Automotive Training and Personnel Certification

UL Solutions

Safety. Science. Transformation.™

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Comprehensive training and professional development resources for vehicle manufacturers and suppliers

Automotive and commercial vehicle manufacturers, suppliers and technology startups rely on UL Solutions. Our kVA by UL and Method Park by UL teams provide a complete range of training and personnel certification services. You can rely on our experts to provide world-class training events in diverse topics such as functional safety, autonomy safety, Automotive SPICE®, AI and machine learning, and mobility security training and certification services.

Our broad portfolio of training courses for the automotive, medical technology and aerospace industries features instruction from a diverse group of experienced automotive safety experts located around the world and includes offerings optimized for original equipment manufacturers (OEMs), product designers, systems engineers, hardware and software developers, and suppliers.

We help you win by staying a step ahead

Together, UL Solutions, Method Park by UL and kVA by UL share an unparalleled reserve of expertise in automotive product development and innovation. Vehicle developers, product leads and systems engineers trust our training services to help them understand and successfully manage rapidly evolving software development methodologies and regulatory requirements.

We provide training for automotive industry professionals on a wide range of topics and standards, including Automotive SPICE® and UL Solutions personnel certification for automotive functional safety (UL-CFSP in ISO 26262), autonomy safety (UL-CASP in UL 4600, the Standard for Evaluation of Autonomous Products, and ISO 21448:2022), automotive cybersecurity (UL-CCSP in ISO/SAE 21434) and AI and machine learning (UL-CAIP).

Companies will benefit from our comprehensive knowledge of the automotive industry, familiarity with regulatory environments, global reach and local presence. Individual attendees can demonstrate competency and knowledge of industry best practices by completing the training course and passing an optional certification exam.

UL Solutions, Method Park by UL and kVA by UL offer experienced trainers fluent in a variety of languages, including English, Mandarin, Japanese and German. Since 2020, our convenient remote-learning option has expanded the availability and accessibility of our training services in the Americas, Europe, China, Japan and the Middle East.

Courses, seminars and hands-on workshops

About Automotive SPICE® (ASPICE)

Automotive SPICE® (SPICE = "Software Process Improvement and Capability determination") is a process assessment model that serves as a de-facto standard for the development of software-based systems in the automotive industry. This international standard provides a framework for defining, evaluating and implementing processes to enable systematic and high-quality systems development.

ASPICE was developed by the VDA (German Association of the Automotive Industry) based on the ISO/IEC 330xx series (a predecessor to ISO/IEC 15504) to support OEMs and suppliers in establishing and monitoring development processes in the automotive industry.

ASPICE deepens understanding of system development processes. It provides a framework based on 32 processes in eight groups (systems engineering, software engineering, supporting, management, acquisition, supply, reuse and process improvement) and rating scale divided into six levels of capability:

0 Level 0: Incomplete.
Process is incomplete and fails to achieve its purpose.

1 Level 1: Performed.
Process is implemented and achieves its purpose.

2 Level 2: Managed.
Process is managed and work products are planned, controlled and maintained.

3 Level 3: Established.
Process is used based on standard rules applied across the company.

4 Level 4: Predictable.
Process is enacted consistently and helps the achievement of targeted goals within defined limits.

5 Level 5: Optimizing.
Process is continuously improved and adapted to meet important business goals.

Only certified assessors are allowed to conduct formal assessments. The certification scheme is defined by the International Assessor Certification Scheme (intacs™), which is the accepted scheme in the automotive industry.

To receive such a certification, one must pass a series of official trainings. For users of ASPICE, it is crucial that they fully understand the model to support its implementation in different companies.

Method Park by UL provides comprehensive, up-to-date ASPICE training and certification, based on its exclusive Process Management 4.0 paradigm.

Automotive SPICE®

intacs™ Certified Provisional Assessor (Automotive SPICE® v3.1)
This five-day seminar prepares you to take the exam for qualification as an "intacs™ Certified Provisional Assessor (Automotive SPICE® v3.1)" and focuses on the Automotive SPICE® v3.1 process assessment model.

intacs™ Introduction to VDA Automotive SPICE® Guidelines
This training provides an introduction into the new "VDA Automotive SPICE® Guidelines" published in 2017, with examples and exercises from competent assessors' and project members' points of view.

intacs™ Certified Competent Assessor (Automotive SPICE®)
This five-day course provides the knowledge required to be responsible for the tasks of a Lead Assessor according to ISO/IEC 330xx and Automotive SPICE®.

