INCA V7.5-SP3 – What's New

Changes / Extensions done in this Version

ETAS

1. **Product information**
   (Use cases, Sample applications, Customer value)
   – Functionality
   – Standards
   – Usability
   – HW support
   – Add-ons

2. **INCA Product Family**

3. **Phase out information**

4. **General Notes**

Functionality

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Functionality

**J1939 Support CAN-FD as Transport Layer**

SÆ J1939

– Monitoring of CAN signals based on J1939-22

– DBC file as description format similar as for J1939-21, only the Bus Type must be given as FD

– Support of:

  – Multi-PG format with 29 Bit CAN ID

  – Multi-PG format with 11 Bit CAN ID

  – FD Transport Protocol format

Hint: As the DBC description files always contain 29 Bit CAN IDs for the J1939 protocol, the Prio and Destination from the DBC description file are treated as wildcards on receiving an 11 Bit CAN ID.
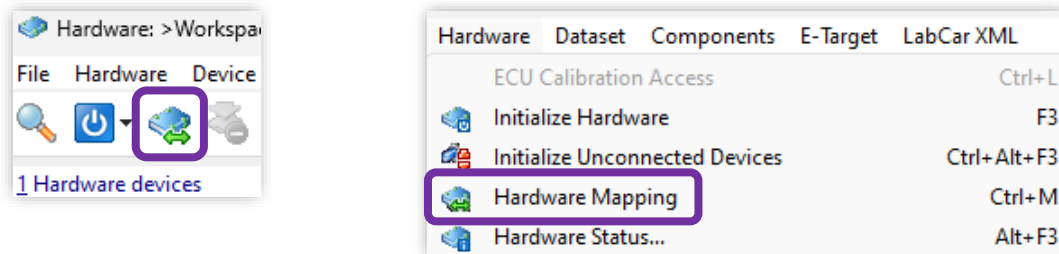
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Enhance the system mapping dialog

The mapping dialog will now only open automatically if there is at least one estimated connection and the HWC setup has changed since the last time.
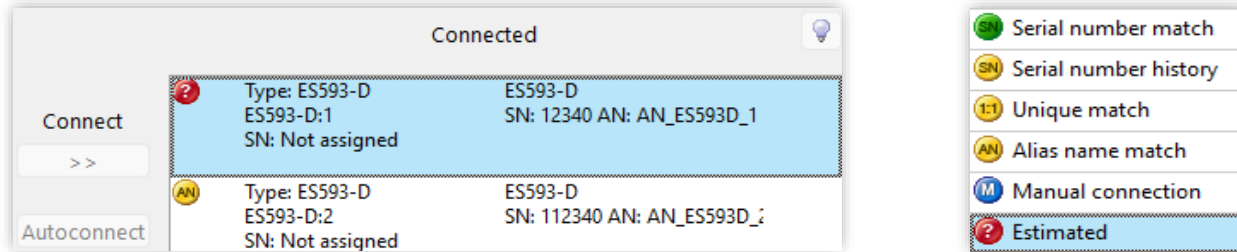
It's now possible to open the mapping dialog manually from the HWC and EE.

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COM-API – Create Empty Dataset

INCA requires a data set for calibration access. The data set contains a copy of the ECU memory segment where calibration parameters are located. If there is no HEX file to create a data set, it's necessary to have an 'empty' data set to do an upload from the ECU memory.

There is now a new COM API function **Asap2Project.CreateEmptyDataSet()** which creates an empty data set for the ASAP2 project.
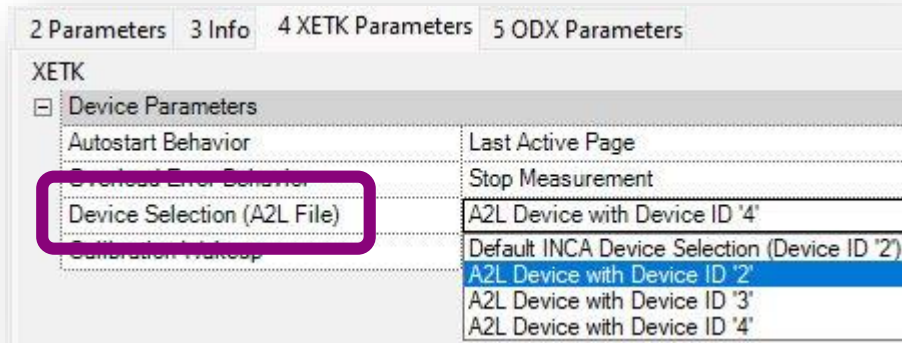
Functionality

Remove DoIP device from ETH node

Removed the DoIP device from ES886.2, ES570, VX1132, VX1135.

