



Elektrobit

EB training courses 

Become an automotive leader



elektrobit.com



Elektrobit

About Elektrobit

Elektrobit (EB) is an award-winning and visionary global supplier of embedded and connected software products and services for the automotive industry. A leader in automotive software with over 30 years serving the automotive industry, EB's software powers over one billion devices in more than 90 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 training courses

We love software and it is our passion to keep pushing the industry forward. We are convinced that our products are a worthwhile investment for your own software development and we have developed our product training to enable our customers to use our products in the most efficient way. Furthermore, we are keen to share our in-depth know-how about selected methods and technologies that has helped us at EB to become even more successful and deliver high-quality products. Our trainers work closely with our development department which helps them to always stay up-to-date and to be able to immediately incorporate newly-acquired knowledge and current trends in their training portfolio.

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Our EB training categories

To guide you through this brochure,
we have divided our training courses
into three different categories:

Product training

is related to our products. Learn how to use our products in the most efficient way from an expert who is also involved in the product development or project execution.

Technology and standard training

is related to obligatory or valuable technologies and standards. Learn how to align your software development to deliver best quality products.

Method training

is related to methods and techniques that improve the quality of your work and/or your software. Learn how to gain added value with these methods in the way we did.



About EB Assist ADTF

EB Assist ADTF (Automotive Data and Time-Triggered Framework) is a tool for the development, validation, visualization, and test of driver assistance and automated driving features that includes the latest technology. You can deliver advanced driver assistance systems (ADAS) and highly automated driving (HAD) features to your customers with EB Assist ADTF. This trustworthy tool is flexible, efficient, extendable, and stable.

EB Assist ADTF user training

Start working with EB Assist ADTF



During this training course you get all necessary information about EB Assist ADTF, its architecture, user interface, tools, and modules included to be able to work with it right after the training. Through practical exercises you learn how to create individual configurations from scratch and how to use and configure the modules and tools incorporated.

Duration: One day

Available for EB Assist version 2 and 3

EB Assist ADTF developer training

Develop new modules and tools



This training provides you with fundamental knowledge of the architecture and the different layers of EB Assist ADTF. Through a detailed explanation of the interfaces and services provided, you learn how to create new plugins for data processing, hardware device connections, and for visualization based on OpenGL and Qt. To make sure there are no questions left unanswered, the training includes practical exercises on all topics.

Duration: Three days

Available for EB Assist ADTF version 2 and 3

EB Assist ADTF transition training

Migrate your modules from version 2 to 3



If you need to migrate your plugins from EB Assist ADTF version 2 to 3, join the EB Assist ADTF transition training. It provides you with comprehensive basic knowledge of EB Assist ADTF 3, its architecture, software development kit (SDK), and usage. You also learn how to use the EB Assist ADTF 3 Support Toolbox that allows communication between version 2 and 3 instances for a step-by-step transition of projects.

Duration: One day



About EB GUIDE

EB GUIDE is the technology behind some of the best industrial user interfaces in today's cars. With EB GUIDE you can create best-of-breed head unit and instrument cluster HMIs. EB GUIDE is more than a tool - it makes an automotive software development process possible, leading to world class automotive HMI.

EB GUIDE Studio training

Discover easy-to-use, model-based development



Start with basic EB GUIDE concepts such as the architecture overview and graphic user interface components. Then, move on to advanced topics such as working with 3D objects and testing your model. Take advantage of the individual exercises and hands-on workshops to discover the workings of the tool.

Duration: Three days

Available for EB GUIDE version 6

EB GUIDE Speech Extension

Add speech to your GUI



Have you completed our extensive EB GUIDE Studio training or are you a current user of the tool? This one-day course shows you how to model and build your speech-enabled HMI in parallel with your graphical user interface. It walks you through basic concepts and ends by showing you how to add speech support for multiple languages. The EB GUIDE Speech Extension training follows our extensive EB GUIDE Studio training. Take this training once you've

completed the EB GUIDE Studio course or if you are an existing user of EB GUIDE Studio and are interested in adding speech to your GUI.

Duration: One day

EB GUIDE Graphics Target Framework (GTF)

Learn how to run the entire toolchain



EB GUIDE GTF is the target runtime environment for the UIs that are specified within EB GUIDE Studio. This training shows you how to run the entire toolchain from EB GUIDE Studio to the target hardware. You also learn how to use the new target-related feature EB GUIDE Script and how to extend the GTF with your own functionality.