Automotive SPICE® v3.1 – Compact
Based on practical examples, the Automotive SPICE® model will be introduced from the perspective of a project manager or project employee. This training is similar to the three-day training but focuses solely on the basics.

intacs™ Training for the Automotive SPICE® for Cybersecurity Model
This three-day training focuses on the new Process Assessment Model (PAM) "Automotive SPICE® for Cybersecurity," which provides an extension to Automotive SPICE® in six new processes.

Automotive SPICE® v3.1
This three-day course provides you with a deeper understanding of the VDA scope processes (basic set of processes selected by the VDA) of Automotive SPICE® 3.1. It includes intensive exercises to strengthen the understanding.

Automotive SPICE® and Safety - Joint Approach
This training focuses on similarities and differences between ISO 26262 and Automotive SPICE®. You will learn to understand the correlation and cooperation between both standards.

SPICE for Mechanical Engineering
This training provides an overview of the Process Assessment Model SPICE for Mechanical Engineering from the perspective of a process manager, quality manager, assessor or project team member.

Automotive SPICE® for Managers
This seminar offers an overview of the Automotive SPICE® model from an executive's perspective and explains the benefits of using this model. The participants get an overview of the processes and the rating model.

Automotive SPICE® and Agile – A Joint Approach
Agile frameworks contain processes, roles and practices, but they do not exclusively cover the requirements of Automotive SPICE®. This training uses exemplary processes to show the gaps and address practices to close them.
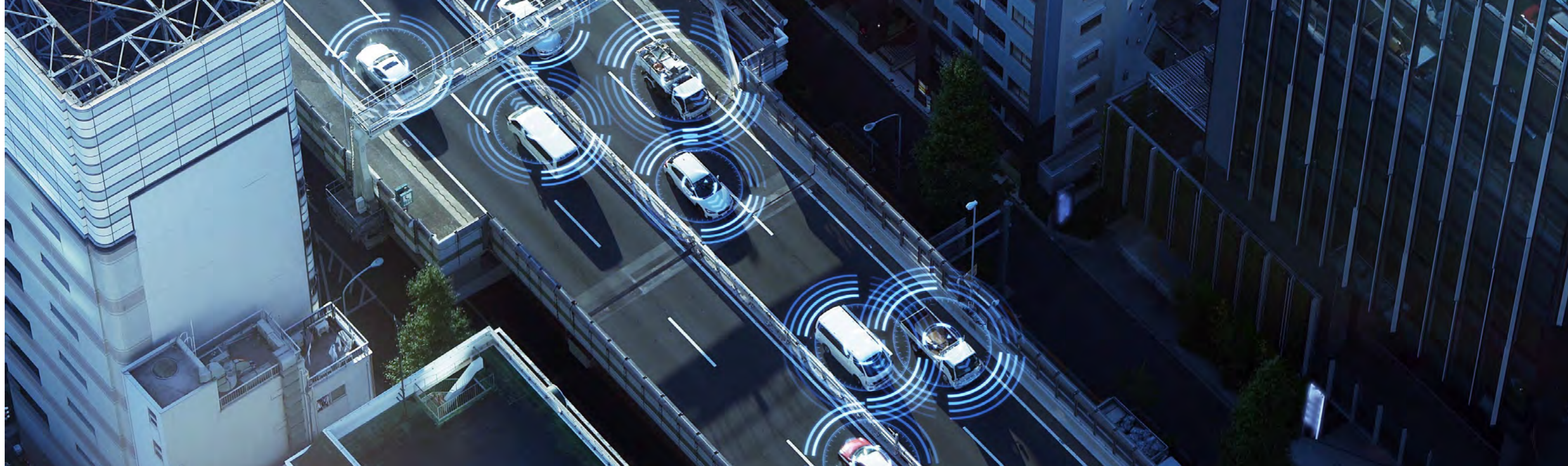
Functional safety, autonomy safety, AI and machine learning

ISO 26262: kVA by UL Engineering Overview Training
This two-day course covers the full 12-part ISO 26262:2018 Road vehicles – Functional safety standard for automotive systems, with emphasis on the standard's impact on engineering processes and products.

