



# STMicroelectronics Automotive MCU Technical Day 意法半导体汽车微控制器技术日

## ETAS Embedded SW and Embedded Security Solutions

2017年ST汽车MCU技术日  
2017年6月6日，上海  
2017年6月8日，深圳  
2017年6月13日，北京

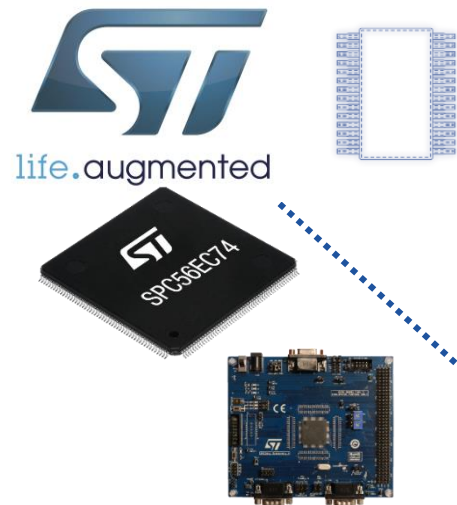


The background of the slide is a blue-toned image featuring a complex circuit board pattern on the right side and a network of glowing nodes connected by lines on the left side. The ETAS logo is centered in the middle of the slide, rendered in a bold, blue, stylized font with a slight 3D effect.

**ETAS**

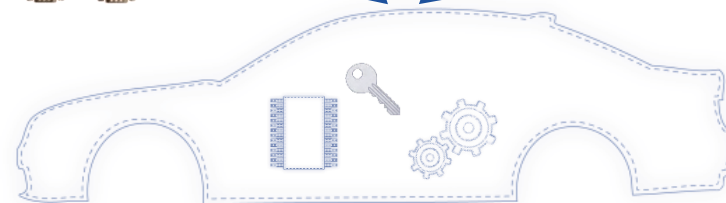
### Core Business:

HW components  
(correlated with Embedded SW)



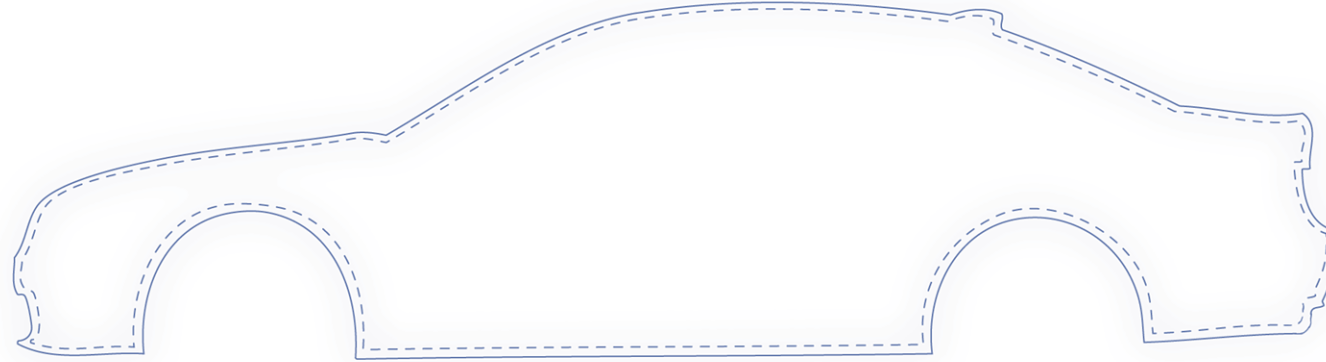
### Core Business:

