





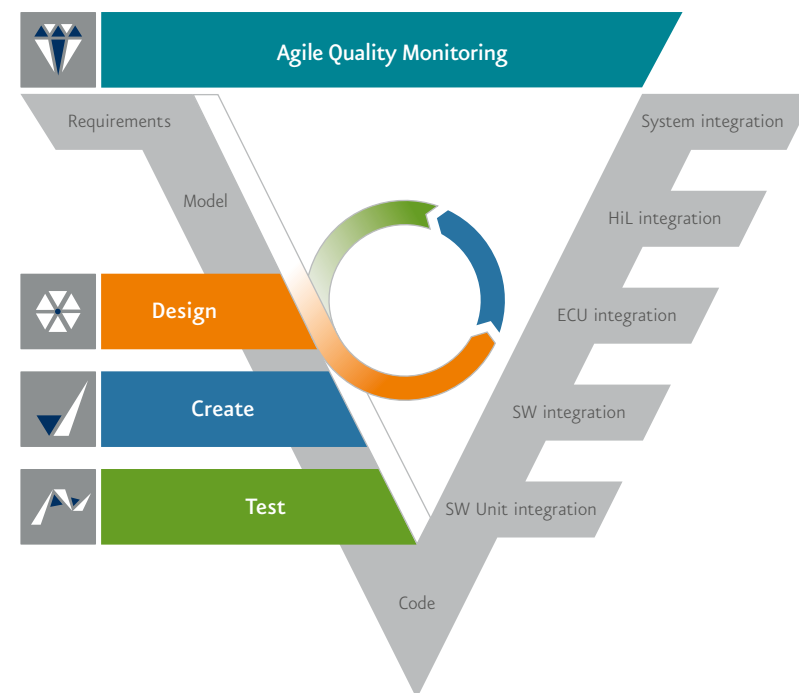
V FOR AGILE.

Whether your development process is agile or follows the traditional V model, our tools are versatile performers supporting your model-based development process. Seamless interaction between our MES Model Examiner, MES M-XRAY, and MES Test Manager cover all phases of software development, from design to implementation and verification. Additionally, MES Quality Commander provides an unparalleled overview of the entire software development process, giving you complete control over the quality of your software at all times.

- 
MES M-XRAY® (MXRAY)
 Comprehensive model metrics
- 
MES Model Examiner® (MXAM)
 Automated verification of guideline compliance
- 
MES Test Manager® (MTest)
 Efficient model testing
- 
MES Quality Commander® (MQC)
 Centralized assessment of product quality

AGILE IN V.

We support the traditional V model development process as well as an agile development process – the MES Tool Chain serves them both.



WELL SECURED PARTNERSHIPS.

We work with a large number of the world's leading manufacturers and suppliers in the automotive, transport, and automation industries for many years. Our tools are true globetrotters.