ISO 26262: kVA by UL Safety Analysis Training
This two-day training for automotive safety analysis of failure modes and effects analysis (FMEA), failure modes, effects and diagnostic analysis (FMEDA) and fault tree analysis (FTA) will address the requirements of ISO 26262.

UL-CASP in Machine Learning Training
Artificial intelligence (AI) plays a significant role in the automotive industry and especially for autonomous vehicles. This course addresses safety frameworks for key applications of machine learning technologies.

UL-CAIP – Foundations Training
This training offers a compact overview of theory and practice in machine learning. Participants receive the hands-on knowledge needed to integrate the enormous potential of artificial intelligence into their product portfolio and value chain. Half of this training consists of applied exercises on a consistent topic.

ISO 26262: kVA by UL Executive Overview Training
This half-day session covers functional safety for the executive manager, using ISO 26262 as a template. The goal is to inform managers of the implications of ISO 26262 for companies, products and processes.

ISO 26262: kVA by UL Software Training (Available on-demand)
This one-day training session covers functional safety for the development of automotive embedded software, based on the ISO 26262 standard, Part 6.

UL-CASP in UL 4600; Safety and Evaluation Training
This course is focused on UL 4600, the Standard for Safety for the Evaluation of Autonomous Products. Topics include principles, tools, techniques and life cycle processes for building and evaluating the safety of fully autonomous vehicles.

UL-CFSP in Semiconductor; ISO 26262-11 Training
This 2.5-day course is designed for engineers seeking to apply ISO 26262 to safety-related semiconductor programs. The training includes discussion of key topics in ISO 26262-Part 11: Guidelines on application of ISO 26262 to semiconductors.

ISO 26262: kVA by UL Hardware Training
This one-day training covers functional safety product development at the hardware level, based on ISO 26262-5, to inform managers and engineers about ISO 26262 and the implications of the standard for the company.

UL-CASP in ISO 21448:2022; Safety of the Intended Functionality (SOTIF) Training
This course establishes guiding principles and best practices for autonomous vehicle safety as described in ISO 21448:2022. The relevant certification is for autonomous and semi-autonomous systems, ranging from Society of Automotive Engineers (SAE) autonomy levels 1-5.

UL-CFSP in Automotive; ISO 26262 Training
This comprehensive four-day course covers all requirements of ISO 26262. Exercises and examples are used within the presentation to show how the requirements and concepts of the standard are applied.
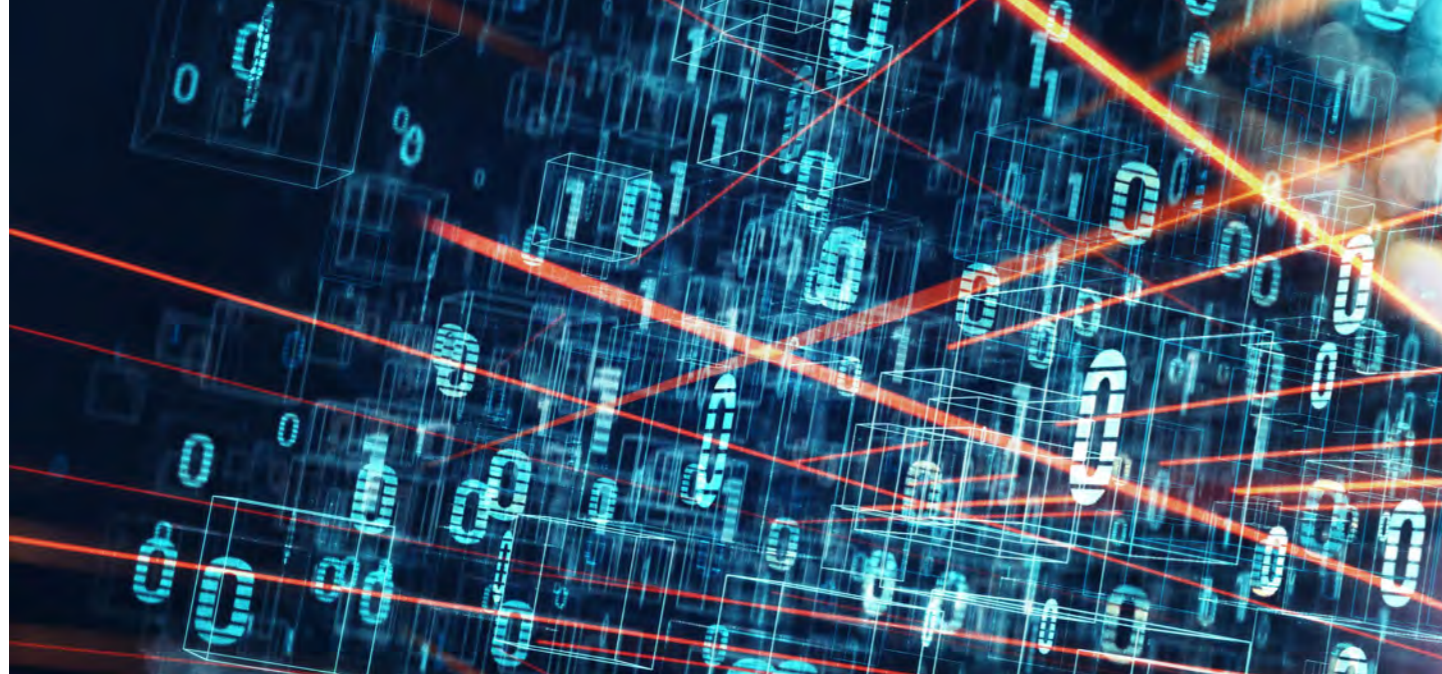
Automotive cybersecurity

