

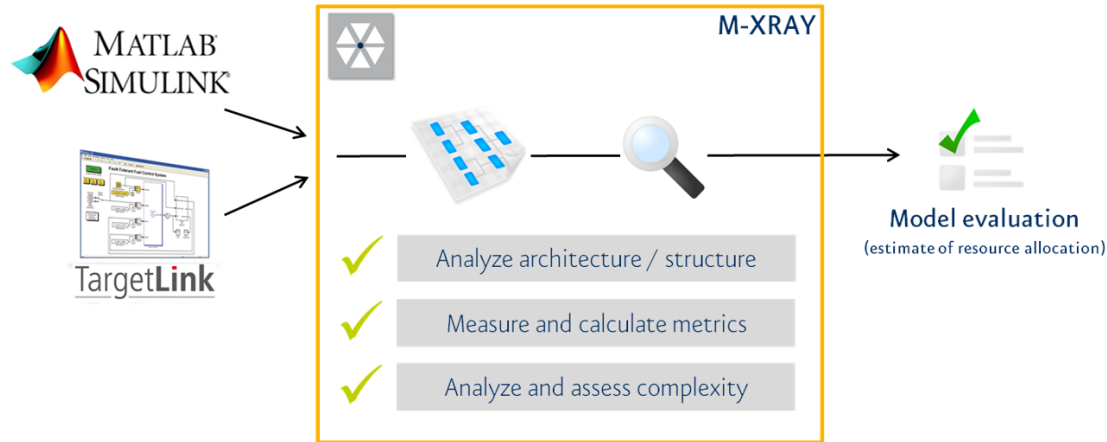
REVaMP² MES M-XRAY[®]

Structure and complexity analysis of Simulink[®] models
Model Engineering Solutions GmbH

Purpose and Main Features

MES M-XRAY®

- Tool input: **Simulink®/TargetLink®/Stateflow®** models
- Tool **analyses** the models to **identify possible improvements**



Purpose and Main Features

MES M-XRAY®

- **New feature:** “Highlight Signal To All Sources”
- **Purpose:** Visualization of data flow to determine model partitions
- Model partitions could be converted to:
 - Variation points of the model (technically: Variant subsystems)
 - Specially triggered subsystems (e.g., with different sample rates)
 - Dedicated units for software generation
 - Reusable components, potentially parameterized

Purpose and Main Features

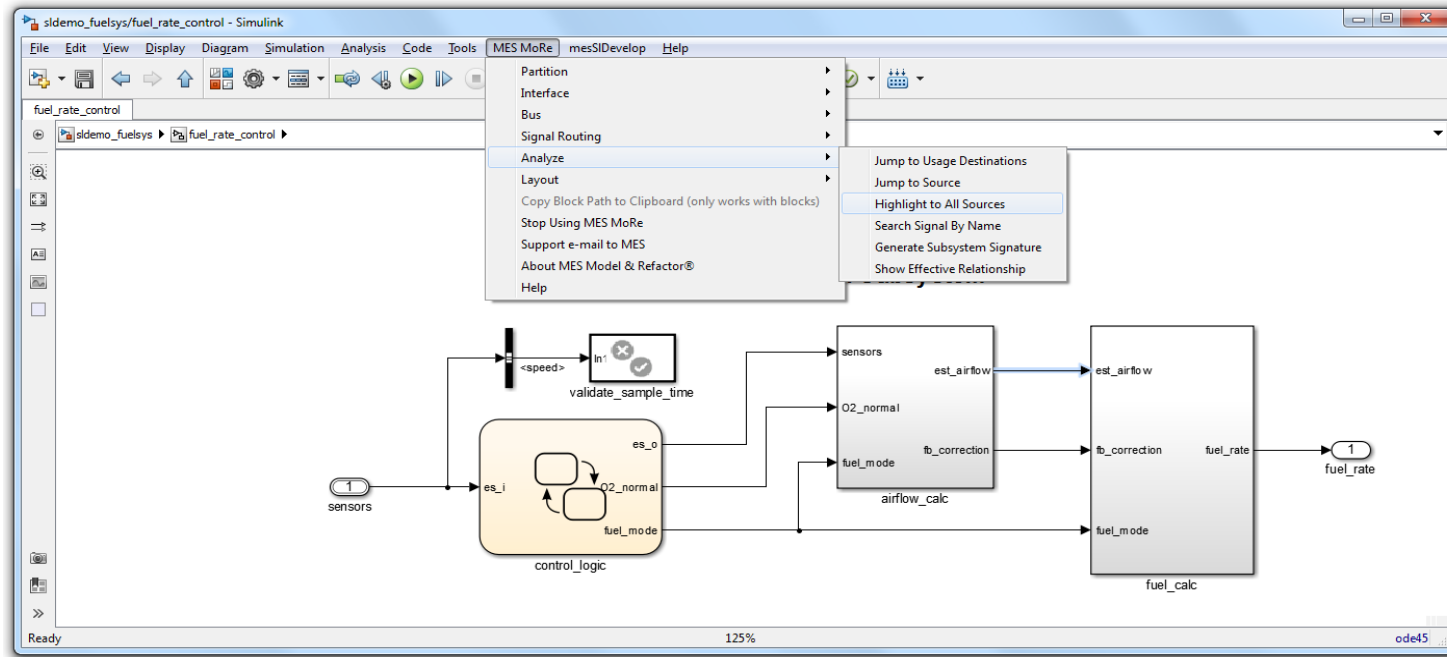
MES M-XRAY® / MES MoRe

- Short-term decision: New feature integrated into related tool MES Model & Refactor® (MES MoRe)
- MES MoRe also analyzes the model, but directly from the context menu and depending on the selection in the editor

