What's New at NI

Hardware, Software, HW roadmap

Mateusz Loska
Global Account Manager

NI is now part of Emerson

45
Years in T&M

35K
Customers Worldwide

7K
Employees Worldwide

1000+
Partners

Future proofing Test & Measurement for our customers through NI's integrated software centric approach

Growth Sectors

Semiconductor

Aerospace/Defense

Transportation

Manufacturing & More

Products & Applications

Design & Prototyping

Automated Validation
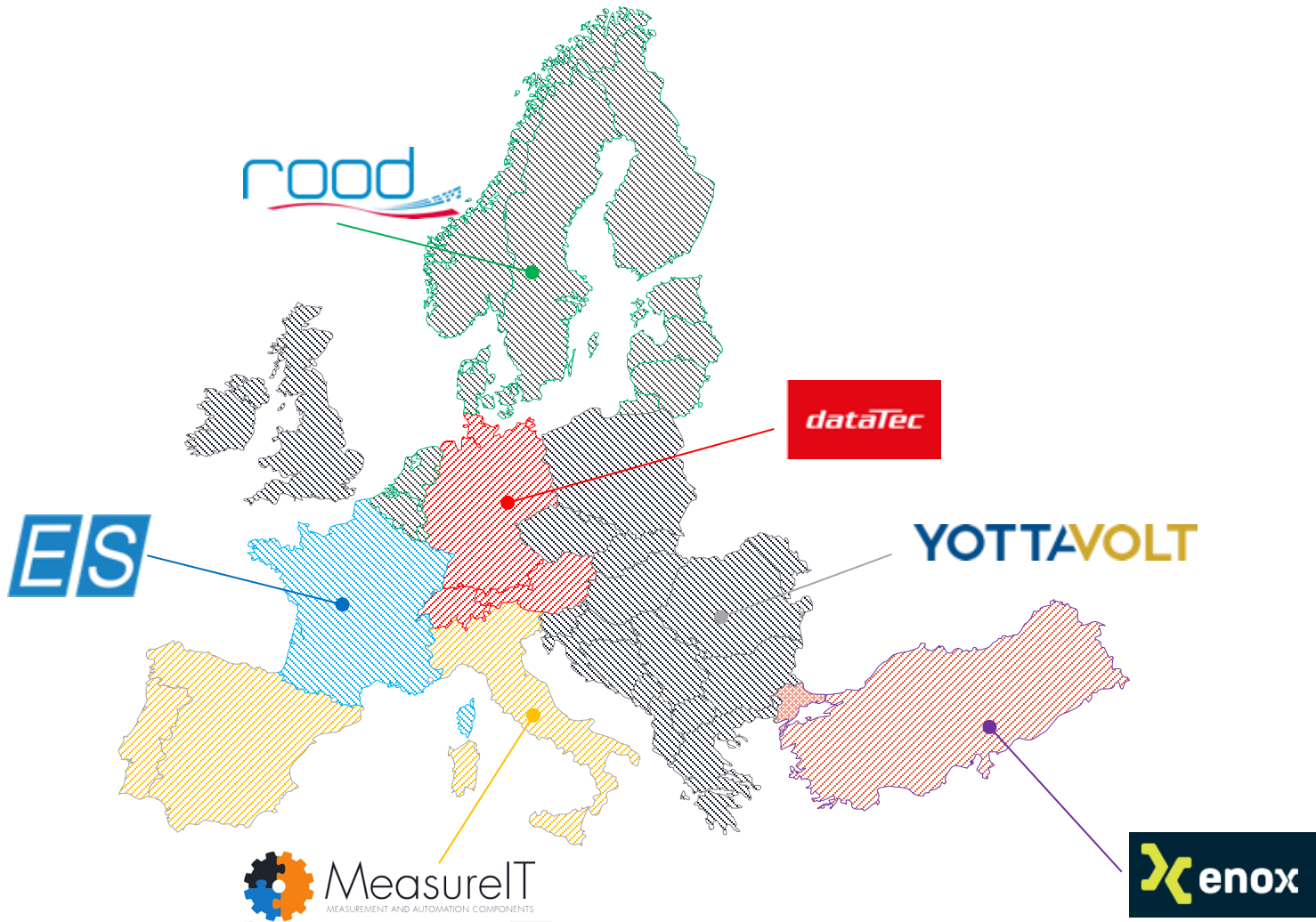
Production Test

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EMEA Distribution Coverage

Distributor name	Countries
CnROOD	Belgium, Netherlands, Denmark, Sweden, Norway, Finland
Datatec	Germany, Switzerland, Austria
Enox	Turkey
ES	France
Farnell	All EMEA
Yottavolt	UK, Poland, Hungary, Czech Republic, Balkans, Greece (+ MEA countries)
MeasureIT	Italy, Spain, Portugal
SK Electronika	Israel

Expanding Emerson's Boundless Automation Vision into Test & Measurement

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Process & Hybrid Automation | Discrete Automation | Industrial Automation

ni

Test & Measurent Automation

- Oil & Gas
- Chemical
- Food & Beverage
- Semiconductor
- Packaging
- Pulp & Paper
- Medical
- Aerospace/Defense
- Power Generation
- Mining, Minerals & Metal
- Electronics
- Transportation
- Marine
- Water & Wastewater
- Life Sciences
- Manufacturing & More

Harnessing Emerson's capabilities in Process, Scale, and Innovation

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Listening to Our Community

- Perpetual option is BACK

- New academic licenses Options

- Releasing Bundles : LabVIEW+

Agenda

Hardware

Highlights of newly released PXI hardware, and RF-specific hardware and software

Software

Highlights of newly released software, and updates and new features in NI software.

Software Roadmap

Product-specific roadmaps for key NI software pieces.

What's New in the PXI world?
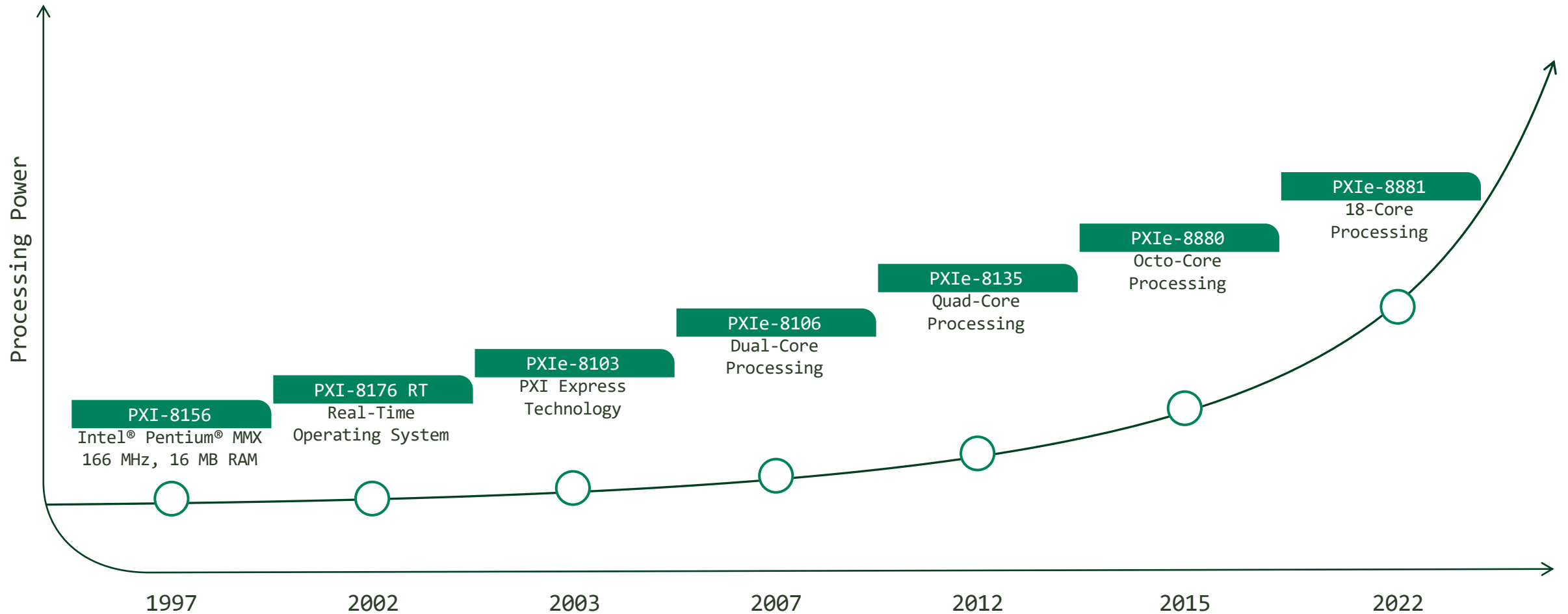
PXIe-8822/8842/8862

