Automotive SPICE 4.0 Training (Paid)

Agenda Vector Academy

Delivery Format:	Online/Offline
Duration:	2 days
Target Group:	ASPICE training is suitable for systems engineers, software engineers, test engineers, project managers, quality engineers, supplier management personnel, and assessment consultants in the automotive industry, helping them improve process quality, ensure compliance with industry standards, and support team members interested in applying ASPICE standards within company processes. For those aspiring to enter the automotive electronics industry, learning ASPICE can also enhance their career competitiveness.
Goal:	The course aims to help participants fully understand the ASPICE framework structure and the updates in the latest version, gaining in-depth knowledge of the practical application of the process assessment and reference models to improve process maturity and product quality. Participants will learn how to effectively conduct assessments, achieve various capability levels, understand the core requirements of both engineering and non-engineering processes, and develop skills to establish verification standards and testing methods within their projects, recognizing the critical role of testing strategies in quality assurance. Additionally, the training provides guidance on the application of hardware and machine learning within ASPICE, ensuring that development processes align with industry standards and best practices, while enhancing supply chain consistency and quality risk management.

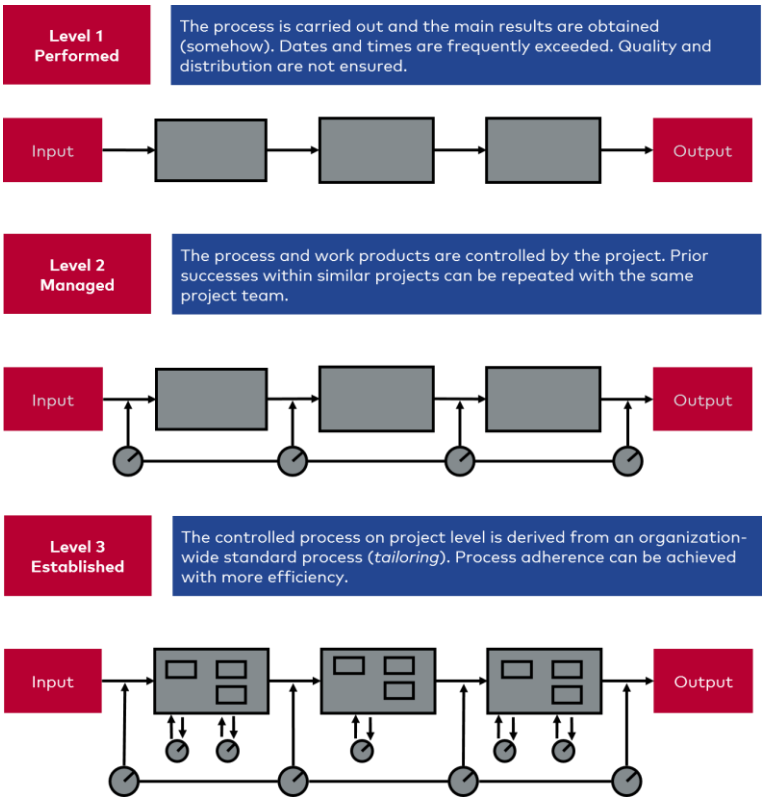
1. Training Content

- **ASPICE Basic Concepts and History:** Understand the origins, development, and significance of ASPICE within the automotive industry.
- **Mastering Automotive SPICE® 4.0:** Learn and comprehend the Automotive SPICE® Process Reference and Assessment Model 4.0, including the latest developments in hardware, machine learning, and validation.
- **ASPICE Framework Structure and Updates:** Introduce the foundational framework of ASPICE, the background of the model, updates in the latest version, and their impacts.
- **Process Assessment and Reference Models:** Dive into the structure of the ASPICE Process Assessment Model and its reference model applications, covering both engineering and non-engineering processes.
- **Capability Levels and Assessment Methods:** Explain ASPICE capability levels (from Level 1 to Level 3) and corresponding assessment methods to help participants understand the standards required to achieve different levels.
- **Engineering and Non-Engineering Process Requirements:** Detail the core requirements across ASPICE process areas, including systems engineering, software engineering, project management, quality management, and supplier management.
- **System (SYS) and Software (SWE) Process Areas:** Analyze processes from requirements analysis to system integration and verification, guiding how to ensure requirements completeness and traceability within a project (based on PREEVision and DaVinci tools).
- **Best Practices in Design and Implementation:** Learn structured design and implementation methods under ASPICE to ensure development process organization and documentation (using PREEVision).
- **Testing Methodologies and Strategies:** Cover fundamental software testing methodologies, including black-box testing, white-box testing, unit testing, integration testing, system testing, and acceptance testing, helping participants select suitable testing methods and create effective testing strategies (focusing on VectorCast white-box unit testing).

