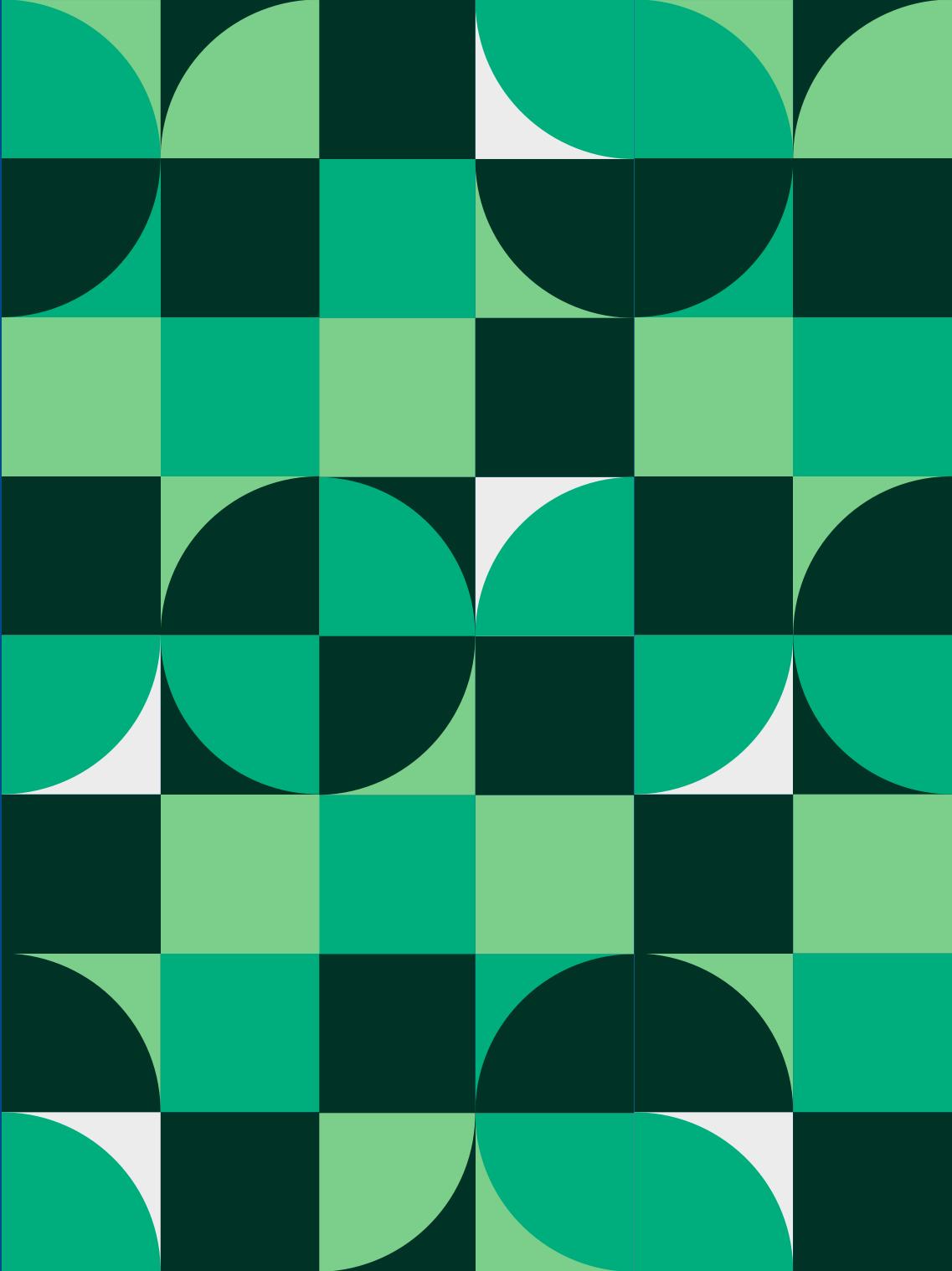


The background of the image is a wide-angle photograph of a mountainous landscape. In the foreground, there are several green, densely forested hills. On the right side, a tall, thin power line tower stands on a hill, with multiple wires extending across the scene. The mountains in the background are layered and appear slightly hazy, suggesting distance or mist. The overall color palette is dominated by various shades of green and blue.

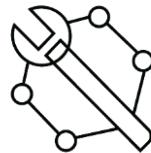
Flexlogger Overview

What Is FlexLogger?





A no-/low-code data acquisition software engineers use to build validation and verification test applications.



