Automotive Data Dictionary V23.2

*The Visu-IT! **A**utomotive **D**ata **D**ictionary represents a global data dictionary for all ECU labels/variables used in a company/organization. The **single source** concept of ADD eases the handling and management of data declarations over all projects. Due to the (company-wide) availability and uniqueness of these labels, ADD allows a continuous and consistent data declaration during the whole development process.*

Focus: *single source of all data declarations*
global, company-wide label database, specification view, no implementation details

Scope: *global, project and module scope*

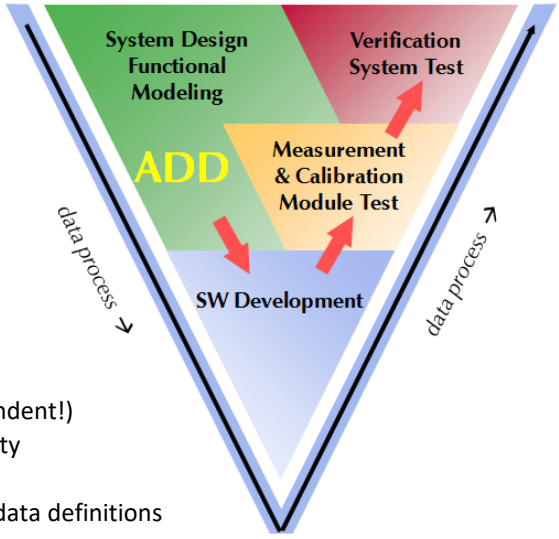
General Information

Main objective of ADD is to centralize all data elements/definitions and to support the reuse of these data for the function development part as well as for the software development. This means that everyone is able to select a data definition from a single source, where the data is stored unique, project- as well as editor- independent. Thus it is ensured, that the data definitions are **equal** in the whole development process.

➔ *ADD avoids redundancy of data due to company wide availability and ensures uniqueness of these data.*

Continuous Data Process

With ADD, a continuous data process from the step "System" to "Software" is possible. ADD closes the interface gap between **function-** and **software development**, ensures data consistency and thus improves the quality and reduces the efforts for the system as well as for the software development.



Objectives

The main objectives for a seamless data definition covered by ADD are:

- to provide a central and company-wide accessible database as a single source for data definitions (project- as well as editor-independent!)
- to ensure company(world)-wide availability and multi-user capability
- to support consistency checks during the definition
- to ensure data consistency by using versioning and lifecycle for all data definitions
- to allocate data and data flow driven search and analyze capabilities
- to provide a continuous data process from System to Software
- to improve the quality of the interface description
- to provide check operations of several hierarchy levels (modules, aggregates and projects) in a very early step of the development process