Akebono Brake ALTEN Altran ANDREAS STIHL ASAP Electronics Assystem Audi AutoLiv ASP Automotive Safety Technologies AVL List AVL Software and Functions	fka Ford Motor Company Fujitsu-ten GAC Fiat Chrysler Automobiles GAC Toyota Motor / GTMC Geely GIGATRONIK GKN Driveline Great Wall Motor Company / GWM Guangzhou Automotive / GAC	Mercedes-Benz Research & Development North America Mercedes-Benz Research and Development India Meta Motoren- und Energie-Technik Mobis India NSK Plastic Omnium Porsche
Behr-Hella Thermocontrol Beiqi Foton Motor Bendix Commercial Vehicles Systems Bertrandt BFFT Ges. für Fahrzeugtechnik Bombardier Bosch Brembo Brose	Hays HELLA Honda Motor Huawei Hyundai MOBIS Hyundai Motor Company HYUNDAI WIA IAV Intesight Information Technology Intron Technology Joyson Safety Systems ITK Engineering	Renault-Nissan-Mitsubishi Alliance Rheinmetall Automotive Ricardo Robert Bosch Automotive Steering SAIC MAXUS SAIC Motor SAMSUNG SDI Battery Systems Schaeffler Shanghai Diesel Engine Shaanxi Fast Auto Drive Siemens Subaru
CAE Software & Systems Carmeq CABRI China Euro Vehicle Technology CLAAS CNH Industrial Contemporary Amperex Technology Conti Temic microelectronic Continental Automotive Continental Teves CSR Zhuzhou Institute	Jietek Power JTEKT KATECH Komatsu KOSTAL KPIT Technologies	Tabuchi Electric Tata Elxsi TDI Product Solution Tech Mahindra TECON-Techno Consult TKI Automotive Toshiba Solutions Toyota Motor Company
Daimler Daimler Trucks DANA Rexroth DENSO DEUTZ DongFeng	LEAR Leckon Leichtwerk Lemförder Electronic Leopold Kostal Linde Material Handling	Vaillant Valeo Valeo Siemens eAutomotive Veoneer Volkswagen Volvo Cars
Elektronische Fahrwerksysteme ESG Elektroniksystem- und Logistik EvoBus	Magna Powertrain Magna STEYR Mando-Hella Marquardt MBtech MdynamiX Mercedes-AMG	WABCO Webasto ZF ZF TRW
Faurecia FEV Europe Fiat Chrysler Automobiles		

Model Engineering Solutions GmbH

T: +49 30 20916463 0
info@model-engineers.com

www.model-engineers.com

MATLAB®, Simulink®, Stateflow®, and Embedded Coder® are registered trademarks of MathWorks, Inc.

TargetLink® is a registered trademark of dSPACE GmbH.

ASCET® is a registered trademark of ETAS GmbH.

MES Model Examiner®, MES M-XRAY®, MES Quality Commander®, and MES Test Manager® are registered trademarks of Model Engineering Solutions GmbH.

MES
MODEL ENGINEERING SOLUTIONS

MES TOOL CHAIN WELCOME TO THE ZERO ERROR TOLERANCE ZONE.

Extreme situations demand zero tolerance toward errors. Because even a minor error can have serious consequences. The MES Tool Chain ensures comprehensive quality assurance for every step in model-based software development. When software quality assurance becomes particularly challenging, we are there to guide you on your way.

A maximum degree of automation means that our tools offer efficiency and safety – especially when the going gets tough.

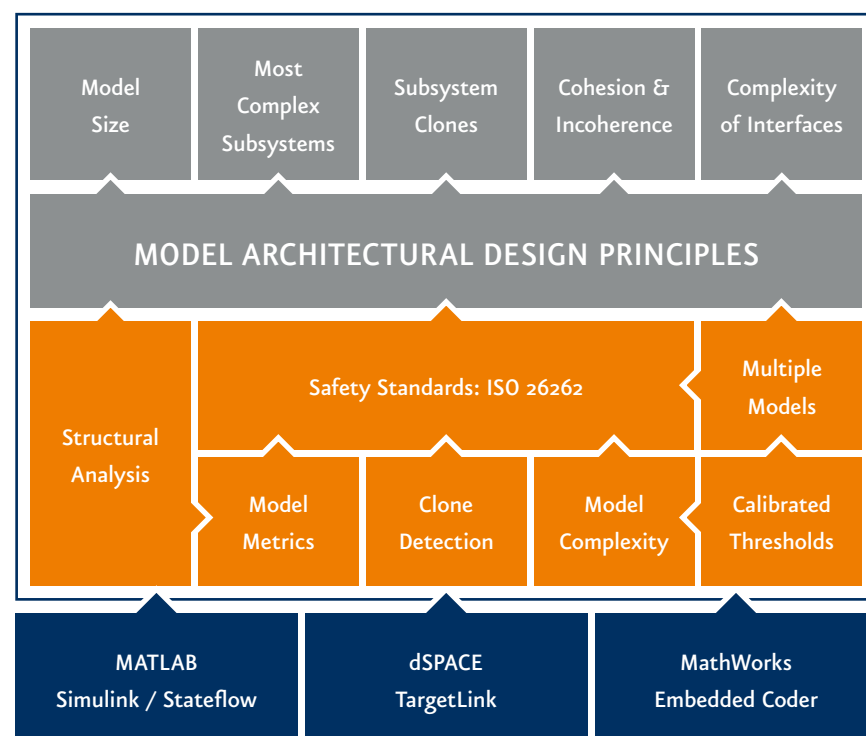
YOU CAN TELL
A PROFESSIONAL
BY HIS TOOLS.