Purpose and Main Features

MES M-XRAY® / MES MoRe

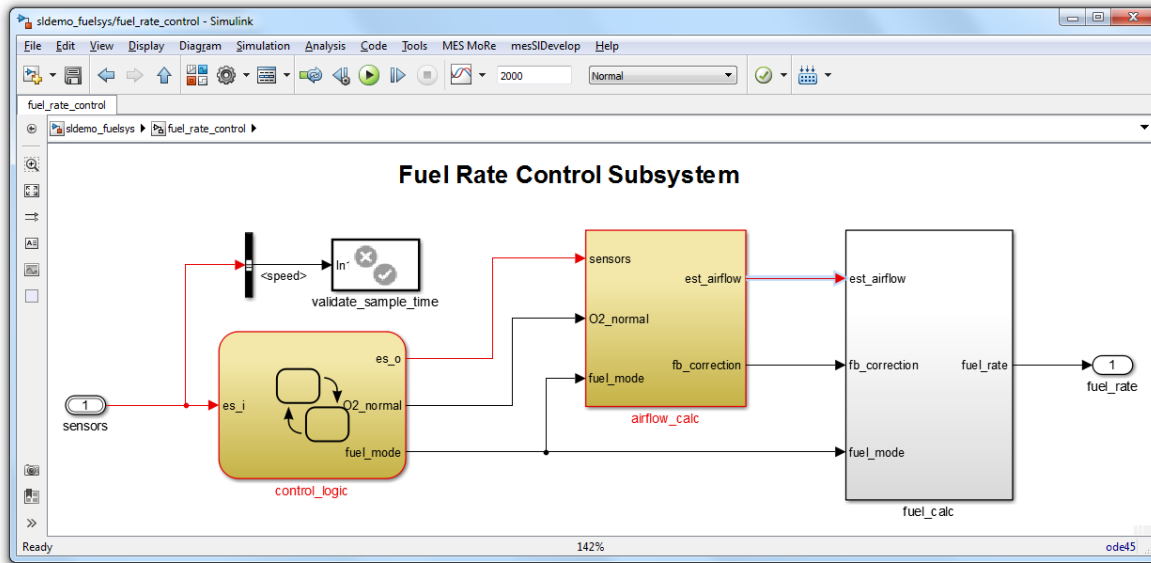
- New feature: Analyze -> Highlight to All Sources



Purpose and Main Features

MES M-XRAY® / MES MoRe

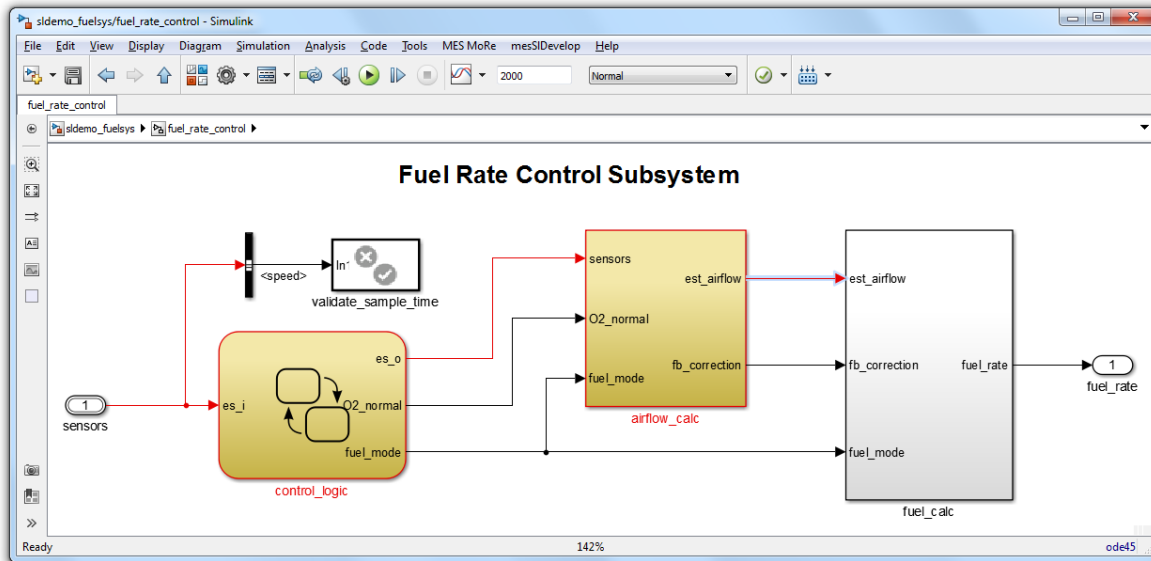
- Highlight to All Sources: Visualizes the backward data flow starting from selected signal (highlighted signals in red and blocks in yellow)



