ABHA™
TECH SOLUTIONS LLP

SENSOR based DAQ SOLUTIONS

Let's Power up the future of mobility together

About Our Company

We are headquartered in India and have a team of experienced developers, designers, and engineers who work together to deliver high-quality testing solutions to clients around the world. Here in Abha, we are driven by our passion for technology, aim to offer the best technology could offer and develop most advance & modern testing systems which not only work better even they are most ergonomic systems. We are pioneers in laying out creative and scalable solutions that help in enhancing the productivity of our partner firms to the next level of industrial testing. Our solutions are tailor defined to meet the inherent needs of our clients and all our solutions are focused on the core businesses of our partners.

Our Vision

In the Industry 4.0 era, Abha envisions to be a leader in providing next-generation testing solutions that help organizations embrace Testing Systems. We strive to ensure that our Testing Solutions meet the highest quality and security standards required in this new age of automation and connectivity. We aim to be at the forefront of the testing industry by leveraging advanced technologies such as AI and machine learning to deliver innovative and efficient testing solutions that help our clients optimize their operations and stay ahead of the competition.

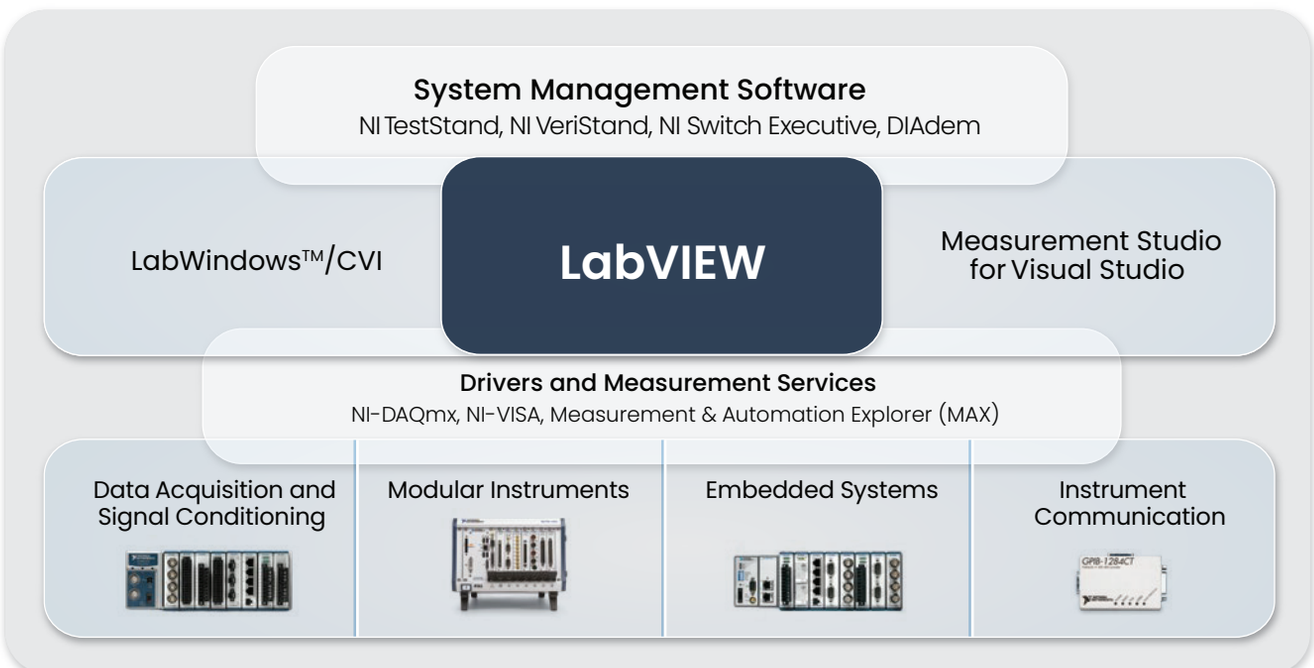
Our Mission

Our objective is to transform the testing industry by creating innovative solutions that satisfy the demands of our customers. We are on a quest to challenge and revolutionize the Testing Industry. We deliver testing solutions with best-in-class user experience. Our engineers work smart and design most ergonomic systems which follow the highest industry standards.

Index

Measurement and Automation Software

LabVIEW system design software is at the heart of the National Instruments platform. With features engineers and scientists need to build a wide range of applications in dramatically less time, LabVIEW is the ideal development environment for innovation and discovery, accelerated results, and flexibility for any measurement or control system.

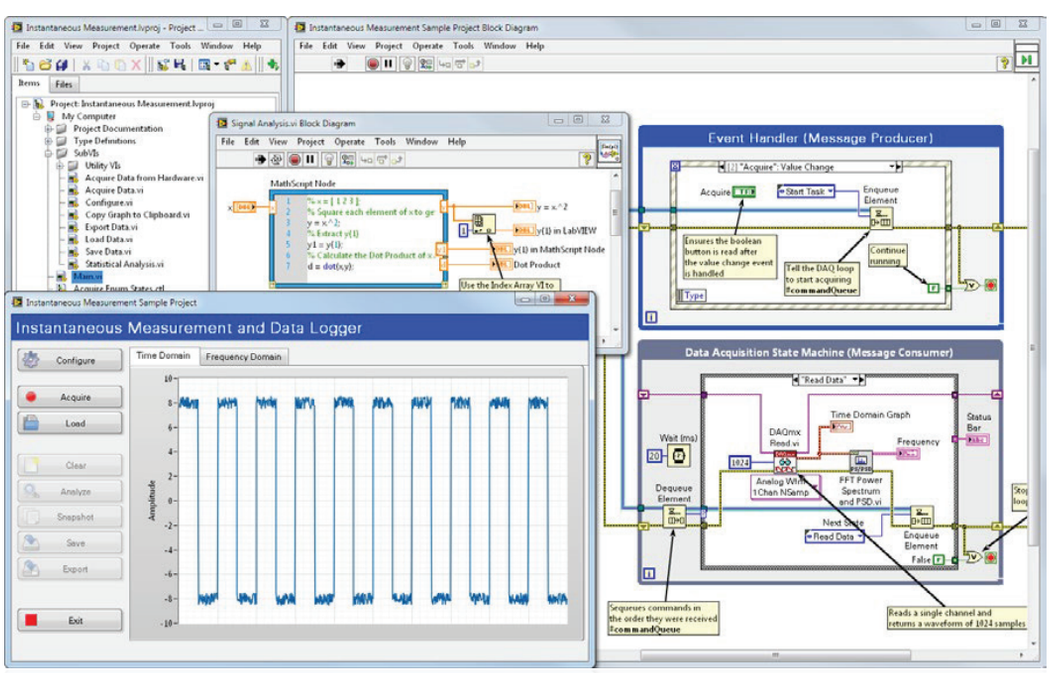


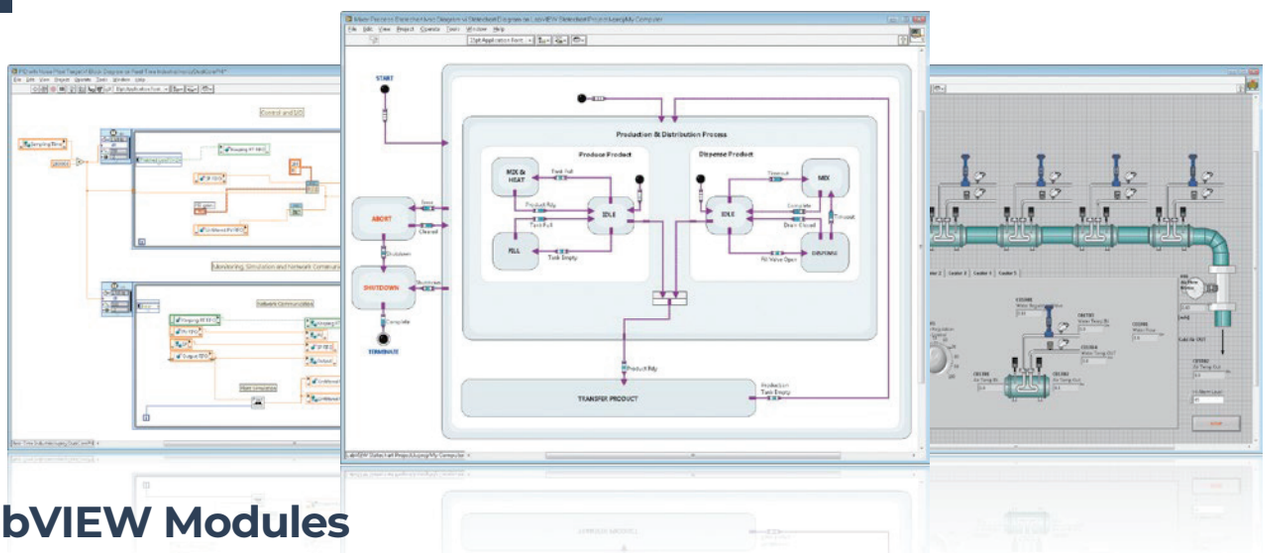
Engineers can create applications scaling from design to test and from small to large systems while reusing IP and taking advantage of the latest advancements for optimum performance. Highly scalable software, coupled with modular reconfigurable hardware, simplifies the ever-increasing complexity of systems at multiple levels. LabVIEW works with a variety of hardware and software, and can integrate into virtually any system for design or control. The ability to work with thousands of different devices means LabVIEW saves development time by providing a consistent programming framework across virtually any hardware.

Why LabVIEW?

Hundreds of thousands of engineers and scientists worldwide depend on LabVIEW to build cost-effective design, control, and test systems. The LabVIEW graphical development environment features interactive assistants, code generation, and connectivity to thousands of devices for easily gathering data. Because LabVIEW connects to virtually any measurement device and design tool, it can be incorporated seamlessly into existing systems without risking application investment.

