Global Impact Around 2025

100M units
Connected Vehicles

1~10EB/mo.
Communication

Source: AECC estimation based on PwC and SBD
Domains for Connected Vehicles

- **ITS**
  - Local Danger Warning
  - Collision Avoidance
  - Cooperative Adaptive Cruise Control

- **IVI**
  - Navigation
  - Audio/TV
  - Phone, Internet

- **Big Data**
  - High Definition Map
  - Intelligent Driving Support
  - Vehicle Quality Control
  - Location Based Services
Key Issues and Potential Solutions

The future use cases of connected car

Research and Development
- CAN data
- ECU data
- Driver’s condition

Advanced Driving Assistance
- Intelligent driving support
- High-resolution map
- Cruise assist

Traffic
- Traffic control
- Traffic info.
- Mobility sharing
- Multimodal

Mobility Services

Challenge*: Processing enormous data

*Use-case realization

Distributed high-speed big data processing by utilizing edge computing

Video/Still Image Camera
ECU/Sensor
Map
Connected car
Connected car
Connected car

Distributed Network and Computing

Access network

Automotive datacenter

Cloud

Network

Intelligent driving

V2C Cruise assist

Edge server

High-definition map
Automotive Edge Computing Consortium

Cross-industry ecosystem for next generation connected cars and mobility services

Launched in January 2018 as a NPO in the U.S.
AECC Principal Concept

Topology Aware Distributed Clouds Architecture

In AECC, it is called “Edge Computing.”

Different edge locations w/ initial focus on network infrastructure

AECC’s initial target
AECC Focus

Network/Computing for Automotive BIG DATA
To accommodate the automotive big data in a smart and efficient fashion.

Global and Sustainable Ecosystem
The next generation connected cars will require advanced systems in order to evolve.

Initial Focus on Vehicle to Cloud
The context is the high volume Vehicle to Cloud services and not the classical V2X/C-ITS services with an initial focus on automotive vehicles.

Leading Market Actors Joint Forces
Toyota, Toyota ITC, Ericsson, Intel, Denso, NTT DOCOMO, KDDI, NTT were initial members and more companies now, and more in the pipe to join.
Recent Activities

• All Member Meetings (AMM) held 3 times in a year.
  ▪ 23 companies participated at the last AMM in San Jose.

• Regular on-line/f2f discussions in the 2 working groups
  ▪ WG1: Use cases & requirements, WG2: Technical solutions

• Giving external lectures, panel discussions
AECC Workflow

RELEVANT COMMUNITIES
- Cellular
- Wireless LAN
- Internet Standards
- OS/Platform OSS

TARGETED ACTIVITIES
- Marketing Ecosystem (WG1)
- Use cases and Requirements White Paper (WG1)
- Solutions Functional Architecture (WG2)

Evaluation Next Step
Liaison / contribution to related communities

White Papers
WG1: Use-cases

- Intelligent driving
- High definition map
- V2Cloud Cruise Assist
- Mobility Services
- Finance & Insurance

1EB~10EB/Month Network Traffic

100M~ Connected Cars
WG2: Key Issues

- Edge Data Offloading
- Local Data
- V2C2V
- Intelligent driving
- High-definition map
- Distributed Computing
- Localized Network
- MSP Server Selection
- Vehicle System Reachability

Connected Car

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Thank you for your attention

Let’s Get Connected!
Panel Discussion and Q & A

Kenichi Murata
Toyota Motor Corporation and Chairman of AECC
General Manager – Connected Strategy

Christer Boberg
Ericsson
Director of IoT & Cloud Technology Strategies

Dr. Ryutaro Kawamura
NTT
Senior Vice President and Director

Joel Obstfeld
Cisco
Distinguished Engineer, Chief Technical and Architects Office

Said Tabet
Dell EMC
Chief Architect Emerging Technology & Ecosystems Technology Lead, IoT & AI Strategy

February 28, 2019 @ MWC2019
AECC Website

Visit our Web page and get more information!

https://aecc.org

Download our White Paper

Sign-up Process:
1. Inquiry
2. Approval
3. Membership package
4. Membership Agreement (MA) signed
5. MA countersigned (by AECC)
6. Welcome email with invoice
7. Payment