



VOLKSWAGEN

AKTIENGESELLSCHAFT

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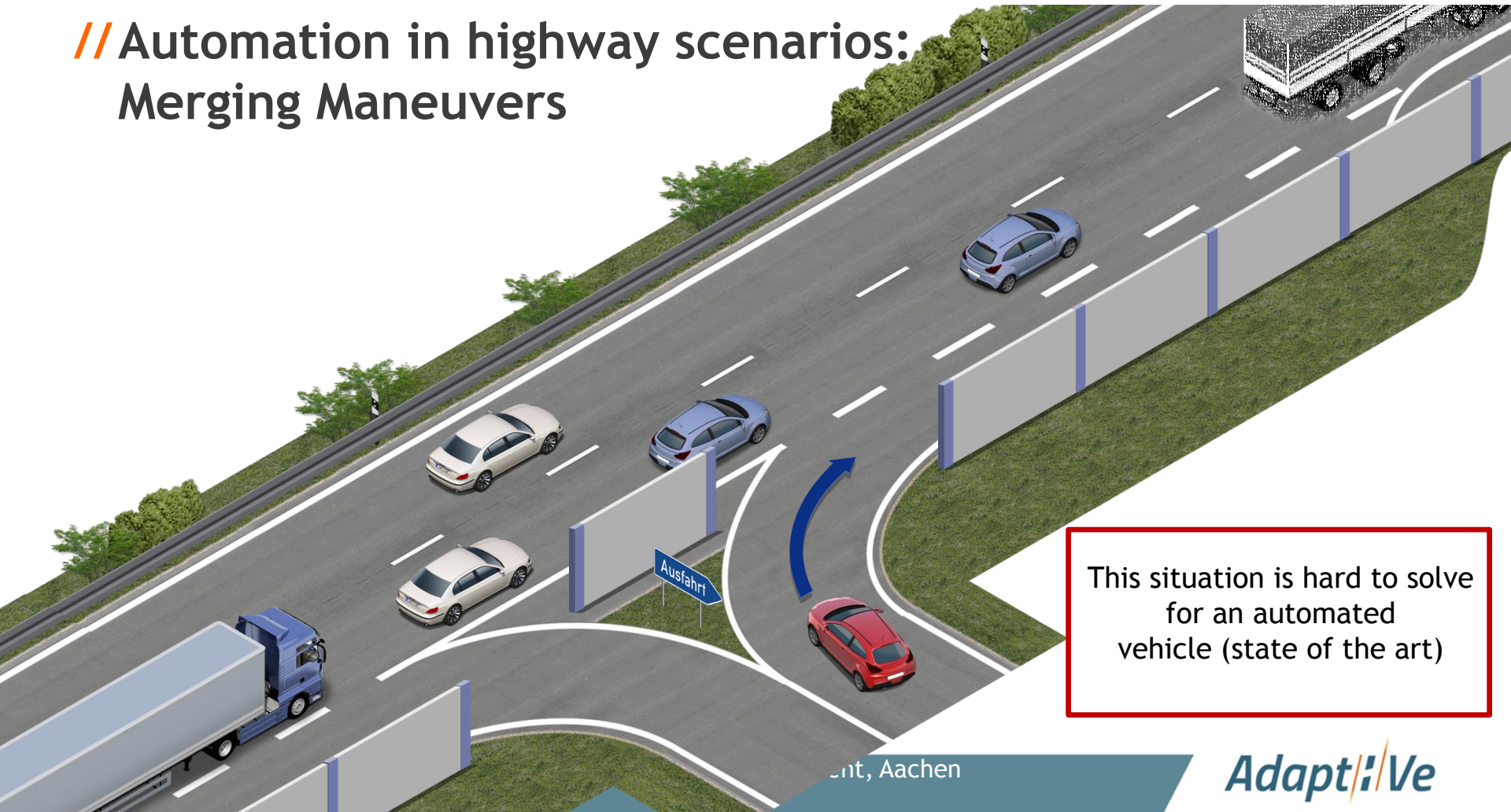
AdaptiVe

