

Target groups:

- Automotive industry
- Legislature - Politics and legislators
- Research and education (IT, Automotive)
- Executive - police, law enforcement
- Judiciary - courts and lawyers
- Experts and forensic scientists (especially IT and automotive sectors)
- Insurances
- Automobile Club
- Press
- Interested consumers

Kontakt



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We offer...

- Explore training needs of your employees in the field of IT security and digital forensics eg in the form of lectures and workshops?
- Need assistance with your developments concerning IT security and the defense of attacks?
- Do you want to improve the quality of your systems by examining them through the eyes of a hacker?
- Did already occur specific incidents in terms of IT security and do you need the analytical skills of an IT Forensics?

Interested in a cooperation and a technical exchange?

We look forward to your contact.

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Car-Forensics

Dipl.-Ing. Thomas Käfer, M.Sc.

Digital forensics in the
context of vehicle networking, eCall,
vehicle accident data recorders
and smartphone-connectivity

Pen-Testing and IT-Security



www.Car-Forensics.de

Researchproject "Car-Forensics"

Digital forensics in the context of vehicle networking, eCall, vehicle accident data recorders and smartphone-connectivity

Increased networking between vehicles (Car2Car), with smart phones (Car2Phone) and automotive infrastructures (Car2Infrastructure) and in future in cars implemented enhancements such as accident data recorder and the system 'eCall' are so far largely unexplored among IT safety aspects and privacy considerations. The storage and exchange of vehicle and movement data arouse desires among criminals, insurance, services, police and courts (eg in the context of traffic monitoring, law enforcement and accident reconstruction).

The IT security expert Dipl.-Ing. Thomas Käfer, M.Sc. has been working on a research project as part of its study program „Digital Forensics“ at University Albstadt Sigmaringen (in cooperation with the Friedrich-Alexander-University of Erlangen and the Ludwig-Maximilians-University of Munich) with the exciting topic of security and privacy in the automotive sector from the perspective of IT-experts and forensic scientists

The research project has being conducted in collaboration and professional exchange with the FH Aachen.



Aspects of scientific inquiry:

- Investigation of attack scenarios for automotive smartphone apps
- Operating vehicle safety (Safety Critical)
- IT security (Security Critical) in automotive and car communication
- Privacy and Security aspects in Car2X communications and automotive infrastructure
- Accident data recorder and recorder for autonomous driving
- Automatic emergency call system „eCall“
- Liability issues and data protection in automated piloting of cars
- Necessary legal reforms for automated piloting of cars
- Forensic analysis options of logs in navigation and control devices
- Ability to access control devices via OBD / CAN bus
- Quality assurance inserted in automotive software and hardware
- Life cycles, rules and warranties concerning automated driving
- Code of Conduct for accessing stored data in the vehicle
- Code of Conduct for the safe and completely anonymous exchange of geo-information
- Data logger in the context of loyalty programs by motor insurers (pay-as-you-drive)
- IT security aspects and user tracking for car sharing
- Geo-based advertising

The research "Car-Forensics" is intended to provide an overview of what currently is already technically possible and conceivable in future in the field of digital forensic analysis of material contained in a car or externally coupled with automotive IT systems . In the practical part of the research project should be researched and tested, which interfaces have various systems have that can be accessed and forensically analysed. This is both using open communicated standards and approaches, as well as, for example, by means of hacking and analysis tools with help of reverse engineering methods, a data analysis or manipulation attempt. Objectives of the research are thus among other things, to make statements about the privacy and data security from the perspective of users (users) to illuminate the forensic opportunities and rights for experts and investigators, and to define a code of conduct for the Car2X communication.

Appropriate measures are to be derived, which could be applied in the automotive environment in the design of information systems in order to optimize them under IT security, forensics and data protection aspects from the findings.