Embedded SW tools and components  
Security and safety engineering & consulting



### Customer benefit: System solutions

Secure, safe, AUTOSAR-conform computing platforms and infrastructures



### Basic Software and Tools (SW licenses)

AUTOSAR turn key solutions

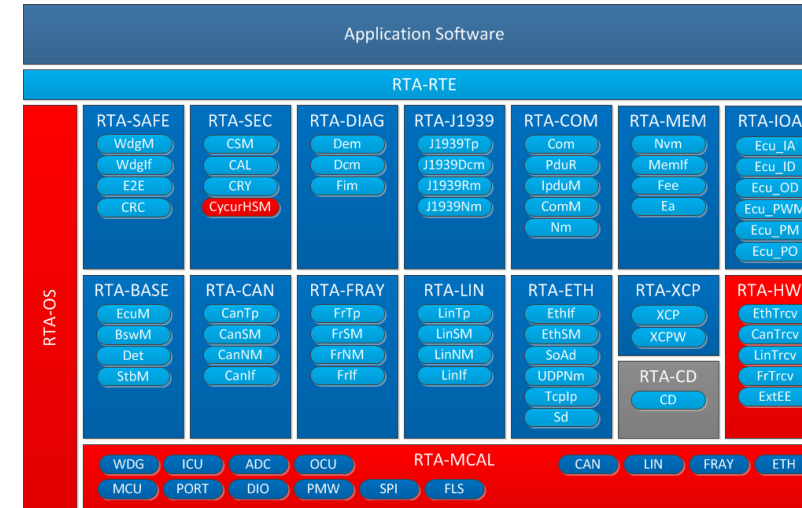
### Embedded SW Engineering Services

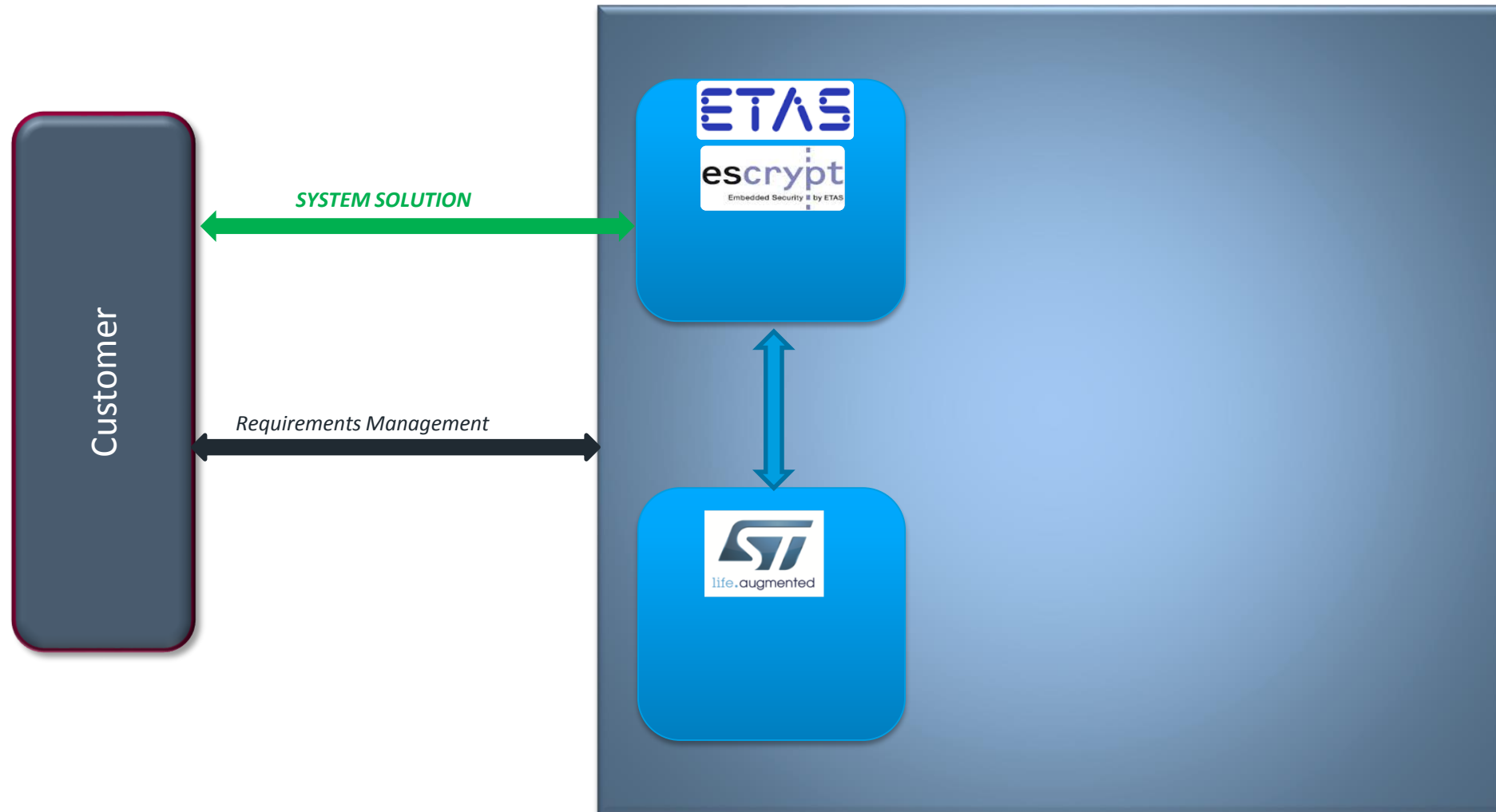
Customer-specific embedded software development (high quality and cost-effective)

