

How to model?

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1. Introduction

LieberLieber Connector APIS IQ-Software is able to export data from Enterprise Architect models to MSR-FMEA-XML. This data can be imported into APIS IQ-Software tools for performing FMEA. UML and SysML models contain several elements to describe structural and dynamic/functional aspects of systems or software. The Connector supports different elements and connector types and therefore allows model designers to use the elements of their choice.

2. Supported component types

LieberLieber Connector APIS IQ-Software is able to create FMEA structure tree elements from the following UML/SysML model elements:

- UML classes / SysML blocks
- UML components
- UML nodes
- SysML properties (parts)
- UML objects

3. Supported component hierarchy connections

Two connector types are available in UML/SysML to express system hierarchy (system decomposition):

- UML Aggregation / SysML Shared Association (white diamond connector)
- UML Composition / SysML Part Association (black diamond connector)

4. Modelling of functions/operations

In UML/SysML models, operations or function definitions can be modelled explicitly (e.g. as action) or implicitly as an operation of a class. Both possibilities are supported by **LieberLieber Connector APIS IQ-Software**. The SysML allocation connector (UML dependency with stereotype <<allocate>> applied) is used to assign an explicit action element to a structural element. The FMEA functions are generated from these model elements.

5. Example

The following diagram shows the usage of different structure elements and connections in one model (this is merely for demonstration purposes and should not be used in productive models). Your modelling rules should reflect which model elements you want to use.

