Secure automotive solutions

Smart driving
Ensure security in connected cars

Vehicle to Network

- Vehicle to Vehicle (ADAS)
- eCall
- Software Upgrade
- Traffic Information

Digital Key System

- Vehicle access protection
- CCC compliant

Wireless Qi charging
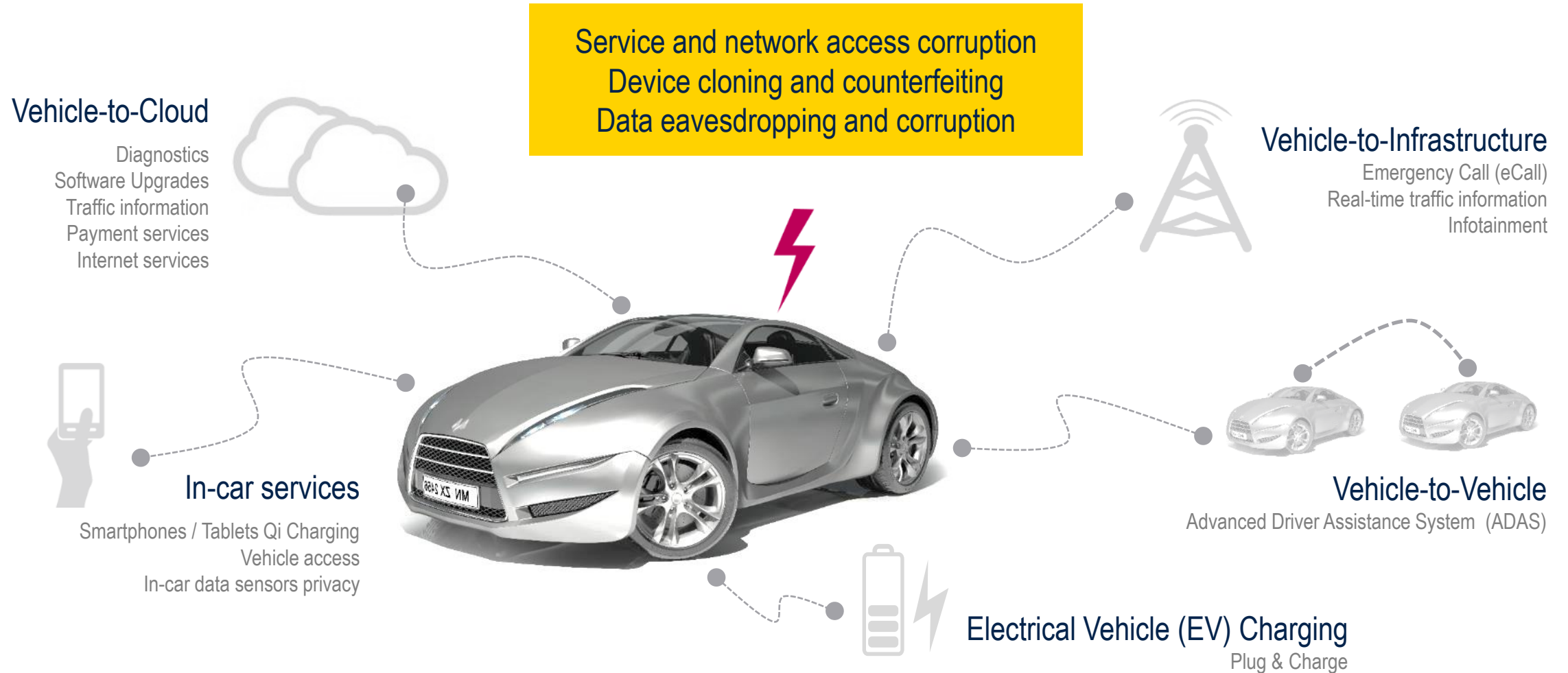
- In-car smartphone charging

Electrical vehicle charging

- Authentication from vehicle to charging station

Security threats
Connected vehicles are more vulnerable

Service and network access corruption
Device cloning and counterfeiting
Data eavesdropping and corruption

Vehicle-to-Cloud

Diagnostics
Software Upgrades
Traffic information
Payment services
Internet services

Vehicle-to-Infrastructure

Emergency Call (eCall)
Real-time traffic information
Infotainment

In-car services

Smartphones / Tablets Qi Charging
Vehicle access
In-car data sensors privacy

Vehicle-to-Vehicle

Advanced Driver Assistance System (ADAS)

Electrical Vehicle (EV) Charging

Plug & Charge

Making driving smarter and safer

Passenger safety

Data privacy

- Guarantee vehicle behavior

- Ensure secure car access

- Prevent device cloning

- Ensure secure connectivity

- Guarantee sensitive data remains confidential

- Prevent data corruption & eavesdropping

INTEGRITY
- Root of Trust
- Platform integrity
- Secure firmware update

CONFIDENTIALITY
- Secure communication
- Secure storage

AUTHENTICATION
- Genuine device

Secure element benefits
A proven solution to keep cars secure and safe

Proven
More than
1.5Bu ST33 sold

Selected
ST33-A adopted by
Tier-1, carmakers

Quality
10ppm target
without wear leveling

Certified
Common Criteria
EAL6+

Compliant
ISO 15118
WPC 1.3

ST's secure certified automotive solutions

ST33-A
for security & safety

- Hardware Secure MCU
- Set of software libraries
- AEC-Q100 & CC EAL6+ certified
- User guide support