### Embedded SW Consulting Services

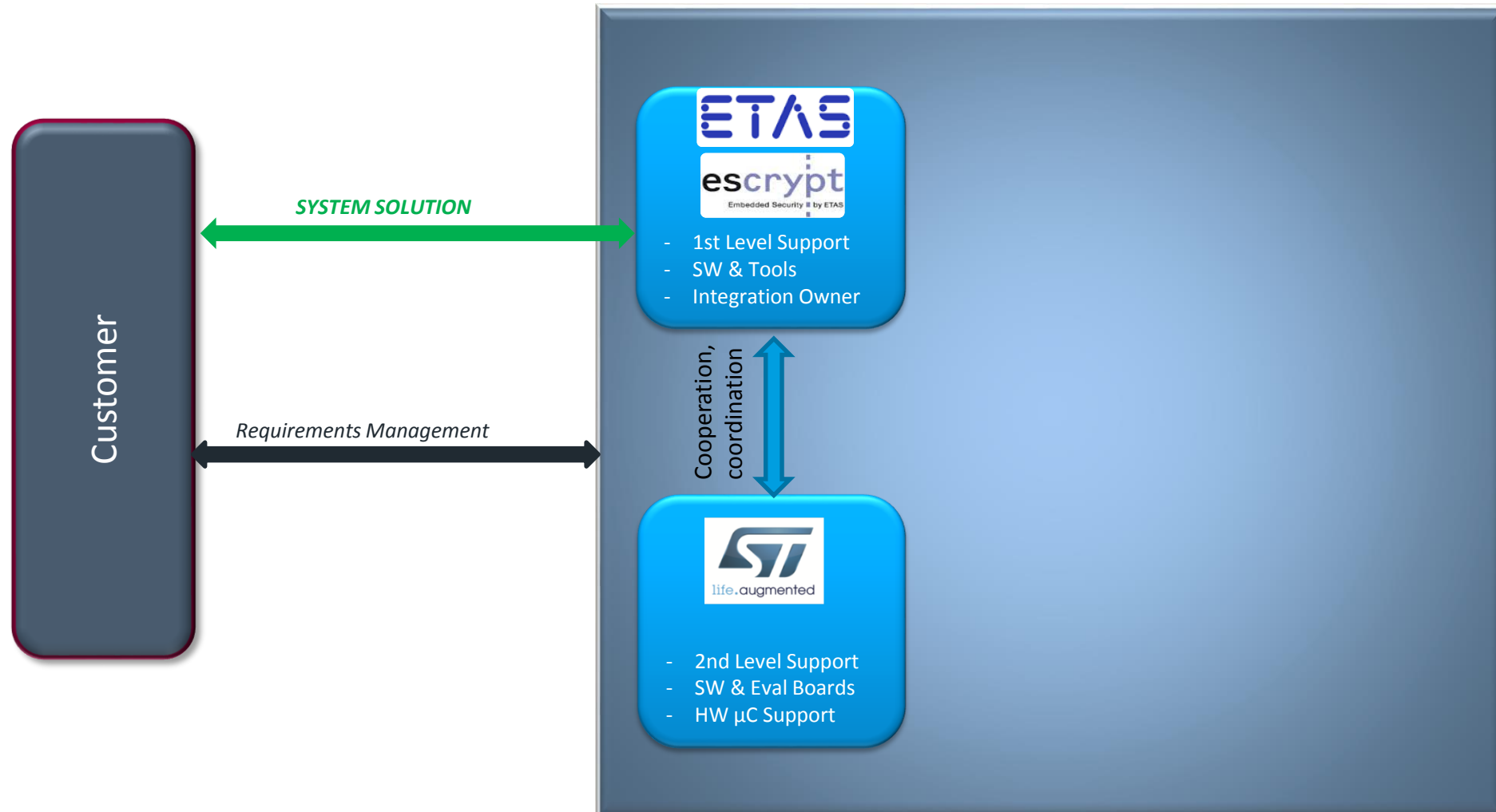
Expert support for development processes towards tomorrow's ECU architectures