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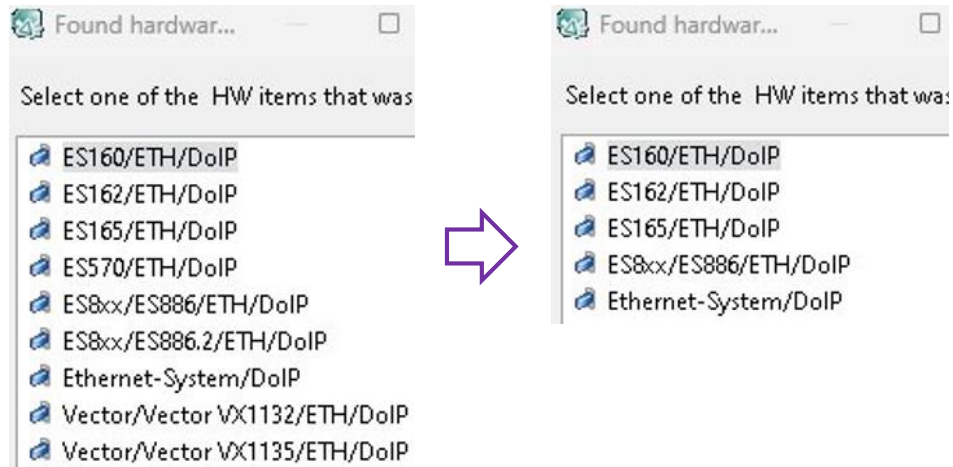
Functionality

COM-API – Change device selection (A2L file) for XETK

There can be multiple devices defined in the A2L file. INCA allows to select one of them before hardware initialization. This setting is now accessible via COM API.

Embedded UI of external config module

Link to example script and export file

Functionality

MC-Gateway – Access to Micro Processor based Control Units

Measurement of internal variables of user-applications, running in an AUTOSAR adaptive environment on a Micro-Processor

An **App** is like one µC based ECU. The **look and feel** of the MC Gateway is like normal **ETKs**

INCA V7.5-SP3 – What's New
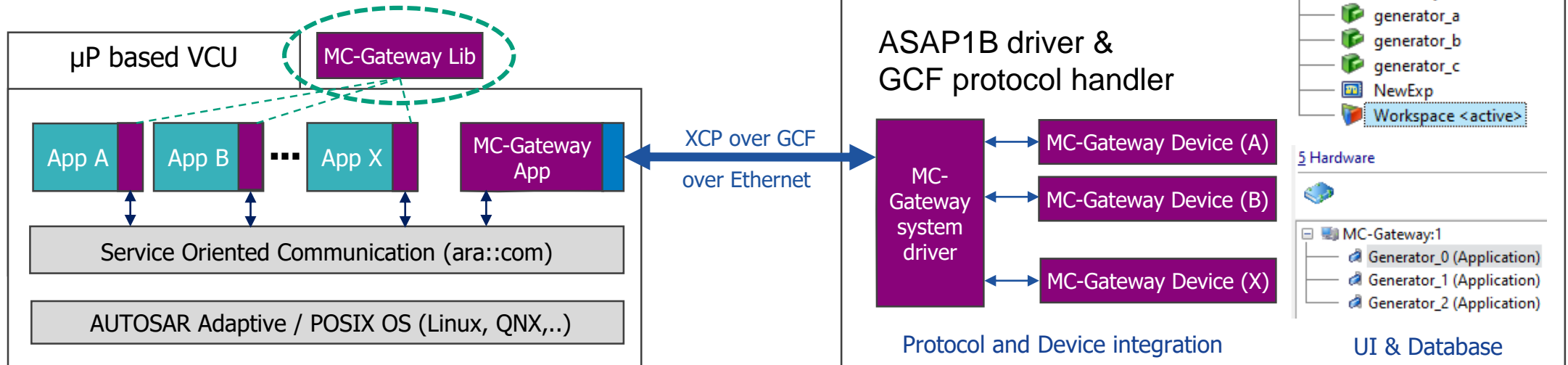
ETK – Multiple DAQs per raster

One DAQ list per raster, leads to max 255 ODTs * 252 entries = 64,260 signals / raster.

INCA supports now more than one DAQ list per raster, i.e. more than 64,260 signals / raster.

