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Table of Contents

Abbreviations

Abbrevation	*Description*
ADC	Analog Digital Converter
API	Application Programming Interface
ASAM	Association for Standardization of Automation and Measuring Systems
AUTOSAR	Automotive Open System Architecture
BSW	Basic Software
BSWM	Basic Software Modul
CAN	Controller Area Network
CDD	Complex Device Driver
COM	Communication
CPU	Central Processing Unit
CTA	Conformance Test Agency
CTS	Conformance Test Suite
DAC	Digital to Analog Converter
DIO	Digital Input/Output
DTD	Document Type Definition
ECU	Electronic Control Unit
FIFO	First In First Out
FPU	Floating Point Unit
FW	Fire Wire
GSM	Global System for Mobile Communication
HIS	Hersteller Initiative Software
HW	Hardware
IEC	International Electronical Commission
I-PDU	Interaction Layer Protocol Data Unit
ISR	Interrupt Service Routine
LIFO	Last In First Out
LIN	Local Interconnected network
LSB	Least Significant Bit
μC	MicroController
MCAL	MicroController Abstraction Layer
MIPS	Million Instructions Per Second

MMU	Memory Management Unit
MMI	Man Machine Interface
MOST	Media Oriented Systems Transport
μ**P**	MicroProcessor
MPU	Memory Protection Unit
MSB	Most Significant Bit
NVRAM	Non-Volatile Random Access Memory
OEM	Original Equipment Manufacturer
OIL	OSEK Implememtation Language
OS	Operating System
OSEK	Open Systems and the Corresponding Interfaces for Automotive Electronics
PCI	Protocol Control Information
PDU	Protocol Data Unit
PS	Product Supplier
PWM	Pulse Width Modulation
RfC	Request for Change
RTE	Runtime Environment
SDU	Service Data Unit
SIL	Safety Integrity Level
SW	Software
SW-C	Software Component
TTP	Time Triggered Protocol
USB	Universal Serial Bus
VFB	Virtual Functional Bus
WCET	Worst Case Execution Time
WCRT	Worst Case Response time
XML	Extensible Markup Language

1 Introduction

This document is the overall glossary of AUTOSAR. It contains definitions of all major terms and notions used within AUTOSAR. It does not claim to be complete and please keep in mind that some WPs have more specific terms defined within their domain specific glossary.

The document is written in English, but to guarantee consistency in all languages AUTOSAR aims for translating all terms to different languages. Currently the translation has partly been done in the following languages:

- German
- French

In future more languages might follow.

2 How to read this document

The title of the subchapters is identical to the term to be defined.

2.1 <Definition>

Definition	*tbd - term to be defined*
Initiator	*tbd – person and/or group who introduced the term*
Further Explanations	*tbd – further explanation of the definition*
Comment	*tbd – comment or hints*
Example	*tbd – example of the term*
Reference	*tbd – reference of definition*
German Term	*tbd – German translation of the term*
French Term	*tbd – French translation of the term*

3 Definitions

3.1 Accreditation

Definition	Third-party (→ definition 0) attestation to an organization conveying formal demonstration of its competence to carry out AUTOSAR conformance test tasks.
Initiator	WP 20
Further Explanations	Within the AUTOSAR environment two different scopes of Accreditation exist: - In reference to ISO/IEC 17025 for accreditation of organizations performing conformance testing within own laboratories. - In reference to ISO/IEC Guide 65 for accreditation of Conformance Test Agencies (CTA) (→ definition 3.43) performing 3rd party product conformance attestation.
Comment	--
Example	--
Reference	[ISO/IEC 17000]
German Term	Akkreditierung
French Term	Accréditation

3.2 Accreditation Body

Definition	This is an organization, which employs or contracts individual assessors, who in turn perform the independent assessments (→ definition 3.8) as part of the accreditation (→ definition3.1) process.
Initiator	WP 20
Further Explanations	In the AUTOSAR context the Accreditation Bodies have the role to accredit the Conformance Test Agencies.
Comment	--
Example	--
Reference	--
German Term	Akkreditierungskörperschaft
French Term	--

3.3 Application

Definition	A software (or program) that is specified to the solution of a problem of an end user requiring information processing for its solution. The software configuration (→ definition 3.177) of a software entity.
Initiator	WP 1.1.1
Further Explanations	To 1. of Definition: In AUTOSAR Application software is located above the AUTOSAR RTE (RunTimeEnvironment).
Comment	Definition 1 is the “by default” meaning for application in AUTOSAR. When definition 2 is meant, it has to be explicitly mentioned.
Example	--
Reference	[ISO 2382-20]
German Term	Applikation
French Term	--

3.4 Application Programming Interface (API)

Definition	An Application Programming Interface (API) is the prescribed method of a specific software part by which a programmer writing a program can make requests to that

	software part.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	OSEK OS API
Reference	--
German Term	--
French Term	--

3.5 Application Software Component

Definition	An Application Software Component is a specific AUTOSAR Software Component (→ definition 3.18) realizing a defined functionality of a set (one or more) of features.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	Applikations Software Komponente
French Term	--

3.6 Architecture

Definition	The fundamental organization of a system embodied in its components, their static and dynamic relationships to each other, and to the environment, and the principles guiding its design and evolution.
Initiator	WP 1.1.1
Further Explanations	--
Comment	“Static and dynamic” added to EAST definition.
Example	--
Reference	[IEEE 1471], [EAST-Glossary]
German Term	Architektur
French Term	--

3.7 Asserted Property

Definition	A property or quality of a design entity (e.g. SW component or system) is asserted, if the design entity guarantees that this property or quality is fulfilled.
Initiator	WP10.1
Further Explanations	A property or quality of a design unit can be asserted by the design unit itself or in combination with another design unit.
Comment	--
Example	If the worst case execution time of a task (w.r.t. a certain CPU etc.) is asserted to be 3 ms, the execution time of this task will under any circumstances be less than or equal to 3 ms.
Reference	Compare required property (→ definition 3.155)
German Term	Zugesichert
French Term	--

3.8 Assessment

Definition	Activity conducted by an assessor to demonstrate that the assessed organization fulfills the set requirements.
Initiator	WP 20
Further Explanations	Within the AUTOSAR context after the initial assessment a new full-set assessment will be repeated every 4 years. In between, surveillances (→ definition 3.187) take place once a year.
Comment	--
Example	--
Reference	[ISO/IEC 17011]
German Term	Begutachtung
French Term	Evaluation

3.9 Asset

Definition	An item that has been designed for use in multiple contexts.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	An asset can be design, specifications, source code, documentation, test suits, manual procedures, etc..
Reference	[IEEE 1517], [EAST-Glossary]
German Term	--
French Term	--

3.10 Asynchronous Communication

Definition	Asynchronous communication does not block the sending software entity. The sending software entity continues its operation without getting a response from the communication partner(s).
Initiator	WP 1.1.1
Further Explanations	There could be an acknowledgement by the communication system about the sending of the information. A later response to the sending software entity is possible.
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.11 Attestation

Definition	Issue of a statement, based on a decision following a review, that fulfillment of specified requirements has been demonstrated.
Initiator	WP 20
Further Explanations	The resulting statement, referred to in the International Standard as a "statement of conformity", conveys the assurance that the specified requirements have been fulfilled. Such an assurance does not, of itself, afford contractual or other legal guarantees.
Comment	--
Example	Attestation of product conformance given by a third party like a CTA (→ definition

	3.43). Attestation of product conformance given by a first party like the Product Supplier (also called declaration).
Reference	[ISO/IEC 17000]
German Term	Bestätigung
French Term	Attestation

3.12 Atomic Software Component

Definition	Smallest non-dividable software entity connected to the AUTOSAR Virtual Functional Bus (→ definition 3.19).
Initiator	WP 1.1.1
Further Explanations	An Atomic Software Component might access HW or not, therefore not all Atomic SW-Cs are relocatable.
Comment	--
Example	AUTOSAR Software Component, Complex Device Driver
Reference	--
German Term	Atomare Software Komponente
French Term	--

3.13 AUTOSAR Authoring Tool

Definition	An AUTOSAR authoring tool is a software tool which supports interpreting, processing and creating of AUTOSAR XML descriptions (→ definition 3.20).
Initiator	WP1.2
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.14 AUTOSAR Interface

Definition	The AUTOSAR Interface of a component (→ definition 3.37) refers to the collection of all ports (→ definition 3.142) of that component through which it interacts with other components.
Initiator	WP 1.1.1
Further Explanations	--
Comment	Note that an AUTOSAR Interface is different from a Port Interface (→ definition 3.143). The latter characterizes one specific port of a component.
Example	--
Reference	[AUTOSAR Specification of Virtual Functional Bus], Chapter “ Modeling of Communication, Graphical Notation”
German Term	--
French Term	--

3.15 AUTOSAR Metamodel

Definition	The AUTOSAR metamodel is a UML2.0 model that defines the language for

	describing AUTOSAR systems and related artifacts.
Initiator	MMT
Further Explanations	The AUTOSAR metamodel is a graphical representation of a template (→ definition 3.194). UML2.0 class diagrams are used to describe the attributes and their interrelationships. Stereotypes and OCL (object constraint language) are used for defining specific semantics and constraints.
Comment	The AUTOSAR XML Schema (→ definition 3.21) is derived from the AUTOSAR metamodel.
Example	--
Reference	[UML 2.0]
German Term	--
French Term	--

3.16 AUTOSAR Model

Definition	An AUTOSAR model is an instance of the AUTOSAR metamodel (→ definition 3.15). The information contained in the AUTOSAR model (→ definition 3.16) can be anything that is representable according to the AUTOSAR metamodel. The AUTOSAR model can be stored in many different ways: it might be a set of files in a file system, an XML stream, a database or memory used by some running software tools, etc.
Initiator	--
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.17 AUTOSAR Service

Definition	An AUTOSAR Service is a logical entity of the basic software (→ definition 3.23) offering general functionality to be used by various AUTOSAR software components. The functionality is accessed via standardized AUTOSAR Interfaces (→ definition 3.14).
Initiator	WP 1.1.1
Further Explanations	--
Comment	Parts of the basic software required to realize AUTOSAR communication patterns and communication attributes are not called AUTOSAR services.
Example	Error memory for diagnosis. Timer service. ECU state manager.
Reference	--
German Term	--
French Term	--

3.18 AUTOSAR Software-Component (SW-C)

Definition	The AUTOSAR Software Components encapsulate an application which runs on the AUTOSAR infrastructure. The AUTOSAR Software Components have well-defined interfaces, which are described and standardized within AUTOSAR.
Initiator	WP 1.1.1

Further Explanations	An AUTOSAR Software Component has a formal description (→definition3.18), i.e. software component template (→ definition 3.194). AUTOSAR Software-Components are located "above" the AUTOSAR Runtime Environment.
Comment	--
Example	--
Reference	--
German Term	AUTOSAR Software Komponente
French Term	--

3.19 AUTOSAR Virtual Functional Bus (VFB)

Definition	The AUTOSAR Virtual Functional Bus is an abstraction of the communication between Atomic Software Components (→ definition 3.11) and AUTOSAR Services (→ definition 3.17). This abstraction is such that specification of the communication mechanisms is independent from the concrete technology chosen to realize the communication.
Initiator	WP 1.1.1
Further Explanations	After compilation and linking of software for a dedicated ECU (→ definition 3.60) the AUTOSAR Virtual Functional Bus interfaces are realized by the AUTOSAR Runtime Environment.
Comment	--
Example	--
Reference	--
German Term	AUTOSAR Virtueller Funktionsbus
French Term	--

3.20 AUTOSAR XML description

Definition	An AUTOSAR XML description describes the XML representation of an AUTOSAR model (→ definition 3.16). The AUTOSAR XML description can consist of several fragments (e.g. files). Each individual fragment must validate successfully against the AUTOSAR XML schema.
Initiator	--
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.21 AUTOSAR XML Schema

Definition	The AUTOSAR XML Schema is an XML language definition for exchanging AUTOSAR models (→ definition 3.16) and descriptions.
Initiator	WP1.2
Further Explanations	The AUTOSAR XML Schema is a W3C XML schema that defines the language for exchanging AUTOSAR models. This Schema is derived from the AUTOSAR metamodel (→ definition 3.15). The AUTOSAR XML Schema defines the AUTOSAR data exchange format.
Comment	--
Example	--
Reference	--

German Term	--
French Term	--

3.22 Availability

Definition	1. Probability that a system or functional unit is able to perform its normal operation under specified conditions at a specific time. 2. The property of data or resources being accessible and usable on demand by an authorized entity.
Initiator	WP 1.1.3
Further Explanations	The time can be used to model a decrease of the availability over time due to e.g. aging of components.
Comment	1. Degraded modes are covered by this definition (see example)
Example	1. Power Steering: if the support function fails it is not available while the steering as a base function has full availability.
Reference	based on [ISO 2382-14], [ISO 2382-8], Reliability (→ definition 3.152)
German Term	Verfügbarkeit
French Term	--

3.23 Basic Software (BSW)

Definition	The Basic Software provides the infrastructural (schematic dependent and schematic independent) functionalities of an ECU (→ definition 3.60). It consists of ECU Firmware (→ definition 3.59) and Standard Software (→ definition 3.185).
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	MCAL, AUTOSAR services, communication layer
Reference	--
German Term	Basis Software
French Term	--

3.24 Basic Software Module (BSWM)

Definition	A collection of software files (code and description) that define a certain basic software functionality present on an ECU.
Initiator	WP 4.1.1.2
Further Explanations	Standard software (→ definition 3.185) may be composed of several software modules (→ definition 3.179) that are developed independently. A software module may consist of ECU firmware (→ definition 3.59), and/or standard software (→ definition 3.185).
Comment	--
Example	A Digital IO Driver, Complex Device Driver, OS are examples of basic software modules.
Reference	--
German Term	Basis-Software-Modul
French Term	--

3.25 Bulk Data

Definition	“Bulk Data” is a set of data such big in size, that standard mechanisms used to handle smaller data sets become inconvenient. This implies that bulk data in a software system are modeled, stored, accessed and transported by different mechanisms than smaller data sets.
Initiator	WP 1.1.1
Further Explanations	Bulk data are typically handled by adding a level of abstraction (e.g. files) which separates the containment of the data from the internal structure.
Comment	The critical size, above which data must be regarded as bulk data depends on the technical infrastructure (e.g. bus system) and the considered use case (transport, storage etc.).
Example	Data on a persistent medium which has a capacity of a few kBytes (e.g. EEPROM) can be directly accessed via memory addresses, address offsets can be mapped to symbols of a programming language: No bulk data mechanisms are needed. For media with bigger capacity this becomes inconvenient or even impossible, so that a file system is used: The data are treated as bulk data.
Reference	--
German Term	Massendaten
French Term	Masse de Données