*Automated Driving Applications and
Technologies for Intelligent Vehicles*

*V2X Communication
in Highway Scenarios
Cooperative Merging Service*

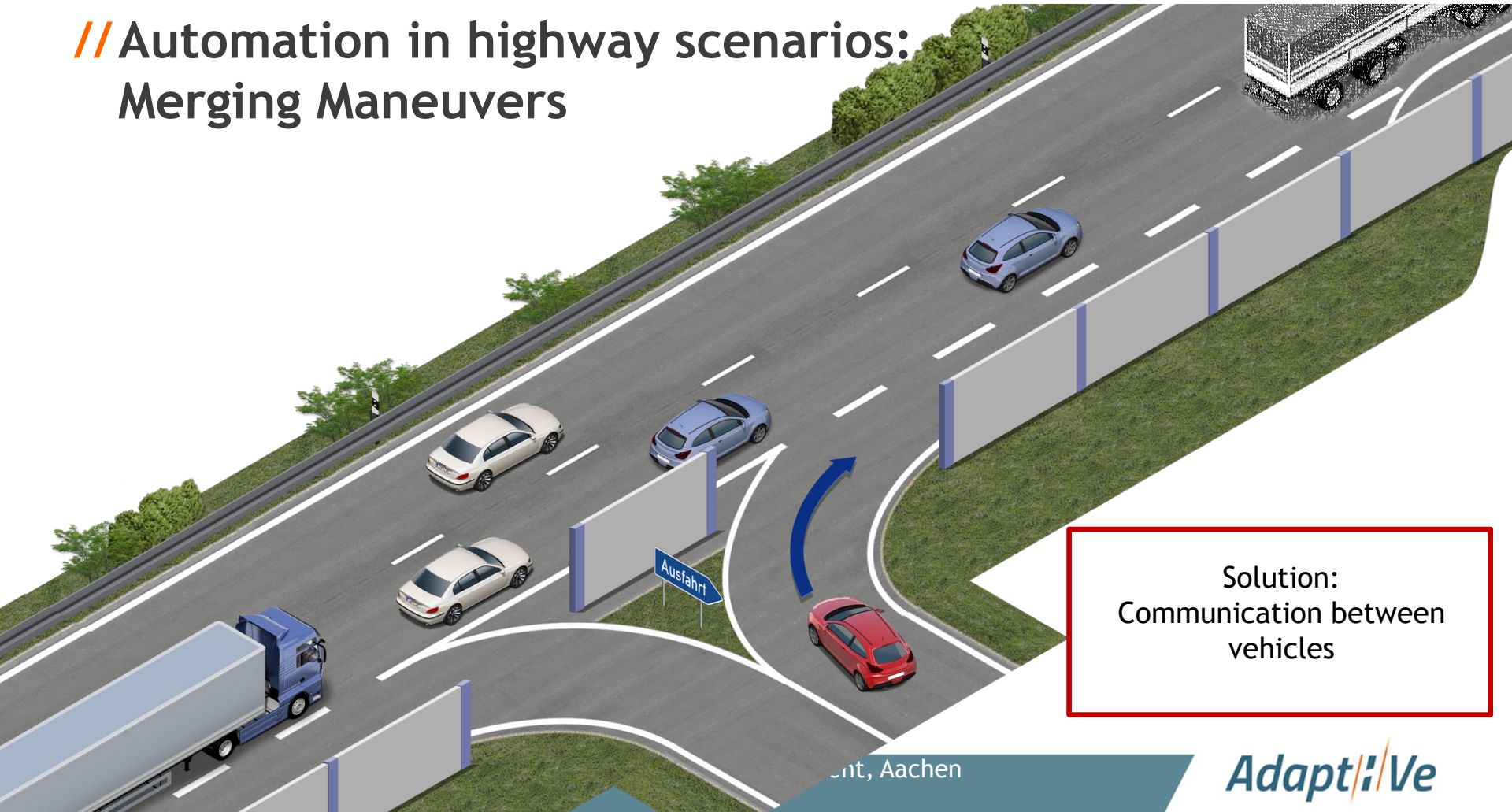


