Accelerating Innovation and Discovery

NATIONAL INSTRUMENTS™
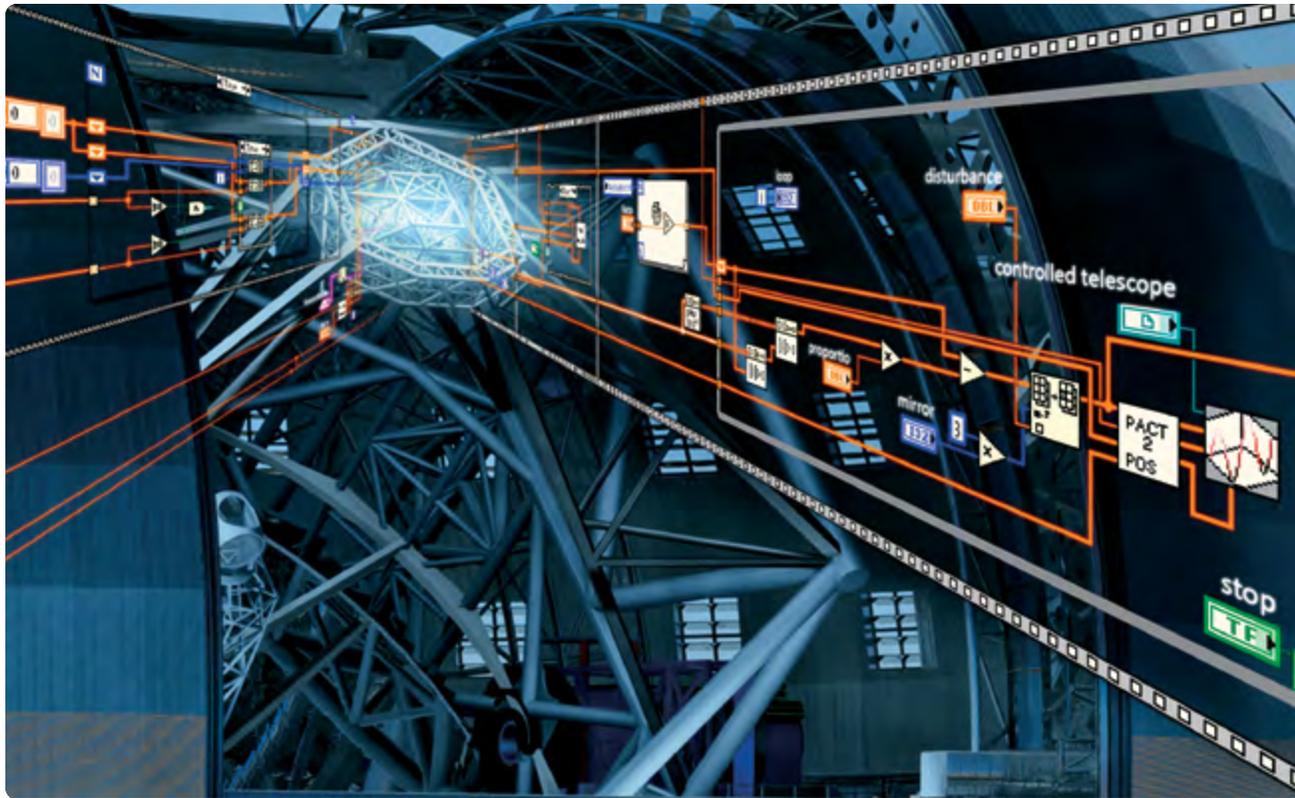
There's a way to do it better. **Find it.** –Thomas Edison
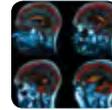
Engineers and scientists have the power to help meet the biggest challenges our planet faces today.

From identifying new sources of energy to designing life-saving medical devices, the contribution of engineers has a significant impact on our quality of life. By finding a better, more efficient approach to meeting design challenges, engineers can accomplish more while saving time, money, and effort.

National Instruments equips engineers and scientists with the tools that accelerate productivity, innovation, and discovery.

Since 1976, NI has developed software and hardware that have revolutionized and continue to redefine the way engineers develop systems that require measurement and control. The NI software-based approach incorporates rapidly advancing commercial technology, providing an integrated software and hardware platform that abstracts system complexity and significantly speeds application design, development, and deployment.