Features:

- Intel Core i3, i5, and i7 CPU's
  - PXIe-8822: i3, 4-core, 2.4 GHz (replaces PXIe-8821)
  - PXIe-8842: i5, 6-core, 2.6 GHz (replaces PXIe-8840DC)
  - PXIe-8862: i7, 8-core, 2.6 GHz (replaces (PXIe-8861)

- Expecting >20% performance improvement over previous products
- 4-16GB/s System BW to controller
- 8GB DDR4, max16/32GB DDR4
- 320/512GB NVMe SSD Storage
- TPM 2.0
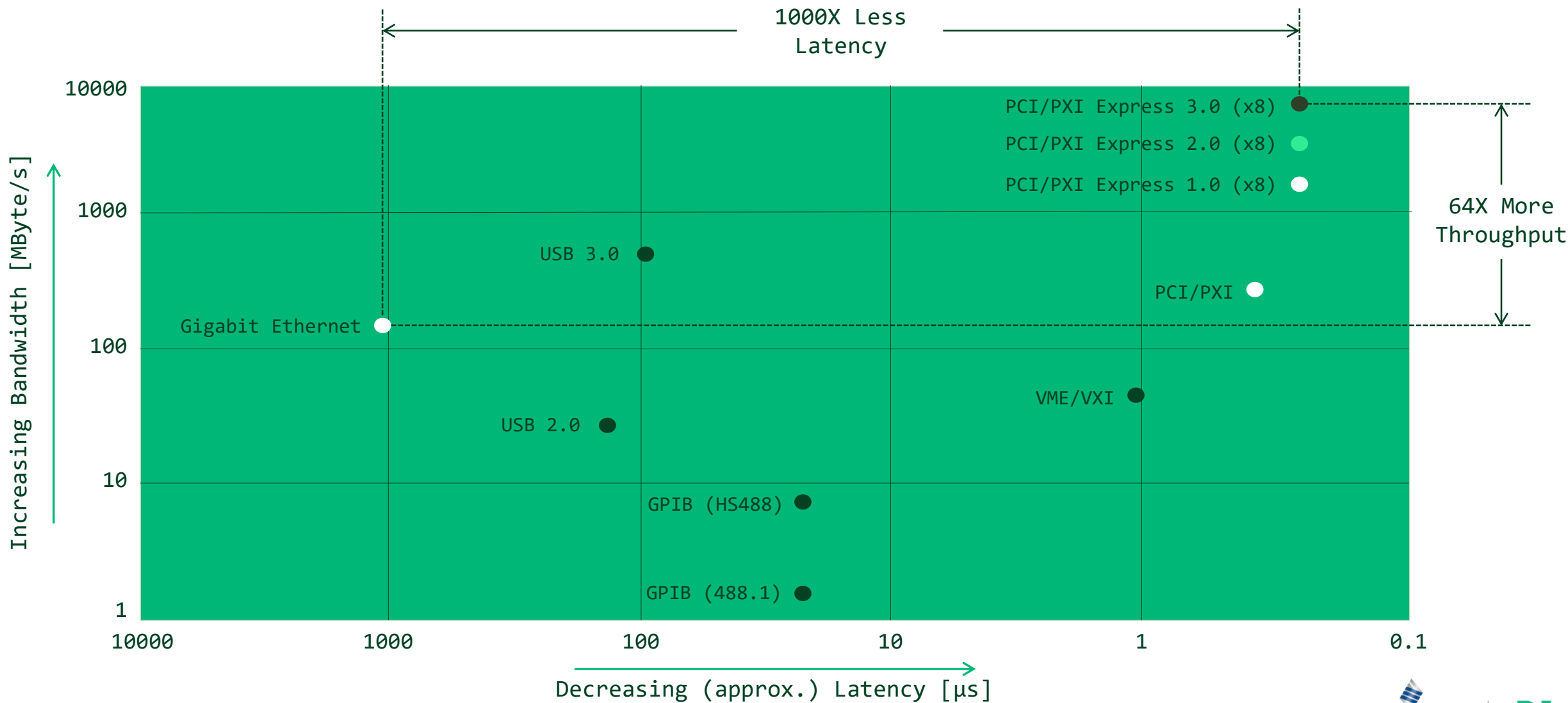- 0-55C Operational temperature

PCI EXPRESS®

THUNDERBOLT™

nvm EXPRESS®

TRUSTED COMPUTING GROUP®

Real-Time LINUX

Windows

I/O (varies by product):

- Thunderbolt
- USB 2.0 and USB 3.0
- GPIB
- Serial
- Ethernet
- DP

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Industry-Leading NI PXI Controller Portfolio

PXI-8156
Intel® Pentium® MMX
166 MHz, 16 MB RAM

PXI-8176 RT
Real-Time
Operating System

PXIe-8103
PXI Express
Technology

PXIe-8106
Dual-Core
Processing

PXIe-8135
Quad-Core
Processing

PXIe-8880
Octo-Core
Processing

PXIe-8881
18-Core
Processing

Processing Power

1997   2002   2003   2007   2012   2015   2022

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High Throughput and Low Latency With PXI

1000X Less Latency

64X More Throughput

Increasing Bandwidth [MByte/s]

Decreasing (approx.) Latency [μs]

- PCI/PXI Express 3.0 (x8)
- PCI/PXI Express 2.0 (x8)
- PCI/PXI Express 1.0 (x8)
- USB 3.0
- PCI/PXI
- Gigabit Ethernet
- VME/VXI
- USB 2.0
- GPIB (HS488)
- GPIB (488.1)

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Windows 11 Available for PXI Controllers

Future-proof your test system using the latest OS from Microsoft. Including more security features than any Microsoft OS to date, Windows 11 increases the protection of your data so you can feel confident in the security of your system.

```
✓ Windows 10 IoT to Windows 11 IoT Field Upgrade Kit
✓ PXIe 8822/8842/8862/8881 controllers shipped with Windows 11 IoT
✓ Windows 10 Long-Term Servicing Channel(LTSC) available for PXIe-8862
```

Windows 11 Features for Increased Security

TPM 2.0

Virtualization-based Security (VBS)

Hypervisor-Protected Code Integrity (HVCI)

The UEFI Secure Boot

What's Included: Windows 10 IoT to Windows 11 IoT Field Upgrade Kit

Windows 11 IoT license for activation

Certificate of Authenticity (COA) label to place on the controller

USB media which hosts our Windows 11 OS image with which to flash the controller

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Precision DC* Investment Areas

Higher Channel Density SMUs

NI recently released new high-channel-count SMUs, including 4-, 12-, & 24-channel SMU options, and we are now developing a new 8-channel 80 V SMU

New Measurement Capabilities

NI recently released its first LCR meters, and we are developing a new VCSEL I-V test instrument and an Ultra-Fast Pulsed IV solution for wafer parametric test

Higher Power Supplies & Electronic Loads

NI recently doubled the power of our 1-ch SMUs (20 -> 40 W) and added 300 W high-performance power supplies & e-loads

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NI SMU Product Families

	System SMUs	4-channel SMUs	High density SMUs
Model numbers	4135:4139	4140:4147	4162:4163
Channels per model	1	4	12 or 24
Channels per chassis	17	68	408
Max voltage	200 V	24V	24 V
Max current	3 A (10 A pulse)	3 A	100 mA
Max power per channel	40 W (500 W pulse)	24 W	2.4 W
Best current sensitivity	0.01 pA	0.1 pA	10 pA
Ch-to-Ch Isolation?	Yes	No – Shared/Common LO	No – Shared/Common LO
Driver API	NI-DCPower		

PXIe-4190 LCR Meter and SMU

LCR Meter with fF(femtofarad)-class capacitance measurements

Frequency: 40 Hz – 2 MHz

DC bias: ± 40 V (AC + DC), ± 100 mA

AC Stimulus: Up to 7.07 Vrms

Short/Open/Load Compensation

SMU with fA-class current measurements

± 40 V, ± 100 mA

1 fA resolution with best-in-class noise performance

Connectivity

Triaxial, Coaxial/BNC breakout cable options

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High-Performance 300 W PXI Power Instruments

Primary Application Targets:

Power electronics validation & test

General semiconductor & electronics test

PXIe-4151 300 W Power Supply

1 channel, 2 PXI slots

Up to 20 V and 25 A (e.g. 20 V, 15 A or 12 V, 25 A)

PXIe-4051 300 W E-load

1 channel, 3 PXI slots

Up to 60 V and 40 A (e.g. 60 V, 5 A or 7.5 V, 40 A)

Common Features:

150 V CAT I isolation

Simultaneous I & V measurements

DMM-like measurement accuracy

1.8 MS/s sample rate & 100 kS/s update rate

Transient response tuning (SourceAdapt)

Advanced sequencing (per-step properties)

PXIe-4151

PXIe-4051
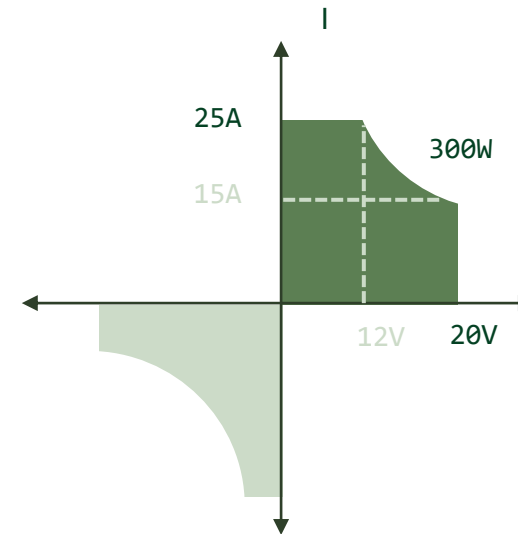
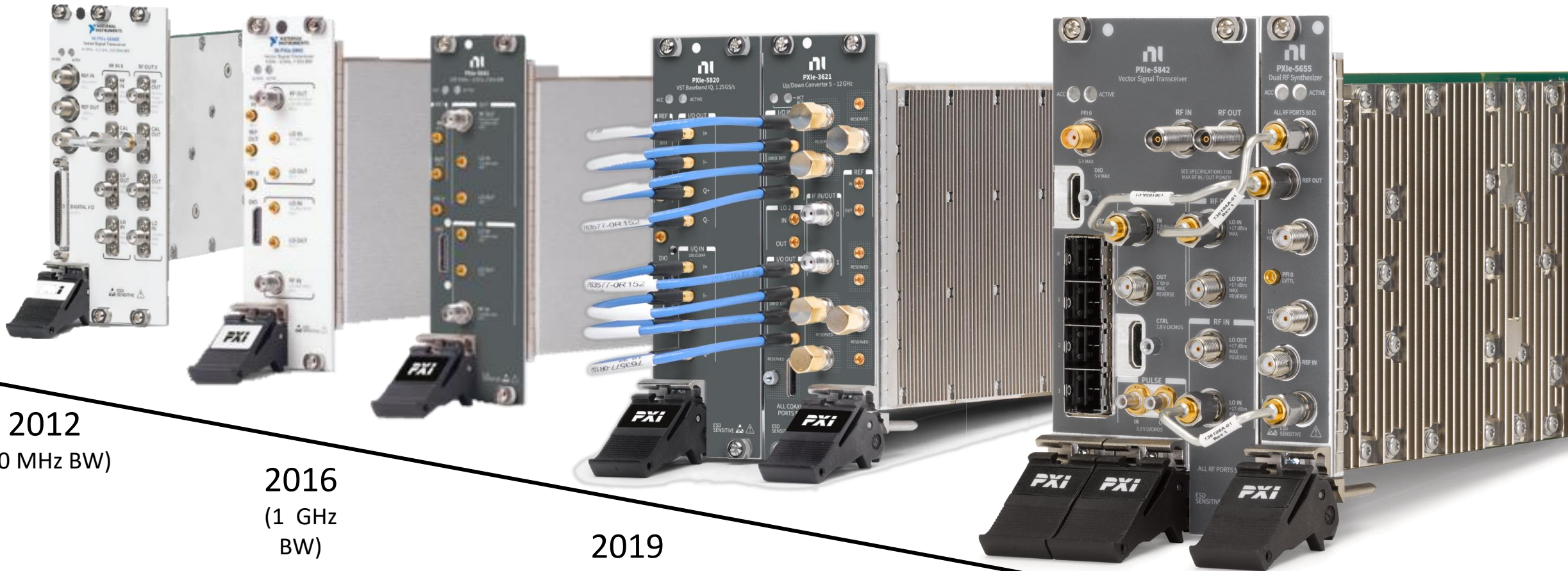*Floating – Can be physically inverted for quadrant III*
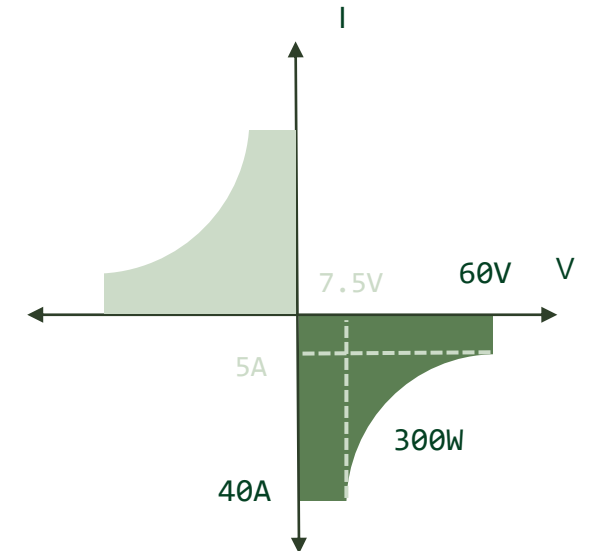
Floating – Can be physically inverted for quadrant II

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What's New in the PXI RF Platform?

What is a PXI Vector Signal Transceiver?

NI VST – Over a Decade of Ambitious Engineering

2012
(80 MHz BW)

2016
(1 GHz BW)

2019
(mmWave)

2023
(2 GHz BW)

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PXIe-5842 Vector Signal Transceiver

RF Vector Signal Transceiver

- Continuous frequency coverage from **30 MHz to 26.5 GHz**
- **2 GHz** of bandwidth for signal generation and analysis
- Industry-leading EVM performance
  - -52 dB, for 802.11be at 320 MHz (noise comp enabled)
  - -58 dB, for 5G NR, 100 MHz (noise comp enabled)
- Excellent phase noise performance
- PXI modularity and scalability with excellent synchronization, allowing up to four PXIe-5842 modules in one 18-slot PXIe chassis
- Common software experience across VSTs with RFmx and instrument drivers
- Dedicated Pulse IN/OUT ports
- MGT Streaming at up to 2 GHz

Key Applications

- High-speed generation and analysis of latest wireless standards such as 5G NR and Wi-Fi 7
- Aerospace and defense test requiring ultimate flexibility in frequency spectrum coverage such as parametric test and validation of mission-critical systems including radar, satellite communications, and electronic warfare

What's New in the USRP Platform?

NI Ettus USRP X440 | Wide Instantaneous Bandwidth and High Channel Density

Instantaneous Bandwidth of NI Ettus USRP Models (MHz)
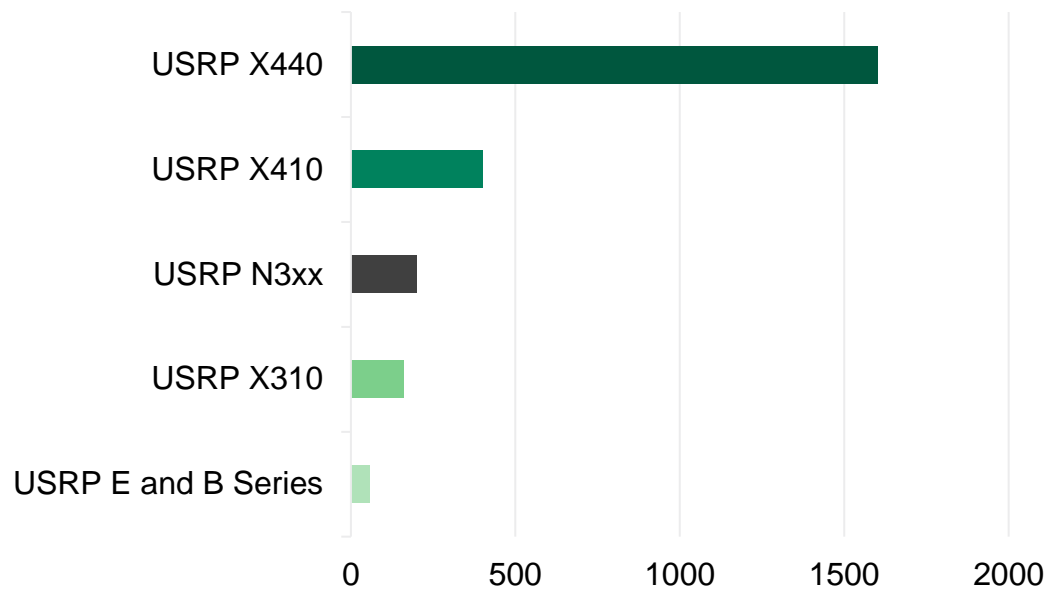
Hardware Specifications of the USRP X440:

