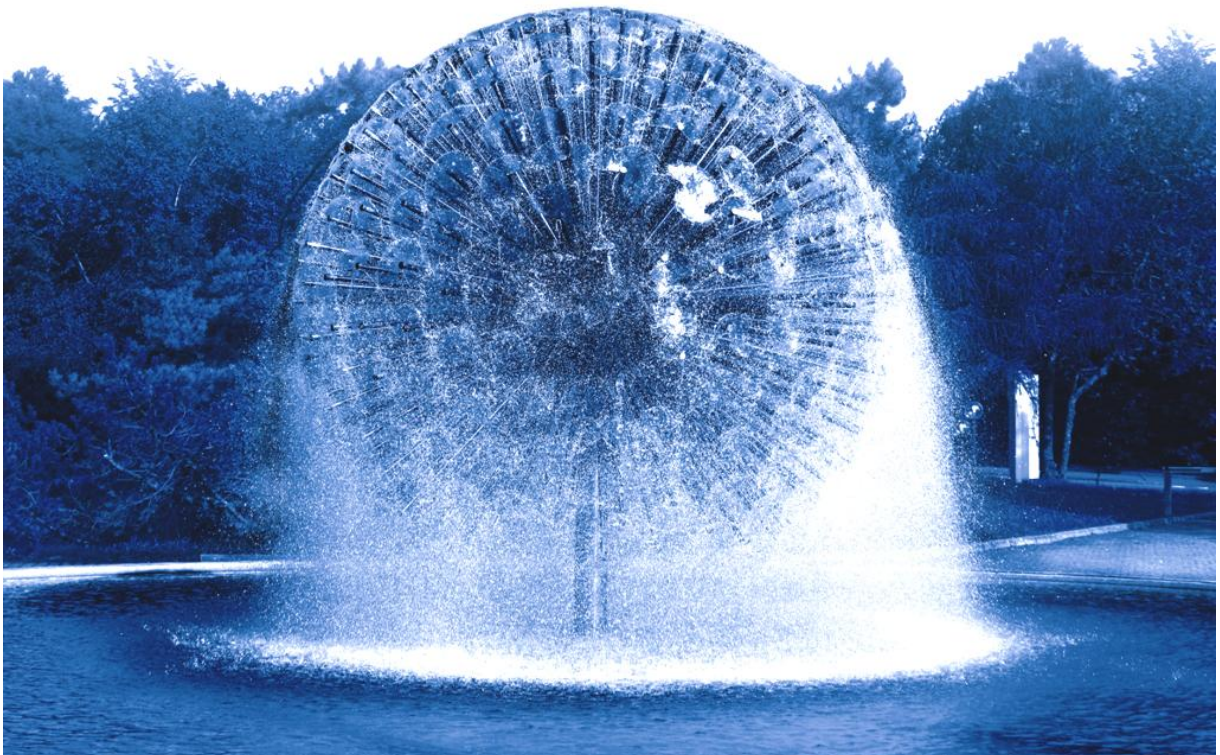




www.pie.ch

PI Electronics AG



Company

PI Electronics AG was founded 1995 by a group of former ABB researchers and engineers. Our corporate offices and labs are located within the premises of ABB's Corporate Research center in Baden-Dättwil, Switzerland. We develop, supply and support instrumentation equipment for ongoing projects and test rigs for ABB at various locations. We also offer our competence and services in hard- and software engineering as well as system integration to customers outside the ABB Group. PI Electronics AG offers complete, customized turnkey solutions as well as subcomponents in the field of data acquisition, process control and supervision systems. Our portfolio includes customer training, customer support and consulting.

Distinctive history

Prior to 1995 we were part of the Electronics & Measurement Department of ABB Corporate Research in Baden-Dättwil and as such we were supporting the ambitious and challenging work of many researchers and physicists. The very first controllers for LCD panels, smart data acquisition with PDP-11 computers, development of complex test rigs for structural monitoring by holography, the world's first electronic current transformer for use directly on the HV transmission line - these are just few keywords illustrating our broad field of activity in the past.

Providing electronic instrumentation to measure phenomena in plasma physics and high voltage labs required in-depth knowledge about electromagnetic compatibility (EMC) long before this field of expertise came into the focus of new EMC regulations worldwide. Our extensive use of fiber optic sensing and transmission technologies during the "early days" is one example showing that we constantly strive to integrate leading edge technologies into our solutions.

Today's challenges

Computer based data acquisition and process control solutions have found their way into most areas of industrial applications due to the development of real time operating systems. High data acquisition rates, the steadily increasing processing power of computers, new network topologies and excellent software tools put seamless and comprehensive process monitoring at the process engineer's finger tip. However, increasing complexity of automation and process control tasks rises the expectations towards measurement and test engineers, operators and system integrators alike with respect to data integrity and control system reliability. PI Electronics is committed to provide highest quality instrumentation for all kinds of industrial processes.