3.26 Calibration

Definition	Calibration is the adjustment of parameters of SW-Components realizing the control functionality (namely parameters of AUTOSAR SWCs, ECU abstraction or Complex Device Drivers).
Initiator	WP 1.1.1
Further Explanations	Only those software modules can be calibrated, which are above RTE and ECU Abstraction and CDD. Calibration is always done at post-build time. Used techniques to set calibration data include end-of-line programming, garage programming and adaptive calibration (e.g. in the case of anti-pinch protection for power window).
Comment	--
Example	The calibration of the engine control will take into account the production differences of the individual motor this system will control.
Reference	--
German Term	Kalibrierung
French Term	--

3.27 Callback

Definition	In AUTOSAR, the functions (→ definition 3.103) a module provides to layers which are placed below the module in the AUTOSAR software layer model, are called 'callback functions'. Generally, a software entity A, which, in order to be informed about some event (→ definition 3.64) C in software entity B, is registered as interested in event C at software entity B by calling a register mechanism B provides, and is called by entity B if event C occurs. In AUTOSAR the Callback is usually implicitly registered by configuration (→ definition 3.41).
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	COM callback [OSEK-BD]

Reference	[ISO 9899/1999]
German term	--
French term	--

3.28 Call Point

Definition	A point in a AUTOSAR Software-Component (→ definition 3.18) where the SW-C enforce an execution entity (Entry point → definition 3.62) in an other SW-C.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	Request Service Send Information
Reference	--
German Term	Aufrufpunkt
French Term	--

3.29 Causality of Transmission

Definition	Transmit order of PDUs with the same identifier (instances of PDUs) from a source network is preserved in the destination network.
Initiator	WP4.2.2.1.6 Gateway
Further Explanations	Transmission of PDUs (→ definition 3.138) with the same identifier has a particular temporal order in a given source network. After routing over a gateway the temporal order of transmission of PDUs in a destination network may be changed. Only in case that the temporal order is the same, causality is given. Otherwise causality is violated. Causality can be in contradiction to prioritization of PDUs.
Comment	--
Example	--
Reference	--
German Term	Einhaltung der Übertragungsreihenfolge bei Botschaften mit demselben Identifier
French Term	--

3.30 Client

Definition	Software entity which uses services of a server (→ definition 3.172).
Initiator	WP 1.1.1
Further Explanations	The client and the server might be located on one ECU (→ definition 3.60) or distributed on different calculation units (e.g. ECU, external diagnostic tester).
Comment	Adapted from Balzert.
Example	--
Reference	[Balzert99]
German Term	--
French Term	--

3.31 Client-Server Communication

Definition	A specific form of communication in a possibly distributed system in which software entities act as clients (→ definition 3.30), servers (→ definition 3.172) or both, where 1...n clients are requesting services via a specific protocol from typically one server.
Initiator	WP 1.1.1
Further Explanations	Client-server communication can be realized by synchronous or asynchronous communication. • Client takes initiative: requesting that the server performs a service, e.g. client triggers action within server (server does not start action on its own) • Client is after service request blocked / non-blocked • Client expects response from server: data flow (+ control flow, if blocked) One example for 1 client to n server communication (currently not supported) is a functional request by diagnosis. This has to be treated as a specific exception.
Comment	Adapted from Hyper Dictionary
Example	Internet (TCP/IP)
Reference	[Hyper Dictionary]
German Term	--
French Term	--

3.32 Client-Server Interface

Definition	The client-server interface is a special kind of port-interface (→ definition 3.143) used for the case of client-server communication (→ definition 3.31). The client-server interface defines the operations that are provided by the server (→ definition 3.172) and that can be used by the client (→ definition 3.30).
Initiator	SystemTeam
Further Explanations	--
Comment	--
Example	--
Reference	[AUTOSAR Specification of Virtual Functional Bus]
German Term	--
French Term	--

3.33 Cluster Signal

Definition	A cluster signal represents the aggregating system signal on one specific communication cluster. Cluster signals can be defined independently of frames. This allows a development methodology where the signals are defined first, and are assigned to frames in a later stage.
Initiator	WP 2.1.1.3
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.34 Code Variant Coding

Definition	Adaptation of SW by selection of functional alternatives according to external requirements
Initiator	WP 1.1.1
Further Explanations	Code Variant Coding might influences RTE (RuntimeEnvironment) and BSW modules (→ definition 3.24), not only the application software modules. Code Variant Coding is always done at pre-compile time or at link time. Code Variant Coding also includes vehicle-specific (not user-specific) SW adaptation due to end-customer wishes (e.g. deactivation of speed dependent automatic locking).
Comment	In case of the C language the #if or #ifdef directive can be used for creating code variants. Code Variant Coding is a design time concept.
Example	The same window lifter ECU is used for cars with 2 and 4 doors, however different code segments have to be used in both cases.
Reference	[AUTOSAR_WP2.1.1.1_SW-C-Attributes]
German Term	Variantenkodierung
French Term	--

3.35 Communication Attribute

Definition	Communication attributes define, according to the development phase, behavioral as well as implementation aspects of the AUTOSAR communication patterns.
Initiator	WP 1.1.1
Further Explanations	The exact characteristics of the communication patterns provided by AUTOSAR (client-server and sender-receiver) can be specified more precisely by communication attributes.
Comment	See chapter 4.1.6 in Specification of the Virtual Functional Bus
Example	--
Reference	[AUTOSAR Specification of Virtual Functional Bus]
German Term	Kommunikationsattribut
French Term	Attribut de communication

3.36 Complex Device Driver (CDD)

Definition	An Atomic Software Component (→ definition 3.11) that on one side interfaces with the AUTOSAR VFB (→ definition 3.19) and on the other side directly accesses Peripheral Hardware (→ definition 3.140) and/or ECU-Abstraction (→ definition 3.56) and/or MCAL (→ definition 3.128). Complex Device Driver can be accessed via AUTOSAR Interfaces and/or directly by Basic Software Modules.
Initiator	WP 1.1.1
Further Explanations	SW situated below the AUTOSAR RTE. This software in general is not relocatable.
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.37 Component

Definition	A Component encapsulates a complete (automotive) functionality or a piece of it. It is described on the basis of a formal specification, that allows the seamless integration within the VFB (→ definition 3.19). A Component has well defined Ports (→ definition 3.142), trough which the Component can interact with other Components.
Initiator	Bertrand Delord

Further Explanations	When modeling a system with AUTOSAR, a logical interconnection of components can be packaged as a component. Such a component is called a “composition”. In contrast to the Atomic Software Components (→ definition 3.11), the components inside a composition can be distributed over several ECUs.
Comment	--
Example	--
Reference	[AUTOSAR Technical Overview]
German Term	--
French Term	--

3.38 Composition

Definition	An AUTOSAR Composition encapsulates a collaboration of Components (→ definition 3.37), thereby hiding detail and allowing the creation of higher abstraction levels. Through Delegation Connectors (→ definition 3.45) a Composition (→ definition3.38) explicitly specifies, which Ports (→ definition 3.142) of the internal components are visible from the outside. AUTOSAR Compositions are a type of Components, e.g. they can be part of further compositions.
Initiator	WP 2.1.1.1
Further Explanations	--
Comment	See Virtual Functional Bus Specification, Chapter “VFB View, Meta-Model
Example	--
Reference	[AUTOSAR Specification of Virtual Functional Bus]
German Term	Komposition
French Term	--

3.39 Compositionality

Definition	Compositionality is given when the behavior of a software component or subsystem of a system is independent of the overall system load and configuration.
Initiator	BMW
Further Explanations	Compositionality is an important property of deterministic systems. This property leads to a complete decoupling of systems. Smooth subsystem integration without backlashes is then easily achievable.
Comment	--
Example	A new component or a subsystem can be added to a system without changing the behavior of the original components.
Reference	--
German Term	Zusammensetzbarkeit
French Term	--

3.40 Conditioned Signal

Definition	The conditioned signal is the internal electrical representation of the electrical signal within the ECU. It is delivered to the processor and represented in voltage and time (or, in case of logical signals, by high or low level).
Initiator	--
Further Explanations	The Electrical Signal (→ definition 3.61) usually can not be processed by the peripherals directly, but has to be adopted. This includes amplification and limitation, conversion from a current into a voltage and so on. This conversion is

	performed by some electronical devices in the ECU and the result of the conversion is called the Conditioned Signal. The description means for the Conditioned Signal can also be the same as for Technical Signals (→ definition 3.193) and Electrical Signals, but limited to electrical voltage
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.41 Configuration

Definition	The arrangement of hardware and/or software elements in a system.
Initiator	WP 1.1.1
Further Explanations	A configuration in general takes place before runtime.
Comment	--
Example	--
Reference	[AST-Glossary], [SO 61511-1]
German Term	Konfiguration
French Term	--

3.42 Confirmation

Definition	Service primitive defined in the ISO/OSI Reference model (ISO 7498). With the 'confirmation' service primitive a service provider informs a service user about the result of a preceding service request of the service user [OSEK BD]
Initiator	WP 1.1.1
Further Explanations	A confirmation is e.g. a specific notification generated by the OSEK underlying layer to inform about a Message Transmission Error.
Comment	--
Example	OSEK Com notification class 2 and 4
Reference	[SEK BD], [OSEK Com]
German Term	--
French Term	--

3.43 Conformance Test Agency (CTA)

Definition	This is an organization performing a role with specific tasks in the conformance test process. Two possibilities are distinguished, a third party (→ definition 0) CTA or a first party (→ definition 3.77) CTA (which is also a product supplier).
Initiator	WP 20
Further Explanations	The tasks/services provided by a CTA is: - Provision of a CTS - Test execution - Attestation of product conformance For a third party CTA the focus is on the attestation and for a first party the focus is on the test execution.
Comment	--
Example	--
Reference	--
German Term	--

French Term	--

3.44 Conformance Test Suite (CTS)

Definition	is a test implementation used in the context of Conformance Testing. Typically, multiple test implementations from different vendors (e.g. CTA) will exist, each of which implements the standardized Conformance Test specifications.
Initiator	WP 20
Further Explanations	ISO 9646 distinguishes between Abstract Test Suites and Executable Test Suites. For AUTOSAR the earlier relates to the Conformance Test Specifications, whereas the latter to the test implementations or Conformance Test Suites.
Comment	--
Example	--
Reference	[ISO 9646, Parts 1,2 and 4]
German Term	--
French Term	--

3.45 Connector

Definition	A connector connects ports (→ definition 3.142) of components (→ definition 3.37) and represents the flow of information between those ports.
Initiator	WP 1.1.1
Further Explanations	--
Comment	For more information see AUTOSAR Specification of VFB
Example	AssemblyConnector, DelegationConnector
Reference	[AUTOSAR Specification of Virtual Function Bus]
German Term	Konnektor
French Term	--

3.46 Control Flow

Definition	The directed transmission of information between multiple entities, directly resulting in a state change of the receiving entity.
Initiator	WP 1.1.1
Further Explanations	A state change could result in an activation of a schedulable entity.
Comment	--
Example	--
Reference	--
German Term	Kontrollfluss
French Term	--

3.47 Data

Definition	A reinterpretable representation of information in a formalized manner suitable for communication, interpretation or processing.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	Flag, Notification, etc.

Reference	[ISO 2382-1]
German Term	Daten
French Term	--

3.48 Data Element

Definition	Data elements are declared within the context of a "Sender-Receiver Interface" (→ definition 3.170). They serve as the data units that are exchanged between sender and receiver.
Initiator	Stefaan Sonck Thiebaut
Further Explanations	--
Comment	--
Example	--
Reference	[AUTOSAR SoftwareComponentTemplate]
German Term	Datenelement
French Term	--

3.49 Data Flow

Definition	The directed transmission of data (→ definition 3.47) between multiple entities. The transmissioned data are not directly related to a state change at the receiver side.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	Asynchronous communication.
Reference	--
German Term	Datenfluss
French Term	--

3.50 Data Variant Coding

Definition	Adaptation of SW by setup of certain characteristic data according to external requirements.
Initiator	WP 1.1.1
Further Explanations	Data Variant Coding might influences RTE (RunTimeEnvironment) and BSW modules (→ definition 3.24) not only the application software modules. (Multiple configuration parameter sets are needed.) Variant Coding is always done at post-build time. Variant Coding also includes vehicle-specific (not user-specific) SW adaptation due to end-customer wishes (e.g. deactivation of speed dependent automatic locking). Used techniques to select variants include end-of-line programming and garage programming.
Comment	The major difference with calibration is that this later doesn't aim to adapt the SW functionality itself but only aims to adjust the characteristic data of the SW to the HW/SW environment. Characteristic data in the source code of a software function have a significant impact on the functionality of the software.
Example	- Steering wheel controller adaptation to the left or right side can be done with Variant Coding. (Selection of the configuration.) - Country related adaptation of MMI with respect to speed and/or temperature unit (km/h vs. mph, °C vs. F).
Reference	[AUTOSAR_WP2.1.1.1_SW-C-Attributes]
German Term	Variantenkodierung

French Term	--

3.51 Deadline

Definition	The point in time when an execution of an entity must be finished.
Initiator	WP 1.1.1
Further Explanations	A deadline is calculated dependent on its local reference system.
Comment	--
Example	--
Reference	[OSEKtime, OS Specification]
German Term	--
French Term	--

3.52 Debugging

Definition	Debugging is the process of gathering information in case of a software problem. The information is used to analyze the software problem.
Initiator	WPII 1.1.3
Further Explanations	To analyze and later fix a software problem, in many cases more information than the one provided by the software API is necessary. This can be for example the state of internal variables of the software or a trace of the communication. The information can be collected by different means, e.g. an emulator or a tracing tool for the communication bus.
Comment	--
Example	--
Reference	--
German Term	Debugging/Fehlersuche
French Term	Debugging/recherche d'erreurs

3.53 (Conformance) Declaration

Definition	First-party (→ definition 3.77) attestation
Initiator	WP 20
Further Explanations	--
Comment	--
Example	Attestation of product conformance given by a first party, i.e. the Product Supplier.
Reference	[ISO/IEC 17000]; [ISO/IEC 17050]
German Term	Erklärung
French Term	Déclaration

3.54 Dependability

Definition	Dependability is defined as the trustworthiness of a computer system such that reliance can justifiable be placed on the service it delivers.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	--
Reference	[EAST-Glossary]
German term	Verlässlichkeit

French term	--

3.55 Dynamic Routing

Definition	The routing of signals or PDUs (→ definition 3.138) in a gateway can be changed throughout operation without change of the operation mode of the gateway.
Initiator	WP4.2.2.1.6 Gateway
Further Explanations	Dynamic routing requires the change of routing tables during operation. It is not intended to use dynamic routing in the gateway.
Comment	--
Example	--
Reference	[EAST-Glossary]
German term	Verlässlichkeit
French term	--

