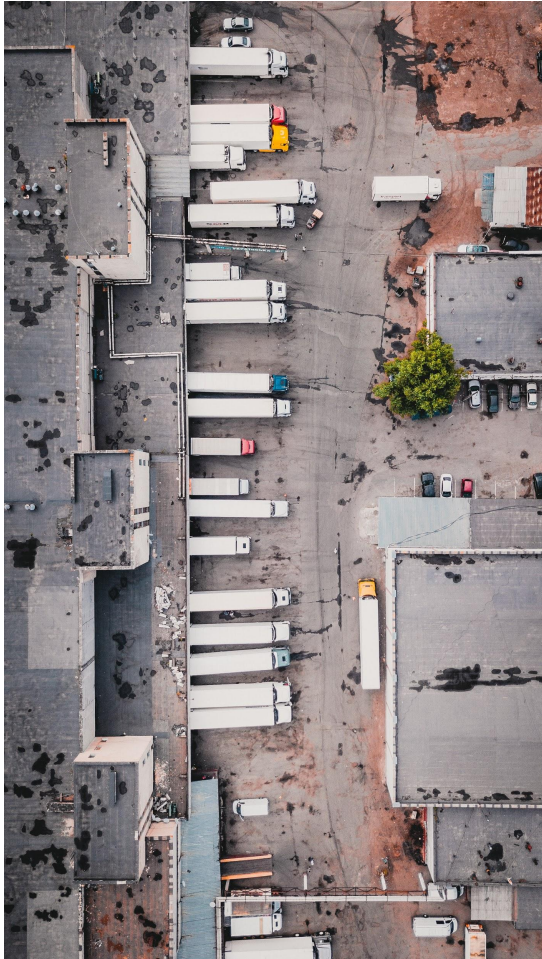
Near Field Lidar Setup



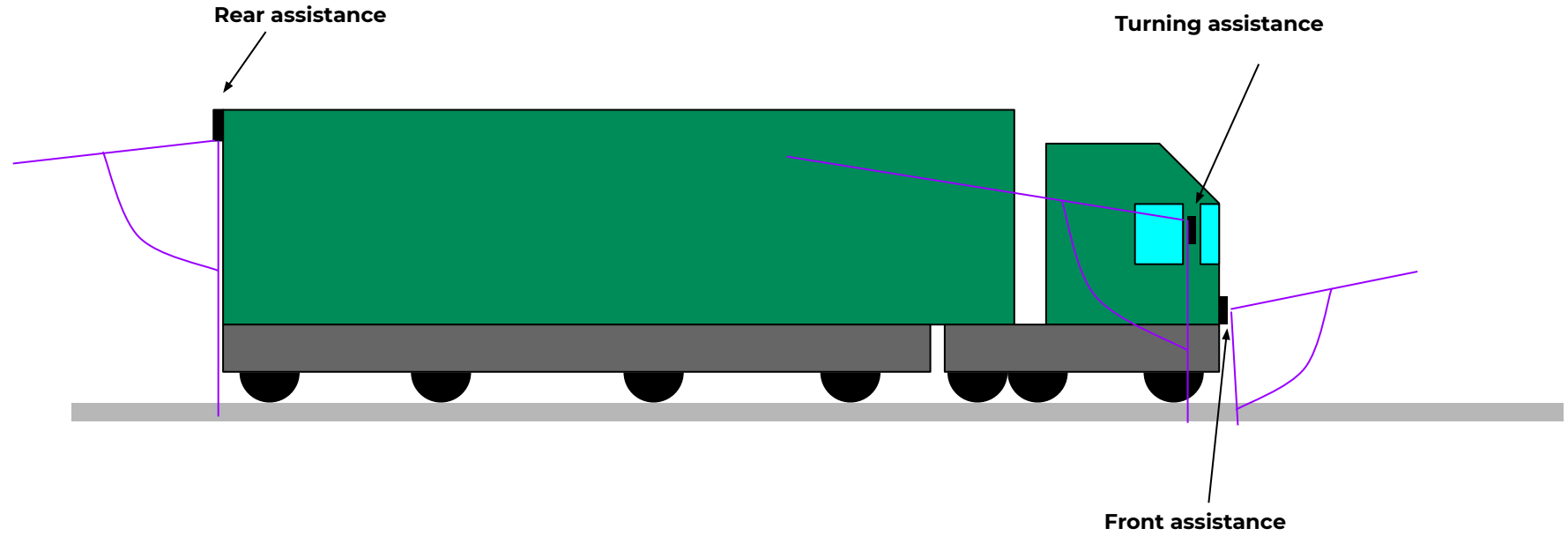
Illumination distribution for automotive purpose



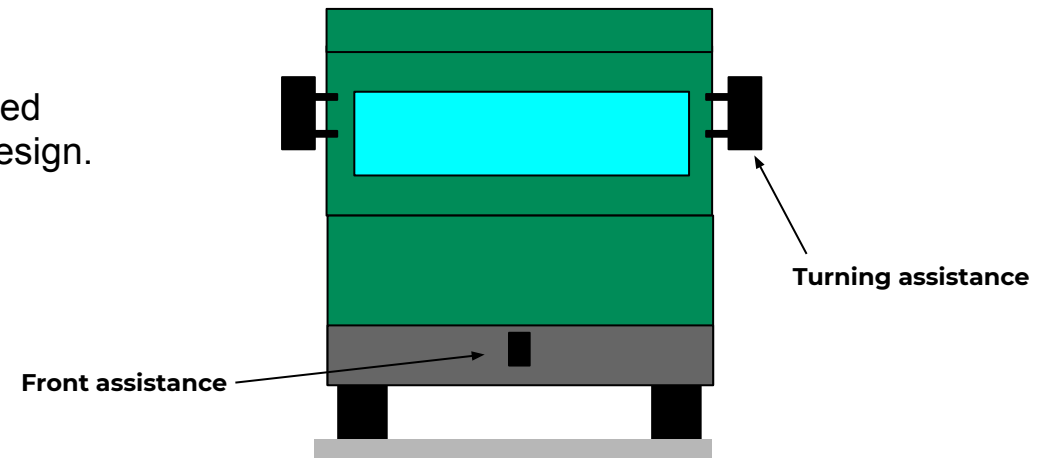
Use case: trucks



Ivan Bandura



Each of these assistants can be optimized with a custom FOV and illumination design.



What is Valeo looking for?



VCSELs

Beam shapers

Receiver optics

Receiver

Use cases

Platform

Customers

from trucks, construction, farming, last mile delivery, shuttling, surveillance ...

Plug-and-play mobility kits on sale:

cda.valeo-mobilitykits.mailbox@valeo.com

Component manufacturers

Screening of technology development
Fulfillment of system requirements

Interested?

thorsten.beuth@valeo.com

Thank you.
Any questions?