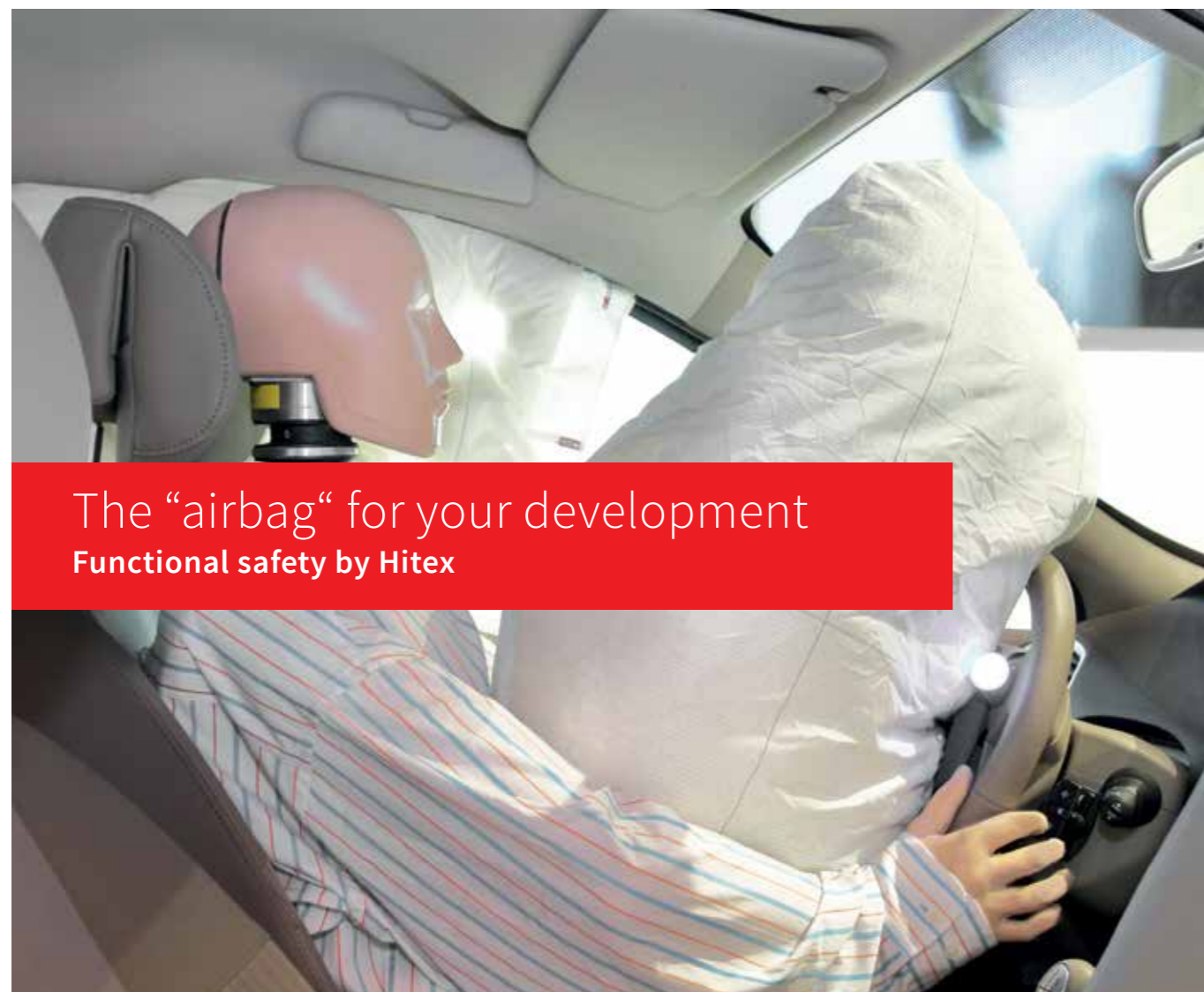




Achieving functional safety
With the right tools and services

- > Tools and services for functional safety and embedded security



The “airbag” for your development Functional safety by Hitex

Safety services

EU directives and statutory provisions are putting extreme pressure on companies to develop systems that are compliant to standards such as IEC 61508, ISO 13849 and ISO 26262. This is often considered a Herculean task. For this reason, a large number of customers rely on Hitex’s expertise and experience to aid their journey to certification.

Safety and security know-how from the experts

- ✓ Safety consulting/training/services
- ✓ Safety software tools
- ✓ Safety components

Consulting & training

Standards can impact the operating principles of organizational units involved in the development of safety-related systems. By working together with you we discover whether your inhouse processes are already “safety-ready”.

Tailor-made training courses equip your team members with all the safety knowledge they need.