How many DAQ lists per raster are supported depends on the ETK type.

–   FETKs support 2 DAQ lists per raster

–   XETK-S10, S12, S14 support 2 DAQ lists per raster

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Functionality

AUTOSAR – Allow switching between SecuredIPdu name and ISignalIPdu name for Signals in Ethernet-Monitoring

– Extends the existing ability to customize Autosar signal names with Pdu name switching for Ethernet-Monitoring

– In case of SecOC, the extension of the signal name by the Pdu name can be switched between the name of the SecuredIPdu and the name of the ISignalIPdu.
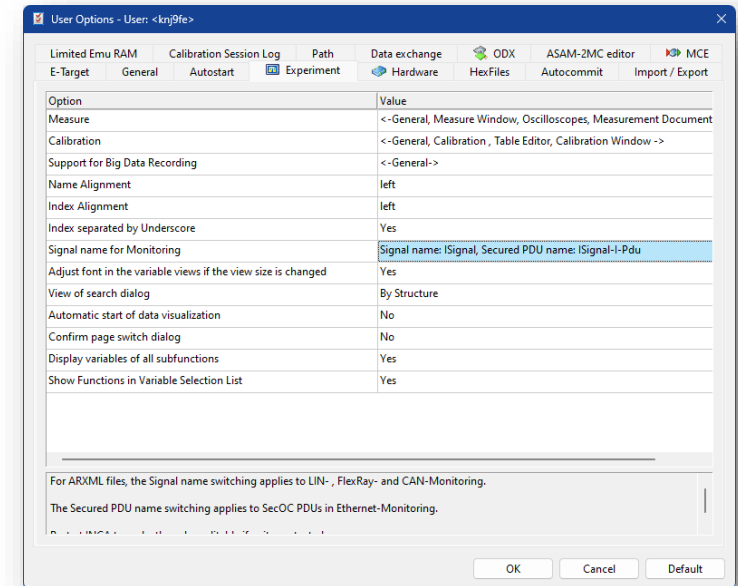
PDU and SOME/IP Monitoring on TCP/IP

Beside the already supported monitoring of UDP communication also TCP communication is supported.

```xml
<TP-CONFIGURATION>
  <TCP-TP>
    <TCP-TP-PORT>
      <PORT-NUMBER>1234</PORT-NUMBER>
    </TCP-TP-PORT>
  </TCP-TP>
</TP-CONFIGURATION>
```

– For the user, the general handling of signals from TCP is the same as that of signals from UDP.

– To synchronize to the streaming oriented TCP each received TCP frame is treated as if containing the start of a PDU at the start of the payload.
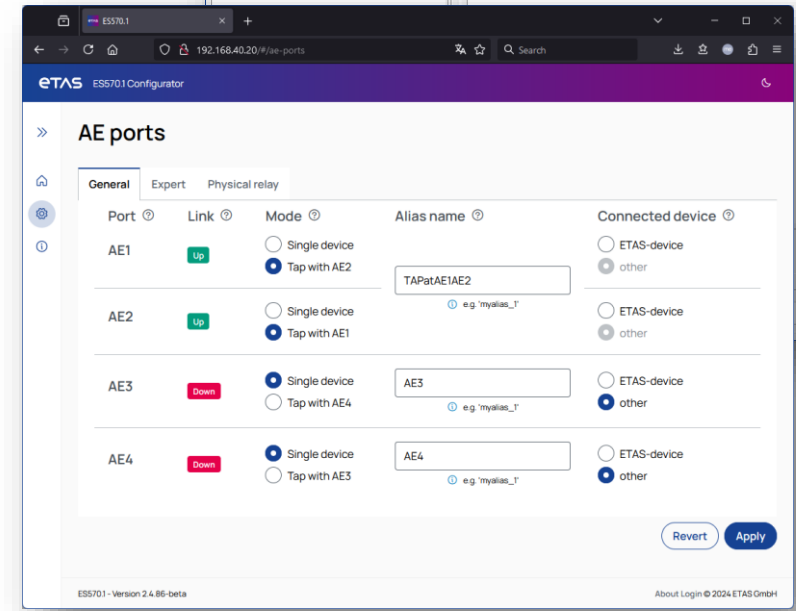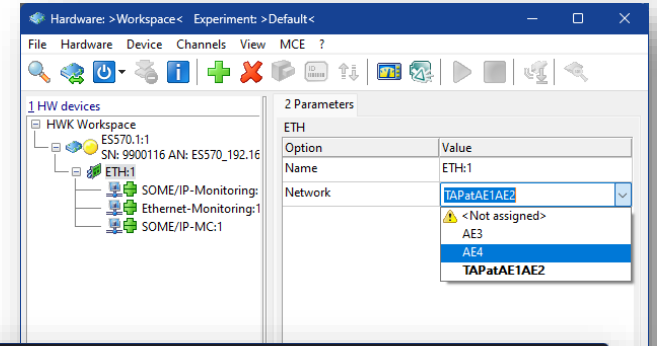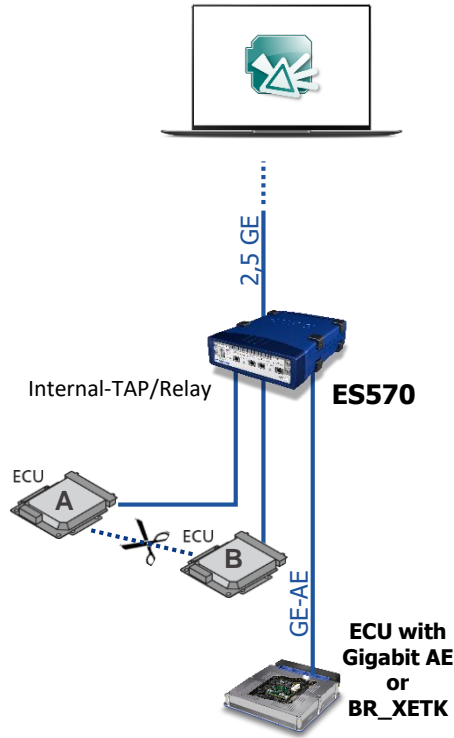
HW Support