3.56 ECU Abstraction Layer

Definition	The ECU Abstraction Layer is located above the Microcontroller Abstraction Layer (→ definition 3.128) and abstracts from the ECU schematic. It is implemented for a specific ECU.and offers an API for access to peripherals and devices regardless of their location (onchip/offchip) and their connection to the microcontroller (port pins, type of interface). Task: make higher software layers independent of the ECU hardware layout.
Initiator	WP 1.1.2
Further Explanations	The ECU Abstraction Layer consists of the following parts: • I/O Hardware Abstraction • Communication Hardware Abstraction • Memory Hardware Abstraction • Onboard Device Abstraction Properties: • Implementation: µC independent, ECU hardware dependent • Upper Interface (API): µC and ECU hardware independent, dependent on signal type
Comment	--
Example	See WP1.1.2, Layered Software Architecture
Reference	[AUTOSAR SoftwareArchitecture]
German Term	Steuergeräte-Abstraktions-Schicht
French Term	--

3.57 ECU Configuration

Definition	Activity of integrating and configuring one ECU's software.
Initiator	WP 4.1.1.2
Further Explanations	Further Explanations: ECU Configuration denotes the activity when one ECU's software is set up for a specific usage inside the ECU. In AUTOSAR the ECU Configuration activity is divided into "Pre-compile time", "Link time" and "Post-build time" configuration.
Comment	--
Example	--
Reference	ECU Configuration Description (→ definition 3.58), Pre-compile time configuration (→ definition 3.145), Link time configuration (→ definition 3.124), Post-build time configuration (→ definition 3.144), Multiple Configuration Sets (→ definition 3.131).
German Term	--

French Term	--

3.58 ECU Configuration Description

Definition	Output of the ECU Configuration activity containing the values of configuration parameters and references.
Initiator	WP 4.1.1.2
Further Explanations	ECU Configuration Description holds the configuration parameter values and references to other module's configurations which have been defined in the ECU Configuration activity.
Comment	ECU Configuration Description may contain the whole ECU Configuration information or only the parts relevant for a specific configuration step (e.g. Pre-compile time).
Example	--
Reference	ECU Configuration Description (→ definition 3.58), Pre-compile time configuration (→ definition 3.145), Link time configuration (→ definition 3.124), Post-build time configuration (→ definition 3.144), Multiple Configuration Sets (→ definition 3.131).
German Term	--
French Term	--

3.59 ECU Firmware

Definition	ECU firmware is ECU schematic dependent software located below the AUTOSAR RTE (RunTimeEnvironment).
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	ECU Abstraction, Complex Device Driver
Reference	--
German Term	--
French Term	--

3.60 Electronic Control Unit (ECU)

Definition	Embedded computer system consisting out of at least one CPU and corresponding periphery which is placed in one housing.
Initiator	WP 1.1.1
Further Explanations	--
Comment	“Small” deleted from EAST definition The term ECU is problematic using LIN busses: An ECU can carry at least one AUTOSAR-SW-Component. Sensors and Actuators which are according to this definition not an ECU are related to an ECU which capsules the sensors or actuators functionality -new
Example	Head Unit (telematics domain).
Reference	[EAST-Glossary]
German Term	Steuergerät
French Term	--

3.61 Electrical Signal

Definition	The electrical signal is the electrical representation of technical signals (→ definition 3.193). Electrical signals can only be represented in voltage, current and time
Initiator	WP 2.1.1.2
Further Explanations	When a sensor processes the Technical Signal it is converted into an Electrical Signal. The information can be provided in the current, the voltage or in the timely change of the signal (e.g. a pulse width modulation).
Comment	To describe the Electrical Signal the same means as for the Technical Signal can be used, limited to electrical current and voltage.
Example	--
Reference	--
German Term	Elektrisches Signal
French Term	--

3.62 Entry Point

Definition	A point in a AUTOSAR Software-Component (→ definition 3.18) where an execution entity of the SW-C begins.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	• Service of the Server in Client/Server Communication • Reaction after receive Information (Notification)
Reference	--
German Term	Einsprungpunkt
French Term	--

3.63 Error

Definition	Discrepancy between a computed, observed or measured value or condition and the true, specified or theoretically correct value or condition.
Initiator	WP 1.1.3
Further Explanations	--
Comment	--
Example	--
Reference	[IEC 61508, Part 4]
German Term	Abweichung
French Term	--

3.64 Event

Definition	State change of a hardware and/or software entity.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	Ereignis
French Term	--

3.65 Execution Time

Definition	The time during which a program is actually executing, or more precisely during which a certain thread of execution is active.
Initiator	WP 2.1.1.1
Further Explanations	The execution time of software is the time during which the CPU is executing its instructions. The time the CPU spends on task switches or on the execution of other pieces of software is not considered here. See also: response time, worst case execution time, worst case response time.
Comment	--
Example	--
Reference	--
German Term	Ausführungszeit
French Term	--

3.66 Exit Point

Definition	A point in an AUTOSAR Software-Component (→ definition 3.18) where an execution entity of the SW-C ends.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	Return point.
Reference	--
German Term	Ausstiegspunkt
French Term	--

3.67 Fail-degraded

Definition	Property of a system or functional unit. Describes the ability of a system to continue with intended degraded operation at its output interfaces despite the presence of hardware or software faults.
Initiator	WP 1.1.3
Further Explanations	--
Comment	1. Safety means are not regarded as a part of the normal functionality respectively operation. 2. Also known as: Fail-reduced, Fail-soft
Example	“Limp home” functionality for ECU (reduce torque to assure an arrival at home or service station)
Reference	--
German Term	--
French Term	--

3.68 Fail-operational

Definition	Property of a system or functional unit. Describes the ability of a system or functional unit to continue normal operation at its output interfaces despite the presence of hardware or software faults.
Initiator	WP 1.1.3
Further	--

Explanations	
Comment	1. Typically, a fail-operational system or functional unit has no safe state. 2. Safety means are not regarded as a part of the normal functionality respectively operation.
Example	Braking system
Reference	--
German Term	--
French Term	--

3.69 Fail-safe

Definition	Property of a system or functional unit. In case of a fault the system or functional unit transits to a safe state.
Initiator	WP 1.1.3
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.70 Fail-silent

Definition	Property of a system or functional unit. In case of a fault the output interfaces are disabled in a way that no further outputs are made.
Initiator	WP 1.1.3
Further Explanations	Fail-silent is a special case of the fail-safe property.
Comment	--
Example	The fail-silent property can be used to avoid that “babbling idiots” disturb the overall communication.
Reference	--
German Term	--
French Term	--

3.71 Failure

Definition	Termination of the ability of a system or functional unit to perform a required function.
Initiator	WP 1.1.3
Further Explanations	--
Comment	The cause of a failure is a fault.
Example	--
Reference	[IEC 61508, Part 4]
German Term	Ausfall, Fehlfunktion
French Term	--

3.72 Fault

Definition	Abnormal condition that may cause a reduction in, or loss of, the capability of a system or functional unit to perform a required function.
Initiator	WP 1.1.3
Further Explanations	--
Comment	A fault of a functional unit may cause a failure of this unit.
Example	Physical defect
Reference	[IEC 61508, Part 4]
German Term	Störung
French Term	--

3.73 Fault Detection

Definition	The action of monitoring errors and setting fault states to specific values is called fault detection.
Initiator	WP 1.1.1
Further Explanations	The different states are called “not detected”/ “present”/ ”intermittent or maturing”/… The names of the fault states are following the ISO/SAE norms; however there is a coordination step in between the states of the DTCs (Diagnostic Trouble Code → see definition in ISO 15765/ ISO14229) and the states of the faults. The SW-C’s Fault Detection is executed decentralized, e.g. each SW-C sets the state of a fault according to the defined fault qualification (SW-C Template). Therefore the Fault Detection is implemented in the SW-C (SW-C could be either Application SW Component or Basic SW Component). There are exceptions; these will be pointed out individually for each fault. The SW-C’s developer will define the conditions (=fault qualification), when these conditions are fulfilled the SW-C notifies a fault to the Diagnostic Memory Management.
Comment	--
Example	--
Reference	[ISO 15765], [ISO14229] [AUTOSAR Specification of Virtual Functional Bus]
German Term	Fehlerdetektion
French Term	Détection de fautes

3.74 Fault Reaction

Definition	In case of a Failure of a SW-C there is a specific action to be carried out. This action is called “Fault Reaction”.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	Fault Reactions can be implemented decentralized in the SW-C. There might also be the need of coordinating the fault reactions since there are reactions excluding each other. This will be done by a central fault reaction manager.
Reference	--
German Term	Fehlerbehandlung
French Term	Traitement des fautes

3.75 Fault Tolerance

Definition	Property of a system or functional unit.

	In case of n faults the system or functional unit continues with full functionality (n>0).
Initiator	WP 1.1.3
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	Fehlertoleranz
French Term	--

3.76 Feature

Definition	The term feature is commonly used in the software tool community to describe characteristics (functionality) of the software.
Initiator	WP 1.2
Further Explanations	In AUTOSAR a feature is represented by one or many metaclasses and their attributes in the AUTOSAR meta-model. Features are used to implement use cases such that a single use case requires one or more features for implementation.
Comment	--
Example	Automatic windshield wiper
Reference	[EAST-Glossary]
German Term	--
French Term	--

3.77 First party

Definition	An organization that provides automotive products, which are subject to AUTOSAR conformance testing.
Initiator	WP 20
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	--
French Term	Première partie

3.78 Flag

Definition	A piece of data that can take on one of two values indicating whether a logical condition is true or false.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	Notification flag
Reference	--
German Term	--
French Term	--

3.79 FlexRay Base Cycle

Definition	One operand of the equation used to calculate the Cycle Numbers (→ definition 3.85) of the FlexRay Cells (→ definition 3.81) being used for periodic transmission of FlexRay Frames (→ definition 3.88) in a given FlexRay Slot (→ definition 3.97). Equation: **Cycle Number =** $\mathbf{(B + n * 2^R)_{mod64}}$ Where: • Base Cycle **B** = 0 … 63 • Cycle Repetition $\mathbf{2^R} = 2^0 \dots 2^6$ = 1, 2, 4, 8, … 64 • Variable **n** = 0 … 64 • $\mathbf{B < 2^R}$ (See also graphic in FlexRay L-SDU-Identifier → definition 3.92)
Initiator	WP4.2.2.1.5
Further Explanations	--
Comment	Synonym: “Cycle Offset”, “Cycle Counter Offset”
Example	--
Reference	--
German Term	„Basiszyklus“, „Zyklusoffset“, „Zykluszähleroffset“
French Term	--

3.80 FlexRay Bus

Definition	A communication system **topology** in which Nodes (→ definition 3.95) are directly connected to a single, common communication media (as opposed to connection through Stars (→ definition 3.100), gateways, etc.). The term “bus” is also used to refer to **the media itself**.
Initiator	WP4.2.2.1.5
Further Explanations	The term “FlexRay Bus” is not to be confused with the term “FlexRay Cluster” (→ definition 3.83) or “FlexRay Network” (→ definition 3.94).
Comment	Synonym: “FlexRay Communication Bus”
Example	--
Reference	[FR_PROTOCOL]
German Term	„FlexRay Bus“, „FlexRay Kommunikationsbus“
French Term	--

3.81 FlexRay Cell

Definition	One element in a FlexRay Matrix (→ definition 3.93) unequivocally defined by a combination of exactly one FlexRay Slot (or FlexRay Slot Number) (→ definition 3.97) and exactly one FlexRay Cycle (or FlexRay Cycle Number) (→ definition 3.84). In other words: a FlexRay Cell is defined by the tuple <Slot Number, Cycle Number>. Each FlexRay Cell represents one (possible) transmission time interval for at most one FlexRay Frame (→ definition 3.88). If a FlexRay Network (→ definition 3.94) consists of two Channels (→ definition 3.82), there is one FlexRay Matrix per Channel , so there are also two FlexRay Cells defined by the same tuple <Slot Number, Cycle Number>, one for “Channel A” and one for “Channel B”.
Initiator	WP4.2.2.1.5
Further Explanations	In order to achieve periodic transmission of FlexRay Frames in a given FlexRay Slot, the Cycle Numbers of the FlexRay Cells being used for transmission have to fulfill the following equation:

	Equation: **Cycle Number = $(B + n * 2^R)_{mod64}$** Where: - Base Cycle **B** = 0 … 63 - Cycle Repetition $\mathbf{2^R} = 2^0 \dots 2^6$ = 1, 2, 4, 8, … 64 - Variable **n** = 0 … 64 - $\mathbf{B < 2^R}$
Comment	Synonym: “FlexRay Matrix Cell”
Example	--
Reference	--
German Term	„FlexRay Zelle“, „FlexRay Matrixzelle“, „FlexRay Kommunikationsmatrixzelle“
French Term	--

3.82 FlexRay Channel

Definition	The inter-Node (→ definition 3.95) connection through which signals are conveyed for the purpose of communication. The communication channel abstracts both the network topology, i.e., Bus (→ definition 3.80) or Star (→ definition 3.100), as well as the physical transmission medium, i.e. electrical or optical.
Initiator	WP4.2.2.1.5
Further Explanations	According to the FlexRay Protocol Specification, the two possible Channels of a FlexRay Network (→ definition 3.94) are named “Channel A” and “Channel B”.
Comment	Synonym: “FlexRay Communication Channel”
Example	--
Reference	[FR_PROTOCOL]
German Term	„FlexRay Kanal“, „FlexRay Kommunikationskanal“
French Term	--

3.83 FlexRay Cluster

Definition	A communication system of multiple Nodes (→ definition 3.95) connected directly (Bus topology) or by Star Couplers (Star topology) (→ definition 3.100) via a Communication Network consisting of at least one Communication Channel.
Initiator	WP4.2.2.1.5
Further Explanations	The term “FlexRay Cluster” is not to be confused with the term “FlexRay Bus” (→ definition 3.80) which describes a communication system topology. A FlexRay Cluster consists of a FlexRay Network (→ definition 3.94) and several FlexRay Nodes.
Comment	--
Example	--
Reference	[FR_PROTOCOL]
German Term	--
French Term	--

3.84 FlexRay Cycle

Definition	One complete instance of the communication structure that is periodically repeated to comprise the media access method of the FlexRay system. The Communication Cycle consists of a Static Segment, an optional Dynamic

	Segment, an optional Symbol Window, and a Network Idle Time. The FlexRay Cycles are unequivocally numbered by the FlexRay Cycle Number (→ definition 3.85) ranging from 0 to 63. Even if a FlexRay Network (→ definition 3.94) consists of two Channels, the FlexRay Cycle is always a common quantity of both Channels, irrespective of the data transmission schedule possibly being different for the two Channels.
Initiator	WP4.2.2.1.5
Further Explanations	--
Comment	Synonym: "FlexRay Communication Cycle"
Example	--
Reference	[FR_PROTOCOL]
German Term	„FlexRay Zyklus", „FlexRay Kommunikationszyklus"
French Term	--

