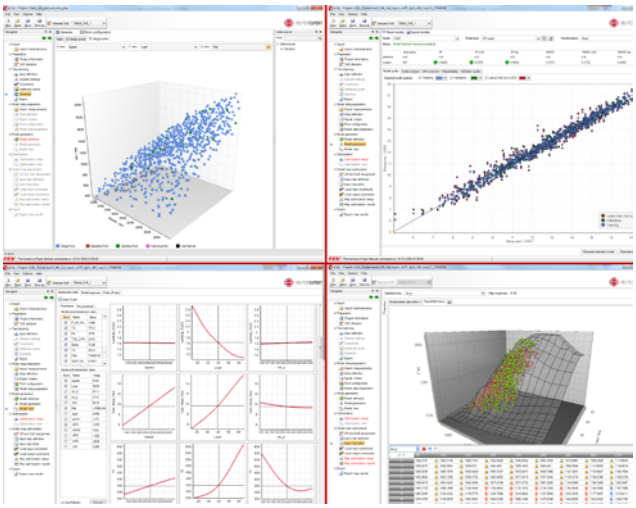
xCAL™: DoE software with global map optimization – Gaussian Process models

CALIBRATION

» DoE SOFTWARE WITH GLOBAL MAP OPTIMIZATION – GAUSSIAN PROCESS MODELS



xCAL™ is a model based calibration software that integrates the calibration knowledge of FEV into a easy-to-use tool. It can be used to model engines, transmissions or simulations and find optima or optimize calibration maps.

Benefits at a glance

- **State-of-the-art**: best in class algorithms and models (FEV patented Advanced Gaussian Process model)
- **Structured**: the workflow leads the work according to the calibration process
- **Flexible**: multiple calibration approaches available including cycle prediction capabilities
- **Integrated**: important data easily available at all times in the data tree column
- **User-friendly**: workflow based interface providing help to the calibration engineer
- **Advanced**: providing best-in-class algorithms for fast and high accuracy modeling and optimization
- **Independent:** operating efficiently all data and all results generated within the project
- **Powerfull:** possibility to optimize calibrations for multiples criteria and driving cycles
- **Open:** possibility to reuse the models and optimization results in other applications like Excel, Matlab or INCA

And also:

- Free update during the warranty year (new versions available on www.fev.com)
- Free hotline access during the warranty year
- Free blocking bugs correction

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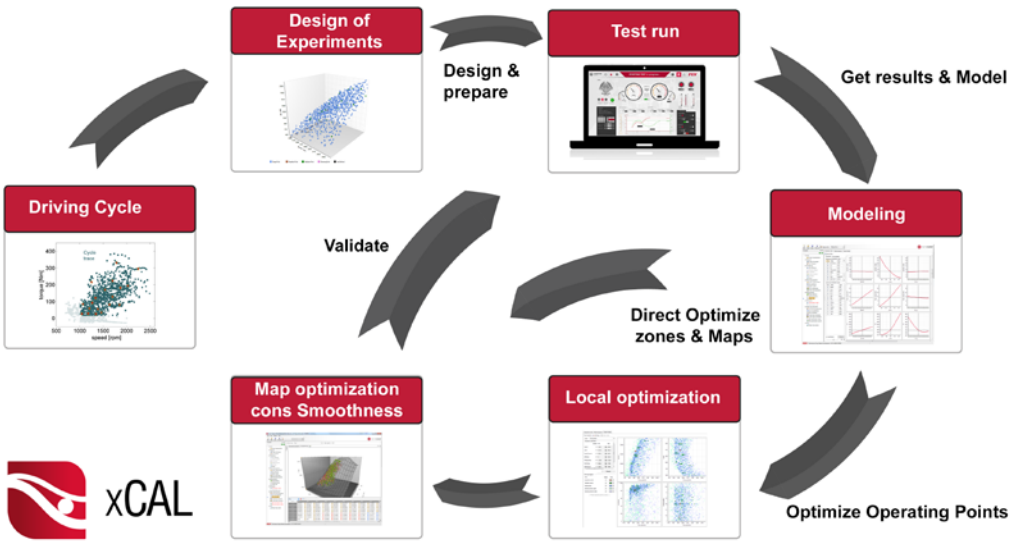
xCAL™: DoE software



Technical specifications

Item	Description
Product version	2019_02
Operating system	Windows 7 and Windows 10 (64 bits)
GUI languages	English
GUI	Workflow based platform
xCAL file format	.xml file containing or referencing all data, or zipped so the project can be shared or transferred
Data format	csv, xml, dcm, PaCo
Hardcode	Multi-threaded, multi-instance
Protection	License file or license server

The xCAL™ suite provides all necessary software functions required to prepare, analyze and export the models and the subsequent calibration of single operating points or complete calibration maps. It is based on design of experiments test runs, and supports three main approaches:

Approach	Engine responses models	Optimization and creation of calibration maps
Local DoE	Local model	Local optimization in a single operating point
Mixed	Multiple local models	Global optimization of calibration maps
Global	Global models	Global optimization of calibration maps

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