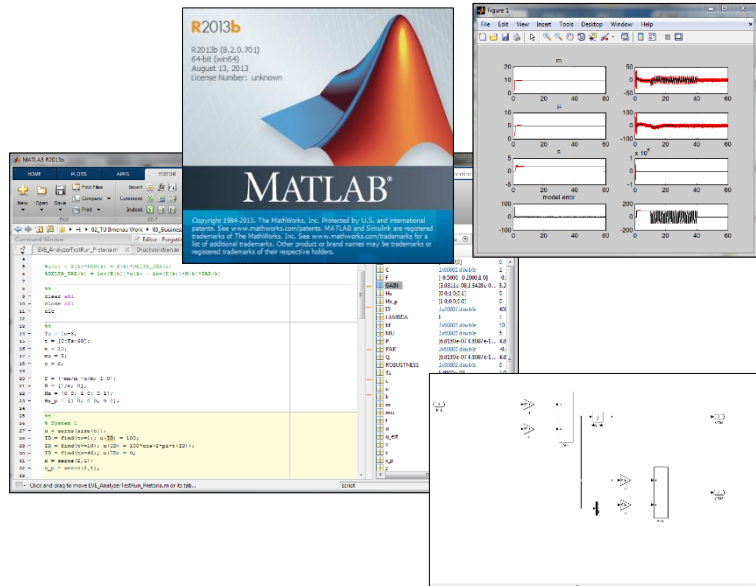## MATLAB/Simulink

Computer-algebraic solver for differential equations

Application:

- Data collection and data analysis
- Rapid Control prototyping and optimization
- Prototypical software development
- Statistics, signal and image processing
- (Co) Simulation

InMotion

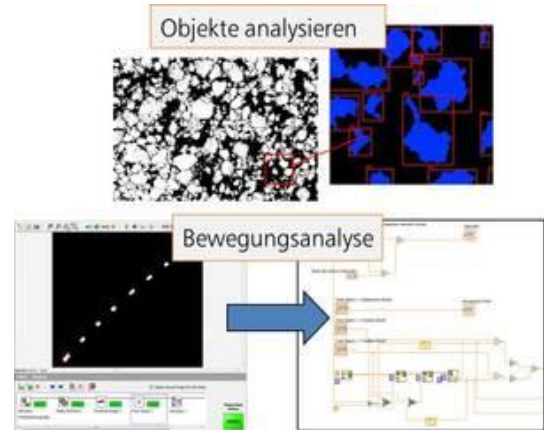Mobile real-time simulation platform with multivalent interfaces:

- Interfaces to MATLAB / Simulink, C-Code
- Communication interfaces: UDP / IP, TCP / IP, CAN, FlexRay, USB
- Application: Complete vehicle simulation (IPG CarMaker) for the representation of complex test scenarios through real-time networking

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IMAQ

- PC-based image processing
- Online and offline image analysis
- Automated image analysis using sequences
- Automatic testing of dimensional and positional deviations
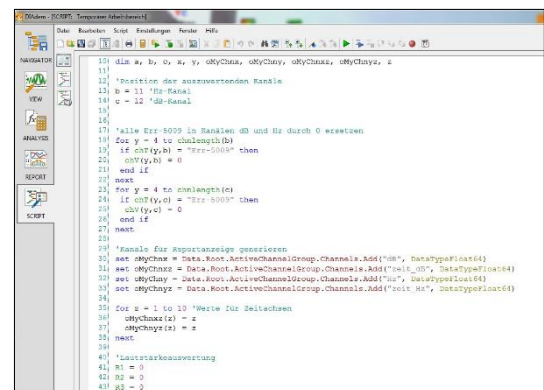- Interface to LabVIEW

IPG CarMaker

- Virtual vehicle testing in the pre-development stage
- Possibility to implement driver and vehicle models (or even individual subsystems) and related regulations
- Application: Simulations for preliminary investigation of new concepts and newly developed control systems
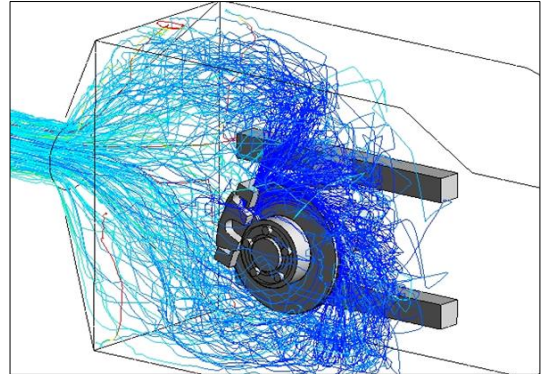

Diadem

- Creation of applications for measurement data recording
- Automated data analysis with DIAdem script
- Application: data acquisition, data evaluation

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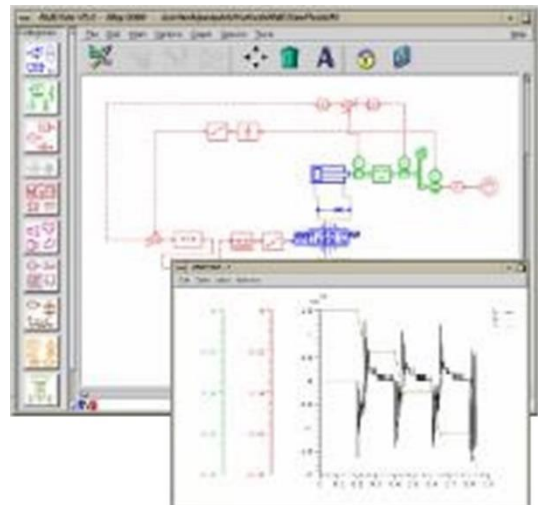
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ANSYS

- FEM software for linear and non-linear problems in the fields of structural mechanics, structural dynamics, fluid mechanics, thermodynamics, piezoelectricity, electromagnetism and combined approaches
- Application: NVH analysis / analysis of aerosol flows (fine dust emissions) / friction simulation in automotive vibration dampers

AME Sim

- Simulation of hydraulic and pneumatic systems, signal processing, fluid and heat transfer coupling
- Application: Unsteady system simulation of electrohydraulic braking systems

LabView

- Software for system development used in measurement, test, control and regulation applications
- Fast hardware access with fast insight into data
- Creation of real-time applications for measurement data and controlling processes
- Creation of executable programs in customer order (stand alone applications)
- Application: Data acquisition and control of automated systems

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