

## 2014 Conference Program



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Dear Colleague,

Welcome to Austin and the 20th annual NIWeek—the global NI event that showcases best practices and tools for the world's top engineers and scientists.

For the next few days, you'll join a community of more than 3,800 fellow researchers, engineers, and educators who are using LabVIEW system design software and NI modular hardware to redefine innovation, build the technology that makes things work, and positively impact society.

This year's event provides the perfect platform for learning about new technologies, increasing your professional skills, and networking with graphical system design colleagues.

Choose from more than 200 technical presentations, interact with technology from NI and nearly 200 leading companies, participate in advanced training sessions, and take certification exams all while enjoying the sights and sounds of Austin, Texas.

Follow @NIGlobal on Twitter to stay updated during the conference and visit ni.com/niweekcommunity after the event for images, presentation slides, and other resources.

Thank you to the sponsors, exhibitors, and attendees from around the world for being part of this world-class event.

Now let's celebrate two decades of NIWeek by making this year's conference the ultimate learning environment for the development of software-defined measurement and control systems. Together, you and NI will make NIWeek 2014 the best yet.

Best regards,

en Inchal

James Truchard President, CEO, and Cofounder National Instruments



## NIWeek keynote presentations give attendees a first look at the latest

cutting-edge innovations for engineers and scientists using NI tools and technologies to accelerate productivity and drive rapid innovation across a wide variety of industries. Start off each morning of the conference by exploring new products through demonstrations and customer presentations from NI leadership and engineers, and learn how LabVIEW can help you launch your applications and your career. See it all for yourself at the keynote presentations listed below.

## Tuesday, August 5

Together, you and NI are redefining how engineers solve key business applications like production test, data acquisition, and embedded control and monitoring while striving to find insight in data. Join Dr. James Truchard, NI president, CEO, and cofounder, and Mike Santori, vice president of NI Product Marketing, as they explore the latest technologies and solutions driving this evolution. See how NI's powerful hardware and software offering can meet your needs now and in the future.

## Wednesday, August 6

NI technology platforms play a critical role in the most advanced technology trends of our day, including the Internet of Things, 5G wireless solutions, Factories of the Future, and the smart grid. Together, you and NI are revealing how quickly these technologies are becoming a reality through a seamless integration of hardware and software platforms. Join Jeff Kodosky, NI cofounder and business and technology fellow, and Ray Almgren, vice president of NI Marketing, as they reveal how NI is closing the gap between vision and reality.

## Thursday, August 7

Explore how engineers are solving the world's grand challenges and how NI empowers the next generation of innovators from the classroom to industry with Eric Starkloff, executive vice president of NI Global Sales and Marketing; Dave Wilson, director of NI Academic Programs; and a panel of engineering luminaries, who will share their vision for the future.

## On-Site Check-In Hours

Sunday, August 3	7:30 a.m.–5:00 p.m.
Monday, August 4	7:00 a.m.–7:00 p.m.
Tuesday, August 5	7:30 a.m.–6:30 p.m.
Wednesday, August 6	7:30 a.m.–5:30 p.m.
Thursday, August 7	7:30 a.m.–1:00 p.m.

## Daily Continental Breakfast

7:30–9:00 a.m.	1st Floor Foyer
	,

## Daily Lunch

11:30 a.m.–1:00 p.m.	Cafe
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Lunch is provided for full-conference attendees and Expo Plus Pass holders.

Conference name badges are required for admission.

## Concessions

Concessions are available at the Jo's Coffee cart located on the exhibition floor.

## Exhibition Hall Hours

Monday, August 4	5:30–7:00 p.m. Welcome Reception
Tuesday, August 5	10:00 a.m.–7:00 p.m. 5:00–7:00 p.m. <i>Block Diagram Party</i>
Wednesday, Augus	t 6 10:00 a.m.–6:00 p.m.
Thursday, August 7	10:00 a.m.–1:00 p.m.

## Internet Services

Free wireless Internet access is available throughout the entire facility.

## **Business Center**

The Austin Convention Center is equipped with a full-service Business Center. Services include scanning, copying, printing, and shipping assistance. It is on the first floor opposite the Trinity Street entrances and near the Exhibition Hall entrance.

## Flight Arrival/Departure Board

The Austin Convention Center has a digital flight arrival/ departure board on display next to the Business Center on the first level and near the Exhibition Hall entrance. It features up-to-the-second flight information streaming directly from Austin-Bergstrom International Airport.

## Medical/First Aid

The First Aid Room is on the first level north of the Trinity North elevator and near the Exhibition Hall entrance.

## Lost and Found

Lost and found stations are at the main floor registration desk and the fourth floor information desk.

#### NI Campus Tour

Thursday, August 7 | 10:00 a.m.–12:30 p.m. Austin Convention Center Registration Area

Visit NI headquarters to tour the manufacturing facilities and view the results of nearly four decades of innovation. Discover how NI has integrated its campus into a native Texas landscape that promotes the NI culture. Also learn how NI reduces its environmental impact and creates a better world for employees, customers, and fellow citizens.

Shuttle runs from the Austin Convention Center to NI starting at 10:00 a.m.

#### NI Learning Lab

Learning LabVIEW has never looked so good. Visit the NI Learning Lab to see the new look and feel of NI Training. View the LabVIEW Getting Started content, experience a blended approach to NI Customer Education, and experiment with interactive simulations and labs. Find us in the Atrium near registration.

### NIWeek Online and Mobile Application

Get the most out of NIWeek with our online and mobile app tool. Create a personal schedule, review session abstracts and speakers, learn about the exhibitors, and get conference updates.

3 Ways to Access the NIWeek App

- Search the App Store with an iOS device for NIWeek 2014
- Search Google Play Apps with an Android device for NIWeek 2014
- Access the web version at https://niweek2014. activeevents.com/attendee/mobile/home.jsp using a smartphone, tablet, or PC browser



#### Join the Community

#### ni.com/niweekcommunity

NI

Looking for NIWeek presentations, code and videos from key demos, or networking opportunities? The NIWeek online community has it all. Join today and start collaborating with your peers before the conference even begins.

The NI Community has perks beyond NIWeek, too. Visit ni.com/community to connect with thousands of technical experts all over the world:

- Share and vote on LabVIEW feature ideas
- Download example code to jump-start your project
- · Join a user group to collaborate with other engineers who share your interests
- · Participate in existing technical discussions or start one of your own

#### Stay Social

#### Follow #NIWeek and @NIGlobal-twitter.com/niglobal

Obtain real-time updates, answers, and information from your colleagues and NI's social media team.

#### Connect With Us on LinkedIn and Facebook

linkedin.com/company/national-instruments facebook.com/nationalinstruments

Connect with fellow NIWeek attendees and get first access to company announcements and industry thought leadership.

#### Subscribe on YouTube

youtube.com/nationalinstruments

Watch interviews with NI leaders and industry experts and view keynotes, demos, and more.



You Tube

#### NIWeek Kickoff Happy Hour

#### Monday, August 4 | 5:30-7:00 p.m. | Exhibition Hall

Kick off your NIWeek experience with an evening of drinks and music while networking with NI sales engineers, National Instruments Alliance Partners, the NI R&D team, LabVIEW Champions, exhibitors, and other NIWeek attendees.

Sponsored by Intel

### Texas Day at NIWeek

Tuesday, August 5 | 8:00 a.m.-7:00 p.m. | Austin Convention Center

Texas Day gives engineering professionals around the state the opportunity to network with over 3,800 engineers and scientists. Learn from today's leading innovators through a variety of interactive technical sessions, panel discussions, and hands-on and case study presentations for beginners and advanced developers. Meet your local NI field engineers and Alliance Partners, and discover how you can use NI products to advance your application and retain your competitive advantage.

### NI Community Block Diagram Party

#### Tuesday, August 5 | 5:00–7:00 p.m. | Exhibition Hall

Enjoy food, drinks, and music as you meet fellow conference attendees from around the world. Watch the Challenge the Champions contest in the Technology Theater, or make history and join the world's largest user group gathering.

## Annual NIWeek Conference Party

Wednesday, August 6 | 6:30-10:30 p.m. | Palmer Events Center, 900 Barton Springs Rd.

Celebrate Austin style as you enjoy good food, cold drinks, and live music! Dance the night away to live music or kick back, take in the night air, and network with your peers at this popular conference event. Buses will run between the party and the convention center.



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# NI Engineering Impact Awards

#### The NI Engineering Impact Awards recognize the most innovative

user applications based on NI software and hardware. This year, nearly 300 authors from 29 countries submitted technical papers that depict their greatest achievements using the NI platform. Visit the contest poster display, located on the first level, to learn about the finalists' applications for each of the seven application categories. Winners of each category, as well as the recipients of several featured awards including the NI Community's Choice, Engineering Grand Challenges, Humanitarian, Xilinx All Programmable Innovation, Intel Internet of Things, and the Application of the Year, will be announced at the invitation-only awards dinner on Tuesday, August 5.

