

Automotive iHSM Security Solution

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May 8th, 2025

The image features a stylized, glowing blue square chip with rounded corners, set against a dark background with a complex, circuit-like pattern of blue lines and dots. The chip has a white border and the word "Rambus" is printed in white on its surface. The chip is positioned diagonally, and its edges are highlighted with a bright blue glow, giving it a three-dimensional appearance.

Rambus

Agenda

- Automotive Trend
- Realizing Software-defined Vehicle
 - Opportunities and Challenges
- ETAS/Rambus Bundled Automotive Security Solution
- iHSM benefits & Value-Add
- Summary and call to action

Automotive trend



A paradigm shift

Automotive Transformation

Customer experience

A transformation from an isolated mechanical car to a highly inter-connected software-driven car for ultimate customer driving experience

Electrification



Automated Driving



Digital user experience



Long-term vehicle
value

Cost efficiency

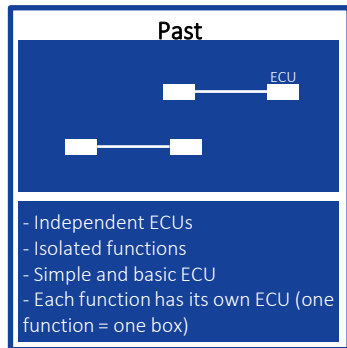
Environmental
sustainability

Safety & security

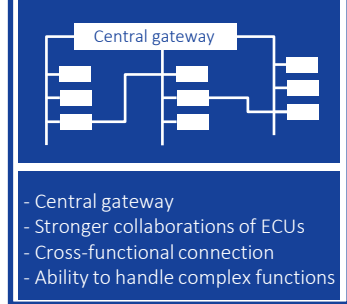
E/E Architectural Transformation

From isolated functions → domain centralized → centralized zonal E/E architecture

