

# imc MOTION

Solution for determining dynamical parameters on rail vehicles



From sensor technology to data acquisition and analysis

## Fast track to efficiency

### Measuring braking and acceleration on trams

To ensure that passengers can safely and comfortably travel from point A to point B, trams must undergo extensive testing before they can go into operation. This is especially important when testing brake performance. The test and measurement technology manufacturer, imc, together with the sensor specialists, Kistler, are offering a complete solution.

imc MOTION enables:

- Brake measuring (according to § 36 BOStrab)
- Acceleration measuring
- General measuring
- Sensor calibration

Non-contact optical sensors and GPS sensors convey the displacement and speed signals to the imc measurement device. The measurement device, then, transmits the data via WLAN to a mobile tablet (or PC). The user can operate the software interface for data visualization and analysis with touch screen functionality. The software guides the user through the entire process - from specifying test information (test object, route condition, test type, user name, etc.) and measurement value recording - all the way to creating test reports.

#### Brake measuring

Brake component testing is based on the provisions adopted by legislature in accordance with § 36 of the regulation on the construction and operation of trams (BOStrab).

Vehicle behavior can be measured, analyzed, and documented in the following scenarios:

- Operational or standard in-service braking
- Emergency braking
- Testing of rail/slipper brakes (independent of wheel braking)
- Braking failures

#### Acceleration measuring

Starting from a predetermined starting speed, the measurement device calculates the acceleration up to a predetermined maximum speed.

Through multiple measurements during the testing process, the program automatically detects displacement, time and acceleration values. Tabulated values can then be exported as a measurement protocol via PDF.

#### General measuring

This component allows for the recording of measurement data and its visual evaluation. Using the imc curve window, the data can be compared, measured, labeled and represented in a variety of different ways.

#### Sensor calibration

By design, it is sometimes necessary to balance displacement sensors. The system allows for the calibration of these sensors based on defined displacement information.

imc MOTION is specifically designed for manufacturers of trams, transportation companies and other users. Both the measurement hardware components and software are modular and expandable to meet customer needs.