#### Advanced Research

Building the World's Largest Range, Highest Speed Atomic Force Microscope

Iman Soltani Bozchalooi, A.C. Houck, and K.Youcef-Toumi, *MIT* 

Using CompactRIO and LabVIEW to Monitor and Control a Compact Spherical Tokamak for Plasma Research

Paul Apte, Tokamak Solutions

#### Energy

Controlling a Hardware-in-the-Loop Grid Simulator for the World's Most Powerful Renewable Energy Test Facility

Mark McKinney, Ben Gislason, and J. Curtiss Fox, Clemson University Restoration Institute

Developing a High-Speed Electrical Analysis for Facility-Wide Energy Research

Nick Aroneseno, Craig Eidson, and Jennifer Palumbo, Optimation Technology

#### **Functional Test**

Developing a New End-of-Line Test Bench for Hybrid Inverters

Alessandro De Grassi and Alessandro Andreoli, Loccioni

Testing eCall Emergency Call Systems With the NI Platform

Enrique Gutierrez, peiker acustic GmbH & Co. KG Markus Solbach, Marc Abels, and Sergej Dirks, NOFFZ ComputerTechnik GmbH

#### Machine Control

Controlling a Robotic Manipulator for Nuclear Decommissioning

Dr. Carwyn Jones, James Fisher Nuclear, Ltd. Justin Gallagher and Dr. David Keeling, Key Engineering Solutions, Ltd.

Developing a Portable 3D Vision-Guided Medical Robot for Autonomous Venipuncture

Alvin Chen and Max Balter, VascuLogic



#### Physical Test and Monitoring

Hyundai Uses a Portable Sound Camera for Buzz, Squeak, and Rattle Studies

Kang-Duck Ih, Hyundai Motor Group Youngkey K. Kim, SM Instruments Co., Ltd.

Characterizing Sound Profiles for a New Airbus Aircraft Using NI PXI

Johan de Goede and Rob Zwemmer, National Aerospace Laboratory (NLR)

#### RF and Communications

Weather Radar: Design to Deployment Using the NI Platform

Dr. Takuo Kashiwa, Yasunobu Asada, and Tomonao Kobayashi, Furuno Electric Co., Ltd.

Building a Satellite Navigation Test Platform Using the NI Vector Signal Transceiver

David Bourdier, Yohann Gouttefroy, Mark Dury, and Marc Pollina, *M3 Systems* 

#### Transportation

Subaru Makes Software Key for Reliability and Fuel Economy

Tomohiro Morita, FUJI Heavy Industries, Ltd.

Remote Condition Monitoring of London Underground Track Circuits

Sam Etchell, Dale Phillips, and Barry Ward, London Underground, Ltd.





## **Continuous Engineering** Speed delivery of smart and connected products

#### Today's products and systems are more intelligent, instrumented and interconnected than ever – is your engineering practice evolving to keep up?

To stay competitive, today's manufacturer must be able to adjust to constant change – change in consumer expectations, change in technology, and change in the dynamic environments in which today's connected products live. Because change is continuous, engineering must be continuous – to derive revenue from products long after they are placed into service.

Businesses can keep pace by addressing the perpetual need to keep rethinking, redesigning, reintegrating and re-innovating, with a focus on:

#### Turning insights into outcomes

The practice of using open standards and analytics to access, unlock and understand all engineering information, regardless of source – to enable the right decisions at the right times.

#### Continuous verification

The practice of modeling physical and systems behavior early in the product development lifecycle, and then continuing to apply simulation and test technologies in successive stages until the design is mature – to prevent rework and achieve faster time to quality.

#### Strategic reuse

The practice of design planning and execution such that intellectual capital is reused as much as possible throughout the product development lifecycle – to increase design efficiencies, engineer larger product lines, and tame complexity.

Join us at **Booth #805** and discover how IBM's Continuous Engineering solutions are leading the way through a landscape of constant change.



ibm.biz/SpeedtheDelivery



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## Maximize your NIWeek experience with training courses and

certification exams. Available at the Austin Convention Center at discounted rates, NI training and certification are the most effective way to increase your productivity and ability to efficiently develop robust, maintainable applications with NI products.

You can take training courses before and certification exams during NIWeek. Visit the NI Services and Training booth on the expo floor or the NI Learning Lab in the Atrium for more information.

## Training Courses

Gain in-depth product knowledge and learn best practices for developing applications by attending a two-day training course that begins two days prior to NIWeek. With NI training, you can develop 50 percent faster and spend 43 percent less time on code maintenance. The following courses are offered as two-day modules Sunday–Monday, August 3–4:

- LabVIEW Real-Time: Architecting Embedded Systems
- LabVIEW FPGA
- Object-Oriented Design and Programming in LabVIEW
- NI TestStand 2: Framework Development

## **Certification Exams**

Validate your skills or renew your LabVIEW, NI TestStand, or LabWindows<sup>™</sup>/CVI certification at NIWeek at discounted rates:

All NIWeek attendees: 50 percent off list price

## **Certification Preparation**

Not ready to obtain your certification yet? NI offers complementary certification preparation courses for the LabVIEW Certification exams prior to NIWeek on Monday, August 4:

- Certified LabVIEW Associate Developer Preparation Session, 8:00–10:00 a.m.
- Certified LabVIEW Developer
  Preparation Session, 10:00 a.m.–Noon
- Certified LabVIEW Architect Preparation Session, 1:00–3:00 p.m.
- Certified LabVIEW Embedded Systems Developer Preparation Session, 3:00–5:00 p.m.

## Exam Schedule

	Room	August 5	August 6–8
Certified LabVIEW Associate Developer (CLAD)	5C	1:30–2:30 p.m.	10:30–11:30 a.m.
Certified TestStand Architect (CTA)		3:30–4:30 p.m.	1:30–2:30 p.m. 3:30–4:30 p.m.
Certified TestStand Developer (CTD)			0.00
Certified LabVIEW Embedded Systems Developer (CLED) Part 1			
Certified LabVIEW Architect Recertification (CLA-R)			
Certified LabVIEW Developer Recertification (CLD-R)			
Certified LabVIEW Associate Developer Recertification			
Certified TestStand Developer Recertification			
Certified TestStand Architect Recertification			
Certified LabVIEW Architect (CLA)			1:00–5:00 p.m.
Certified LabVIEW Developer (CLD)			
Certified LabWindows/CVI Developer (CCVID)			
Certified LabVIEW Embedded Systems Developer (CLED) Part 2			
Certified LabWindows/CVI Developer Recertification			



## In addition to a variety of technical sessions, NIWeek gives you several

opportunities to meet industry and academic leaders, learn about engineers in the NI Community, and enhance your product knowledge and expertise during the following special events:

## **Big Physics Symposium**

Monday, August 4 | 7:30 a.m.-5:30 p.m. | Room 10A/B

From uncovering the fundamental properties of matter at CERN to harnessing the power of stars at ITER, NI provides technologies that enable scientists and engineers to investigate the universe's most perplexing mysteries and overcome the world's greatest challenges. Learn from top scientists and engineers how commercial off-the-shelf products offer compelling advantages in control, measurement, and diagnostics applications for accelerators, fusion reactors, synchrotron light sources, and telescopes.

## Build Your Own Embedded System

Monday, August 4 | 9:00 a.m.-5:00 p.m. | Room 18B

This hands-on workshop focuses on extending your LabVIEW skills into FPGA-based design with the LabVIEW reconfigurable I/O (RIO) architecture. Learn how to use the LabVIEW Real-Time and LabVIEW FPGA modules to configure, program, and deploy a RIO-based embedded system and take it home after the conference. There is an additional fee for this full-day workshop on Monday, August 4.

## Trend Watch Series

With a user base of 35,000 companies and hundreds of education and technology partners, NI is in a position to examine engineering trends as they happen and connect academic and industry leaders to help engineers leverage these trends and maximize results. Continuing the efforts from the SmartAmerica Challenge, the Trend Watch Series this year takes a closer look at two key engineering trends:

- 1. Big Analog Data—connecting IT infrastructures and analytic tools with DAQ systems
- 2. Cyber-Physical Systems—systems that continuously and dynamically interact with their environments through the coupling of distributed computational and physical components

## Future of System Design Panel Luncheon

Tuesday, August 5 | 11:30 a.m.-1:00 p.m. | Ballroom A

The Future of System Design Symposium, on Tuesday, August 5, brings together leaders from industry and academia to share insights on the cutting-edge tools and technologies that will shape the world of system design in the coming years. Listen to experts describe the opportunities and challenges in developing the software to take advantage of these systems.

## The Academic Forum provides a platform for academic professionals to

share best practices in engineering education methods, discuss the future of engineering, and network with colleagues. View presentations by expert engineering educators from around the world and learn how they integrate NI solutions to teach concepts and bring learning objectives to life.

