

EV Battery Passport Secure element

EV Battery Passport overview



Secure element



Battery management system



Battery monitoring ICs



EV Battery Passport overview

EV Battery Passports will become mandatory by 2027 in the EU

Under the European Green Deal, the Battery Passport will become mandatory for batteries > 2 kWh by February 2027

Battery Passports guarantee the quality and condition of an essential component throughout a vehicle's lifetime and beyond with recycling

Solutions must ensure a high level of security and privacy, to protect stored data and prevent fraud, per EU regulation



EV Battery Passport overview

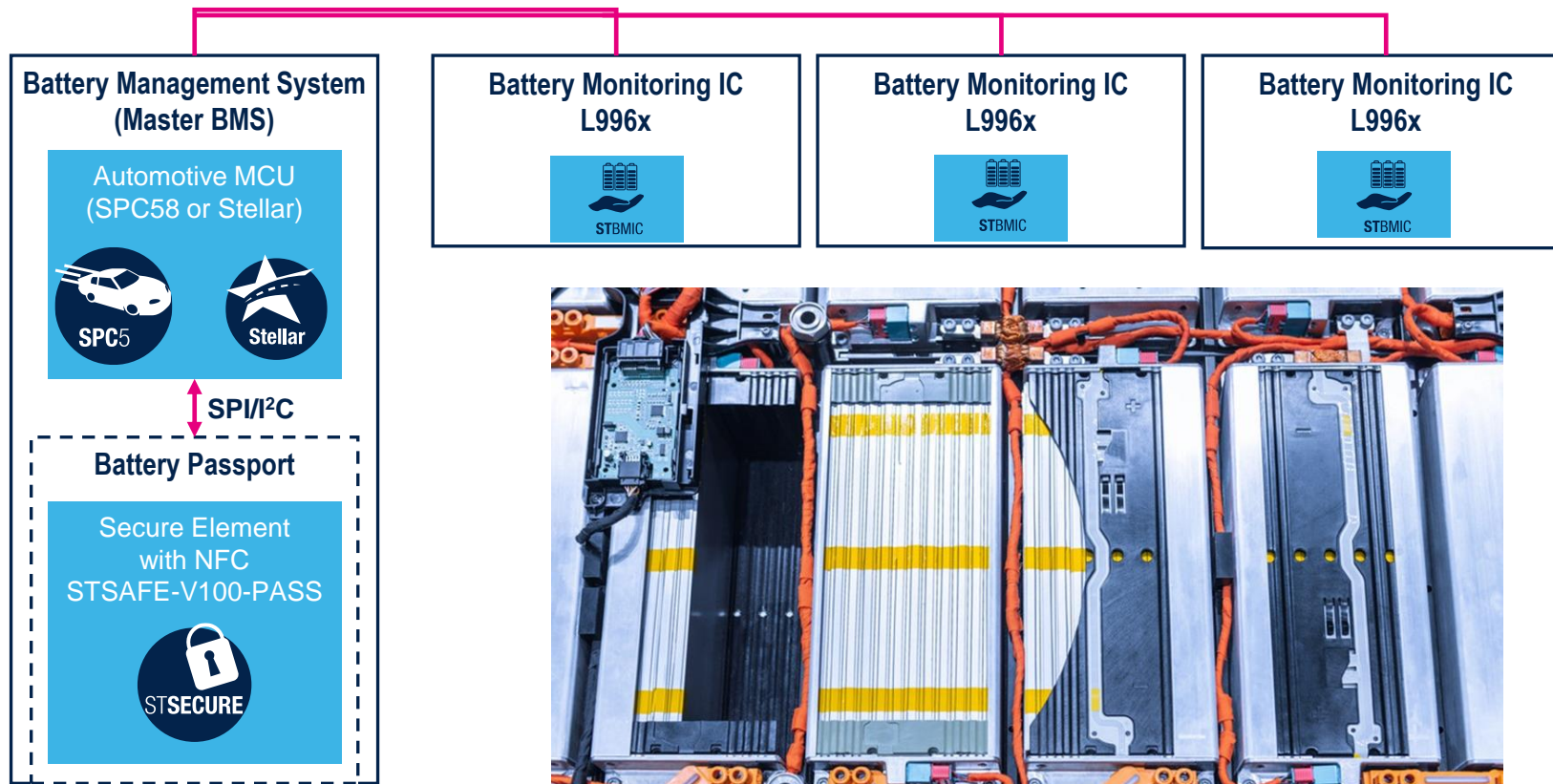
EV Battery Passports store static and dynamic parameters

Store data about a unit's material composition, voltage & capacity, manufacturer, carbon footprint, due diligence report

Record dynamic parameters like State of Health and the number of charging cycles over the course of the unit's lifetime

EV Battery Passport overview

Store static data & dynamic parameters offline with a tamper-proof eSE



STSAFE-V100-PASS for EV Battery Passport & local data storage



Secure storage of static and dynamic parameters for EV battery units

Solution certified Common Criteria (CC) & automotive grade

I²C and NFC connection for convenient retrieval of stored data



Battery management system

SPC58 or Stellar, a wide-ranging family of automotive MCUs



Unprecedented scalability



Isolated hardware security module

Full support ecosystem



SPC58 MCU portfolio

SPC58 C

SPC58 4B

SPC58
Power
Architecture
MCUs

SPC58 G

SPC58 2B

SPC58 H

Scalable



Secure



Safe



Connected



Low power



OTA ready



Unprecedented scalability

- From single-core 64 MHz up to triple-core 200 MHz
- From 512 Kbytes up to 10 Mbytes of Flash memory
- From QFP64 up to BGA386

Isolated Hardware Security Module

- Secure boot
- Crypto accelerator (symmetric and asymmetric algo)
- Evita Medium and Full

Full support ecosystem

- Dedicated SW packages for security



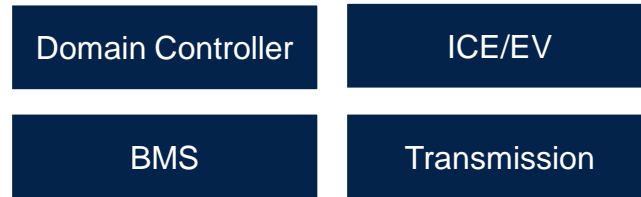


Stellar MCU portfolio

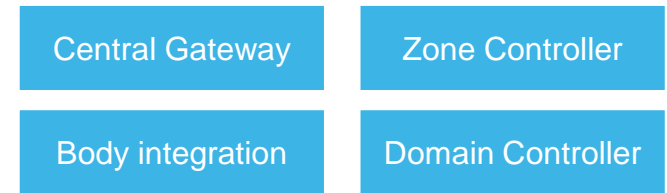
E – Electrification MCU



P – Vehicle Motion Integration MCU



G – Zonal Integration MCU



With embedded security

Future -proof architecture

Multi-ECU Integration

Extensible Memory & efficient OTA

Efficient accelerators

Low power

* Features depend on product series



14-channel, stackable, battery monitoring/balancing chipset

Accurate, real-time measurement of battery cell voltage, current and temperature



STBMIC

L9963E

L9963T

Battery pack monitoring, balancing and protection up to 14 cells

14 independent high-accuracy ADCs for cell voltage measurement

Synchronized acquisition of cell voltage and pack current

High-accuracy current measurement with Coulomb counter

Fully programmable via SPI interface

High-speed and robust transformers and capacitive isolation