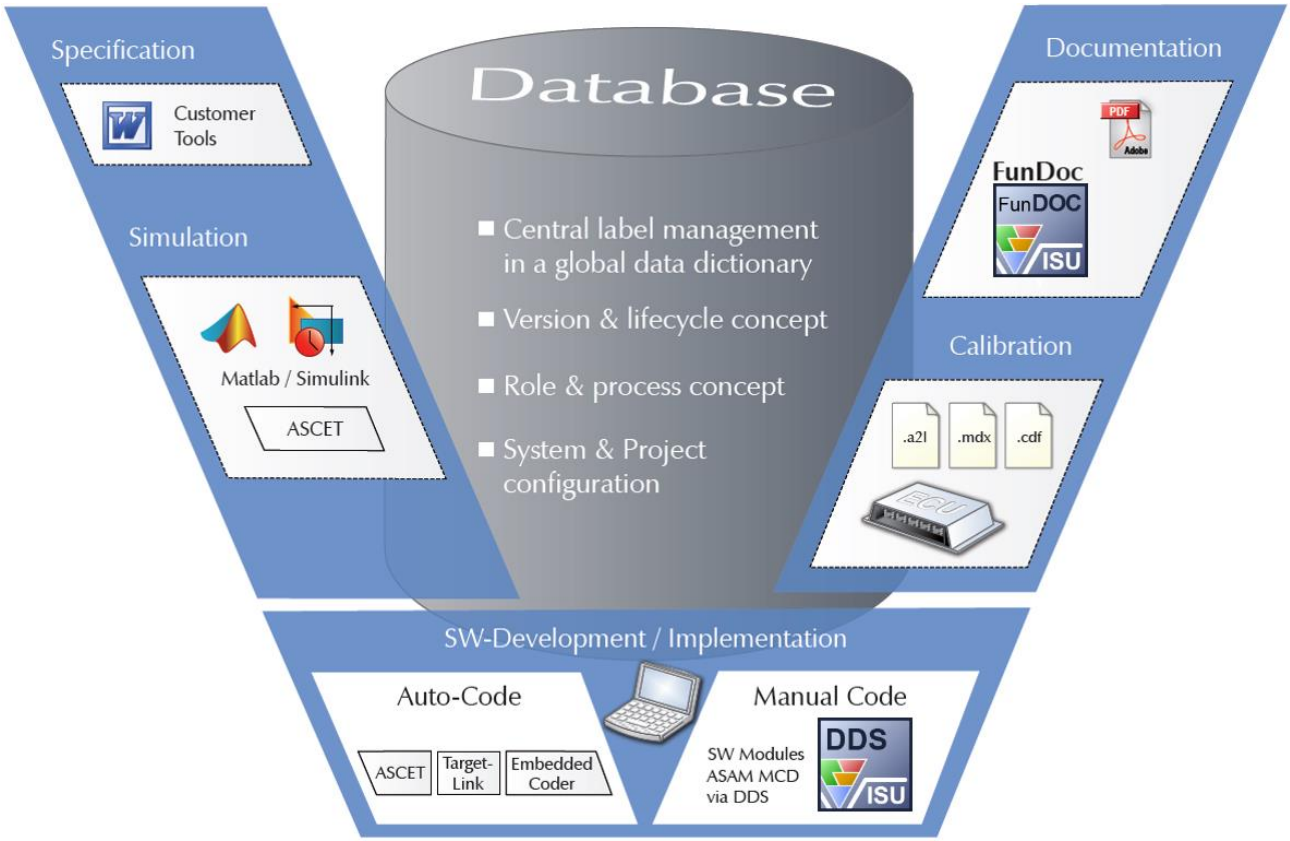
Key Features

- Management of data objects (ECU labels/variables)
  ECU variables are: Measurements, Parameters, Axes, Maps and "System constants" (cDefines)
- Version management of data objects (versions and revisions)
- Lifecycle management of data objects and datatypes (draft, fixed, obsolete, etc.)
- Grouping of data objects (container-concept) including overview-picture of container with link to the data object definitions
- Extensive Search and query functionality (for data objects, datatypes, etc.) including cross-references, etc.
- Show differences between workspace- and database entries
- User-Management including User/Role concept for the control of access authorization
- Creation of XML-format and support of other formats using style sheets (HTML for reports, MSR SW DTD...)
- Management of data object attributes like physical units, format string, conversions, data types, limits, etc.
- Variant Coding of data objects
- Dynamic interfaces via code variants
- Visual Data Modeler shows the interfaces and groupings graphically
- Consistency checks on every level: container-, composition-, configuration package- and project-level
- Object comparison on every level: data object, container-, composition-, configuration package- and project-level
- Reusable configuration packages for project
- Supplier interface handling
- Offline database (*.ddx) backward compatibility
- Data Object\Container attribute change log (history list).
- Recursive fix/version-creation of Data Objects
- Recursively create new Variant/Version/Release of Container, Compositions and DataObjects within Project Context (Project Reference tab).
- Excel export based on the all information of special Container BusAdp/CsAdp.
- Display active/non active DataObjects information within the DataObject Reference dialogue (Project Context only).
- Explicit compare for special Container BusAdp added.
- Create an Excel output based on the content of the appropriate special Container CsAdp/BusAdp during MDX-Export automatically.
- Allow bulk change of attribute "Status" of first level Containers referenced in a Composition.
- Allow the usage of different DataObject Types within different DataObject versions.
- Allow grouping of Conversions; use Conversion Catalogues as filter within the DataObject Definition tab.
- CodeVariant checks and import function added in order to ensure CodeVariant consistency between In- and Outputs.
- Allow individual configuration of version check criterion for Project/Composition Checks No. 1.
- New Container attribute "Runnables" added in order to support AUTOSAR feature "Runnables" in ADD.
- Compose ADD User in Groups and use a Groups as ADD Object Responsible.
- Allow usage/storage of ADD customer configuration settings (ADDConfig.xml) within ADD Database.
- ARXML - Export added for ADD Container.
- English/French/German spellcheck for DataObject/Container/Composition/Conf.Package/Project attribute "Description" added.
- Allow filtering of the Project Check result for a specific Container of the current Project.
- E-Mail attribute and notification mechanism added to ADD in order to notify Container owner about changed made by the One-Click feature.
- Analog to data objects it is possible now to define a Code Variant also for Compositions to be able to deactivate it and all its including Sub-Compositions and Containers.
- Allow bulk change of DataObject CustomTags within a Container.
- Allow the replacement and Classification change of multiple DataObjects within a Container/Composition.