Accelerating Productivity, Innovation, and Discovery

Engineers and scientists use NI products to develop measurement and control systems for industry, advanced research, and engineering education. Global leaders in nearly every industry rely on NI products to help them work better, smarter, and faster to achieve their goals from design to production.

SpaceX

Max Planck

Analog Devices

Each year, more than 35,000 companies select NI products. These are a few examples of the success NI customers are achieving across multiple industries.

Academic
Students at Virginia Tech used NI LabVIEW and NI CompactRIO to create the world's first functional prototype of a blind-driver vehicle under tight cost and time restraints.

Advanced Research
Researchers at the Max Planck Institute for Plasma Physics used LabVIEW and NI FlexRIO to create a high-precision, high-speed feedback system that can control the position of a single atom.

Aerospace and Defense
SpaceX decreased development time and reduced costs on a new line of launch vehicles with an in-house testing system it created with LabVIEW.

Automotive
Ford Motor Company was first to market with its fuel-cell plug-in hybrid, and the company reduced the resources required for the project using LabVIEW and CompactRIO.

Consumer Electronics
Whirlpool used the NI platform to create an automated hardware-in-the-loop test system that reduced test time, maximized efficiency, and increased the reliability of its domestic washing machines.

Energy
NexGEN used LabVIEW and NI Single-Board RIO to analyze baseline power grid data in overpopulated areas and apply its findings to modernize and scale overtaxed grids in India, where 400 million people are without power.

Life Sciences
With the flexibility and scalability of the NI PXI platform, researchers at Kitasato University developed the world's first real-time 3D OCT imaging system, which can detect cancer without a biopsy.

Semiconductor
Using the NI platform, Analog Devices cut development costs by 10X when creating a MEMS device test system while reducing power consumption and footprint.

A Platform-Based Approach to Today's Challenges

Increasing global competition and the incredible pace at which technology is advancing multiply the pressure on companies and engineering teams. To meet these challenges, engineers require flexible tools and efficient, cost-effective development methods. Graphical system design is a platform-based approach that simplifies development and gives engineers the ability to easily integrate changing technology and requirements into a reconfigurable system.

The NI graphical system design platform accelerates the development of any system that needs measurement and control.

With this flexible platform, engineers can scale from design to test and from small to large systems while reusing tools and IP and leveraging commercially available technology for optimum performance. Highly productive software, coupled with modular, reconfigurable hardware, simplifies the ever-increasing complexity of systems at multiple levels, including unprecedented visualization of system timing.

| Test | Monitor | Embedded | Control | Cyber Physical |

NATIONAL INSTRUMENTS
LabVIEW™

| Desktops and PC-Based DAQ | PXI and Modular Instruments | RIO and Custom Designs | Open Connectivity with 3rd Party I/O |

High school students competing in the FIRST Robotics Competition build fully functioning, human-sized robots in just six weeks using the NI graphical system design platform.

CERN relies on the graphical system design platform for the mission-critical timing, accuracy, and reliability required for precise control of subatomic particle beams traveling at nearly the speed of light.

From Student Design to Controlling the World's Most Complex Machine

Graphical system design abstracts complexity and empowers users to focus on the problem they are trying to solve rather than the tools they are using to solve it. Thousands of students around the world use this platform in robotics competitions and programs that teach them essential technology and engineering skills. This same platform is powerful enough to control the world's most complex and mission-critical machines, such as the CERN Large Hadron Collider.

An Ecosystem for Ensuring System Success

One of the most important elements of the graphical system design approach is the ability to take advantage of the work of other engineers. This platform-based methodology is supported by a growing ecosystem of technology partners, comprehensive services and support offerings, and IP and applications used by individual engineers and small teams alike.

"By developing our new function circuit test system with PXI and LabVIEW, we greatly reduced duplication of engineering effort and can more easily share resources."

