UPDATE REPORT:
ATSC 3.0 Planning Team for Automotive Applications
June 2020

The mission of ATSC's Planning Team 5 on Automotive Applications (PT5) is to assess opportunities and challenges related to delivery of ATSC 3.0 services (including video, audio and other data) to vehicles.

Following is a summary of the planning team's update report presented to the ATSC Board of Directors by PT5 Chairman Dr. Jong Kim (Senior Vice President, LG Electronics, and President, Zenith R&D Lab).

Significant Progress

Since December 2018, PT5 has been considering technical and market requirements for both B2B and B2C applications in the automotive vertical, including robust broadcast updates for telematics and navigation, sensors for autonomous vehicles, and in-car infotainment systems.

Considering the evolving media landscape particularly related to automotive applications, PT5 also has been evaluating ATSC 3.0's capabilities versus those of other IP-based wireless technologies, such as 5G.

All told, 44 companies are involved in PT5. The group has achieved its initial goal to introduce ATSC 3.0's capabilities to major automakers and rental car fleets, especially mobile video and data delivery using broadcast television transmission infrastructure.

Multiple PT5 touchpoints with automotive OEMs and fleet owners over the past year included a well-attended workshop in Detroit (co-hosted by ATSC, Pearl TV and WXYZ-TV), presentations to members of the Intelligent Transportation Systems of America and a seminar at the University of Michigan.

While ATSC 3.0 field trials with leading automakers planned for spring 2020 were postponed due to the coronavirus pandemic, efforts are under way to reschedule for later this year.

ATSC 3.0 Automotive Use Cases

Among major accomplishments to date, PT5 has been defining and exploring various ATSC 3.0 automotive use cases:

Data Delivery
- Infotainment data delivery (video, audio, maps, etc.)
- Software and firmware updates
- Advanced emergency information

Network Redundancy
- Rural coverage
- Indoor penetration (garages)
- Zero network congestion (i.e., no reduction in capacity even during emergencies or peak usage times)
- Highly resilient infrastructure (e.g., during emergencies)

GPS Replacement
- Geometry of High Power High Tower (HPHT) television infrastructure can provide location
- More study is needed

Precision Time Source
- Inherent in the ATSC 3.0 Physical Layer
- More study is needed

With an eye toward a future of autonomous fleets, smart cities and other vehicular-related B2B applications, PT5 also has been exploring ATSC 3.0 use cases that may apply to intelligent transportation systems. They include software and firmware updates for "smart" road equipment and sensors; maps, telematics and emergency information for freight; and emergency information for first- responder vehicles.

Paving the Way

PT5's work shows how ATSC 3.0 paves the way for a broad range of automotive applications that will leverage the robust mobile reception and one-to-many architecture of next-gen broadcasting for data and video services. With PT5 having successfully completed its initial mission to jumpstart the marketplace, PT5 members are transitioning to work on automotive field trials and implementation planning.