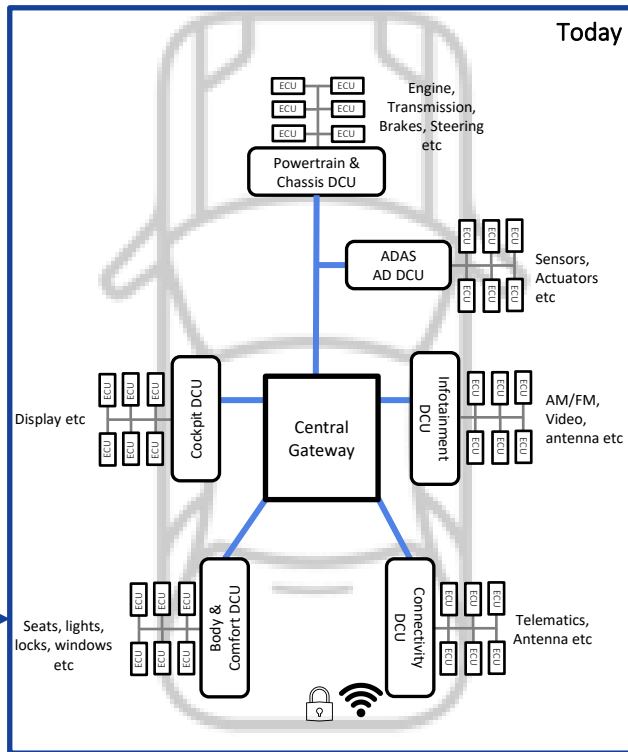
Distributed E/E



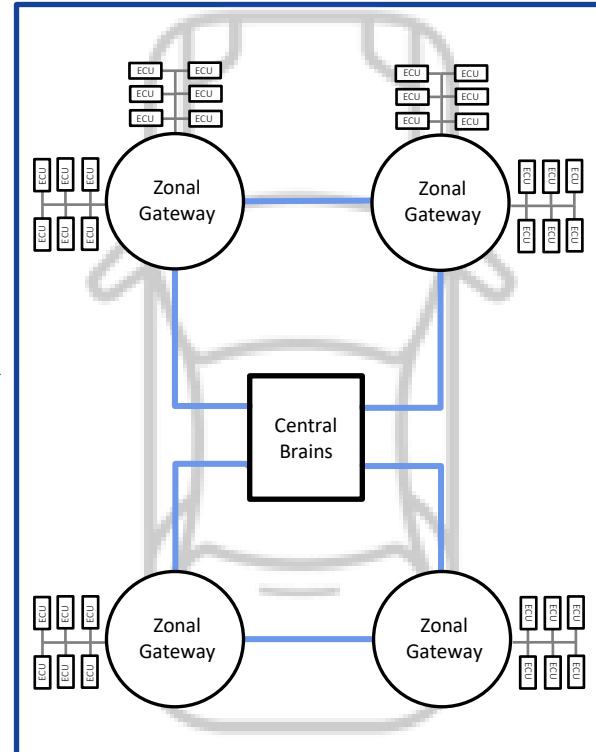
Yesterday



Domain Centralized: Selective to All



Centralized Zonal



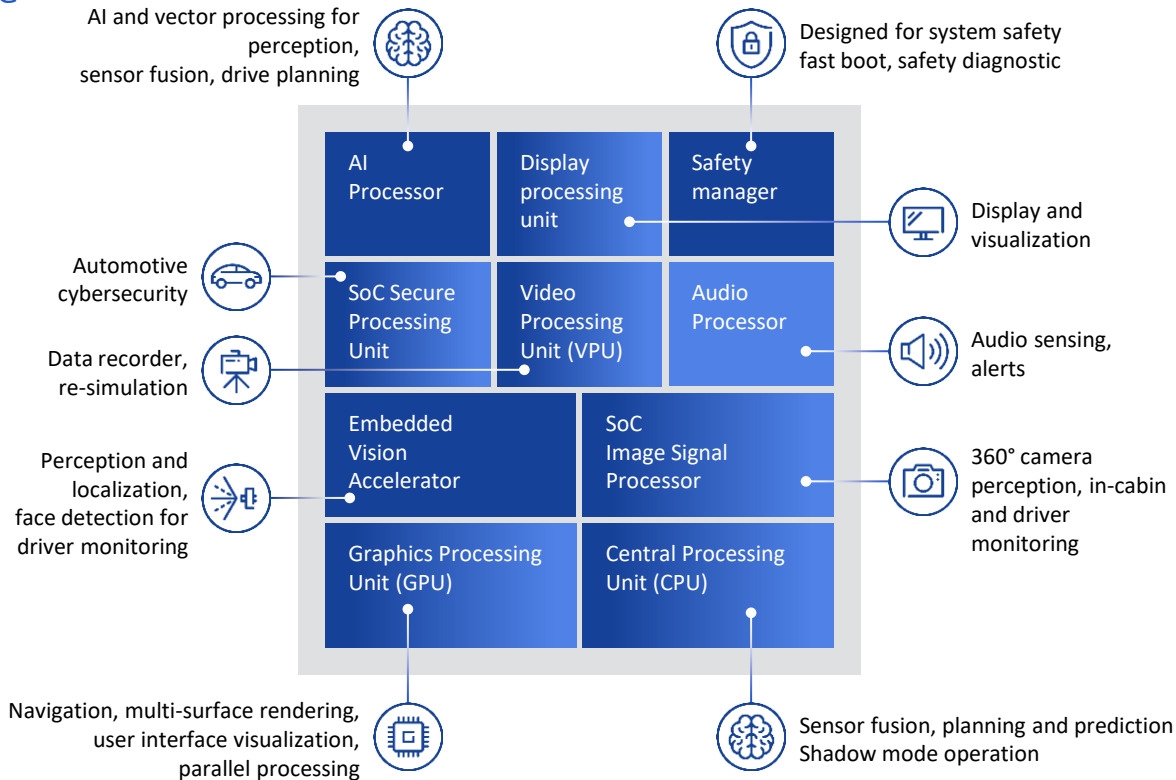
System-on-chip (SoC) Architecture

The cornerstone of E/E architecture



Automotive SoC are equipped with multiple computing islands and heterogenous architecture to

- Handle large amount of data
- Execute real-time decision-making algorithms
- Process sophisticated software in real time