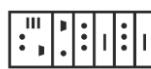
Configure Measurements

Set up your system in minutes by interactively selecting devices and measurement channels



Create Dashboards

Monitor and control tests with drag-and-drop visualization and interactive elements



Store Results

Configure data storage preferences to automatically partition files and store to multiple locations



Automate Tests

Use events, alarms, logging triggers, and fully-featured APIs to automate execution of tests

Connect FlexLogger



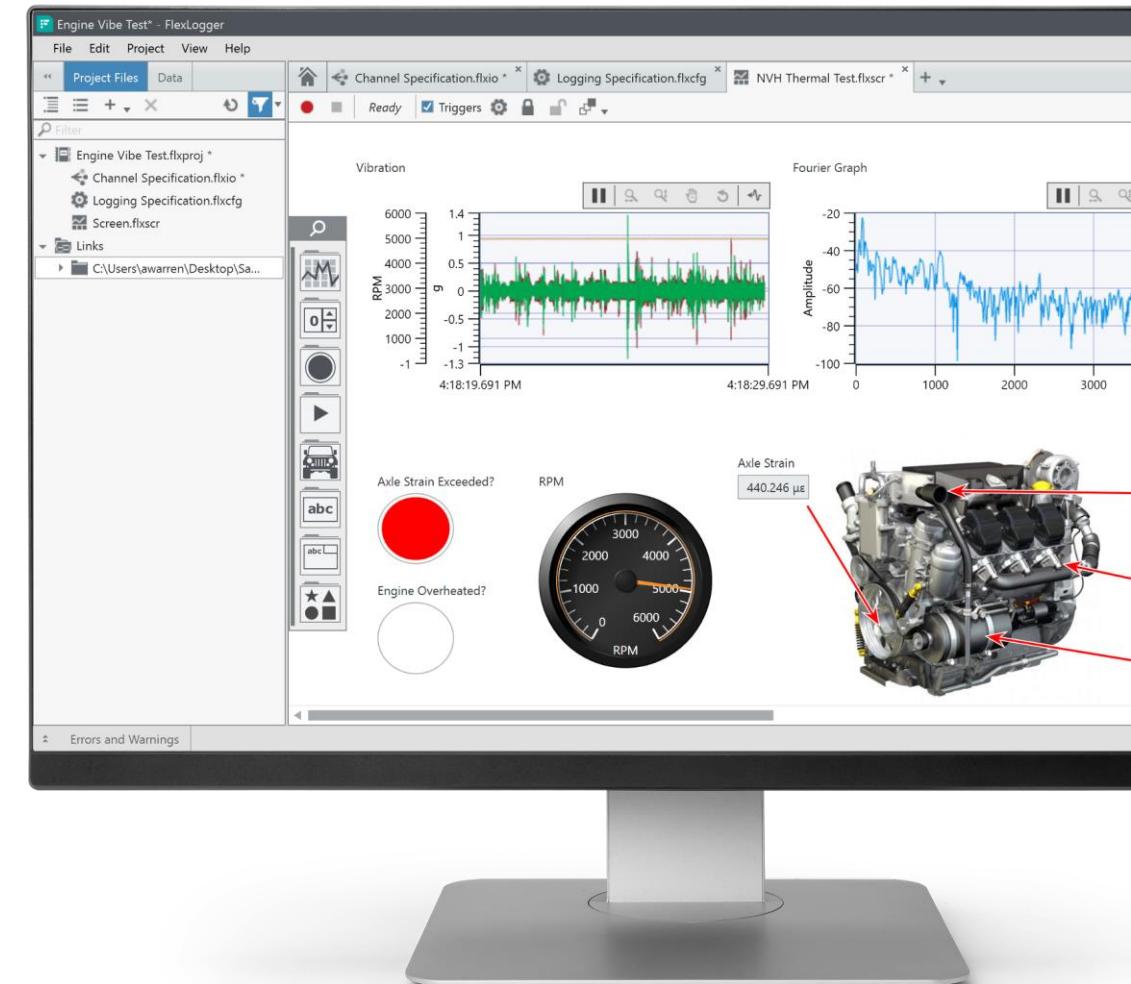
With **LabVIEW** to integrate custom measurements and control logic



