Car-as-a-sensor: cooperative perception and learning for automated driving

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How reliable are ADAS?
Current and future use of sensor data
“Crowd sensing” and the sheer volume of data provide a far more precise picture of the road network.
Information generated by an ageing model is essential for automated driving vehicles

Source: ABC 10 News www.10news.com, 24.03.2015
Data Mining ensures reliable map data

- Accurate
- Consistent
- Up-to-date

Road barrier machine movement (8 mph)
ADAS benefit from cloud map data
Overall architecture as basis

Cloud
- Aggregates Data
- Creates new maps
- Creates and manages Map DB identifiers

Head Unit
- Local identifiers → Map DB identifiers
- Map DB identifiers → absolute locations

ECU
- Electronic Horizon, e.g. ADASIS
- Local and temporary location identifiers

Sensor
- Radar
- Laser
- Camera
- Maps
- others
Self-learning systems: Higher degree of automation of the data processing system enables to exploit the full potential of sensor data
Cloud map enrichment is a strong contributor for automated driving

- Cloud map enriched data benefits from ADAS
- Cloud map enriched data contributes to ADAS
- Cloud map enrichment raises the quality of ADAS and supports driver’s acceptance and trust in technology, ADAS and automated driving
Thank you!
Questions?

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