3.85 FlexRay Cycle Number

Definition	An unequivocal number of a FlexRay Cycle (→ definition 3.84), ranging from 0 to 63.
Initiator	WP4.2.2.1.5
Further Explanations	--
Comment	Synonym: "FlexRay Communication Cycle Number"
Example	--
Reference	[FR_PROTOCOL]
German Term	„FlexRay Zyklusnummer", „FlexRay Kommunikationszyklusnummer"
French Term	--

3.86 FlexRay Cycle Offset

Definition	See definition of Base Cycle (→ definition 3.79).
Initiator	WP4.2.2.1.5
Further Explanations	--
Comment	This term is mentioned here to simplify finding it via this document's table of contents. Synonym: "Cycle Counter Offset", "Base Cycle"
Example	--
Reference	--
German Term	„Zyklusoffset"
French Term	--

3.87 FlexRay Cycle Repetition

Definition	One operand of the equation used to calculate the Cycle Numbers (→ definition 3.85) of the FlexRay Cells (→ definition 3.81) being used for periodic transmission of FlexRay Frames (→ definition 3.88) in a given FlexRay Slot (→ definition 3.97). Equation: $\mathbf{Cycle\ Number = (B + n * 2^{R})_{mod64}}$ Where: • Base Cycle **B** = 0 … 63 • Cycle Repetition $\mathbf{2^{R}}$ = 2^{0} … 2^{6} = 1, 2, 4, 8, … 64

	• Variable **n** = 0 … 64 • $\mathbf{B} < \mathbf{2}^R$ (See also graphic in FlexRay L-SDU-Identifier → definition 3.92)
Initiator	WP4.2.2.1.5
Further Explanations	--
Comment	Synonym: “Cycle Counter Repetition”
Example	--
Reference	--
German Term	„Zykluswiederholung“, „Zykluszählerwiederholung“
French Term	--

3.88 FlexRay Frame

Definition	A structure used by the communication system to exchange information within the system. A FlexRay Frame consists of a header segment, a payload segment and a trailer segment. The payload segment is used to convey application data.
Initiator	WP4.2.2.1.5
Further Explanations	A FlexRay Frame is a “data package” that may be transmitted within a FlexRay Cell (→ definition 3.81).
Comment	Synonym: “FlexRay L-PDU”
Example	--
Reference	[FR_PROTOCOL]
German Term	--
French Term	--

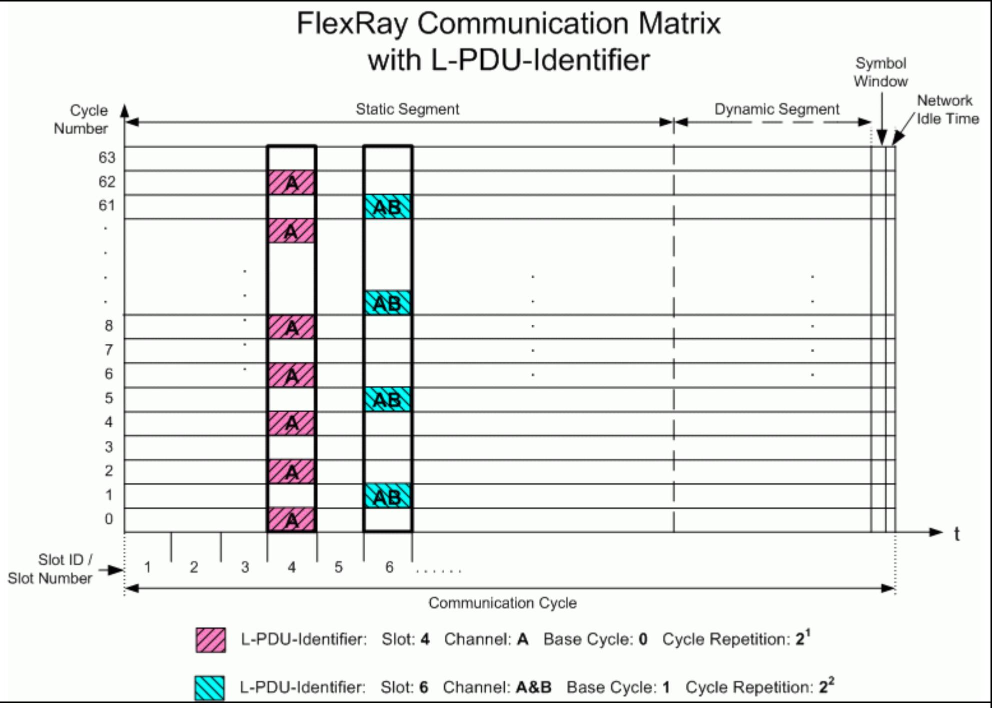
3.89 FlexRay Global Time

Definition	A tuple consisting of one specific value of the FlexRay Cycle Counter and one specific value of the FlexRay Cycle Time in Macroticks.
Initiator	WP4.2.2.1.5
Further Explanations	--
Comment	--
Example	--
Reference	[FR_PROTOCOL]
German Term	„FlexRay globale Zeit“
French Term	--

3.90 FlexRay L-PDU

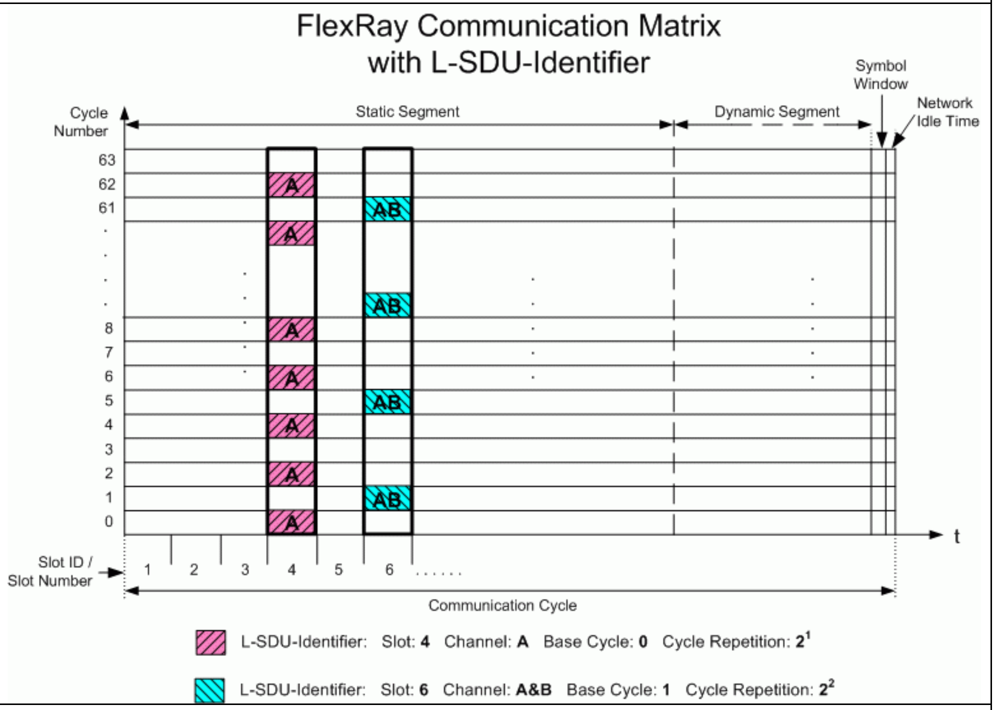
Definition	See definition of FlexRay Frame (→ definition 3.88).
Initiator	WP4.2.2.1.5
Further Explanations	--
Comment	This term is mentioned here to simplify finding it via this document’s table of contents.
Example	--
Reference	Synonym: “FlexRay Frame”
German Term	--
French Term	--

3.91 FlexRay L-PDU-Identifier

Definition	A unequivocal identifier of a set of FlexRay Cells (→ definition 3.81) used for periodic transmission of FlexRay Frames (→ definition 3.88) over one or both FlexRay Channels (→ definition 3.82) in a specific FlexRay Slot (→ definition 3.97), which fulfill the equation: $\mathbf{Cycle\ Number = (B + n * 2^{R})_{mod64}}$ with **exactly one tuple** of values for **B** and **2**^{R}. (See also graphics below.) In other words: a FlexRay L-PDU-ID comprises the 4 parameters: - Slot Number = 1 … MaxSlotNumber (≤ 2047) - Base Cycle **B** = 0 … 63 - Cycle Repetition **2**^{R} = 2^{0} … 2^{6} = 1, 2, 4, 8, … 64 - Channel = "A", "B", "A and B" In order to prevent collisions of FlexRay Frames on the Bus (→ definition 3.80), the FlexRay Cells of different FlexRay L-PDU-Identifiers used for transmission shall be disjunctive.
Initiator	WP4.2.2.1.5
Further Explanations	 FlexRay Communication Matrix with L-PDU-Identifier Symbol Window Cycle Number Static Segment Dynamic Segment Network Idle Time 63 62 61 8 7 6 5 4 3 2 1 0 A AB t Slot ID / Slot Number 1 2 3 4 5 6 ...... Communication Cycle ▨ L-PDU-Identifier: Slot: 4 Channel: A Base Cycle: 0 Cycle Repetition: 2^1 ▨ L-PDU-Identifier: Slot: 6 Channel: A&B Base Cycle: 1 Cycle Repetition: 2^2
Comment	Usually, on one specific FlexRay Node (→ definition 3.95), **one** FlexRay L-PDU-Identifier has **one** configuration of a FlexRay Communication Controller buffer assigned to it. Synonym: "FlexRay L-PDU-ID"
Example	--
Reference	--
German Term	--
French Term	--

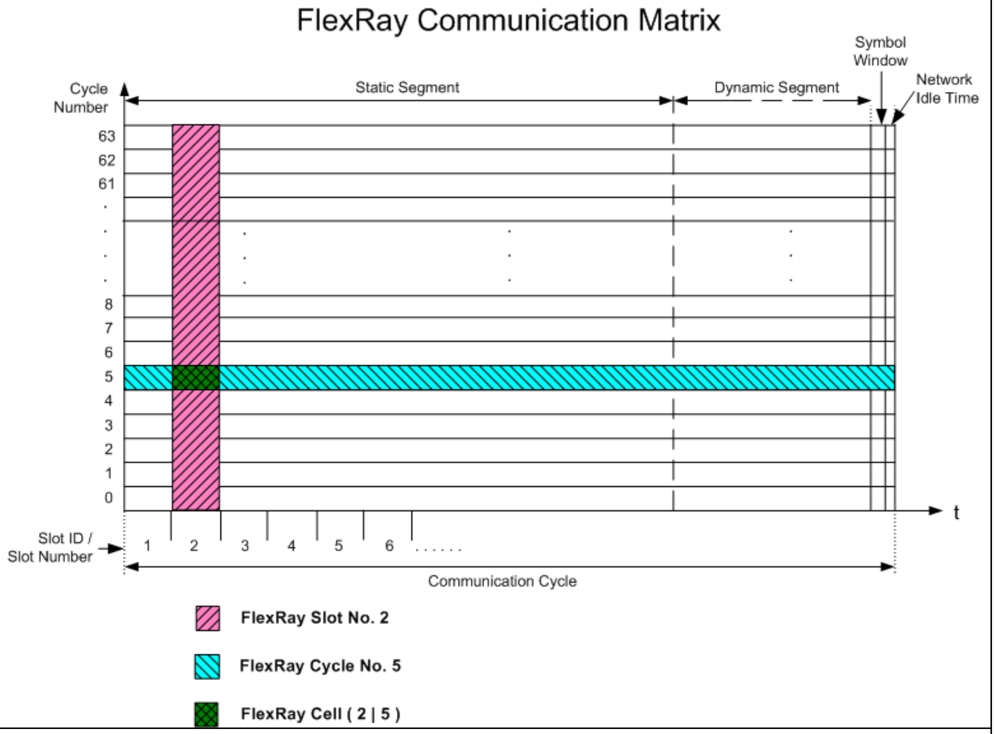
3.92 FlexRay L-SDU-Identifier

Definition	A unequivocal identifier of the **payload** contained in one or multiple FlexRay Frames (→ definition 3.88) assigned to the same FlexRay L-PDU-Identifier (→ definition 3.91) and therefore periodically transmitted over one or both FlexRay

	Channels (→ definition 3.82) in one or multiple FlexRay Cells (→ definition 3.81) in a specific FlexRay Slot (→ definition 3.97), and where the equation: $\mathbf{Cycle\ Number = (B + n * 2^{R})_{mod64}}$ is fulfilled with **exactly one tuple** of values for **B** and $\mathbf{2^{R}}$. (See also graphics below.)
Initiator	WP4.2.2.1.5
Further Explanations	 FlexRay Communication Matrix with L-SDU-Identifier Symbol Window Network Idle Time Cycle Number Static Segment Dynamic Segment 63 62 61 8 7 6 5 4 3 2 1 0 A AB t Slot ID / Slot Number 1 2 3 4 5 6 ...... Communication Cycle L-SDU-Identifier: Slot: 4 Channel: A Base Cycle: 0 Cycle Repetition: 2¹ L-SDU-Identifier: Slot: 6 Channel: A&B Base Cycle: 1 Cycle Repetition: 2²
Comment	Synonym: “FlexRay L-SDU-ID”
Example	--
Reference	--
German Term	--
French Term	--

3.93 FlexRay Matrix

Definition	A two-dimensional array with a width of the number of FlexRay Slots (→ definition 3.97) within one FlexRay Cycle (→ definition 3.84) and a height of 64 FlexRay Cycles, numbered 0 … 63. (See also graphics below.) This array is being used to describe the (possible) transmission time intervals on a FlexRay Channel (→ definition 3.82). If a FlexRay Network (→ definition 3.94) consists of two Channels, there is one FlexRay Matrix per Channel (resulting in a total of two Matrixes), since the data transmission schedule may be different for the two FlexRay Channels.
Initiator	WP4.2.2.1.5

Further Explanations	
Comment	Synonym: “FlexRay Communication Matrix”
Example	--
Reference	[FR_PROTOCOL]
German Term	„FlexRay Matrix“, „FlexRay Kommunikationsmatrix“
French Term	--

3.94 FlexRay Network

Definition	The combination of the (up to two) FlexRay Communication Channels that connect the FlexRay Nodes (→ definition 3.95) of a FlexRay Cluster (→ definition 3.83).
Initiator	WP4.2.2.1.5
Further Explanations	The term “FlexRay Network” is not to be confused with the term “FlexRay Cluster” or “FlexRay Bus” (→ definition 3.80).
Comment	Synonym: “FlexRay Communication Network”
Example	--
Reference	[FR_PROTOCOL]
German Term	„FlexRay Netzwerk“, „FlexRay Kommunikationsnetzwerk“
French Term	--

