

# NIWeek

WORLDWIDE GRAPHICAL SYSTEM DESIGN  
CONFERENCE

August 4–7, 2014 | Austin, Texas

Preliminary Conference Program





## NIWeek 2014 Schedule

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Training and Certification Exams

Sunday–Thursday

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Alliance Day

Monday

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Academic Forum

Monday

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Build Your Own Embedded System Workshop

Monday

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Big Physics Symposium

Monday

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Exhibition Hall and Pavilions

Monday–Thursday

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NIWeek Kickoff Happy Hour

Monday

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NI Community Block Diagram Party

Tuesday

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NIWeek Keynotes

Tuesday–Thursday

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Technical and Hands-On Sessions

Tuesday–Thursday

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Summits

Tuesday–Wednesday

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NIWeek Conference Party

Wednesday

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## Experience True Innovation at NIWeek ([ni.com/niweek](http://ni.com/niweek))

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The 20th annual NIWeek conference presented by National Instruments is set to bring together the brightest minds in engineering and science at the Austin Convention Center in Austin, Texas, beginning August 4. More than 3,200 innovators representing a spectrum of industries, from automotive and telecommunications to robotics and energy, will learn about the latest technology to accelerate productivity for software-defined systems in test, measurement, and control.

NIWeek delivers quality technical networking and interactive sessions presented by NI R&D as well as:

- Guest lecturers
- Targeted industry summits
- Hands-on workshops
- Hundreds of exhibitions
- Thought leadership keynotes

Join us this August to network with leading engineers and scientists, share best practices and example code with fellow developers, exchange information with NI technical staff, and learn about the latest innovations that inspire and equip NI customers to solve engineering challenges.

**Choose From More Than 200 Advanced Technical Presentations**—Attend interactive technical sessions, customer case study presentations, and panel discussions for beginners and advanced developers. Learn how to optimize efficiency in your test and DAQ systems; implement advanced technology for industrial design, measurement, and control systems; and discover emerging industry trends.

**Interact With Technology From NI and Nearly 200 Leading Companies**—Explore the latest products and technologies from NI and industry-leading companies through a variety of hands-on workshops and view hundreds of demonstrations on the keynote stage and in the exhibit hall.

**Participate in Advanced Training Sessions**—Earn continuing education units and take software certification exams for NI LabVIEW, NI LabWindows™/CVI, and NI TestStand software.

**Network With Peers and Industry Leaders**—Interact with colleagues during the day and take in the sights and sounds of Austin, the live music capital of the world, at night.

NIWeek is the ultimate learning environment. It gives you the tools and knowledge to develop your applications faster, smarter, and more cost-efficiently. Do not miss this one-of-a-kind experience.

## NIWeek 2014 Keynotes

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Join NI senior leadership and thought leaders from around the globe for a series of keynote presentations highlighting the latest trends, technologies, and innovators shaping our world today. Past attendees include engineers, scientists, and executives from organizations such as CERN, John Deere, Qualcomm, SpaceX, and UC Berkeley. These engaging presentations set the stage for each day of the conference and provide attendees with an interactive experience like no other.





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## Summits ([ni.com/niweek/conference-content](http://ni.com/niweek/conference-content))

Attend the industry-specific summits to learn about new trends and techniques from targeted keynotes, product technical training, and demonstrations by NI developers and industry-leading researchers. Visit the corresponding pavilions on the exhibition floor to see the summit content in action.

### Aerospace and Defense

System design using commercial off-the-shelf (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 solutions ranging from software-defined test systems to deployed real-time embedded systems for control, monitoring, and operation.

### Energy Technology

Learn from industry peers and see how NI customers are using new technology to make a smarter grid. This year's topics cover asset monitoring, real-time grid simulation, intelligent node deployment, and more. This annual technology exchange enables researchers, asset managers, and industry professionals to share valuable lessons learned from their application developments using NI hardware and LabVIEW graphical system design tools.

### RF and Wireless

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 allow engineers and scientists to innovate faster. Topics include wireless technologies, advanced testing techniques, trends in microwave design, RF characterization, high-volume test, and wireless communications design.

### Transportation

Whether it is with passenger vehicles, commercial and heavy equipment, agricultural machines, or rail systems, the electronic complexity in the transportation industries has grown significantly in recent years. At the same time, there are more demands on quality and safety than ever before, while the expectation on time to market continues to shrink. Learn about some of the key challenges introduced by this growth in complexity in all phases of the development cycle. See how NI tools help companies test, from concept to production, applications such as rapid control prototyping. This summit features presentations and networking opportunities with industry experts, integrators, end users, and NI R&D.

### Vision

For the last eight years, the NIWeek Vision Summit has been one of the most comprehensive conference lineups in North America on 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.