—*Wei Wang, Honeywell Co. Ltd, China Company*

NI Ecosystem

Software

8,000+
Example Programs

9,000+
Instrument Drivers

1,000+
Smart Sensors

2,000,000
Students Using LEGO® NXT

Hardware

50,000,000
DAQ Channels Deployed

1,500+
C Series and PXI I/O Modules

40+
Protocols/Buses

1,000+
IP for Processors/FPGAs

Partners

100+
NI and Third-Party Add-Ons

700+
Alliance Partners

1,000+
Value-Added Resellers

8,000+
Classrooms Using NI Tools

User Community

200,000+
Online Members

450+
Registered User Groups

74
Peer-Driven Support Forums

3,000+
Online LabVIEW Jobs

Focus on the Problem, Not the Tools

The graphical system design platform-based approach results in better performance with lower costs through its incorporation of constantly improving commercial technology. The approach also delivers improved integration and higher development productivity with system design software that abstracts the complexity of hardware yet allows access to the chip—meaning you can focus on innovation, not implementation.

"It is critical to complete high-quality designs within budget and schedule to continue to win business and ensure customer value. We have developed a partnership with NI that helps us meet these challenges, leveraging its test technology platforms and best practice knowledge in enterprise-level test execution."

—Glen Parker, Vice President of Program Management, Thales Communications

Increasing Test Throughput

To keep pace with increasingly complex product development, Thales Communications automated the verification testing of its mission-critical radios using LabVIEW and PXI. The new automated test system reduced verification test time by 92 percent and operational manpower needed by 79 percent, saving the company millions of dollars annually.

Doing More With Less

Engineers at Nucor developed an automated system with LabVIEW and CompactRIO to reduce the amount of energy consumed during its steel recycling operations. The new approach resulted in a 10X increase in efficiency, improved safety, and dramatically reduced the amount of electricity the plant was drawing from the community power grid.

New Research Methods

Biorep Technologies developed an automated perifusion system that automates cell secretion analysis used for advanced type 1 diabetes research. Using LabVIEW and CompactRIO, Biorep reduced development time by 75 percent, avoided developing custom control software and drivers, and increased efficiency with sophisticated debugging and remote troubleshooting features.

ni.com

Managed for the Long Term

Headquarters
Austin, Texas

Year Established
1976

Diversity
No industry makes up more than 15% of revenue

R&D Investment
16% of annual revenue

Customer Base
Over 35,000 companies annually

National Instruments' industry leadership is built on proven technology, visionary leadership, and sustained growth. Managed for the long term, the company balances the needs of all its key stakeholders and is committed to innovation, continuous improvement, and customer success.

NI makes a unique and positive impact by equipping engineers and scientists with the tools to apply their technical expertise toward addressing critical societal issues such as science and technology education, alternative energy research, quality of life, and access to technology in developing countries. Through its employees, customers, business practices, and company mission, NI is changing the way that engineers can impact the world.
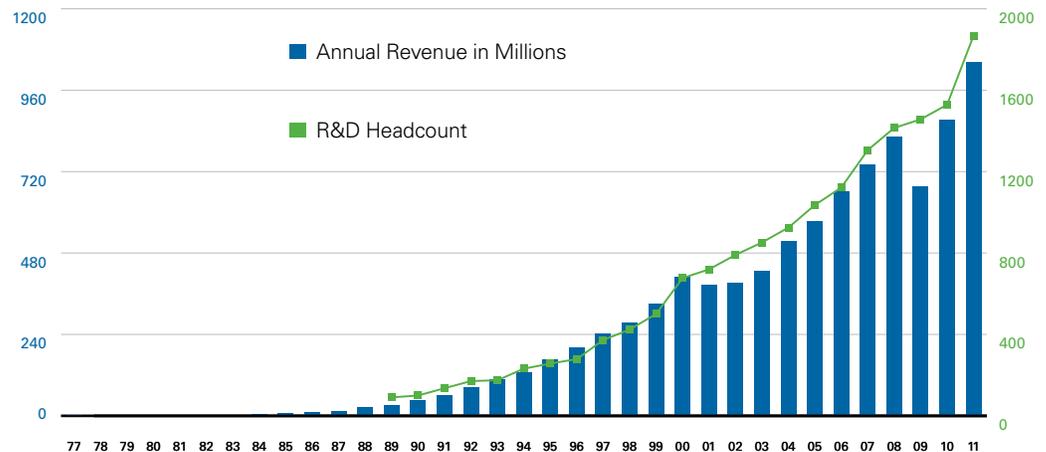
Chart legend: Annual Revenue in Millions; R&D Headcount. X-axis years: 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11

By engaging students with technology in a fun, hands-on way, NI helps inspire the next generation of engineers and scientists.

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