> *"In the first design stage of our control application programmed with LabVIEW, we have obtained a 20X processing speedup on an octal-core processor machine over a single-core processor while reaching our 1 ms control loop rate requirement."*
>
> —Dr. Louis Giannone, Max Planck Institute





LabVIEW Modules

In addition to the LabVIEW development environment, NI offers a variety of add-on modules that provide additional functionality or deployment to computing targets ranging from industrial real-time devices to FPGAs and microprocessors.

LabVIEW Real-Time Module

- Develop real-time systems with LabVIEW graphical programming
- Download to a dedicated real-time target for reliable, deterministic performance
- Deploy as a distributed, stand-alone, autonomous, or embedded system

LabVIEW FPGA Module

- Program FPGAs without knowledge of VHDL using LabVIEW
- Create custom logic to implement advanced timing and triggering, onboard decision making, and digital I/O
- Execute tasks deterministically and simultaneously in hardware

LabVIEW MathScript RT Module

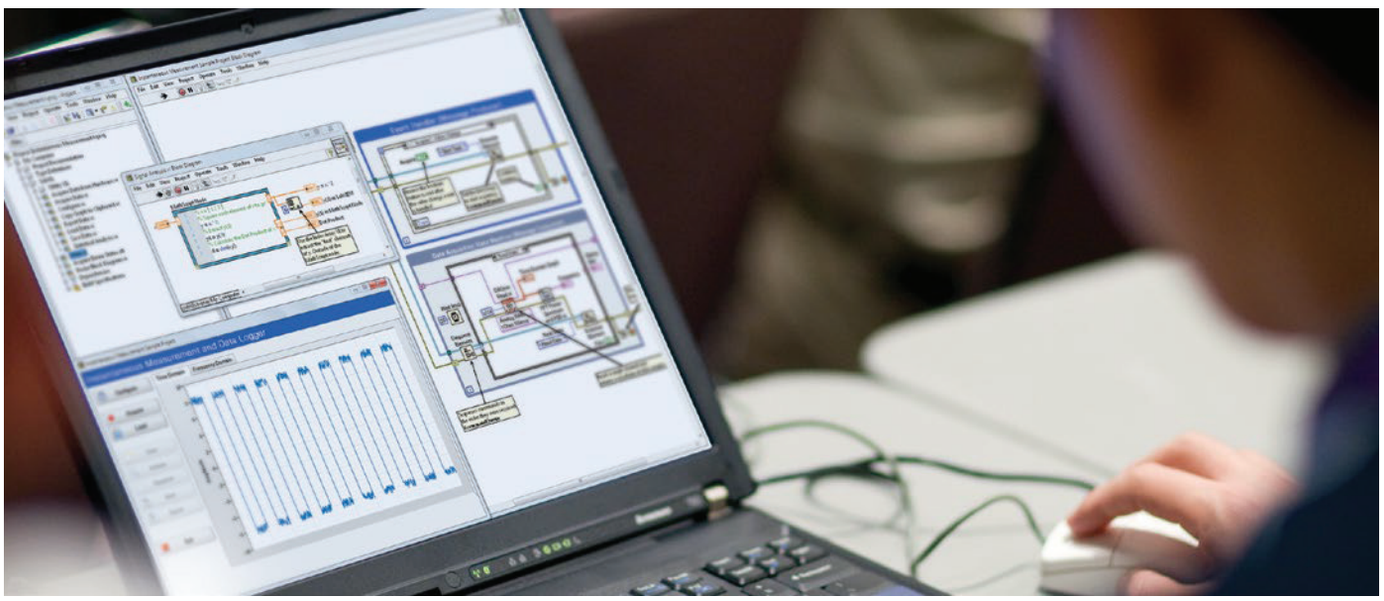
- Deploy custom .m files to NI real-time hardware for deterministic execution
- Develop .m files using an interactive command-line interface or programmatic deployment node
- Reuse existing scripts created with The MathWorks, Inc. MATLAB® software and others

The NI Instrument Driver Network makes available more than 10,000 drivers for instruments from over 345 third-party vendors that work with LabVIEW, LabWindows/CVI, and Measurement Studio for Visual Studio.

More LabVIEW Add-Ons

Use other LabVIEW add-ons for programming 32-bit microprocessors, industrial touch panel computers, handheld devices, and more. These include:

- LabVIEW Datalogging and Supervisory Control Module
- LabVIEW Embedded Module for ARM Microcontrollers
- LabVIEW Wireless Sensor Network Module
- LabVIEW Statechart Module
- LabVIEW Touch Panel Module
- LabVIEW C Generator
- NI Vision Development Module



Success With LabVIEW

Upon launching LabVIEW for the first time, engineers have easy access to the online LabVIEW Skills Guide. This resource provides an excellent introduction for first-time users as well as best practices for those ready to design and deploy new systems.

Templates and Sample Projects

Use recommended starting points for measurement and control systems to create more scalable applications in less time.

Third-Party Toolkits and Libraries

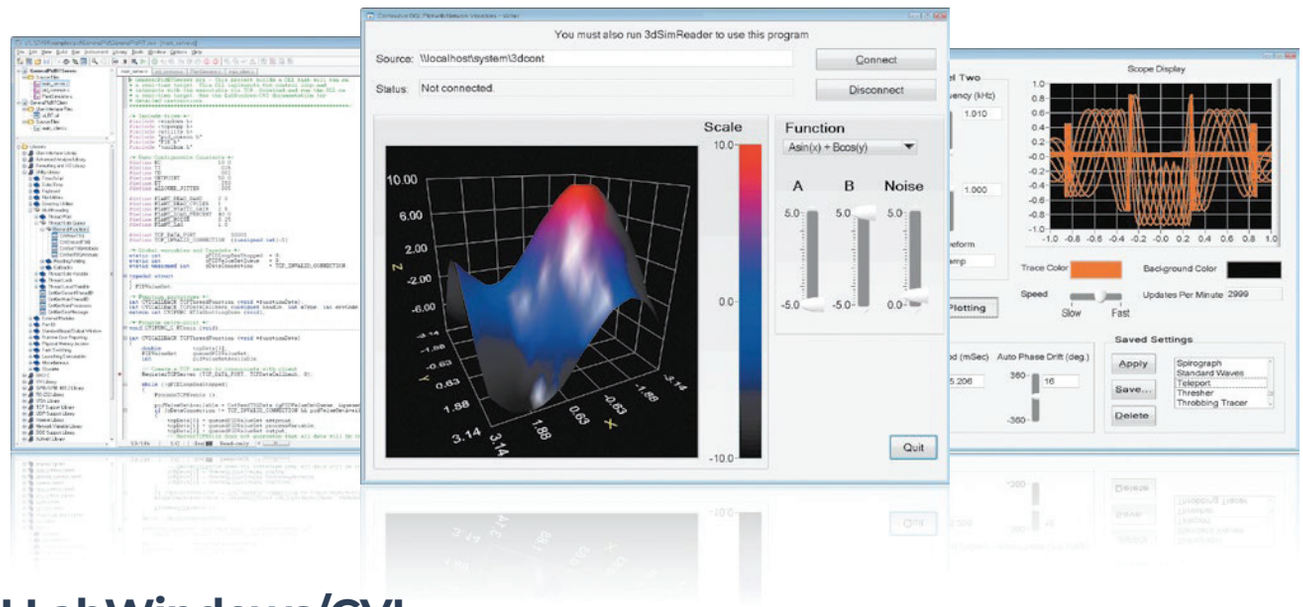
Accelerate development through access to certified, third-party add-ons to expand the power of LabVIEW on the LabVIEW Tools Network.

Learning Resources

Learn to use LabVIEW effectively through training resources including skills guides, product documentation, and self-paced online courses that are available anytime.

Community and Support

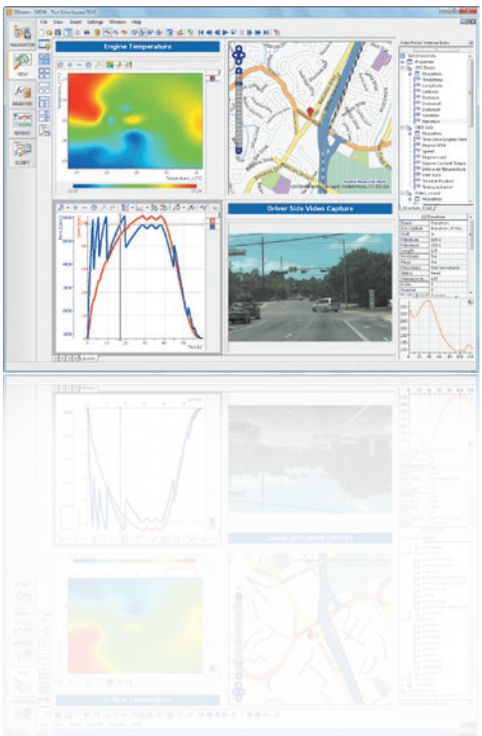
Participate in discussion forums, request technical support, and interact with other LabVIEW users.



NI LabWindows/CVI

LabWindows/CVI is a proven ANSI C integrated development environment that provides engineers and scientists with a comprehensive set of programming tools for creating test and control applications. Specifically designed for building instrumentation systems based on PXI, plug-in data acquisition devices, GPIB, and more, LabWindows/CVI combines an interactive, easy-to-use development approach with the programming power and flexibility of compiled ANSI C code. In addition, LabWindows/CVI delivers many usability features that improve productivity without sacrificing speed or source code manageability.