3.95 FlexRay Node

Definition	A logical entity connected to the FlexRay Network (→ definition 3.94) that is capable of sending and/or receiving frames.
Initiator	WP4.2.2.1.5
Further Explanations	--
Comment	--
Example	--
Reference	[FR_PROTOCOL]
German Term	„FlexRay Knoten“
French Term	--

3.96 FlexRay Physical Communication Link

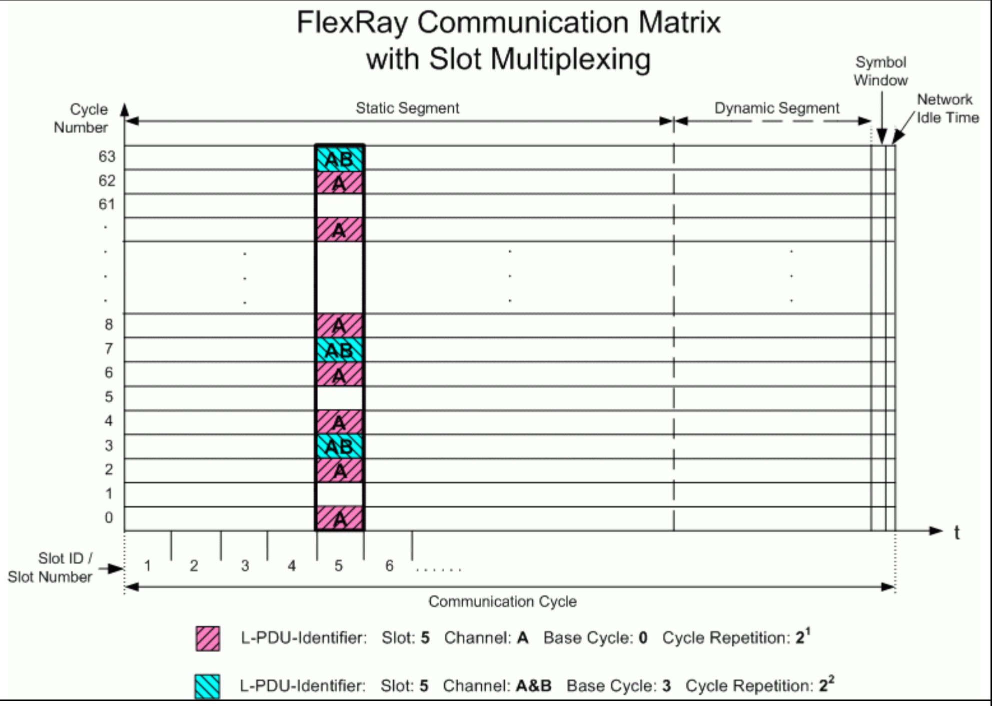
Definition	An inter-Node (→ definition 3.95) connection through which signals are conveyed for the purpose of communication. All Nodes connected to a given Physical Communication Link share the same electrical or optical signals (i.e., they are not connected through repeaters, Stars (→ definition 3.100), gateways, etc.). Examples of a Physical Communication Link include a Bus (→ definition 3.80) Network or a point-to-point connection between a Node and a Star. A Communication Channel may be constructed by combining one or more Physical Communication Links together using Stars.
Initiator	WP4.2.2.1.5
Further Explanations	--
Comment	--
Example	--
Reference	[FR_PROTOCOL]
German Term	--
French Term	--

3.97 FlexRay Slot

Definition	An interval of time during which access to a Communication Channel is granted exclusively (at least in the static segment) to a specific Node (→ definition 3.95) for the transmission of a Frame (→ definition 3.88) with a frame ID corresponding to the Slot Number (→ definition 3.99) of that Slot. FlexRay distinguishes between Static Communication Slots and Dynamic Communication Slots. The FlexRay Slots are unequivocally numbered by the FlexRay Slot Number ranging from 1 to a configurable maximum number ≤ 2047. If a FlexRay Network (→ definition 3.94) consists of two Channels (→ definition 3.82), the Static Slots of “Channel A” and the Static Slots of “Channel B” occur concurrently, since all Static FlexRay Slots have the same length irrespective of the data transmission schedule. However, the Dynamic Slots of “Channel A” are independent from the Dynamic Slots of “Channel B”, since the data transmission schedule may be different for the two FlexRay Channels.
Initiator	WP4.2.2.1.5
Further Explanations	In the dynamic segment, Slot Multiplexing between multiple Nodes is allowed. In the static segment each Slot (→ definition 3.97) on a Channel is owned by exactly one Node (i.e., Slot Multiplexing is **not** allowed in the static segment). Slot Multiplexing (i.e., different FlexRay Nodes owning a Slot in different Cycles (→ definition3.84) for data transmission) is allowed in the dynamic segment, and it is up to the application to ensure that in any given Cycle no two Nodes transmit in the same Slot on the same Channel.
Comment	Synonym: “FlexRay Communication Slot”
Example	--
Reference	[FR_PROTOCOL]
German Term	„FlexRay Slot“, „FlexRay Kommunikationsslot“
French Term	--

3.98 FlexRay Slot Multiplexing

Definition	A method used to fill a FlexRay Slot (→ definition 3.97) on a Channel (→ definition 3.82) more efficiently by alternating the Frames being sent in this Slot from Cycle (→ definition 3.84) to Cycle. In order to achieve periodic transmission of FlexRay Frames (→ definition 3.88) in a given FlexRay Slot, the Cycle Numbers (→ definition 3.85) of the FlexRay Cells (→ definition 3.81) being used for transmission have to fulfill the equation:

	Cycle Number = $(B + n * 2^R)_{mod64}$ Where: - Base Cycle **B** = 0 … 63 - Cycle Repetition $\mathbf{2^R} = 2^0 \dots 2^6$ = 1, 2, 4, 8, … 64 - Variable **n** = 0 … 64 - $\mathbf{B < 2^R}$ In the static segment, each Slot on a Channel is owned by exactly one Node (→ definition 3.95). Therefore, in the static segment Slot Multiplexing is only allowed amongst semantically different Frames sent by the same Node, but **not** amongst different Nodes of a FlexRay Cluster (→ definition 3.83). Thus, this form of Multiplexing is called "**Single Sender Slot Multiplexing**". In the dynamic segment, Slot Multiplexing is also allowed amongst different Nodes of a FlexRay Cluster, i.e. different Nodes may send in the same dynamic Slot on the same Channel in different Cycles, hence with different FlexRay L-PDU-Identifier (→ definition 3.91) defining disjunctive FlexRay Cells. Thus, this form of Multiplexing is called "**Multiple Sender Slot Multiplexing**". In any case, it is up to the software to prevent concurrent sending attempts (of different Nodes or applications) in the same Cell. (See also graphics below.)
Initiator	WP4.2.2.1.5
Further Explanations	 FlexRay Communication Matrix with Slot Multiplexing Symbol Window Network Idle Time Cycle Number Static Segment Dynamic Segment 63 62 61 8 7 6 5 4 3 2 1 0 AB A t Slot ID / Slot Number 1 2 3 4 5 6 ...... Communication Cycle L-PDU-Identifier: Slot: 5 Channel: A Base Cycle: 0 Cycle Repetition: 2^1 L-PDU-Identifier: Slot: 5 Channel: A&B Base Cycle: 3 Cycle Repetition: 2^2
Comment	--
Example	--
Reference	[FR_PROTOCOL]
German Term	--
French Term	--

3.99 FlexRay Slot Number

Definition	An unequivocal number of a FlexRay Slot (→ definition 3.97), ranging from 1 to a configurable maximum number ≤ 2047.
Initiator	WP4.2.2.1.5
Further Explanations	--

Comment	Synonym: “FlexRay Slot Identifier”, “FlexRay Slot ID”
Example	--
Reference	[FR_PROTOCOL]
German Term	„FlexRay Slotnummer“, „FlexRay Kommunikationsslotnummer“
French Term	--

3.100 FlexRay Star

Definition	A device that allows information to be transferred from one Physical Communication Link (→ definition 3.96) to one or more other Physical Communication Links. A star duplicates information present on one of its links to the other links connected to the star. A star can be either passive or active.
Initiator	WP4.2.2.1.5
Further Explanations	--
Comment	Synonym: “Star”, “Star Couplers”
Example	--
Reference	[FR_PROTOCOL]
German Term	„FlexRay Stern“, „Stern“, „Sternkoppler“
French Term	--

3.101 Frame

Definition	Data unit according to the data link protocol specifying the arrangement and meaning of bits or bit fields in the sequence of transfer across the transfer medium .
Initiator	WP1.1.2
Further Explanations	--
Comment	--
Example	A CAN frame consists of up to 8 bytes of payload data and additional protocol specific bits / bit fields (e.g. CAN-Identifier).
Reference	[ISO OSEK, Glossary]
German Term	--
French Term	--

3.102 Frame PDU

Definition	A PDU that fits into 1 frame instance. e.g. it does not need to be fragmented across more than 1 frame for transmission over a network.
Initiator	WP1.1.2
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.103 Function

Definition	1. A task, action or activity that must be accomplished to achieve a desired outcome. 2. A part of programming code that is invoked by other parts of the program to fulfill a desired purpose. 3. In mathematics, a function is an association between two sets of values in which each element of one set has one assigned element in the other set so that any element selected becomes the independent variable and its associated element is the dependent variable.
Initiator	WP 1.1.1
Further Explanations	--
Comment	Due to the different meanings in texts using the term application the appropriate meaning should be explained in detail or referenced.
Example	2. C-Code Function 3. Y=f(x)
Reference	[IEEE12331], [EAST-Glossary]
German Term	Funktion
French Term	--

3.104 Functional Network

Definition	A logical structure of interconnections between defined functional parts of features (→ definition 3.76).
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	Funktionales Netzwerk
French Term	--

3.105 Functional Unit

Definition	An entity of software or hardware, or both, capable of accomplishing a specified purpose.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	ECU, AUTOSAR Software Component, ...
Reference	[ISO 2382-1]
German Term	Funktionale Einheit
French Term	--

3.106 Functionality

Definition	Functionality comprises User-visible and User-non-visible functional aspects of a system.
Initiator	WP 1.1.1
Further Explanations	--
Comment	EAST glossary not applicable, due to use of function.
Example	Functionality of a communication system is a user-non-visible aspect.

Reference	--
German Term	Funktionalität
French Term	--

3.107 Gateway

Definition	A gateway is functionality within an ECU that performs a frame or signal mapping function between two communication systems. Communication system in this context means e.g. a CAN system or one channel of a FlexRay system.
Initiator	WP 2.1.1.3
Further Explanations	--
Comment	--
Example	--
Reference	Gateway ECU 0
German Term	--
French Term	--

3.108 Gateway ECU

Definition	A gateway ECU is an ECU (→ definition 3.60) that is connected to two or more communication channels, and performs gateway functionality.
Initiator	WP 2.1.1.3
Further Explanations	--
Comment	--
Example	--
Reference	Gateway 3.107
German Term	--
French Term	--

3.109 Hardware Connection

Definition	HW Connections are used to describe the connection of HW elements (→ definition 3.110) among each other. It defines/characterizes the interrelationship among HW Elements (for abstract modelling). The HW Ports (→ definition 3.112) of the HW Elements serve as connection points for this purpose.
Initiator	WP 2.1.1.2
Further Explanations	In AUTOSAR are 2 kinds of HW Connections defined: Assembly HW Connection Delegation HW Connection
Comment	--
Example	--
Reference	[AUTOSAR Specfication of ECU Resource Template]
German Term	--
French Term	--

3.110 Hardware Element

Definition	The HW Element is the main describing element of an ECU (→ definition 3.60). It provide HW ports (→ definition 3.112) for being interconnected among each others. A generic HW Element specifies definitions valid for all specific HW

	Elements.
Initiator	WP 2.1.1.2
Further Explanations	A HW Element is the piece or a part of the piece to be described with the ECU Resource Template. It uses other elements as primitive: This means HW elements can be nested (trough HW Containers, a hierarchical structur of HW Elements). At the lowest level a HW Element only uses promitives
Comment	--
Example	--
Reference	[AUTOSAR Specification of ECU Resource Template]
German Term	--
French Term	--

3.111 Hardware Interrupt

Definition	Interrupt triggered by HW event
Initiator	WP 1.1.1
Further Explanations	2 sorts of HW events • Processor-intern: events as for example division by zero, arithmetical overflow, non-implemented instruction • Processor-extern: events as for example response of peripheral device (e.g. PWM), memory error, timer
Comment	--
Example	--
Reference	Translation/Adaptation from [VDI Lexikon]
German Term	--
French Term	--

3.112 Hardware Port

Definition	The HW port exposes functionality to the exterior of the HW element (→ definition 3.110). HW elements can be connected via HW Connections (→ definition 3.109). It defines a connection Endpoint for the HW Element.
Initiator	SystemTeam
Further Explanations	HW elements provide HW ports for being interconnected among each others. Each HW port has a name which is unique within the HW element it is located in.
Comment	--
Example	--
Reference	[AUTOSAR Specification of ECU Resource Template]
German Term	--
French Term	--

3.113 I-PDU

Definition	Interaction Layer Protocol Data Unit Collection of messages for transfer between nodes in a network. At the sending node the Interaction Layer (*IL*) is responsible for packing messages into an I-PDU and then sending it to the Data Link Layer (*DLL)* for transmission. At the receiving node the DLL passes each I-PDU to the IL which then unpacks the messages sending their contents to the application.
Initiator	WP1.1.2
Further Explanations	--
Comment	--
Example	OSEK COM specifies an Interaction Layer and works on I-PDUs

Reference	[ISO OSEK, Glossary]
German Term	--
French Term	--

3.114 Implementation Conformance Statement

Definition	Implementation Conformance Statement (ICS) describes the actual implementation of a BSW module or a BSW cluster in terms of (1) the actually supported values or value ranges of parameters that enable the configuration of the functionality of a module/cluster implementation and (2) the signatures of the operations actually provided and required at the interface of a module/cluster implementation
Initiator	WPII-2.2
Further Explanations	(1) An SWS of a module/cluster specifies the configurable functionality and configurable operations of all SWS-conformant module/cluster implementations (BSW implementations). The ICS restricts the generally configurable functionality and operations according to what a concrete module/cluster actually implements according to the specification (SWS). (2) The ICS is used to derive values of configuration parameters (CP) valid for the given implementation of a module/cluster and, e.g., to select and parameterize conformance test suites. (3) A BSW implementation can consist of variable parts, i.e., operations and functionality. A BSW implementation can be adjusted with CPs within a certain range of permitted parameter values. An ICS describes which parts a BSW implementation actually supports and to what extend. (4) For any given CP : a. The absolute range is limited by the type of the CP. b. The permitted range is limited by the SWS. c. The actual range is limited by the implementation of the BSW module or BSW cluster. A test suite or the integration of the BSW module or BSW cluster into a target platform limits the actual range to a single value.
Comment	An ICS is a view on a BSW Module Description (BSWMD). An ICS can be extracted from a BSWMD.
Example	(1) An ICS describes which operations a BSW module/cluster actually provides (2) The number of entries for the standard job queue of the NVRAM Manager (NvM) is defined with CP NVM_SIZE_STANDARD_JOB_QUEUE. a. The type of the CP is unit8. Thus the absolute range is 0..255. b. The SWS limits the permitted range to 1..255. c. A specific NvM implementation states to support the full range of permitted values 1..255. Tests run the specific NvM implementation with job queues of 1, 8 and 173 entries. During integration the number of queue entries is limited to 64 entries because of known application-specific usage constraints.
Reference	The definition is partially based on ITU-T Recommendation X.296 [1]
German Term	--
French Term	--

