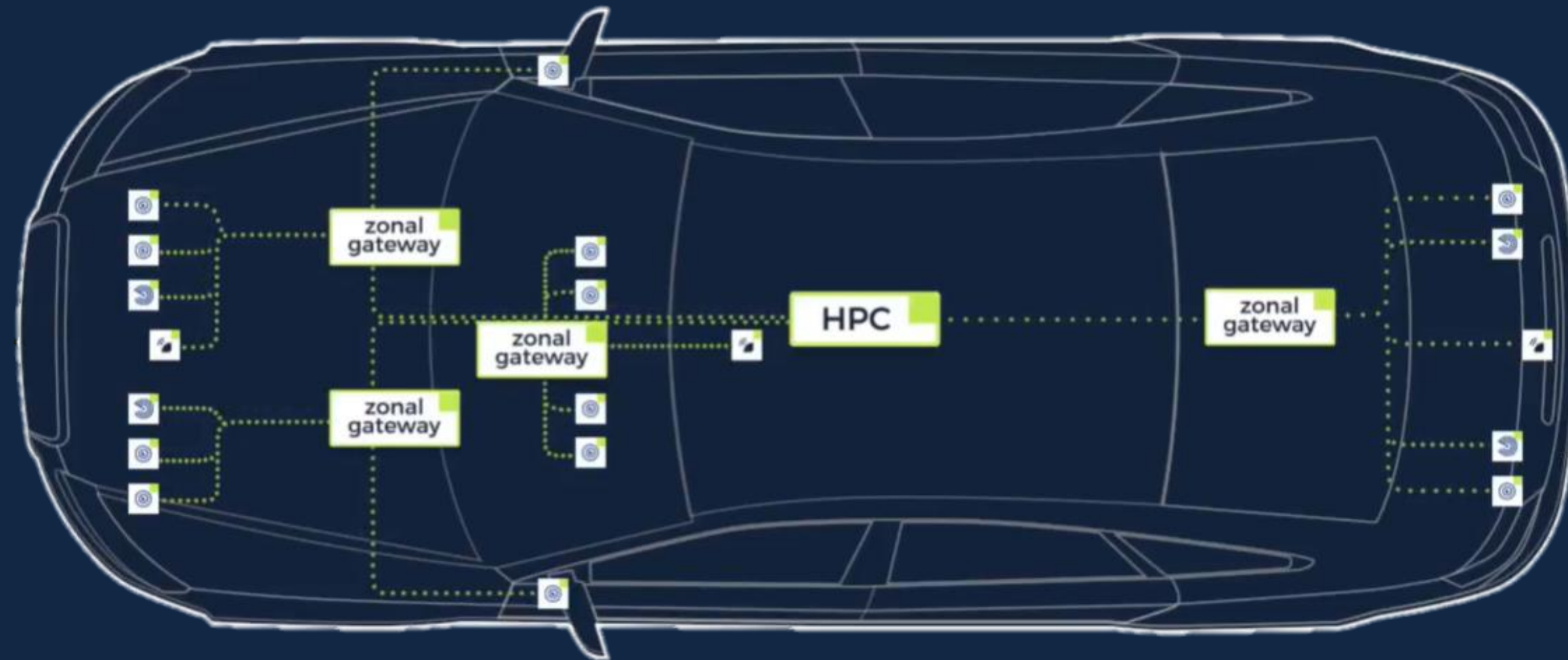


# The Road to Centralized Architectures

Scalable, future-proof in-vehicle infrastructure



## Demands on the SerDes

- Link Distance
- High Bandwidth
- Time Synchronization
- Flexible



Camera



Radar



Lidar

# Camera Trends

Camera

Radar

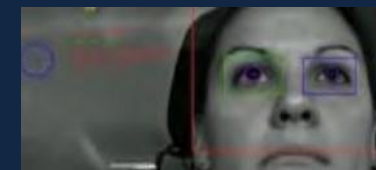
Lidar

- Higher resolutions
- Faster frame rates
- Wider dynamic range for reliable object detection
- Flawless user experience for HMI