System design

Starting from the system design requirements specification we support you in the design of your safety-related system. With the right safety concepts and measures, all requirements for safety functions and safety integrity are fulfilled.

HW & SW development

When your safety project reaches the actual implementation stage, you can count on our broad standards-compliant hardware and software development experience.

Quality assurance

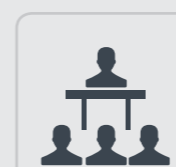
Quality matters, especially in safety projects. We are glad to help you ensure quality by conducting design, code, hardware and documentation reviews as well as quantitative and qualitative analyses.

Software testing

Unit testing is an important step during the development cycle which is mandatory for certification. If you choose the Hitex test service you have one thing less to worry about.

Certification

Certification can be challenging. We support you through the entire process so that an appropriate safety case is available for the assessor on time.



Consulting



Design



Development



Functional
Safety



Testing



Certification



Static and dynamic software analysis

Embedding quality according to standards

Secure, fast and compliant code development

Development teams create ever more amounts of code in shorter periods of time, standards are becoming increasingly stringent and the bugs and errors in programs are becoming increasingly difficult to detect. With all the increasing complexity – how can we protect our customers from issues such as data leaks and program crashes? And how can we detect errors earlier in the development process and enable developers to create useful features for customers instead of fixing errors in code?

Detecting code errors with Klocwork

- ✓ On-the-fly analysis
- ✓ Drag-and-drop report preparation
- ✓ Cross project impact analysis
- ✓ Team licences available
- ✓ SIL3 (IEC 61508) or ASIL D (ISO 26262)

Automated module / unit testing and debugging

TESSY performs automated dynamic module/unit and integration testing of embedded software and determines the code coverage along the way. This kind of test is required for certifications according to standards such as DO-178B, IEC 61508, ISO 13849, IEC 62279, or ISO 26262. Integrated with TESSY is the Classification Tree Editor (CTE), a tool to specify test cases systematically according to the Classification Tree Method (CTM).

Unit / module testing with TESSY

- ✓ Automated module/unit/integration testing on target hardware
- ✓ Code coverage measurement
- ✓ C and C++ code supported
- ✓ Many microcontrollers supported
- ✓ IEC 61508 and ISO 26262 (including ASIL D) compliant



Teamwork for a safe and secure product

Tools and components that really fit together

From safety libraries to a pre-certified real time operating system – we have all the components you need to rapidly realize your safety critical system.

IEC 61508

The standard IEC 61508 is the most fundamental standard for functional safety and is applicable to all kinds of applications. A multitude of standards for different industries have been derived from IEC 61508.

ISO 26262

The standard ISO 26262 is an adaptation of the functional safety standard IEC 61508 for automotive electrical and/or electronic systems. ISO 26262 defines functional safety throughout the complete automotive product development process ranging from the specification, to design and implementation, verification, to the final production release.

IEC 61508

IEC 61513

IEC 62061

EN 50126 /
EN 50128 /
EN 50129

ISO 26262

Safety components – why start from scratch?

Microcontroller self-test

Microcontrollers constitute the heart of many embedded designs. When used as part of a safety-critical system, one question arises: How can the safety of the microcontroller itself be guaranteed?

> **PRO-SIL™ for Infineon TriCore™ and AURIX™ microcontrollers**

The PRO-SIL™ libraries with extensive silicon self-tests are designed to meet the needs of IEC 61508 and ISO 26262. They eliminate man-years of development work and simplify the certification process.

> **Class B Solutions for White Goods**

Home appliances sold in Europe often have to comply with the IEC 60335/60730 standards. Hitex has developed several Class B self-test libraries for different microcontroller architectures.

Operating system

SAFERTOS is a unique real time operating system specially designed for 32-bit microcontrollers; it has been developed in accordance with the requirements of IEC 61508-3 SIL3 and is available pre-certified by TÜV SÜD.

File system

SafeFLASH is a file system designed for high performance and safety. It can be used with all NOR and NAND flash as well as any media that can simulate a block-structured array. SafeFLASH supports dynamic and static wearlevelling and provides a highly efficient solution in which data integrity is critical.

MISRA-compliant TCP/IP stack

The TCP/IP stack from HCC makes no compromises regarding quality. It is MISRA-compliant and validated using advanced verification tools. Therefore it is ideally suited for your safety system.

Encryption

The explosive growth of internet connected devices calls for solutions to meet the surging demand for big data, scalability, privacy and security. We offer solutions that target embedded applications where memory, power and performance have to be carefully balanced. To supply you with the best encryption solutions, we offer the embedded security solutions from Cypherbridge Systems. For applications that require security in an AUTOSAR environment we offer the SHE+ software components.

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Consulting

Engineering

Testing

Training

Tools

Software
Components

Systems
Manufacturing