

AHP QC Lab Platform

Description

AHP PLASTIK MAKINA

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TESTING
MEASUREMENT
A BETTER TOMORROW

SOFTWARE

TESTING

AUTOMATION

QUALITY CONTROL

FOR A
STRONGER
INDUSTRY

AHP QC Lab Platform

Universal Software Platform for Industrial Quality Control & Laboratory Automation

Connect Instruments. Automate Tests. Manage Data. Control Quality.

Instrument Integration

Real-Time Monitoring

Automated Test Sequences

Centralized Data

Professional Reports

Modular & Expandable

From a Single Instrument to a Connected Laboratory

One Platform. Unlimited Possibilities.

A SOLUTION FOR MANY INDUSTRIES

The AHP QC Lab Platform is designed for quality control and laboratory applications across a wide range of industries.

Plastics & Polymers

Pipe & Fittings

Packaging & Film

Automotive

Metal & Manufacturing

Rubber & Elastomers

Construction Materials

Electrical & Electronics

Chemical & Petrochemical

R&D Laboratories

And Many More ...

Data Acquisition
Measure and record multiple parameters in real time.

Automated Testing
Run test sequences with minimal operator intervention.

Data Management
Store, search and organize all test results in one place.

Report Generation
Create professional reports automatically.

Standards Based
Support for ISO, ASTM, EN, DIN, IEC and custom methods.

Scalable Solution
From a single machine to a complete laboratory.

Customizable
Flexible modules for different applications.

MODULAR ARCHITECTURE BUILD YOUR LABORATORY YOUR WAY

Add the modules you need. Expand as your testing requirements grow. From a single sensor to a complete quality control laboratory.

Explore the Platform →

OPEN FOR INTEGRATION

Compatible with AHP equipment and third-party instruments.

PARTNER WITH US

Let's Build a Stronger Laboratory Ecosystem Together.

We are looking for collaboration with manufacturers and suppliers of laboratory and testing equipment who are interested in integrating their instruments with the AHP QC Lab Platform.

- ✓ Expand Your Market Reach
- ✓ Integrate Your Instruments
- ✓ Create Added Value for Your Customers
- ✓ Be Part of a Growing Ecosystem

For collaboration inquiries please contact us:

info@ahp-makina.com

We look forward to working together for a smarter and more connected laboratory future.

Universal Software Platform for Industrial Quality Control & Laboratory Automation

Connect Instruments. Automate Tests. Manage Data. Control Quality.

AHP PLASTIK MAKINA is developing a new generation software platform for **industrial quality control, laboratory testing, measurement, data acquisition, process monitoring and laboratory automation**.

The **AHP QC Lab Platform** is designed around a simple concept:

One flexible software ecosystem capable of working with different laboratory instruments, testing machines, sensors, measurement devices and quality control processes across multiple industries.

The platform is not intended for one particular test method, one type of material, or even one specific industry.

It is being developed as a **universal and modular software architecture for industrial laboratories and quality control departments**.

Beyond Material Testing

Industrial quality control involves much more than mechanical or material testing.

Modern laboratories work with a wide range of instruments measuring physical, mechanical, thermal, electrical, chemical and environmental properties.

Different instruments may generate:

- Measurement values
- Test curves
- Temperature profiles
- Pressure data
- Force and displacement data
- Electrical signals
- Sensor readings
- Images
- Process parameters
- Pass / Fail results
- Statistical information
- Calibration data
- Test reports

The AHP QC Lab Platform is being developed to provide a common environment where these different sources of laboratory information can be **acquired, processed, displayed, stored and reported**.

Designed for Different Industries

The modular architecture makes the platform suitable for quality control and laboratory applications across a broad range of industries, including:

Plastics & Polymers

Mechanical, thermal, physical and processing-property testing of raw materials and finished products.

Pipe & Fitting Industry

Pressure, dimensional, mechanical, thermal and long-term performance testing.

Packaging & Film

Tensile, friction, puncture, tear, thickness, optical and other packaging quality measurements.

Automotive

Component testing, material characterization, dimensional inspection, durability testing and quality control.

Metal & Manufacturing

Mechanical testing, dimensional measurement, process verification and production quality control.

Rubber & Elastomers

Mechanical, aging, hardness and physical property testing.

Construction Materials

Testing and quality control of construction products, insulation materials, membranes and related products.

Electrical & Electronics

Environmental, thermal, electrical and safety-related laboratory measurements.

Chemical & Petrochemical Industries

Laboratory measurement, sample testing, process-related QC data acquisition and result management.

Research & Development Laboratories

Flexible measurement and data acquisition systems for experimental and customized testing applications.

And many other industrial laboratory environments.

Connect Different Laboratory Equipment

One of the fundamental objectives of the platform is **hardware independence**.

Depending on the application and available interface, different equipment may be integrated into the software ecosystem.

This can include:

Testing Machines

Laboratory Instruments

Temperature Controllers

Pressure Controllers

Load Cells

Pressure Transducers

Displacement Sensors

Temperature Sensors

Digital and Analog I/O Devices

Data Acquisition Hardware

PLCs

Industrial Controllers

Measurement Instruments

Custom-Built Laboratory Equipment

The objective is to create a software layer between laboratory hardware and the laboratory's data and quality management processes.

Modular Architecture

Every laboratory is different.

For this reason, the AHP QC Lab Platform is being developed using a modular architecture rather than a fixed software structure.