- Built-in libraries for acquisition, analysis, and visualization
- Simplified drag-and-drop user interface editor
- Automated code generation tools and hardware assistants
- Interactive execution of individual functions without changing the source code
- Analysis and math functions including signal processing
- IVI Instrument Driver wizards for fast creation of IVI-C drivers
- Ability to integrate DLLs, ActiveX, and .NET components
- High-level multithreading library and optimized data structures for building multithreaded applications
- Simplified API to transfer live measurement data between applications over the network
- Support for advanced PC technologies such as 64-bit OSs and Windows 8
- Memory management and resource tracking tools
- Function execution profiling tools to help analyze and optimize source code for improved run-time performance
- Ability to save time through automating repetitive processes
- Simplified NI FPGA communication with integrated interface generation tools and custom function panels for the FPGA Interface C API
- Synchronized data playback with videos, 3D models, and more
- Ability to create professional, reusable reports



NI DIAdem

DIAdem is an off-the-shelf tool for offline data postprocessing. It can interface with any file format—from ASCII to binary to custom—through the use of modular technology called DataPlugins, which makes it flexible enough to handle today's applications and tomorrow's challenges. Using the built-in My DataFinder, DIAdem provides a cohesive data management and mining solution that helps avoid the six-figure investment of a custom database. After finding and loading data—from a few data points to billions of values—engineers can inspect data, perform analysis, and report results interactively. DIAdem also includes a robust engine fully capable of postprocessing automation to save time and increase efficiency.

- Quickly search and mine data
- Find trends and correlations
- Analyze even large data sets containing more than 100 billion values
- Inspect data, compare test runs, and identify anomalies
- Manage units and calculation sets automatically

NI Measurement Studio

Measurement Studio is an integrated suite of measurement tools created specifically for Visual Studio 2010/2008/2005 programmers. The software provides measurement and automation classes as well as Windows Forms and Web Forms controls for Visual Basic .NET and Visual C#.

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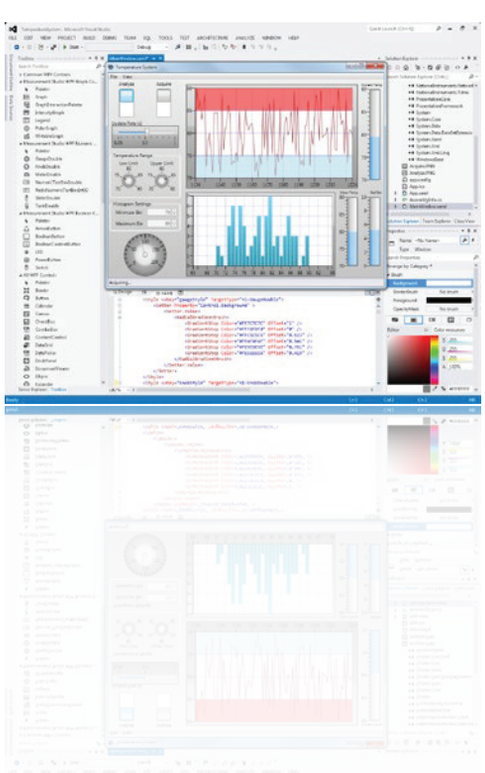
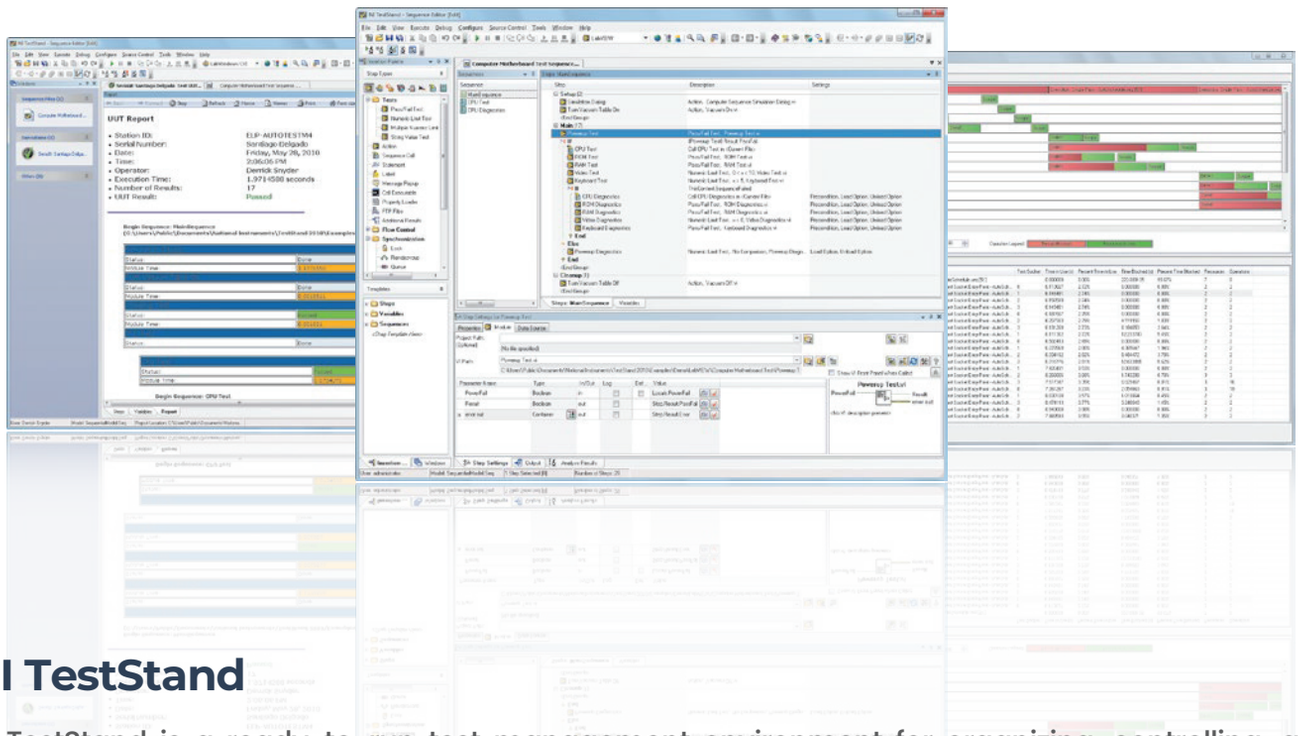
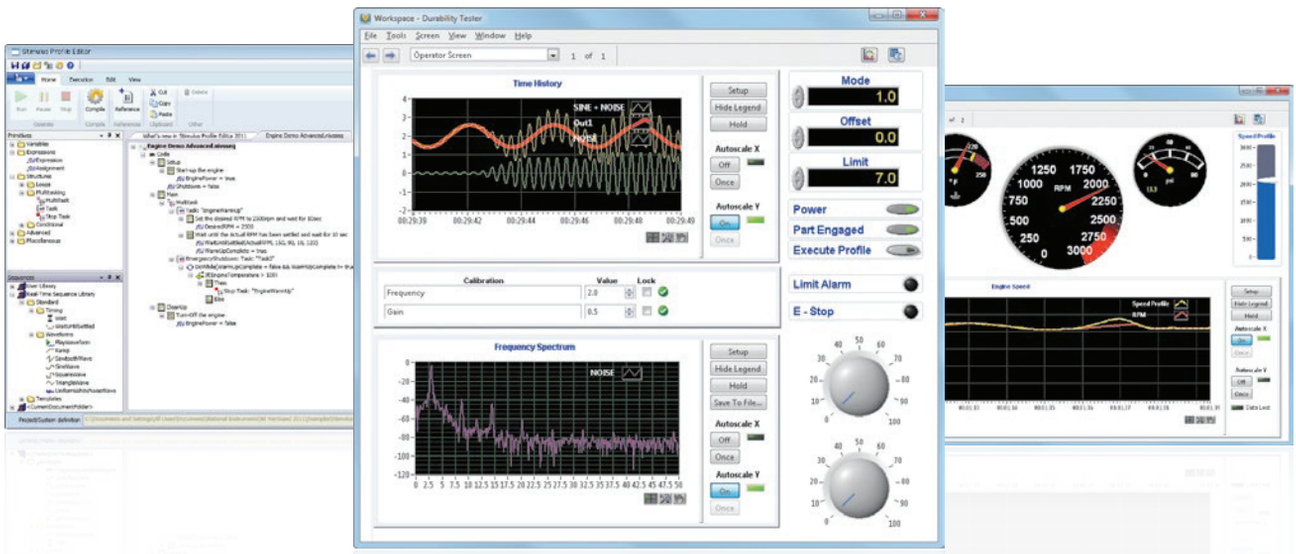




NI TestStand

NI TestStand is a ready-to-run test management environment for organizing, controlling, and executing automated prototype, validation, and manufacturing test systems. Quickly build test sequences with NI TestStand by incorporating tests written in a preferred programming language. Built on a high-speed, multithreaded execution engine, NI TestStand delivers the performance to meet the most rigorous test throughput requirements. It can also be modified and enhanced to match specific needs, including customizing the operator interface, generating custom reports, and modifying sequence execution requirements. Focus engineering efforts on testing a particular product while NI TestStand manages the sequencing, execution, and reporting of tasks.

- Sequence development environment
- Parallel multithreaded testing
- Customizable reporting
- Source code control integration
- Learn more at ni.com/teststan
- Debugging
- User management
- Customizable operator interfaces
- Database logging



NI VeriStand

NI VeriStand is an open, configuration-based software tool for creating real-time testing applications more efficiently. It provides the common functionality required to implement real-time testing applications in a ready-to-use format, which reduces development cost and risk. No programming knowledge is necessary; however, with the open environment, custom functionality can be added using LabVIEW; the LabVIEW FPGA Module; LabWindows/CVI; NI TestStand; DIAdem; The MathWorks, Inc. Simulink® software; C/C++; .NET; Python; and other environments.