Our customers

Our customers expect hardware and software solutions that meet the highest standards for reliability and safety. We are proud to provide solutions that exceed common off-the-shelf standards.

Partnership

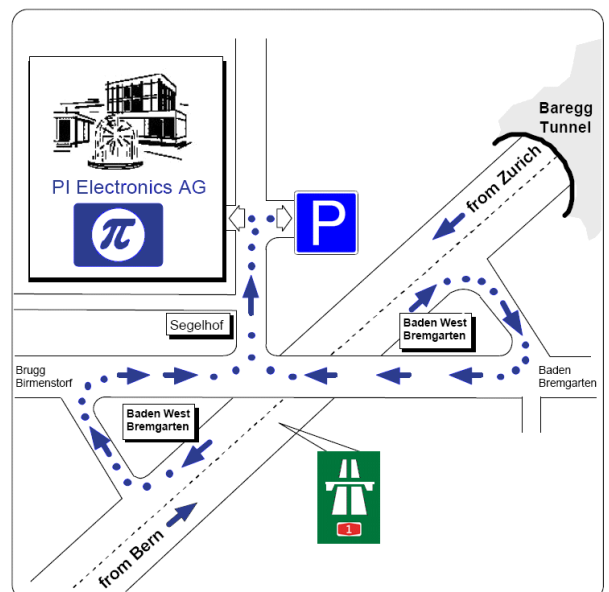
Since our foundation days in 1995 we are part of **National Instruments'** network of **Alliance-Partners**. As alliance partner we support NI's customers to handle system integration challenges or we act as general contractor for turnkey solutions. Due to the close ties and long standing cooperation with NI we are familiar with NI's product range and we can expect their optimum support to implement solutions to challenging tasks.

Contact and location

PI Electronics AG
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CH-5405 Baden-Dättwil
Switzerland

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Email: info@pie.ch

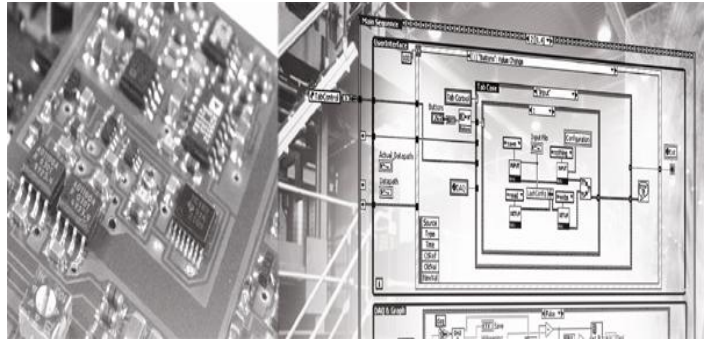
By public transport:
Use Bus No. 7 from Baden train station, western bus terminal
(Bus direction „Birmensdorf“, drop off at stop "Segelhof")



Our services

PI Electronics AG focuses on the engineering of automation systems for the industry and research labs where high performance, high reliability and usability are required for products and services. We have accumulated extensive expertise in the areas listed below:

- **Data acquisition**
- **Process control and visualization**
- **Motion control**
- **Laboratory automation**
- **Vision systems and inspection**
- **Software development**
- **Hardware engineering**
- **EMC analysis of hardware**
- **EMC concepts and designs**
- **Consulting, training and support**
- **On-site measurement campaigns**



Software-Engineering

Our software is mainly implemented in LabVIEW® and its modules and toolkits. Depending on the chosen system architecture the applications will run on Microsoft Windows® platforms, real-time targets with a PharLap®, VxWorks® or Linux® based OS, on FPGAs or in a combination of the various platforms.

Apart of the robustness of the applications implemented in LabVIEW®, the programming environment also offers a broad range of methods and tools to communicate with other applications or databases. Interfaces like DDE, ActiveX, .NET, Modbus, TCP-IP, SQL or OPC are typical selection of topology options for the close integration of data acquisition, vision inspection and motion control. LabVIEW® further offers straight forward possibilities to embed MATLAB® or NI DIAdem® for data mining and analysis.

Our software engineers have experience in software development with LabVIEW® and its toolkits since the early days of this graphical development environment. Our engineers are undergoing regular trainings and certification to stay up to date and underscore the know-how and quality of service.

System-Integration

For more than 15 years as National Instruments Alliance Partner we offer system integration services. This includes consulting mandates to establish the best suited concept for a given task or system and follows through during the implementation phase right until the stage of operator training and support. The effective services provided are depending on customer needs and may range from a simple support task to taking the lead for the whole project in the role of a general contractor. The fact that we can develop and manufacture interface electronics in-house reduces the costs and risks for new developments considerably. Turnkey solutions can thus be delivered rapidly and tightly integrated without interface problems between hard- and software.

