

# Aramis-MC V4.1

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 /?
```

## Configuration file

In the Configuration file (xml) all switches are defined.

```
<?xml version="1.0" encoding="utf-8" ?>
<Configuration xmlns="http://www.visu-it.de/Aramis-MC/ConfigurationSchema"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.visu-it.de/Aramis-MC/ConfigurationSchema
AramisMC_ConfigurationSchema.xsd">
  <Convert>
    <LogLevel>Info</LogLevel>
    <OrderedOutput>true</OrderedOutput>
    <DestinationUnitGroupName>DisplayUnits</DestinationUnitGroupName>
    <MaxRefreshDefault>
      <ScalingUnit>3</ScalingUnit>
      <Rate>10</Rate>
    </MaxRefreshDefault>
  </Convert>
  <Merge>
    <LogLevel>Info</LogLevel>
    <OrderedOutput>true</OrderedOutput>
    <MergeMode>KeepExisting</MergeMode>
  </Merge>
  <ECUC>
    <LogLevel>Info</LogLevel>
    <OrderedOutput>true</OrderedOutput>
    <AmlRoot/>
    <ResetAddress>true</ResetAddress>
    <UpdateAddress>true</UpdateAddress>
    <RemoveUnassigned>true</RemoveUnassigned>
  </ECUC>
  <Filter>
    <LogLevel>Info</LogLevel>
    <OrderedOutput>true</OrderedOutput>
    <ObjectTypeFilter>
      <SelectMeasurement>false</SelectMeasurement>
      <SelectAdaptiveCharacteristics>false</SelectAdaptiveCharacteristics>
    </ObjectTypeFilter>
    <FunctionFilter>
      <IncludeFunctions/>
      <ExcludeFunctions/>
    </FunctionFilter>
    <IfDataFilter/>
  </Filter>
  <Transform>
    <LogLevel>Info</LogLevel>
    <OrderedOutput>true</OrderedOutput>
    <ReplaceIdentBySymbolLinkIfExists>false</ReplaceIdentBySymbolLinkIfExists>
    <IdenticalConversionAsRatFunc>true</IdenticalConversionAsRatFunc>
    <LinearConversionAsRatFunc>true</LinearConversionAsRatFunc>
    <ScaleLinearAndTexttableConversionAsRatFunc>true</ScaleLinearAndTexttableConversionAsRatFunc>
    <CreateVirtualMeasurementForInputAdaptions>false</CreateVirtualMeasurementForInputAdaptions>
    <CreateVirtualCharacteristicForSystemConstants>false</CreateVirtualCharacteristicForSystemConstants>
    <SliceCuboid>false</SliceCuboid>
    <Prefix/>
    <Cleanup>true</Cleanup>
  </Transform>
</Configuration>
```

## 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.

## 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.

## ECUC mode

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

Example:

```
Aramis-MC.exe /M:ECUC /Conf:C:\myConfig.xml /S:C:\mySource.a2l /Def:C:\myDef.arxml  
/Cnf:C:\myCnf.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.

**[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 V4.3.1
- 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 7 / Windows 10  
Environment .NET Framework V4.6 and Microsoft Visual C++ 2010 Redistributable 10.0.40219

## Contact

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