V-SOC from NTT DATA - protect connected cars against cyber-attacks effectively and efficiently

Hacker attacks on connected cars can have serious, at worst, deadly consequences. Automotive manufacturers carry the responsibility here: With the new UNECE wp.29 directive coming into force; OEMs must be able to guarantee cyber security for their vehicles – otherwise they will no longer be allowed to sell new vehicles e.g. throughout the EU from 2024. The Vehicle Security Operations Center (V-SOC) from NTT DATA offers significantly more security with services like end-to-end monitoring and artificial intelligence tailored to vehicle specifics.

■ Status quo: No cybersecurity for data generated in the vehicle

The monitoring of classic SOCs usually only covers IT systems outside the vehicle, i.e. OEM vehicle backend, mobile app components and IT infrastructure. But what about the data flows inside the vehicle? Over 25 gigabytes of data are generated in the vehicle every hour for the most part transferred to the OEM backend or used to communicate with other traffic participants - a wide field for manipulation!

V-SOC provides substantially more protection against cyber-attacks – and at much lower cost.

■ NTT DATA: Security for all data – even inside the vehicle

With V-SOC, NTT DATA offers an intelligent end-to-end security platform that identifies and coordinates the processing of all security incidents: from sensors inside vehicles and across the connecting IT infrastructure (i.e. during data transfer to the OEM backend or during communication with other traffic participants) as well as using security sensors in the OEMs IT backend, e.g. to detect an attack on a connected car portal.

■ Data scan with Artificial Intelligence – significantly more efficient and effective

A major advantage of V-SOC: End-to-end monitoring of NTT DATA uses artificial intelligence. By utilizing self-learning machine-learning components, the intelligent safety system, which includes all areas inside and outside the vehicle, can detect incidents while the vehicle is still in operation. This makes the subsequent manual validation of the events substantially faster, more cost efficient and more effective.

The machine learning based security system for all data – inside and outside the vehicle

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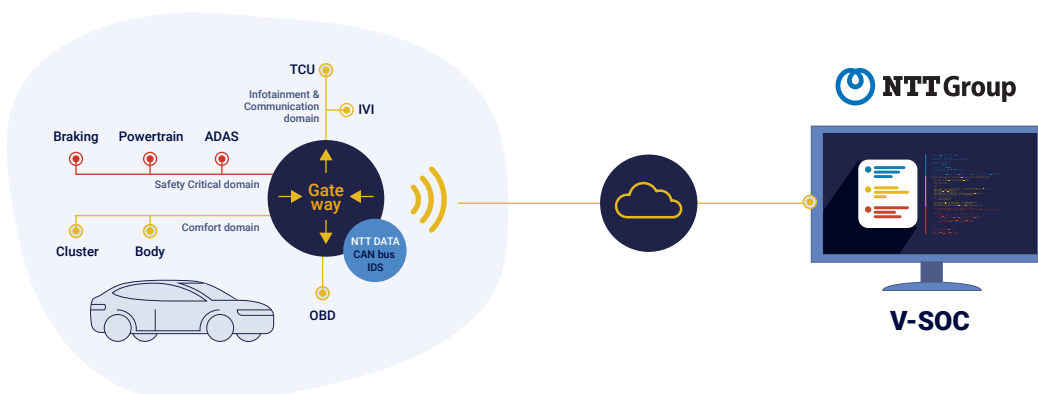
■ **Main benefit for OEMs: Higher security with less (cost) effort**

Automotive manufacturers benefit twice from the use of V-SOC: On the one hand, protection against cyber-attacks will be significantly increased, and on the other hand, the effort required for cyber security measures is noticeably reduced - also in terms of costs.

Here are the advantages in detail:

1. **Compliance security.** All new global and local standards and guidelines are fully complied with.
2. **Maximum security through holistic end-2-end approach.** All data flows – outside and inside the vehicle - are monitored. Manipulations are detected as they happen.
3. **Highest possible quality of data verification with AI.** The data check is not only conducted with static sensors, but by intelligent systems.
4. **More efficiency with automated testing.** Instead of "manual work" there is automatic pattern recognition - only relevant problems are inspected.
5. **Faster reaction to attacks.** Malfunctions are corrected immediately – e.g., with real-time software updates or the isolation of a component or individual vehicle within the fleet.

■ **NTT DATA - IT and security partner of the automotive and supplier industry**

NTT DATA has been supporting the established automotive and supplier industry with integrated all-round solutions for decades. In addition to our many years of experience with connected cars, we are also active in research and development for autonomous driving. When it comes to automotive IT, we are considered the number one contact for the automotive industry - as well as when it comes to security and legal issues: our customers benefit from the in-depth know-how of our 1,500 security experts worldwide, who deal with hundreds of thousands of security incidents every year.

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About NTT DATA

NTT DATA – a part of NTT Group – is a trusted global innovator of IT and business services headquartered in Tokyo. We help clients transform through consulting, industry solutions, business process services, IT modernization and managed services. NTT DATA enables clients, as well as society, to move confidently into the digital future. We are committed to our clients' long-term success and combine global reach with local client attention to serve them in over 50 countries.

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