ISO/SAE 21434: kVA by UL Automotive Cybersecurity Executive Overview Training
This half-day training session covers automotive cybersecurity management for executive managers based on the state-of-the-art ISO/SAE 21434 standard as a guiding template.

UL-CCSP in Automotive; ISO/SAE 21434 Cybersecurity Training
This course enables participants to gain a good understanding of the security processes, related standards and their impact on the automotive industry provided by a UL Solutions cybersecurity expert.

Automotive Cybersecurity Engineering Training
This training teaches methods and techniques for developing secure vehicle systems. Starting with threat and risk analysis (TARA), design and implementation up to security test procedures and topics of secure development. Learn the practical application of the concepts through a continuous exercise example.

Test and quality assurance

ISTQB® Certified Tester Foundation Level
This course provides the basis for taking the exam to qualify as an "ISTQB® Certified Tester, Foundation Level." In addition to learning basic software testing skills, participants will acquire the techniques necessary for testing their products' software effectively and efficiently.

ISTQB® Certified Tester Foundation Level Extension – Agile Tester
This seminar provides the basis for taking the exam to qualify as an "ISTQB® Certified Agile Tester" and the expertise to support an agile project as a testing specialist. The focus of this training is placed on the techniques and approaches necessary to test software within an agile environment and its particular challenges.

ISTQB® Certified Tester Advanced Level – Agile Technical Tester
Extends the software testing concepts from "ISTQB® Certified Tester, Foundation Level" and "ISTQB® Agile Tester." Learn how requirements engineering can help you to create testable epics and user stories and which test procedures can be used in the agile environment.

Systems engineering, requirements and architecture

iSAQB® Certified Professional for Software Architecture Foundation Level
Attendees learn to design, document and evaluate software architectures. Upon completion, you can take the exam to qualify as an "iSAQB® Certified Professional for Software Architecture – Foundation Level."

Analysis, Architecture and Detailed Design with UML
This seminar will teach you what you need to know in order to apply Unified Modeling Language successfully in your projects. It is based on various modules that can be combined and adapted as required.

Modern Systems Architecture
In this three-day course, attendees learn a systematic, model-based approach to designing complex systems using patterns, principles and heuristics.

AUTOSAR - Concepts and Strategies
This seminar provides an overview of AUTOSAR. Attendees learn AUTOSAR architecture and the related development methodology. This training is suitable for system architects.

Systems Engineering Basics
This training is an overview of systems implementation and important aspects of system lifecycles. Attendees learn methods for system requirement engineering, system architecture and system testing.

AUTOSAR in Practical Applications
Based on a complete, practical example, this seminar teaches techniques for developing an AUTOSAR compliant system, from AUTOSAR software components to configuring the basic software (BSW).

