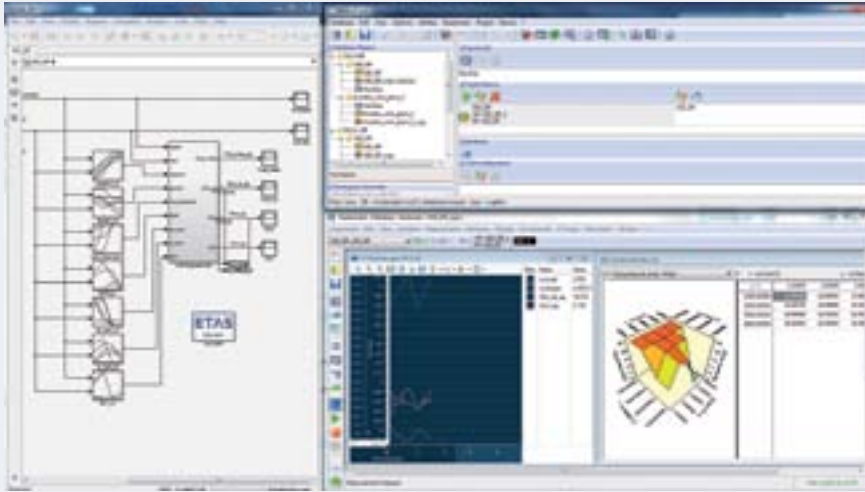


ETAS INCA-SIP

Simulink® Integration Package for INCA



Use Simulink® with INCA

Function designers as well as test and calibration engineers in automotive embedded control development require early validating, testing, and pre-calibrating of Simulink® models within ETAS INCA.

By providing a one-click connection of INCA to Simulink® models, the ETAS INCA-SIP Simulink® Integration Package enables engineers to shift tasks from the vehicle and the test bench to the desktop computer. With the INCA-SIP add-on, INCA connects to the model the same way as to a real ECU via the XCP protocol.

Measurement & Calibration of Models

INCA-SIP transfers measurement data from MATLAB®/Simulink® to INCA during simulation runtime. INCA-SIP also passes modified values of model constants or lookup tables from INCA to Simulink®. When a measurement or recording is started in INCA, the model simulation in Simulink®

is started automatically. Measurement data files or additional Simulink® plant models can be used to control the simulation.

Simulation of Models

INCA-SIP supports calibration in all Simulink® simulation modes including Normal, Accelerator, Rapid Accelerator, and Real-time Modes.

The time rasters for data acquisition of INCA-SIP can be used to separate measurement from simulation and thus maximize the simulation performance.

Co-simulation

To aid in understanding the dynamics of an embedded control system with regard to its mechanical and electrical components, it is often necessary to embed Simulink® controls into other systems simulated, e.g., with GT-POWER or FMI-solvers. INCA-SIP can directly access Simulink® control models of a co-simulation. When preparing simulation runs, a lot of time can be saved

At a Glance

Measurement and calibration access to Simulink® models and S-Functions while running simulation with Simulink®

One-click connection from Simulink® to INCA

Early validation, pre-calibration, and testing of Simulink® control models on the PC with ETAS INCA

Use of measurement data files as stimuli for the simulation

Support for Accelerator and Rapid Accelerator Mode of Simulink®

Definition of time rasters for fast simulation

Support of customer-specific modeling rules

Support for accessing Simulink® auto-coded control functions embedded into simulation systems provided by third-party tools such as GT-POWER or FMI-based functional mock-ups

Consistent use of Simulink® control models within the ETAS tool chain throughout the complete control development process

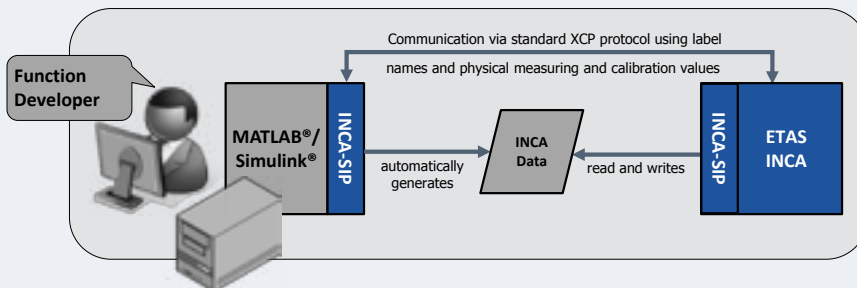
when the control parameter values of the models are modified using INCA calibration tools.

Simulink® Blockset

INCA-SIP provides a Simulink® blockset. After installation, a new menu item is

available in Simulink® which allows connecting a selected model to INCA.

When connecting to the model, INCA-SIP analyzes the model blocks and automatically generates all objects required by INCA, including the ASAP2 description and hex data files of the model parameters.



ETAS INCA-SIP connects ETAS INCA with MATLAB®/Simulink® during a running simulation. The labels and data types of the generated INCA data are determined by a parser that analyzes the model. In addition, INCA-SIP is able to consider customer-specific modeling rules.

Technical Data

System Requirements	Minimal	Recommended
Processor	1 GHz Pentium® PC	2 GHz Pentium® Dual-Core PC
RAM	1 GB	2 GB
Hard-disk free space	2 GB	10 GB
Operating system	Windows® XP SP3, Windows® 7	
Supported software	MATLAB®/Simulink® releases	2007b – 2012a

Ordering Information

Order Name	Short Name	Order Number
Product Installation Media¹		
Product installation medium for INCA (Base Software)	ISW_VLINK_PROD	F-00K-105-448
Product installation medium for INCA-SIP (Simulink® Integration Package)	ISW_SIP_PROD	F-00K-106-608
Machine-named Licenses and Service Contracts		
Machine-named license for INCA (Base Software)	ISW_INCA_LIC-MP	F-00K-105-743
Service contract for machine-named license INCA (Base Software)	ISW_INCA_SRV-ME52	F-00K-105-749
Machine-named license for INCA-SIP (Simulink® Integration Package)	ISW_SIP_LIC-MP	F-00K-106-605
Service contract for machine-named license for INCA-SIP (Simulink® Integration Package)	ISW_SIP_SRV-ME52	F-00K-106-611

¹ The product CDs containing the software installations are delivered separately from the required number of software licenses.

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