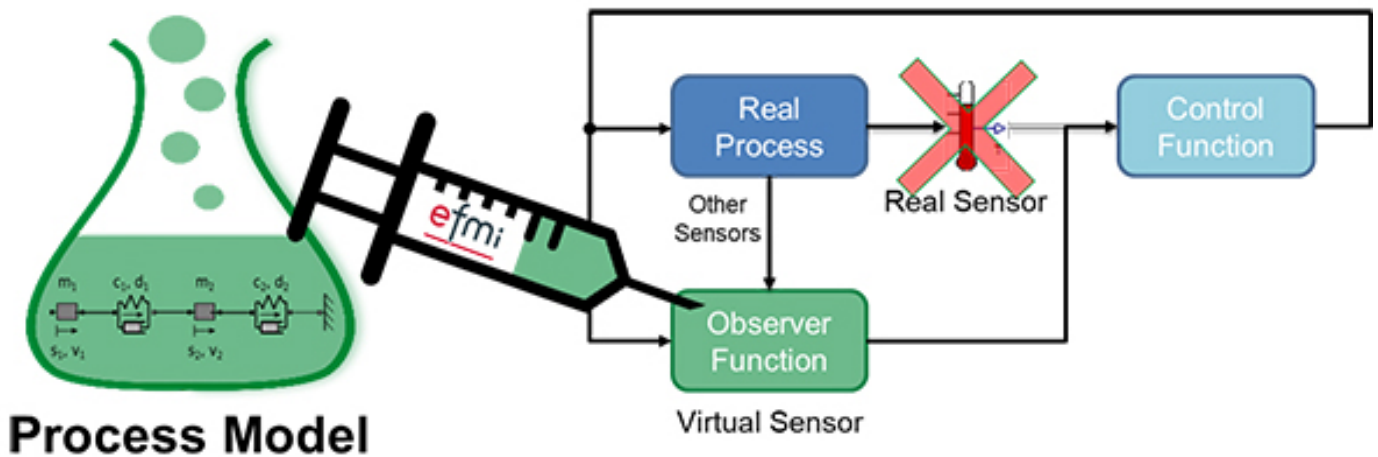


EMPHYSIS Helps Link Digital Simulation and Embedded Software

The research project EMPHYSIS led by Bosch has delivered the new “eFMI standard” for model exchange to accelerate the model-based development of embedded software, the company reports.



The mathematical model of a physical process becomes part of the software to replace a real sensor with a virtual sensor. Image courtesy of ESI Group.

By DE Editors

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The research project EMPHYSIS led by Bosch (<https://www.bosch.us>) has delivered the new “eFMI standard” for model exchange to accelerate the model-based development of embedded software. On Sept. 15, this international collaborative project gathering 25 industrial and academic partners from different fields (like automotive and information technologies) situated in Belgium, Canada, France, Germany and Sweden received the ITEA Award of Excellence for this achievement.

New Model-Exchange Standard for Embedded Devices

The aim of the EMPHYSIS project (Embedded Systems with Physical Models in the Production Code Software), led by Bosch, was to jointly come up with a new open standard that lays the foundation to develop new tools. This allows model-based functions to be realized directly in embedded software with better code and less effort.

For this purpose, the project carried forward the idea of the very successful functional mock-up interface (FMI) model exchange standard for simulation to develop FMI for embedded systems—the new “eFMI standard.” This enables various advanced model-based approaches for control and diagnosis, such as solving a set of differential equations to compute a signal instead of measuring it via a sensor.

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For society as a whole, EMPHYSIS’ better software translates into safer and more efficient vehicles that can keep up with customer demands and help tackle climate issues in the longer term, according to Bosch.

Sources: Press materials received from the company and additional information gleaned from the company’s website.