Dependable Embedded Systems (iSAQB® Module EMBEDDED)
Attendees learn a consistent, methodical approach for the architecture design of embedded systems that considers not only the software architecture but also central aspects of the system architecture that need to fulfill strict requirements regarding safety, reliability and real-time behavior.

AUTOSAR compact
In this two-day compact course, you will learn all about the basic concepts of AUTOSAR. The agenda is identical to the "AUTOSAR in Practical Applications" training but excludes the practical example.

Agile and project management

SAFe® 5 Advanced Scrum Master
This course prepares current Scrum Masters for the leadership role of implementing Agile teams to enable program and organizational success in SAFe® environments.

SAFe® 5 Product Owner/Product Manager (POPM)
Develop the skillsets to guide the delivery of value in a Lean enterprise — and learn about the activities, tools and mechanics used — by becoming a SAFe® 5 Product Owner/Product Manager (POPM).

SAFe® 5 DevOps
This course helps people in technical, non-technical and leadership roles optimize their value stream from end to end and includes various practices along the continuous delivery pipeline (CDP).

SAFe® 5 Scrum Master
Attendees will be prepared to perform the role of a Scrum Master in a SAFe enterprise. SAFe 5 Scrum Master (SSM) certification indicates competence to perform the role of Scrum Master in a SAFe environment.

SAFe® 5 for Architects
This course is for senior technical contributors who need to understand the role of system, solution and enterprise architects in Lean-Agile enterprises and how architects engage in a Lean-Agile enterprise.

Leading SAFe® 5 (SA)
This course teaches the importance of mastering Business Agility to thrive in the digital age and offers insights into leading a Lean-Agile enterprise by leveraging the Scaled Agile Framework® (SAFe®).

SAFe® 5 for Teams (SP)
During this course, attendees will gain an in-depth understanding of the agile release train (ART), how it delivers value and what they can do to effectively perform their role using Scrum, Kanban and XP.

Requirements engineering

IREB® Certified Professional for Requirements Engineering Foundation Level
Comprehensive survey of requirements engineering (RE), from elicitation to documentation to management of requirements. Participants learn to apply RE in their own projects and can take the exam to qualify as an "IREB® Certified Professional for Requirements Engineering – Foundation Level."

IREB® Certified Professional for Requirements Engineering Advanced Level Modeling
Learn about efficient modeling of information structures, functions, behaviors and scenarios through a variety of practical exercises. Upon completion, participants can take the exam to qualify as an "IREB® Certified Professional for Requirements Engineering – Advanced Level, Requirements Modeling."

IREB® Certified Professional for Requirements Engineering Advanced Level Management
Learn about assigning attributes, prioritization, change management and traceability. Attendees will learn to implement variant management. Upon completion, participants may take the "IREB® Certified Professional for Requirements Engineering – Requirements Management, Advanced Level" exam.

RE@Agile Primer
Requirements Engineering in an agile context: Is it possible? If so, how? The RE@Agile training focuses on implementation of requirements engineering in agile development processes.

Automotive Requirements Engineering – Introduction
This course offers participants an overview of the requirements engineering for OEMs and suppliers. It particularly focuses on industry-specific challenges.

Hands-on workshops

Angular Hands-on Workshop
The release of Angular2 and the separation of AngularJS mean the framework has undergone a fundamental transformation. Attendees will learn the framework and the most important concepts of the ecosystem.

Continuous Integration and Delivery – Hands-on Workshop
Continuous integration, test automation and continuous deployment support the development of high-quality software. This workshop imparts techniques to deploy continuous integration and delivery (CID) in any project.

Qt und QML: Hands-on Workshop for Programming User Interfaces
Qt and QML facilitate the development platform-independent, high-performance user interfaces on Windows, Linux, iOS and Android. Everything you need to know is imparted in this hands-on workshop.

Unit Test Hands-on Workshop
This workshop imparts the necessary techniques and best practices for integrating unit testing into software development. Participants learn all aspects of unit testing based on specific exercises.

Blockchain Hands-on Workshop
Using a consistent example, attendees learn to use all relevant tools and frameworks needed to create applications. Also includes numerous practical tips to save time implementing your own ideas.