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ES570 Support

– 4 channels Automotive Ethernet 1000Base-T1

– Configurable up to 2 TAP (with failsafe relay) on AE ports

– Time synchronization with IEEE1588

– In vehicle (TAP): IEEE802.1AS relay

– Device configuration in WebUI

– Host connection 2500Base-T

Functionality

ES134 – Integration in INCA – LIN to Ethernet

– Extends an ETAS hardware set up with 2 x LIN Channels

– Supports baud rates up to 20 kbit/sec

– FE coded Lemo connector for connection
  to ES8xx, ES5xx and ES600.2 devices

– Power and communication over the Ethernet Host cable

– Supports ETAS time synchronization mechanism

– Supports the ETAS wake up – sleep mechanism

– Firmware update possible using Hardware Service Pack (HSP)
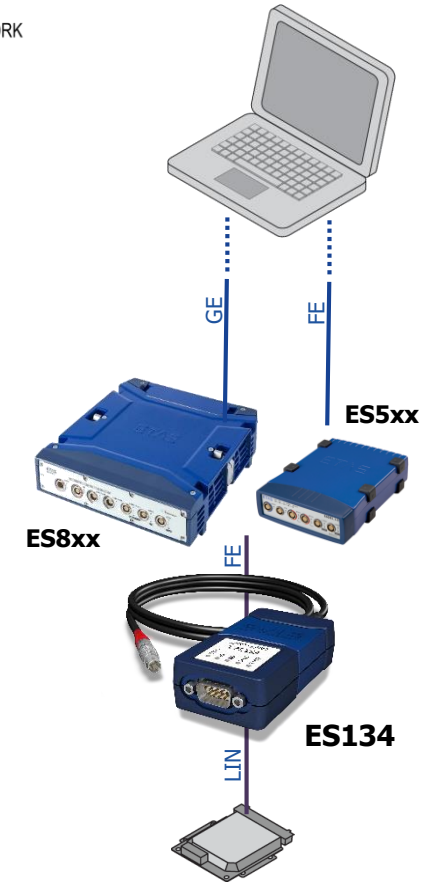
Add-ons

