

Tessent Embedded Analytics Benefits for the vehicles systems

Lee Harrison

Automotive Test Solutions Manager



OTA

More than just an update !!



An Everyday Journey in a Connected Vehicle

The Journey



Key-On Self Test

Electronic systems self test before becoming available.



Ready To-Go

Cell phone connected to Infotainment system for personal experience.



CAN bus Compromised

Compromised APP able to access CAN bus via infotainment unit.



Attempted Attack

Attempt to access memory for critical system via CAN and system bus.



Attack Detected

System Analytics Monitors detect illegal memory access.



Attack Mitigation

Reactive Bus Sentry monitors block illegal transactions.



Data Collection

Analytics data uploaded to the cloud for offline analysis





Another Safe Happy Passenger

Development of automotive ICs



Testability — Zero defect manufacturing test



Safety — In System functional safety

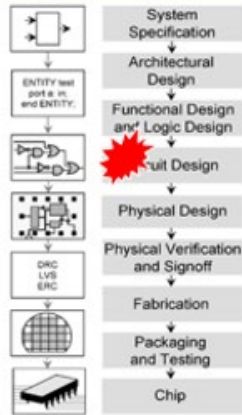


Security — Cyber security monitor and secure access



SLM — In-Life data collection

Requirements for automotive ICs

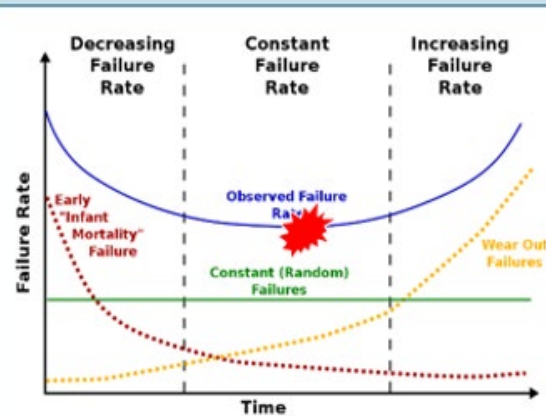


Systematic Faults

Does my product operate correctly?

Systematic Faults

- Incomplete Specs
- Bad RTL
- Verification gaps



Random Faults

Does my product fail safely?

Random Faults

- EMI or electro-migration
- Permanent or transient

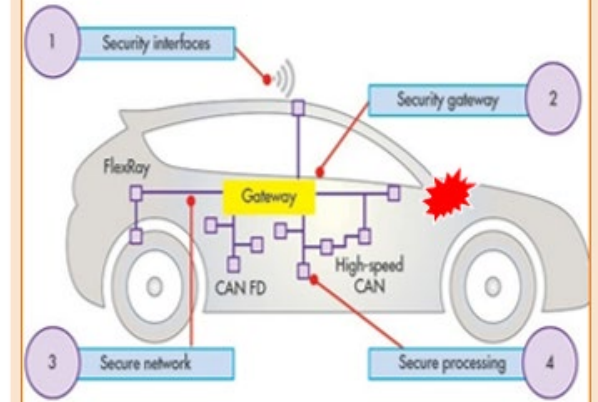


System Faults

Does my system operate safely?

System Faults

- Environmental
- External causes
- V2X



Malicious Faults

Is my product secure from hacking?

Malicious Faults

- Encryption Vulnerabilities
- Denial of Service
- Untrusted IC

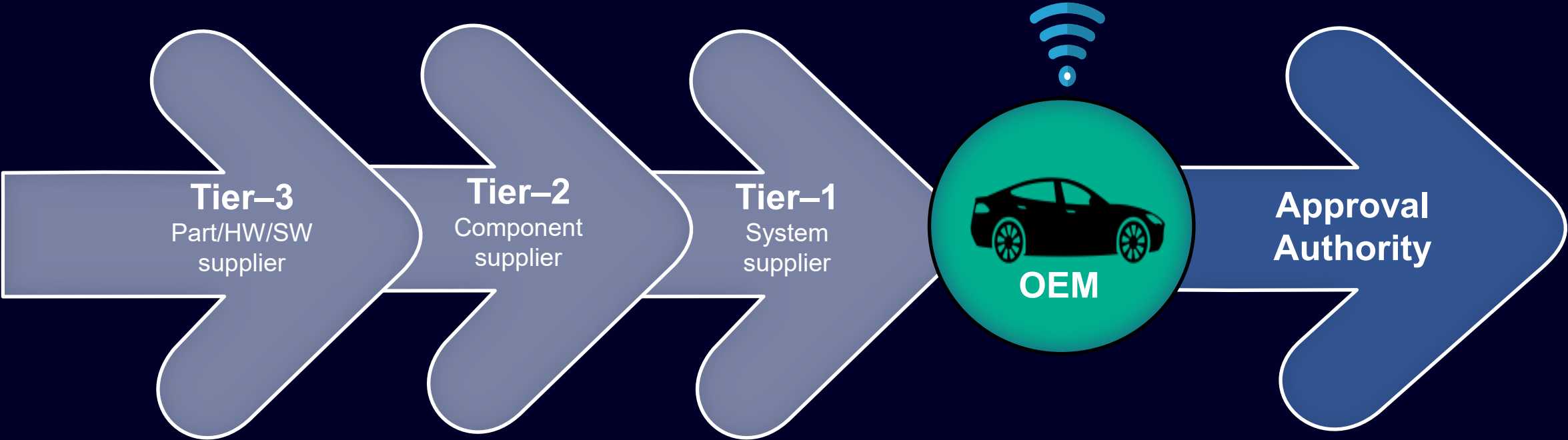
Safety - ISO 26262

Safety - ISO 26262

SOTIF – ISO 21448

Cyber Security - ISO 21434

Requirements for automotive systems



Contact

Published by Siemens EDA

Lee Harrison

Automotive Test Solutions Manager

Tessent Division

Phone +44 7810 757413

E-mail lee.harrison@siemens.com

Disclaimer

© Siemens 2022

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

All product designations may be trademarks or other rights of Siemens AG, its affiliated companies or other companies whose use by third parties for their own purposes could violate the rights of the respective owner.