



Elektrobit

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Elektrobit (EB) Automotive Consulting

Manage challenging automotive software projects



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The automotive industry has been rapidly transformed during the last few years. The days when cars were just a means of transportation are behind us. The automotive industry must address these shifts in customer expectations along with the constantly expanding regulatory requirements for fuel economy on the one side and safety on the other.

These changes require improvements in the physical design of cars, but also an evolution—even revolution—in software capabilities. That poses a serious challenge to manufacturers: it takes years to develop a new car and the design is locked down early, but the lifecycle of software is measured in months.

The EB Consulting team helps carmakers and suppliers manage this challenge. We consult with you on developing next-generation software and handling complex development projects. As an established, global software company with more than 1.500 experts and a broad portfolio of products and solutions, we know how to run successful projects. To provide sustainability our safety consulting projects can also be accomplished with trainings taught by experienced trainers. They use modern teaching methodologies, such as blended learning, and provide training materials ideal for later references. Of course all our courses can be tailored to the specific needs of your organization.



Functional Safety Consulting

Meet demanding Functional Safety requirements

Today the expectations on cars include a growing number of on-board systems and sensors. That makes functional integration more complex. We can help you extend your existing development and production processes to fulfill the increasing demands of applicable safety standards.

Functional Safety Training

To introduce Functional Safety, we start with awareness training. Our experienced trainers will raise the general understanding of safety through modern training methodologies such as blended learning. Once everyone understands the basics, later role-specific courses go into more detail.

Maturity-level enhancement

Organizations have different levels of maturity when it comes to safety understanding and practice. EB provides a framework to track safety maturity starting from day one. This high level of transparency helps development teams, quality leads and managers stay focused. Our pragmatic approach avoids over-engineering and our experience in the field allows us to support you in any additional efforts required to address safety.

Proven toolbox for safety projects

Our experts take advantage of a tool chain we have successfully used in many ASIL certified development projects. We know the international safety standards and use proven templates and best practices to handle the work products required for standards like ISO 26262 and IEC 61580. We then adapt our tools to the extent needed to work within your specific project environment.

Our services cover:

- ▶ Evaluate maturity level
- ▶ Conduct a gap analysis based on IEC 61508, ISO 26262, and SPICE
- ▶ Support the definition and implementation of safety strategies
- ▶ Introduce safety concepts
- ▶ Perform Functional Safety engineering and management



Software Architecture

Tackle automotive software and embedded systems

In the changing automotive industry, software is becoming a critical differentiator. It enables key features that set you apart from your competition.

Your software is built on the architecture you pick. It sets engineering boundaries and provides rules and cornerstones to which your applications and software modules must conform. That means picking the right architecture has a lasting market impact.

EB has the know-how to help you pick the right architecture and define infotainment and electronic control unit (ECU) Software Architectures that offer a separation of elements, easy maintenance, and the ability to reuse assets. We'll help you create a foundation that support successful large-scale software projects and enable software reuse to reduce development time and costs.

Benefit from our expertise:

- ▶ **Decrease your manufacturing costs** by reusing software code for new devices and car models, as well as by reusing the custom development environment in future projects.
- ▶ **Shorten development cycles** and become more responsive to market changes by using modern software development methods.
- ▶ **Reduce time to market** by making the right choice and using proven third-party software and open-source systems.
- ▶ **Gain control** of your code by avoiding supplier lock-in.

Our services cover:

- ▶ Identify relevant trends and technologies to provide a basis for your software strategy
- ▶ Define and implement software strategies that enable hardware/software separation
- ▶ Create a Software Architecture and ownership criteria
- ▶ Ensure reusability of selected assets



State-of-the-art software development for the automotive industry

Benefit from the Lean Development:

- ▶ **Increase your cost control** through continuous customer collaboration and frequent deliveries of working software.



Lean Software Development services

Agile Contracts and Collaboration Models

Client relations in an agile framework

Although agile development has flourished for many years in the IT sector, it is only recently been introduced to the automotive industry. Moving successfully to agile methods in automotive development means adapting elements of different agile models and combining them with automotive standards. It is a complex undertaking requiring a great deal of management expertise, a supportive corporate culture, and a high level of mutual trust.



Lean Software Development services

Software Project Execution

Successful execution of highly challenging software projects

The more complex the product, the harder it is to manage and control the development project. To control the project and stay within budget, responsibilities should be split between “doing it right” (Project Management) and “building it right” (Development). Agile software project execution promotes the right mentality.

How Lean Software Development improves your project:

- ▶ All project members share the same view of the project. Everyone knows what to do next and knows the status and context of features and development tasks, allowing for better decision-making.
- ▶ At each interim release, the software must pass tests to check if all features are implemented correctly, as well as regression tests to detect problems and address them.
- ▶ The teams are involved in estimating the actual effort needed to incorporate all features, ensuring sufficient time for proper development and testing to keep the software quality high.
- ▶ Teams identify and remove blockers at each development cycle by concentrating on the most significant impediments first.
- ▶ Scope is controlled by evaluating and ranking features and bugs during project runtime. That lets the project lead focus on the highest value items first, filtering out features with a low value/cost ratio.
- ▶ Teams are empowered and responsible for creating high quality software. That ownership makes development more rewarding than in the traditional way where developers are simply assigned tasks.



EB Automotive Consulting

Your benefits with EB Consulting



Faster time-to-market

Speed up innovations so you can offer new features sooner.



Reduce costs

Increase your component reuse, so you can adhere to or beat deadlines and achieve greater cost saving.



Increase quality

Increase the quality and maturity of software in the long term.



Reduce Risk

Reduce risk through process improvements and transparency in software development.



Manage Safety

Handle the impact of Functional Safety through efficient execution of safety critical projects.



Contact us



EB is a global company with branch offices all over the world.

About Elektrobit

Elektrobit (EB) is an award-winning and visionary global supplier of embedded software solutions and services for the automotive industry. A leader in automotive software with over 25 years serving the industry, EB's software powers over 70 million vehicles and offers flexible, innovative solutions for connected car infrastructure, human machine interface (HMI) technologies, navigation, driver assistance, electronic control units (ECUs), and software engineering services. EB is a wholly owned, independent subsidiary of Continental AG.



Elektrobit Automotive GmbH
Am Wolfsmantel 46
91058 Erlangen, Germany
Phone: +49 9131 7701 0
Fax: +49 9131 7701 6333
www.elektrobit.com