Purpose and Main Features

MES M-XRAY® / MES MoRe

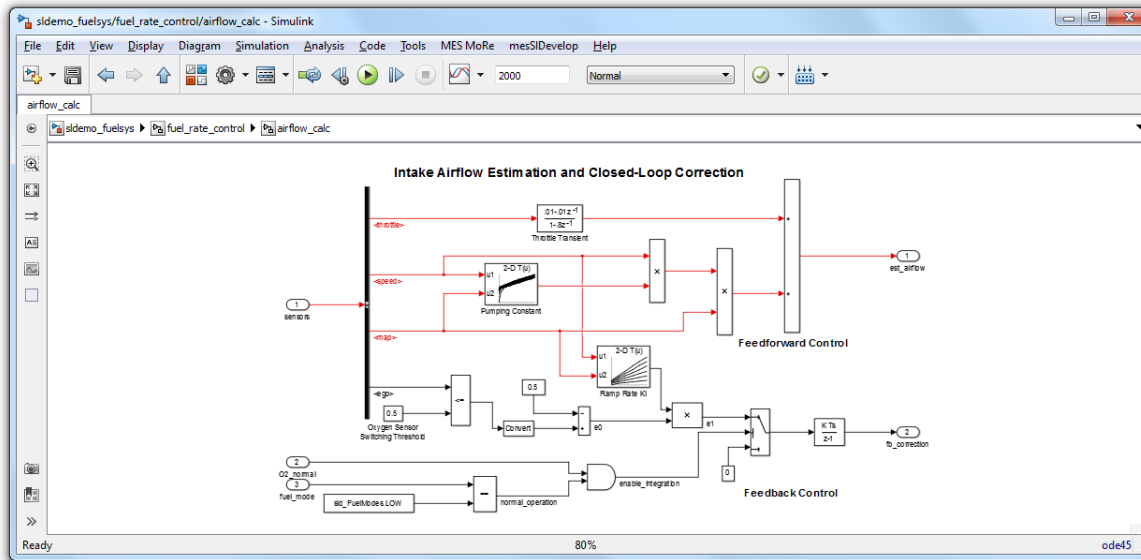
- Analysis reveals, for example, that only the first input signal from subsystem *airflow_calc* influences the selected signal



Purpose and Main Features

MES M-XRAY® / MES MoRe

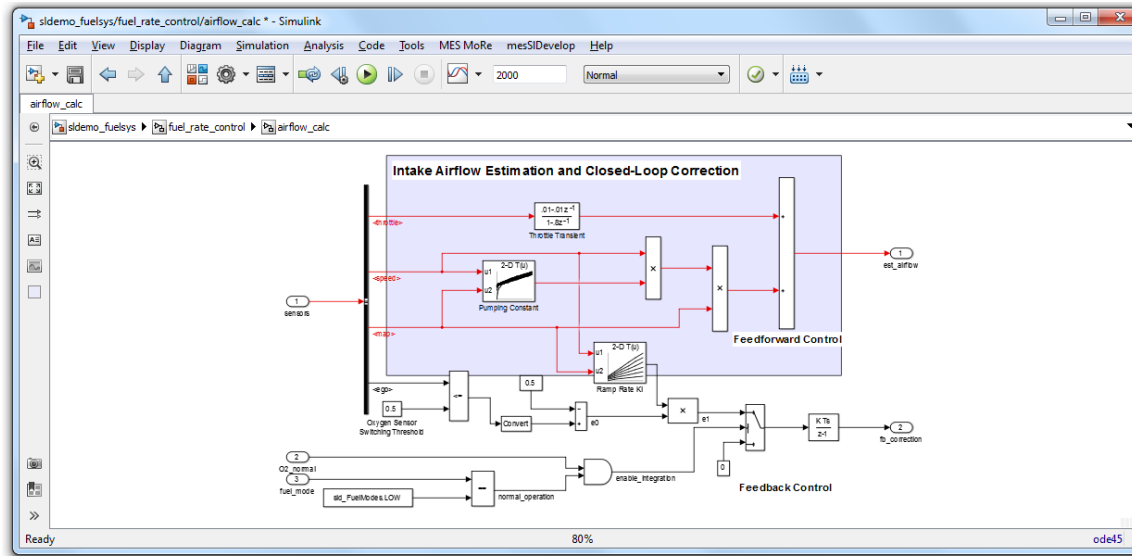
- Data flow is also highlighted inside the subsystems: Here within the subsystem *airflow_calc*



Purpose and Main Features

MES M-XRAY® / MES MoRe

- Data flow can then be used to extract new partitions



Partners and Contact Details

MES M-XRAY® / MES MoRe

- **Partners involved**

- Model Engineering Solutions GmbH



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- **Download**

- <https://model-engineers.com/de/quality-tools/>