// Automation in highway scenarios: Merging Maneuvers



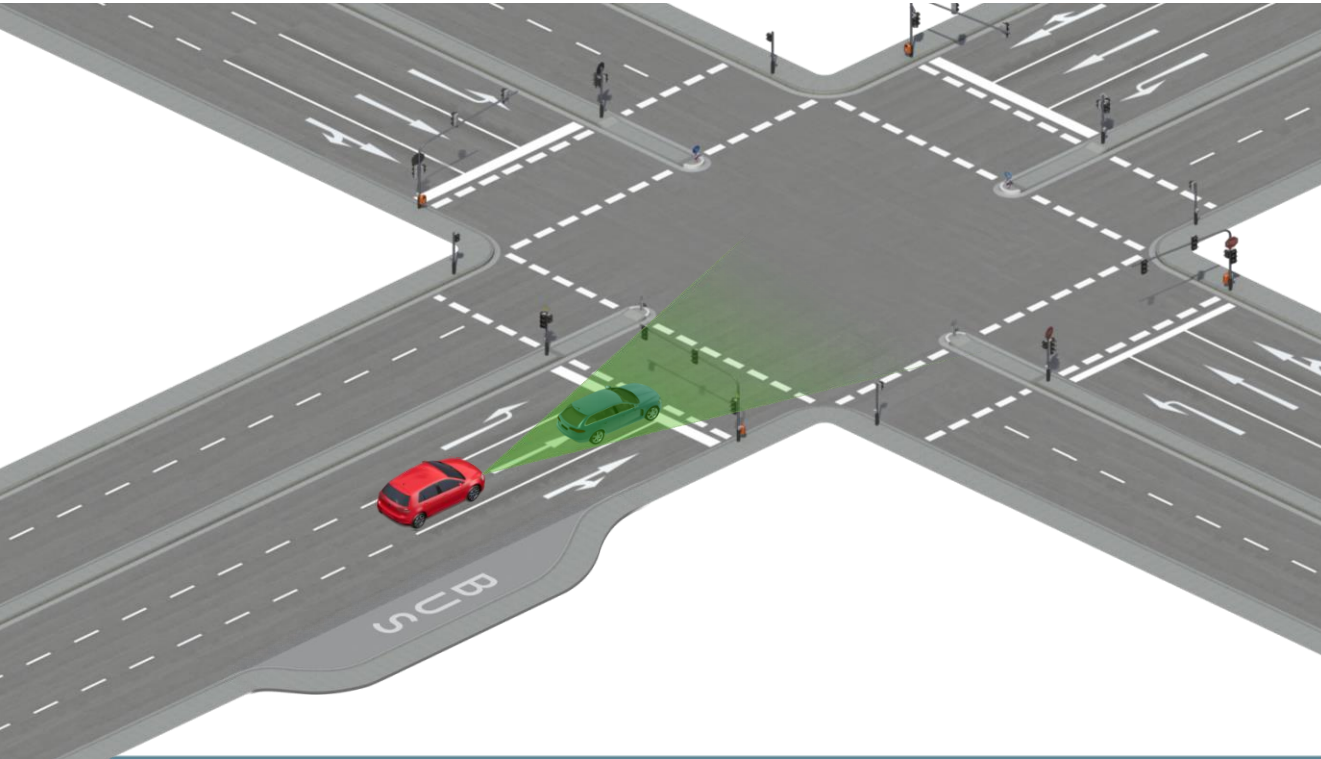
This situation is hard to solve for an automated vehicle (state of the art)