A laboratory may require only one measurement module, while another facility may operate dozens of instruments and testing stations.

Modules can be developed for individual machines, instruments or testing processes while operating within the same general software ecosystem.

This provides a foundation for both **standardized applications and customized laboratory automation projects.**

Real-Time Data Acquisition

The platform is intended to acquire and process measurement signals directly from connected equipment.

Depending on the application, these may include:

Force • Pressure • Temperature • Displacement • Speed • Time • Flow • Torque • Electrical Signals • Digital Inputs • Analog Measurements • Environmental Parameters

Measurement data can then be processed, visualized and stored according to the requirements of the individual application.

Real-Time Monitoring & Visualization

Operators need to understand what is happening during a test or measurement process.

The platform is therefore being designed to support real-time visualization through:

- Numerical indicators
- Live graphs

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- Test status indicators
 - Alarm conditions
 - Process parameters
 - Machine status
 - Measurement channels
 - Test progress
 - Operator notifications

Different user interfaces can be developed according to the requirements of each laboratory instrument or process.

Automated Test & Measurement Sequences

Many laboratory procedures consist of repetitive steps.

The platform is intended to support automated sequences where the software can control the progression of a test or measurement procedure.

Depending on the application, this may include:

Start Test â†’ Control Equipment â†’ Acquire Measurements â†’ Monitor Conditions â†’ Detect Events â†’ Calculate Results â†’ Store Data â†’ Generate Report

Automation can reduce operator intervention and improve consistency between repeated tests.

Centralized Laboratory Data

Connecting equipment is only part of the objective.

The second major objective is to create structured laboratory data.

Test and measurement records may contain:

- Product information
 - Batch or lot number
 - Sample identification
 - Customer information
 - Operator
 - Machine or instrument
 - Test procedure
 - Applicable standard
 - Test parameters
 - Raw measurement data
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- Calculated results
- Graphs
- Acceptance limits
- Pass / Fail status
- Date and time
- Notes and observations

This creates a digital history of laboratory and quality control activities.

Automatic Calculations & Result Evaluation

Raw sensor values are not always the final laboratory result.

Different applications require mathematical calculations, corrections, conversions and acceptance criteria.

Individual modules can therefore be designed to automatically process acquired data and calculate the required test results.

Where applicable, predefined limits can also be used for automatic **Pass / Fail evaluation**.

Automatic Laboratory Reports

Test results can be converted into standardized reports containing the relevant laboratory information.

Reports may include:

Company & Customer Information

Product / Batch / Sample Identification

Testing Equipment

Test Method or Standard

Measurement Conditions

Test Results

Graphs

Acceptance Criteria

Pass / Fail Status

Operator Information

Date & Time

This reduces repetitive manual reporting and helps maintain consistent documentation.

Standards-Based and Custom Testing

Industrial laboratories operate according to many different requirements.

These may include internationally recognized standards such as:

ISO • ASTM • EN • DIN • IEC • TAPPI • BS

as well as:

- Internal company procedures
- Customer-specific test methods
- Production QC procedures
- R&D procedures
- Customized acceptance criteria

The platform architecture is intended to accommodate both **standardized and custom test procedures**.

From a Single Instrument to an Entire Laboratory

A key principle behind the AHP QC Lab Platform is scalability.

The same concept can be applied to:

One Sensor

One Testing Machine

One Laboratory Instrument

Multiple Testing Stations

A Complete Quality Control Laboratory

This allows laboratories to start with individual applications and expand their digital infrastructure over time.

Integration with Existing Equipment

A laboratory should not necessarily have to replace its existing equipment in order to modernize its software infrastructure.

Where technically possible and where suitable communication interfaces are available, the platform architecture can be adapted for integration with **existing laboratory equipment and third-party instruments**.

This opens the possibility of bringing both new and existing equipment into a more unified digital laboratory environment.

Laboratory Automation Without Being Locked to One Industry

The AHP QC Lab Platform is not being developed around a single machine.

It is not being developed around a single material.

And it is not being developed around a single industry.

It is being developed around **measurement, testing, automation and quality control**.

This makes the architecture applicable to a much broader range of industrial laboratory environments.

Building the Digital Quality Control Laboratory

The long-term vision of the project goes beyond controlling laboratory equipment.

The platform architecture is being developed with future expansion in mind, including possibilities for:

Centralized Laboratory Management

Multi-Instrument Monitoring

Laboratory Database Systems

Network Connectivity

Remote Monitoring

Statistical Quality Control

Automatic Report Generation

Production and Batch Traceability

Laboratory Information System Integration

ERP / MES / LIMS Connectivity

Advanced Data Analysis

Intelligent Alarm and Anomaly Detection

AI-Assisted Laboratory Data Analysis

The objective is to create a foundation that can evolve together with the digital transformation of industrial quality control.

Hardware + Software + Laboratory Automation

For many years, AHP PLASTIK MAKINA has developed testing equipment, measurement systems and dedicated control software for industrial testing applications.

The next step is to bring these capabilities together within a broader software architecture.

AHP QC Lab Platform

A Universal Software Ecosystem for Industrial Quality Control, Testing, Measurement and Laboratory Automation.

From a single measurement channel to a connected industrial laboratory.

One Platform. Unlimited Applications.

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The AHP QC Lab Platform is currently under development. Available modules, supported hardware interfaces and individual functions may vary according to application and project requirements.

Category

1. Technology

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