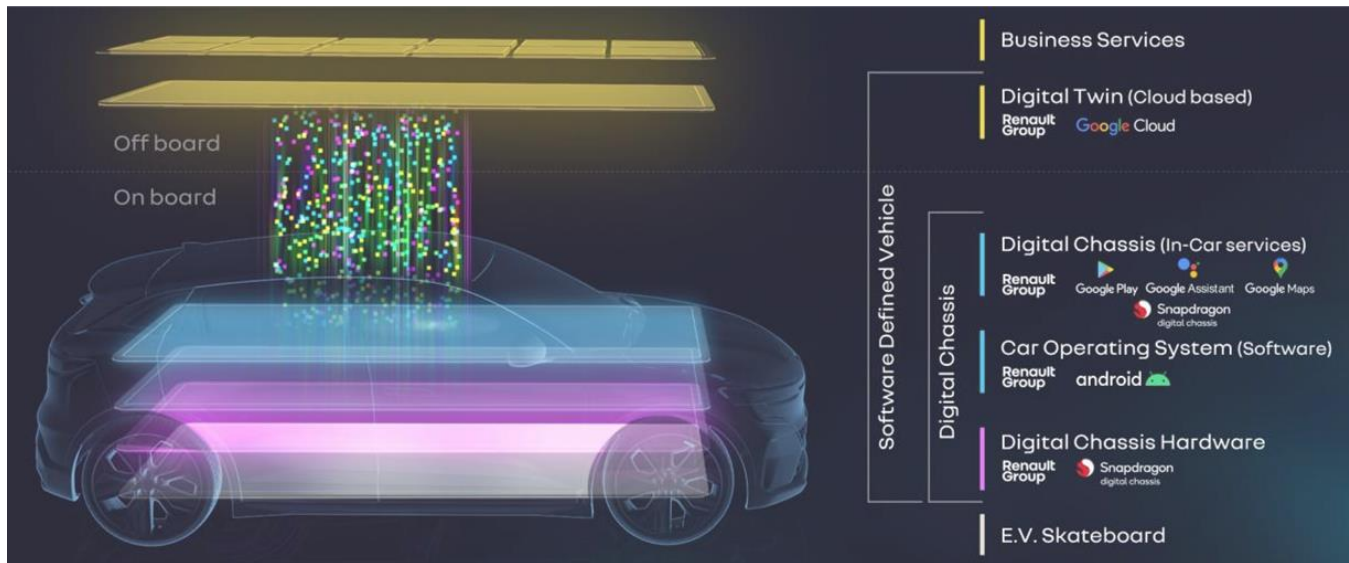
Realizing Software- defined Vehicle



Opportunities and challenges

Software-defined-vehicle (SDV)

Value and benefits



<https://www.renaultgroup.com/en/magazine/our-group-news/all-about-software-defined-vehicle/>