- IF Range: 30 MHz – 4 GHz*
- 1.6 GHz* of instantaneous bandwidth (IBW)
- Up to 3.2 GHz of IBW in aggregate
- 8 Tx / 8 Rx channels (or 8 TRx)

Benefits of wide IBW & high channel count instrumentation:

- Improved scan rate in spectrum monitoring applications
- Exploration of broad frequency ranges and modulation schemes for research and prototyping
- Enhanced range and resolution capabilities for radar applications

* IF-Bandwidth combination limitations apply due to Nyquist zones and gaps

IVN-8563 10BASE-T1S Device

- **10BASE-T1S**
  - New IEEE automotive ethernet standard well suited to zonal architecture and replacing CAN or FlexRay at edge
  - 10-Mbps, single twisted pair, multidrop or point-to-point modes
- **Media Converter Features**
  - Basics
    - Single port
    - Two pin terminal block with ground lug
    - OnSemi NCN26010 MAC-PHY
  - Transparent bridge of 100BASE-TX to 10BASE-T1S
    - Coordinator or follower operation
    - Point-to-point and multidrop operation
  - Configuration of PLCA and other PHY settings via USB
    - Programmable termination for multidrop operation
- **When used with the PXIe-8623**
  - Endpoint and Monitor
  - XNET API support
  - VCOM integration for SOME/IP, Restbus, etc

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Automotive Vision/Camera Product

- 8 channel camera interface
  - FPD-Link III (PXIe-1486)
  - GMSL2 (PXIe-1487)
  - FPD-Link IV (PXIe-1488)
  - GMSL3 (PXIe-1489)

- **Power over Coax** support
  - 400mA @ 12V per channel (internal power)
  - External power connector for user provided power or load (9-30V @ 800mA max per channel)

- **Backchannel communication** support for GPIO

- **User programmable FPGA**
  - Xilinx Ultrascale+ FPGA (KU11P)
  - 4GB DRAM
  - PCIe Gen 3x8 interface to host (~7GB/s)

NI mioDAQ

NI's latest USB DAQ Hardware

- **Better Measurements**

  - Up to 20-bit, ±10 V inputs @ 1 MS/s/ch sample rate

  - Four ±10 V outputs @250 ks/s/ch update rate

  - 16 digital lines and four counter/timers

- **Better Setup Experience**

  - Bus-powered USB Type-C connection

  - QR-code guided setup

  - Connection accessories included

  - Multiple mounting accessories
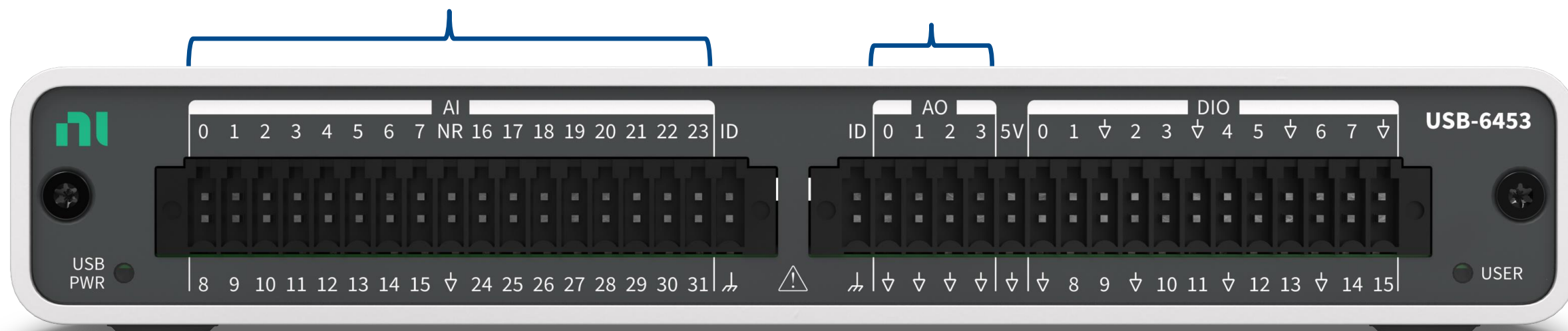
- **Better Software Options**

  - Free DAQ software with FlexLogger Lite

  - Industry-best LabVIEW integration

  - Support for Python, C/C++, C# and more

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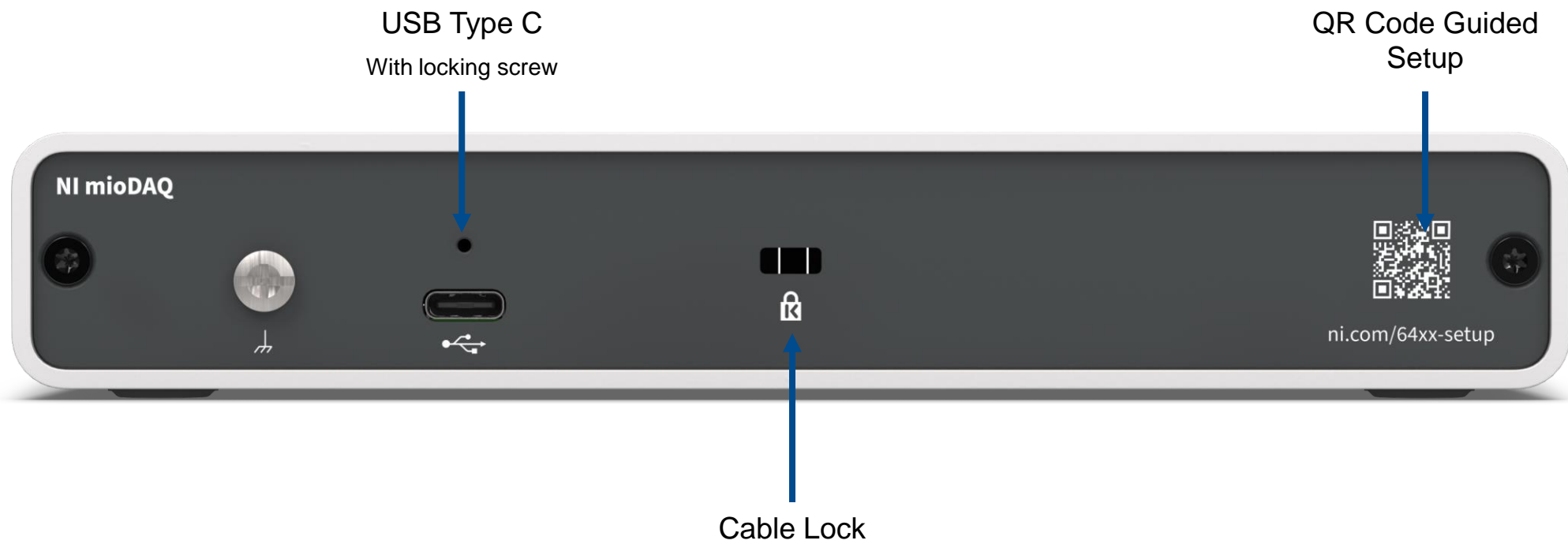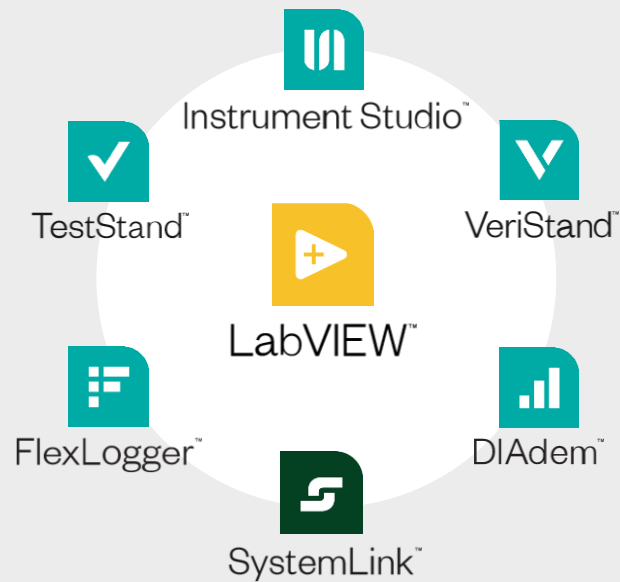
Rack Mounting Accessory for mioDAQ

Software

Harsha Bhushan

Principal Software Product Manager

Evolving NI Test Software

Enable Test & Measurement Professionals to Be More Efficient and Deliver Higher Quality Products