Duration: Two days



About EB robinos

EB robinos provides key software components to bring automated driving functions and systems to mass production. The software framework behind these products helps to overcome the complexity involved in automated driving. The standardized and modular approach behind this offering defines a functional architecture and open interfaces between software components as well as external interfaces that greatly reduce complexity, effort and costs, and allows higher competitiveness and thus better functions for the consumer at the same time.

EB HAD basics training

Master the working principles of automated driving



During this training you acquire fundamental knowledge of highly automated driving. This helps you to get an overview of the overall architecture. Learn what information is provided by sensors and how this information is combined by fusion components. You also learn how an automated vehicle makes decisions and plans its maneuvers, about the actuator interfaces of a car, and how safety management works.

Duration: One day



About EB tresos Studio

Rely on a consistent, single-tool environment for electronic control unit (ECU) development with AUTOSAR. EB tresos Studio lets you configure, validate, and generate your ECU basic software (BSW). EB tresos Studio is the tool environment for our EB tresos AutoCore and EB tresos OsekCore. With its importer and generator interfaces, the tool fits perfectly into the AUTOSAR workflow and can be seamlessly integrated into existing toolchains. This allows the integration of company-specific basic software modules and legacy software components.

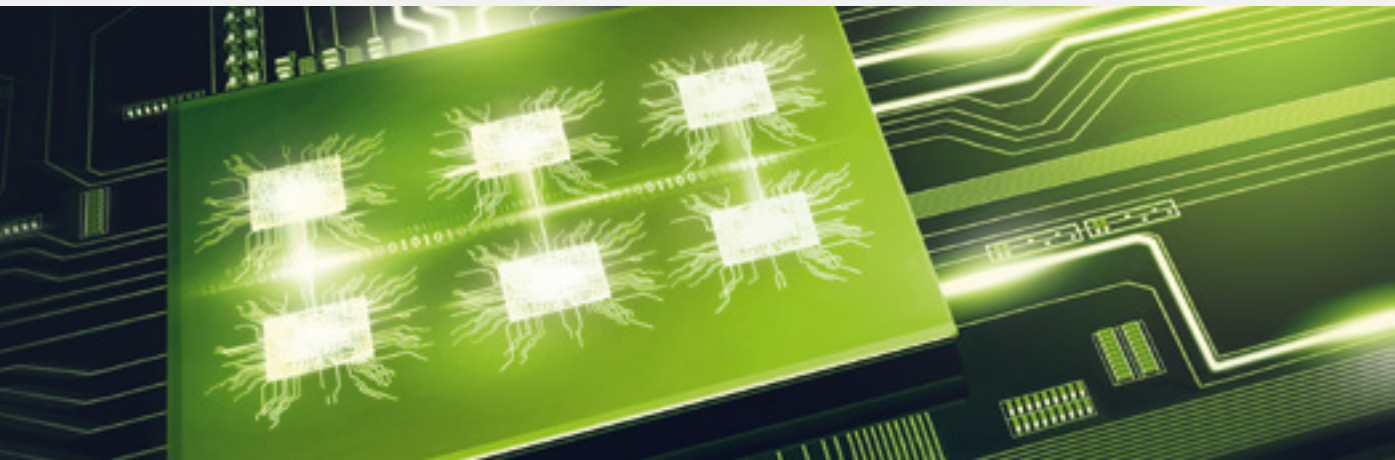
EB tresos Classic AUTOSAR

Learn about the function and interaction of AUTOSAR



Get a detailed overview of the function and interaction of AUTOSAR software modules. This training provides comprehensive information about the concepts, architecture, and methodology of AUTOSAR. In addition to the new possibilities offered by AUTOSAR applications, you are introduced to the migration scenarios for existing applications. Exercises are done with ArText for the application design and with EB tresos for the basic software configuration.

Duration: Three days



About EB corbos

Develop your high-performance controller (HPC) with our feature-rich development tool on top of EB's scalable software performance platform that supports various operating systems, virtualization, and Adaptive AUTOSAR middleware.

EB corbos Adaptive AUTOSAR training

Enter the automotive world of high-performance computing



Acquire a fundamental overview of the concepts, the architecture and the methodology of AUTOSAR and deepen your theoretical knowledge through individual exercises. Develop applications for high-performance controllers with EB corbos Studio, integrate EB corbos AdaptiveCore, our software base for safe and secure high-performance controllers, and use the EB corbos Demonstrator.

Duration: Three days



About functional safety

Functional safety is one of the crucial key technologies in the automotive industry. The rising degree of automated driving raises the amount of electronic functions that define the driving experience – and these functions must be safe. Car makers therefore rely on AUTOSAR and need ECU software that is developed and integrated in compliance with ISO 26262 functional safety standard. Meet your customers' needs and gain an initial understanding of this topic through one of the leading companies in automotive software that deals with functional safety according to ISO 26262.