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Add-ons

MCE – Direct ECU access with MCE PC

MCE PC based on Linux for high speed data transfer with ASAM iLinkRT protocol

– High speed data transfer for
  – XCPonETH
  – XETK
  – FETK
– All other devices for measurement, monitoring …
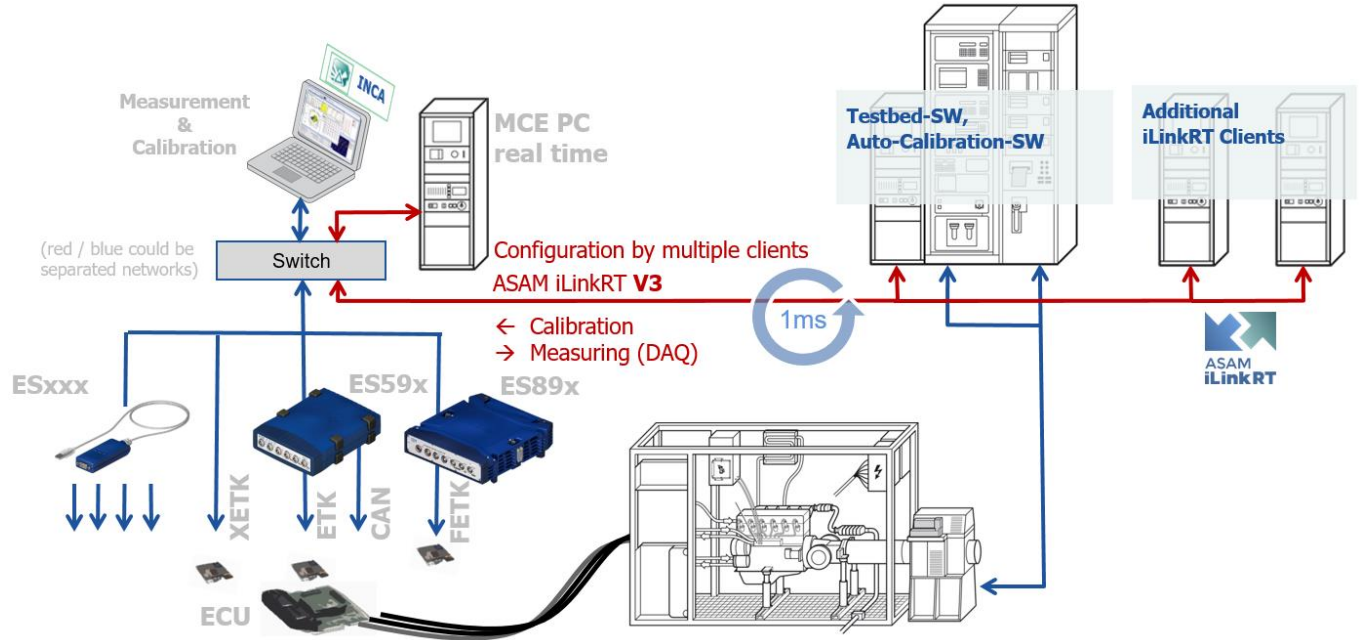 can be accessed in parallel with standard speed

Add-ons

ODX – SAEJ1979-DA 2024-04 – Updated OBDonCAN and OBDonUDS ODX projects

OBDonCAN:
- New PIDs `$DB,$DC` changed PIDs `$1C,$AD` removed PID `$CA`
- New InfoTypes `$97,$AF-$BE` changed InfoType `$A3`

OBDonUDS:
- New PIDs `$F4DB,$F4DC` changed PIDs `$F41C,$F4AD` removed PID `$F4CA`
- New InfoTypes `$F897,$F8AF-$F8BE` changed InfoType `$F8A3`

All PID and InfoType response parameters are available as measurement signals in the Variable Selection Dialog for measurement and recording with INCA.
The OBD Window displays all new data when using it with the new ODX projects.

The new ODX projects get installed with the INCA-ODX Addon into `ETASData\ODX7.5\Projects`:
- `OBDonCAN_ETAS_SAEJ1979_2024-04.pdx`
- `OBDonUDS_ETAS_SAEJ1979-2_2024-04.pdx`

To use the new functionality the new ODX projects have to be imported into INCA and assigned to a Workspace with an OBDonCAN or OBDonUDS device.

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Add-ons

MATLAB – Support of MATLAB 2024B

– INCA-SIP & INCA-MIP

INCA Product Family

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INCA Product Family

Vulnerability check

INCA is scanned for modules that INCA requires to operate. This SBOM (Software Bill Of Material) allows to check the vulnerability of the modules (material) against public vulnerability databases.

Critical modules are exchanged if improved or alternative modules are available.

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INCA Product Family

INCA V7.5 license

In order to protect our software and software updates, the products shipped in the INCA V7.5-SPx Service Pack require new licenses.

INCA base software, MDA and all Add-Ons will check for an updated version of their product license.

These license versions are required:
INCA + Add-Ons: 7.5
MDA + Add-Ons: 8.7

Customers with a valid maintenance contract are eligible to receive software updates and will get new licenses.
Please consult the ETAS License Manager documentation for instructions how to upgrade your licenses.