Instrument Studio™
VeriStand™
TestStand™
LabVIEW™
FlexLogger™
DIAdem™
SystemLink™

1 **Strengthen Software** | Deliver **new capabilities in NI Software** to meet the evolving requirements of test professionals

2 **Connect Workflows** | Bridge seamlessly between **tools**, **tasks**, and **teams** to accelerate the productivity of test professionals

3 **Build Community** | Engage and **collaborate with the community** to empower their continued success

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Strengthen **Software** | Deliver **new capabilities in NI Software** to meet the evolving requirements of test & measurement professionals

Ⅲ Instrument Studio™   **F** FlexLogger™   **V** VeriStand™   **▶** LabVIEW™   **✓** TestStand™   **📊** DIAdem™   **S** SystemLink™
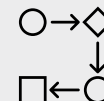
Low-Code Development
Develop, debug, and distribute measurement IP using low-code workflows

Collaborative Workflows
Simplify merging new development and support for modern DevOps & CI/CD tools

Simplified Test Automation
Expand audience for automation with integrated sequencing capabilities

Seamless Ecosystem Integration
Reuse IP and expertise with support for C, Python, .NET and other 3rd party tools

AI Technology Integration
Accelerate development with AI-Powered Co-pilots in LabVIEW and TestStand

Enhanced Data Insights
Connect measurements and metadata throughout the workflow to detect trends

System Security
Address SBOM requirements and related third party dependency updates.

Streamlined System Setup
Ensure all software required for a system is easy to find, install, and deploy

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Connect **Workflows**

Bridge seamlessly between **tools, tasks,** and **teams** to accelerate the productivity of test professionals across their workflows

Improve Products with Data

Product and test engineers accelerating innovation through expedited data interpretation and smart decision making

Run the Lab & Line Efficiently

Validation lab managers and manufacturing line operators maximizing their test capacity and efficiency through asset and data insights

Electronics Validation Test

Validation engineers characterizing electronics prototypes to ensure quality and performance

Electronics Production Test

Test engineers ensuring manufactured products meet specifications at scale

Electromechanical Validation Test

Validation engineers characterizing physical systems to ensure quality and performance
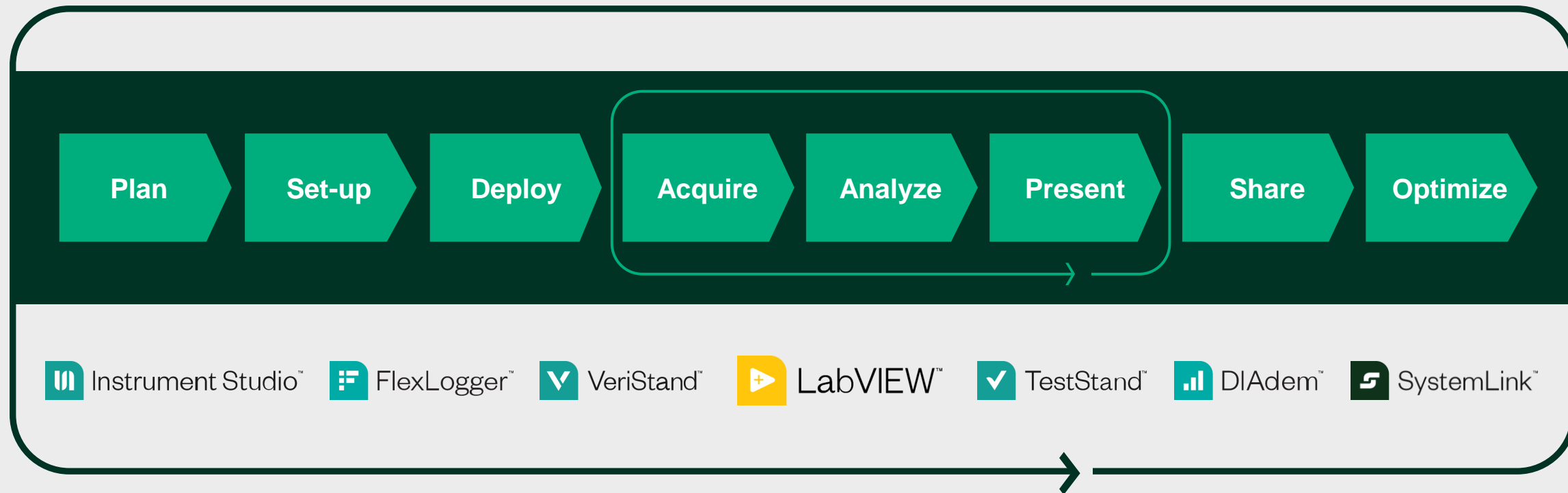
Embedded Software Validation Test

Validation engineers testing deployed software for defects across wide parameter variations

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Connect **Workflows**

Bridge seamlessly between **tools, tasks,** and **teams** to accelerate the productivity of test professionals across their workflows

| Plan | Set-up | Deploy | Acquire | Analyze | Present | Share | Optimize |

Instrument Studio™   FlexLogger™   VeriStand™   LabVIEW™   TestStand™   DIAdem™   SystemLink™

LabVIEW+ enables **test automation workflows** by bringing together a comprehensive and connected suite of software, featuring **LabVIEW**

SystemLink enables **test operations workflows**, streamlining lab and line management, and amplifying product insights across the organization

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Build **Community** | Engage and **collaborate with the community** to empower their continued success
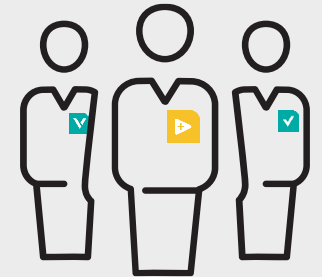
Open-Source Software	**Product Roadmaps**	**Training & Education**
Events, Forums & User Groups	**Partner Collaboration**	**Academic Engagement**

What's New in LabVIEW 2024 Q1

- Toolkits and modules

- Managing dependencies

- New VI functionality

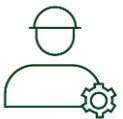# Drivers and toolkits-Version-Independent Add-ons

Addresses long-standing pain points around upgrading:

I need to update all my toolkits and drivers since I updated LabVIEW versions

It takes time and effort to install new drivers even when I don't have a change in my hardware set-up

Revalidation efforts for existing applications take longer when toolkits and drivers are updated

- Drivers became independent of LabVIEW versions in 2022 and 2023
- Many toolkits now also install in a way that's not tied to a specific version of LabVIEW
- Allows you to upgrade to newer LabVIEW versions without requiring you to upgrade your drivers and toolkits as well

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Dragon

Complete your LabVIEW project faster!

Managing Project Dependencies

- JKI Dragon is included with LabVIEW at **no additional cost**

- Manage your LabVIEW project's dependencies:

  - **View** package dependencies

  - **Install** package dependencies

  - **Detect** package dependencies automatically

  - **Configure** package dependencies manually

- Supports both **VI Package Manager** (VIPM) and **NI Package Manager** (NIPM)

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LabVIEW 2024 Q3

- Version-independent collaboration
- Compare VIs
- Support .NET 8.0
- Software Bill of Materials (SBOM)

Version-Independent Collaboration

- Take advantage of the **latest LabVIEW editor features** without upgrading the save version of your project!

- *Benefits*
  - Everyone on your team can **choose when to upgrade** LabVIEW independently
  - You can contribute to **open-source projects** more easily

- Different from Save-for-Previous:
  - Saves in-place
  - Does not "lose" code
    - Saves in a later version instead of replacing code with images
  - Provides editor feedback when using newer VI panel or diagram objects
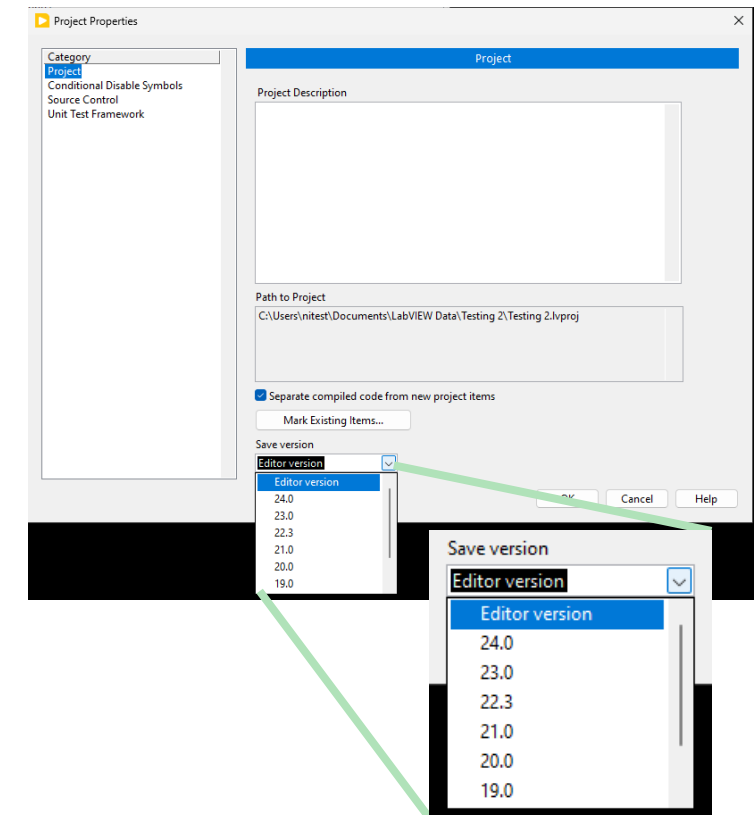
Compare VIs (a.k.a. "Diff")

