PRESS RELEASE

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Man and machine –

Automated driving: Legal and liability hurdles

Engineers have cherished the dream of autonomous driving ever since the 1920s. Almost 100 years have meanwhile passed and we are now discussing different possible ways of actually implementing this vision on the road. But what active contribution will a driver have to make when riding in an automated vehicle? And what legal hurdles and consequences will have to be overcome?

ABS, traction control, ESP, cruise control, power steering, brake assistance, parking sensors, rearview cameras, etc., are all driver assistance systems that have long been in use as effective aids for drivers.

The following table (based on information from SAE, NHTSA and FHRI*) shows the different milestones to be passed on the way to reaching the ultimate aim of so-called “autonomous driving”.

SAE level	NHTSA level	BAST level	Steering, braking & acceleration	Monitoring of driving environment	Fallback performance	System capability
No Automation	0	Driver only	Human	Human	Human	none
Driver Assistance	1	Assisted	Human and system	Human	Human	
Partial Automation	2	Partially automated	System	Human	Human	
Conditional Automation	3	Highly automated	System	System	Human	
High Automation	3/4	Fully automated	System	System	System	
Full Automation		–	System	System	System	All driving modes

These scenarios and stages of development are beset with various legal problems and are currently under discussion at a global and regional level. **SuP has many years of experience in automotive trend research and analysis** and evaluates, among other aspects, the specifics of each region and continent.

*SAE – Society of Automotive Engineers, NHTSA - National Highway Traffic Safety Administration, FHRI – Federal Highway Research Institute.

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USA

Policy in the USA is largely determined by the NHTSA framework and by the Geneva Convention on Road Traffic of 1949. The absolute requirement of both is the active presence inside a vehicle of a driver who is at all times in a position to take control. But what exactly is meant by the word “driver”? Could that entity be a machine? And precisely what does “control” mean?

Inside the USA each state independently enacts its own laws addressing automated driving. And notwithstanding the Geneva Convention, the United States is still far removed from nationally applicable legislation for autonomous driving. For example, although the software-based control of acceleration, steering and brakes is legal, autonomous driving has currently been approved in only four states (Nevada, Michigan, California and Florida).

Europe

Regarding the law on autonomous driving, Germany and the rest of Europe are still somewhat behind the US. However, the framework conditions valid in Europe as a whole should provide the basis for an agreement. That is why Europe is set to play a leading role in autonomous driving systems.

EU legislation is based on the 1968 Vienna Convention on Road Traffic. According to this convention, the driver is obliged to always have his vehicle under control in order to be able to perform all necessary maneuvers. The convention will be revised in May 2015, with the aim of allowing assistance systems with the possibility of intervention at any moment by the driver. A true evolution or rather a more extensible redefinition? An EU expert committee has already supplemented the set of new rules.

In addition to this, the application of ECE regulations (Economic Commission for Europe) would have to be adapted to the implementation of automated driving (e.g. corrective steering maneuvers).

Germany

The Federal Ministry of Transport already allows the use of driver assistance systems and this has been confirmed in corresponding legislation.

So far good ... but, who is liable in case of claims?

Who will be held liable in case of an incident involving a partially or fully automated vehicle is still not clear. Currently in Europe the vehicle owner or user is considered to be liable for the vehicle and any damage caused.

Possible exception:

1. A bug in the driver assistance system due to technical failure constitutes clear evidence that the manufacturer is liable. The manufacturer will then face a claim for damages. However, the burden of proof remains a problem since black boxes of the kind installed in aircraft are not allowed in Germany for privacy reasons.

2. The driver was not ready to take control of the vehicle in time but he could not prove this to the insurance company.

If the claim of failure in the software can be demonstrated, the supplier of the software would be responsible. It is conceivable that the liability may in the future be limited to automobile manufacturers and their suppliers, which are then perceived as responsible for proper functioning of the system.
If the OEM has the opportunity to shift responsibility and blame to suppliers, no supplier would be willing to serve this market. This would be the death knell for autonomous driving.

Insurance companies rely on the existing system
The automation of vehicles will inevitably lead to changes in the business models of automobile insurers. Insurers already offer a 20% discount on insurance premiums for cars with advanced driver assistance systems. In the case of insurance for fully automated vehicles, the contribution would initially be higher due to the higher value of the technology. However, since a substantial reduction in the number of accidents is to be expected it can safely be assumed that these automated vehicles will in future be assigned a more favorable compensation and contribution class.

Semi-automated vehicles can even be used – as in Italy – to assess the risk profile of each driver. A "black box" is able to record driving behavior and to create a Bonus – Penalty invoice system for the insurance premium. This black box would also be required to settle the issue of liability, since the situation can be better assessed in the case of an accident.

The future models of autonomous driving are still not providing answers to all the legal issues. Schlegel und Partner can help you to assess strategies and technologies taking all relevant factors into account.

Read the next newsletter to discover what infrastructural issues have to be overcome and the roles played by Google, Apple and Alibaba.

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