- Excel export of Project DataVariant & VariantSelctor configuration added.
- Consider and display CodeVariant condition settings of DataVariants within a Project.
- Allow the multiple reference of a Container within a "draft" Composition in order to ease the Composition handling during development.
- Introducing AUTOSAR Client-Server-Interface concept to ADD.
- Introducing new attribute Special Characteristics for Calibration Data within the Container context.
- Introducing AUTOSAR Client-Server-SystemEvents concept to ADD.
- Introducing the Database Maintenance management mode in ADD in order to lock the database and inform all clients prior to the migration of database to a newer version.
- Introducing AUTOSAR feature "SequenceNeed" in order to allow the scheduling of "Runnables" in ADD.
- Support of SystemConstant as Init-Values.
- Introducing new attributes "Deprecated" and "Refused" for ADD Container/Composition/SWC/ConfPacks.
- Allow import and export of Software Components (SWCs) in ADD.
- Allow creation of multiple AUTOSAR Client-Server-Interface Operations and use within Runnables.
- Allow usage of Templates for Struct-Types/-Instances and Embedded Maps.
- Allow instance specific settings of DataTypes for Struct Instance Members.
- VDM: Introducing new Container/DataObject filter; allow SVG graphic export of "Overview" & "Details" content.
- Introducing Autosar SoftwareComponent Interface and Interface Mapping in ADD.
- Introducing new ADD Welcome-Message and the possibility to generate an ADD User Mailing-List based on ADD User Roles/Preferences.
- Import BusSignal information from Data Base CAN (*.dbc), LIN (*ldf), Filed Bus Exchange Format (fibex; *.xml), Bedien- und Anzeigeprotokoll BAP (*.nxml) and Autosar XML (*.arxml) files

Process flow & Interfaces

The following figure shows possible interfaces of ADD to other tools and the principal process flow:



By providing a smart and flexible interface to DDS, all interfaces of DDS (like ASAP2, ELF, I3E, CVX, etc.) are implicitly also available in ADD.

System Requirements

Operating System	Windows 7, Windows 10, Microsoft Visual C++ Redistributable 2017
Environment	.NET Framework V4.7.2, Oracle V11.x Client or higher with Oracle Data Provider for .NET 4.0, Oracle Client is only required for Oracle database connection
Processor	1 GHz or higher
Hard disk	350 MB (minimum) of free hard disk space
System memory	1.5 GB of main memory
Display resolution	1440 x 900, 16bit colours, 17 inch

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