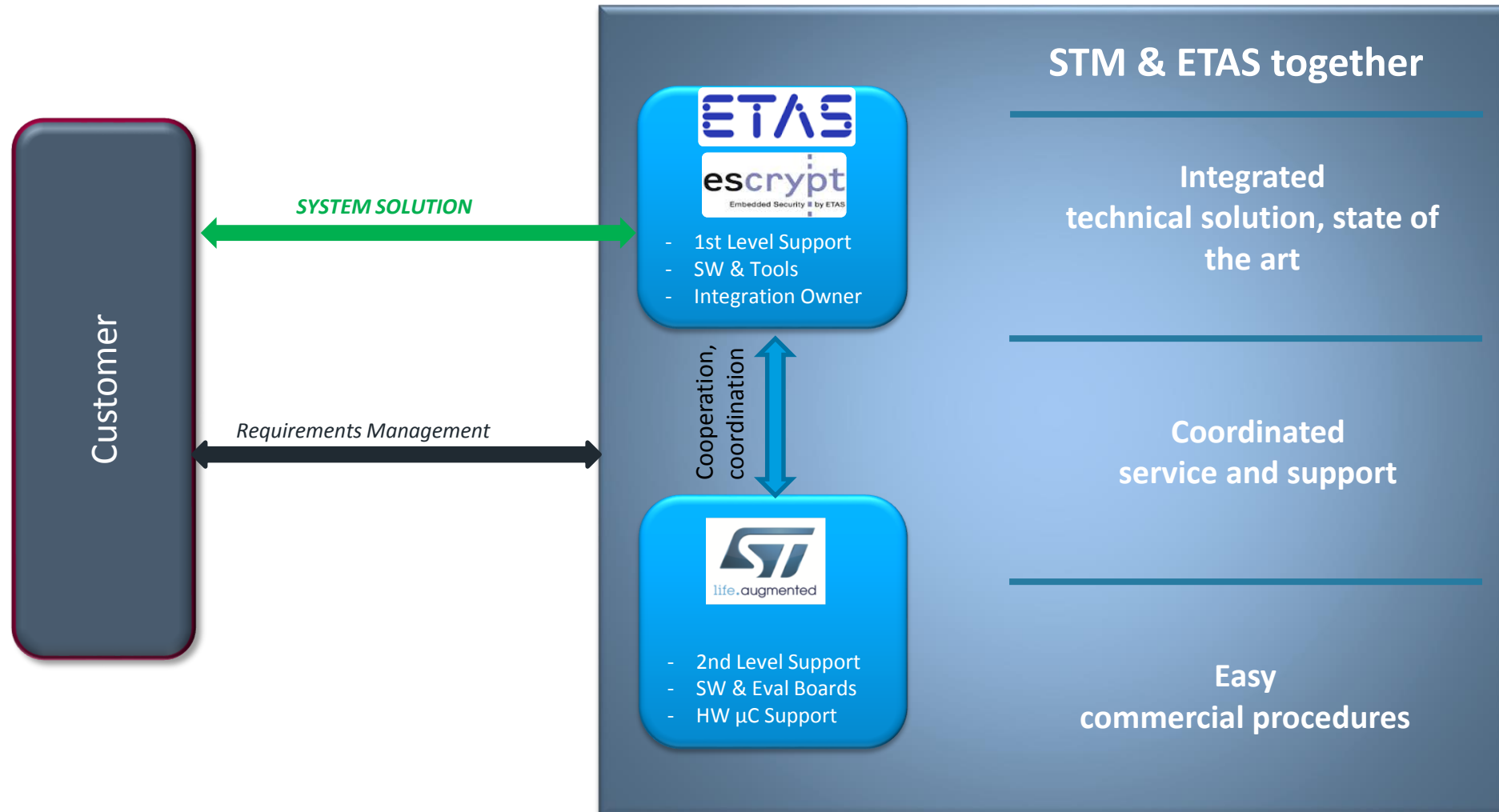
- Complete AUTOSAR stack
  - Support for AUTOSAR 4.x
- Automated configuration
  - Dedicated functionality to support common configuration tasks
- Proven in use components
  - Deployed in over 1 Billion ECUs world-wide
- Complete support for achieving ISO 26262 Compliancy
  - Functional safety qualification package supports a Safety Element out of Context-based approach