- Sequence development environment
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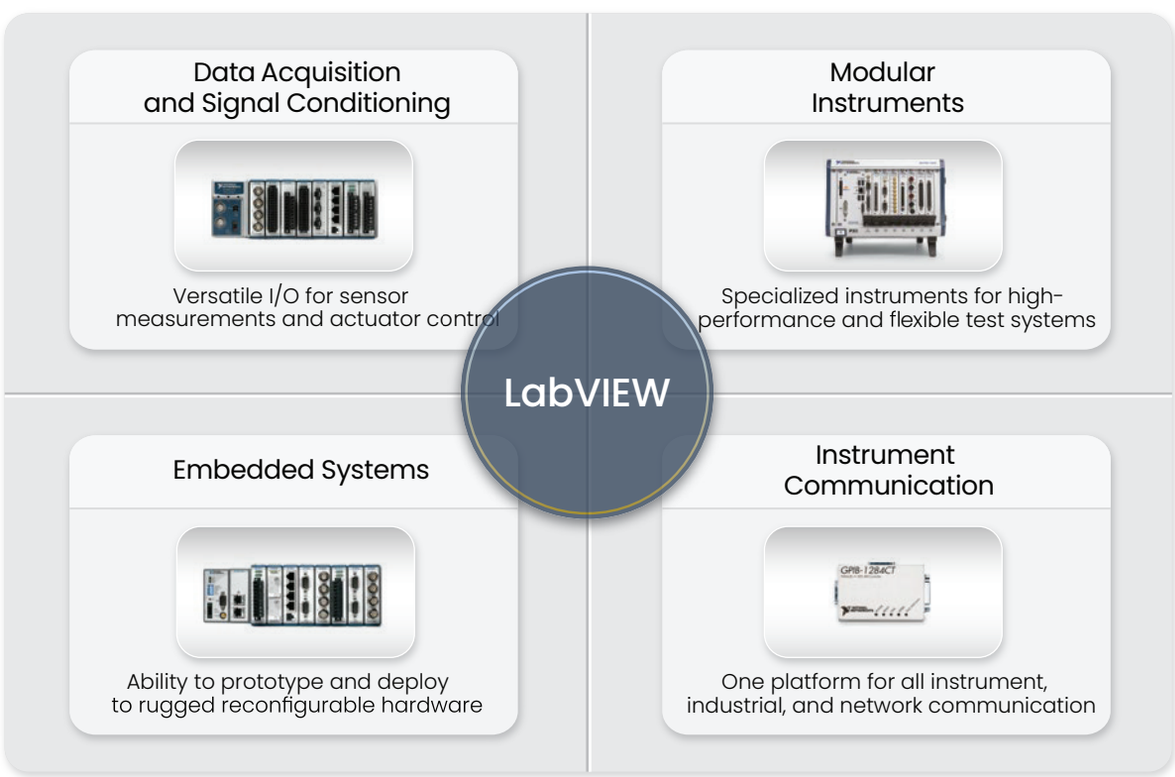
Measurement and Automation Hardware

National Instruments offers engineers and scientists a tightly integrated suite of hardware and software tools to measure and automate the world around them. By using cutting-edge commercial technology, such as the latest A/D converters, FPGAs, and PC buses, NI hardware delivers modular and easy-to-use solutions for a wide range of applications from automated test and data logging to industrial control and embedded design.



National Instruments data acquisition (DAQ) devices measure electrical or physical signals from a variety of sensors. NI modular instruments synchronize measurement, signal generation, RF, and switching components for automated test systems. NI embedded systems offer rugged packaged and board-level form factors along with a modular, reconfigurable architecture for advanced control and monitoring applications. For instrument control and communication, NI provides numerous GPIB, USB, Ethernet, and serial interfaces.

Automated Test and Instrumentation

Thousands of companies have reduced the cost of test in both automated validation and production by switching to the NI software-defined test platform. With this approach, engineers are building test systems based on flexible hardware platforms, such as PXI, and scalable software, such as NI TestStand and LabVIEW. As a result, these companies have achieved savings in capital equipment, system development, and maintenance costs while gaining faster test execution. Software-defined instrumentation can help you realize the following benefits:

Reduced Capital Equipment Costs and System Size

Deploy a complete test system at a lower cost and with the same footprint as a single traditional instrument.

Rapid Test Development

Design and deploy test systems faster with graphical software development tools.

Faster Test Execution With Increased Flexibility

Achieve higher performance with PC data buses, multicore processors, and FPGAs.

Increased System Longevity and Success

Quickly add functionality as your needs evolve andbenefit from world-class services and support.

> *"Overall, the PXI system was 10 times faster and three times less expensive than the previous solution. The PXI platform also provided the flexibility needed to adapt to the different digital and RF standards."*
>
> —Sylvain Bertrand, ST-Ericsson

NI PXI Platform

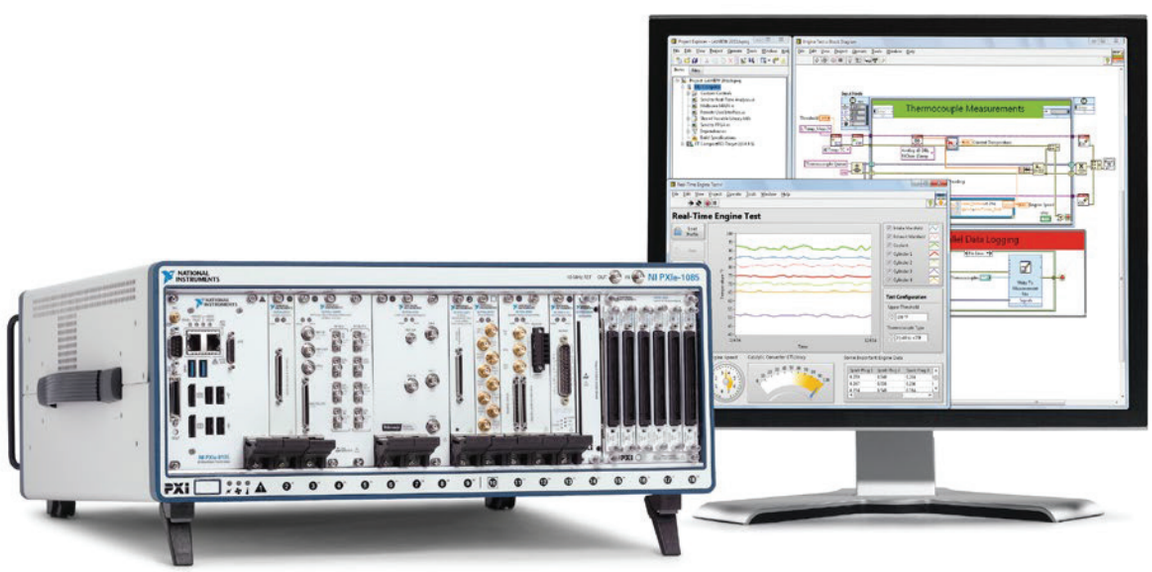
PXI is the open, PC-based platform for test, measurement, and control that provides the industry's highest bandwidth and lowest latency with modular I/O for high-resolution DC to 26 GHz RF/microwave. With more than 15 years of industry adoption and over 1500 products from more than 60 members of the PXI Systems Alliance, it is clear why PXI is the automated test platform of choice for thousands of companies worldwide.

Chassis

Range of chassis sizes, backplane speeds, and power options all including built-in timing/synchronization and system manageability features

Software

As a software-defined system, PXI is best used with LabVIEW for application development and NI TestSt and or NI VeriStand for execution management



Controllers

High-performance embedded controllers running Windows or real-time OSs and low-cost remote controllers connected to external PCs

Modules

More than 600 modules from NI representing all modular instrument and DAQ categories from DC to microwave

Why PXI?

Software-defined—Create the exact measurement or control capability needed by taking full advantage of the power of LabVIEW.

Rugged—Develop and deploy industrial applications using hardware with small, rugged packaging and high temperature tolerances.

Complete—Build almost any test, measurement, or control system using the wide range of hardware and tightly integrated software offered by NI.

NI Modular Instruments

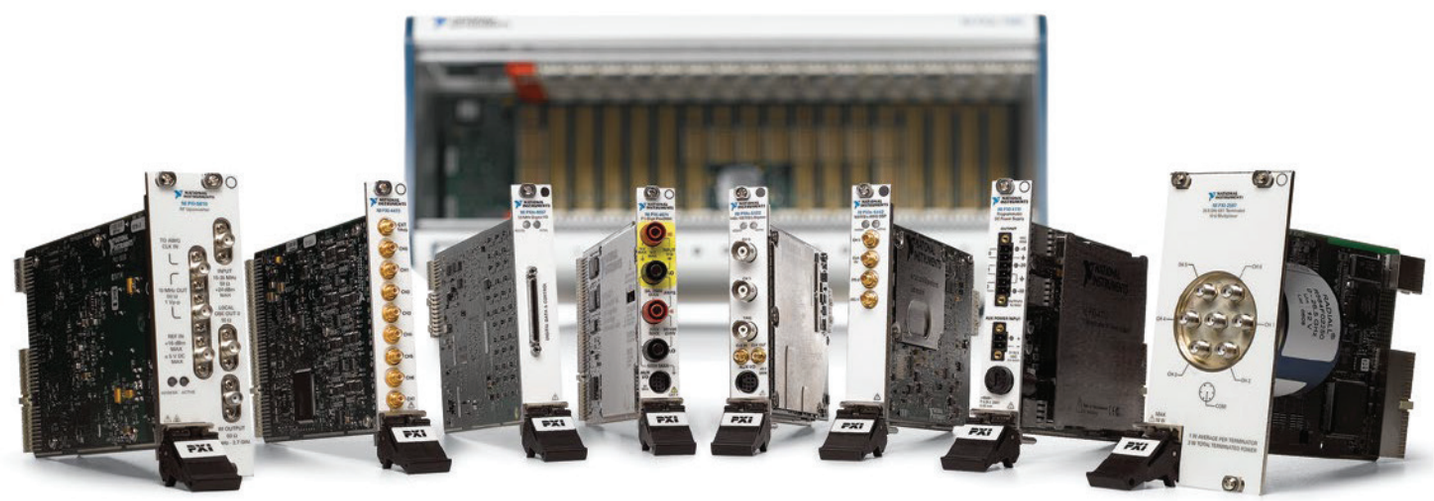
NI modular instruments combine world-class measurement hardware with optimized, tightly integrated measurement and analysis software. With modular instruments, engineers can specify the essential functionality required and choose from a wide variety of measurement, signal generation, RF, power, and switch modules. Optimize instruments using LabVIEW for specific measurement tasks. Because these instruments are modular and software-defined, engineers can quickly interchange and easily repurpose them to meet evolving test needs. With instruments using the LabVIEW reconfigurable I/O (RIO) architecture, software configuration extends to powerful, user-programmable FPGAs for even greater instrument customization.

