



Secure Battery Management System and Battery Passport

SECURE-BMS NEW

Preproduction

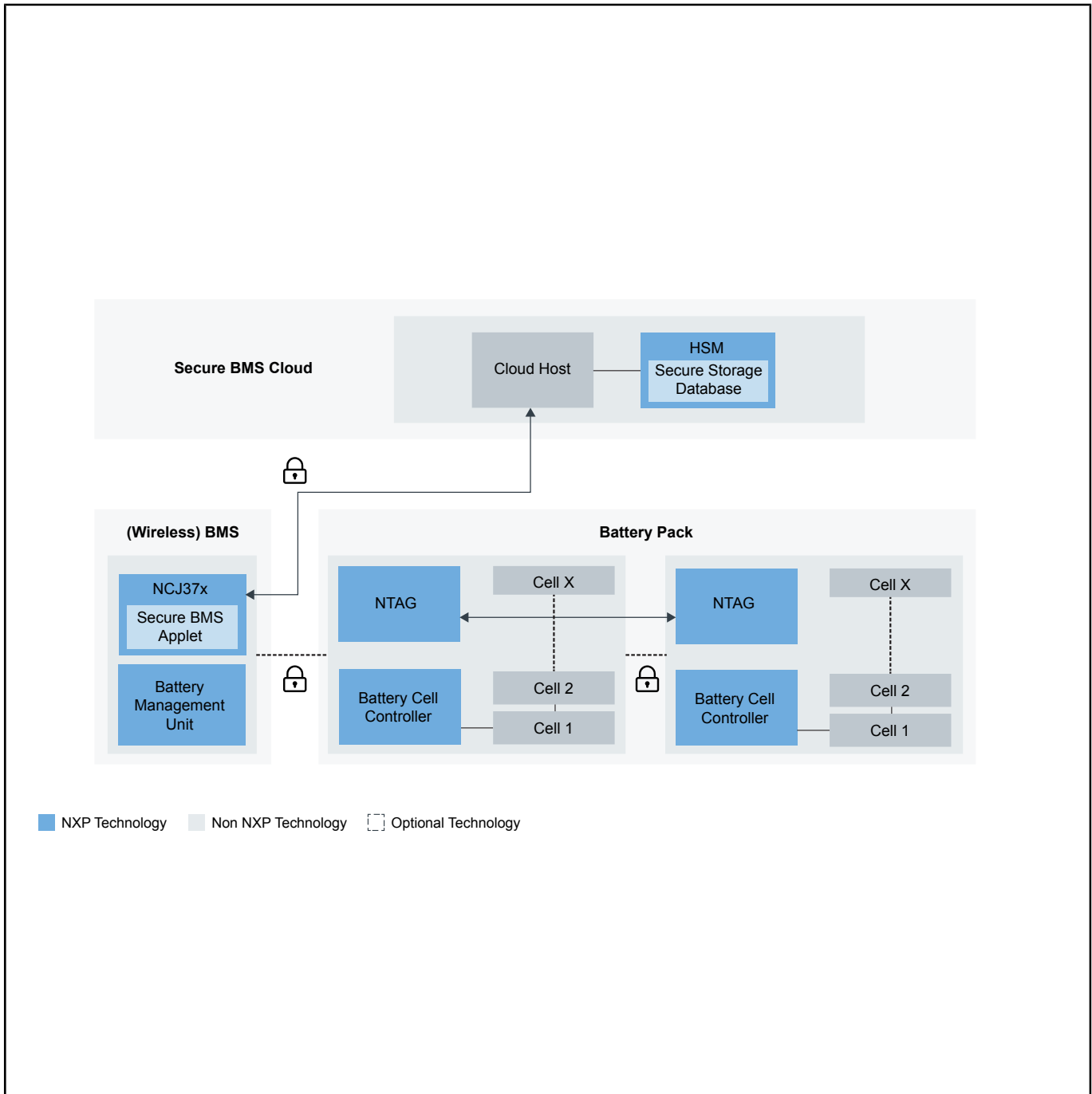
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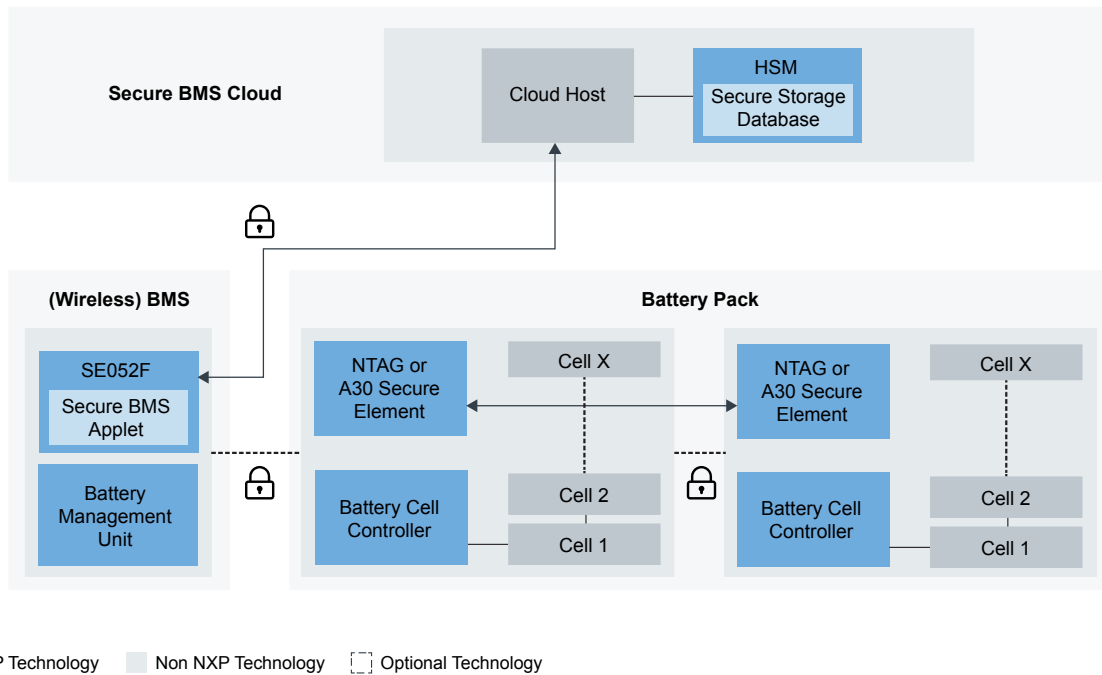
Legal requirements for battery lifecycle monitoring and traceability are increasing. For example, the EU Battery Regulation, which comes fully into effect in 2027, requires secure storage and transmission of sensitive battery data. The secureBMS ecosystem is built on an HV-BMS architecture that combines an MCU with a certified Secure Element. This enables tamper-resistant data storage, secure software updates, cryptographic authentication, servicing concepts, and lifecycle data handling, supporting secure digital twinning of physical batteries with a cloud-based battery passport.

The Secure Element protects data, enables secure cloud connectivity, and supports NFC-based access even when unpowered. The NXP secureBMS applet is pre-installed. This ecosystem enables faster customer design-in, demonstrated in projects with TNO since 2025.

Secure BMS for Automotive Block Diagram



Secure BMS for Industrial Block Diagram



View additional information for [Secure Battery Management System and Battery Passport](#).

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