

Aramis-MC V5.1

The Visu-IT! **Aramis-MC** converter can run in 5 different modes to achieve different goals:

- **Convert mode:**
*Generate an ASAM MCD 2MC (ASAP2, A2L) file based on an AUTOSAR *.arxml file containing "MC Support" information*
- **Merge mode:**
Merge of A2L files into a master A2L file.
- **ECUC mode:**
Update an existing A2L file with addresses and protocol information (from ELF and ECUC files)
- **Filter mode:**
Filter an existing A2L file according to specific criteria.
- **Transform mode:**
Transform an existing A2L file according to specific criteria.

Focus: *building a bridge from ARXML to A2L*
Scope: *software component for AUTOSAR toolchains*

User instructions

Aramis-MC accepts all command line arguments case-insensitive and in an arbitrary order. The most arguments can be accessed with an optional shorter command (e.g. /h instead of /help). Whitespaces between an argument definition and its file lead to errors, e.g. "/S: C:\source.arxml" is invalid and "/S:C:\source.arxml" is valid.

General command line argument instructions for all modes can be retrieved with the commands

```
Aramis-MC.exe /h  
Aramis-MC.exe /help  
Aramis-MC.exe /?
```

Commands for all modes

Access	Optional shorter access	is optional	is unique
/Mode	/M	false	true
/SourceFile	/S	false	true
/DestinationFile	/D	false	true
/Configuration	/Conf	true	true
/LogFile	/L	true	true

Example:

```
Aramis-MC.exe /Mode:ECUC /Conf:C:\myConfig.xml /LogFile:C:\myLogFile.txt ...
```

[LogLevel]

This option defines the LogLevel which shall be used in the Logger.

[OrderedOutput]

This option defines whether the A2L should be written ordered.

Convert mode

Access	Optional access	is optional	is unique
/AdditionalSourceFiles	/AddS	true	false
/FunctionTreeFiles	/F	true	false

Example:

```
Aramis-MC.exe /M:Convert /Conf:C:\myConfig.xml /S:C:\mySource.arxml /F:C:\myFunc.arxml
```

[DestinationUnitGroupName]

This option defines the UnitGroup which shall be used as destination unit.

A destination unit is requested as the string parameter unit which is used in an ASAP2 COMPU_METHOD and the unit which is used as a Textual Unit in an ASAP2 COMPU_METHOD and is referenced from this COMPU_METHOD using the REF_UNIT key word.

[MaxRefreshDefault]

This is a default value for the MAX_REFRESH attribute defining the ScalingUnit and Rate value.

[ShortenNamesWithPattern]

The value of this switch must be a valid regex. This regex defines the part of the name to be removed.

[Cleanup]

If this switch is true, all unused object will be removed.

[SplitArraysOfPrimitivesToSingleElements]

If this switch is true, then all arrays are split into single elements.

Merge mode

Access	Optional shorter access	is optional	is unique
/AdditionalA2LFile	/AA	false	false

Example:

```
Aramis-MC.exe /M:Merge /Conf:C:\myConfig.xml /S:C:\mySource.a2l /AA:C:\addFile.a2l
```

[MergeMode]

This option describes how to merge the a2l files. In this version only `KeepExisting` is available. Currently only `IF_DATA`s, `AXIS_PTS`, `CHARACTERISTICS`s, `MEASUREMENT`s, `FUNCTION`s, `SYSTEM_CONSTANTS` and `MEMORY_SEGMENT`s and their dependencies are merged.

ECUC mode

Access	Optional shorter access	is optional	is unique
/Def	-	true	false
/Cnf	-	true	false
/Elf	-	false	true

Example:

```
Aramis-MC.exe /M:ECUC /Conf:C:\myConfig.xml /S:C:\mySource.a2l /Def:C:\myDef_1.arxml  
/Def:C:\myDef_2.arxml /Cnf:C:\myCnf_1.arxml /Cnf:C:\myCnf_2.arxml /Elf:C:\myElf.elf
```

[AmlRoot]

This option shall be used to define the base path for the AML files defined in the EcuC Cnf file if relative path names are used. Environment variables are supported.

[ResetAddress]

If set to true, all addresses shall be reset to 0.

[UpdateAddress]

If set to true, addresses shall be read from ELF file and updated in the a2l.

[RemoveUnassigned]

If set to true, all object where no address shall be removed.