Functional safety introduction training

Get an initial overview of functional safety according to ISO 26262



This training provides you with a basic overview of functional safety, ISO 26262, and its connections to surrounding processes such as ASPICE. Understand the implications of a safety related development and be able to decide about your next steps, e.g. further necessary qualification measures.

Duration: Four hours

Functional safety training

Become an expert in conducting safety-related projects



This training highlights some of the most important topics in conducting safety-related projects. Starting from the ASIL derivation it goes through the software development and supporting processes such as the software tool evaluation and qualification, right down to safety analyses like FMEA and HAZOP. Hands-on exercises during the course deepen your knowledge, enabling you to participate in developments according to a safety standard.

Duration: One day

Safety for map-based applications

Recognize the challenges in order to find innovative solutions



This training provides detailed information about the challenges that maps create in the context of safety-related applications. Raise your understanding by discussing several use cases for reliable maps in highly automated cars and evaluate failure sources in the whole ecosystem before you learn how to apply ISO 26262 to the map backend.

Duration: One day



About embedded vehicle security

Vehicle software systems are becoming increasingly complex. An ever-growing number of on-board systems and sensors must communicate with one another and with external sites. That requires a setup of security mechanisms to protect systems from any damage that might result from unauthorized, external access. EB's embedded security solutions are already on the road in millions of cars. They protect ECUs, in-vehicle networks, and the connections to the outside world. Our security solutions consist of efficient embedded cryptography architectures based on AUTOSAR, and customer-specific requirements. Benefit from our experience by attending our security-related training courses.

Embedded vehicle security

Raise security awareness across organizations

Not everybody needs in-depth knowledge of security, but security is truly everybody's business.

Introduction to embedded vehicle security

This training is targeted at engineers who need a basic understanding of security to be able to implement suitable security measures for their engineering projects.

Duration: Two hours

Embedded vehicle security for managers

This training is targeted at management levels where a basic security understanding is necessary to assist them in implementing suitable and economic security measures in their area of responsibility.

Duration: Two and a half hours

Embedded vehicle security design

This training targets project leaders and product developers for which application-related knowledge of embedded security is an important tool for secure automotive development.

Duration: Six hours

Software architecture for automotive

Develop high-quality software and functions faster



Set yourself apart from your competitors with a profound understanding of software architecture development. Come to our training course and acquire a deeper insight into automotive software architecture by discussing the technical and non-technical aspects with an expert in software architecture. You also gain a profound understanding of typical problems throughout the creation process and possible solutions.

Duration: Two days

FlexRay

Get acquainted with real-time technology and FlexRay-based systems



FlexRay is a bus protocol which has been specified by the FlexRay consortium in order to support x-by-wire applications such as steer-by-wire or brake-by-wire. Get a condensed, yet comprehensive overview of FlexRay, the time-triggered communication protocol. During this training, the main features of the protocol, the electrical physical layer, and the communication stack of FlexRay are presented.

Duration: One day

Manifesto for Agile Software Development

Individuals and interactions over processes and tools

Working software over comprehensive documentation

Customer collaboration over contract negotiation

Responding to change over following a plan

Source: <http://agilemanifesto.org/iso/de/manifesto.html>

About agile methods

With the increasing importance of electronics and software in automotive manufacturing, the industry is facing new challenges such as faster innovation cycles, greater vehicle diversity, and higher development costs. These challenges are practically impossible to overcome when manufacturers and suppliers use traditional collaboration methods. A far higher level of flexibility is needed and that requires new project organization structures and flexible contract models. Agile methods can be the answer to this challenge.

Agile introduction

Improve your work through agile methods



Learn how to improve your work results with agile methodologies. Get a detailed introduction to agile methods, including the Agile Manifesto and principles we derived from it during EB's own agile transformation. Besides theoretical content, the training includes interactive sessions where you analyze your company's current conditions for implementing agile methods, find ways to improve them, and evaluate the most suitable methods.

Duration: One day

Automotive agile planning

Learn how to set up a project that enables you to rapidly respond to changes



In many cases the automotive industry depends on consumer electronics and software that are both released in shorter cycles than a car is produced. That makes it hard to plan the full development of a car in advance. Through this training, you are enabled to tackle this issue. You learn how you can iteratively develop through prioritizing your tasks, setting up your teams for the best value creation, and using the right granularity in your roadmaps and your release planning.

Get introduced to the benefits of a ranked and prioritized backlog and see how you can still develop your product in a stable way and implement changes.