Enhance customers' experience

Establish new business models

Increase automation

Enhance end-to-end security

Enable preventative maintenance

Establish feedback loop

Challenges

HW & SW integration



ETAS/Rambus Automotive SoC Security Solution

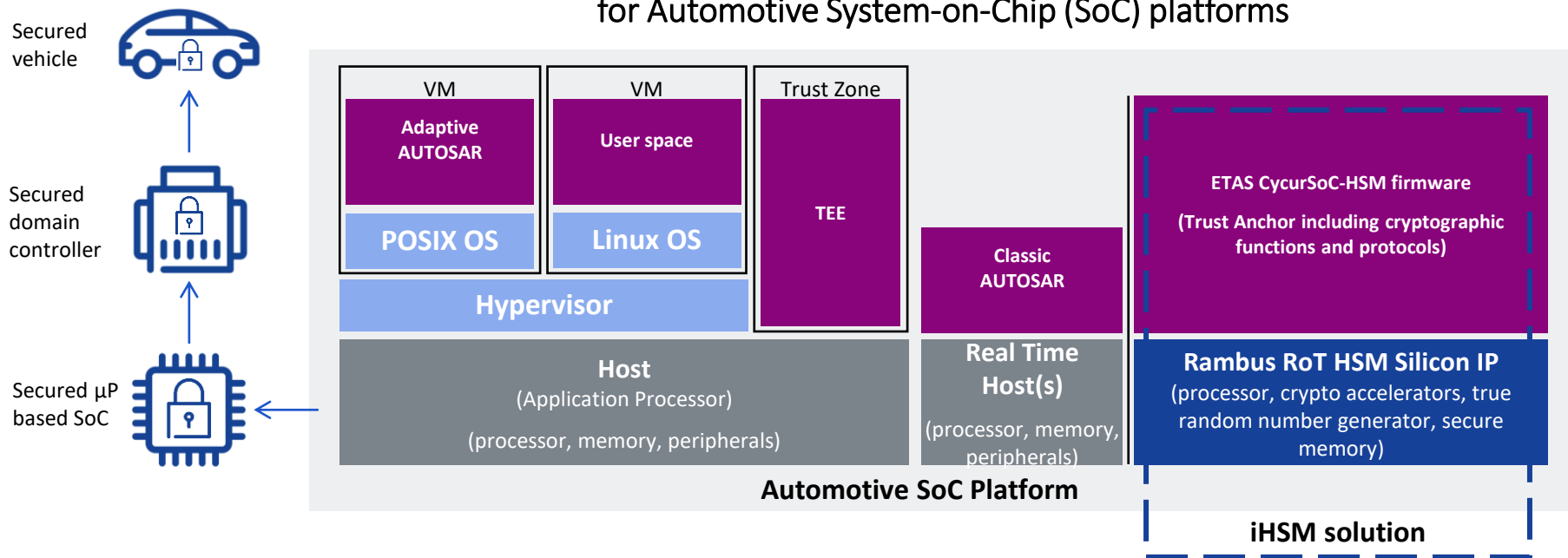


..... The pre-integrated, pre-validated, pre-certified HW/SW HSM solution

iHSM Bundled Security Solution

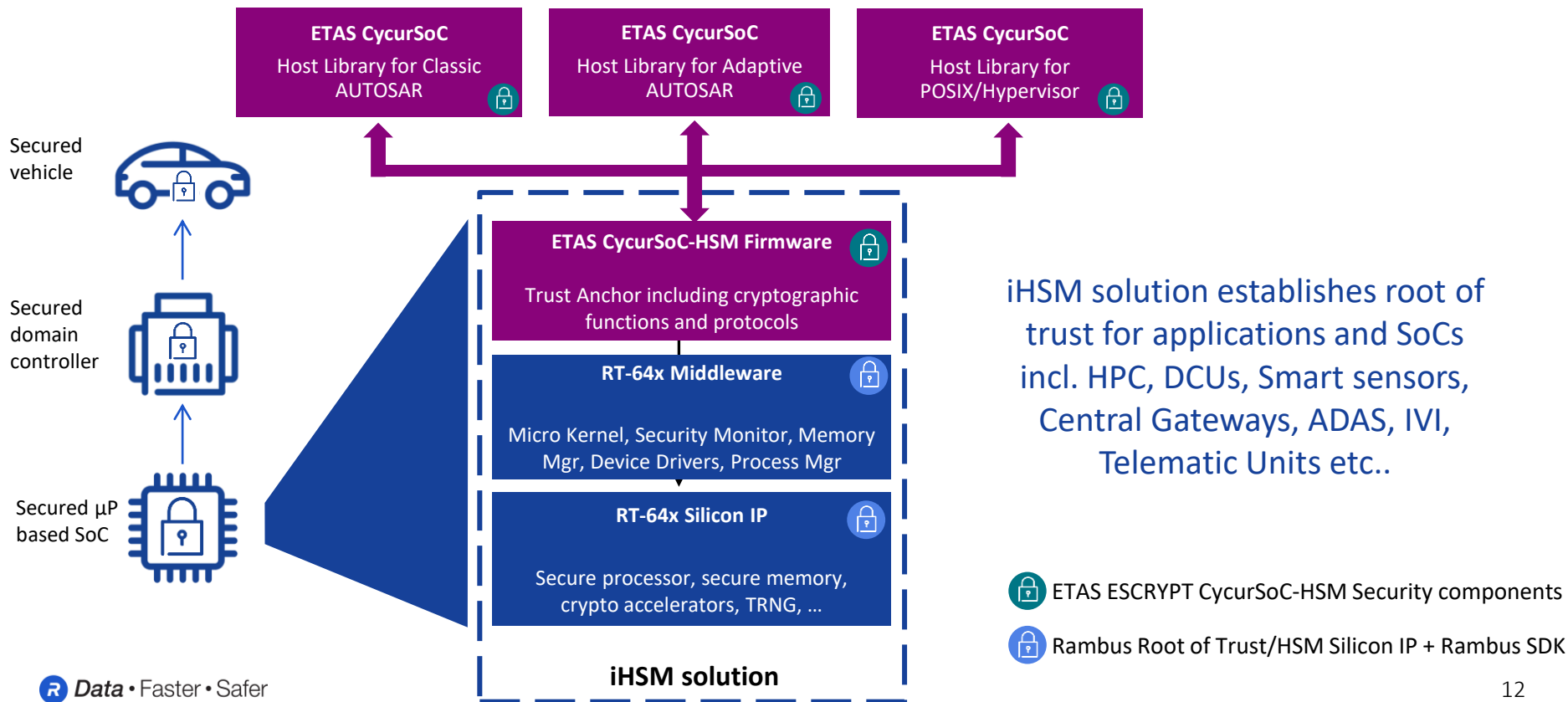
Pre-integrated, -tested and -validated solution