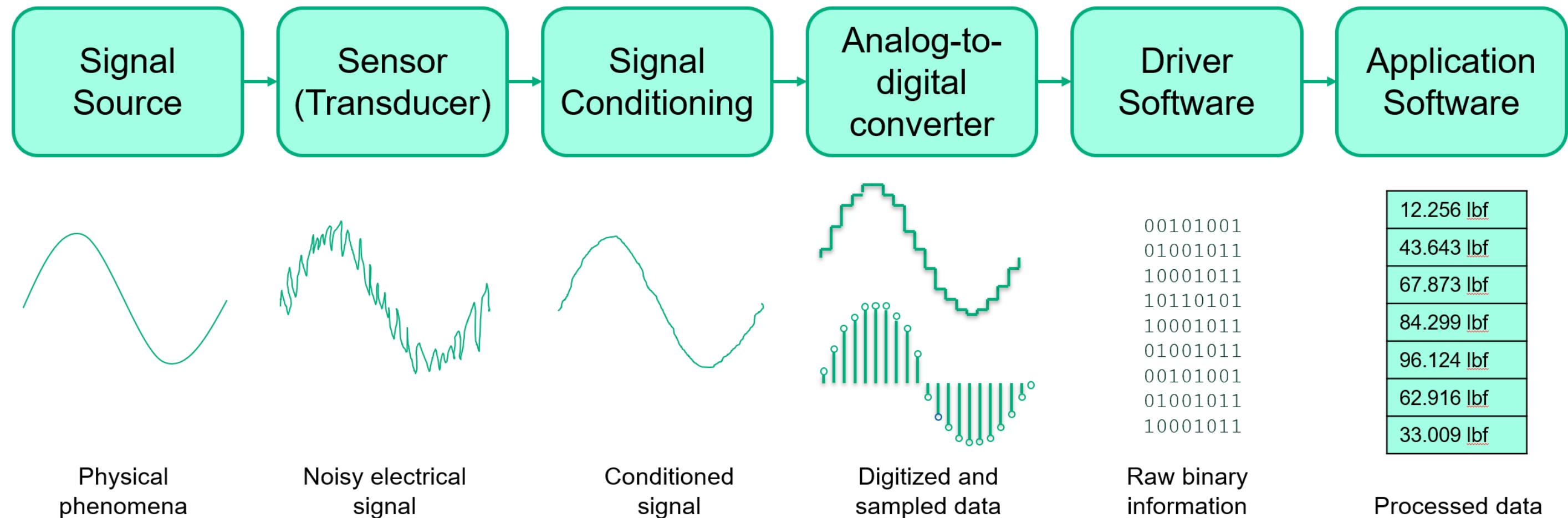
With **DIAdem** to quickly search, visualize, analyze, and generate reports on logged data



With **TestStand** to quickly build complex test sequences and generate reports



Data Acquisition Overview



FlexLogger User Workflow

Create **intuitive, extensible electromechanical test systems**. Connect teams, systems, and data.

Traditional Systems

are either

Too simple and closed off

Forcing users to make expensive trade-offs between hardware
and software needs

or

Custom and complicated

Causing delays and distrust in data as users often “hack” in the
functionality they need to meet deadlines

FlexLogger Systems

are

Simple and extensible

By creating a plug-in-based architecture, FlexLogger users
get the benefits of an *out-of-the-box* measurement and test
solution while maintaining the ability to extend and integrate
any 3rd party hardware they may need for their tests.

Run **interactive measurements** for quick validation, then **automate tests** to minimize downtime.



FlexLogger Editions

	FlexLogger Lite	FlexLogger Pro
User Value	Manual/Simple Validation	Automated/Enhanced Validation
Measure with nearly any NI DAQ device	✓	✓
Create monitoring dashboards	✓	✓
Log to standard formats (TDMS, CSV)	✓	✓
Visually inspect logged data (TDMS Viewer)	✓	✓
Develop and run custom measurement and control plugins		✓
Include additional measurements and visualizations (live calculations, CAN/LIN, etc)		✓
Automate measurement sequences with Python		✓
Automate response with alarms, events, and logging triggers		✓
Scale to multiple chassis		✓
Remotely monitor tests and manage data (SystemLink)		✓
Operator mode		✓
Technical support from NI		✓
Price (per node per year)	\$0	\$793

FlexLogger 24Q3, 24Q4, and 25Q1



New features include:

NI mioDAQ Support

- Support for *mioDAQ* devices: *USB-6421*, *USB-6423*, *USB-6451*, *USB-6453*
- New hardware support features include built-in CJC thermocouples and PFI trigger filters

LabVIEW Automation API

- LabVIEW API for automating *FlexLogger* tests
- Start/stop tests, fetch channel values, set output channel values, update data rates, open log files, update test properties, and more