Duration: One day

Agile workflows with JIRA®

Set up, configure, and use JIRA® effectively



The issue-tracking project management software JIRA® from Atlassian® has built-in functionalities that enable teams to apply agile methodologies. Get insights into the details of Kanban and Scrum boards and acquire knowledge about the usage of JIRA® in your daily work by creating and processing work packages.

Duration: One day

Agile and safety

Combine agile methods and functional safety requirements



Increase your basic knowledge of agile development and functional safety to understand how to adapt both and how to introduce agile methods in safety-related development areas. Profit from agile development, even in automotive projects, with functional safety requirements. See how both worlds can be merged and what benefits arise, to overcome restrictions and resolve contradictions.

Duration: Four hours

Lean leadership

Become a lean leader



During this training you get a profound understanding of agile principles and gain advanced insights into their advantages. You also learn how to create optimized conditions for successful implementation and how to use agile methods in practice in the most efficient way. To ensure real added value for each participant, the training includes interactive sessions that enable the trainer to understand the individual needs of your company and give tailored advice.

Duration: Two days

Close intercompany collaboration

Optimize processes beyond company borders



A rising number of companies use agile methodologies to cope with today's challenges and look for suitable partners with similar flexible working environments. Learn how to become a potential partner in order to profit from close customer collaboration and to avoid potential risks. Learn how to successfully execute projects, how to prevent losses caused by unregulated, newly requested collaboration models, and how to start communicating and negotiating with customers

on an expert level about conditions of close collaboration.

Duration: One day

Kanban

See how to benefit the most from Kanban



Learn how to achieve just-in-time deliveries and save development time and costs by only developing what is really needed. Join this course to understand the principles, methods, and practices. Through this, gain a deep understanding of what Kanban is and how to use it sensibly within your teams. This topic is handled with STATIK (system thinking approach to introducing Kanban).

Duration: Two days

Scrum

Value working software over comprehensive documentation



You are on the verge of becoming agile and are considering Scrum? Attend our training courses to get introduced to Scrum. Learn how Scrum improves communication within your projects, how it lets you react faster to requirement changes, and how it lets you implement customer feedback within the development process. Decide whether Scrum fits your needs or, more specifically, how you can adapt it to your needs and benefit from one of the most popular frame-

works for implementing agile methods. You can also attend this training course as preparation for one of the following training courses concerning the Scrum roles:

Scrum Master
Product Owner
Scrum Developer

Duration: One day

Scrum transition boot camp

Kick-start your agile transformation at one large event



We bring together hundreds of people in a single room for two days and immerse them into Scrum for automotive. We unveil the good, the bad, and the ugly about Scrum, make it real and grow together to directly put Scrum into practice after the training. The effect is exponentially higher compared to a small training. This means not just higher motivation and satisfaction for your staff, it also increases your chances of successfully bringing your products to the market.

Duration: Four days

- Two days Scrum training for all attendees
- One day reflection and intensification at workplace
- One day training for designated Scrum Masters and Product Owners

Scrum vs. Kanban

Select the most appropriate method for your team or project



Agile teams who are used to apply Scrum or Kanban, depending on the specific needs of their work environment. During this training, the commonalities and differences of Kanban and Scrum are discussed in detail to enable you to make the right choice. From this, gain a profound understanding of the specific strengths of Scrum and Kanban. After this training you are able to select the most appropriate method for your team or project.

Duration: Four hours

Scaling frameworks

Define a scaling framework that best fits your needs



Agile methods such as Scrum or Kanban are made for small teams, but do not work for larger organizations without additional considerations. Several approaches (e.g. SAFe, Less, Nexus, or SoS) exist for scaling agile methods to larger organizations. Choosing the right approach requires understanding these methods and their risks. During this training we provide you with all necessary theoretical information and help you to define the most suitable agile approach for your

company. You also learn how to setup multi-team projects and benefit from organizational and process overhead minimization as well as regular software deliveries in short iterations and much more.

Duration: One day



About EB Automotive Consulting

EB Automotive Consulting helps car makers and suppliers develop next-generation software by generating strategies to handle complex software development projects. We combine the benefits of business and technical consulting with engineering services, to ensure you sustainable improvements beyond our joint projects. The training courses that are offered in this brochure supplements our consulting offering to its best.

EB Automotive Consulting is your dedicated partner for introducing, improving, and implementing:

- Software architecture concepts and development processes
- Agile transitions and methods
- Functional safety concepts and development processes

Become an automotive leader!

Join our training courses

Open training courses

For open training courses we provide specific dates, a location, and catering. The schedule for our open training courses is set by the trainers. They are all experienced in teaching their topics and are familiar with the typically asked questions. Of course they also have time to answer your specific questions.



