MES Model Examiner® (MXAM)

Automated model checks

MES Model Examiner® (MXAM) is the first choice for automated guideline checks of MATLAB Simulink® /Stateflow®, MathWorks Embedded Coder®, dSPACE TargetLink®, SparxSystems Enterprise Architect® , and ETAS ASCET® models.

ISO 26262-compliant safeguarding of modeling guidelines

MXAM includes all guidelines of the current modeling standards for MATLAB®. The MXAM MISRA Compliance Solution and MXAM Functional Safety Solution editions enable fast, easy-to-follow safeguarding of models in compliance with MISRA® and ISO 26262. This prepares you in the best possible way for automatic code generation with Embedded Coder® or TargetLink®.

MXAM Functional Safety Solution (FSS)

With the Functional Safety Solution, you are perfectly equipped to develop safety-relevant, standard-compliant software. MES M-XRAY® (MXRAY) - the tool to analyze model structure and complexity - is also included in the Functional Safety Solution.

MXAM MISRA® Compliance Solution (MCS)

With the MISRA® Compliance Solution, you are perfectly equipped to check your models for MISRA® compliance.

ASCET-compliant safeguarding

The MXAM ASCET Solution edition offers best practice guidelines for modeling ASCET models efficiently.

Company-specific solutions

Of course, MXAM can also be used to quickly and reliably check company-specific modeling guidelines. MXAM provides a comprehensive management framework to integrate these checks.

Certified by TÜV SÜD for IEC 61508, ISO 25119, and ISO 26262

CERTIFICATE

No. Z10 101354 0001 Rev. 00

Holder of Certificate: Model Engineering Solutions GmbH
Waldenserstraße 2-4
10551 Berlin
GERMANY

Factory(ies): 101354

Certification Mark:

Product: Software Tool for Safety Related Development

Model(s): MES Model Examiner®

Parameters: The certified tool is classified as T2 offline support tool according to IEC 61508. It is suitably qualified to be used in safety related software development according to ISO 26262, IEC 61508 and ISO 25119. The report MB92946C is a mandatory part of this certificate.

Tested according to: IEC 61508-3:2010
ISO 25119-3:2010
ISO 26262-8:2011

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition the certification holder must not transfer the certificate to third parties. See also notes overleaf.

Test report no.: MB92946C
Valid until: 2023-09-04

Date, 2018-09-05 (Christian Dirmeier)

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- Die Fertigungs- bzw. Betriebsstätten werden regelmäßig überwacht.

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Certification is based on the TÜV SÜD Product Service Testing and Certification Regulations.
On receipt of the certificate the certificate holder agrees to the current version of the Testing and Certification Regulations (www.tuv-sud.com/ps_regulations) and thus becomes partner in the TÜV SÜD Product Service Certification System.

Requirements for the validity of the certificate in principle:
- Validity of the quoted test standard(s)

In addition, for certificates with the right to use a certification mark and for QM certificates:
- Conditions for an adequate manufacturing are maintained
- Regular surveillance of the facility is performed

认证合约
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维持证书有效性的原则要求：
- 认证所依据标准的有效性

此外，对于授权可使用认证标志的证书和质量管理体系证书：
- 保持充分的生产条件
- 生产场地通过定期的监督

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認証は TÜV SÜD Product Service の試験認証規約に基づく。認証書保持者は認証書を受領することにより最新の試験認証規約(www.tuv-sud.com/ps_regulations)に同意したものとする。
その結果、TÜV SÜD Product Service 認証システムのパートナーとなる。

認証書の有効性に関する原則的な要求事項
- 引用している試験規格が有効である

さらに認証マークの使用を許諾された認証書や品質マネジメント認証書は：
- 適切な製造の条件を維持している
- 定期的な工場監査を実施している

Contrato de certificação
A certificação se baseia nos Regulamentos de Testes e Certificação do Grupo TÜV SÜD.
Ao receber o certificado, o Fornecedor, titular do certificado concorda com a versão atual dos Regulamentos de Testes e Certificação do Grupo TÜV SÜD (www.tuv-sud.com/ps_regulations) e assim, toma-se parceiro no Sistema de Certificação de Produtos e Serviços TÜV SÜD.

Requisitos para a validade do certificado (em princípio):
- Validade da(s) norma(s) de ensaio(s) referenciada(s).

Adicionalmente, para os certificados com o direito ao uso da marca de certificação e para certificados de SG:
- Condições de fabricação adequada estão mantidas.
- Auditoria de monitoração realizada regularmente.

- Datasheet MES Model Examiner® (MXAM) (231.1 KiB)

The Editions in Comparison

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 tool-chain integration technologies

Compliance

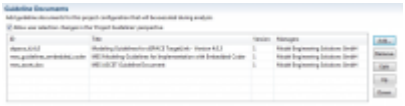
- Ensure compliance with modeling guidelines and safety standards (ISO 26262, IEC 61508, DO 178B/C, etc.)
- Tool Qualification Kit according to ISO 26262

How MXAM supports you:

1. Robust models

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



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.

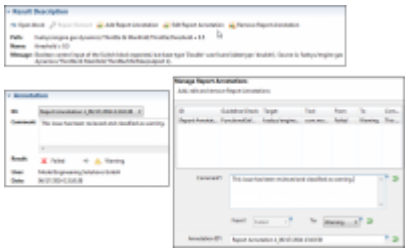
3. Optimized models for automated coding

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

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

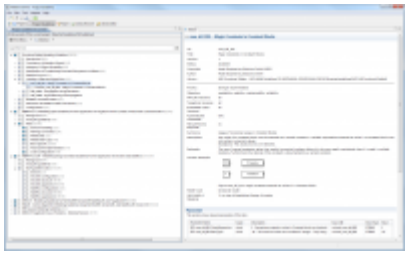


MXAM allows you to post comments on individual rule violations in the form of annotations. In this way, reviews and possible revaluations of results can be consistently tracked and documented. Via this function, MXAM guarantees complete documentation of guideline checks, both for automatically and only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

6. Flexible documentation

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



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.

MXAM editions in comparison:

MORE THAN 400 GUIDELINES AND CHECKS ENSURE COMPLIANCE WITH STANDARDS AND BEST PRACTICES	MISRA® COMPLIANCE SOLUTION	FUNCTIONAL SAFETY SOLUTION
MES Starter Set (Recommended Selection)	✓	✓ * extended content
MAAB	✓	✓
MISRA® AC Simulink/Stateflow	✓	✓
MISRA® AC TargetLink	✓	✓
Embedded Coder® Guideline Set	✓	✓ * extended content
dSPACE TargetLink Guidelines	✓	✓
TargetLink Known Problems	✓	✓ * current updates
MES Functional Safety & Best Practice Guidelines		✓
Model Complexity and Clone Detection		✓ * MES M-XRAY®
ISO 26262-8 Software Tool Qualification	* ISO 26262 Qualification Kit available	