Entity Framework – Hands-on Workshop
This workshop teaches the necessary techniques and practices to apply the Entity Framework in any project. The workshop is very practice-oriented and includes applied exercises on a consistent topic.

React and Redux – Hands-on Workshop for Web Development
Attendees will work through all aspects of React and Redux, using concrete tasks. For quality assurance, we examine both unit and integration testing using the Jest and Testing Library testing frameworks.

Unit Test with C# and NUnit Hands-on Workshop
This hands-on workshop offers you the necessary techniques and best practices to introduce more unit tests into your software development, using applied exercises in C# based on a consistent topic.

Clean Code Hands-on Workshop
Clean code helps you to prevent data loss and prepares your software for future challenges. This workshop imparts the techniques necessary to write coherent, extensible and resilient code.

Git – Hands-on Workshop for Distributed Version Management
This workshop introduces Git and code review solutions, such as Gerrit, GitHub Enterprise or TFS. It covers development phases, from check-in and code review to release and life cycle management.
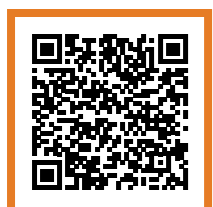
Rust Hands-on Workshop
This workshop starts with the fundamentals of Rust, explains the differences in syntax compared to other established languages and describes the concepts that characterize Rust.

Usability and User Experience: Hands-on Workshop
Good usability and a positive user experience (UX) determine the success of your products. In this workshop, experienced trainers teach the theoretical basics of UX.

Clean Code in C# Hands-on Workshop
This workshop emphasizes exercises in C#. Upon completion, participants will be able to apply the techniques learned directly in their daily practice.

Machine Learning Workshop – Hands-on to Artificial Intelligence
This workshop offers an overview of theory and practice in machine learning, allowing participants to integrate the enormous potential of artificial intelligence into their systems.

Software Architecture – Hands-on Workshop for Agile Software Architecture
This hands-on workshop imparts principles and practices for the development of architectures in an agile environment. Your current product development can be integrated into this workshop.

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Method Park by UL

Method Park by UL offers versatile training courses on all aspects of software and systems engineering: from requirements engineering and architecture to testing and quality assurance, from process, variant, and project management to safety-relevant development and the introduction of agile methods.

Applied exercises, based on practical examples, are essential elements of our training courses and attendees develop familiarity with all aspects of a topic through specific tasks. Because every organization has its own unique requirements, our training is tailored to individual needs of each specific industry and company.

In exclusive private training courses at your premises, Method Park by UL provides your team with the knowledge and skills to master tasks in upcoming projects or planned tooling upgrades.

kVA by UL

kVA by UL is a technical and management consulting group focused on functional safety and the ISO 26262 standard, automotive cybersecurity, autonomy safety, ISO 21448:2022 and UL 4600. Our safety consultants apply safety principles and processes, from leading industry standards and other methodologies, to the practice of vehicle product development.

Automotive leaders turn to kVA by UL for training, consulting and safety expertise. Our in-depth understanding of both the theoretical and practical aspects of functional safety helps our clients build safer, more efficient products.

kVA by UL's experienced trainers understand the engineering processes and analyses required to successfully implement functional safety. Product development engineers, safety assurance personnel, quality and reliability professionals, and their managers attend our training events.

UL Solutions personnel training and certification

From materials testing to supply chain management, new energy options to interoperability offerings, companies and business owners leverage our expertise and insights to navigate the global regulatory environment and bring their products to market.

Our global network of state-of-the-art facilities, technical experts, partner laboratories and our extensive regulatory knowledge help manufacturers build brand trust and compete in an increasingly complex global supply chain.

Knowledge you can trust – Our experienced personnel support you from the initial stages of product design through development, testing and production. Our expertise can help you understand certification requirements for your specific target markets.

Speed and efficiency – Cost-effective systems and technologically advanced facilities streamline the certification process and help reduce time-to-market for your products.

Flexibility and convenience – We can meet your compliance needs, bundling safety, performance and interoperability services to help you save money and valuable time.

Global reach and access – Our worldwide network of expert engineers helps you understand various national and international requirements for your specific market and application.

For more information on training and certification for automotive professionals, contact us at Global.FunctionalSafety@ul.com.

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