3.115 Indication

Definition	Service primitive defined in the ISO/OSI Reference Model (ISO 7498). With the service primitive 'indication' a service provider informs a service user about the occurrence of either an internal event or a service request issued by another service user. [OSEK BD]
Initiator	WP 1.1.1
Further	An indication is e.g. a specific notification generated by the OSEK underlying layer

Explanations	to inform about a Message Reception Error.
Comment	--
Example	OSEK Com notification class 1 and 3.
Reference	[OSEK BD], [OSEK Com]
German Term	--
French Term	--

3.116 Integration

Definition	The progressive assembling of system components into the whole system.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	--
Reference	[ISO 2382-20]
German Term	--
French Term	--

3.117 Interface

Definition	A shared boundary between two functional units (→ definition 3.105) defined by various characteristics pertaining to the functions, physical interconnections, signal exchanges, and other characteristics, as appropriate.
Initiator	WP 1.1.1
Further Explanations	In AUTOSAR the interface has specific meanings: See Standardized AUTOSAR Interface (→ definition 3.183) and Standardized Interface (→ definition 3.184).
Comment	--
Example	Diagnosis Service
Reference	[ISO 2382-1]
German Term	Schnittstelle
French Term	--

3.118 Interrupt

Definition	Event that enforces the processor to change its state. This interruption causes the normal sequence of instructions to be stopped. Once an interrupt occurred, the running software entity is suspended and an interrupt service routine (→ definition 0) (the one dedicated to this interrupt) is called.
Initiator	WP 1.1.1
Further Explanations	Two sorts of interrupts exists: HW and SW interrupts (→ definition 3.111 and definition 3.178)
Comment	--
Example	--
Reference	Translation/Adaptation from [VDI Lexikon]
German Term	--
French Term	--

3.119Interrupt frames

Definition	The interrupt frame is the (normally compiler specific) definition of the interrupt

	service routine (→ definition 0) (e.g. with a keyword _interrupt) This definition may affect the layout of the interrupt vector table (→ definition 0). The service routine (ISR) is called inside the interrupt frame. This is a requirement from WP1.1.2 to separate the compiler dependent part.
Initiator	WP4.2.2.2.
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.120Interrupt Service Routine (ISR)

Definition	A software routine called in case of an interrupt (→ definition 3.118)
Initiator	WP 1.1.1
Further Explanations	ISRs have normally higher priority than normal processes and can only be suspended by another ISR which presents a higher priority than the one running.
Comment	--
Example	--
Reference	[VDI Lexikon]
German Term	--
French Term	--

3.121Interrupt Vector Table

Definition	An interrupt vector table is a table of interrupt vectors that associates the interrupt service routines (→ definition 0) with the corresponding interrupt request (typically by an array of jumps or similar mechanisms).
Initiator	WP4.2.2.2.
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.122 Invalid Flag

Definition	For a signal in a PDU an optional invalid flag can be added to the PDU payload layout. This flag indicates the validity of other signals in the payload. In case the invalid flag of a signal is set to true in a PDU instance, the respective signal in the payload of the PDU instance does not contain a valid signal value.
Initiator	WP4.2.2.1.6 Gateway
Further Explanations	This mechanism may be used in gateways to indicate that parts of an PDU do not contain valid data.
Comment	--
Example	--
Reference	--
German Term	Ungültigkeitsflag
French Term	--

3.123 Invalid Value of Signal

Definition	For a signal in a PDU an optional invalid value can be defined.
Initiator	WP4.2.2.1.6 Gateway
Further Explanations	The invalid value is element of the signal value range that can be represented and transported by the signal. The invalid value is the value that is used in all situations where the receiver should be notified that the value in a signal is not valid.
Comment	--
Example	In case a PDU for a destination network of a gateway is composed from two PDUs of two different source networks, the failure to receive one PDU can be indicated as invalid values in the respective signals of the transmitted PDU in the destination network.
Reference	--
German Term	Ungültigkeitswert
French Term	--

3.124 Link time configuration

Definition	The configuration of the SW module is done during link time.
Initiator	WP4.1.1.2
Further Explanations	The object code of the SW modules receives parts of its configuration from another object code file or it is defined by linker options.
Comment	--
Example	Initial value of a signal.
Reference	--
German Term	--
French Term	--

3.125 Mapping

Definition	Mapping designates the distribution of elements in the logical view to elements in the physical view.
Initiator	WP 1.1.1
Further Explanations	In general several entities may be allocated to one container but an entity may be allocated to only one container.
Comment	--
Example	a) Mapping of AUTOSAR Signals onto Frames (for inter-ECU communication). b) Mapping of SW-C onto ECUs (Distribution of the SW-Components to the ECUs).
Reference	--
German Term	--
French Term	--

3.126 MCAL Signal

Definition	The MCAL signal is the software representation of the conditioned signal (→ definition 3.40). It is provided by the microcontroller abstraction layer (MCAL) and is further processed by the ECU abstraction.
Initiator	WP 2.1.1.2
Further	The processing unit is accessing the Conditioned Signal through some peripheral

Explanations	device that typically digitises the Conditioned Signal into a software representation. The transformation from the Conditioned Signal to the MCAL Signal has to take the digitalisation error into account in order to provide information about the quality loss between the Technical Signal and the MCAL Signal.
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.127 Metadata

Definition	Metadata is data about data
Initiator	WP1.2
Further Explanations	Metadata includes pertinent information about data, including information about the authorship, versioning, access-rights, timestamps etc..
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.128 Microcontroller Abstraction Layer (MCAL)

Definition	Software layer containing drivers to enable the access of onchip peripheral devices of a microcontroller and offchip memory mapped peripheral devices by a defined API (→ definition 3.4). Task: make higher software layers independent of the microcontroller.
Initiator	WP 1.1.2
Further Explanations	The Microcontroller Abstraction Layer is the lowest software layer of the Basic Software. The Microcontroller Abstraction Layer consists of the following parts: • I/O Drivers • Communication Drivers • Memory Drivers • Microcontroller Drivers Properties: • Implementation: µC dependent • Upper Interface (API): standardizable and µC independent
Comment	--
Example	Examples of drivers located in the Microcontroller Abstraction Layer are: • onchip eeprom driver • onchip adc driver • offchip flash driver
Reference	[AUTOSAR Software Architecture]
German Term	Mikrocontroller-Abstraktions-Schicht
French Term	Couche d'abstraction du microcontrôleur

3.129 Mistake

Definition	Human error
Initiator	WP 1.1.1
Further	--

Explanations	
Comment	--
Example	--
Reference	[DIN 40041]
German Term	menschliches Versagen
French Term	erreur humaine

3.130 Multimedia Stream

Definition	A consistent sequence of digital data versus time which is suited as input for devices which transfer these data into a continuous visible or audible impression to humans. When transferred over a physical link, multimedia stream data typically are produced at the same rate (by the data source), as they are consumed (by the data sinks).
Initiator	--
Further Explanations	A multimedia stream usually follows a certain standard (e.g. MPEG-x). When transferred over a physical link, a multimedia stream needs a certain minimum bandwidth (in terms of bits/second) in order to allow continuous impressions. A multimedia stream in a car typically exists for several seconds (a warning signal, a navigation hint) up to several hours (a video film, a phone call, playing a radio program). Resources (e.g. bus system channels) needed by the stream have to be allocated continuously over this lifetime (this is a difference to e.g. file transfer, which may be split into several chunks of data). The source of a multimedia stream typically is a specialized device and/or software program (a tuner, a microphone, a text-to-speech engine, etc.). The same holds for the sinks (an audio amplifier or mixer, a voice recognition software, an MPEG decoder, etc.).
Comment	The term “visible or audible impression to humans” should not be taken too literally, because streams can also be used to transfer machine readable data (e.g. modem, encrypted signals). But it is this condition, which defines the standards and technology used in multimedia streams.
Example	Audio stream as output of or input to a telephone (mono, low bandwidth) Audio stream as output of a radio tuner (stereo, high bandwidth) Video stream as output of a television tuner An example for the physical implementation on a multimedia bus is the Firewire isochronous stream. see reference
Reference	[IEEE 1394]
German Term	--
French Term	--

3.131 Multiple Configuration Sets

Definition	A SW module has more than one alternative configuration (parameter) set, which can be selected according to external requirements. The set can ONLY be selected during start-up and it is not allowed to switch the set during runtime.
Initiator	WP4.1.1.2
Further Explanations	Multiple configuration sets reside in the ECU non-volatile memory at the same time, the active configuration is selected at the start-up of the ECU. Only BSW modules can have multiple configuration sets
Comment	Multiple configuration is a kind of data variant coding
Example	The same ECU can be used for the left and the right window lifter, the actual pin setting determines which configuration set will be used.
Reference	--
German Term	--
French Term	--

3.132 Multiplexed PDU

Definition	A multiplexed PDU is a PDU with a configurable number of different payload layouts.
Initiator	WP4.2.2.1.6 Gateway
Further Explanations	Each instance of a multiplexed PDU has a distinct layout. The set of possible layouts is statically defined. A selector signal defines which layout is used in a PDU instance. The selector signal must reside at the same position in all layouts. Each layout is identified by a unique selector value. The length of each instance of a multiplexed PDU is fixed.
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.133 Non-AUTOSAR Component

Definition	A Non-AUTOSAR Component is a Component (→ definition 3.5 and definition 3.37) not implemented according to AUTOSAR guidelines and processes and which is not using the AUTOSAR Runtime Environment to communicate with its environment. A Non-AUTOSAR Component is located on a separate (non AUTOSAR) hardware entity which communicates with at least one Atomic Software Component.
Initiator	WP 1.1.1
Further Explanations	All interfaces have to be adapted to AUTOSAR Interfaces (→ definition 3.14) by the AUTOSAR Runtime Environment and/or Basic Software (→ definition 3.23) of ECUs containing Atomic Software Components (→ definition 3.11) communicating with Non-AUTOSAR Components.
Comment	A Non-AUTOSAR Component is a representation on the VFB of a non-AUTOSAR entity, such as a non-AUTOSAR ECU.
Example	ECUs developed not according to the AUTOSAR process and with no AUTOSAR Software inside. Smart Sensors
Reference	--
German Term	--
French Term	--

3.134 Notification

Definition	Informing a software entity about a state change of a hardware and/or software entity which has occurred.
Initiator	WP 1.1.1
Further Explanations	The informing about a state change can be done by an activation of a software part or by setting a flag (→ definition 3.77).
Comment	--
Example	--
Reference	[OSEK Com]
German Term	--
French Term	--

3.135 OS-Application

Definition	A block of software including tasks, interrupts, hooks and user services that form a cohesive functional unit.
Initiator	Robert Rimkus
Further Explanations	Trusted: An OS-Application that is executed in privileged mode and has unrestricted access to the API and hardware resources. Non-trusted: An OS-Application that is executed in non-privileged mode has restricted access to the API and hardware resources.
Comment	--
Example	--
Reference	[AUTOSAR Specification of OS]
German Term	--
French Term	--

3.136 Partitioning

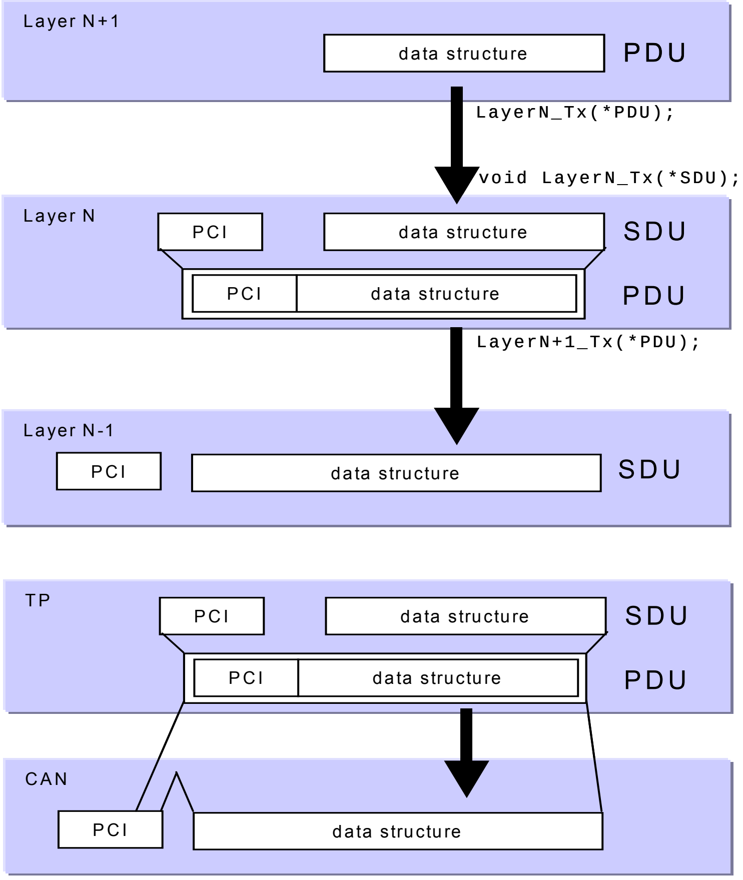
Definition	Decomposition, the separation of the whole system into functional units and further into software components.
Initiator	WP 1.1.3
Further Explanations	Partitioning has to be done before the mapping in order to identify the components that are to be mapped.
Comment	--
Example	--
Reference	Based on [IEEE Std.610.12-1990]
German Term	Partitionierung
French Term	--

3.137 PCI

Definition	PCI is the abbreviation of “Protocol Control Information”. This Information is needed to pass a SDU (→ definition 3.167) from one instance of a specific protocol layer to another instance. E.g. it contains source and target information.
Initiator	WP 1.1.2
Further Explanations	The PCI is added by a protocol layer on the transmission side and is removed again on the receiving side.
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.138 PDU

Definition	PDU is the abbreviation of “Protocol Data Unit”. The PDU contains SDU (→ definition 3.167) and PCI (→ definition 3.137).
Initiator	WP1.1.2
Further Explanations	On the transmission side the PDU is passed from the upper layer to the lower layer, which interprets this PDU as its SDU.

