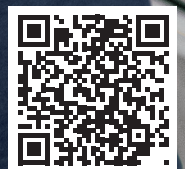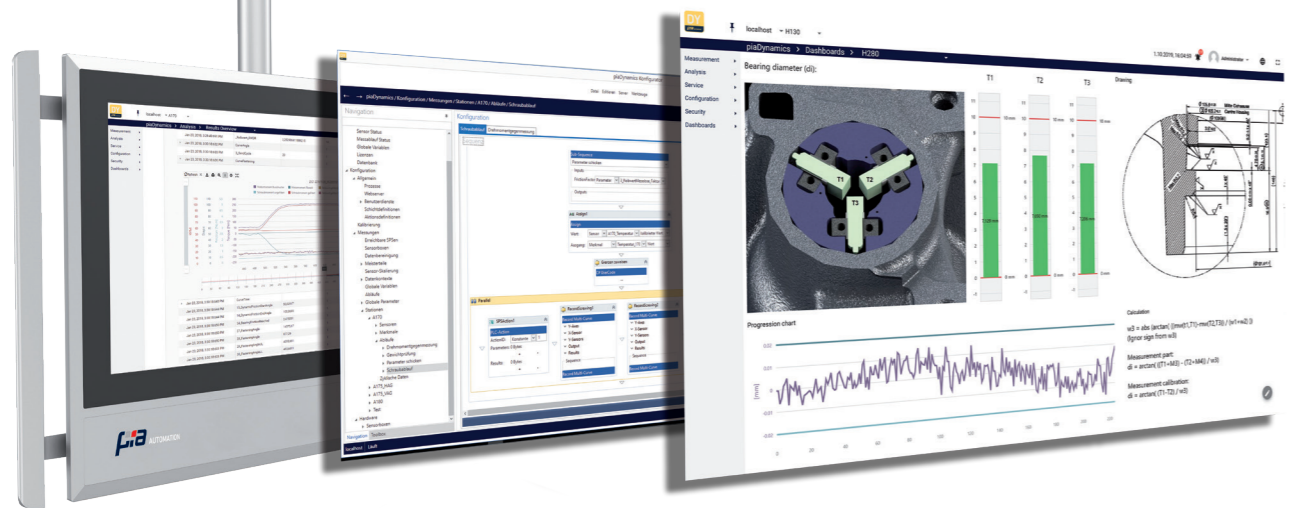DY
pia AUTOMATION

pia AUTOMATION

HIGH-END MEASUREMENT SYSTEM

piaDynamics

The innovative, hardware independent, measurement system for industrial measurement applications.

PIA 4.0 - MAKING BIG DATA SMART

piaDynamics

HIGH-END MEASUREMENT SYSTEM

DY PIA AUTOMATION

piaDynamics, a component of PIA industrial app suite, is an innovative, hardware independent, high-end measurement system for industrial measurement applications, reflecting PIA's long-standing experience.The combination of intuitive software and flexible hardware makes piaDynamics unique. The core functionality is visualization of user interfaces for measurement machines as well as the digitalization, scaling and calibration of sensor signals. The processing of sensor values follows a configurable algorithm ("configuring" instead of "programing") and measurement results are graphically represented. The measurement data is archived in a database allowing process monitoring using different statistic features on actual and historic data.

The Software was implemented using newest web-technologies as well as a server-client model, with the possibility of customization of individual requirements. This makes our measurement system ready for challenges in the area of industry 4.0. Remote access from different devices via web-browsers is also possible. Extensive calibration methods, quality control charts and analysis functions with export possibilities (e.g. Q-DAS, MS Excel, Graphic files etc.) are helpful tools for quality managers. The statistic and trend functions for process analysis can be visualized with different chart types (bar-, line-chart etc.) and tables with drill down possibility. Measurement engineers can use the graphical sequence editor to build or change measurement sequences easily. A User-code-editor (C#) allows comfortable implementation of complex measurement algorithms. Every parameter change of a user is tracked and represented in the change log screen. In the security section customized user and user groups can be created with different access rights for each operator. Easy and quick system recovery and replacement of components are enabled through various automated backup and restore possibilities. With this variety of features and functions, piaDynamics is indispensable for all measurement applications.

CUSTOMER BENEFITS:

- Reduction of reject rate
- Intuitive detection of systematic deviation from measured values
- Simple analyses of the measurement process
- Higher transparency in the production

PRODUCT CHARACTERISTICS:

- Remote access over web-browser
- Simple editing of measurement sequences
- Graphical analyses and statistics with trend
- Logging of parameter changes
- Flexible Interface creation
- Export to various data format
- Decentralized data collection
- User login over password, domain or PLC
- Backup and restore functionality
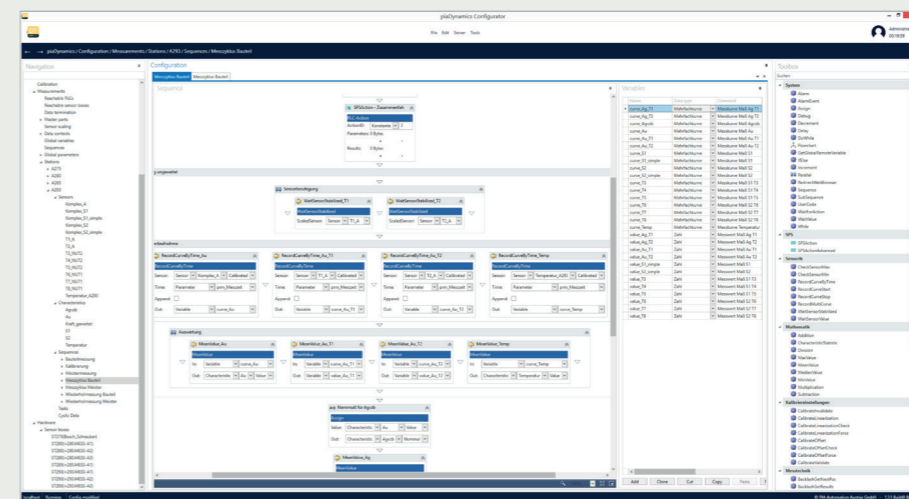- Extensive calibration-methods
- Etc.