Full stack Rambus RoT HSM Silicon IP and CycurSoC HSM FW solution
for Automotive System-on-Chip (SoC) platforms



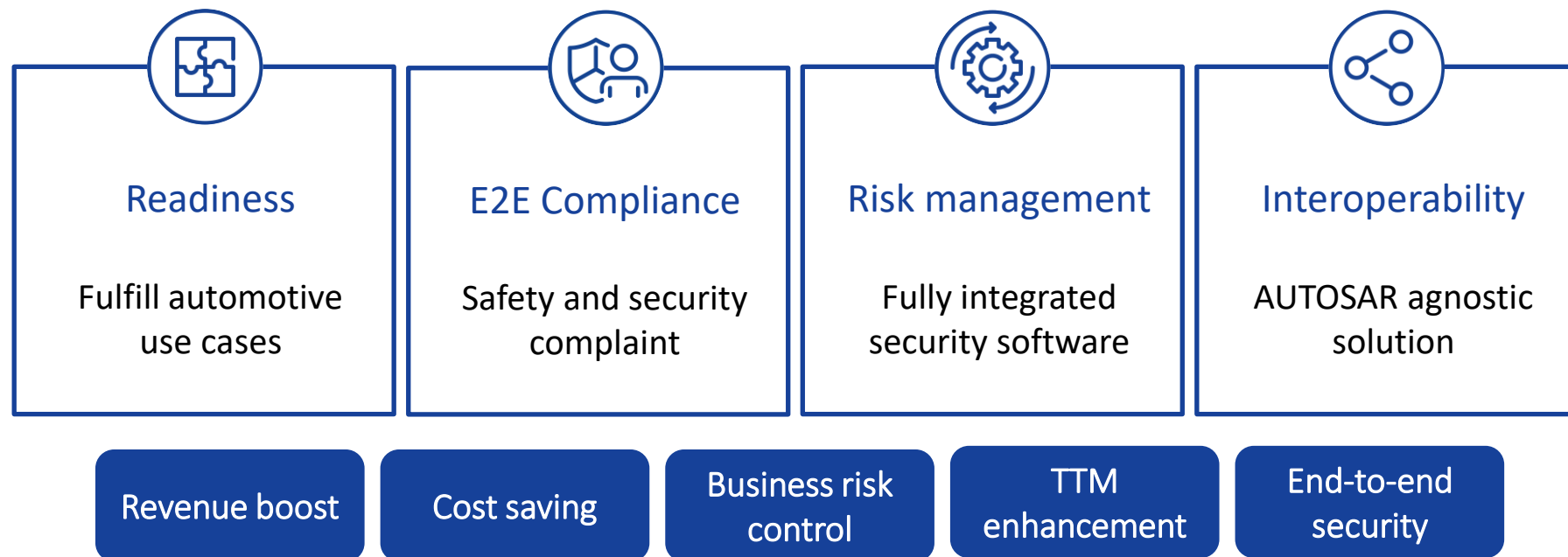
iHSM Bundled Security Solution

Pre-integrated, -tested and -validated solution



Solution Highlights

Pre-integrated, -tested and -validated solution



Summary & Call to action



Collaboration and standardization are essential for success

Automotive SoC Security Solution

Summary



Speed up the **integration** activities and development for Tier 1s and OEMs
~ 12 - 18 months timeline acceleration



Early security defect findings mechanism
~ **reducing bugs and improve time** to fix significantly



Simplify the realization of security use cases through **early integration**
Having **secure boot and communication achieved** properly right from the beginning



Achieve **technical risk mitigation** strategy and adhere to compliance regulations
Get compliant ready security solution **right from the beginning**

Call to action

The growing complexity of hardware and software in modern vehicles, the rapidly expanding cyber threat landscape, and the increasing sophistication of adversaries targeting highly connected software-defined vehicles make

- strategic collaborations for integrated security solutions and
- API standardization for hardware-software interoperability

mission-critical.

Hence a call to the automotive industry to collaborate on identifying and prioritizing key HSM hardware and software APIs for standardization to enhance interoperability and ecosystem compatibility, ultimately boosting Time to Market (TTM) and Time to Revenue (TTR) efficiency.

Thank you