### Academic Forum Poster Session and Partners Exhibit

See how engineering students and professors from around the world are incorporating LabVIEW and graphical system design into innovative research applications and a variety of design projects at the Academic Forum Poster Sessions. From inexpensive medical devices to complex underwater autonomous vehicles, university students and professors engineer a better world using LabVIEW. Check out these cutting-edge applications alongside exciting new products from NI partners in Ballroom G throughout Monday in the Academic Forum.

#### UT Lab Tours

Monday, August 4 | 8:30–11:00 a.m. | The University of Texas at Austin Tour participants should meet in the registration area for transportation at 8:30 a.m.

Tour some of the cutting-edge engineering labs at The University of Texas at Austin to see work in various application areas and discover how the facilities further academic research using LabVIEW and other NI technologies.

#### Department of Mechanical Engineering Dynamic Systems and Controls Laboratory

The goal of this junior/senior-level undergraduate laboratory core course is to provide practical hands-on experience in the modeling, analysis, simulation, and control of engineering systems. This tour focuses on developing and using experimental techniques in LabVIEW for simulation, data analysis, and data acquisition. It also offers demonstrations of measurement and controls experiments using NI myDAQ.



#### Department of Biomedical Engineering Biomedical Imaging Laboratory

Research in this lab focuses on the development of novel optical tomographic imaging modalities and laser surgical procedures for the diagnosis and treatment of disease in humans. The lab is at the forefront of bringing an imaging technique known as optical coherence tomography (OCT) into the practice of cardiology and glaucoma early diagnosis. The goal of cardiology lab projects is to refine the technology so it can identify one more hallmark of a plaque vulnerable to rupturing within blood vessels. Ruptures of these fatty deposits are the most common cause of heart attacks and strokes, the leading causes of death worldwide. Hear from research staff members about their use of LabVIEW and PXI in applications such as a real-time parallel OCT acquisition program.

Attend Academic Forum sessions in ballrooms E–F, 9:00 a.m.–5:00 p.m. See the online catalog or the mobile app.

## Aerospace and Defense

#### Tuesday–Wednesday, August 5–6

System design using COTS equipment accelerates platform development, reduces total program cost, and lowers program risk. Learn how to address the entire life cycle of aerospace and defense using graphical system design tools to develop applications ranging from software-defined test systems to deployed real-time embedded systems for control, monitoring, and operation.

## Big Analog Data

#### Wednesday, August 6

Meet with industry, academic, and research leaders to discuss how the scientific, engineering, and IT communities can work together to leverage the tremendous technical and business insight that is gained from Big Analog Data. Hear how these organizations are connecting IT infrastructures and analytic tools, such as the cloud, with DAQ systems to make faster decisions on test data and work more efficiently.

## Cyber-Physical Systems

#### Tuesday, August 5

The inevitable rise of cyber-physical systems is changing the way organizations and people interact with the physical world. Hear from academic and industry leaders about new cyber-physical system developments, ways to address technology gaps in this area, and the opportunities that the shift to cyber-physical systems presents to engineering organizations and the world.

## Energy Technology

#### Tuesday–Wednesday, August 5–6

Learn from industry peers and see how NI customers are using new technology to make a smarter grid. Topics this year include asset monitoring, real-time grid simulation, and intelligent node deployment. At this annual technology exchange, researchers, asset managers, and industry professionals can share valuable lessons learned during application development using NI hardware and LabVIEW graphical system design tools.

## RF and Wireless

#### Tuesday–Wednesday, August 5–6

Join industry and research leaders from around the world to discuss the future of RF and wireless design and test. Learn how this vibrant community is redefining RF and wireless test and prototyping next-generation 5G communication systems using NI tools that help engineers and scientists innovate faster. Topics include wireless technologies, advanced testing techniques, microwave design trends, RF characterization, high-volume test, and wireless communications design.

## Transportation

#### Tuesday–Wednesday, August 5–6

Whether designing passenger vehicles, commercial and heavy equipment, agricultural machines, or rail systems, electronic complexity in the transportation industries has grown significantly in recent years. Learn about some key challenges this growth presents in all phases of the development cycle. Discuss with industry experts, integrators, users, and NI R&D how NI tools can help you test from concept to production using rapid control prototyping, hardware-in-the-loop (HIL) simulation, in-vehicle data logging, test cell measurement and control, and end-of-line and infotainment test.

#### Vision

#### Tuesday–Wednesday, August 5–6

For the last eight years, this summit has been one of the most comprehensive conference lineups in North America around imaging applications and technologies. It features two full days of interactive technical sessions and hands-on workshops as well as three days of exhibitions on the NIWeek show floor. Learn about new technologies and industry best practices as well as network with vendors, integrators, users, and other vision experts including NI R&D.

### Automated Test Systems

Learn from product and industry experts about the tools and techniques that can help you succeed in building modular and automated test systems. See new ways to combine NI hardware and software to make even better test stations. Also take advantage of opportunities to hear from your peers about their best practices and successes in similar fields. Both NIWeek veterans and first-time attendees can find valuable information in this track to help them work better and faster than ever before.

#### Data Acquisition Systems

Build your confidence in the tools you are using and the programming skills you have by learning from the experts in this track. With in-depth product sessions, peer presentations, application best practices, programming techniques, and hands-on workshops, NIWeek provides the best opportunity for you to ensure that your system meets the exact measurement requirements of your application.

## Embedded Systems

Discover a better way to design advanced control and monitoring systems that maximizes flexibility, reduces time to market, and minimizes cost and risk. Learn from product and industry experts about tools and techniques that can help you focus more of your time and resources on delivering innovation and creating competitive differentiation. Also explore products such as CompactRIO, NI Single-Board RIO, R Series, LabVIEW FPGA, and LabVIEW Real-Time for condition monitoring, smart machines, industrial control, and more.

## Software Development Techniques

Examine technologies and techniques to help you build better software applications. Hear from experienced users and NI experts on how to increase your productivity and system flexibility as well as ensure optimal performance. Whether you are an NIWeek veteran or a first-time attendee, learn valuable tips and tricks and gain a deeper, more advanced understanding of NI's software products. Also get hands-on with hardware and software and ask the questions you want answered.

#### 2014 LAVA/OpenG NIWeek BBQ

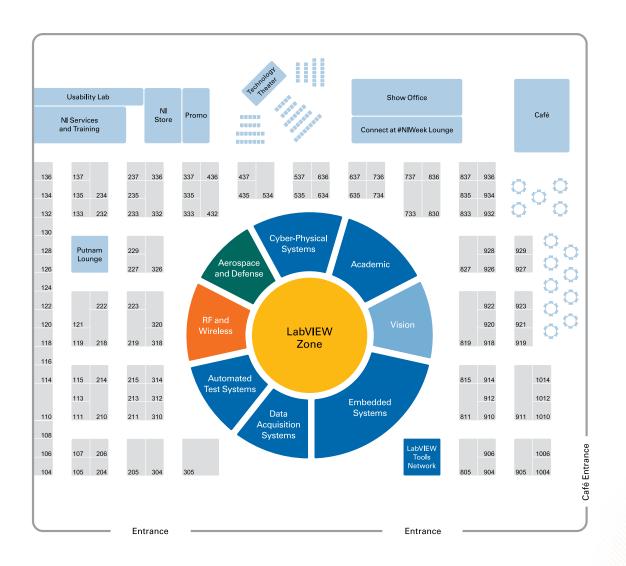
Tuesday, August 5 | 7:00 p.m. | Scholz Garten, 1607 San Jacinto Blvd., Austin

This yearly event brings together LabVIEW R&D engineers and our online and real-world friends from the LAVA and OpenG forums. Step away from the hustle and bustle of the NIWeek expo floor and enjoy good BBQ and awesome door prizes with your fellow wire workers. Tickets are \$30 USD per person. Learn more at lavag.org/bbq.

View technical track sessions in the online catalog or via the mobile app.







#### **Exhibition Hall Hours**

Monday, August 4 | 5:30–7:00 p.m.

Tuesday, August 5 | 10:00 a.m.-7:00 p.m.

Wednesday, August 6 | 10:00 a.m.-6:00 p.m.

Thursday, August 7 | 10:00 a.m.-1:00 p.m.

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## Located in the Exhibition Hall, the Technology Theater features

technology presentations and focused product and service demonstrations from exhibiting and partner companies as well as NI developers. These sessions are open to all NIWeek attendees.

