

Summary

Active Safety Europe 2016: ADAS to Autonomous conference

Location: Munich, Germany

Date: 2016-05-18 - 2016-05-19

Sample of participants: Denso, HERE, INRIX, JLR, LeddarTech, Maserati, Mitsubishi, Molex, NVIDIA, PSA, Quanergy, TomTom, Seoul University, Tata, TomTom, Valeo, Velodyne, Visteon, Volkswagen, ZF TRW, Semcon

Main Topics:

- **AD Market Status**

- AD is still the number one “buzz field” within Automotive development
- Consumers are more and more aware of the AD technology and are as a consequence more likely to embrace/buy AD products when they are released. Product price is a central factor and a challenge to solve for the industry.
- Several speakers highlighted the risk that immature released ADAS/AD (the exemplified Tesla Auto Pilot was raised several times) is risking the AD introduction by creating unrealistic expectations on the AD systems capabilities among the customers and hence lead to miss-usage and serious accidents that would put AD “in bad light” and potentially risk the consumer accepting the AD technology.
- It was a differentiated view on the implementation time-line for AD as well as some differences in the definition of the AD Levels (especially when mapping functions to the Levels) among the participants. Author’s comment: This lack of aligned understanding of AD Levels and the mapping of AD functions to Levels naturally contributes to the differences in AD introduction time-line perspectives.

- **HMI and Hand-over**

- Will the driver be prepared to take-over fast enough in a forced emergency take-over situation was a central topic at the conference. Some speakers even proposed jumping over Level 3 AD for this reason. Author’s comment: the revolutionary development approach (basically going directly for Level5 AD like the Google car) is not only technically challenging but more over it does not get the customers used to the AD technology gradually, which can prove to be a showstopper for broad customer acceptance for the new AD technology.
- VW and PSA presented their work and concepts for Hand-over HMI
 - Both companies are performing extensive testing (including customer clinics) and stated that their research has showed that a controlled hand-over takes at least 10 seconds to perform
 - VW showed the next generation HMI concept for Level 4/5 AD. The company uses 15 seconds for a controlled hand-over and works with e.g. moving the steering wheel forward/backward in order to indicate if the driver or vehicle is in charge. Author’s comment: how this concept fits in an emergency take-over situation was not described.

- **Sensors**

A major topic at the conference was again the AD sensor sector, not that it's a new topic but the presence of several major global sensor suppliers (like Velodyne and Quanergy) put the topic in the spotlight. Especially the latest status of LIDAR was presented, but also LEDDAR and traditional Camera/Radar sensors were on the agenda.

Author's comment: Summarized it was a aligned common view (even by the naturally subjective sensor suppliers) that there is currently no ultimate sensor technology that will be able to handle FAD (Full Autonomous Driving) by itself, instead a cluster of different sensors are needed to cover the need of high-quality full surround view in all weather conditions and driving situations.

- **Mapping data**

Another central topic at the conference was the mapping data area; several representatives from the business were present and TomTom made an extensive presentation of the latest generation HD mapping data. This generation of mapping data is communicated to be able to differ between levels of roads much better than previously and the precision for the location accuracy should be down to 10 cm enabling reliable detection of the current lane.

Interesting was that TomTom currently is not only mapping HD data but also produce LIDAR images as location references. Basically the measurement vehicles of TomTom are equipped with Lidar sensors that scan the environment, compress the data and store pictures of the environment. The idea is that the AD cars (that will most likely be equipped with some type of Lidar sensor) can than in real-time compare its current Lidar picture with the saved one in the navigation system.

Author's comment: The CPU capacity in the vehicle needs to be further improved in order to be able to do this comparison in real-time. It's not unlikely that the CPU development has evolved to the necessary stage at the time of AD market introduction.

- **V2X**

V2X communication got limited attention at the conference. The only presentation on the subject was from a representative from Denso.

Author's comment: The agenda and line-of-participants naturally steer the focus of the conference so it's maybe more a sign that the V2X suppliers are not as established in the automotive industry (coming from the ITS and Telecommunication areas) than that V2X will not be an important piece of AD.

- **Security**

One major topic at the conference was Security. After the famous show-case hacking of the Jeep vehicle the industry has awoken and the topic was presented from several speakers and discussed in a panel discussion.

Summarized the automotive industry delegates assured that the problem is well known, that it's being worked on and that the situation "is under control".

Author's comment: Natural that the industry presents that the topic is "under control". The history from the consumer business sector clearly shows that security is every changing and never under control. It is essential that the industry takes the security topic very seriously since a Level5 AD vehicle could potentially be hacked and in worst case scenario be used as a "missile" in terrorist attacks etc.

- **Insurance**

The insurance industry was well represented at the conference – top-managers from leading insurance companies in Germany and England held a panel discussion underscoring the need for standardization (of technology as well as the naming-format hereto) and moreover that the OEMs have to supply much more vehicle data in order for fair processes to be held in claim situations.

Author's comment: It's natural that the insurance industry demands this, it is also an important point for the consumers in the end – especially for Level4 AD vehicles where the liability is a grey-zone between driver and vehicle (=OEM).

- **Rating**

EuroNCAP presented their new 2016 rating system – summarized it will contain a much higher focus on ADAS. For example both AEB and LKA need to be offered as series equipment in order to receive 5-star rating. New in 2016 is also the 2-folded rating system - one rating for series equipment and one rating for series and optional equipment.

Author's comment: This is very interesting since it will force the OEMs to offer ADAS as series equipment in a much higher degree, which will expand the ADAS business significantly.

- **Legislation**

The UK Government's Head of AD spoke about the dedicated program from the UK in order to be the best platform for AD development and testing world-wide. Controlled AD testing is allowed at all public roads in the UK.

Author's comments:

On the question if the UK government has started to process legislation for Level 4/5 AD on public roads or even think about the requirements hereto, the answer was no. The conclusion is that AD needs to be developed – accepted – legislation approved in several steps (suggesting evolutionary development).

In addition to the UK government also representatives from Holland and the UN were present at the conference.

Summarized the showed attention from the government side at the conference was very positive to see as the legislation topic might very well be a greater hurdle to overcome towards FAD than the technical challenges.

Author's General Summary

It was a well-balanced (between high level global market view and technology perspectives, status and challenges) conference with averaged high quality agenda/line-of-speakers. The overall feeling of the conference is that the business area is maturing more and more.

There are still different views on the challenges and solutions needed but the general direction is more aligned comparing to some years ago.

That the industry is furthermore fully committed to investing the time and effort need towards FAD was very clear.

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