Test systems from PIA Automation are used in the field of powertrain as well as in the wide spectrum of e-mobility. At PIA we set high standards in precision and quality. Our portfolio ranges from complete end-of-line test fields to inline testers integrated throughout our assembly process. Independently of fully automated test concepts with low cycle times, PIA's product and service range also covers the development and manufacture of audit test benches with maximum product flexibility.

In the field of automated assembly and testing of automotive products PIA's wealth of experience is up for the task. For special testing tasks such as NVH or machine vision PIA Automation can help. Using our in-house team of testing experts we will work with you to provide a sound solution that meets your needs!

#### ADVANTAGES
- Wide range of applications (stand-alone, inline, interlinked test facilities)
- Flexible loading systems (manual, handling, robot, transfer) for scalable expansion stages
- Optimal interaction with our industry 4.0 solutions
- Development, production, support and know-how from one-provider (One-stop shopping)

#### EXAMPLES OF USE
- Flashing of specific test or final control unit software
- Static and dynamic electrical tests (e.g. insulation and resistance, voltage, current, ...)
- Counter measurement and calibration (e.g. torque transmission, couplings, resolver offset currents, ...)
- Functionality tests (parking lock, disconnect unit, differential lock, ... and their characteristics)
- Measurement of structure-borne noise (NVH) and airborne noise
- Rotational acceleration test
- Performance checks
- Simulation of electrical components (e.g. battery, motor, resolver and inverter)
HIGH SPEED MEASUREMENT TECHNOLOGY
The use of industry-proven measurement technology from various manufacturers such as National Instruments, HBM or Beckhoff, offers a highly accurate and channel-spanning time-synchronous measurement (t < 1 µs) at sampling rates up to 1M samples/s.

VEHICLE COMMUNICATION
PIA relies on established products from Vector, such as the Compact IPC VN8900 with the CANoe software package, which can be integrated into all control systems and bus systems (such as CAN, LIN, FlexRay or AUTOSAR). CANoe supports not only the test of network functions but also error memory functions or updates of all control and software packages are available as test steps.

CONFIGURABLE TEST PROCEDURES
With National Instruments, our customers can test and create test sequences from a library with PIA's assemble and parameterize function modules. The user-friendly interfaces are optimized for the use of test systems within production environments.

REPORTING AND ANALYSIS
National Instruments has expandable plug-ins for report generation, logging in databases and connection with other company-wide systems. The user interfaces of the PIA EOL tester can generate both live displays for test results and output characteristics, as well as functions for the analysis of historical measurement curves and evaluation.

ADVANTAGES THAT GIVE A COMPETITIVE EDGE
PIA INDUSTRIAL APP SUITE
As with other goals, we at PIA understand improvement of the OEE, the increase of the production quality or an even more flexible and transparent production planning is important. With the help of Artificial Intelligence (AI), for example, correlation analyses between the test bench and production line is carried out. Subsequently, based on the results obtained, the “OK rate” is optimized, thereby increasing output and reducing costs for the manufacturer.

END-OF-LINE TEST BENCHES
- Insulation tests, power measurement, current calibrated function tests etc.
- Noise measurement, clutch testing, differential testing etc.
- Actual measurement, performance test, disconnected axle testing, function tests, Failsafe tests etc.
- Resistance tests, insulation tests, dielectric test, resolver offset measurement etc.