- In LabVIEW 2022 Q3 and later, *Compare VIs* is not limited to the Professional Edition of LabVIEW

- Interactively compare VIs using **Tools>Compare** menu items
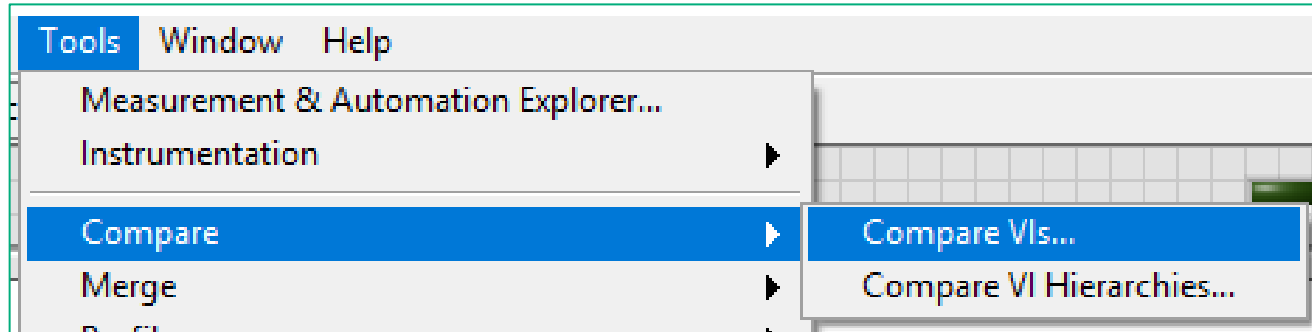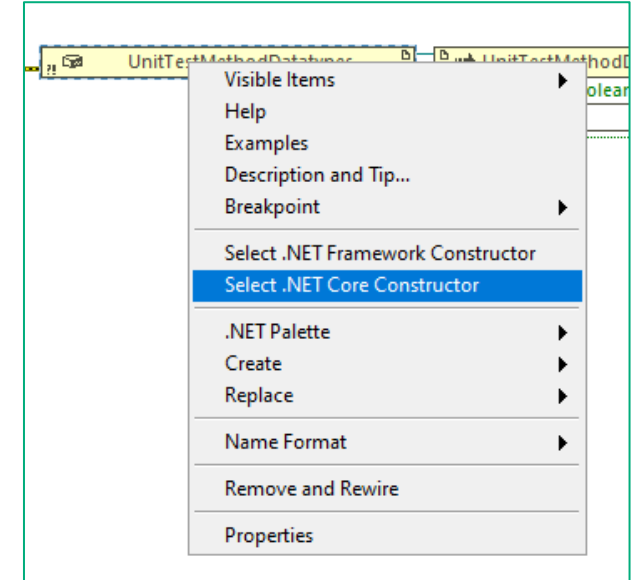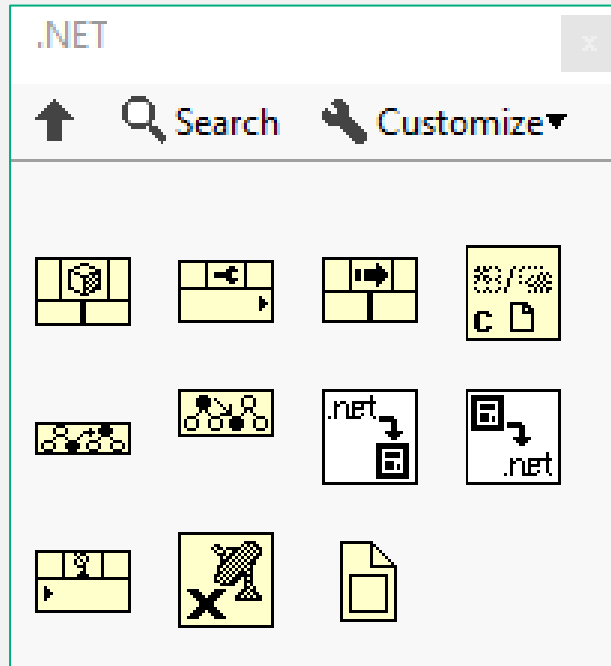

- Use the helper app **LVCompare.exe** as the diff tool for your source control system

```
lvcompare.exe <path to VI 1> <path to VI 2>
[-lvpath <path to LabVIEW>] [-noattr][-nofp][-nofppos]
[-nobd][-nobdcosm][-nobdpos]
```

Preview Feature: .NET 8.0

- LabVIEW will continue to support .NET Framework

- LabVIEW 2024 Q3 will support .NET 8.0 for the following:

  – Constructor Node

  – Invoke Node

  – Property Node

- Supported data types:

  – int

  – char

  – boolean

  – string
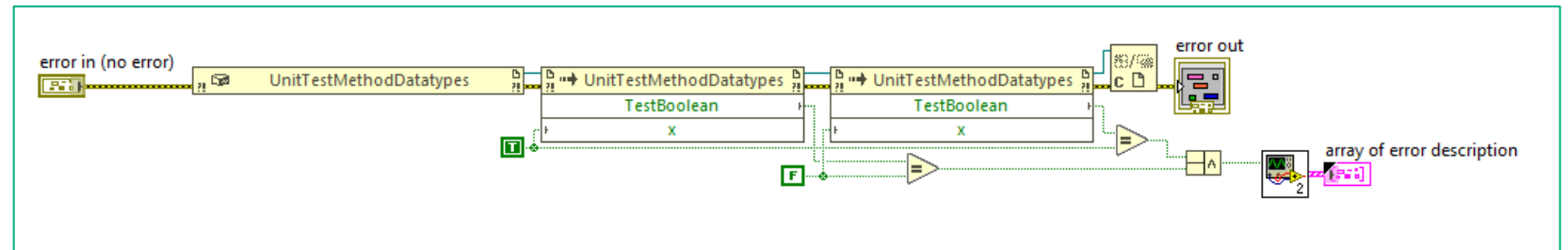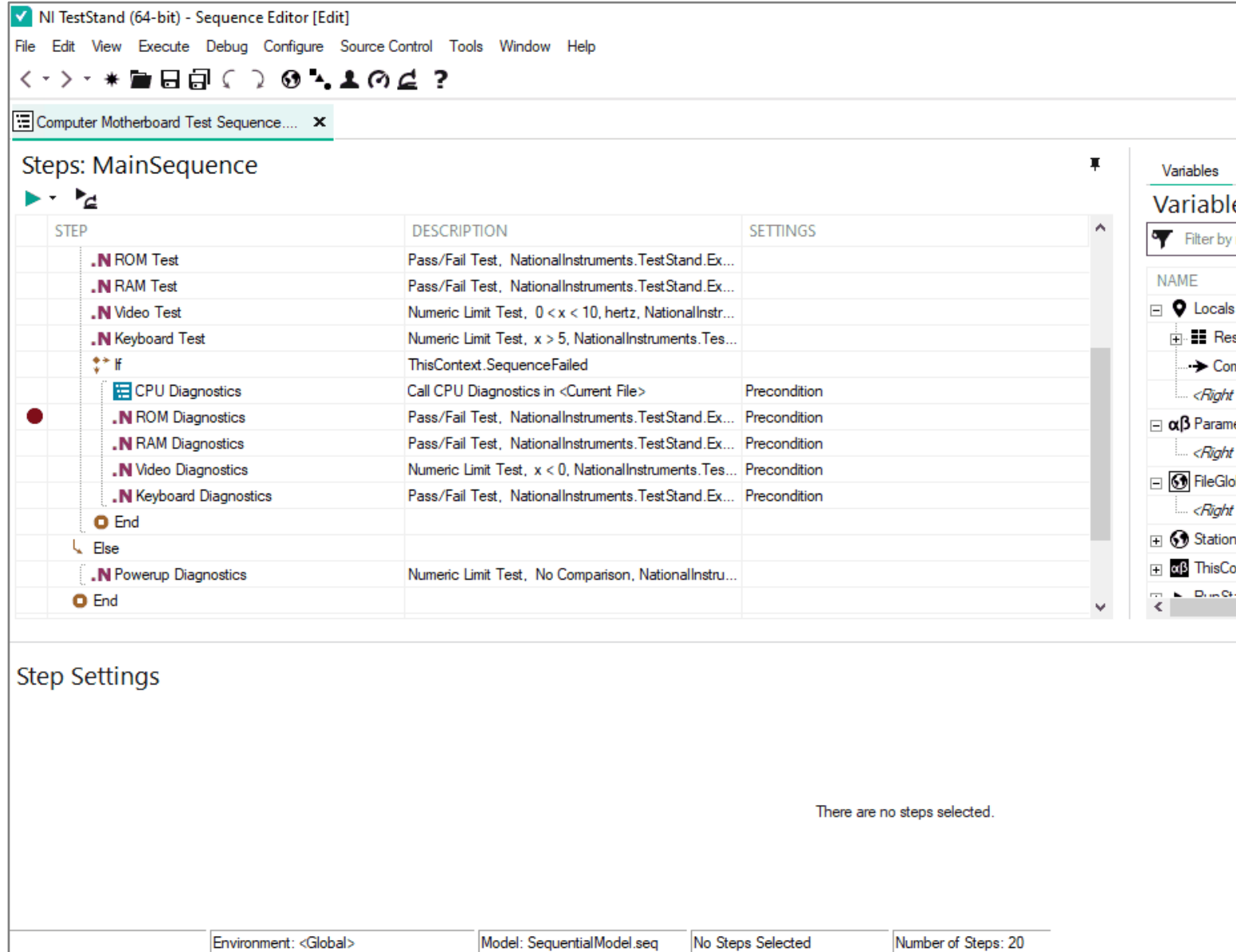
Future .NET 8.0 Work