Mixed-Signal Instruments

Digitizers, generators, dynamic signal acquisition, and high-speed digital I/O to provide stimulus or measure the response from the device under test (DUT)

Switches

Multiplexers, matrices, general-purpose relays, fault-insertion units, and RF/microwave frequency coverage to interconnect instrumentation and expand I/O



Precision DC

Digital multimeters, power supplies, and source measure units to characterize the high-sensitivity components of a circuit

User-Programmable FPGAs

Processing engines connected to high-performance analog and digital I/O or used as coprocessors

Why NI Modular Instruments?

Software-defined design—Instrumentation capabilities are open to the user's specific measurement and control needs and limited only by the application requirements—not the vendor.

Ease of use—Soft front panels, example programs, and intuitive configuration environments make simple or complicated measurements in seconds.

Flexibility and performance—The LabVIEW RIO architecture and world-class performance make NI modular instruments suitable for the most difficult measurements on the planet.

RF and Microwave Instrumentation

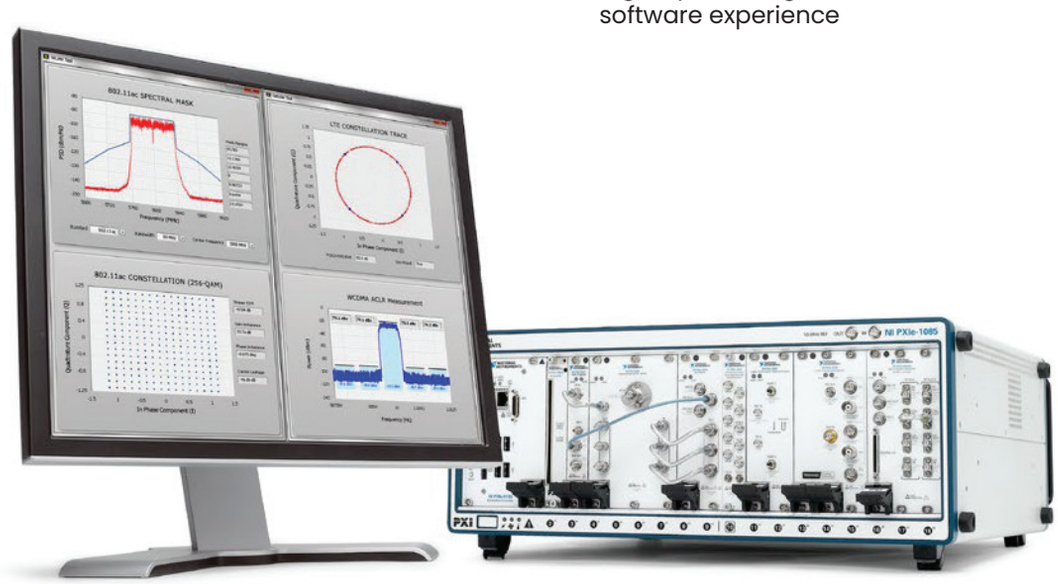
Testing today's complex RF and microwave devices and prototyping wireless algorithms require a fast, flexible, and accurate instrumentation platform paired with the productivity of LabVIEW. NI modular RF instruments incorporate technologies such as multicore processors and the PCI Express data bus to achieve measurement speeds that are three to 10 times faster than traditional instruments in automated test applications and cover standards from GPS to WLAN to LTE with the same RF instrumentation. NI RF instruments can also be used to prototype next-generation wireless algorithms or implement signal intelligence, radar, software defined radio, or beamforming applications.

Vector signal analyzers and generators

Ability to analyze or generate complex modulation schemes with excellent performance at up to 26 GHz

Vector signal transceivers

User-programmable FPGA-based devices that combine vector signal analyzers and generators with high-speed digital I/O and a completely open software experience



Vector network analyzers

Characterization of magnitude, phase, and impedance for RF components and devices

Amplifiers, attenuators, and power meters

Signal conditioning and power measurement capability to improve quality or make accurate measurements close to the DUT

Why NI RF?

Software-defined—NI RF instruments are well-suited to keep pace with rapidly changing wireless standards because their core functionality is defined in software. They are flexible and upgradable as needs evolve, even needs involving the system processor or FPGA processing engine.

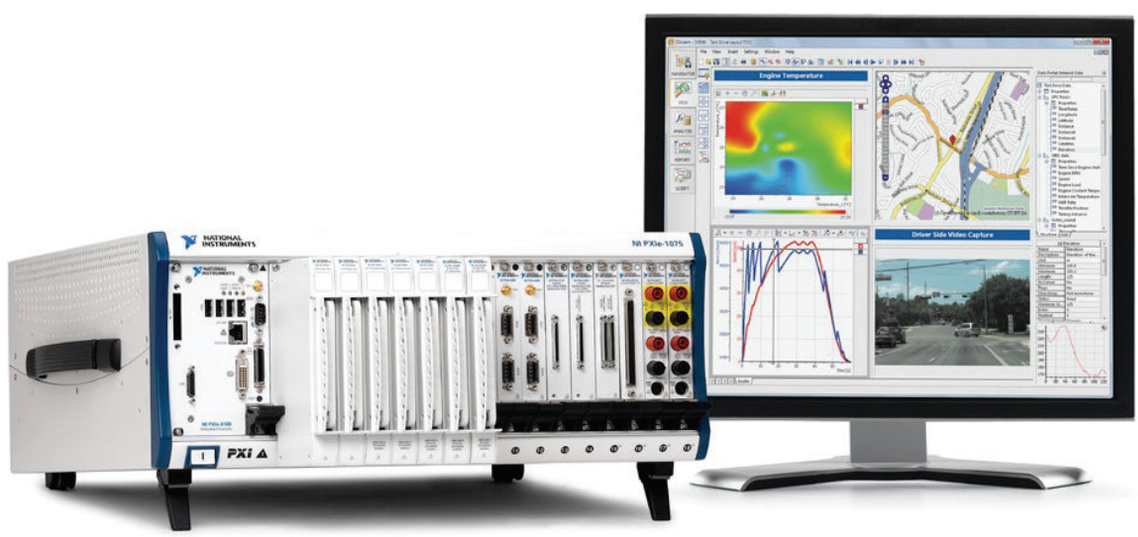
High-performance—NI RF instruments make accurate measurements in a fraction of the time of traditional box instruments.

Integrated—NI RF instrumentation can be placed next to mixed-signal or DC instruments, switches, or DAQ devices in a compact PXI chassis.

Physical Measurements / Signal Conditioning

To measure physical or electrical phenomena such as voltage, current, temperature, pressure, or sound, engineers need the right combination of hardware and software. The PXI platform and LabVIEW provide a flexible, user-defined system for automating these measurements and making data available for analysis. PXI-based DAQ and SC Express signal conditioning modules provide the right mix of high-channel counts, sensor-specific signal conditioning, and integrated timing/synchronization for structural and physical measurement systems or simple data logging.

- Measure strain gages, pressure transducers, load cells, thermocouples, high voltages, and more
- Take advantage of resolution up to 24 bits and sample rates up to 250 kS/s per channel
- Get programmable power-up states, watchdog timers, change detection, and isolation using NI industrial digital I/O devices
- Use counter/timers for frequency measurements, edge/ event counting, and pulse-train generation
- Take precision measurements with microphones, accelerometers, or any measurement requiring high dynamic range using NI dynamic signal acquisition (DSA) devices for PXI



- Eliminate challenges associated with electrical sensors because they are nonconductive, electrically passive, or immune to EMI-induced noise using NI optical sensor interrogators
- Use analog output devices for up to 1 MS/s per channel arbitrary waveform generation, ±10 V voltage or 0 to 20 mA current outputs, and simultaneous updates

Why NI Signal Conditioning?

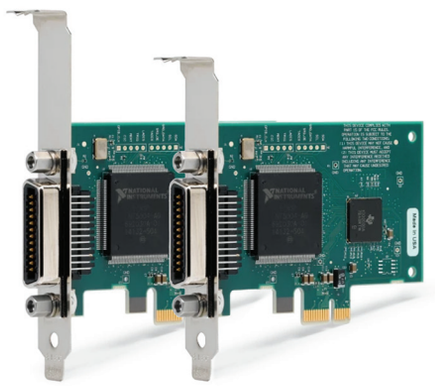
Confidence from longevity—No other vendor has been building plug-in DAQ modules as long as NI. NI has shipped over 1 billion measurement channels and played a role in the most difficult applications.

Accuracy and flexibility—The NI platform spans from simple thermocouple measurements to high-speed strain and fiber-optic sensing, including multiplexed or simultaneous sampling architectures, to meet measurement challenges.

Turning data into information—The tightly integrated software provided with NI hardware helps users gather insight from the measurements faster, whether processing needs to happen locally, on a handheld device, or in the cloud.

GPIB Controller for PCI Express and PCI

PCI Express and PCI controllers combine reliable, high-performance hardware with a complete suite of development tools to get your applications up and running fast.



