



This is why the eSIM is a key technology for the Connected Car

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G+D Mobile Security explains seven reasons why eSIM technology is a driver for the success of the Connected Car.

The eSIM technology is gaining ground in more and more areas of application. The basic principle: Devices or machines requiring a mobile connection are equipped with permanently installed SIM chips. Network operator profiles can then be downloaded "over the air" on these devices. An industry, that is particularly benefiting from this technology, is the automotive sector with its increasing number of connected vehicles. G+D Mobile Security explains why eSIM is a key technology for the connected car.

1. Legal requirements

Since March 2018, the automatic emergency call system "eCall", which requires eSIM, is mandatory for all new cars in the European Union. With "ERA GLONASS", the Russian Federation is demanding very similar standards from 2020. Countries such as Brazil, China, Turkey, India and the United Arab Emirates have already enacted laws on telecommunications regulation or are currently preparing laws with specific local requirements. eSIM technology will play a key role in helping vehicle manufacturers react flexibly to changes in legislation and regulation.

2. Optimal 5G support

The new 5G mobile radio standard will give the autonomous Connected Car a major boost, as it offers special services for critical communication requirements. In order to arrive safely at the destination without human intervention, autonomous vehicles will be provided with mobile radio connections with lowest latency times. According to forecasts by Machina Research, around half a billion connected vehicles will be on the roads by 2023. eSIM will play an crucial role for the management of this interconnection.

3. Simplified logistics

The eSIM technology enables automobile manufacturers to install the correct network profile directly "over the air" in their target region, only after the cars have been delivered. In addition, it is ensured that the local legal requirements are met. This significantly simplifies the logistics processes for automobile manufacturers. With the increasing spread of 5G and connected autonomous cars, this aspect will become more and more important.

4. Higher reliability

Conventional SIM cards, which have to be inserted into the slots in cars which are provided for this purpose, are exposed to harsh environmental conditions. These include extreme temperatures, humidity, corrosion or vibrations caused by the engine and uneven routes. The SIM chips are designed for these environmental conditions and firmly integrated into the hardware. Therefore, they are much more reliable than plug-in SIMs.

5. Secured connectivity

SIM chips offer the ability to store TLS certificates and thus establish TLS-encrypted connections to the outside world - whether to other vehicles or to services in the cloud. Thus, they support the secure mutual authentication of cars and cloud services. Hence it can be avoided, that cyber criminals can take control of the car and endanger the safety of the driver and other road users.

6. Improved user experience

Classic SIM cards only allow to use one mobile phone contract. On the contrary, configurable eSIM chips allow the alternating use of several mobile phone contracts of vehicle owners and service providers. This enables vehicle passengers to use various infotainment applications at the conditions of their mobile phone contract partners. This increases customer satisfaction and strengthens their loyalty to car manufacturers.

7. Sustainable platform

The possibilities of the connected car are far from being exhausted. Its development has just started yet. For the future, numerous other services – also fueled by 5G – are to be expected, such as self-diagnosis, tailor-made car insurance, infotainment or mobile payment. The eSIM technology serves the connected car with a flexible platform to provide the necessary connectivity for any service.

"With eSIM technology, automobile manufacturers can not only meet the highest security and data protection standards and fulfill telecommunications legislation," summarizes Alois Kliner, Head of Division Digital Enterprise Security at G+D Mobile Security. "It also enables them to improve the user experience, develop new business models through secure digital services and further strengthen trust in their brands.

About G+D Mobile Security

G+D Mobile Security is a global mobile security technology group headquartered in Munich, Germany. The company is part of the Giesecke+Devrient Group. G+D Mobile Security has around 5,300 employees worldwide and generated sales of around 868 million euros in the 2018 financial year. More than 40 sales offices and more than 20 certified production and personalization locations worldwide ensure international customer proximity.

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