## Remote Training iGEM 2<sup>™</sup> - Automation System Basics



Date

April 6-10, 2020

Target Group The training is recommended for all employees, who have to deal with Emission Application Automation (iGEM), especially for project managers, technicians in sales, service, commissioning, engineering and development. Technicians at AVL, who need to understand demands for test systems to execute and evaluate exhaust emission test runs. Employees who need to understand the different applications and the basic structure of iGEM  $2^{TM}$ - PUMA 2 as well as the main functions.

Target

The participants understand the boundary conditions for emission testbeds and differences in application (HD/LD, Engine Testbed/Vehicle Testbed). He/she understands specifications from legislation like test cycles, exhaust gas limit definitions, requirements for device calibration and pre-setting. He/she has knowledge about possible hardware configurations and understands the software structure of iGEM  $2^{TM}$ - PUMA 2. The participants are able to execute an iGEM testrun on a pre-configured testbed and to generate a report by using the CONCERTO – iGEM Result Module

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- Definition: What is iGEM 2<sup>™</sup>
- · Differences in application
  - Hardware overview
  - Gaseous measurement devices
  - Particulate measurement devices
  - CVS

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- · IDA Integrated Driver's Aid and vehicle simulation on Chassis Dyno
- Chassis Dyno
- Role definition of emission measurement devices
- Software structure: PUMA 2 / iGEM 2<sup>™</sup> / CONCERTO and Device interfaces and communication
- Legislative demands
  - Cycle definitions for Heavy Duty / Light Duty / Vehicle
  - Stationary cycles (RMC and DMC), Transient cycles, Vehicle cycles
  - Calibration / adjustment / leak check / hang up check...
- Basic calculations: Raw evaluation, diluted evaluation, regression analysis ...
- Basics structure of iGEM 2<sup>™</sup> testruns
  - Basic OperatiExecution of pre-defined testruns
  - Generating a report with CONCERTO EMA work environment