AUTONET2030 PERCEPTION: INTEGRATING 360° MULTI-SENSOR DATA

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Final Event
AstaZero, Sandhult, Sweden
Environmental Perception

Sensor Layer
- GNSS
- Vehicle Sensors
- V2X
- ...

Perception Layer
- Environmental Model

Function Layer
- HMI
- Convoy Controller
- Trajectory Generator

Local Dynamic Map

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Abstraction, Quality
Challenges

1. Multi-Vehicle / Multi-Sensor Integration
2. 360 Degree Perception with Communication
3. Moving from Prototyping to Embedded
Highway Use Cases - Vehicles

At least three vehicles...
Vehicle Platforms
Sensors
Configurable Perception

Sensors:
- Front radars
- Corner radars
- Front lidar
- Mono camera
- Stereo camera
- Surround view camera
- V2V communication
- GPS, INS

Simulation:
- Webots

vADASdeveloper

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Highway Use Cases – Perception

- Following,
- Manoeuvre decision
- Coordination
Data Fusion Components

Multiple object tracking  Free space estimation  Localization and positioning

V2X
From Prototyping to Embedded

Prototyping PC

Embedded Unit
From Prototyping to Embedded
Outcome and Results

1. A modular perception system that can be configured to different vehicle platforms
2. A state-of-the-art perception which is extended with fusion of V2V information
3. Implementation compatible to embedded environment running on “central brain” unit
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3. Implementation compatible to embedded environment running on “central brain” unit

Get in touch upstairs at the demonstration area
THANK YOU!
ANY QUESTIONS?

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