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1 Introduction

This document sets out the specific application rules when applying ISO/IEC Guide 65 to the assessment of a candidate organization applying for the role of a third party CTA. ISO/IEC Guide 65 is fully contained in ISO/IEC Guide 65 [8], which is chosen as direct reference throughout this document.

Interpretation and applicability of all references to test activities, test equipment, test tools and calibration in this document and all referenced documents therein (section 1.1.2) are limited in scope to the AUTOSAR Conformance Test System (see [1]).

In consequence this document can be used as a cross reference checklist for the assessor during the assessment of a third party CTA candidate.

The assessment is the core part of the AUTOSAR accreditation process, which is fully detailed in [3].

1.1 Related Documentation

1.1.1 Input documents

- [1] Conformance Test Process Definition Path A-C
AUTOSAR_DS_CT Path A-C.pdf
- [2] Conformance Test Process Definition Path D
AUTOSAR_DS_CT Path D.pdf
- [3] AUTOSAR Conformance Test Agency Accreditation
AUTOSAR_DS_Accreditation.pdf
- [4] AUTOSAR Glossary
AUTOSAR_Glossary.pdf

1.1.2 Related standards and norms

- [5] ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories
- [6] ISO/IEC 17000:2004 Conformity assessment – Vocabulary and general principles
- [7] ISO/IEC 17011:2004 Conformity assessment – General requirements for accreditation bodies accrediting conformity assessment bodies
- [8] ISO/IEC GUIDE 65:1996 General requirements for bodies operating product certification systems

2 AUTOSAR application rules for ISO/IEC Guide 65

The specific requirements are listed below with direct reference to the individual clauses of ISO/IEC Guide 65 [8].

Requirements in ISO/IEC Guide 65 AUTOSAR interpretation	Guidance
1 Scope	
Clause 1 of Guide 65 (including all sub-clauses) applies with the following general exceptions and comments:	
<ul style="list-style-type: none"> - The term certification is avoided in the AUTOSAR specific interpretations and reproduced below only for clear referencing to GUIDE 65. 	<p>In the AUTOSAR context the result of approving the Conformance Test results via a third party CTA is referred to as a third party attestation. The issuing of any certification is reserved to other standards, such as those in the area of safety.</p>
<ul style="list-style-type: none"> - The scope of these AUTOSAR application rules also includes the competence of the assessed organization to provide a CTS. 	
<ul style="list-style-type: none"> - Only type testing is relevant within the scope of these AUTOSAR application rules. All other listed activities are out of scope (including sampling and inspection services). 	<p>All sections and requirements that are specific to the handling of sampling and inspection services shall be ignored.</p>
2 References	
<p>Clause 2 of GUIDE 65 applies with the following change and addition:</p> <p>ISO/IEC Guide 25:1990 is no longer valid and has been replaced by ISO/IEC 17025:2005.</p> <p>In addition, the definitions of some AUTOSAR specific terms are indispensable for understanding this document. These terms are defined in detail in the AUTOSAR glossary [4].</p>	

<i>Requirements in ISO/IEC Guide 65 AUTOSAR interpretation</i>	<i>Guidance</i>
3 Definitions	
<p>Clause 3 of GUIDE 65 (including sub-clauses) applies with the following addition:</p> <p>In addition, the definitions of some AUTOSAR specific terms are indispensable for understanding this document. These terms are defined in detail in the AUTOSAR glossary [4].</p>	<p>The following AUTOSAR specific terms are most important throughout this document:</p> <p style="padding-left: 40px;">CTA – Conformance Test Agency CTS – Conformance Test Suite</p>
4 Certification body	Note: Please read this as 'Third party attestation body'.
4.1 General provisions	
<p>Clause 4.1 of GUIDE 65 (including sub-clauses) applies without changes.</p>	<p>A CTA is not obliged to confirm that a company asking for product attestation is an AUTOSAR licensee. The AUTOSAR specific application rules of GUIDE 65 are defined in the present document.</p> <p>However, the CTA must not distribute unpublished AUTOSAR material including CTS to non-AUTOSAR members and partners.</p>
4.2 Organization	
<p>Clause 4.2 of GUIDE 65 (including sub-clauses) applies with the following comments:</p> <p>Sub-clause o1): The type of product shall be interpreted as the targeted AUTOSAR product categories as defined in the Conformance Test Process [1].</p> <p>Sub-clause o2): a CTA is allowed to advise an applicant with respect to correct interpretation of the AUTOSAR specifications (without specific reference to a product implementation).</p> <p>Sub-clause o3): a CTA is expected to provide a CTS. In case the CTS is developed by the CTA, the development process shall be documented and comply with good engineering practice</p>	<p>The CTS provision and the related services is a part of the CTA role. AUTOSAR expects that this provision or service will not compromise the impartiality of the CTA.</p> <p>Good engineering practice would be, for example, the application of an appropriate quality or maturity model to the software development process.</p>
4.3 Operations	
<p>Clause 4.3 of GUIDE 65 applies without changes.</p>	