Tuesday, August 5	10:30–11:00 a.m.	Discover How to Manage and Automate Your LabVIEW Deployments With BLT
	11:30–12:00	Speed Delivery of Increasingly Complex and Connected Products With Continuous Engineering
	12:30-1:00	Learn How to Shorten Your ATE Development Time with fastATE
	1:30–2:00 p.m.	Integration Strategies for Success With the Newest RIO Technologies
	5:45–6:15 p.m.	User Group Awards Ceremony
	6:15–7:00 p.m.	Challenge the Champions
Wednesday, August 6	10:30–11:00 a.m.	Generalized Equipment and Experiment Control System (GEECS)
	Noon-12:30 p.m.	Xilinx Vivado Design Suite—Enhancing Engineering Productivity and Performance
	1:30–2:00 p.m.	Leveraging the Amazon Web Services API
	3:00–3:30 p.m.	Using LabVIEW to Study the Biomechanics of Brain Injury
Thursday, August 7	Noon-1:00 p.m.	LabVIEW Coding Challenge Finals

## Discover How to Manage and Automate Your LabVIEW Deployments With BLT

BLT for LabVIEW is a 100 percent secure cloud management system. A LabVIEW programmer can use it to control the distribution, version the updates, and protect IP. Learn how BLT can drastically cut your maintenance time with tools like remote debugging, tracking, automatic updates, and more.

#### Speed Delivery of Increasingly Complex and Connected Products With Continuous Engineering

Rethink, redesign, reintegrate, and reinnovate—continuous engineering helps you tackle the challenges of developing tomorrow's increasingly sophisticated and connected products and systems. Learn how IBM's continuous engineering solutions help you unlock engineering knowledge, continuously verify requirements and designs, and achieve strategic reuse of engineering assets—to deliver better results faster.

#### Learn How to Shorten Your ATE Development Time With fastATE

Everybody talks about ATE standardization, but few have reached the goal. Learn how you can use 6TL's fastATE modular approach to build higher quality ATE systems in record time and take advantage of automatic standardization.

## Integration Strategies for Success With Newest RIO Technologies

Over the years, NI has proven that the LabVIEW RIO architecture can help ensure success on projects across many industries. At this session, review several of those applications and explore some common best practices to develop a combined strategy for success with new LabVIEW RIO architecture-based products. Also learn about Embedded UI, a new LabVIEW Real-Time feature, and the new NI System on Module.

#### Challenge the Champions

Watch pillars of the LabVIEW community battle each other for bragging rights as the most knowledgeable about LabVIEW.

## Generalized Equipment and Experiment Control System (GEECS)

The LabVIEW-based GEECS monitors and controls equipment distributed across a network, performs experiments by scanning input variables, and collects and stores various types of data synchronously from devices. You implement GEECS using graphical object-oriented programming to achieve a modular and scalable framework. Data is published for the subscription of an arbitrary number of variables over TCP. With a secondary framework, you can easily develop graphical user interfaces for combined control of any devices on the control system without the need for programming knowledge. A database interface provides for device and process configuration.

#### Xilinx Vivado Design Suite—Enhancing Engineering Productivity and Performance

Hear from Xilinx experts about the benefits of the Vivado Design Suite that delivers an SoC-strength, IP-centric, next-generation development environment built from the ground up to address the productivity bottlenecks in system-level integration and implementation. Explore not only the advantages of using LabVIEW FPGA with the "generation ahead" advances in Xilinx design tools but also how the technology continues to evolve to increase system-level integration capabilities.

#### Leveraging the Amazon Web Services API

Virtualization technologies deliver new flexibility to the world of PC management. Review a case study on transitioning a software test lab to virtual machines in the cloud. Various teams and tools connect to these 60+ virtual machines. Often you need to control these "virtual" resources in both an automated controller format and simple tools for everyday testers. Explore Amazon resources for virtualizing test labs and the NI tools built around the Amazon Web Services API, including a test controller capable of instantiating instances, launching tests, and then destroying the instances.

#### Using LabVIEW to Study the Biomechanics of Brain Injury

Hear how CompactDAQ and the Express VI helped a biomechanical engineer develop a DAQ system that moved his research on head and brain injury forward by leaps and bounds.

#### LabVIEW Coding Challenge Finals

Watch the highest scorer in the weeklong LabVIEW Coding Challenge compete against a LabVIEW R&D engineer in a live coding competition.



## Relax in the Connect at #NIWeek Lounge at the back of the Exhibition Hall.

Enjoy comfortable couches, free WiFi, and charging stations so you and your devices can recharge throughout the conference.

#### Get Social

Grab a spot on our sofas and follow conversations and photos via social media. Include #NIWeek in any of your tweets and updates, and you might see them on the jumbo screen before NIWeek keynotes and during the NIWeek conference party. "Like," "Follow," or "Friend" NIWeek to get official conference information in real time and participate in fun social media activities. New this year you can grab a coffee or snack from Jo's Coffee, a local favorite.

#### NI Store

Take the NIWeek experience home with you. Visit the NI Store to purchase NI-branded merchandise, including stylish T-shirts, polos, and other apparel. The store accepts American Express, MasterCard, and VISA. It is open during Exhibition Hall hours.

#### NI Services and Training Booth

As part of our commitment to your success, NI is pleased to introduce the new NI Services Program. Explore the benefits of this comprehensive, tiered service offering that empowers you with the flexibility to choose a service program that meets your application and business needs.

#### 3 Levels of Service

NI Standard Service Program NI Premium Service Program NI PremiumPlus Service Program

#### Spanning the Full NI Product Spectrum

Software Hardware Systems

#### Delivering World-Class NI Service

Training and Certification Software Maintenance and Support Hardware and System Services

Visit the NI Services and Training booth to learn more about the new service programs and discover the service level that is right for you.



## Automated Test System

See how NI is redefining instrumentation with open software and modular hardware. Covering a range of applications from semiconductor test and validation to consumer electronics test, this pavilion shows how leading companies are using PXI, LabVIEW, and TestStand to meet today's test challenges while reducing the total cost of test.

## Data Acquisition Systems

Discuss your applications with NI engineers presenting the latest NI hardware and software technology for taking measurements within R&D and design validation and verification. View technology demonstrations of DAQ products, including multifunction DAQ, CompactDAQ, and PXI, along with applications such as test cells, HIL, and in-vehicle data logging.

Honeywell, Jacobs, and PCB Piezotronics

## Embedded Systems

Explore how graphical system design is benefiting areas such as the smart grid, asset monitoring, and smart machine control as well as see demos of the latest products and features based on the LabVIEW RIO architecture.

External Embedded Systems Exhibitors: Agilis, Cyth Systems, LumaDyne, Master Machinery, Nexjen

## LabVIEW Zone

Discover what's new in LabVIEW and get a close-up look at demos featured in the conference. Along with learning about new programming resources, you can interact with other LabVIEW users as you try some of the fun and exciting demos powered by LabVIEW. See what amazing things LabVIEW can do.

## Learn how NI helps students worldwide "do engineering" with hardware

and software tools that scale from kindergarten to rocket science. With the demonstrations in the Academic Pavilion, educators can experience the hands-on tools that professors and students are using in thousands of engineering laboratories worldwide.

## Equip Your Classroom

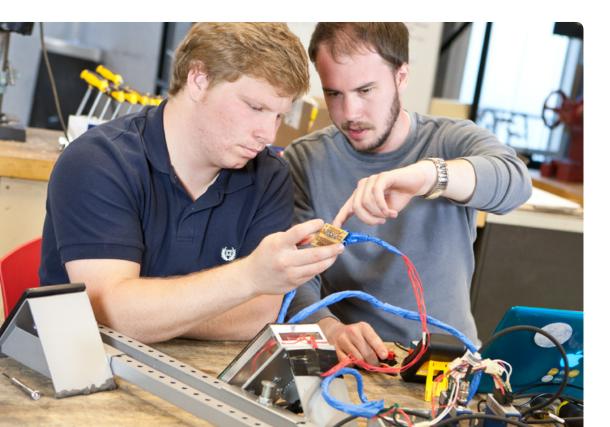
In addition to providing hands-on engineering education tools for laboratories, NI has partnered with educators worldwide to develop courseware for multiple subject areas, including complete laboratory guides, exercises, and virtual instruments. See demonstrations of products and courseware in the following application areas:

- Introduction to engineering
- Circuits and electronics
- Controls, robotics, mechatronics, and embedded
- RF and communications
- Measurements

## The Next Generation of System Designers

Students around the globe are using NI tools to engineer a better world. Learn about the work they are doing by speaking with finalists from the 2014 Global Student Design Showcase.

Pitsco, Quanser, Stratom



## Visit the Aerospace and Defense Pavilion to learn about the latest

technologies for engineering, research, and test. See demonstrations of NI hardware and software platforms for solutions in radio test, hardwarein-the-loop test, automated test, and SIGINT applications.

## MILCOM: Radio Test With LibertyGT<sup>™</sup> 1211B Modular, COTS Software Defined Synthetic Instrument (SDSI)

Explore a powerful RF, microwave, and wireless measurement and test system that offers programmability, flexibility, high performance, high throughput, and long life-cycle support. The RADX LibertyGT is a softwaredefined synthetic instrument that combines RADX real-time measurement science software and firmware with NI's modular PXI Express hardware and LabVIEW software to create an open architecture ideal for users and integrators.