// Automation in highway scenarios: Merging Maneuvers



Solution:
Communication between
vehicles

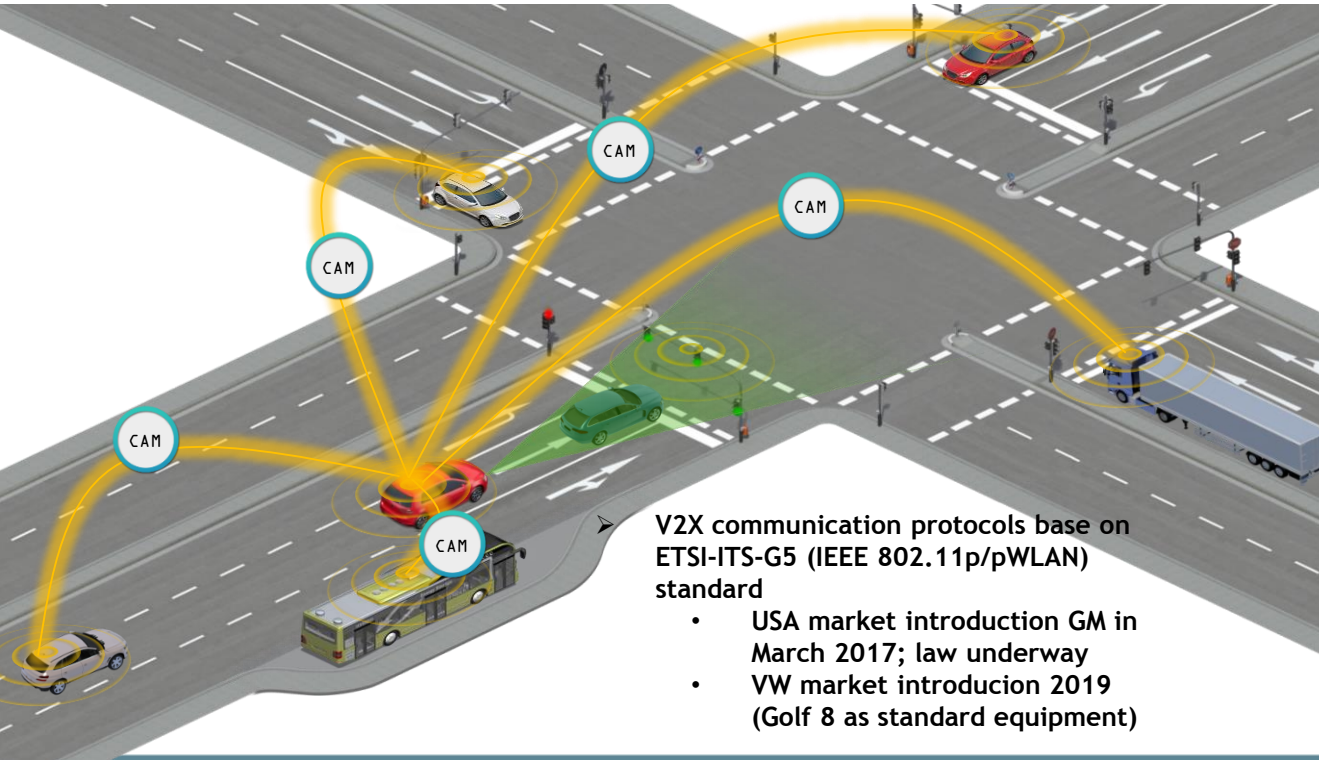
// V2X Communication in AdaptIVe Evolution and Benefit