	 Layer N+1 data structure PDU LayerN_Tx(*PDU); void LayerN_Tx(*SDU); Layer N PCI data structure SDU PCI data structure PDU LayerN+1_Tx(*PDU); Layer N-1 PCI data structure SDU TP PCI data structure SDU PCI data structure PDU CAN PCI data structure
Comment	--
Example	OSEK COM specifies an Interaction Layer
Reference	[ISO OSEK Glossary]
German Term	--
French Term	--

3.139 PDU Timeout

Definition	Maximum time between the receptions of two instances of one PDU is exceeded.
Initiator	WP4.2.2.1.6 Gateway
Further Explanations	This timeout indicates that the last reception of a PDU instance is too long in the past. As a consequence it can be concluded that the data in the last PDU instance is outdated.
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.140 Peripheral Hardware

Definition	Hardware devices integrated in micro-controller architecture to interact with the environment.
Initiator	WP 1.1.1
Further Explanations	--

Comment	--
Example	Memory, CAN-Controller, ADC, DIO, etc.
Reference	--
German Term	Peripherie
French Term	--

3.141 Personalization

Definition	User-specific and memorized adjustment of SW data or selection of functional alternatives.
Initiator	WP 10.1
Further Explanations	--
Comment	--
Example	Seat parameters (position, activation status of drive-dynamic seat) can be stored in correlation to a user ID. For a given user ID the seat can be adjusted according to the stored position parameters and the drive-dynamic seat can be activated or deactivated.
Reference	--
German Term	Personalisierung
French Term	--

3.142 Port

Definition	A port belongs to a component (→ definition 3.37) and is the interaction point between the component and other components. The interaction between specific ports of specific components is modeled using connectors (→ definition 3.45). A port can either be a p-port (→ definition 3.150) or an r-port (→ definition 3.154).
Initiator	WP 1.1.1
Further Explanations	--
Comment	For more information see AUTOSAR Specification of VFB
Example	--
Reference	[AUTOSAR Specification of Virtual Functional Bus]
German Term	--
French Term	--

3.143 Port Interface

Definition	A Port Interface characterizes the information provided or required by a port (→ definition 3.142) of a component (→ definition 3.37).
Initiator	Wp 1.1.1
Further Explanations	A Port Interface is either a Client-Server Interface (→ definition 3.32) in case client-server communication (→ definition 3.31) is chosen or a sender-receiver Interface (→ definition 3.170) in case sender-receiver communication (→ definition 3.169) is used.
Comment	For more information see: AUTOSAR Specification of VFB
Example	--
Reference	[AUTOSAR Specification of Virtual Functional Bus]
German Term	--
French Term	--

3.144 Post-build time configuration

Definition	The configuration of the SW module is possible after building the SW module.
Initiator	WP4.1.1.2
Further Explanations	The SW may either receive elements of its configuration during the download of the complete ECU software resulting from the linkage of the code, or it may receive its configuration file that can be downloaded to the ECU separately, avoiding a re-compilation and re-build of the ECU SW modules. In order to make the post-build time re-configuration possible, the re-configurable elements shall be stored at a known position in the ECU storage area
Comment	--
Example	Identifiers of the CAN frames
Reference	--
German Term	--
French Term	--

3.145 Pre-Compile time configuration

Definition	The configuration of the SW module is done at source code level and will be effective after compile time.
Initiator	WP4.1.1.2
Further Explanations	The source code contains all the ECU configuration data and when compiled together, it produces the given SW.
Comment	--
Example	Preprocessor switch for enabling the development error detection and reporting
Reference	--
German Term	--
French Term	--

3.146 Private Interface (API 3)

Definition	A private interface is an interface within the Basic Software (→ definition 3.23) of AUTOSAR which is neither standardized nor defined within AUTOSAR.
Initiator	WP 1.1.2
Further Explanations	The goal of the private interface is to enable a more efficient implementation of basic software modules. Basic software modules sharing a private interface have to be distributed as one package. This package has to behave exactly the same as separate modules would. It must provide the same standardized interfaces to the rest of the basic software and/or RTE as separate modules would. It has to be configured exactly the same as separate modules would be configured.
Comment	Private interfaces contradict the goal of exchangeability of standard software modules and should be avoided.
Example	--
Reference	--
German Term	--
French Term	--

3.147 Probability of failure

Definition	Probability of the occurrence of a failure in a system or functional unit.
Initiator	WP 1.1.3

Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	Ausfallwahrscheinlichkeit
French Term	--

3.148 Procedure Call

Definition	A simple statement that provides the actual parameters for and invokes the execution of a procedure (software function).
Initiator	WP 1.1.1
Further Explanations	A synchronous communication mechanism can be implemented by a procedure call.
Comment	--
Example	--
Reference	[ISO 2382-15]
German Term	--
French Term	--

3.149 Process

Definition	An executable unit managed by an operating system scheduler that has its own name space and resources (including memory) protected against use from other processes.
Initiator	WP 1.1.1
Further Explanations	A process consists of n Task (n>=1)
Comment	--
Example	--
Reference	--
German Term	Prozess
French Term	--

3.150 Provide Port

Definition	Specific Port (→ definition 3.142) providing data (→ definition 3.47) or providing a service of a server (→ definition 3.172).
Initiator	WP 1.1.1
Further Explanations	The Provide Port is sometimes abbreviated as PPort or P-Port.
Comment	--
Example	• Server Port • Sender Port
Reference	--
German Term	--
French Term	--

3.151 Redundancy

Definition	Existence of means, in addition to the means which would be sufficient for a

	system or functional unit to perform a required function.
Initiator	WP 1.1.3
Further Explanations	--
Comment	--
Example	--
Reference	[IEC 61508, Part 4]
German Term	Redundanz
French Term	--

3.152 Reliability

Definition	Probability of a system or functional unit to perform as expected under specified conditions within a time interval.
Initiator	WP 1.1.3
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	Zuverlässigkeit
French Term	--

3.153 Relocatability

Definition	Capability of a software part being executed on different hardware environments without changing the code of the software part.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	Verschiebbarkeit
French Term	--

3.154 Require Port

Definition	Specific Port (→ definition 3.142) requiering data (→ definition 3.47) or requiering a service of a server.
Initiator	WP 1.1.1
Further Explanations	The Require Port is sometimes abbreviated as RPort or R-Port.
Comment	--
Example	• Client Port • Receiver Port
Reference	--
German Term	--
French Term	--

3.155 Required property

Definition	A *required* property or quality of a design entity (e.g. SW component or system) is a property or quality which has to be fulfilled by the environment of this design entity.
Initiator	WP10.1
Further Explanations	A property or quality can be required by a stakeholder (e.g. customer) or another design entity.
Comment	--
Example	1) In order to meet its functionality, a SW component A requires a minimum temporal resolution of a signal (information on a required port) which has to be fulfilled by SW component B. 2) SW component requires to be activated by the runtime environment every 100ms with a jitter of 10ms.
Reference	Compare term asserted property (→ definition 3.7)
German Term	Erforderliche Eigenschaft
French Term	--

3.156 Resource

Definition	A resource is a required but limited hardware entity of an ECU (→ definition 3.60), which in general can be accessed concurrently, but not simultaneously, by multiple software entities.
Initiator	WP 1.1.1
Further Explanations	--
Comment	The OSEK definition [OSEK BD] cannot be used, due to the specific usage in OSEK OS.
Example	CPU-load, interrupts (mechanism itself and the resulting CPU-load), memory, peripheral hardware, communication, …
Reference	--
German Term	--
French Term	--

3.157 Resource-Management

Definition	Entity which controls the use of resources (→ definition 3.156).
Initiator	WP 1.1.1
Further Explanations	The main functionality of resource management is the control of simultaneous use of a single resource by several entities, e.g. scheduling of requests, multiple access protection.
Comment	--
Example	OS-scheduler (CPU-load management)
Reference	--
German Term	--
French Term	--

3.158 Response Time

Definition	Time between receiving a stimulus and delivering an appropriate response or reaction.
Initiator	WP 2.1.1.1
Further Explanations	The response time describes the time between a stimulus like e.g. the state change of hardware or software entity and the expected reaction of the system (e.g. response, actuator activation). Synonym: reaction time

	See also: execution time, worst case execution time and worst case response time.
Comment	--
Example	--
Reference	--
German Term	Antwortzeit
French Term	--

3.159 Risk

Definition	The product of the probability of failure and the severity of outcome.
Initiator	WP 1.1.3
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	Risiko
French Term	--

3.160 Robustness

Definition	Ability of a system or functional unit to perform as expected also under unexpected conditions.
Initiator	WP 1.1.3
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	Robustheit
French Term	--

3.161 RTE Event

Definition	An RTEEvent encompasses all possible situations that can trigger execution of a runnable entity (→ definition 3.162) by the RTE. Thus they can address timing, data sending and receiving, invoking operations, call server returning, mode switching, or external events. RTE-Events can either activate a runnable entity or wakeup a runnable entity at it's waitpoints.
Initiator	Stefaan Sonck Thiebaut
Further Explanations	Note 'event' in this context is not necessarily synonymous with 'RTEEvent' as defined in the VFB specification. In particular, RTEEvents that result from communication are handled by communication-triggered runnable entities.
Comment	Events can have a variety of sources including time.
Example	Scheduling of runnable entities from angular position, e.g. a crankshaft, that are used to trigger an interrupt and hence an RTE notification. A software component needs to perform a regular interval, e.g. flash an LED, reset a watchdog, etc.
Reference	--
German Term	--
French Term	--

3.162 Runnable Entity

Definition	A Runnable Entity is a part of an Atomic Software-Component (→ definition 3.11) which can be executed and scheduled independently from the other Runnable Entities of this Atomic Software-Component. It is described by a sequence of instructions that can be started by the RTE (definition→ 3.161). Each runnable entity is associated with exactly one Entry Point (definition→ 3.62).
Initiator	WP 1.1.1
Further Explanations	A Runnable Entity contains at least two points for the Scheduler (→ definition 3.166): 1 Entry Point (→ definition 3.62) and 1 Exit Point (→ definition 3.66). Due to the reason that an Atomic Software Component is not dividable, all its Runnable Entities are executed on the same ECU.
Comment	In general a task in the runtime system consists out of n Runnable Entities of m Atomic Software-Components.
Example	Server function of an AUTOSAR-Software Component.
Reference	--
German Term	Ausführbare Einheit
French Term	entité executable

3.163 Safety

Definition	Freedom from unacceptable risk to persons and goods.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	--
Reference	Based on [IEC 61508, Part 4]
German Term	Sicherheit
French Term	--

3.164 Sample Application

Definition	Defined system used for evaluation purposes.
Initiator	WP 1.1.1
Further Explanations	The application may be simplified for better understanding within the evaluation phase.
Comment	--
Example	Diagnosis Application Exterior Light Management
Reference	--
German Term	Beispielapplikation
French Term	--

3.165 Scalability

Definition	The degree to which assets can be adapted to specific target environments for various defined measures.
Initiator	WP 1.1.1
Further Explanations	--
Comment	Target environment introduced compared to EAST-Glossary.

Example	--
Reference	[EAST-Glossary]
German Term	Skalierbarkeit
French Term	--

3.166 Scheduler

Definition	The scheduler handles the scheduling of the tasks/runnable entities (definition→ 3.192 / 3.162) according to the priority and scheduling policy (pre-defined or configurable). It has the responsibility to decide during run-time when which task can run on on the CPU of the ECU.
Initiator	System Team
Further Explanations	There are many strategies (priority-based, time-triggered, round-robbin, …) a scheduler can use, depending of the selected and/or implemented algorythms
Comment	--
Example	--
Reference	[AUTOSAR Specification of Virtual Functional Bus]
German Term	--
French Term	--

3.167 SDU

Definition	SDU is the abbreviation of “Service Data Unit”. It is the data passed by an upper layer, with the request to transmit the data. It is as well the data, which is extracted after reception by the lower layer and passed to the upper layer.
Initiator	WP 1.1.2
Further Explanations	A SDU is part of a PDU (→ definition 3.138).
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.168 Security

Definition	Protection of data, software entities or resources from accidental or malicious acts.
Initiator	WP 1.1.1
Further Explanations	--
Comment	Slightly adapted norm.
Example	--
Reference	[ISO 2382-8]
German Term	Sicherheit
French Term	--

3.169 Sender-Receiver Communication

Definition	A communication pattern which offers asyncronous distribution of information where a sender communicates information to one or more receivers, or a receiver receives information from one or several senders.