## SIGINT: Quadcopter Tracking Using the Noise Inspector Powered by NI Single-Board RIO

Learn how you can use acoustic cameras for applications such as flyover tests, wind tunnel tests, 3D beamforming, and object tracking. See a demonstration of Noise Inspector software, a Bionic S microphone array, and NI Single-Board RIO hardware, which combine to provide the synchronization, clock signals, and data processing you need to acquire the characteristic sound of an object and track it as it moves.

## Navigation: Professional GNSS Testing Using the Stella® NGC Powered by NI FlexRIO and VST

Examine a GNSS simulator solution that features the power of the NI PXI platform including vector signal transceiver (VST) and NI FlexRIO hardware. The basic system can simultaneously generate 36 channels for simulating GPS, Galileo, or GLONASS constellations. With system extensions, you can implement satellite selection, mobile trajectory, receiver antenna patterns, atmosphere models, signal power settings, and user-defined error detection.

## V&V Test: HIL Verification and Validation Testing Using PXI and CompactRIO

Discover how to combine NI VeriStand software with PXI and CompactRIO hardware to create a hardware-in-the-loop system for verifying and validating your newest designs and prototype units.

### Radar: Software-Defined Instrumentation Offers Flexibility in Radar Test and Validation

See how you can use PXI RF instrumentation to generate and analyze pulses, emulate transponder interrogation and response, and create real-time environmental models and target returns.

## ATE: Secure, Rugged PXI-Based ATE Systems for Harsh Environments

Learn how Serco Limited created a secure and rugged RF tester based on the NI PXI platform that has been adopted for use by the UK Ministry of Defence.



## Cyber-Physical Systems (CPSs) are physical and engineered systems

with operations monitored, coordinated, controlled, and integrated by a computing and communication core. Learn more about how graphical system design and the platform-based approach can transform how we interact with the physical world from the nano- to large-scale systems of systems. This interactive exhibit showcases the latest technologies and demonstrates how they are used for the emerging initiative of Factories of the Future.

#### Robot Manipulator for Intelligent Manufacturing With CompactRIO

Use an industry manipulator with CompactRIO for real-time control and intelligently interact with various elements on the manufacturing and assembly line.

#### Vision-Based Quality Control

Learn how you can use the latest CompactRIO system and LabVIEW for high-speed object recognition to maintain quality control on the assembly line.

#### Automated Test With PXI

See how you can use a PXI system to automate test procedures on manufactured products for quality control on the manufacturing line.

## Health and Condition Monitoring With Wireless Technologies

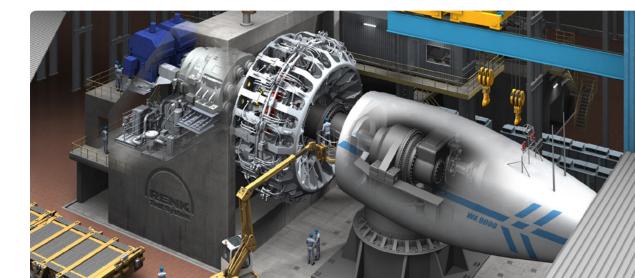
Learn how you can use CompactRIO and a wireless sensor network to ensure the health and safety of workers in a factory.

#### Real-Time Smart Inventory and Tool Tracking

Discover how NI's newest embedded systems are used with RFID technologies to ensure accurate inventory level monitoring.

#### Intelligent CPS Monitoring

Explore how a system featuring a unified software framework in LabVIEW and interactive sensors can interact and provide information and statistics on the entire manufacturing floor.



## Learn more about how NI is redefining RF test with the latest

software-defined instrumentation to address the ever-increasing challenges of working with the newest RF and wireless technologies.

## Reduce the Cost of RF Test With the PXI Platform

PXI instruments use high-performance, multicore processors and user-programmable FPGAs to dramatically reduce test times and lower test costs. View demonstrations of test systems that feature software-defined instrumentation to meet your time-sensitive validation and production test needs.

## Prototype, Validate, and Test on a Single Platform

With the flexibility and accuracy of PXI RF instruments, you can use the same instrumentation platform as a phase-coherent MIMO transceiver, a GPS simulator, and a wireless communications tester for protocols such as WLAN 802.11ac, LTE, Bluetooth, GSM/EDGE, WCDMA, and GNS. At this pavilion, see how the software-defined NI PXI platform can meet the fast-evolving needs of the wireless industry with the following demonstrations and more:

- Envelope tracking and digital predistortion techniques for power amplifiers
- New RF PXI solutions with industry-leading speed and measurement quality
- High-performance power amplifier characterization
  using software-designed instrumentation
- Mobile communications test
- Wireless infrastructure test
- 5G technology
- USRP RIO
- WLAN 802.11ac testing
- NI AWR Design Environment<sup>™</sup>
- Microwave components

## Stop by to see machine vision solutions and the latest vision tools

in action. Speak with vision industry experts, component providers, and systems integrators to get your vision applications up and running.

#### See New Vision Technologies in Action

Examine cutting-edge vision technologies and the ways you can combine them with NI vision products to create complete, real-world solutions at these entertaining and informative demonstrations:

- New LabVIEW FPGA IP for image processing
- Counting 2,000 parts per second with extreme accuracy
- New vision hardware and software algorithms in action

#### Meet the Experts

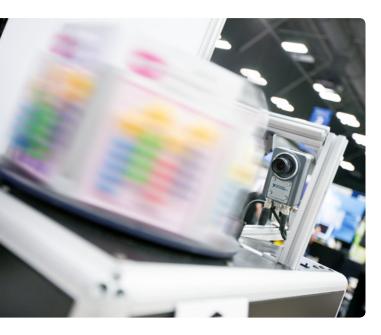
Speak with experts from many of the world's leading vision companies about how you can successfully use NI vision hardware and software in your applications. Talk to NI engineers about the new features in the Vision Development Module and ways to integrate them in your current and future projects.

#### Complete Your Vision System

View product demonstrations and speak with vision exhibitors about lighting, cameras, optics, and systems integration. Visit with partners and integrators about how their products and services can make your vision application come to life when combined with NI vision products.

#### Vision Exhibitors at NIWeek

- Advanced Illumination
- Allied Vision Technologies
- Basler Vision Technologies
- Bloomy Controls
- Chromasens
- Coleman Technologies
- DigiMetrix
- e2v
- Edmund Optics
- Graftek Imaging Inc.
- NET USA
- OneBoxVision
- Point Grey Research
- PVI Systems Inc.
- Schneider Optics



## The LabVIEW Tools Network is the NI app store that equips engineers

and scientists with certified, third-party software add-ons. Stop by the pavilion to explore cutting-edge technologies that can expand the power of LabVIEW graphical system design software and NI modular I/O hardware. Learn more about these products at ni.com/labviewtools.



## Featured Products

Build Licence Track (BLT) by STUDIO BODs LabVIEW Deployments Made Easier With Automatic Updates, Licensing, Remote Tracking, and Debugging

daqloud by DATA AHEAD Manage Your Measurement Data Online

GTT LTE RBS Toolkit by Gefle Testteknik Complete Toolkit for RBS Testing Covering All Common 3GPP Measurements

*INERTIA* Add-On for NI VeriStand by Wineman Technology Test Cell Control and Automation

LabSocket System by Bergmans Mechatronics LLC Access LabVIEW VIs Over the Web or a LAN From Any Browser

LabVIEW LocalizationToolkit by S.E.A. GmbH Create and Distribute Multilanguage LabVIEW Applications

MajX-DSA by Signal.XTechnologies LLC Sound and Vibration Analyzer

## Robotics Libraries by DigiMetrix Directly Control Denso, KUKA, Epson, Kawasaki,

Mitsubishi, Motoman, and Toshiba Robots

**RTI DDSToolkit by Real-Time Innovations (RTI)** Fast, Scalable, and Secure Data Sharing Between LabVIEW VIs and Other Applications

ScoutTDMS Editor by Signal.XTechnologies LLC Free TDMS File Viewer/Editor

SigmaDAQ by Aledyne Engineering Inc. Configurable Data Acquisition and Reporting Suite

Spreadsheet Express by Aledyne Engineering Inc. Automate Excel Data Processing and Charting From LabVIEW

Universal PointerTouchscreen Interface by Aledyne Engineering Inc. LabVIEW Touchscreen Interface for Multitouch Applications

XLR8 by DATA AHEAD Read and Write Microsoft Excel Files From LabVIEW

## 6TL Engineering

#### Booth 115

6TL redefines the way ATE integrators build systems. Using off-the-shelf hardware and software blocks, integrators can shorten project delivery and build cost-effective, reliable solutions.