- Support for Windows including Windows 8 (32- and 64-bit), Mac, Solaris, real-time, and Linux OSs
- Driver development kit for compatibility with any OS

GPIB Analyzer

NI offers a complete GPIB Analyzer and controller on a single device for both PCI and PCI Express. GPIB Analyzer software features tools for interpreting captured GPIB information.

- Capture, analyze, and monitor the real-time state of each of the 16 GPIB data and control lines
- Take advantage of easy-to-use analyzer software with online help

GPIB Controller for Hi-Speed USB

The compact NI GPIB-USB-HS transforms any computer with a USB port into a full-function GPIB controller.

- Connect directly from a USB port to a GPIB instrument
- Reuse code for other NI GPIB controllers without modification
- Take advantage of support for Windows, Mac, and Linux OSs

The Ultimate Software for Automating Test and Validation Systems

NI LabVIEW, the leading system design software for automated test, is optimized to give you the tools you need to quickly develop powerful test software. LabVIEW helps you stay ahead of demanding system needs by providing integration with a wide variety of instruments, ranging from traditional boxes to software-defined PXI modular instruments, so you can acquire nearly any measurement. The combination of reconfigurable hardware and LabVIEW system design software empowers you to build virtually any automated test system faster and with more confidence.

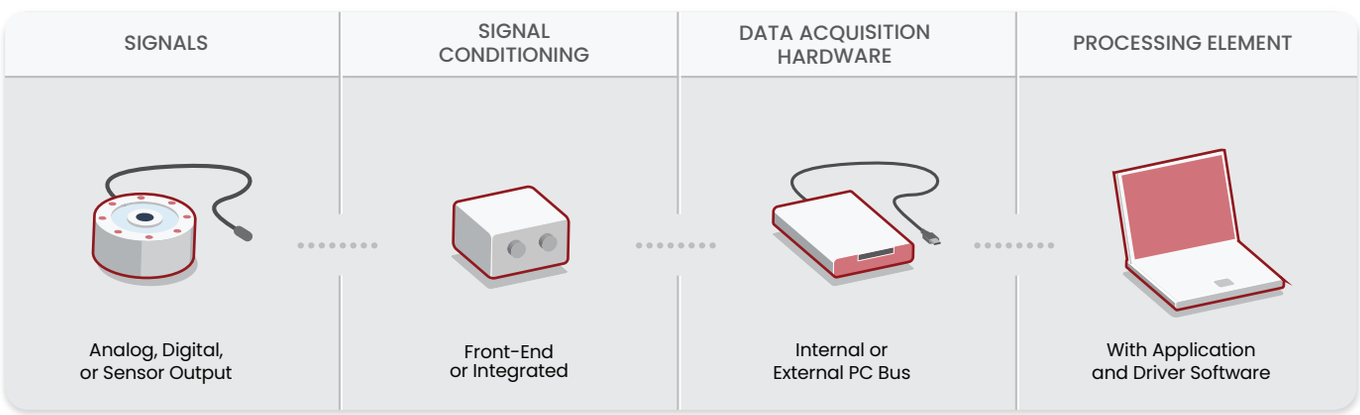
Instrument Driver Network

Instrument drivers offer a high-level programming interface that eliminates the need to learn an instrument's low-level messaging. This saves programming time and decreases the time to first test or measurement. Whether working with LabVIEW, LabWindows/CVI, or Microsoft Visual Studio, you can use the NI Instrument Driver Network's over 10,000 instrument drivers for instruments from more than 345 vendors.

- Take advantage of the industry's largest source for instrument drivers
- Get started immediately with open-and-run examples
- Choose from LabVIEW Plug and Play, LabWindows/CVI, and IVI drivers

Data Acquisition

Data acquisition is the process of measuring an electrical or physical phenomenon such as voltage, current, temperature, pressure, or sound. PC-based data acquisition uses a combination of modular hardware and flexible software to transform your standard laptop or desktop computer into a user-defined measurement or control system. While each data acquisition system has unique functionality to serve application-specific requirements, all systems share common components that include sensors, data acquisition hardware, and a computer or processing element.



You can use data acquisition tools for a variety of applications such as data logging, control, and test automation on any bus with easy, powerful software.

NI DAQ Platform

The ability to measure electrical or physical phenomena is a fundamental part of engineering applications. NI DAQ is the most trusted PC-based measurement hardware for engineers and scientists because it is designed and tested to the highest standards, resulting in products that are durable and dependable. The combination of LabVIEW and NI DAQ hardware is the most productive, flexible approach to building accurate and reliable automated measurement solutions.

Designed for Performance

NI DAQ devices offer the I/O capabilities, measurement accuracy, and software flexibility that varying applications require. With patented hardware and software technologies, NI creates PC-based measurement and control solutions that deliver increased productivity through user-defined logging, analysis, and visualization. NI-DAQmx multithreaded driver software provides ease of use, flexibility, and performance in multiple programming environments, including LabVIEW, LabWindows/CVI, C/C++, Visual C#, and Visual Basic .NET.

Why NI DAQ?

Accelerate productivity and develop measurement systems faster using LabVIEW because it provides a single environment that combines native NI DAQ hardware integration with extensive libraries for signal processing and data visualization.Improve measurement performance and accuracy with innovative hardware and software technology that has established NI as a world leader in DAQ. Combine LabVIEW and NI DAQ hardware to create reusable measurement solutions that can be programmed and reconfigured to meet evolving needs.

NI CompactDAQ

NI CompactDAQ modular data acquisition systems for USB and Ethernet provide sensor and electrical measurements on the benchtop, in the field, and on the production line. Patented, innovative chassis technology and over 50 sensor-specific I/O modules deliver high-performance and accurate measurements, and the modular hardware and customizable software functionality ensure flexibility and scalability.

Why NI CompactDAQ?

NI CompactDAQ Flexibility

- 1-, 4-, and 8-slot chassis to match application size
- USB, Ethernet, and IEEE 802.11 wireless options
- Embedded real-time OS and Windows options for stand-alone operation
- Operational temperature range of -40 to 70 °C, 50 g shock

NI CompactDAQ Technology

- NI-STC3 timing chip with 100 MHz timebase for precise synchronization
- Four enhanced 32-bit counters for PWM, encoder, frequency, and more
- Ability to run several tasks simultaneously featuring different sampling rates
- Continuous streaming with up to 1 MB/s bandwidth per channel
- Direct signal connectivity using C Series analog/digital conversion and signal conditioning
- Support for LabVIEW, LabWindows/CVI, ANSI C/C++, C#, Visual Basic .NET, and Visual Basic 6.0

Measurement Modules for NI CompactDAQ

NI C Series modules combine A/D converters, signal conditioning, and signal connectivity in one package. By enabling a modular hardware architecture, the C Series platform provides a flexible, scalable, and maintainable approach to application development. Direct signal connectivity and onboard isolation, conditioning, and filtering ensure efficient setup and reliable signal quality. Channel counts on the individual modules range from three to 32 channels to accommodate a wide range of system requirements.

Measurement Types

- Voltage up to 1 MHz
- Temperature
- Resistance
- Load/pressure/torque/strain
- Accelerometer
- Microphone
- Digital I/O
- Current
- Counter measurements
- CAN bus
- Up to 500 kHz waveforms

Features

- Channel-to-channel or bank isolation
- BNC or screw-terminal connectivity
- Available mass termination
- IEPE conditioning
- Antialiasing filters
- NIST-traceable calibration certificates included

Multifunction Data Acquisition

NI multifunction DAQ devices integrate analog input and output, digital input and output, and counter/timer circuitry. These devices offer up to 10 MS/s simultaneous analog input rates and up to 80 analog inputs, four analog outputs, 48 digital I/O lines, and four counters. They are available for USB, PCI, PCI Express, PXI, and PXI Express. From low cost to high performance, these devices provide exceptional value and flexibility.

Why Multifunction DAQ?

Solutions to Match Applications

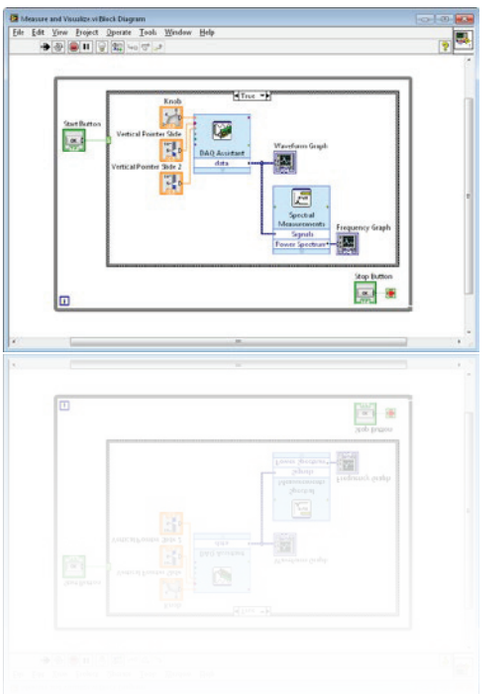
- Up to 80 analog inputs, four analog outputs, and 48 digital I/O lines
- Over 150 variations of channels to meet application needs
- Available for USB, PCI, PCI Express, PXI, and PXI Express

Advanced Technology

- NI-STC3 timing chip with 100 MHz timebase
  Four enhanced counters and independent timing engines for analog and digital I/O
- NI-MCal software-based calibration algorithms
- Sustained high-speed bidirectional throughput with NI Signal Streaming technology
- Up to 18-bit resolution for precise measurement accuracy

Native Connectivity

- All products support seamless integration with the LabVIEW environment and examples
- NI-DAQmx driver provides cross-product connectivity and flexibility when using programming environments including
- LabVIEW, LabWindows/CVI, C/C++, Visual C#, and Visual Basic .NET
- All hardware is shipped with NI SignalExpress LE interactive, data-logging software



LabVIEW for DAQ Applications

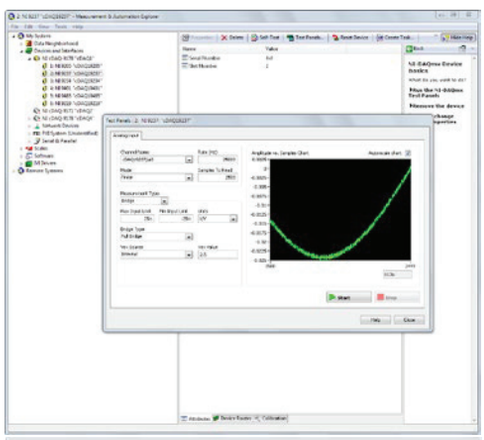
LabVIEW is a highly productive development environment for engineers who need to create custom measurement, control, and analysis applications. The ability to abstract complexity away from acquisition, processing, analysis, and display functions, combined with native hardware integration, ensures the rapid development of accurate and reliable measurement solutions.