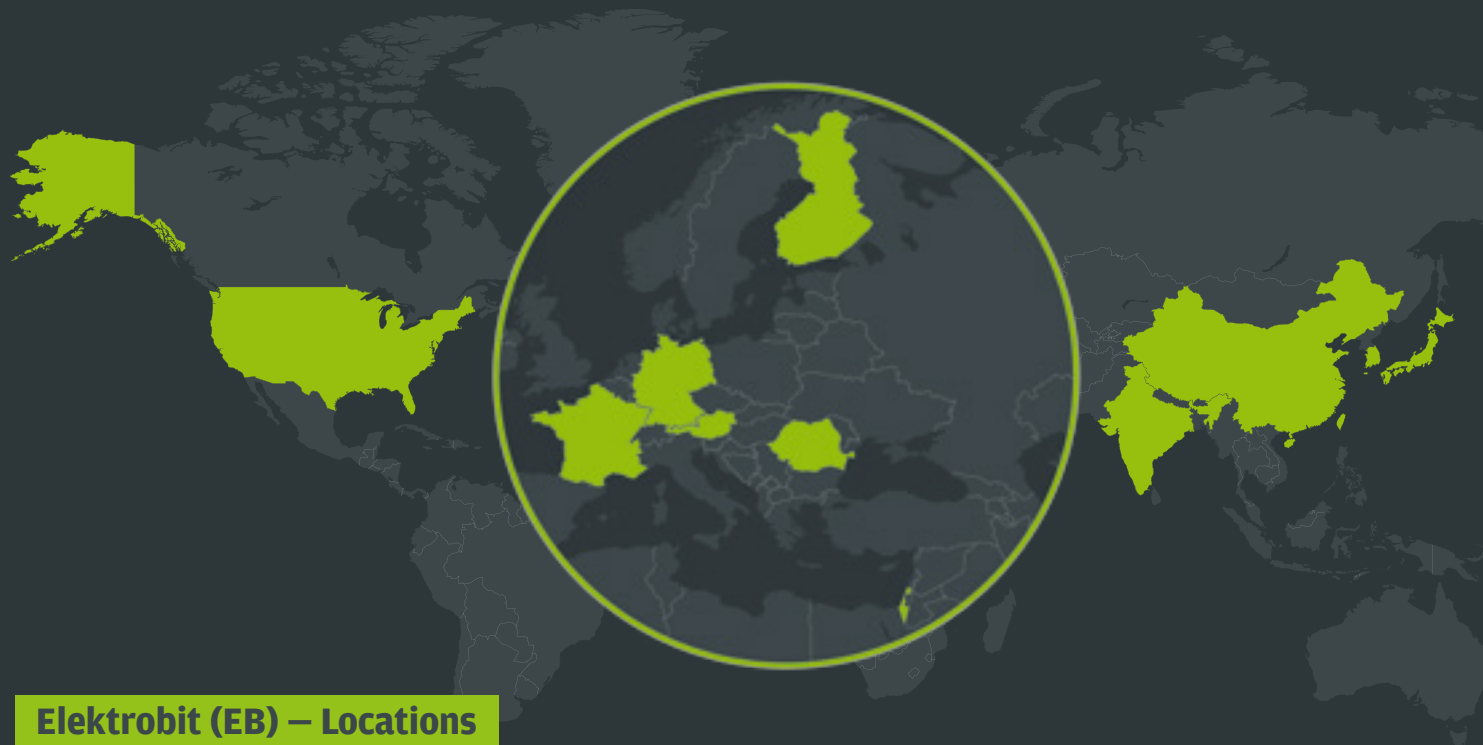
Visit our website to check out available dates, the schedules and to register:
shop.elektrobit.com

Customized training courses

All training sessions can be customized and expanded to meet your requirements. This is why the trainers collaborate with you when putting the training schedule together.



Contact us to create a training course that best fits your needs:
sales@elektrobit.com



Elektrobit (EB) – Locations

Tokyo . Nagoya | **Japan**

Seoul | **South Korea**

Beijing . Shanghai | **China**

Bangalore | **India**

Tel Aviv | **Israel**

Oulu | **Finland**

Brasov . Timisoara | **Romania**

Vienna | **Austria**

Boeblingen . Brunswick . Erlangen . Ingolstadt . Radolfzell . Munich . Ulm | **Germany**

Paris (Carrières-sur-Seine) | **France**

Bothell (WA) . San Jose (CA) . Farmington Hills (MI) | **USA**



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