- Built applications

- Additional data types

- Register Event Callback

- Configuring a specific version of .NET

- Front panel controls

- Linux

- Building .NET Core Interop Assemblies

What's New in TestStand

Hot reloading

- Make changes to your source code while debugging

- Continue to execute your test sequence without rebuilding/restarting test execution

- C#, C++ hot reloading with TestStand & Visual Studio 2022

- Python hot reloading with Visual Studio Code

Python virtual environment using venv

Virtual environments help isolate packages & dependencies of python projects

- Venv is a built-in python package to create Virtual environment

- Call a python code in a virtual environment from TestStand

Python Adapter Configuration

Python Settings

Interpreter to use: Global

☑ Display console for interpreter sessions

Virtual environment (optional): demo_venv

☐ Reload modified modules before execution

☐ Enable debugging

☑ Enable just my code

Executable Path

Version: 3.10

*Required

.NET core code module support

- We acknowledge the need for a text-based language more performant than Python

- .NET core:

  - Performant & cross-platform

  - Supports newer versions of C#

  - Has hot-reloading capabilities while debugging in Visual Studio

  - Availability of many 3rd party IP to leverage

- .NET core support in TestStand

  - .NET adapter in TestStand would now support .NET 8

  - Call and debug .NET 8 assemblies from teststand

  - Many .NET framework assemblies can be called too*

  - A step towards Linux support

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What is the LabVIEW+ Suite?

The LabVIEW+ Suite is a bundle of LabVIEW, plus, DIAdem, TestStand, FlexLogger, and more NI Software. The Suite saves engineers time by providing purpose-built tools for measurement, analysis, and test.
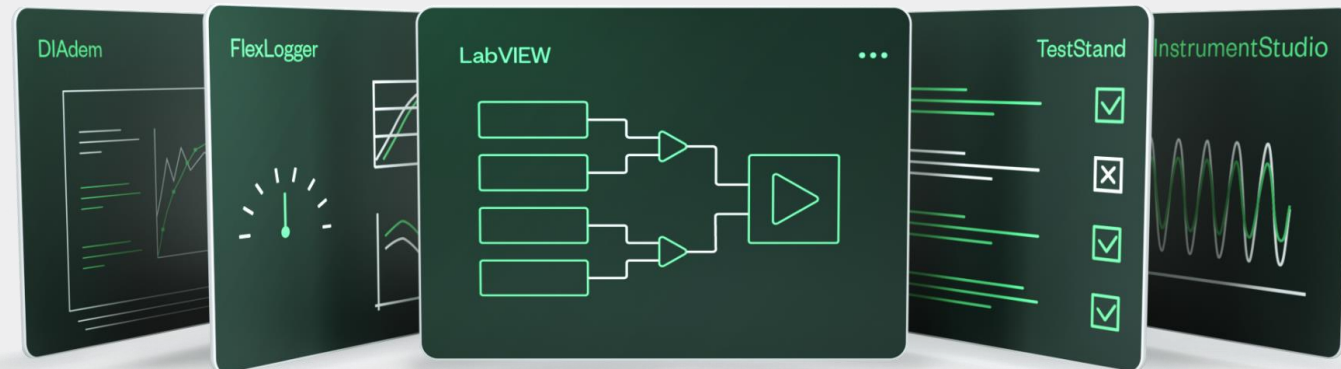
Key Applications

- **Measurement** – Connect to and automate any instrument with LabVIEW. Take measurements quickly with FlexLogger and InstrumentStudio.

- **Analysis** – Perform calculation, instantly create charts and graphs, and build reports with DIAdem.

- **Test** – Develop and deploy validation and production test systems with TestStand.

Key Benefits

Reduce Development and Maintenance Time – Software is designed for engineers with specific features and tools that save time

Improve Data Analysis and Utilization – Use your data and create reports to share insights

Future Proof Your System – NI Software is open and compatible with non-NI instruments and popular programming languages

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LabVIEW *Plus* Application Specific NI Software

LabVIEW

TestStand

DIAdem

FlexLogger

InstrumentStudio

G Web Development SW

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Software Roadmaps

NI Software Roadmaps

NI is committed to sharing long-term software investment plans and ensuring the decisions we make are aligned to your needs and priorities. This page shows details of upcoming feature releases for the next few years and will be updated once per quarter.

Updated Sep 30, 2024

Software Roadmaps

Request Features

- NI LabVIEW
- NI TestStand
- NI FlexLogger
- NI InstrumentStudio
- NI DIAdem
- NI VeriStand
- NI SystemLink

LabVIEW™ Roadmap

Short-term product focus

Improve experience for users looking to work as a team to build larger applications

Improve support for 3rd party tools ensuring flexibility

Long-term product focus

Enhance integration with other NI tools for seamless data exchange and enhanced functionality

Uplevel security features on all data linkages-especially in military and aerospace applications

Capability	Shipped	2024	2025+
Project Management			
Improvements to the speed of building applications	2023		
Driver versions independent from LabVIEW	2023		
Improved LabVIEW Project Dependency Management	2024		
Maintaining projects in older versions		✓	
Enhancements in diff and merge functionalities		✓	✓
Ability to upgrade legacy Windows installers to NIPM packages			✓
CI/CD Workflows - integration into Git source code management			✓
UI Improvements			
Editor improvements: Diagram Zoom, Double click to finish wire, Quick change list	2023		
Debug improvements: Execution highlighting	2023		
Improvements in the areas of breakpoints, probes, and run-time error reporting			✓
Interoperability			
Ease of calling, editing and debugging MATLAB scripts	2022		
Python 3.10 with Python class support	2022		
Call Python code running in virtual environment	2023		
Support for calling .NET Core Assemblies (.NET 8)		✓	✓
System Support			
Data Communication additions (IPv6 support)			✓
General Software Security			
Updating 3rd party dependencies		✓	
Internal improvements in response to increased global security standards		✓	

Roadmap Date: 2024 Q2 | Next Release: 2024 Q3 | Release Cadence: Q1 and Q3 | Roadmap is a snapshot and can change based on a variety of factors, including development execution and customer input.