General Notes

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Compliance to General Data Protection Regulation

Please note that personal data is processed when using INCA. As the controller, the purchaser undertakes to ensure the legal conformity of these processing activities in accordance with Art. 4 No. 7 of the General Data Protection Regulation (GDPR).
As the manufacturer, ETAS GmbH is not liable for any mishandling of this data.

Data categories
Please note that INCA particularly records the following personal data (categories), and/or data (categories) that can be traced back to a specific individual, for the purposes of assisting with troubleshooting
– Communication data: IP address, date and time
– User data: The user's Windows UserID

Further information to this topic is available in the INCA installation handbook and the INCA online help.

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Seminars offered at ETAS Locations Worldwide or at Customer Site

Deep skills and sound knowledge are essential prerequisites for handling software tools of ever-rising complexity. Our trainers are highly experienced engineers in the field of engineering and support, who relish sharing knowledge on ETAS products and development processes. Target groups for the trainings are beginners, advanced users and those who wish to expand their existing knowledge. All trainings are offered at the ETAS Academy or on site at the customer´s. INCA Application is offered as presence or online training.

INCA – Calibration (3 days)
– Practical operation of the software and the knowledge of the INCA fundamentals
– Get to know the advantages and disadvantages of various calibration concepts
INCA - Advanced Calibration Techniques (2 days)
– Advanced functionalities in INCA, Tips & Tricks. INCA experience is required
– EHANDBOOK Navigator, INCA Flow
INCA - FLOW Coaching
– Using your own calibration tasks to see the benefits of INCA-Flow in your daily work

Some ETAS local offices have their own training programs which are specialized for the local needs. Please contact our local office of your area for the details: https://www.etas.com/en/trainings.php

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Usage of virtual PC Machines

The usage of INCA on a virtual machine (VM) is restricted and not recommended:

– The VM needs sufficient working memory (RAM), otherwise the performance of INCA goes down

– Access to sufficient graphic card memory (Direct X) is necessary, otherwise the oscilloscope representation of measurement signal is not possible

– Access to hardware interfaces Ethernet, USB, PCMCIA, … is necessary, otherwise INCA cannot use the connected hardware

– Measure samples may be lost and the accuracy of time stamps is not guaranteed as the higher task priority for hardware access (Target Server) is not given

– ETAS does no special tests concerning VM machines

ETAS recommends to use real PC hardware.

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General Notes

Minimum System Requirements
– 2 GHz Processor, 2 GB RAM, and DVD-ROM drive [*]
– Graphics: at least 1024x768, 256MB RAM, 16bit color and DirectX 9

Recommended System Requirements
– 3 GHz Quad-Core Processor, 16 GB RAM, and DVD-ROM drive [*]
– Graphics: at least 1280x1024, 1GB RAM, 32bit color and DirectX 9
– Windows 10 64Bit
– Investigation on performance showed
  – More Memory improves execution time of repetitive operations
  – SSD Hard disks improve the file access times

Supported OS
– Windows 10 64Bit Pro / Enterprise
– Windows 11 64Bit Pro / Enterprise
– Windows Server 2016 64Bit / 2019 64Bit / 2022 64Bit
– See also https://learn.microsoft.com/en-US/lifecycle/

[*] Needed for installation via DVD only
Not necessary when installing via network

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General Notes

Additionally Installed Components	INCA V7.4	INCA V7.5
.Net-Runtime-Environment	V4.8[1]	V4.8[1]
VCxRedist (Vcredist_x86 / Vcredist_x64)	VC9+VC10+VC14	VC14.38.33130.0 (or higher)
JAVA SDK Version j2sdk1.4.2_11	X[2]	X[2]
Perl V5.30.0	X	X
ETAS Certificate	X	X
Direct X	V9 (or higher)	V9 (or higher)
ETASShared	14	15
Windows 8.1 64Bit	X[3] [5]	-
Windows 10 64Bit	X[3]	X[3]
Windows 11 64Bit	X	X
Windows Server 2016 64Bit / 2019 64Bit	X	X
Windows Server 2022 64Bit	X[6]	X

[1] This component is installed only when no or an older version is installed. If a newer version is already installed, it will not be touched. This is checked by a Microsoft installation routine.
[2] This component is installed only with ODX LINK
[3] For hardware driver support see release notes
[5] .NET V4.8 needed (available from Microsoft Support .NET V4.8)
[6] beginning with INCA V7.4 SP3

Thank you!