When is ADAS ADAS?

Dear Reader,

When is an Advanced Driver Assistance System, in short ADAS, partially automated? And when is such an "advanced" assistance system actually just a support or warning function? These are questions we need answers to. As my colleague Paul Hansen wrote in the 12/2021 edition, "[GMs] Ultra Cruise builds on the capability of Super Cruise with new automated features intended to react to traffic lights, support left- and right-hand turns, lane changes and parking in residential driveways. While impressive, I'm not so sure how many customers will pay dearly for a feature that requires them to stay focused on the road and discourages the use of hand-held devices while at the wheel hands-free. By not having to steer at all, driving long distances will be made even more mind-numbing." In this respect the effect could also be counterproductive as boredom dulls and there is no guarantee that a takeover will happen as quickly as necessary in case of emergency.

It seems to me that this aspect is currently one of the core topics affecting the widespread application of even partially automated functions: As long as the driver is responsible for the vehicle as controlling instance, and hence must be attentive and ready to intervene according to the law, many only make marginal use of aspects such as automated steering of the vehicle for certain driving functions or periods of time. In principle, waiting for the vehicle to adapt the trajectory, speed, or braking still forces the driver to maintain increased levels of attentiveness. The available time before an event occurs reduces rapidly the longer their driver waits to intervene him- or herself. Unless the driver relies completely on the function and assumes that (normally) everything goes well – but this is not a valid safety concept, neither on the part of the driver nor the vehicle. The handover time between machine and human is very critical in road traffic because x percent of people do not or cannot react quickly enough. My own experience also unfortunately shows that hands-free for a certain proportion of drivers or in certain driving situations can be equated to mind-free, even though you are never exempt from responsibility.

At the end of the day, this must be unambiguously included in the design of the systems and external representation, and communicated by the OEMs to offer everyone clarity and to adequately control the interactions. This is the only way that the optimism generated by assistance systems can become reality and actually do good. Of interest in this matter is a Webinar from the Oyo-Yoshida-Report hosting among others Philip Koopman on the increasing confusion with the different SAE levels, refer to https://tinyurl.com/y884b4x9.

Enjoy reading this edition.

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Responsible Editor