Achieve Top-Level Security!

# LEVERAGE THE BENEFITS OF OUR CUTTING-EDGE PENETRATION TEST LABORATORY

**In today's dynamic cyber landscape, it is absolutely paramount for organizations to proactively assess and fortify their systems and networks against potential vulnerabilities. This is precisely where our expertise comes in!**

Our Penetration Test Laboratory offers you a comprehensive and realistic testing environment, enabling you to identify and address weaknesses within your systems under controlled conditions. Together, we can fortify your infrastructure and protect it from the ever-growing threats. Reach out to us today to learn more about our services and take the first step towards a more secure future.

## 268 Cybersecurity Accidents

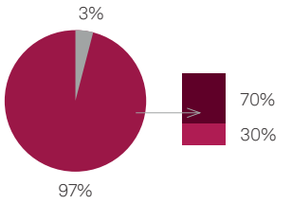
in automotive industry in 2022

+ 25 American OEM EVs remotely controlled by hackers via 3rd party software vulnerability
+ 14 Japanese factories shut down for 24 hours due to cyber attack on supply chain
+ Hackers discovered new attack vector in Chinese OEM vehicle for unapproved software upgrades
+ Years-long phishing campaign targeted German automotive companies for password stealing malware
+ $5 million worth of agriculture vehicles remotely disabled and stolen

## 97% of All Attacks Remote

in automotive industry in 2022

+ 3% Physical attacks (e.g. OBD port)
+ 97% Remote attacks, of which
  + 70% long range (e.g., API-based attack)
  + 30% short range: e.g., Bluetooth attack, keyles s entry systems attacks to steal vehicles




## New Attack Types

in automotive industry in 2022

+ 2022 introduced new attack vectors that demonstrate the expansion of cybersecurity threats beyond discrete vehicles, impacting fleets, smart mobility applications and services, EV charging infrastructure, and others
+ EV charging infrastructure accounted 4 % of total incidents
+ API Attacks accounted for 12 % of total incidents

## $505 Billion

of loss

+ Estimated in the automotive industry due to to cybercrime between 2019-2023

# Services of the Test Laboratory

### Security Test Plans & Test Specifications

+ guarantee a transparent overview and traceability of when, what, and how the security controls are verified and validated

### Targeted Attacks

+ uncover security gaps and vulnerabilities and assess the susceptibility of your product or system to manipulation

### Complete Networked Vehicle Test

+ Our experts conduct a complete networked vehicle test, including penetration testing of hardware components, interfaces, applications, and networks surrounding the vehicle

### Reporting & Documentation

+ of security vulnerabilities, as well as recommendations for risk minimization, complete the range of services

### Guaranteed Security of the Test Lab

+ The TISAX certification and strict security requirements in our test laboratory guarantee the security of the lab and ensure that the security requirements of our project partners are met

### Cooperation with Customers

+ The tests are carried out in close cooperation with our customers.

# Testing Approaches & Methods

### Vulnerability Research

+ Extensive worldwide databases (OpenVAS, Mitre CVE/CWE DB, etc.)

### Penetration Tests

+ Denial of Service (DoS)
+ Replay attack
+ Generated messages
+ Manipulated messages

### Fuzz Testing

+ Brute-force fuzzer
+ Interface scanning
+ Intelligent analysis (e.g., use of AI)

### Regression Tests

+ Automated tests after HW / SW updates

# Setup

### POSIX/AUTOSAR

+ Kali, Metasploit, IDA, Development Boards, etc.

### Fuzzing & Penetration Test

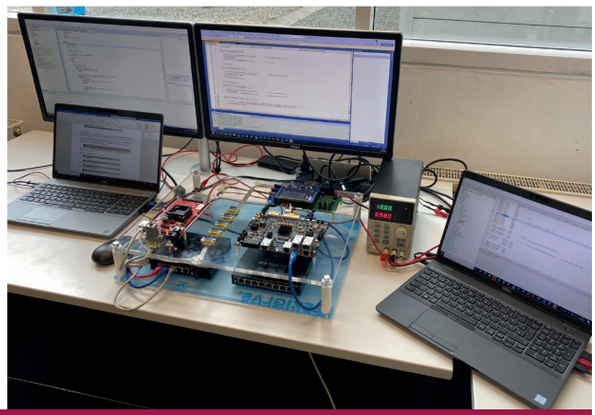
+ vTestStudio, Vehicle Spy, Wireshark, CANtools, etc.

### Interfaces & Tools

+ Multimeters, Soldering stations, Digital oscilloscopes, Debugger, Ethernet, CAN, USB, etc.

### Environment

+ Prototyping & reference-platform testing on microcontrollers (e.g., Infineon AURIX TC399), microprocessors (e.g., NXP S32G), or FPGAs (e.g., Xilinx)



Would you like to learn more about our offerings? We look forward to hearing from you.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Best of Both

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