

INCA-FLOW

Guided calibration and automation

The number of algorithms in powertrain control units is increasing all the time; in addition, the individual algorithms are also getting more and more complex. This growing complexity needs development tools to take the pressure off the calibration engineer and to make proven processes available throughout the company. That is exactly what INCA-FLOW offers. The tool provides you with graphic descriptions of calibration sequences in next-to-no time which then run on the connected infrastructure. Best practice examples are automatically documented, making them available to all employees.

Shorter development times and lower costs as well as higher, reproducible quality: this is what you get with INCA-FLOW, without needing IT skills for programming scripts. This means you can turn your full attention again to your key expertise: efficient parameterization of control unit algorithms in terms of minimizing emissions and robust onboard diagnostics (OBD), as well as optimizing fuel consumption, performance and drivability.

INCA-FLOW is distributed through IAV's cooperation partner ETAS, who also offers first-level support. We are continuously optimizing the tool, constantly adding new functions.

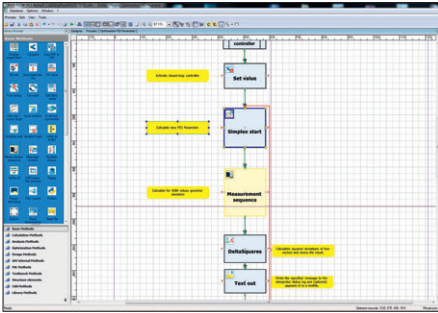
Higher quality and more efficiency through guided, automated calibration: INCA-FLOW with graphic process description automates constantly recurring calibration tasks. Process standardization of this kind lets you preserve valuable expert know-how. INCA-FLOW is the only tool of its kind that can be used throughout the entire development process with all various engineering infrastructures (including MiL/SiL, HiL, test bench, vehicle, fleet).

ETAS

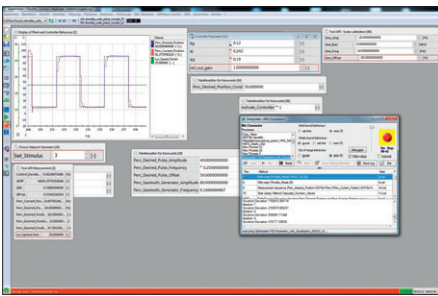


Product by IAV

One Tool for all Phases of Development



Graphic process description



Ongoing INCA-FLOW process in conjunction with INCA

Many tools are specialized for certain infrastructures and development phases, but not INCA-FLOW. It works with all development infrastructures such as MiL/SiL, HiL, test benches, vehicles and fleets. INCA-FLOW is thus your companion throughout the entire development process. All scripts can be used consistently all the time, allowing for unequivocal sharing among employees while avoiding misunderstandings when tasks are being handed over.

Graphic Process Description in INCA-FLOW

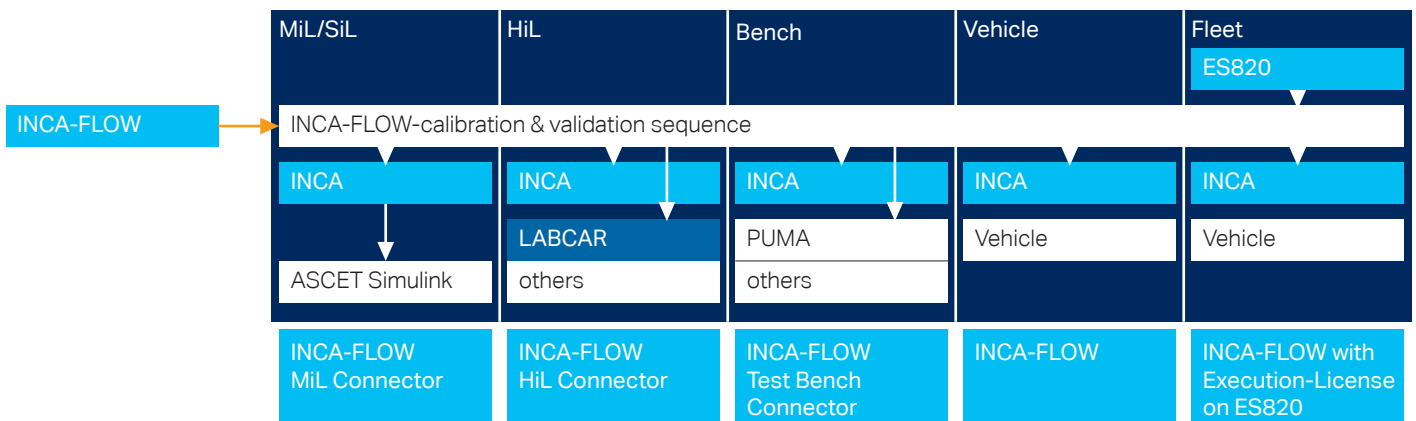
- no IT skills required, can be used intuitively (even by new colleagues)
- calibration is visualized as a flow diagram and documented automatically
- highly transparent: scripts are no longer "black boxes"
- proven processes can be reused any number of times or adapted to current needs
- more quality with greater efficiency: three to four times faster than a conventional process

Comprehensive Library with more than 100 Basic Methods, Including

- measuring and changing parameters
- data input and output
- optimization methods (e.g. Simplex algorithm)
- iteration methods (e.g. loops)
- function generators (including sine, rectangle, APRBS)
- cycle generators (e.g. FTP 75)
- mathematical methods (including FFT, filters, histograms)
- visualizations (e.g. measurement channels as a function of time, curves and maps)

INCA-FLOW's Benefits For You

- Calibration engineers generate reproducible, optimum results, even without years of experience. You also save valuable time thanks to automation.
- Executives working in calibration can make best practice examples available to the whole team. New employees are familiarized with the system in next-to-no time.
- Managers working in automotive electronics benefit from documented methods and results. Know-how management keeps expertise in your company.



Use of INCA-FLOW in all calibration infrastructures