LabVIEW Examples

Using LabVIEW, engineers rarely have to start from scratch when building a new application. With extensive shipping examples covering most aspects of data acquisition, recommended software architectures, and an active, global online community, development efficiency and speed are increased.

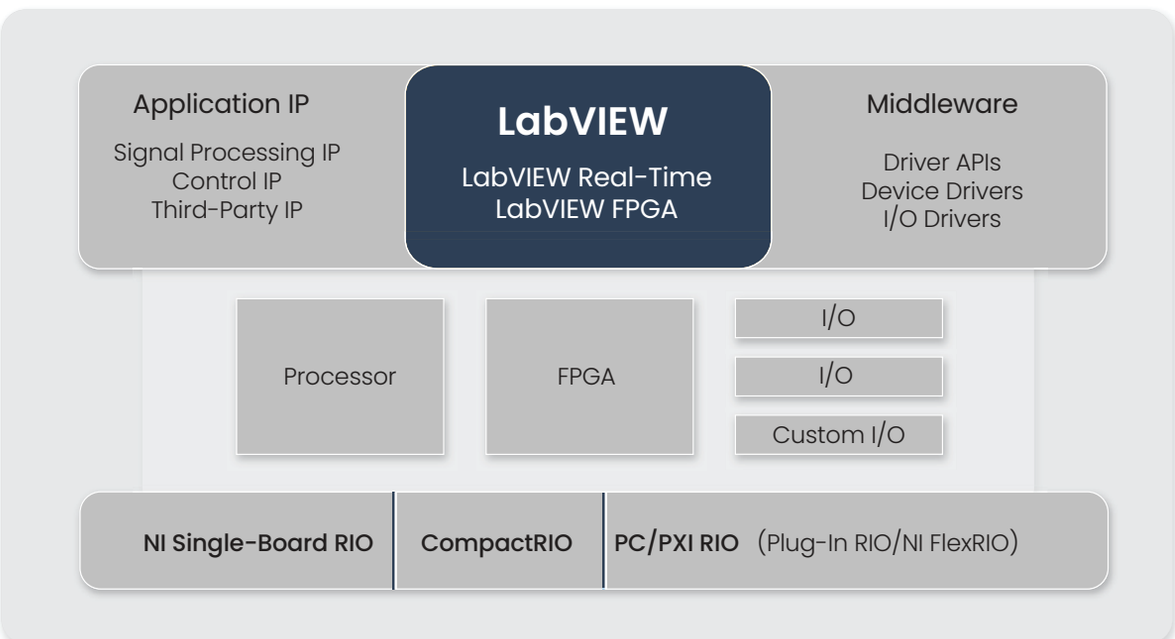
NI-DAQmx Driver Software

The NI-DAQmx high-performance, multithreaded driver is shipped with all NI data acquisition products and provides a consistent set of functions for use with multiple programming languages and for all supported PC buses. Every NI data acquisition device works with NI-DAQmx to create a flexible platform that needs no code alterations when changing hardware devices. NI-DAQmx is available for use in environments including LabVIEW, LabWindows/CVI, C/C++, Visual C#, and Visual Basic .NET



Embedded Control and Monitoring

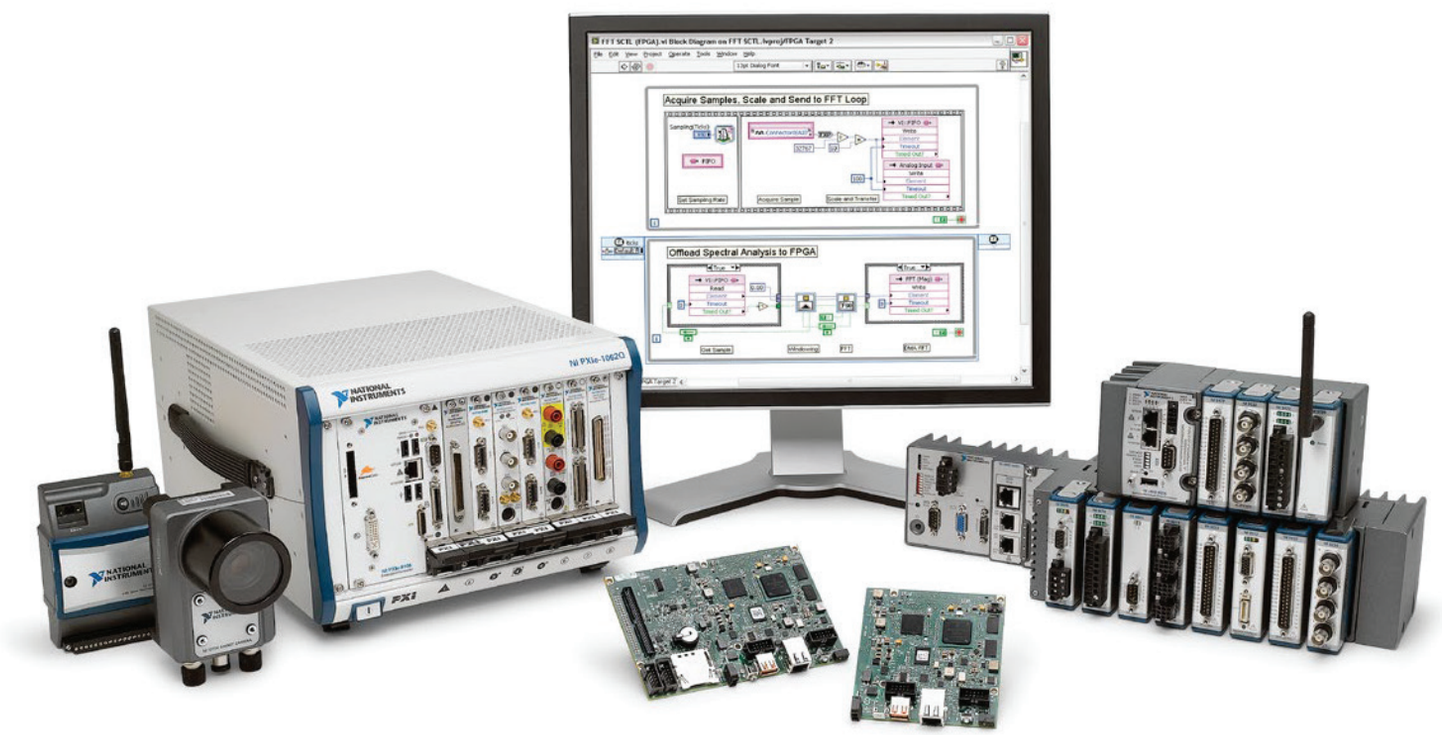
NI embedded systems combine LabVIEW software with off-the-shelf hardware to simplify development and shorten time to market. All NI reconfigurable I/O (RIO) hardware products are built on an architecture that features powerful floating-point processors, reconfigurable FPGAs, and modular I/O. And with LabVIEW, you can customize hardware and integrate custom timing, signal processing, and high-speed control without requiring expertise in low-level hardware description languages or board-level design.



> *LabVIEW has made the software development side much quicker than our past experiences in C-based programming. What most C programmers take two years to do, we can accomplish in a couple of months. We can use that time savings to get to market quicker and capitalize on our competitors' lag time.*
>
> —Robert Stewart, LIME Instruments

NI CompactRIO Platform

NI embedded control and monitoring tools are the core component of the graphical system design approach. LabVIEW system design software and reconfigurable hardware provide a superior method for design teams to complete demanding embedded control and monitoring tasks faster without requiring custom design.



> *"LabVIEW and CompactRIO made it easy to implement critical parts of the control system with high-speed processing...without needing low-level tools, custom circuitry, or programming languages other than LabVIEW."*
>
> —Paolo Catterina, EUROelectronics

NI RIO
Hardware Platforms

National Instruments offers a variety of hardware platforms based on the LabVIEW RIO architecture, including NI CompactRIO, NI Single-Board RIO, NI R Series devices, and PXI-based NI FlexRIO modules. With varying degrees of performance, cost, I/O rates, form factors, and ruggedness, NI RIO devices can meet the unique needs of your embedded control or monitoring applications.

NI CompactRIO

Options within the CompactRIO platform include smaller-footprint, lower-cost systems for OEM applications and ultra-rugged, high-performance systems.