RANGE OF APPLICATION:

- Length measurement
- Force measurement
- Torque measurement
- Circumferential backlash measurement
- Tooth impact testing
- Tangential composite and radial composite Inspection
- Pinion nut tightening
- Shim thickness measurement with shim management
- Etc.

REFERENCES

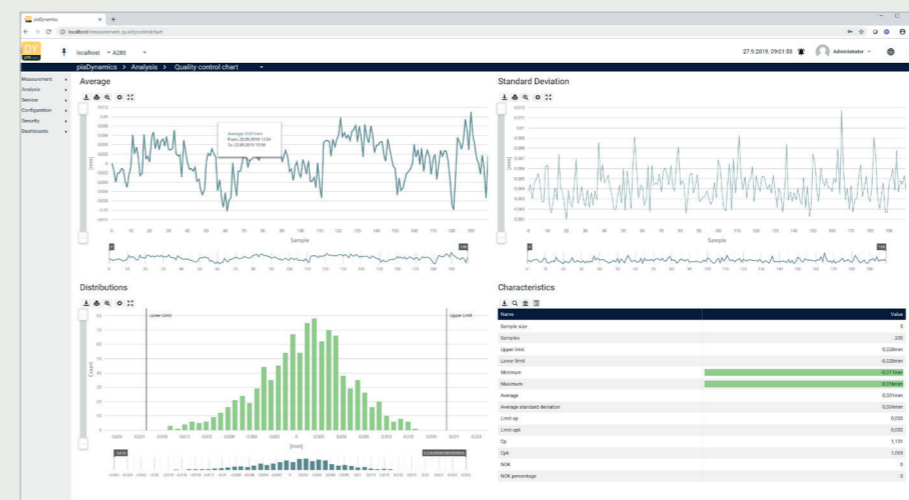AMERICAN AXLE & MANUFACTURING · BMW · Mercedes-Benz · thyssenkrupp · ZF

CONFIGURATION OF THE MEASUREMENT

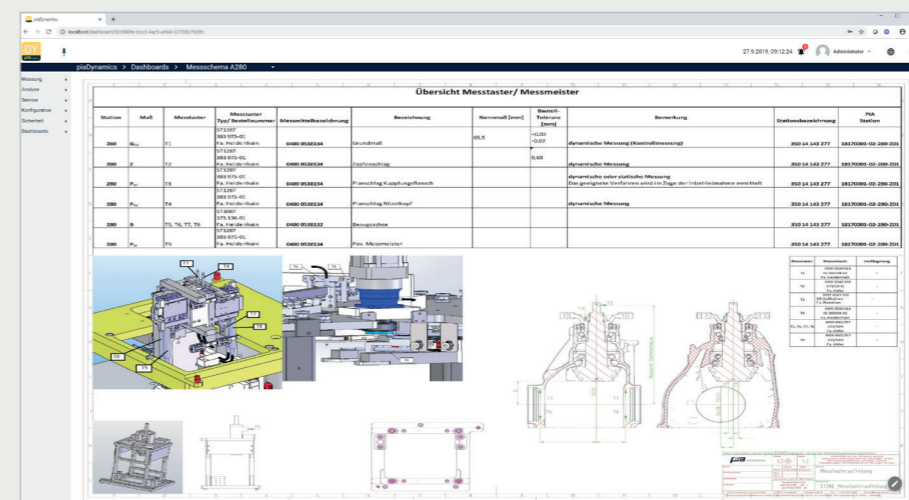The **configurator** allows an intuitive configuring and parameterizing of the hardware incl. online-status. In addition, test plans, measure- and calibration- sequences could be created and changed with a graphical editor without programming knowledge. An extensive function- library (toolbox with drag- and drop- function) helps to create complex measuring- sequences. A text- editor can apply customized algorithm.

REPRESENTATION OF MEASUREMENT RESULTS AND ANALYZE METHODS

The **web-visualization** including extensive analytics- and statistical functions (quality control chart, measurement statistic, detailed results, measuring curve etc.) is intended for monitoring the product quality. Warnings and events are displayed in plain text with a record history. An online hardware-status and a real time display of sensor values makes troubleshooting easier. Parameter- changes are applied according to user authorization and would be logged.

INDIVIDUAL PROCESS INTERFACES (DASHBOARD)

The **dashboard**- functionality, enables a freely editable interface to display pictures, instructions, and concepts. Widget elements for images, texts, sensor live values, measured value history, etc. can be selected from a library, parameterized and placed anywhere on the dashboard.

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At its locations in Germany, Austria, Croatia, China, Canada and the US, PIA Automation offers a mature range of products and solutions for assembly and automation systems as well as reliable worldwide service.

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