Electronics Hardware Engineering

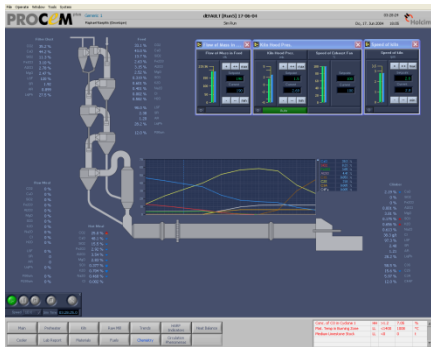
The majority of the electronic circuits and devices developed at PI are customer specific solutions, mostly used as process front ends for commercially available data acquisition hardware. The front end's functionality may range from a simple Nyquist-Filter to a high speed IR camera interface with digital giga baud communication or a simultaneous sampling interface for several hundred photomultipliers. Due to our expertise in EMC engineering we can offer solutions that operate reliably even under the harshest conditions.

On-site measurement campaigns

Apart from developing data acquisition hard- and software we also offer our services for on-site measurement and troubleshooting campaigns. Support during system commissioning and setup, validation or certification of industrial systems are typical examples of activities in this domain. PI Electronics AG offers assistance during the phase of concept definition, selection of adequate instruments and also offers to carry out the measurement and data analysis. So far we have successfully taken assignments for customers in Switzerland and in a number of countries worldwide.

Examples of process instrumentation projects developed by PI Electronics AG

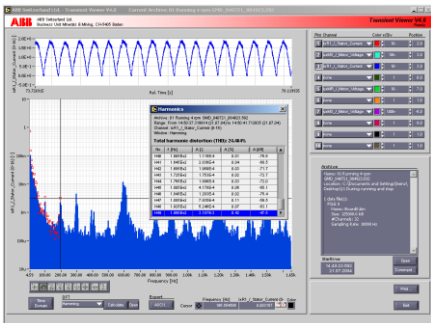
Simulation



Cement plant process control system simulator HOLCIM Group Support Ltd.

- 14'000 Simulation variables
- Graphic visualization of process trends & images
- Variable simulation speed
- Interactive manipulation of process and simulation parameters
- Analysis of training sessions and assessment of operator performance
- Embedded external simulation engine (core)
- LabVIEW-based application, hosted on Windows XP computers

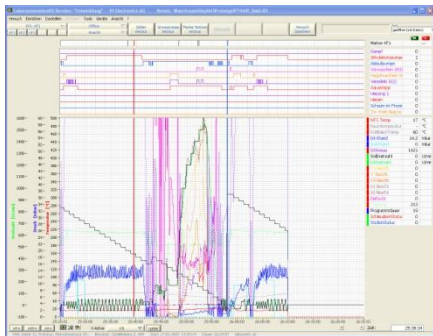
Data Acquisition



Transient recorder ABB Switzerland Ltd.

- Up to 64 analog inputs, each channel with dedicated active filter
- Analog and digital triggering, logic operations on trigger conditions
- High speed data streaming to disk @ trigger events
- Configurable email messaging and notification
- Online visualization of acquired data
- Data analysis by viewer software
- LabVIEW-based application, hosted on industrial computers

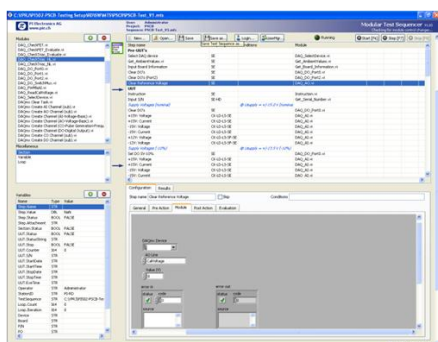
Automation



Laboratory automation for system design and validation V-ZUG AG

- Online and offline visualization of process data
- Flexible visualization and analysis options
- Wireless communication with device and system controllers
- USB based data acquisition with SCXI signal conditioning
- Standalone instruments interfaced through GPIB
- Hardware implemented as 19" rack unit and as portable system
- LabVIEW-based application, hosted on Windows XP computers

Quality Control / ATE



Modular Test Sequencer for automated functional tests PI Electronics AG

- Simple drag & drop editing of test steps and sequences
- Test modules based on LabVIEW VI's
- Test modules can be configured directly on their front panel
- Looping option for test sequence sections
- User defined parameter sharing between subsequent test modules
- Automated step by step analysis and reporting of test results
- Manual stepping option for setup and debugging of test sequence
- LabVIEW-based application, hosted on Windows XP computers (desktop and portable)