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Agenda Vector Academy

- **Integration and Testing Strategies:** Explore how to implement integration and testing at system and software levels to meet ASPICE quality standards (using CANoe and VTestStudio tools).
- **SPICE Implementation Methods:** Provide practical guidance on implementing ASPICE standards within company processes, covering process integration and quality assurance measures.
- **Hardware and Machine Learning Applications in ASPICE:** Discuss specific use cases and practical methods for hardware and machine learning applications within ASPICE processes, particularly in automotive electronics and intelligent driving fields.
- **Establishing Verification and Compliance Standards:** Train participants to establish verification and compliance standards within projects to ensure process quality and alignment with best practices according to ASPICE standards.
- **Supply Chain Consistency and Quality Risk Management**: Introduce the application of ASPICE in supplier management, helping participants establish efficient supply chain consistency and quality risk management processes.
- **Detailed Evaluation Criteria for ASPICE Capability Levels:** Break down the specific evaluation criteria for each capability level, helping participants understand how to meet these requirements in actual processes.
- **Toolchain and Automation Applications:** Present development and management tools suitable for ASPICE processes and explore automation's role in process compliance and efficiency improvements (includes demonstration of PREEVision tool usage)
- **Industry Case Analysis and Practice:** Understand the practical applications, challenges, and solutions of ASPICE standards in real-world projects through analysis of actual ASPICE implementation cases



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2. Training Agenda

Day 1	Day 2
> **Introduction, Goals, and Expectations:** Overview of ASPICE training goals and participant expectations > **ASPICE Basic Concepts and History:** The origins and importance of ASPICE > **Mastering Automotive SPICE® 4.0:** Understanding the latest 4.0 version, including updates in hardware and machine learning > **Process Assessment Model:** In-depth analysis of the structure of the process assessment model > **Process Reference Model:** Understanding ASPICE's reference model > **Assessment Framework**: Explanation of how to measure processes and results > **Capability Level 1 - Non-Engineering Processes:** Detailed guidance on achieving capability level 1 in non-engineering processes > **Assessment Methods:** Learning standard assessment methods and tools > **Management Process - MAN.3:** In-depth understanding of the core requirements of management processes > **Engineering Processes:** Explanation of systems engineering and software engineering processes > **Machine Learning Applications in ASPICE:** Discussion on practical applications of machine learning > **Hardware and Acceptance Applications in ASPICE:** Explanation of hardware and acceptance applications > VectorCast White-Box Testing Case Study	> **Capability Level 2:** Analysis of how to achieve capability level 2 > **Capability Level 3:** Explanation of the assessment standards required to reach capability level 3 > **Best Practices in Design and Implementation:** Structured design and implementation under ASPICE > **PREEVision + DaVinci Case Study in Systems and Software Engineering** > **Integration and Testing Strategies:** Exploration of how to implement integration and testing at the system and software levels to meet ASPICE quality standards > **Toolchain and Automation Applications:** Introduction to suitable toolchains and automation applications > **Industry Case Analysis and Practice:** Understanding ASPICE applications through real-world case studies > **Summary, Outlook, and Feedback:** Conclusion of the training and feedback collection

Breaks: Coffee/Tea around 10:30 and 15:00; lunch break around 12:00.
Training material: in English

3. Training Overview

> Our training introduces you to the globally used standard Automotive SPICE. We will show you the updates with ASPICE 4. This standard, derived from ISO/IEC 15504-5 (SPICE) and ISO/IEC 330xx, is tailored to the specific requirements of the automotive industry. Discover firsthand how to apply ASPICE in practice and elevate your skills in system development to the next level.
> Our training places a strong emphasis on practical application. Unlike others, we don't just teach ASPICE theoretically. We actively utilize it within our company for successful software development projects.

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Beyond Software: We emphasize not only "software" but also "systems engineering," making it a valuable replacement for the less commonly used CMMI method.

4. Training Goals

Within only 2 days, you will:

- Acquire an overview of complete Automotive SPICE®
- Learn how to interpret Automotive SPICE® assessment results and their importance in the automotive industry.
- Know the content of engineering, management and supporting processes and their mutual relations
- Be aware of specific needs in automotive E/E supply chain and how to improve supplier interfaces, such as OEM-Tier 1
- Acquire skills for process improvement and organizational change within Automotive SPICE®.

