production vehicles with C-ITS on board even before 2019.

V2X Application Roadmap

- Status Data
  - Emergency Vehicle W
  - Dangerous Situation W
  - Stationary Vehicle W
  - Traffic-Jam W
  - Pre-/Post-Crash W
  - Hazardous Location W
  - Adverse Weather W
  - Roadworks W 1.0

- Sensor Data
  - GLOSA 1.0
  - In-Vehicle Information
  - Roadworks W 2.0
  - Connected ACC
  - Overtaking W
  - Intersection Collision W
  - ...

- Intention Data
  - GLOSA 2.0
  - Roadworks Assistance
  - Lane-Merge Assistance
  - Area Reservation
  - Cooperative ACC
  - VRU Warning
  - Platooning
  - ...

- Coordination Data
  - Cooperative Merging
  - Overtaking Assistance
  - Intersection Assistance
  - Dynamic Platooning
  - VRU Assistance
  - ...

- 100% Installation of new vehicle sales
- 100% Installation of new vehicle platforms
- 10 year ramp-up to 100% installation of new vehicles
- Installation on select new vehicle type of luxury and upper class
Kapsch TrafficCom
Automotive V2X
In the future...

- Vehicles are Greener, Safer and Connected
- Vehicles are autonomous
- There are fewer vehicles but more vehicle miles are travelled
- Mobility is a part of an IT system

Automotive Trends
Kapsch Vision for **Cooperative Mobility**

**Vision**
We Enable Exceptional User Experiences Through Intelligent Mobility Solutions.

**Mission**
We Make Mobility Solutions Intelligent to Enable Users to Arrive at Their Destination Comfortably. On Time. Safely. Efficiently. With Minimal Environmental Impact.
Kapsch Automotive Our Offer

**Mobility Solutions**
- Fully integrated end-to-end solutions for vehicle to vehicle and vehicle to infrastructure communication (V2V and V2I)
- Integration of V2X and Traffic Management Systems

**Traffic Safety**
- V2X Sensor (ECU) for ADAS cluster
- V2X communication stack
- RF Integration
- Standard and regulation compliance

**Traffic Efficiency**
- V2X ECU for platooning, mobility, autonomous vehicle and payment applications
- RF Integration
- Standard and regulation compliance
# V2X Evaluation Kit EVK-3300

## Value Proposition
- A flexible platform for evaluation, development and integration of V2X solutions in vehicles.
- Supports activities to find the best trade off between cost, complexity and performance.
- Runs in modes of operation that represents different product realizations.

## Key Features
- Interface to host device via CAN/USB/Ethernet (UTP)
- Modular concept that allows different add-on boards for key functionality e.g. evaluation of different 802.11p radio chips
- 802.11p Antenna diversity and multiple radio support options
- Easy configuration and monitoring via Graphical User Interface
- Support for both ETSI ITS G5 and IEEE WAVE Standards Suite
V2X Communication Stack

Value Proposition
- V2X Communication Stack supporting US and European standards
- Seamless switch between US and European mode
- Full lifetime operational support level 1-3 packages available (optional)

Key Features
- Structured according to OSI network communication layer model, with APIs supporting interfacing to Network Layer, Transport Layer and Facilities Layer
- Compliant with ETSI ITS G5 and IEEE WAVE, SAE J2735, ISO C-ITS and profiling by C2C CC
- Security classification according to common criteria level EAL 4+
- IEEE 1609.2 based security for signing and verification
V2X ECU VCM-3320

**Value Proposition**
- Optimized V2X ECU for mass production and integration in Traffic Safety and Traffic Efficiency applications
- Unobtrusive installation and integration in vehicle
- Full compliance with functional safety, cyber security, standardization and regulation requirements

**Key Features**
- Interface to host device via CAN/USB/Ethernet (UTP)
- Integrated V2X Communication Stack with support for both ETSI ITS G5 and IEEE WAVE Standards Suite
- ISO 26262 functional safety compliance
- Security classification according to common criteria level EAL 4+
- Hardware based IEEE 1609.2 security for signing and verification
Please note:
The contents of this presentation are the intellectual property of Kapsch AG. All rights reserved regarding the copying, duplication, modification, usage, publication, or passing on of the contents to third parties. The aforementioned actions are expressly forbidden without the prior written approval of Kapsch AG. Product and company names may be the registered brand names or proprietary trademarks of third parties. These are used in this presentation solely for illustration purposes and to the advantage of the lawful owner, with no intent to infringe their property rights.