- 400 MHz to 1.33 GHz dual-core processors
- Xilinx FPGAs for processing and control
- Hot-swappable I/O modules
- Up to -40 to 70 °C temperature range

NI Single-Board RIO

- Processor, FPGA, and I/O all on a single board
- Smallest form factor for high-volume, embedded applications
- Built-in analog, digital, and peripheral I/O

PXI- and PC-Based RIO Systems

- NI PXI/CompactPCI systems provide the highest performance RIO systems
- R Series PCI/PXI devices feature multifunction I/O and the power of an FPGA
- NI FlexRIO delivers the highest performance FPGAs with custom external signal conditioning

Multifunction I/O

Multifunction I/O is an integral part of the LabVIEW RIO architecture that you can use to interface directly with sensors, actuators, motors, discrete inputs, and other devices in your system. The I/O feeds directly into the user-configurable FPGA, where you can perform inline signal processing, I/O synchronization, and closed-loop control.Multifunction I/O is an integral part of the LabVIEW RIO architecture that you can use to interface directly with sensors, actuators, motors, discrete inputs, and other devices in your system. The I/O feeds directly into the user-configurable FPGA, where you can perform inline signal processing, I/O synchronization, and closed-loop control.

C Series I/O

In addition to integrated I/O, both CompactRIO and NI Single-Board RIO feature interfaces to C Series I/O modules. NI offers over 50 different kinds of C Series I/O modules with built-in signal conditioning, direct sensor connectivity, and industrial ratings to meet unique I/O needs.

- Voltage
- Temperature
- Digital input and output
- Relays
- Strain/bridge completion
- Counter/timer/pulse generation
- Acceleration
- Microphones
- Current
- Resistance
- Drives and motors
- Analog output
- Serial
- CAN communication
- PROFIBUS communication

C Series I/O

NI provides module development kits (MDKs) for creating your own custom I/O interfaces and software drivers.

- Create custom C Series modules with the NI C Series MDK
- Create custom daughter cards with the RIO Mezzanine Card (RMC) connector for NI Single-Board RIO
- Build custom NI FlexRIO adapter modules with the NI FlexRIO Adapter MDK

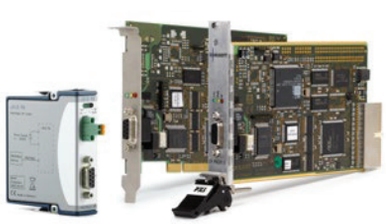
ADDITIONAL EMBEDDED CONTROL AND MONITORING PRODUCTS

NI Vision Systems

From image acquisition and precision inspection to customized sorting and autonomous guidance, NI vision systems deliver an integrated hardware and software solution that helps you develop applications faster and at a lower cost.

NI Motion

Engineers are using LabVIEW software, versatile real-time controllers, and a complete drive and motor portfolio to build advanced motion applications faster and at a lower cost. NI offers PCI and PXI plug-in motion controllers as well as C Series drive and drive interface modules for CompactRIO.



Industrial and Embedded Networks

For communication protocols like CAN, CANopen, PROFIBUS, DeviceNet, Modbus, and EtherCAT, NI offers a variety of tools to help you communicate with other devices in your system.

NI Wireless Sensor Networks

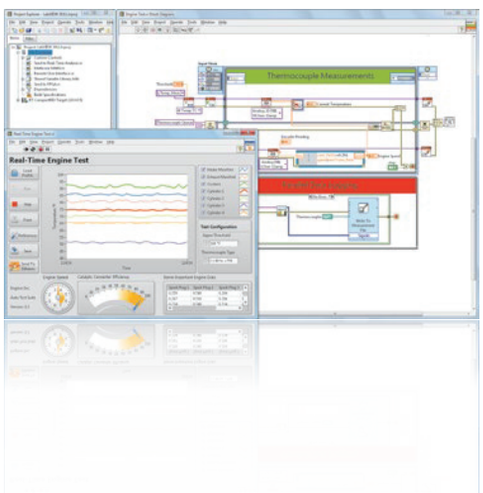
Extend the reach of your system by wirelessly monitoring your assets or environment with reliable, battery-powered measurement nodes that feature industrial ratings and local analysis and control capabilities. Each wireless sensor network can scale from tens to hundreds of nodes and seamlessly integrate with your existing wired systems.

NI Human Machine Interfaces (HMIs)

Create robust, reliable operator interfaces and visualization systems with NI HMIs and touch panel computers. With a variety of sizes, operating systems, and communication interfaces, you can find the right product to remotely visualize data or create embedded interfaces for OEM applications.

THE ULTIMATE SYSTEM DESIGN SOFTWARE FOR EMBEDDED SYSTEMS

LabVIEW is the only development environment that delivers an entire toolchain for developing advanced test, measurement, and control applications. With tight hardware integration, the graphical system design approach increases innovation, enhances productivity, and reduces time to market.



LabVIEW Real-Time Module

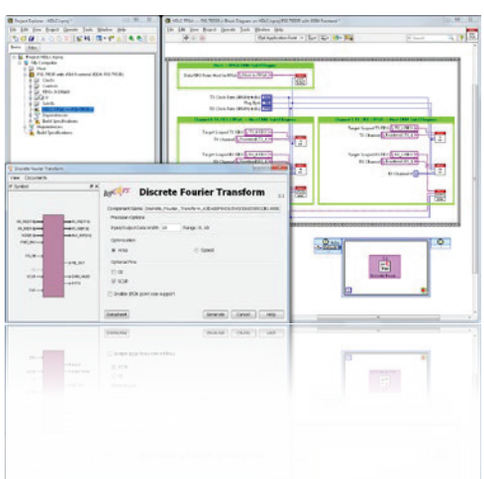
NI real-time technology offers reliable, deterministic performance for all your application needs. Use the LabVIEW Real-Time Module to develop and deploy complex, stand-alone applications to the embedded microprocessor in the LabVIEW RIO architecture.

- Execute programs with strict timing constraints
- Communicate with a host or other enterprise systems
- Conduct closed-loop control and signal analysis
- Host data through web services

LabVIEW FPGA Module

Take advantage of reconfigurable FPGA hardware to meet the most complex application challenges. The LabVIEW FPGA Module delivers a high level of abstraction to greatly simplify the generation of FPGA code and eliminate the need for expertise in hardware description languages.

- Implement custom digital protocols
- Perform inline signal processing
- Execute high-speed closed-loop control
- Perform custom timing and triggering
- Leverage resources and preconfigured IP



TYPES OF SENSORS & TRANSDUCERS

Abha is dedicated to offering a wide range of sensors and transducers for all applications related to data collection and processing. Our specialization is not only in matching you with the best sensors for your purpose, but also in integrating those sensors with a specially designed solution on the newest technological platform.

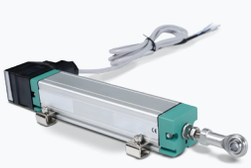
LOAD MEASUREMENT

- Shear beam Type Load Cell
- Column Type Load Cell
- Button Type Load Cell
- Cake Type Load Cell

TORQUE MEASUREMENT AND CONTROL

- Inline Torque Sensors
- Reaction Torque Sensors
- Dynamometer

VIBRATION & DISPLACEMENT SENSORS



- Single Axis Accelerometer
- Three Axis Accelerometer
- High precision LVDTs
- (Small Stroke).
- Large Stroke LVDTs
- Potentiometer Type
- Displacement Transducer.
- Non-contact,Displacement sensors

TEMPERATURE MEASUREMENT

- Thermocouples J, K, T etc
- RTD (PT 100)
- Thermistors

PRESSURE MEASUREMENT

- For Oil, Water, Gas
- Wide Pressure Ranges
- Tough and Corrosion Resistant

FLOW MEASUREMENT

- DP Flowmeter
- Vortex type Flowmeter
- Turbine type Flowmeter
- Electromagnetic Flowmeter
- Ultrasonic Flowmeter

WATER QUALITY PROBES

- Conductivity Probe
- pH Probe
- Dissolved Oxygen Probe
- Ion Measurement Probe

METEOROLOGICAL SENSORS

- Relative Humidity Sensor
- Wind Speed and Direction (Anemometer)
- Solar Irradiance Sensor (Pyranometer)

POWER SENSORS & ANALYZERS

- Soil Quality Probe
- DC Step-down Converters
- RMS Voltage Converters
- Hall Effect Sensors
- Corrosion Sensor
- Current Transformers
- Frequency Sensor

MACHINE VISION

- CCD and CMOS Camera
- Lens, Backlights, Ringlights

Why Abha

Abha is perfectly placed in the market to cater to your needs because:

- We have several years of experience integrating sensor and acquisition products into systems that serve new, peculiar testing needs
- We can make informed choices of platform and product-make based on our experience and feedback in a wide range of applications
- We have a team of experienced, capable engineers ready to assist you no matter how different or remote your application

24x7 Customer Support

Our best after-sales service ensures quick and efficient resolution of issues and queries, guaranteeing customer satis-faction.

15 years of Spare Support

Enjoy peace of mind with 15 years of spare support, ensuring a smooth operation and optimal performance.

Comprehensive Project Consultancy

Our free project consultancy helps you identify the best testing standards and solutions to meet your unique needs.

Our alliances leverage our partnership for major benefits

TECHNOLOGY PARTNERS

HIOKI ADVANTECH KEYSIGHT TECHNOLOGIES

GEFRAN MECO WIKA Elektro-Automatik MICRO-EPSILON

Abha is strategically partnered with National Instruments, one of the top technological company in the world, to ensure that its clients receive the best products and integration services available. A b h a also collaborates with top technology partners to create creative and trustworthy testing solutions that address our clients' changing demands.

Our Clients

Working towards your business goals

Our valued customers are at the center of whatever we do. At Abha, ensuring customer satisfaction is a way of life. The group has always adhered to a philosophy of going that extra mile to offer value to its customers in terms of quality, time, price advantages as well as ease of doing business with us.

Let's Connect!

ABHA™
TECH SOLUTIONS LLP

Revolutionize Your Industry Today

Abha has experts who can design and execute testing protocols that are accurate, efficient, and effective, providing valuable insights to improve your product's performance. With Exeliq, you can take your testing to the next level and achieve better results than ever before. So don't wait, revolutionize your testing today with Abha's cutting-edge Testing Solutions.

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