Initiator	WP 1.1.1
Further Explanations	The process of sending data does not block the sender and the sender usually gets no response from the receivers
Comment	Often used for data or event distribution
Example	--
Reference	[AUTOSAR Specification of Virtual Functional Bus]
German Term	Sender-Empfänger Kommunikation
French Term	--

3.170 Sender-Receiver Interface

Definition	A sender-receiver interface is a special kind of port-interface (→ definition 3.143) used for the case of sender-receiver communication (→ definition 3.169). The sender-receiver interface defines the data-elements which are sent by a sending component (which has a p-port providing the sender-receiver interface) or received by a receiving component (which has an r-port requiring the sender-receiver interface).
Initiator	Stefaan Sonck Thiebaut
Further Explanations	--
Comment	A special kind of Port-Interface
Example	--
Reference	[AUTOSAR Specification of Virtual Functional Bus]
German Term	Sender-Empfänger Schnittstelle
French Term	--

3.171 Sensor/Actuator SW-Component

Definition	AUTOSAR SW-Component (→ definition 3.18) dedicated to the control of a sensor or actuator.
Initiator	WP 1.1.1
Further Explanations	There will be several Sensor/ Actuator SW-Cs in each ECU. In general there will be one Sensor/Actuator SW-C for each sensor and one for each actuator (=> number of Sensor/Actuator SW-C = number of sensors + number of actuators).
Comment	--
Example	--
Reference	--
German Term	Sensor/Aktuator Software Komponente
French Term	Composant Logiciel de traitement des Capteurs/Actionneurs

3.172 Server

Definition	Software entity which provides services for clients (→ definition 3.30).
Initiator	WP 1.1.1
Further Explanations	The server (→ definition 3.172) and the clients using its service might be located on one ECU or distributed on different calculation units (e.g. ECU).
Comment	Adapted from Balzert.
Example	--
Reference	[Balzert99]
German Term	--
French Term	--

3.173 Service

Definition	A service is a type of operation that has a published specification of interface and behavior, involving a contract between the provider of the capability and the potential clients.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	Diagnosis service, …
Reference	[EAST-Glossary]
German Term	--
French Term	--

3.174 Service Port

Definition	A Service Port is a Port (→ definition 3.142) of an AUTOSAR SW-C (→ definition 3.18), Complex Device Driver (→ definition 3.36) and/or ECU Abstraction (→ definition 3.56) connected to an AUTOSAR Service (→ definition 3.17).
Initiator	WP 1.1.1
Further Explanations	The interface of a Service Port has to be a Standardized AUTOSAR Interface (→ definition 3.14 and 3.183). A Service Port does not need to be connected to another Port in the VFB View (→ definition 3.202).
Comment	If a service is provided by the ECU where a specific Atomic Software Component is located the VFB View is sufficient. If a service is provided by another ECU the connection of the service call to the service has to be done explicitly during the mapping step.
Example	Write data to non volatile memory.
Reference	--
German Term	--
French Term	--

3.175 Services Layer

Definition	The Services Layer is the highest layer of the Basic Software which also applies for its relevance for the application software: while access to I/O signals is covered by the Hardware Abstraction Layer, the Services Layer offers Operating system services Vehicle network communication and management services Memory services (NVRAM management) Diagnosis Services (including KWP2000 interface and error memory) ECU state management Task: Provide basic services for application and basic software modules
Initiator	WP 1.1.2
Further Explanations	The Services Layer consists of the following parts: Communication Services Memory Services System Services
Comment	--
Example	Network Management, NVRAM Manager, ECU State Manager
Reference	[AUTOSAR Software Architecture]
German Term	Dienste-Schicht
French Term	--

3.176Shipping

Definition	Component shipment refers to the action of a supplier releasing a software component (also a composition) to the system integrator. The integrator will gather all shipments of the components that make up the whole system and then map them to ECUs.
Initiator	WP 2.1.1.1
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	Auslieferung
French Term	--

3.177 Software Configuration

Definition	The arrangement of software elements in a SW system.
Initiator	WP 1.1.1
Further Explanations	A software element is a clearly definable software part. A software configuration is a selection version of software modules, AUTOSAR software components, parameters and generator configurations. Calibration and Variant Coding (→ definition 3.199) can be regarded as subset of Software Configuration.
Comment	--
Example	--
Reference	[EAST-Glossary]
German Term	Software Konfiguration
French Term	--

3.178 Software Interrupt

Definition	Interrupt triggered by SW event.
Initiator	WP 1.1.1
Further Explanations	SW events are for example calling an operating system service, starting a process with higher priority.
Comment	--
Example	--
Reference	Translation/Adaptation from [VDI Lexikon]
German Term	--
French Term	--

3.179 Software Module

Definition	A collection of software files (code and description) that define a certain software functionality present on an ECU.
Initiator	WP 4.1.1.2
Further Explanations	A software module may be an Atomic SW-C (→ definition 3.11), or a Basic Software module (→ definition 3.24), or the RTE (RunTimeEnvironment).
Comment	This term shall be used if both basic software modules and Application software Components are addressed.
Example	A Digital IO Driver, Complex Device Driver, OS are examples of software modules.

Reference	--
German Term	Software-Modul
French Term	--

3.180 Software Signal

Definition	A Software Signal is an asynchronous event transmitted between one process and another.
Initiator	WP1.1.1
Further Explanations	A SW Signal is the software implementation of an (control-) information. Addtionally it may have attributes (e.g. freshness, data type, …). It is exchanged between SW-Components.
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.181 Special Periphery Access

Definition	Special functions to standard peripheral devices or special peripherals.
Initiator	WP 1.1.1
Further Explanations	Is only used when, because of technical issues, no standard periphery access can be used
Comment	--
Example	--
Reference	[HIS API IO Driver version 2.1] Interaction with [Hardware v0.3]
German Term	Spezielle Peripherie
French Term	--

3.182 Standard Periphery Access

Definition	Standard functions to typical standard peripheral devices that is available on an ECU (most microcontroller integrated) used in automotive embedded applications.
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	Digital Input/Output, Analog/Digital Converter, Pulse Width (De)Modulator, EEPROM, FLASH, Capture Compare Unit, Watchdog Timer
Reference	[HIS API IO Driver version 2.1] Interaction with Hardware v0.3
German Term	Standard Peripherie
French Term	--

3.183 Standardized AUTOSAR Interface

Definition	This is an AUTOSAR Interface which is standardized within the AUTOSAR project.
Initiator	WP 1.1.1
Further Explanations	AUTOSAR Services interact with other components through a Standardized AUTOSAR Interface.
Comment	--

Example	--
Reference	--
German Term	--
French Term	--

3.184 Standardized Interface

Definition	A software interface is called Standardized Interface if a concrete standardized API exists.
Initiator	WP 1.1.1
Further Explanations	Modules in the Basic Software interact which each other through Standardized Interfaces.
Comment	--
Example	OSEK COM Interface
Reference	--
German Term	--
French Term	--

3.185 Standard Software

Definition	Standard Software is software which provides schematic independent infrastructural functionalities on an ECU. It contains only Standardized Interfaces (→ definition 3.184), Standardized AUTOSAR Interfaces (→ definition 3.183) and/or Private Interfaces (→ definition 3.146).
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	OSEK COM, MCAL, Services, OSEK OS
Reference	--
German Term	--
French Term	--

3.186 Static Configuration

Definition	A setup where the routing configuration cannot be changed during normal operation of the gateway.
Initiator	WP4.2.2.1.6 Gateway
Further Explanations	Static configuration doesn't allow reconfiguration of the routing during normal operation e.g. during driving. Static configuration does not restrict the update of the configuration in specific maintenance operation modes (e.g. programming mode).
Comment	--
Example	A software update may change a routing configuration such that a PDU is routed into two instead of one destination networks.
Reference	--
German Term	Statische Konfiguration
French Term	--

3.187 Surveillance

Definition	Systematic iteration of a reduced full-set assessment (→ definition 3.8) as a basis

	for maintaining the validity of the full-set assessment.
Initiator	WP 20
Further Explanations	Within AUTOSAR context, reduced set surveillances of the accredited party are scheduled yearly between the full-set assessments.
Comment	Supplementary full-set assessments are scheduled.
Example	--
Reference	[ISO/IEC 17000]
German Term	Überwachung
French Term	Surveillance

3.188Synchronous Communication

Definition	A communication is synchronous when the calling software entity is blocked until the called operation is evaluated. The calling software entity continues its operation by getting the result.
Initiator	WP 1.1.1
Further Explanations	Synchronous communication between distributed functional units has to be implemented as remote procedure call.
Comment	Are further mechanisms possible?
Example	--
Reference	--
German Term	--
French Term	--

3.189 System

Definition	An integrated composite that consists of one or more of the processes, hardware, software, facilities and people, that provides a capability to satisfy a stated need or objective.
Initiator	WP 1.1.1
Further Explanations	--
Comment	ITEA EAST uses IEEE 14407 standard. Here not applicable because of problem with the definition of function. One correct interpretation is: - it might be a composition of one or more ECUs
Example	Braking system
Reference	[ISO 12207]
German Term	--
French Term	--

3.190 System Constraint

Definition	Boundary conditions that restrict the Design-Freedom of the (cars E/E-) System.
Initiator	WP 2.1.1.3
Further Explanations	The design of ECU Networks and the distribution of functionalities to ECUs are limited by several constrains. These constraints result mostly by the communication matrix and safety requirements
Comment	--
Example	An existing communication matrix that restricts the distribution of signals to frames is a system constraint. Another system constraint is a safety requirement that does not allow to map a specified Software component to specific ECU.
Reference	--

German Term	--
French Term	--

3.191 System Signal

Definition	The system signal represents the communication system's view of data exchanged between SW components which reside on different ECUs. The system signals allow to represent this communication in a flattened structure, with (at least) one system signal defined for each data element sent or received by a SW component instance. If data has to be sent over gateways, there is still only one system signal representing this data. The representation of the data on the individual communication systems is done by the cluster signals.
Initiator	WP2.1.1.3
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.192 Task

Definition	A Task is the smallest scheduleable unit managed by the OS. The OS decides when which task can run on the CPU of the ECU.
Initiator	WP 1.1.1
Further Explanations	A runnable entity (→ definition 3.162) of a software component runs in the context of a task. Also the Basic Software Modules runs in the context of a task.
Comment	--
Example	--
Reference	[AUTOSAR Specification of Virtual Functional Bus]
German Term	--
French Term	--

3.193 Technical Signal

Definition	The technical signal is the physical value of an external event coupled to an AUTOSAR system. Technical signals are represented in SI units (e.g. pressure in PA).
Initiator	WP 2.1.1.2
Further Explanations	The term Technical Signal is used when we are referring to the "real world" signal that is under consideration. So typical Technical Signals are temperature, velocity, torque, force, electrical current and voltage, etc.
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.194 Template

Definition	A template is a structured collection of attributes that are required to formally

	describe AUTOSAR artifacts like e.g. software components or configurations of ECUs.
Initiator	WP 1.1.1
Further Explanations	The term "Template" stresses the fact that the collected attributes still need to have actual values assigned in order to describe a particular artifact. Those values are collected in a Description. Templates are independent of the technology used for serialization of their respective descriptions. Possible serializations include XML, databases tables and so on.
Comment	--
Example	The templates defined by AUTOSAR are represented as an UML2.0 model (→ definition 3.15) and an W3C XML Schema (→ definition 3.21). Models and descriptions created according to the templates can be exchanged using the language defined in the AUTOSAR XML Schema).
Reference	--
German Term	--
French Term	--

3.195Third party

Definition	An organization that is independent of the organization that provides automotive products, which are subject to AUTOSAR conformance testing.
Initiator	WP 20
Further Explanations	Criteria for the independence of conformity assessment (→ definition 3.8) bodies and accreditation (→ definition 3.1) bodies are provided in the International Standard and Guides applicable to their activities.
Comment	--
Example	--
Reference	ISO/IEC 17000]
German Term	
French Term	Tierce partie

3.196Timeout

Definition	Notification with respect to deadline violation of an event or task (e.g.while working on/with information: receiving, sending, processing,...).
Initiator	WP 1.1.1
Further Explanations	--
Comment	--
Example	--
Reference	--
German Term	--
French Term	--

3.197 Use Case

Definition	A model of the usage by the user of a system in order to realize a certain functional feature of the system.
Initiator	WP 1.1.1
Further Explanations	--
Comment	Added certain compared to EAST-glossary.
Example	--
Reference	[EAST-Glossary]

German Term	--
French Term	--

3.198 Validation

Definition	Confirmation by examination and provision of objective evidence that the particular requirements of a specific intended use are fullfiled
Initiator	System Team
Further Explanations	--
Comment	--
Example	--
Reference	[IEC 61508]
German Term	Validierung
French Term	--

3.199 Variant Coding

Definition	Adaptation of SW by selection of functional alternatives according to external requirements (e.g. country-dependent or legal restrictions).
Initiator	WP 1.1.1
Further Explanations	The major difference with calibration is that this later doesn't aim to adapt the SW functionality itself but only aims to adjust the SW to the HW/SW environment, e.g. the calibration of engine control SW that is adjusted to the physical parameters of every engine. Variant Coding also includes vehicle-specific (not user-specific) SW adaptation due to end-customer wishes (e.g. deactivation of speed-dependent automatic locking). Variant Coding is always done after compile time. Used techniques to select variants include end-of-line programming and garage programming.
Comment	--
Example	Country related adaptation of MMI with respect to speed and/or temperature unit (km/h vs. mph, °C vs. F).
Reference	--
German Term	Variantenkodierung
French Term	--

3.200Vendor ID

Definition	A vendor ID is a unique identification of the vendor of a software component. All basic software modules (→definition 3.24) conformant to the AUTOSAR standard shall provide a readable vendor ID.
Initiator	WP1.1.2
Further Explanations	AUTOSAR Vendor IDs are used to determine vendors of basic software modules before and during runtime. The mechanism is used to improve bug handling. AUTOSAR currently only provides Vendor IDs to members of the AUTOSAR partnership.
Comment	To apply for an AUTOSAR vendor ID the possible member has to send an E-Mail to request@autosar.org. Within the request name of the company, company address and contact person should be listed. In order to keep administrative overhead low, AUTOSAR and the HIS initiative run a joint list of vendor IDs.
Example	Vendor ID for EEPROM driver is called: EEP_VENDOR_ID
Reference	BSW00374
German Term	Lieferanten Identifikationsnummer

French Term	Numéro d'identification de fournisseur

3.201 Verification

Definition	Confirmation by examination and provision of objective evidence that the requirements have been fullfiled.
Initiator	System Team
Further Explanations	--
Comment	--
Example	--
Reference	[IEC 61508]
German Term	Verifikation / Überprüfung
French Term	--

3.202 VFB View

Definition	The VFB View describes systems or subsystems in the car independently of these resources; in other words, independently of: • what kind of and how many ECUs are present in the car • on what ECUs the entities in the VFB-View run • how the ECUs are interconnected: what kind of network technology (CAN, LIN,…) and what kind of topology (presence of gateways) is used
Initiator	WP 1.1.1
Further Explanations	In the VFB-View, the system or subsystem under consideration is a Composition which consists out of Connectors and Components.
Comment	--
Example	--
Reference	[AUTOSAR Specification of Virtual Functional Bus]
German Term	--
French Term	--

3.203 Virtual Integration

Definition	The simulated, modeled and/or calculated (not real) combination of software entities forming a system (→ definition 3.189).
Initiator	WP 1.1.1
Further Explanations	By virtual integration several constraints and/or requirements are checked without the need of real hardware units, like needed CPU load, needed memory, completeness of interfaces, fulfillment of timing requirements etc.).
Comment	--
Example	--
Reference	--
German Term	Virtuelle Integration
French Term	--

3.204Worst Case Execution Time

Definition	Maximum possible time during which a program is actually executing
Initiator	WP 1.1.1
Further Explanations	The worst case execution time of a piece of software is the maximum possible time during which the CPU is executing instructions which belong to this piece.

	The worst case execution time is often identified by analytical methods. It is required to determine if a schedule meets the overall timing requirements. Abbreviation: WCET See also: response time, execution time, worst case response time
Comment	This definition has been extended by 2.1.1.1
Example	--
Reference	--
German Term	--
French Term	--

3.205 Worst Case Response Time

Definition	Maximum possible time between receiving a stimulus and delivering an appropriate response or reaction.
Initiator	WP 1.1.1
Further Explanations	The worst case response time describes the maximum possible time between a stimulus like e.g. the state change of hardware or software entity and the expected reaction of the system (e.g. response, actuator activation). Typically: worst-case execution-time + infrastructure-overhead + scheduling-policy = worst-case reaction time Synonym: worst case reaction time See also: response time, execution time, worst case execution time
Comment	Worst case reaction time was renamed to worst case response time because response time is the more common terminology. This definition has been extended by 2.1.1.1.
Example	--
Reference	--
German Term	--
French Term	--

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