#### 6tlengineering.com

#### Advanced illumination

#### Booth 819

An LED lighting solutions provider, Advanced illumination designs and manufactures versatile lighting for the machine vision industry, including standard and customized LED fixtures and electronics.

advancedillumination.com

#### Aledyne Engineering

#### Booth 705—LabVIEW Tools Network Aledyne specializes in LabVIEW and embedded systems design consulting services focused on increasing productivity, reducing development time, and providing maintainability for

## a great value. aledyne.com

#### Alfamation

#### Booth 210

Founded in 1991, Alfamation is a solutions provider that challenges traditional approaches to functional test applications in the automotive, consumer electronics, telecom, and medical industries.

#### alfamationglobal.com

## Allied Vision Technologies Inc. *Booth 819*

Allied Vision Technologies is one of the world's leading manufacturers of high-performance digital cameras for industrial image processing.

#### alliedvisiontec.com

## AMETEK Solartron Metrology

#### Booth 435

In the laboratory, on the shop floor, or in the field, Solartron Metrology's products provide precise linear measurements for quality control, test and measurement, and machine control.

#### solartronmetrology.com

## Amfax Ltd

#### Booth 310

Amfax designs, manufactures, and supports functional and special-to-type solutions from fixtures and cable assemblies to large-scale ATE systems. Amfax has over 20 years' experience supplying to the aerospace, defense, RF, and automotive markets.

amfax.co.uk

#### ARC Technology Solutions Booth 232

ARC is an engineering services company and trusted supplier to the defense and aerospace industry. Services include test system design and build-to-print manufacturing.

#### arcserv.com

#### ARM

#### Booth 837

ARM designs the technology that lies at the heart of today's advanced digital products. ARM's comprehensive product offering includes IP, tools, and much more.

arm.com

#### Artisan Technology Group

#### Booth 337

Artisan Technology Group buys and sells obsolete and legacy NI and other commercial off-the-shelf equipment, extending the life cycle of your critical systems.

artisantg.com

#### Averna

#### Booth 304

Averna is a premier manufacturing solution provider for communications and electronics device makers worldwide, helping them deliver a better end-user customer experience.

#### averna.com

#### Avionics Interface Technologies Booth 335

AIT is a leading designer and manufacturer of high-performance flight modules, test and simulation modules, embedded solutions, data bus analyzers, and support systems.

aviftech.com

## Ball Systems Inc.

#### Booth 815

Ball Systems is a full-service test, automation, custom engineering, RF, Semiconductor, and build-to-print manufacturing company offering complex integrated solutions and services to Fortune-1000 customers worldwide.

ballsystems.com

#### Bare Board Group

#### Booth 116

Bare Board Group specializes in providing quality, high-mix, low- to high-volume circuit boards at offshore prices with the ease of domestic purchasing.

bareboard.com

#### Basler

#### Booth 827

Advances in technology will improve the quality of our lives. At Basler, we give technology the power of sight.

#### baslerweb.com

#### Beltronic Industrie-PC AG

#### Booth 128

Founded 1979. We design and manufacture customized fully rugged embedded computers and displays for Military and Industrial applications which require hight ruggedness and environmental protection.

beltronic-ipc.com

#### **Bergmans Mechatronics**

Booth 705—LabVIEW Tools Network

Founded in 2003, Bergmans Mechatronics LLC (BML) is dedicated to solving the technical challenges created when combining the mechanical, electronics, and software fields.

bergmans.com

## BiRa and BiRIO Systems

#### Booth 206

BiRIO Systems is a collaborative design, software, and hardware company specializing in RIO applications for industries including big physics, military, oil and gas, and worldwide smart grid power transmission.

#### bira.com or biriosystems.com

#### Bloomy

#### Booth 305

The leader in automated test, data acquisition, and control, Bloomy provides outstanding products, platforms, and systems for electronics, energy, aerospace, and more using NI technology.

#### bloomy.com

## Bosch Software Innovations

#### Booth 205

Bosch Software Innovations and Rexroth combine their know-how for the Internet of Things to offer their expertise in Open Core Engineering for enhancing production workflow automation and flexibility.

bosch-si.com

#### **Bosch Rexroth**

Booth 205

Bosch Rexroth, the drive and control company, uses Open Core Engineering to revolutionize software engineering. The combination of PLCs and modern IT such as smart devices and apps enables yet unknown degrees of freedom, flexibility, and efficiency in automation processes.

#### boschrexroth.com

#### Brilliant Instruments Inc. Booth 120

Brilliant Instruments is a leading manufacturer of precision time and frequency measurement instruments in the picosecond level and signal sources to 4 GHz.

#### b-i-inc.com

#### Bruel & Kjaer

#### Booth 233

Bruel & Kjaer offers acoustic and vibration transducers including specialty microphones, hightemperature IEPE accelerometers, signal conditioning, vibration test solutions, and an audio analyzer based on LabVIEW.

#### bkhome.com

## Cal-Bay Systems Inc.

#### Booth 312

A recognized leader for test and measurement solutions when product quality is critical, Cal-Bay serves leading companies in the biomedical, mil/aero, semiconductor, and power generation industries.

#### calbay.com

#### CertTech

Booth 111

CertTech provides innovative tools, products, and services to help develop advanced technology. Our team of engineering professionals offers design, prototyping, development, verification, validation, and support.

#### certtech.com

#### Chroma Systems Solutions Inc. Booth 214

#### Booth 214

Chroma manufactures advanced power electronics and safety test instrumentation and automated systems backed by unmatched service and support.

chromausa.com

## Chromasens GmbH

#### Booth 920

The German company Chromasens designs, develops, and produces innovative image capturing and optical measurement systems. Our product portfolio features standard and customized cameras, lighting, and 3D and spectral imaging.

chromasens.de

#### Circuit Check Inc.

#### Booth 219

CCI/Cimtek is the leading total test solutions provider including test fixtures, complex product interfaces, and full turnkey automated test solutions.

circuitcheck.com

#### City Limits Chiropractic

#### Booth 934

Chiropractic has been helping people with musculoskeletal pain for over 110 years. Stop by and see how Dr. Davis can assist you.

#### Clemessy

#### Booth 114

Clemessy is an NI systems integrator for test rig turnkey solutions mainly in the aeronautics and automotive industries.

#### clemessy.com

#### Colorado Engineering Inc.

#### Booth 105

Colorado Engineering has a strategic vision and goal of becoming a significant software and hardware design engineering company known for delivering on-time, high value, adaptable, quality solutions, products, and services with exceptional support to our government and prime contractor customer base.

#### COMSOFT GmbH

Booth 535

comsoft.de/icp

#### Controls and Data Services

#### Booth 736

Controls and Data Services deliver high integrity solutions that manage, analyze and transform asset data, enabling operational improvements that drive down risk and increase efficiency.

#### controlsdata.com

#### DATA AHEAD GmbH

#### Booth 705—LabVIEW Tools Network Certified experts offer powerful platforms for distributed embedded acquisition and online data storage.

#### dataahead.de

#### **DENSO** Robotics

#### Booth 833

DENSO offers a range of compact, 4-axis SCARA and 6-axis articulated robots for payloads up to 20 kg and reaches from 350 mm to 1,300 mm.

#### densorobotics.com

#### DigiMetrix GmbH

#### Booth 705—LabVIEW Tools Network

Because of DigiMetrix robotics libraries, LabVIEW is recognized as a powerful environment for full robot cell programming, including robot motion, vision, sensors integration, and GUI.

#### digimetrix.com

#### DigiMetrix GmbH

#### Booth 835

LabVIEW robotics libraries make the integration of DENSO, Epson, Kawasaki, KUKA, Mitsubishi, Toshiba Machines, and YASKAWA MOTOMAN robotics into the LabVIEW world as simple as any other hardware compatible with LabVIEW.

#### digimetrix.com

#### e2v

#### Booth 223

e2v offers technology solutions for high-performance systems and delivers high-reliability solutions, subsystems, and components to advanced systems companies.

#### e2v.com

#### **Edmund Optics**

#### Booth 819

Edmund Optics is a leading supplier of optics and optical components. We design and manufacture a wide array of lenses, coatings, imaging systems, and optomechanical equipment.

#### edmundoptics.com

#### Emona Instruments PTY Ltd.

#### Booth 918

Emona Instruments manufactures add-on boards and student course material for NI ELVIS II/II+ and NI myDAQ that covers topics such as wireless telecoms, DSP, fiber optics, green energy, signals, and systems.

#### emona-tims.com

## Ettus Research, a National Instruments Company

## Booth 318

Ettus Research, a National Instruments company, is the world's leading supplier of software defined radio platforms, including the Universal Software Radio Peripheral (USRP) products.

#### ettus.com

#### FineTest

#### Booth 437

A manufacturer of functional ATE and power supply testers, FineTest has over 35 years of experience testing power supplies and electronic subassemblies.

#### finetest.com

#### **G** Systems

#### Booth 432

G Systems is a leading provider of solutions for automated test and measurement, DAQ, and control systems. Services range from consulting to complete systems.