## Demands on the SerDes

- High Bandwidth
- PHY Integration
- EMC Robustness
- Fast Boot

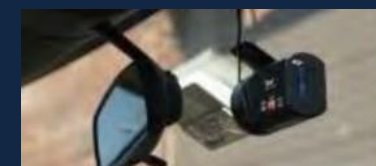
### In-Cabin



Driver Monitoring

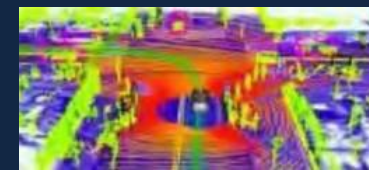


Gesture Recognition

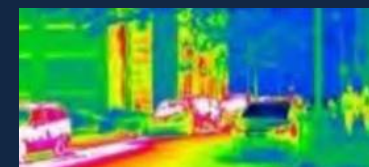


Dash/Blackbox

### ADAS



Forward ADAS

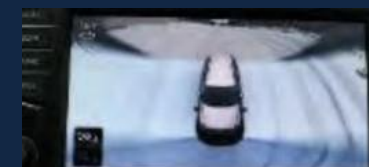


Night Vision

### Viewing



Mirror Replacement



360° Surround



Rearview/Backup

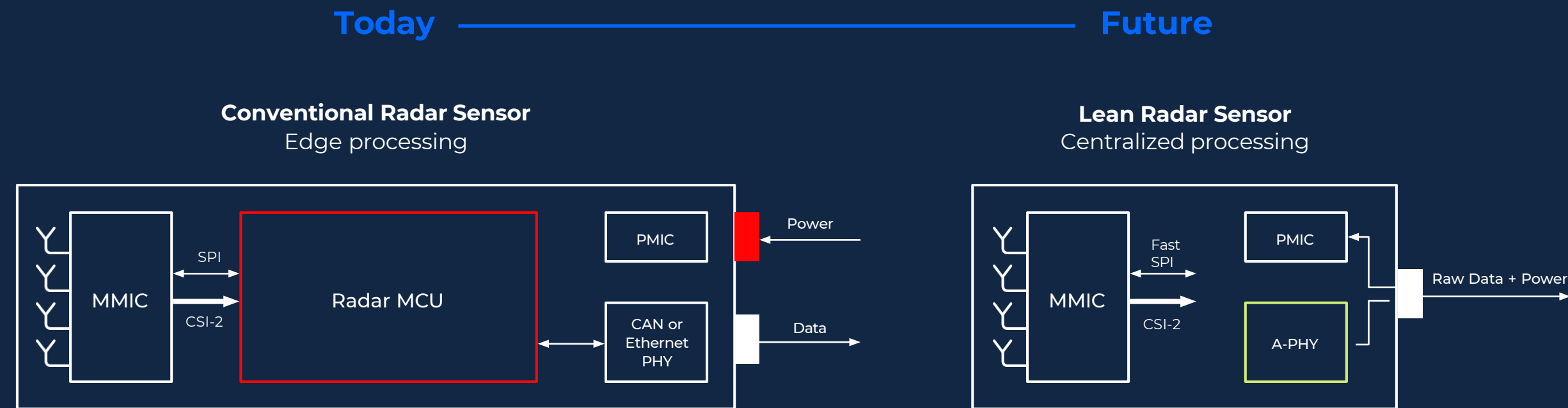


# Radar Trends

- Higher angular resolution
- Higher range resolution
- Wider field of view

## Demands on the SerDes

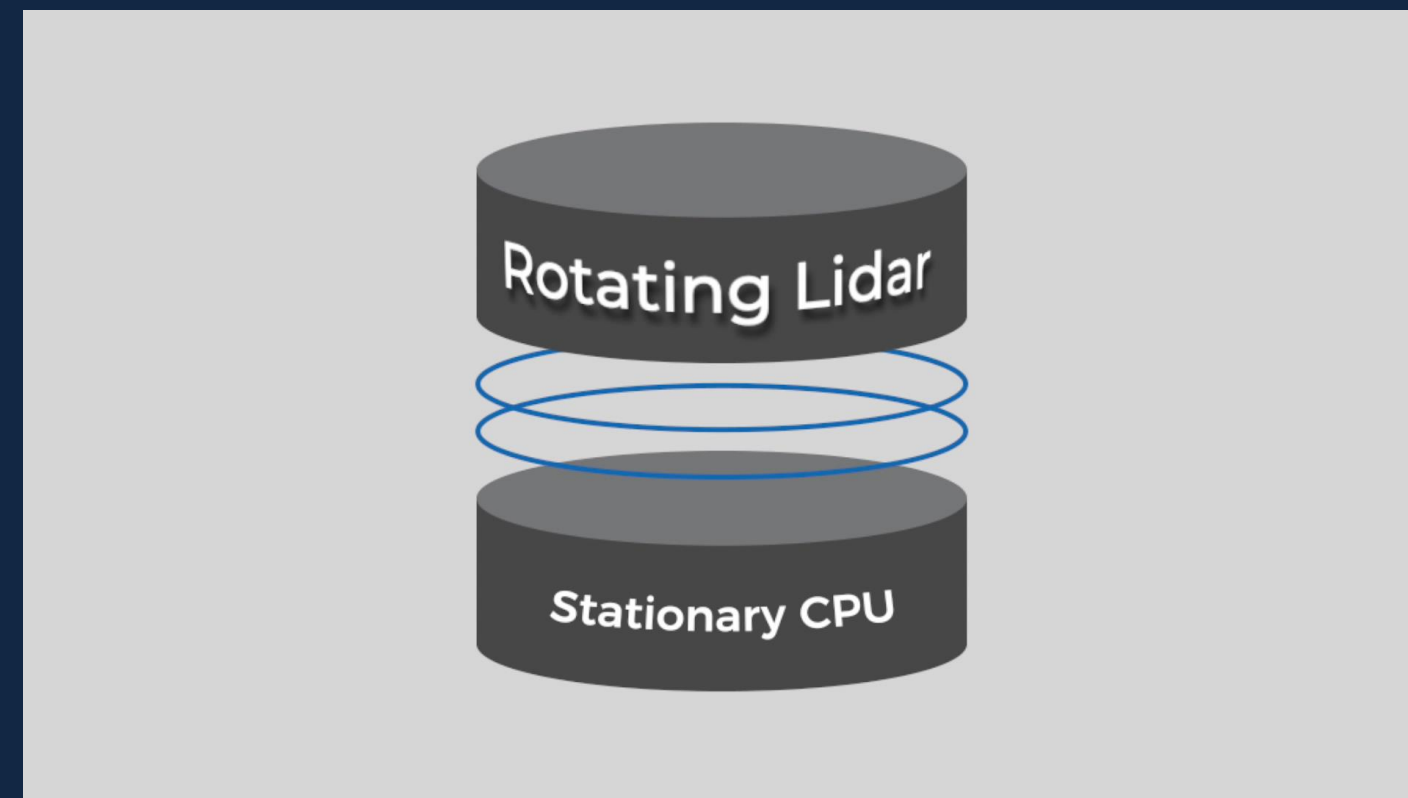
- High Bandwidth
- UTP Cabling
- Fast SPI Control





# Lidar Trends

- Constantly changing noise profiles
- High resolution imaging
- Higher point cloud density
- Fast scan speed



## Demands on the SerDes

- Fast SPI Controls
- Adaptive Noise Cancellation
- PHY-Level Link Recovery