STSAFE-V
for security & safety

- Digital key access
- Strongbox SE
- Secure network connectivity
- Secure autonomous driving
- New services (EV & Qi charging)

ST4SIM-A
for eSIM connectivity

- Connecting everything everywhere anytime
- Real-time asset management
- Improved coverage
- Flexible connectivity

ST33-A Hardware Secure MCU overview

A certified secure element

Robust flash technology
- In-house embedded Flash 80 & 40nm
- Target low ppm without HW wear leveling
- Continuous Improvement Program (CIP) strategy

Proven field quality with billions of ST33 hardware secure MCU deployed

Set of software libraries (cryptography & flash management)

EAL6+ Common Criteria certified
Automotive grade (AEC-Q100 grade 2 and 0)

STSAFE-V solution overview

A scalable secure solution for connected vehicles

- Scalable STSAFE-V family from dedicated to flexible and TPM solutions on connected vehicles

- Complete ecosystem solution

- Based on proven CC EAL5+ and EAL6+ hardware ST33-A Secure MCU

- Automotive AEC-Q100 grade 2 and 0

- In-house factory personalization

- CCC V3.0 specification compliant

- SE Strongbox solution

- Qi wireless charging WPC1.3 compliant

- PKI solution for Plug & Charge ISO15118

ST4SIM-A solution overview

A secure cellular connectivity solutions

- Wide range of SIM/eSIM solutions based on Classic, Advanced and GSMA SGP.02 configurations

- GSMA eSIM certified and interoperable with MNOs & Subscription Management platforms

- Complete ecosystem with trusted partners for connectivity & Subscription Management Platforms

- Automotive grade solutions (T° & reliability)

- Multiple packages (MFF2, WLCSP)

ST Secure automotive solution
Scalable offer from eHSM to dedicated secure solutions
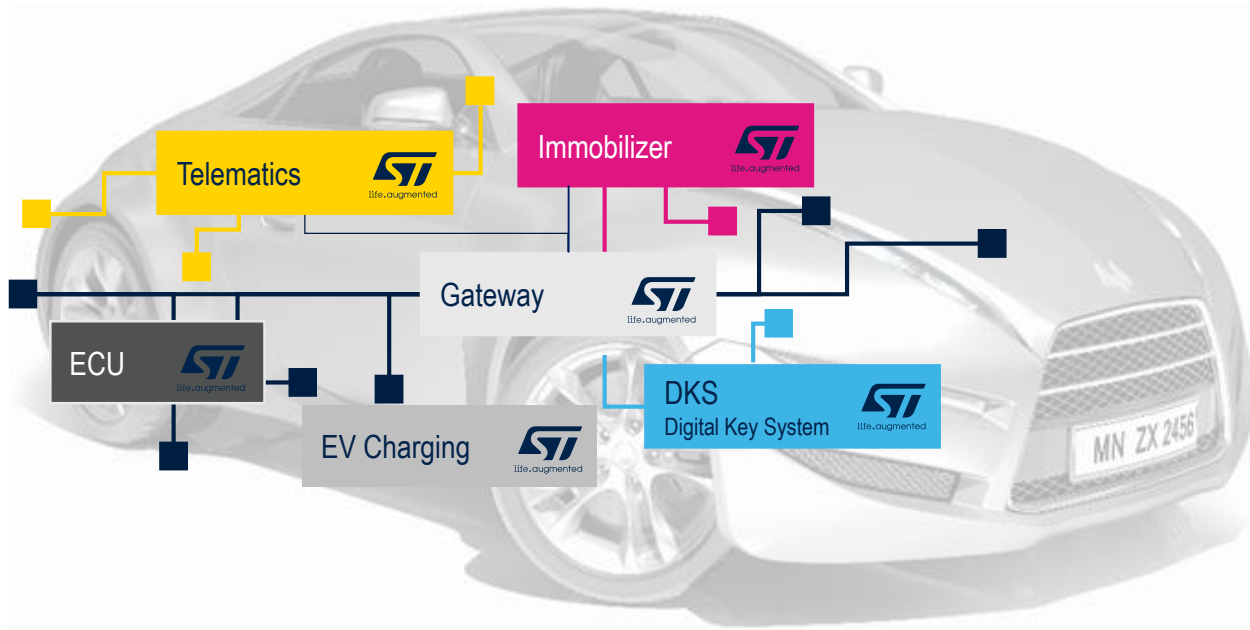
STSAFE-V

Secure solutions

- ST33-A certified EAL6+ hardware secure MCU
- Platform and SW integrity check
- Secure storage
- Cryptographic services
- Secure connectivity (eSIM)

SPC5x

Gateway and Telemaco telematics solutions

- eHSM security
- Secure boot
- Cryptographic services
- Platform and SW integrity check

ST's ecosystem for an end-to-end digital key system
ST is everywhere to ensure Secure NFC Car Access

ST54 combines an eSE and an NFC Controller in a Mobile Phone

ST31 eSE enables NFC-A card emulation and energy harvesting

In the digital key

ST25R3920B Automotive NFC Reader detects and communicates with the key

Information is transmitted to Automotive MCU

In the door-handle

SPC58 Automotive MCU receives information from the door-handle

STSAFE-VJ100-CCC Secure Solution authenticates the user

ST25R3920B communicates with the key in the center console

In the car

Secure automotive takeaways

Scalable ST security offers (from eHSM to certified secure element)

Hardware and System-on-Chip solution

Complete **cellular connectivity solution** with trusted partners

Our technology starts with You

🌐 Find out more at www.st.com/secure-auto

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