## Networking Activities

**NIWeek Kickoff Happy Hour**  
Monday, August 4 5:30–7:00 p.m. Exhibit Hall

**NI Community Block Diagram Party**  
Tuesday, August 5 5:00–7:00 p.m. Exhibit Hall

**Annual Conference Party**  
Wednesday, August 6 7:00 p.m. Palmer Events Center

## Staying Connected

NIWeek offers online networking opportunities so you can keep in touch with colleagues, NI developers, and thousands of new friends during the conference and beyond.

 [ni.com/niweekcommunity](http://ni.com/niweekcommunity)

 [twitter.com/niglobal](http://twitter.com/niglobal)

 [facebook.com/nationalinstruments](http://facebook.com/nationalinstruments)

 [youtube.com/niglobal](http://youtube.com/niglobal)

## Tracks ([ni.com/niweek/conference-content](http://ni.com/niweek/conference-content))

### Automated Test Systems

Learn from product and industry experts about tools and techniques to 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

Control and monitoring systems are becoming more complex, taking longer to complete, and increasing in total cost of design. There is a better way to design these advanced control and monitoring systems that maximizes flexibility, reduces time to market, and minimizes both cost and risk. Attend this track to learn from product and industry experts about the tools and techniques you can use to focus more of your time and resources on delivering innovation and competitive differentiation. Sessions in this track focus on new features and releases in products such as CompactRIO, NI Single-Board RIO, LabVIEW FPGA, and LabVIEW Real-Time.

### Software Development Techniques

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

## Special Events

### Academic Forum | Monday, August 4

Share best practices in engineering education methodologies, discuss the future of engineering and research, and network with colleagues from around the world.

### Alliance Day | Monday, August 4

Alliance Day is the premier event for domain experts in system integration, consulting, and product ecosystem development. Reserved exclusively for NI Alliance Partners and the global NI sales team, the day offers opportunities for technical training, product updates, best practice sharing, business collaboration, and peer networking.

### Big Physics Symposium | Monday, August 4

From uncovering the fundamental properties of matter at CERN to harnessing the power of stars at ITER, NI offers 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 COTS products offer advantages in control, measurement, and diagnostics applications for accelerators, fusion reactors, synchrotron light sources, and telescopes.

### Build Your Own Embedded System Workshop | Monday, August 4

This hands-on workshop focuses on extending your LabVIEW skills into FPGA-based design using NI reconfigurable I/O (RIO) hardware. 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.

## Certification and Training Courses

Take advantage of certification exams for NI LabVIEW and NI LabWindows™/CVI with special event pricing and attend two-day training the Sunday and Monday before NIWeek to gain product knowledge and best practices for application development. ([ni.com/niweek/training-certification](http://ni.com/niweek/training-certification))

## Exhibit Hall ([ni.com/niweek/exhibition](http://ni.com/niweek/exhibition))

### NI Product Pavilions

Visit the Automated Test, Data Acquisition, and Embedded Control and Monitoring pavilions to see demonstrations of the latest NI hardware and software products, talk to NI developers, and discover ways to incorporate NI products into your test, data acquisition, monitoring, and control applications.

### LabVIEW Zone

Discover what's new in LabVIEW and get a close-up look at featured demos from the conference. Learn about new programming resources and 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.

### Academic Pavilion

Learn how NI enables students worldwide to “do engineering” with hardware and software tools that scale from kindergarten to rocket science.

### Aerospace and Defense Pavilion

Discuss your applications with NI engineers presenting live demonstrations of the latest technologies for automated test and embedded systems. View RF and mixed-signal system demos, and gain insight into using the power of software-defined modular instrumentation to lower the cost of system development, operation, and maintenance.

### RF and Wireless Pavilion

Learn more about the fast, flexible, and accurate NI PXI platform that industry leaders are using to meet the demanding test requirements of today's RF and wireless test devices.

### Scientific Research and Big Physics Pavilion

Explore the role NI plays in operating the world's largest, most advanced physics experiments, including particle accelerators and fusion reactors. Learn how scientists and engineers use NI technologies to develop complex control, measurement, and diagnostics systems that help push scientific discovery to new frontiers.

### Vision Pavilion

See machine vision solutions in action at the Vision Pavilion. View demonstrations including the latest in vision software programming for FPGAs, embedded vision system design, and deployment options featuring CompactRIO, NI Single-Board RIO, and the NI Compact Vision System. Also, interact with NI Vision Specialty Alliance Partners, vision system integrators, machine vision component providers, and NI engineers at one of the largest vision expositions in North America.

### Technology Theater

Located in the Exhibit 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.

Contact [niweekexhibition@ni.com](mailto:niweekexhibition@ni.com) to learn more about exhibiting at NIWeek 2014.

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For information, contact NI at [niweeksponsorship@ni.com](mailto:niweeksponsorship@ni.com).

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