SOLUTIONS FOR INTEGRATED
QUALITY ASSURANCE OF
EMBEDDED SOFTWARE



MES M-XRAY® MXRAY

A sound architecture is a vital prerequisite for safe software that is generated from models. Highly elaborate applications and features make software models larger and more complex. MES M-XRAY helps you analyze models and assess the distribution of complexity within the models. It supports structured model refactoring by detecting clones and evaluating the inner dependencies of subsystems. MES M-XRAY lets you find complex, and hence error-prone model parts and keep model complexity low. MES M-XRAY is your choice for complexity analysis of Simulink, Stateflow, Embedded Coder, and TargetLink models, using proven methods for calculating model metrics.



FUNCTIONS & BENEFITS

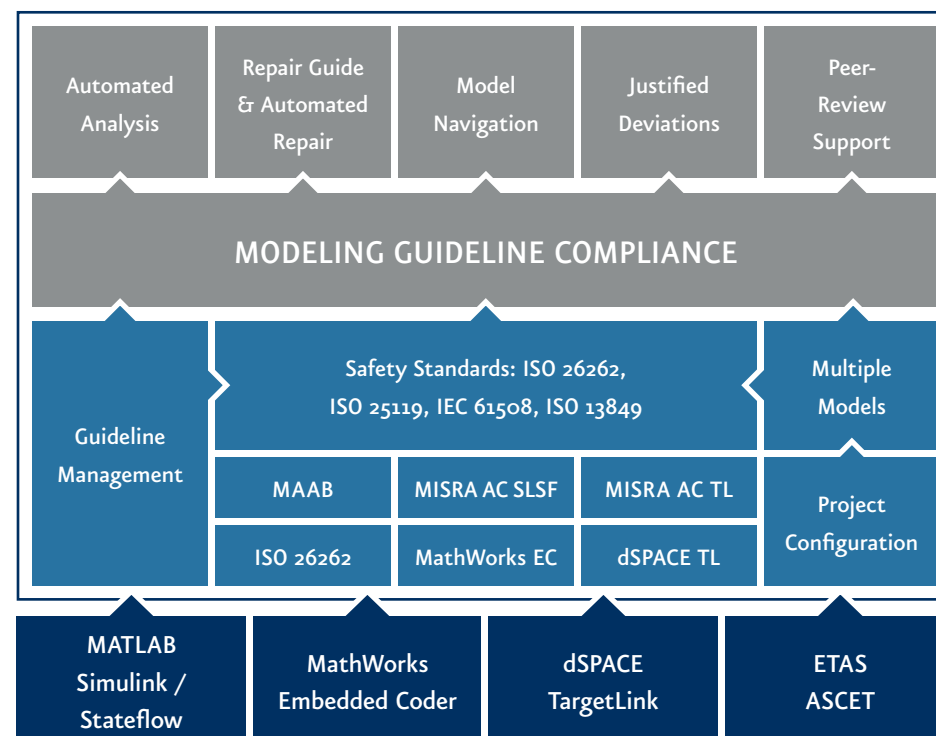
- Complexity assessment of Simulink, Stateflow, Embedded Coder, and TargetLink models according to Halstead definitions
- Consistent figures on model and subsystem sizes, providing a sound base to allocate resources for model development, testing, and review
- Clear visualization of model architecture and structural complexity
- Detection of subsystem clone groups and cohesion of dataflow models to support refactoring of large models
- Compliance with ISO 26262, ISO 25119, IEC 61508, ISO 13849, and ASPICE



