MES Model Examiner® (MXAM)

The MES Model Examiner® (MXAM) is the leading tool to ensure the comprehensive static analysis of your models. MXAM analyzes model structure and evaluates model metrics, while providing an easy way to review modeling guidelines, making it an all-in-one tool.

Comprehensive user guidance through analysis results as well as the repair and improvement process effectively ensures ISO 26262 standard compliance for your software models. One of the tool's unique features is the support of persistent annotations. This allows you to comment on individual guideline violations and justify exceptions. Annotations support the continuous tracking and documentation of the review process for both automatically checkable and non-checkable guidelines.

MXAM Overview

MXAM analyzes software models for guideline compliance and guides the user through the repair and improvement process.

Certified for ISO 26262, IEC 61508, and ISO 25119

Designed for function developers, testers, and quality managers in model-based development on the MATLAB®/Simulink®, Embedded Coder®, and TargetLink® platforms, the Model Examiner is certified by TÜV SÜD as a T2 Offline Support Tool for use in safety-relevant embedded software development in compliance with ISO 26262, IEC 61508, and ISO 25119.

TÜV Certificate

What Our Customers Say about MXAM

Volvo Cars

Mercedes-Benz Group

Mercedes-Benz Research & Development North America (MBRDNA)

MXAM - The Functional Safety Solution

With MXAM you are perfectly equipped to develop safety-relevant, standard-compliant software.

The integration of MXAM into your existing development environment is highly scalable and easy to set up, from single workstations to continuous integration (CI Jenkins server support via MES Jenkins Plugin). MXAM also offers cloud and Docker support for Linux and Windows.

Your MES Model Examiner® benefits:

Productivity

- Highly efficient support for model review and optimization
- Easy configuration of fully automated analysis

Scalability

- Manages even large systems of models with ease
- From single workstation to company-wide solution

Control

- Comprehensive guideline and check management
- Support of multiple toolchain integration technologies

Compliance

- Ensure compliance with modeling guidelines and safety standards (ISO 26262, ISO 25119, IEC 61508, DO 178B/C, etc.)
- Tool Qualification Kit according to ISO 26262

How MXAM supports you:

1. Robust models

Robust models Image of type unknown

Regarding modeling style, focusing on best practices helps to prevent modeling errors at an early stage, which allows further functional verification of robust models. In MXAM, the MISRA SL/SF, MISRA TL, as well as the TargetLink Known Problems modeling guideline standards safeguard the robustness of models. The MES Functional Safety document also provides further guidelines for safeguarding safety-critical software functions in robust models. This supplement therefore allows modeling in compliance with safety standards such as ISO 26262, ISO 25119, IEC 61508, and DO 178B/C.

2. Reduced maintenance efforts

Reduced maintenance efforts Image of type unknown

A uniform layout of models increases their legibility and maintainability, helping to identify errors. MXAM ensures this with the MAAB standard guidelines, supplemented by other MES Layout and MES Best Practice guidelines.

3. Optimized models for automated coding

Software code is based on the software model in model-based development. If the models are optimally prepared, the code generation can be automated and there is only minimal processing time. This saves development resources and allows the use of capabilities where they are needed: in functional development. For current code generators, MXAM offers specific guideline documents, in the form of the Embedded Coder document, TargetLink document, and ASCET document, to make your models fit for efficient automated code generation.

4. Comprehensive reports and guided model repair

Comprehensive reports and guided model repair

MXAM presents a clear overview of your guideline check results. If an error occurs, MXAM will take you directly to the problem, provide a description of the error and possible solutions, and, in many cases, offer a repair function that, on request, automatically fixes the error; a time-saving and convenient way to smooth out any bumps in your model.

5. Interactive peer review in the model

Interactive peer review in the model

MXAM allows you to post comments on individual rule violations in the form of annotations. In this way, reviews and possible revaluations of results can be consistently tracked and documented. Via this function, MXAM guarantees complete documentation of guideline checks, both for automatically and only manually testable guidelines.

6. Flexible documentation

Flexible documentation

MXAM offers comprehensive reporting possibilities to document checks. Reports can be created in HTML, PDF, EXCEL, and XML formats.

7. Convenient management of modeling guidelines

Convenient management of modeling guidelines

A special framework allows for convenient management of the extensive guideline and check library in MXAM. In addition, internal guidelines and checks can easily be integrated into the library and managed.

Our training program for MXAM tool users

Our training portfolio at the tudoor academy includes topics related to safety and software as well as a wide range of training classes on MXAM and static model testing.