Filter mode

Example:

```
Aramis-MC.exe /M:Filter /Conf:C:\myConfig.xml /S:C:\mySource.a2l
```

[SelectMeasurement]

If this option is set measurements object and their referenced objects are generated.

[SelectAdaptiveCharacteristics]

If this option is set adaptive characteristics and their referenced objects are generated.

[IncludeFunctions]

This is a list of functions which shall be exported.

[ExcludeFunctions]

This is a list of functions which must not be exported.

[IfDataFilter]

This is a list of protocols which must not be exported. All IF_DATA entries of a protocol will not be exported.

Transform mode

Example:

```
Aramis-MC.exe /M:Transform /Conf:C:\myConfig.xml /S:C:\mySource.arxml
```

[ExportSymbolLink]

If this switch is true, the SymbolLink of an instance will be exported if existing. If no SymbolLink exists a warning will be written to the log file.

[ReplaceIdentBySymbolLinkIfExists]

If this switch is true, the SymbolLink is used as ident in the a2l. If no SymbolLink exists a warning will be written to the log file and the ShortName from the arxml will be used as ident.

[IdenticalConversionAsRatFunc]

If this switch is true, all IDENTICAL conversions will be exported as a RAT_FUNC.

[LinearConversionAsRatFunc]

If this switch is true, all LINEAR conversions will be exported as a RAT_FUNC.

[ScaleLinearAndTexttableConversionAsRatFunc]

If this switch is true, all SCALE_LINEAR_AND_TEXTTABLE conversions will be exported as a RAT_FUNC with an TEXTTABLE.

[CreateVirtualMeasurementForInputAdaptions]

If this switch is true, virtual Measurements are created if it is possible.

[CreateVirtualCharacteristicForSystemConstants]

If this switch is true, virtual Characteristics are created if it is possible.

[SliceCuboid]

If this switch is true all Cuboids are sliced into Maps.

[Prefix]

If this switch is set, all, relevant named objects will be prefixed. Currently only AXIS_PTS, CHARACTERISTICs, MEASUREMENTs, FUNCTIONs, SYSTEM_CONSTANTs, COMPU_METHODs, COMPU_TABs, COMPU_VTABs, COMPU_VTAB_RANGEs, UNITs, GROUPs, RECORD_LAYOUTs, FRAMEs, USER_RIGHTs, VARIANT_CODING and MEMORY_SEGMENTs are supported.

[MeasurementLayoutIfNotExisting]

Valid options are COLUMN_DIR, ROW_DIR or the element can be empty. If the element is empty there is no change to the a2l. If COLUMN_DIR or ROW_DIR are set, Aramis-MC shall add the keyword LAYOUT to all multi-dimensional measurement arrays with the value which is set in this option.

The keyword shall be added only if it is not yet existing. It must not be added if it is already existing for the measurement. An existing LAYOUT setting must not be changed.

[SplitArraysOfPrimitivesForFunctions]

You can specify multiple function names whose arrays are then split. The names are interpreted as regex. The definition of a function shall affect the given function and its sub-functions. All arrays of primitives in DEF_CHARACTERISTIC, OUT_MEASUREMENT and LOC_MEASUREMENT are split. Arrays which are only referenced in REF_CHARACTERISTIC, IN_MEASUREMENT in the defined functions are not split

[CleanUp]

If this switch is true, all unused object will be removed.

Compatibility

Aramis-MC generates ASAP2 files which are compliant with the standard ASAM MCD 2MC V1.x. The ASAM MCD 2MC description files contain information like:

- Measurements and calibration variables (parameters, curves, maps)
- Physical addresses, conversion formula, data types, etc...
- ECU interface description (XCP on CAN or ETK)
- Calibration methods (SERAM, SERAP)
- Record layouts
- etc.

Interfaces

- AUTOSAR R20-11
- ASAM-MCD-2MC Version 1.7

Terminology

ASAM MCD 2MC	Official name of the standardized description exchange file
ASAP2	Common naming of the "ASAM MCD 2MC" standard
A2L	File suffix of "ASAM MCD 2MC" description file (*.a2l). It is also a common naming for "ASAP2"

System Requirements

Operating System Windows 10

Environment .NET Framework V4.7.2 and Microsoft Visual C++ 2015 Redistributable

Contact

Visu-IT! GmbH
An der Schergenbreite 1
93059 Regensburg

Phone: +49 (0)941 / 49082-16
Email: contact@visu-it.com
Internet: <http://www.visu-it.com>