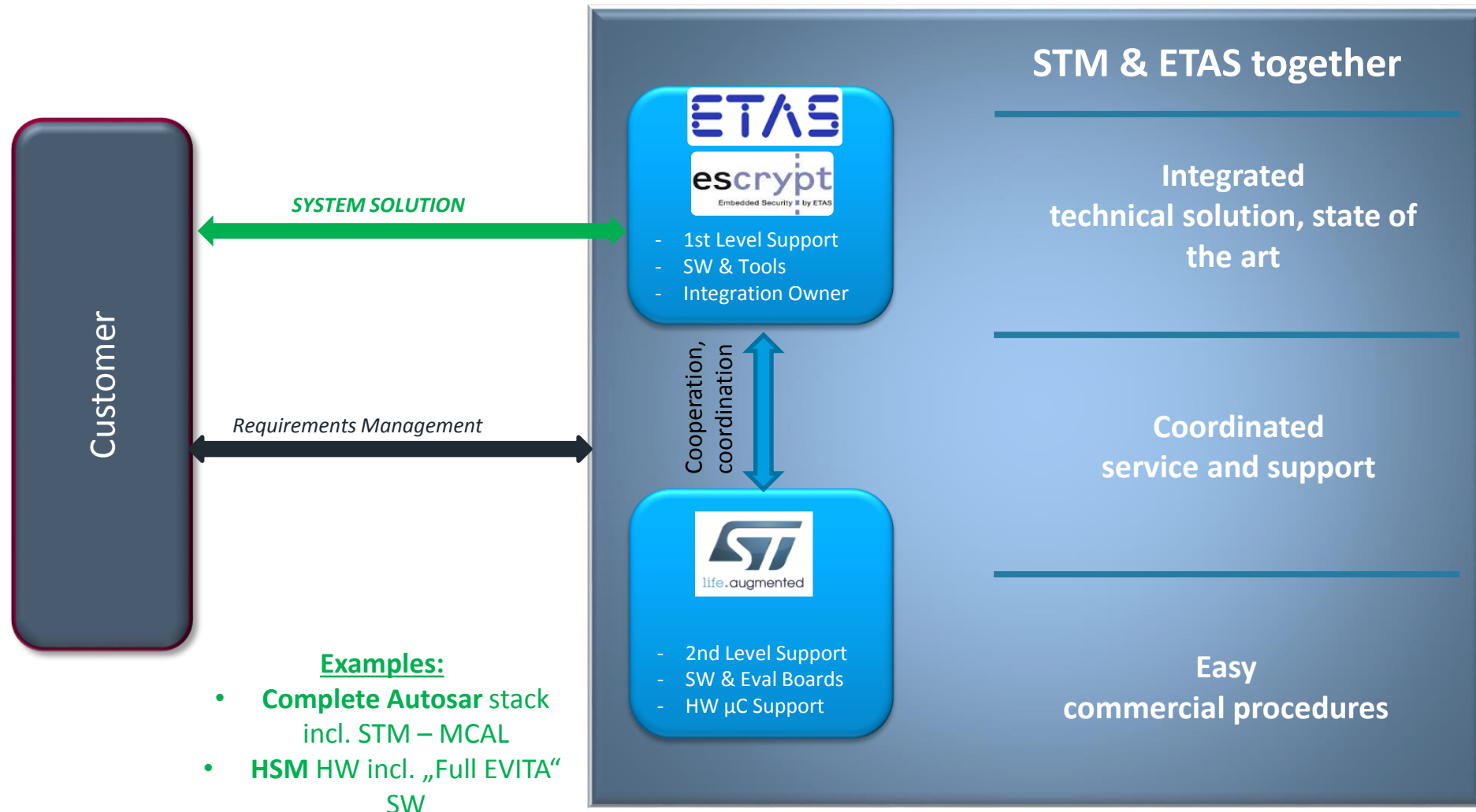


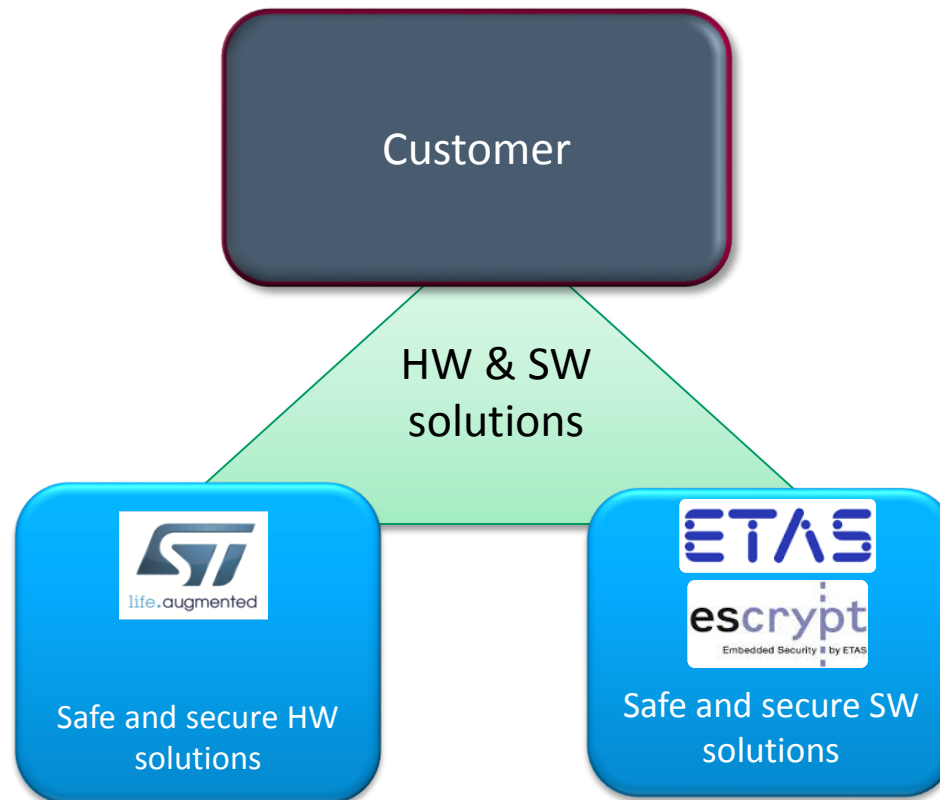










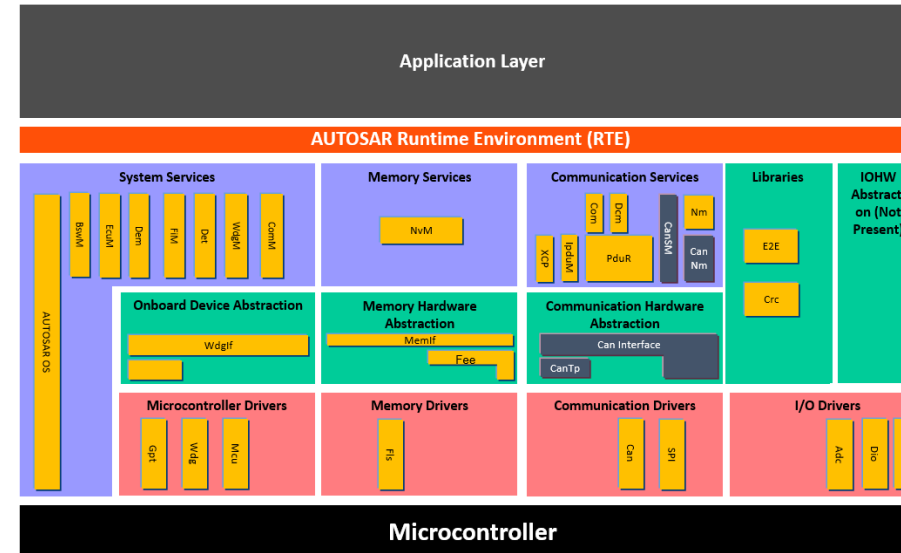


- Automotive Microcontroller system solutions
- Pre-integrated solution, validated on silicon
- Safety & Security
- Consulting / Engineering / Integration