#### gsystems.com

## G.R.A.S. Sound & Vibration

## Booth 333

G.R.A.S. offers a wide range of acoustical devices—standard measurement microphones, preamplifiers, simulators, and accessories—all designed and manufactured in accordance with international standards.

gras.dk

#### GDCA

#### Booth 130

GDCA's Proactive Legacy Management (PLM+) delivers peace of mind and reduces the long-term support costs of legacy embedded systems for the defense, medical, and industrial manufacturing industries.

#### gdca.com

#### GefleTestteknik AB

Booth 705—LabVIEW Tools Network GefleTestteknik AB delivers the best RBS test toolkit and production software as well as world-class integration services.

#### testteknik.se

#### Graftek Imaging

#### Booth 827

Graftek Imaging provides machine vision components and solutions for the industrial, medical, and scientific imaging markets.

#### graftek.com

#### GuideTech

#### Booth 906

Since 1988, GuideTech has been the leading innovator of time and frequency continuous time interval analysis (CTIA) instruments, delivering superior performance at installations worldwide.

#### guidetech.com

#### Hiller Measurements

Booth 211

Hiller Measurements develops PXI-based RF and microwave test systems, custom PXI modules, and PXI Express carrier/development modules.

#### Honeywell Sensing and Control

#### Booth 926

Honeywell offers a broad portfolio of load cells, pressure sensors, torque transducers, and more for test and measurement applications with plug-and-play compatibility with NI equipment.

#### measurementsensors.honeywell.com

#### IBM

#### Booth 805

The IBM Rational solution for systems and software engineering provides tools and best practices to improve traceability, reuse, automation, and guality.

#### ibm.com/ibm/

continuousengineering/us/en/

## IEEE Central Texas Section

Booth 912

The world's largest technical professional association for the advancement of technology, IEEE offers trusted publications, conferences, standards, and professional and educational activities.

#### sites.ieee.org/ctx/

## IES Systems Inc.

#### Booth 133

IES Systems Inc. is a global supplier of custom automation and test equipment. We serve all manufacturing industries including electrical, medical, and aerospace.

ies-us.com

#### iWorx Systems Inc.

#### Booth 213

iWorx introduces the IX-ELVIS Bioinstrumentation Breadboard for NI ELVIS to help teach BME circuit design as well as signal conditioners and sensors for NI myDAQ.

iworx.com

#### JKI

Booth 634

JKI helps teams of scientists and engineers transform their high-tech innovations into state-of-the-art systems by designing and implementing the logic of these systems in LabVIEW.

jki.net

#### JMAG Group, JSOL Corp.

#### Booth 1010

The JMAG Group provides leading-edge simulation software for electromechanical design and development. JMAG is a new standard in performance and quality worldwide.

jmag-international.com

#### Konrad Technologies

#### Booth 204

Konrad Technologies builds custom test solutions used in the automotive, aerospace, semiconductor, electronics, and medical industries. Test technologies include semiconductor test, PCB test, AOI, RF, and radar test.

konrad-technologies.com

#### Kuma Signals

#### Booth 1012

Kuma Signals transitions the state-ofthe-art in communications research into commercially viable products while operating in an enthusiastic and creative atmosphere. Our expertise lies in signal processing, digital communication, and software radio.

#### LHP Software LLC

#### Booth 124

LHP Software is a software engineering company specializing in model-based design and embedded controls.

Ihpsoftware.com

#### LocalGrid Technologies Inc.

#### Booth 919

LocalGrid Technologies Inc. delivers turnkey packaged solutions for utilities that are deploying microgrid topologies.

#### localgridtech.com

#### LumaDyne LLC

#### Booth 1014

LumaDyne provides manufacturing, design, and analysis for several areas such as government test facilities, private and institutional R&D facilities, and specialized manufacturing facilities.

#### lumadyne.com

#### MAC Panel Co.

#### Booth 731

MAC Panel offers modular Mass Interconnect solutions for ATE systems. Our high-performance SCOUT interface has become the benchmark interface for PXI-based ATE globally.

#### macpanel.com

#### Maplesoft

#### Booth 910

Maplesoft is the leading provider of advanced engineering software that applies mathematical principles to solve any engineering problem no matter the complexity or domain.

#### maplesoft.com

#### Meggitt Sensing Systems

#### Booth 222

Meggitt Sensing Systems, a Meggitt group division, is a leading supplier of high-performance sensing and monitoring systems for physical parameter measurements in extreme environments.

#### endevco.com

#### Methode Electronics

#### Booth 1006

Methode Electronics designs, manufactures, and markets devices that use electrical, electronic, wireless, safety radio remote control, sensing, and optical technologies to control and convey signals through sensors, interconnections, and controls.

#### methode.com

#### Millennium Space Systems Inc. Booth 932

Founded in 2001, Millennium Space Systems is a privately held, employeeowned company that delivers affordable, high-performance satellites for demanding missions. That's creative thinking applied.

#### millennium-space.com

#### MIT

#### Booth 928

Comprised of an exceptional community of students, scholars, researchers, educators, and engineering practitioners, the MIT School of Engineering's mission is to educate the next generation of engineering leaders, to create new knowledge, and to serve society.

#### **Mouser Electronics**

#### Booth 836

Mouser Electronics is one of the fastest growing customer-focused global catalog/e-marketing online semiconductor and electronics distributors. We offer the newest products and leading-edge technologies.

mouser.com

#### National Technical Systems

#### Booth 332

NTS provides integrated engineering services, technical solutions, product testing, compliance design, regulatory standards compliance testing, evaluation, project management, technical resources, engineering solutions, and managed services.

nts.com

#### NET USA

#### Booth 635

NET USA supplies high-quality cameras such as GimaGO GigE Vision, FOculus IEEE 1394, and iCube USB 2.0 as well as OEM boards and camera heads for medical and industrial applications.

net-usa-inc.com

#### Nexjen Systems

#### Booth 104

Nexjen Systems is a system integrator that specializes in customer-defined test, measurement, and automation systems for product development, production test, and monitoring and control.

nexjen.com

#### **OneBoxVision**

#### Booth 922

With extensive expertise in web inspection and serialization for both pharmaceutical and medical device lines, OneBoxVision provides machine vision and factory line automation services.

#### oneboxvision.com

#### **Optimation Technology**

#### Booth 811

Optimation provides solutions and services for industrial and manufacturing applications, including process and mechanical engineering, automation, systems integration, test systems, fabrication, installation, construction, and maintenance.

#### optimation.us

#### PCB Piezotronics Inc.

#### Booth 737

PCB Piezotronics is a global leader in the design and manufacture of microphones, vibration, force, torque, load, strain, and pressure sensors as well as the pioneer of ICP technology.

pcb.com

#### Peritec

#### Booth 225

Peritec is a Platinum Alliance Partner in the RF and Wireless Specialty that provides EMC/RF, automotive testing systems, and 3D motion capturing system.

peritec.co.jp

#### PFC Flexible Circuits Ltd

#### Booth 914

PFC designs, manufactures, and assembles flexible circuits: singleand double-sided, multilayer, and rigid. We specialize in fine line and impedance control.

#### pfcflex.com

#### Phase Matrix Inc.

Booth 326

Phase Matrix manufactures RF and microwave T&M instruments, subsystems, and components. Products include PXI synthetic instruments (downconverters/local oscillators) and instrument-grade, fast-switching QuickSyn synthesizer modules.

phasematrix.com

#### Point Grey Research Inc.

#### Booth 921

Point Grey is a world-leading designer and manufacturer of innovative, high-performance digital cameras for industrial, life science, and traffic applications.

#### ptgrey.com

#### Poynting Antennas Booth 314

The Poynting DS division specializes in the design, development, manufacture, and sales of antennas, masts, and related RF equipment.

poyntingdefence.com

#### Precision Filters Inc.

#### Booth 336

Founded in 1975, Precision Filters Inc. designs and manufactures precision product solutions that include a complete family of analog signal conditioning, filtering, and switching systems.

#### www.pfinc.com

## PVI Systems Inc.

#### Booth 830

PVI Systems, a Certified Alliance Partner, offers custom and turnkey systems for DAQ, vision, and process control applications.

pvisys.com

#### QC Graphics

#### Booth 108

QCG has been the quick-turn solution for your design engineering, PCB design, fabrication, and assembly needs for over 30 years. Our expertise constantly pushes the technology window.

qcg.com

#### Quanser

Booth 911

Quanser is a leading developer of experiments and courseware for teaching control systems design. Stop by to learn about our exciting collaborations with NI.

quanser.com

## **Rogers Corporation**

#### Booth 113

Rogers Corporation empowers breakthroughs in reliability, efficiency, and performance by providing advanced materials technologies, application knowledge, global manufacturing, and design collaboration.

rogerscorp.com

#### RTI

Booths 923, 705—LabVIEW Tools Network

The RTI DDS Toolkit for LabVIEW provides fast, scalable, and secure publish/subscribe messaging for LabVIEW VIs plus seamless interoperability with C, C++, .NET, and Java applications.

rti.com

## S.E.A. Datentechnik GmbH

#### Booths 904,705—LabVIEW Tools Network

S.E.A. provides CompactRIO modules for GPS, mobile communications, encoders, bus interfaces, single-board embedded control and acquisition devices, LabVIEW add-on toolkits, multilanguage applications, time synchronization, and CompactRIO displays.

sea-gmbh.com

#### Scadata Inc.

Booths 110

Explore a premier turnkey SCADA application developed with LabVIEW. Use this easy to implement and operate DAQ management SCADA system for your control, monitoring, and alarming needs.

scadata.net

#### Schneider Optics Inc.

#### Booth 819

Schneider manufactures highperformance I/O lenses (visible through near IR) and ultrahighperformance lenses/filters for machine and robotics vision, documentation, parcel scanning, industrial inspection, and gauging.