MES MODEL EXAMINER® MXAM



Rules help you internalize lessons learnt. This may seem obvious. But with over 500 different requirements for well-structured software models, adhering to the rules quickly becomes a superhuman challenge. This is especially true when developing safety-related software where risk to human life is unacceptable. MES Model Examiner automates the verification and correction of Simulink, Stateflow, Embedded Coder, TargetLink, and ASCET models. In doing so, MES Model Examiner combines optimal safety and quality with one of your most indispensable commodities: the individual expertise of your developers.



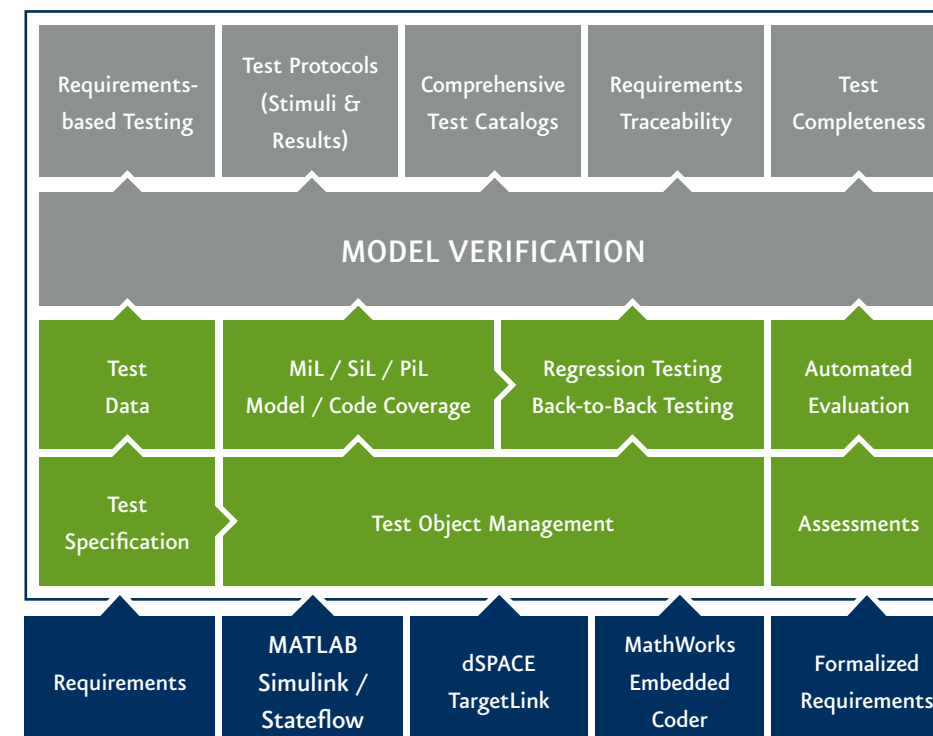
FUNCTIONS & BENEFITS

- Compliance framework for automated model checking and repair of guideline violations, specializing in Simulink, Stateflow, Embedded Coder, TargetLink and ASCET
- Adherence to safety standards, including ISO 26262, MISRA, ISO 25119, IEC 61508, ISO 13849
- Included support of all modeling guidelines such as MAAB, MISRA AC Simulink / Stateflow, MISRA AC TargetLink, dSPACE TargetLink, Embedded Coder, MES Functional Safety Guidelines as well as customer-specific guidelines
- Verification of functional safety aspects through in-depth model analyses such as dataflow and control flow analysis
- Expert system for your own guideline and check development – from workstation solution to company-wide implementation



MES TEST MANAGER® MTEST

Requirements are never more stringent than when developing safety-related software. The inevitable excuse of time pressure is the worst possible reason to settle for stopgap solutions. MES Test Manager helps you maximize the level of automation of your tests – saving you valuable time. The entire testing process within MES Test Manager offers assurance that all tests have been rigorously performed both before and after code generation. With MES Test Manager, testers are efficiently supported throughout the testing process, particularly with regard to test specification and test evaluation. MES Test Manager is developed by testers for testers to comprehensively suit their needs.