Onboard Perception
Sensors

Red host-vehicle knows
about objects detected
by its local perception
sensors

// V2X Communication in Adaptive Evolution and Benefit



Local Perception Sensors



V2X Communication

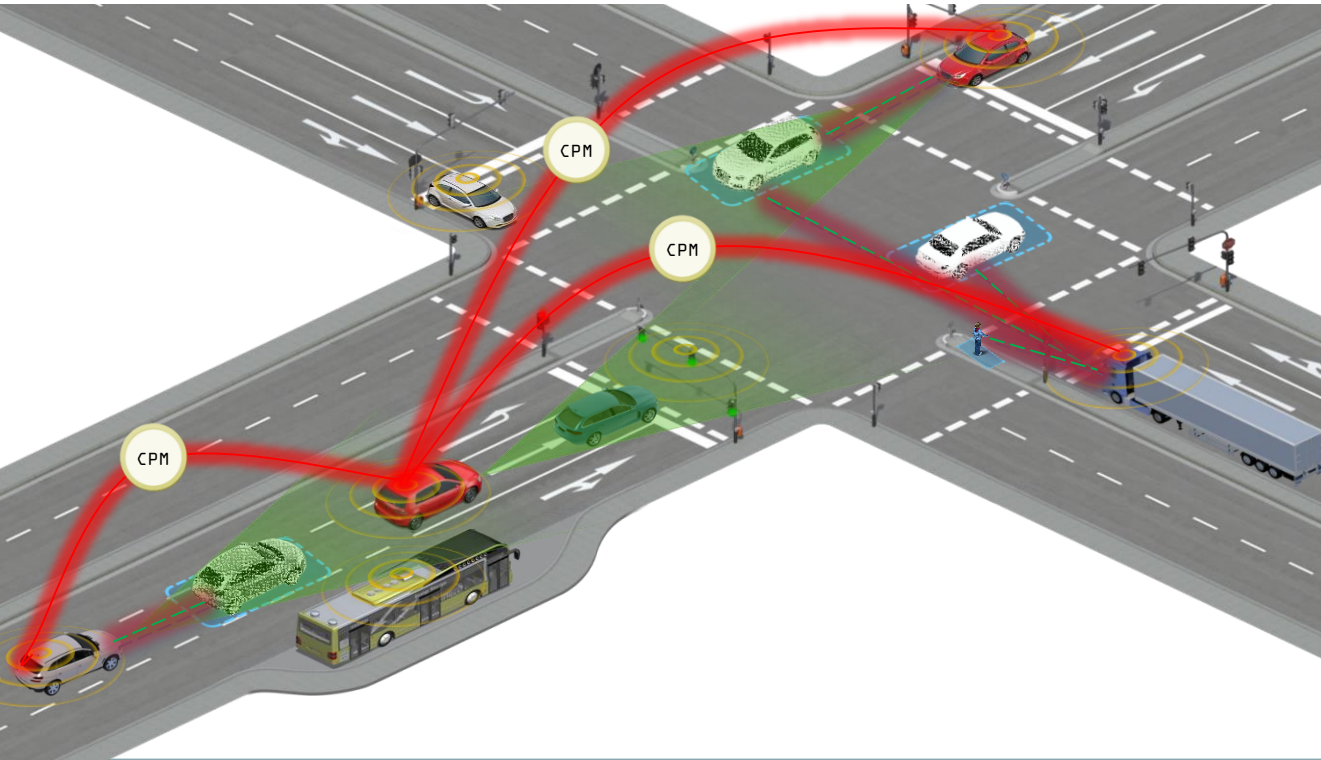
Red host-vehicle gains knowledge about other V2X vehicles within the communication range

V2X vehicles broadcast Cooperative Awareness Messages (CAMs)

Additional eventbased V2X messages:

- Decentralized Environmental Notification Messages (DENMs)
- Signal Phase and Timing (SPaT)

// V2X Communication in AdaptIVe Evolution and Benefit



Local Perception Sensors



V2X Communication



Collective Perception

V2X vehicles with local perception sensors broadcast their locally perceived objects

V2X vehicles broadcast Collective Perception Messages (CPMs)

WorkItem CPM ETSI TS 103 324



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Thank you.