#### schneideroptics.com

#### Siemens PLM Software

#### Booth 215

Siemens PLM Software is a leading global provider of product lifecycle management (PLM) software. Our PLM solutions, guided by our HD-PLM vision, can help you make smarter decisions that lead to better products.

#### Signal.X

#### Booth 705—LabVIEW Tools Network

Signal.X Technologies specializes in test and measurement products, production test automation, functional test design, and custom application development.

#### signalxtech.com

#### Simplicity AI

#### Booth 123

An NI Alliance Partner specializing in automated test and measurement, Simplicity AI provides products that accelerate solution development and maximize the value of manufacturing test. Stop by the booth we are sharing with Tequra Analytics.

simplicityai.com

#### Sixclear

#### Booth 436

Sixclear delivers world-class LabVIEW training and development services across diverse industries. We dare you to try our online or classroom training and not love it.

#### sixclear.com

## Stratosphere Software (a division of Labsphere Inc.)

#### Booth 235

Labsphere launches its newest division, Stratosphere Software, as a software solutions provider for test and measurement hardware companies. Stratosphere provides leading edge software solutions for hardware companies who want to radically improve their software offerings.

#### stratosphere-software.com

#### STUDIO BODs

Booth 705—LabVIEW Tools Network

STUDIO BODs integrates your business needs using unique and innovative technologies to offer a solution tailored to the needs and challenges of your industry.

#### studiobods.com

#### SVTronics Inc.

Booth 118

By outsourcing your electronic design and manufacturing to SVT, you can develop the technology, experience, flexibility, and time to market to be a leader in today's competitive marketplace.

#### SVTronics.com

#### **TDK-Lambda** Americas

#### Booth 107

TDK-Lambda Genesys programmable AC/DC power supplies include high-density, low-ripple, complete user-friendly interfaces from 750 W to 15 kW with outputs to 600 VDC and 1,000 A.

#### us.tdk-lambda.com/hp

#### Tekscan Inc.

#### Booth 636

Tekscan manufactures ultra-thin, tactile pressure and force measurement systems. Products range from simple force-sensing systems to complex systems with over 100,000 sensing points.

tekscan.com

## Teledyne Microelectronics

#### Booth 534

Teledyne Microelectronics is a DOD-trusted source for microelectronics and a leader in innovative, custom high-density, high-reliability microelectronics packaging solutions for the instrumentation, aerospace, and defense markets.

#### teledynemicro.com

#### **Teledyne Relays**

#### Booth 534

Teledyne Relays offers subminiature RF electromechanical relays that deliver high performance from DC to 10 GHz. We also provide coaxial switches from DC to 40 GHz for instrumentation, test, measurement, and industrial applications.

#### teledynerelays.com

#### Teledyne Microwave Solutions

#### Booth 534

Teledyne Microwave Solutions is a worldwide leader in the design, development, and manufacture of microwave components, integrated microwave assemblies, and subsystems for the instrumentation, communications, aerospace, defense, and aviation markets.

#### teledynemicrowave.com

#### **Tequra Analytics**

#### Booth 123

Tequra Analytics provides insight into automated test result data to equip manufacturers with tools to reduce defects, streamline production, and improve quality. Stop by the booth we are sharing with Simplicity AI.

#### tequraanalytics.com

#### TestEquity LLC

Booth 734

TestEquity specializes in the sale and rental of new and used test and measurement equipment. It also offers a full line of environmental chambers.

#### testequity.com

#### Trescal Inc.

#### Booth 234

Trescal is an A2LA 17025 accredited calibration service provider and NI Certified Calibration Center. We offer electronic, physical, and dimensional instrumentation calibration, instrument repair, and on-site services.

trescal.us

#### Tribal Engineering

#### Booth 936

Positioned to become one of the largest providers of engineering knowledge, process, and simulation software in the United States, Tribal Engineering works with customers to leverage knowledge and domain expertise. Finding answers to engineering problems is our business.

#### tribalengineering.com

## UT Austin—Master of Science in Technology Commercialization Program

## Booth 537

The University of Texas Master of Science in Technology Commercialization Program is a one-year master's degree program focused on the early stages of product development.

#### texasmstc.org

## UtilityTablet

Booth 133

The UtilityTablet is the first rugged, modular, Windows-based tablet PC for data acquisition. It features an integrated NI CompactDAQ chassis.

#### utilitytablet.com

#### Verivolt LLC

#### Booth 927

Verivolt develops advanced sensing platforms for energy-related applications. We specialize in delivering solutions that address not only the sensing aspects but also deployment, timing, system architecture, and low-cost targets.

#### verivolt.com

## VI Service Network Co. Ltd

#### Booth 119

VI Service Network provides broad-based customized solutions by leveraging its expertise in digital signal processing, radio frequency, sound and vibration, and photonics.

vi-china.com.cn

#### Viewpoint Systems

#### Booth 929

We work with you to define system specifications, turn these into system requirements, and then use the leading advanced hardware and embedded software to prototype, build, and verify a system that achieves your initial vision.

#### viewpointusa.com

#### Virginia Panel Corporation

#### Booth 320

VPC offers high-quality Mass InterConnect Solutions that enable the simultaneous connection of multiple test and measurement signal types through one modular interface.

vpc.com

#### Virinco AS

#### Booth 905

Virinco is a leading manufacturing test data management solution provider of skyWATS.com, a cloud solution that automatically acquires, organizes, analyzes, and reports real-time test and repair data/information.

virinco.com

#### Wibu-Systems

#### Booth 122

Wibu-Systems is a worldwide leader of secure and highly flexible licensing, IP protection and anti-piracy technologies for software developers and embedded system providers.

#### Wineman Technology Inc.

#### Booth 218

WTI specializes in test cell applications, software/hardware products for test cell control and DAQ, and test equipment for dynamometer, hydraulic, hardware-in-the-loop, and custom solutions.

#### winemantech.com

#### Wineman Technology Inc.

#### Booth 705—LabVIEW Tools Network

WTI's INERTIA reduces implementation costs and improves the user experience for NI VeriStand to simplify test cell automation. See a demonstration of the new ENTERPRISE EDITION.

winemantech.com

#### WireFlow AB

#### Booth 1004

A Silver NI Alliance and Electronic Design Specialty Partner, WireFlow develops software and hardware that complements NI products.

#### wireflow.se

#### WRW Engineering

#### Booth 227

WRW is an engineering services company that works with industrial companies to create mechanical, electrical, and software engineering solutions.

#### wrweng.com



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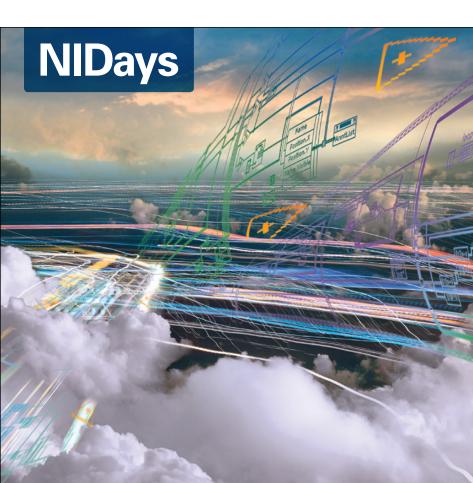
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bosch-si.com/home/homepage.php

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cyth.com



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deskeng.com

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vision-systems.com

As the past few days have shown, your passion for innovation is unrivaled and your willingness to learn and share new ideas is infectious. It's what makes NIWeek unique and it's why NI will continue to provide the tools you need to change our world for the better.

Let's carry this week's excitement and energy forward as we continue to work together in understanding how NI system design software and virtual instrumentation can help you work smarter, faster, and more cost-effectively.

We hope you further developed skills and learned more about the products, trends, and technologies that can help you maintain a competitive advantage. Most of all, we hope you had fun at NIWeek 2014 and enjoyed your stay in Austin, Texas.

Be sure to view presentations and demos that you may have missed during the conference at ni.com/niveekcommunity.

Sign up for our e-newsletter, *NI News*, at ni.com/newsletter to receive technology news and stories from NI throughout the year.

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