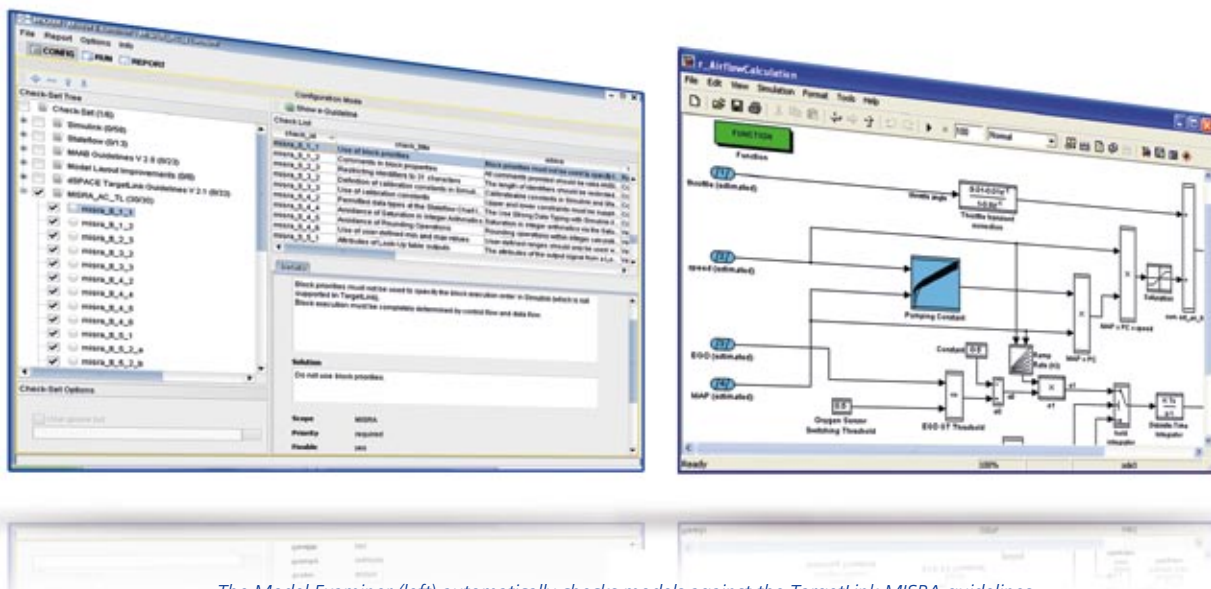


# Automatic Compliance Checks

Fully automated checks  
for TargetLink models

In model-based design, modeling guidelines play a vital role in ensuring design quality. The Model Examiner from Model Engineering Solutions (MES) automatically checks whether TargetLink/Simulink® models comply with modeling guidelines. Now it also includes special automatic model checks for the MISRA TargetLink guidelines (MISRA-AC-TL).



The Model Examiner (left) automatically checks models against the TargetLink MISRA guidelines.

### Functional Safety in the Model

Modeling guidelines are extremely valuable in efficient, model-based development. They are used to ensure that models meet all the requirements regarding transparency, functional safety, process integration, and code efficiency. Compliance with modeling guidelines and, in connection with that restriction, to a reliable language subset is essential, particularly where safety-critical functions are developed according to standards such as IEC 61508 or the future ISO 26262. One answer to this is the MISRA TargetLink Guidelines (MISRA-AC-TL), which define modeling requirements with respect to functional safety (see dSPACE Magazine 1/2008). dSPACE and many of its customers also have company-specific guidelines for TargetLink. And in view of the sheer size of today's models and the large number of guidelines, it can be very difficult to ensure compliance without tool support. Moreover, not every function or software developer is an expert on model-based design – another good reason for using a tool.

### MES Model Examiner 1.2

The Model Examiner from MES not only lets TargetLink users check for compliance with MAAB guidelines

(The MathWorks Automotive Advisory Board); it also provides dedicated TargetLink support. The new version 1.2 of the Model Examiner incorporates the dSPACE TargetLink guidelines as well as the official TargetLink guidelines issued by MISRA (Motor Industry Software

Reliability Association). The Model Examiner checks whether a model complies with guidelines and issues a warning if a rule has been violated. It can also perform automatic correction and generate documentation. Project-specific rules can also be defined and applied to TargetLink/Simulink models. Developers can run a model analysis from the Model Examiner's own user interface or by calling scripts. They can therefore easily integrate the Model Examiner into an existing tool chain. Checks that are included with the Model Examiner can also be loaded into the Model Advisor. The Model Examiner's API allows a company-specific infrastructure to be integrated. If the

Model Examiner does not yet support a particular guideline, users can add tool-chain-specific extensions to it in the form of additional scripts. The Model Examiner is available from Model Engineering Solutions.

The Model Examiner checks whether a model complies with guidelines and issues a warning if a rule has been violated.

### Looking Ahead

dSPACE and Model Engineering Solutions are cooperating on the further development of the Model Examiner to provide optimum support for TargetLink users. The main focus is on supporting the greatest possible number of available rules, and on enhancing the Model Examiner whenever new versions of TargetLink become available. ■

[www.model-engineers.com](http://www.model-engineers.com)  
[info@model-engineers.com](mailto:info@model-engineers.com)