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TestStand™ Roadmap

Short-term product focus

Provide better interoperability with modern and performant programming languages and frameworks

Improve usability and efficiency for engineers to quickly develop scalable and maintainable test systems

Long-term product focus

Enable test deployment and development on modern, secure and cross-platform environment

Improve TestStand on-boarding experience

Capability	Shipped	2024	2025+
Interoperability			
Support Python virtual environments		✓	
Support for calling .NET Core assemblies (.NET 8)		✓	✓
Support Python Anaconda distribution			✓
Remote Procedure Call steps			✓
Native Python API for TestStand			✓
Modern, secure & cross-platform environment			
gRPC API for remote control & execution of test sequence	Early Access on GitHub		
Modern Operator Interface		✓	✓
Deploying Test sequences on Linux Desktop			✓
Development of Test sequences on Linux Desktop			✓
Improve test development efficiency			
Hot reloading of C# & C++ modules in Visual Studio 2022	2023		
Integration with SystemLink Specification Compliance Manager	2023		
Filter variables & their properties	2023		
Integration with Git source code management			✓
Easily create test sequence variants for Device Under Test (DUT)			✓
Performance			
Remove dependency on LabVIEW ADE version for source VIs and support better build times for steps using source-only VIs	2023		
Improved performance of Python enumerations	2023		

Roadmap Date: 2024 Q2	Next Release: 2024 Q4	Release Cadence: Annual	Roadmap is a snapshot and can change based on a variety of factors, including development execution and customer input.

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Instrument Studio™ **Roadmap**

Short-term product focus

Cover broad range of electronics test validation and production debug operations

Allow basic automation of interactive operations

Allow the creation and sharing of custom panels

Deliver more out-of-the-box panel functionality

Long-term product focus

Support more advanced testing topologies

Increase data connectivity

Improve path to fully optimized production test

Streamline and improve customization capabilities

	Capability	Shipped	2024	2025+
	Panels			
	RFmx S-Parameter measurement workflows	2023 Q4		
	Support for electronic loads	2023 Q4		
Pro	Measurement-centric panels		✓	
Pro	Support for non-NI hardware		✓	
	Support for additional NI hardware			✓
	Workflow			
	Measurement organization and search	2023 Q4		
	Improved channel alias and pin map options		✓	✓
	Improved system configuration			✓
	Additional data logging options			✓
Pro	Additional remote-control support			✓
Pro	Additional parallelism support			✓
	Automation			
Pro	In-app sequencing and sweeping		✓	
Pro	Streamlined sequence creation			✓
	TestStand Semiconductor Module support			✓
	Extensibility			
	LabVIEW VISA gRPC driver APIs	2024 Q1		
	Simplified session management	2024 Q1		
Pro	Publish and share custom measurements		✓	
Pro	Additional datatypes and controls			✓
	Full C# support for custom measurements			✓

Roadmap Date: 2024 Q2	Next Release: 2024 Q3	Release Cadence: Quarterly	Roadmap is a snapshot and can change based on a variety of factors, including development execution and customer input.

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FlexLogger™ Roadmap

Short-term product focus

Provide companion software to new and existing DAQ users

Leverage the power of LabVIEW and TestStand with the ease of FlexLogger for automated validation

Improve the experience of developing new custom measurements and lightweight control logic

Long-term product focus

Streamline the development, management, and deployment of custom measurement and lightweight control logic

Simplify automated validation with built-in sequencing, alarms, events, logging triggers, and more

Expand and enhance core measurement configuration and monitoring capabilities

Capability	Shipped	2024	2025+
Interoperability			
Support for USB-6008/6009 multi-function DAQ devices	2023 Q4		
Simulate a DAQ device from FlexLogger when no hardware is connected	2023 Q4		
Support for new USB multi-function DAQ devices		✓	
Simplify development and debugging of measurement and control plugins		✓	✓
Automation			
Automate validation tests using FlexLogger with LabVIEW or TestStand		✓	
Automatically or manually change the logging rate during a test		✓	✓
Automate lifecycle and durability tests without leaving FlexLogger			✓
Improved alarms, events, and notifications			✓
Workflow Enhancements			
Improve project load performance when using formulas	2023 Q4		
FlexLogger DAQ companion software: Fast, out-of-the-box software for logging and monitoring measurements		✓	
Improve project and application load performance		✓	
Enhance and expand live calculated channels			✓
Import/export channel configuration from a spreadsheet			✓

Roadmap Date: 2024 Q2 | Next Release: 2024 Q2 | Release Cadence: Quarterly | Roadmap is a snapshot and can change based on a variety of factors, including development execution and customer input.

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VeriStand™ **Roadmap**

Short-term product focus

Reduce time to market through automation and orchestration

Streamline Integration with customer's ecosystems with easier reuse of model assets and greater leverage existing test cases

Long-term product focus

Simplify tasks within VeriStand for easier on onboarding and reduced context switching

Enable integrators to create more powerful plugins with enhanced automation capabilities

Ensure secure connectivity with other ecosystem components

Capability	Shipped	2024	2025+
Model Integration			
External Mode Support for CPU Models	2023		
FMI 3.0 Support	2024		
HDL Coder customization with LabVIEW		✓	
Block parameter import from Simulink™		✓	
Improvement for model import/reuse		✓	
Connectivity with Simulink Test™			✓
Automation			
Improved Scripting APIs - Python and .NET	2023		
VeriStand Steps for TestStand		✓	
In-product sequencing			✓
Virtualization			
Import/Run Virtual ECUs within VeriStand	2024		
Usability and Plugin Support			
Improved error handling & debugging tools		✓	
Diagnostics for VeriStand execution		✓	
Updated Custom Device scripting APIs			✓
Automotive networks config simplification			✓
Communications bus template ease of use			✓
System Support			
Improved loop rates for large systems	2023		
Deployment workflow for Linux desktop			✓
Improvements to meet security standards			✓

Roadmap Date: 2024 Q2 | Next Release: 2024 Q2 | Release Cadence: Quarterly | Roadmap is a snapshot and can change based on a variety of factors, including development execution and customer input.

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DIAdem™ **Roadmap**

Short-term product focus

Workflow enhancements to DIAdem modules

Continuous Python support

Long-term product focus

SystemLink Enterprise Client Integration

ASAM ODS 6

Capability	Shipped	2024	2025+
Interoperability			
SystemLink Enterprise Integrated Client	2023 Q4		
MDF4 Data Plugin Sub-Channel Loading	2023 Q4		
Python 3.11 Support	2023 Q4		
VIEW: Layout template for "New Layout"	2023 Q4		
DataAPI: ValueIndex() method	2023 Q4		
Single folder mode to path behavior	2023 Q4		
Data Portal: Invalid Channel Highlighting	2023 Q4		
VIEW: New Python Graphic area to create displays	2023 Q2		
VIEW: New Event 'OnLoadedLayout'	2023 Q2		
ANALYSIS: Optimization of resampling/peak find functions	2023 Q2		
DAC: Extension of GPS Driver	2023 Q2		
REPORT: 2DTable 'OnDrawingCell' Settings		✓	
SystemLink Enterprise: Extended Features			✓
Python 3.12 Support			✓
Focus Area: ASAM ODS 6			✓
VIEW/REPORT Module Usability Updates			✓
UI Improvements			
VIEW: 'New Layout' template loading in REPORT	2024 Q4		
Display absolute/relative value in Pie Chart	2024 Q2		
VIEW Module Video Synch Updates			✓

Roadmap Date: 2024 Q2	Next Release: 2024 Q2	Release Cadence: Bi-Annually	Roadmap is a snapshot and can change based on a variety of factors, including development execution and customer input.

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SystemLink™ Roadmap

Enterprise software for managing labs, improving test operations, managing and analyzing engineering and tracking product compliance to specifications.

Short-term product focus

Manage & deploy software to test systems

Centrally manage, schedule, deploy, and execute test plans

Ensure product compliance to specifications

Visualize and analyze waveform data

Long-term product focus

Streamlined Deployment

Specification compliance and product health

AI Driven Test Planning and Data Analysis

Capability	Shipped	2024	2025+
Systems & Assets			
View and manage assets	2023 Q4		
Monitor system health and test status	2023 Q4		
Manage and deploy software	2024 Q2		
Asset calibration history and utilization tracking		✓	
Asset utilization dashboards			✓
Product Insights			
Manage and visualize test results & parametric data	2023 Q4		
Collaborate on test results and data spaces	2024 Q1		
Manage product specifications	2024 Q2		
Analyze parametric data and visualize analysis results		✓	
Visualize and analyze waveform and RF data		✓	
Product specification compliance analysis			✓
Operations			
Work order and test plan management	2023 Q4		
Manage DUTs	2024 Q2		
Manage test plan templates	2024 Q2		
Remotely start and stop test executions		✓	
Comment on work orders and test plans		✓	
Customize test parameters		✓	
Schedule test plans based on system availability		✓	
Support for multi-DUT test plans			✓
Platform			
AWS & Azure Deployments		✓	
Alarms and notifications		✓	
Unified Platform for Small-on-Prem to Enterprise			✓

Roadmap Date: 2024 Q2	Release Cadence: Monthly	Roadmap is a snapshot and can change based on a variety of factors, including development execution and customer input.

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NI is now part of Emerson.