<i>Requirements in ISO/IEC Guide 65 AUTOSAR interpretation</i>	<i>Guidance</i>
4.4 Subcontracting	
<p>Clause 4.4 of GUIDE 65 applies with the following comments:</p> <p>In case of employing a subcontractor the CTA must ensure the competency of the subcontracted party, as the responsibility remains with the CTA. This principle also applies to the development of the CTS.</p>	
4.5 Quality system	
<p>Clause 4.5 of GUIDE 65 (including sub-clauses) applies without changes.</p>	
4.6 Conditions and procedures for granting, maintaining, extending, suspending and withdrawing certification	
<p>Clause 4.6 of GUIDE 65 (including sub-clauses) applies with the following comments:</p> <p>The CTA shall base its conditions strictly on the AUTOSAR conformance test specifications.</p> <p>In case of any deviation, whether positive or negative, the CTA shall provide a clear statement in writing.</p>	<p>There may be instances in which one or few test cases can fail (for example in case of errors in the AUTOSAR specifications) but the product under test still be found conform.</p> <p>On the other hand a CTA may have justified doubts over the validity of test results delivered by a product supplier, e.g. in case of cheating evidence.</p>
4.7 Internal audits and management reviews	
<p>Clause 4.7 of GUIDE 65 (including sub-clauses) applies without changes.</p>	
4.8 Documentation	
<p>Clause 4.8 of GUIDE 65 (including sub-clauses) applies without changes.</p>	
4.9 Records	
<p>Clause 4.9 of GUIDE 65 (including sub-clauses) applies without changes.</p>	
4.10 Confidentiality	

Requirements in ISO/IEC Guide 65 AUTOSAR interpretation	Guidance
Clause 4.10 of GUIDE 65 (including sub-clauses) applies without changes.	
5 Certification body personnel	
5.1 General	
Clause 5.1.1 of GUIDE 65 applies with AUTOSAR specific amendments	The specific AUTOSAR context needs also specific personal expertise to be available within the CTA. For details please see appendix B.
5.2 Qualification criteria	
Clause 5.2 of GUIDE 65 (including sub-clauses) applies without changes.	
6 Changes in the certification requirements	
Clause 6 of GUIDE 65 applies without changes.	
7 Appeals, complaints and disputes	
Clause 7 of GUIDE 65 (including sub-clauses) applies without changes.	
8 Application for certification	
8.1 Information on the procedure	
Clause 8.1 of GUIDE 65 (including sub-clauses) applies without changes.	
8.2 The application	
Clause 8.2 of GUIDE 65 (including sub-clauses) applies without changes.	
9 Preparation for evaluation	
Clause 9 of GUIDE 65 (including sub-clauses) applies without changes.	
10 Evaluation	
Clause 10 of GUIDE 65 applies without changes.	
11 Evaluation report	

Requirements in ISO/IEC Guide 65 AUTOSAR interpretation	Guidance
Clause 11 of GUIDE 65 applies without changes.	Standardized form for report to be used (available within [1]).
12 Decision on certification	
Clause 12 of GUIDE 65 (including sub-clauses) applies without changes.	
13 Surveillance	
<p>Clause 13 of GUIDE 65 (including sub-clauses) is not applicable.</p> <p>An assessment of any potential surveillance procedures of the CTA is out of scope.</p>	<p>The AUTOSAR standard requires that an attestation of conformance is specific for a particular version of the product under test as well as the AUTOSAR release, which it is based upon.</p> <p>A change of the product under test or a new AUTOSAR release (if referred to) implies the necessity for a new conformance test run.</p>
14 Use of licenses, certificates and marks of conformity	
Clause 14.1 of GUIDE 65 (including sub-clauses) Clause 14.1 of Guide 65 is not applicable.	<p>AUTOSAR handles the use of licenses in the AUTOSAR contracts.</p> <p>AUTOSAR defines the use of trademarks and labels for AUTOSAR conform products in [1] and 0.</p>
14.2 and 14.3 applies without changes.	
15 Complaints to suppliers	
<p>Clause 15 of GUIDE 65 is not applicable.</p> <p>An assessment of these demands that a CTA places on its customers is out of scope.</p>	

Appendix A Acronyms and Abbreviations

CT	Conformance Test(ing)
CTA	Conformance Test Agency
CTS	Conformance Test Suite

Appendix B Personnel requirements

AUTOSAR application rules for ISO/IEC Guide 65 clause 5.2 "Personnel"	Minimum		Scope			
	Know- ledge	Exper- ience	BSW	SW-C	RTE	Tools
AUTOSAR basics according to the valid release: - Software architecture - BSW - VFB concept, e.g. Communication paradigms (Client/Server, Sender/Receiver) - AUTOSAR methodology & exchange formats/templates - AUTOSAR RTE interfaces and generation process	2	1	Yes	Yes	Yes	Yes
Real-time operating systems (preemption, scheduling)	2	2	Yes	Yes	Yes	Yes
Micro Controller and Networking (automotive bus-systems)	2	1	Yes	No	Yes	Yes
Formal test notations, in particular TTCN-3	3	1	Yes	No	Yes	Yes
XML	2	2	Yes	Yes	Yes	Yes
Software Modeling (e.g. UML2)	2	1	Yes	Yes	Yes	Yes
Embedded Software programming (min C)	2	2	Yes	Yes	Yes	Yes
Embedded Software testing	3	3	Yes	Yes	Yes	Yes
Build environment for Embedded Systems (make file, cross-compiler, linker, map-file)	2	2	Yes	Yes	Yes	Yes

Knowledge	Tracked experience	
low knowledge	1	low experience
basic knowledge	2	basic experience 1-3 years
high knowledge	3	high = professional