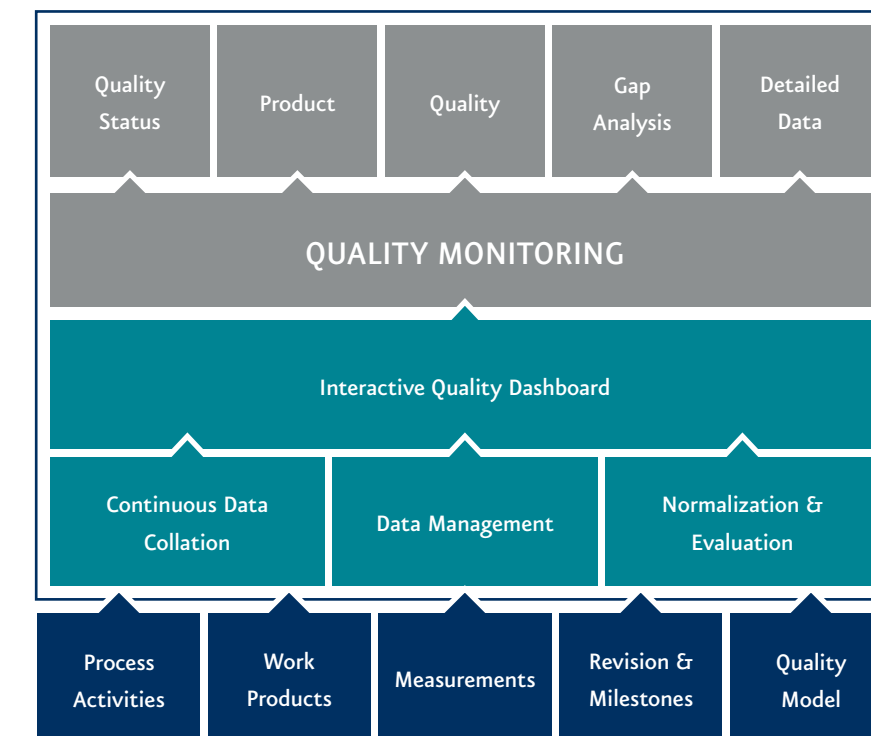
FUNCTIONS & BENEFITS

- Professional test framework for requirements-based model testing of Simulink, Stateflow, Embedded Coder, and TargetLink models
- ISO 26262, ISO 25119, IEC 61508, and ISO 13849-compliant test execution and evaluation of regression and back-to-back tests, as well as MiL, SiL, and PiL simulation
- Assessment framework for automated evaluation of test results
- Traceability of test specification and test evaluation to model and software requirements
- Automated recording and aggregation of model coverage and code coverage data



MES QUALITY COMMANDER® MQC

An unexpected problem can endanger software quality and your delivery dates. MES Quality Commander pulls together all quality-relevant data and presents it in a clear and systematic way. This enables you to make objective, informed decisions regarding the product quality of individual software components as well as the whole software product. Potential weaknesses are instantly highlighted, so you can act quickly and go straight to the source of the problem.



FUNCTIONS & BENEFITS

- Automated collation of all measured values and parameters relevant to software quality
- User-friendly visualization of product maturity, weaknesses, and need for action, including trend analysis
- Unified evaluation of software quality on the basis of a formal quality model contributing to ISO 25010 compliance
- Project-specific evaluation thanks to an individually configurable quality model
- Efficient comparison of quality and progress of different development projects