### Starter Kit Includes

#### – Software

- Example application
- RTA-RTE
- RTA-A2L
- RTA-OS
- RTA-SAFE
- RTA-DIAG
- RTA-COM
- RTA-MEM
- RTA-BASE
- RTA-CAN
- RTA-XCP
- MCAL
- ISOLAR-A



### Execution environment

- Targeted for:
  - Specified Development board *or*
  - Virtual ECU
- **Training**
  - One week on-site training for up to 6 engineers

### RTA Starter Kit – Microcontroller-specific Package

RTA-BSW Package	Scope of configuration
RTA-RTE	Sample application software with software components using RTA-BSW services
RTA-A2L	Generate A2L file for measurement and calibration.
RTA-OS	Operating system configuration
RTA-BASE	Standard start-up/shutdown process configuration
RTA-COM	Com stack configuration includes CAN signals, NM supported, CanTP supported
RTA-CAN	
RTA-MEM	NVM blocks configured using internal flash
RTA-DIAG	Sample UDS and DTC configuration
RTA-SAFE	Wdg: alive supervision configuration E2E: sample configuration
RTA-XCP	Sample configuration for measurement and calibration
MCAL	MCAL integration and testing. Configuration

#### RTA Starter Kit on SPC58NE84 & Green Hills

- Include
  - Six month evaluation license
  - Full source RTA-BSW configuration files
  - Full source code for all RTA-BSW modules (excluding OS)
  - Full source code for example application
  - Product documentation

## Embedded Security

### Security Governance

Security-processes, Security-organisation, trainings, competency development



**Security Engineering**  
Analysis & concepts



**Security Software**  
Licenses, implementation & maintenance



**Security Testing**  
Evaluation, Testing & Certification



**Security Operations**  
Production & operation

Successful projects with major OEMs and Tier1 since 2004

USA – Europe - Asia

- ❑ ESCRYPT's CycurHSM product is a security firmware that supports the ST SPC58 microcontrollers and provides a highly optimized set of security functions to make full use of the embedded HSM technology.
- ❑ CycurHSM is a complete software stack adapted to the HSM implementation of the SPC58. CycurHSM provides the technology for fulfilling requirements regarding a flexible HSM firmware that provides open and standardized interfaces (e.g. AUTOSAR CSM) to HSM-enhanced security applications.
- ❑ The ST and ESCRYPT partnership provides a hardware enhanced security solution for automotive applications. The joint offering significantly reduces development and integration costs by providing a ready-to-use turnkey solution.





- : - Autosar BSW (v 3.2, 4.0, 4.2):
  - can be ported on **any ST µC**
  - **Chorus** based starter kit ready → See demo
  - Several **Chorus** opportunities on ETAS-side
- **RTA-OS**: PowerPC **SPC56x**, **SPC57x** and **SPC58x**, **STV0991 ARM**
- **Architecture and Safety Consulting** (for all ST µC)
- **Embedded SW / Complex driver development** (for all ST µC)



- : - HSM Firmware CycurHSM (up to „full Evita“):
  - can be ported on **any ST µC** (except **1-M** – higher effort)
  - **Eiger** and **Chorus** ports available
- Cryptographic library CycurLIB (SW) (for all ST µC)
- Key Management SW CycurKEYS for backend (for all ST µC)
- **Security Consulting** (for all ST µC)
- **Tier 1 – specific Security engineering** (for all ST µC)



# Thank you

Please feel free to ask any questions

DRIVING EMBEDDED EXCELLENCE

**ETAS**

**Yi Tang**

Senior Manager  
Software Engineering  
Solutions Technical Sales & Support China

ETAS Automotive Technology  
(Shanghai) Co., Ltd.

333 Fuquan Road North  
IBP, Changning District  
Shanghai, 200335  
P.R.China

Phone +86 21 2218 5815  
Fax +86 21 5037 2221  
Mobile +86 180 0170 6855

Yi.Tang2@etas.com  
www.etas.com