NHTSA adds clarity to the future of V2X, but many challenges still lie ahead

NHTSA's recent announcement that it will push ahead with a Vehicle-to-X (V2X) mandate looks set to finally kick-start the deployment of collaborative in-car safety systems in the USA.

The automotive industry must now address a range of other challenges and uncertainties before drivers can reap the benefits of V2X.
How each part of the V2X value chain fits together...

The Ecosystem for V2X is still evolving and growing. By simplifying and clarifying complex technologies, SBD hopes to be able to shift the discussion towards many of the major strategic uncertainties that the automotive industry still faces, such as:

- **How will DSRC-based V2X be bundled into cars by OEMs?**

  Day 1 use cases do not require a V2X box that is deeply integrated with many other in-car systems. However, without integration the V2X box effectively becomes a pure cost that OEMs will find difficult to absorb. So the rush will now be on to find innovative ways of integrating V2X functionality with other value-adding and brand-differentiating features.

- **How will user expectations be managed as V2X functionality and HMI changes over time?**

  There has been little discussion within the industry how drivers will react to a system that (unlike ADAS sensors) provides intermittent support in the early days of deployment. V2X systems have the potential to shock drivers (if they have never received a warning before), confuse drivers (if they start to receive messages, but only in some places), or even frustrate drivers (if their system starts to overload them with messages).

- **What role will proprietary solutions, such as Mercedes-Benz’s Car-To-X Communication, have in the future?**

  Innovative early-market solutions based on cellular technologies have been useful to demonstrate real-world implementation of V2X. The Mercedes-Benz solution relies on sending vehicle data up to their Cloud, analysing the data in real-time and sending it back to neighboring vehicles within a certain area. However, as DSRC-based V2X becomes reality, will OEMs continue to feel the need for proprietary solutions that only work within their own customer base?

- **Where are the greatest revenue opportunities for suppliers within the V2X value chain?**

  V2X has attracted a number of new suppliers into the automotive industry. Over 50 suppliers have been involved so far in the dozens of V2X projects across EU, USA and Japan. Despite the limited revenue opportunities to date (particularly in USA and EU), many non-traditional suppliers have invested significant resources in developing and testing systems in anticipation of new business opportunities with OEMs. Which of these players is now best positioned to gain from the approaching V2X wave?

SBD’s V2X Guide helps readers understand the answers to the above and many other questions. The research has been aimed at bridging the gap between highly technical V2X specialists and the product planning teams, needed to bring these technologies to the market.
SBD’s 90-slide V2X Guide has been structured in an easy-to-digest manner. The Guide will navigate you through the complexities of V2X technologies and aid you in understanding the different scenarios faced by your company.

Research contents:
In numbers:

- 3 Regions
- 90 Slides of data
- 10 Questions faced by the industry

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Andrew heads up SBD’s Advanced Research Division and is responsible for the wide range of market and technical research that we provide to our clients. He is a leading authority in navigation and traffic information, helping vehicle manufacturers and suppliers understand the technical, business and consumer trends in Europe, China and the USA. Andrew sits on a number of international forums, including TISA, and is a notable speaker at leading ITS events around the world.

**Alain Dunoyer**, Head of Safe Car

Alain completed an MSc and a PhD in Control Systems Engineering at Coventry University before joining Jaguar Land Rover as a control system engineer, working on adaptive cruise control and forward collision warning systems. He later became a research technical specialist in sensor systems where he was responsible for the early development of a number of driving assistance systems. At SBD he is responsible for the Safe Car division where he manages the research and consulting. Alain is an ADAS technology expert who provides recommendation to SBD’s clients on defining and implementing their ADAS strategies.

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The complete OE ADAS guide includes information about ADAS offered on car models by vehicle manufacturers in the EU, USA & China.

This guide features a series of analytical tools in addition to the raw data. This makes it easy to compare the offering of different vehicle manufacturers and tier-one suppliers, as well as analyse the trends for the fitment of various ADAS applications.

OEMs have already begun to roll-out ADAS on their premium models in markets like India and Malaysia. But SBD’s new study suggests that without customisation, they may not be suitable for the road conditions and driver behaviours in these countries.

By building up a clear picture of road infrastructure, road safety laws and accident statistics, we have been able to provide a number of recommendations on how best to introduce ADAS into these emerging markets.