TestStand Automation API

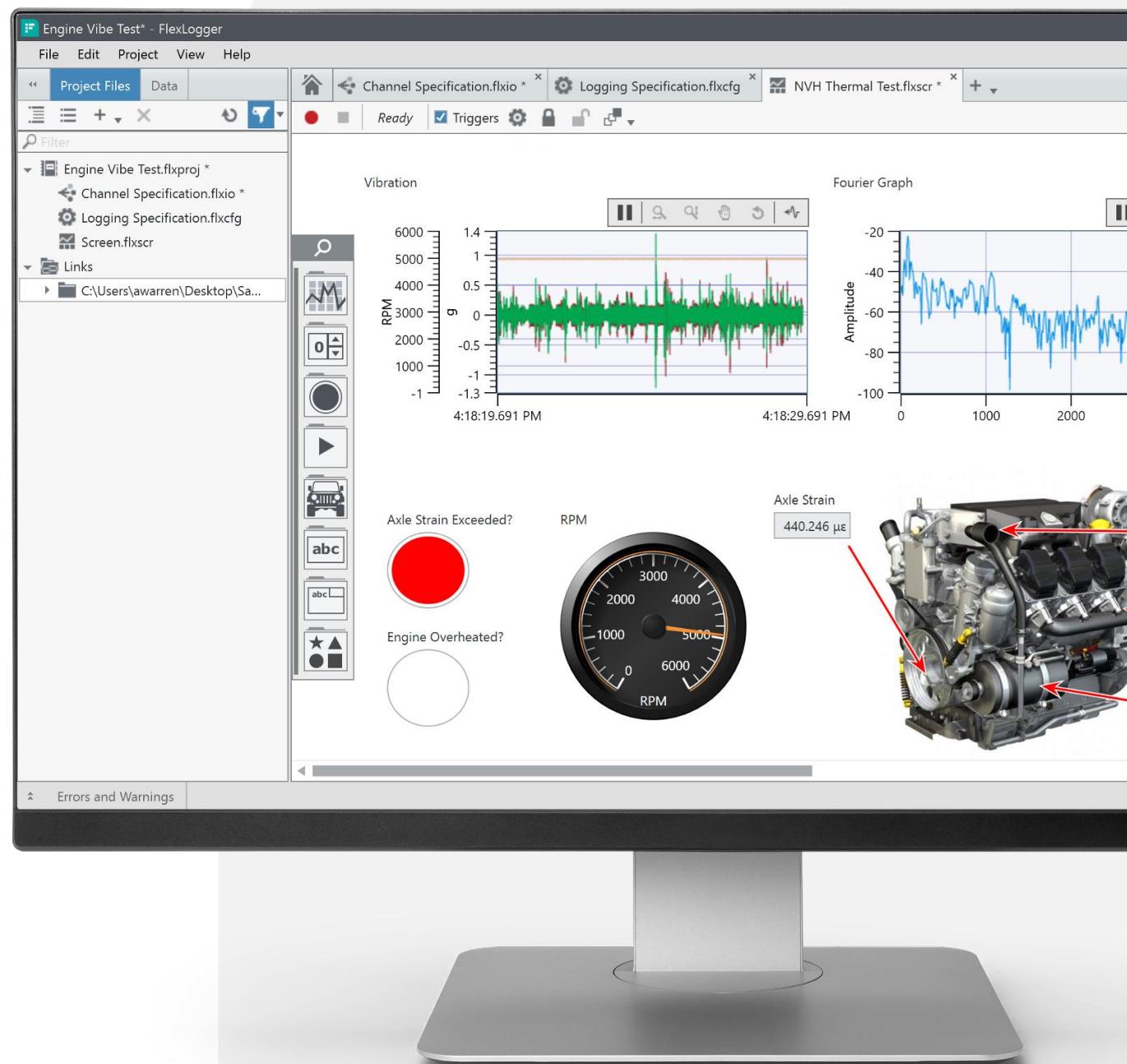
- TestStand API for automating *FlexLogger* tests via *FlexLogger* steps
- Similar functionalities to the LabVIEW API

Hardware Connections Using HWCU

- Configure hardware in *Hardware Configuration Utility* instead of *NI MAX*
- Delete simulated hardware configurations directly in *FlexLogger* without opening an additional program like *NI MAX* or *HWCU*

FlexLogger Community Plugins Repository

- Public GitHub repository containing common example plugins
- The repo is open source, and we encourage users to contribute and reuse plugins across the community (reducing the need for development)



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

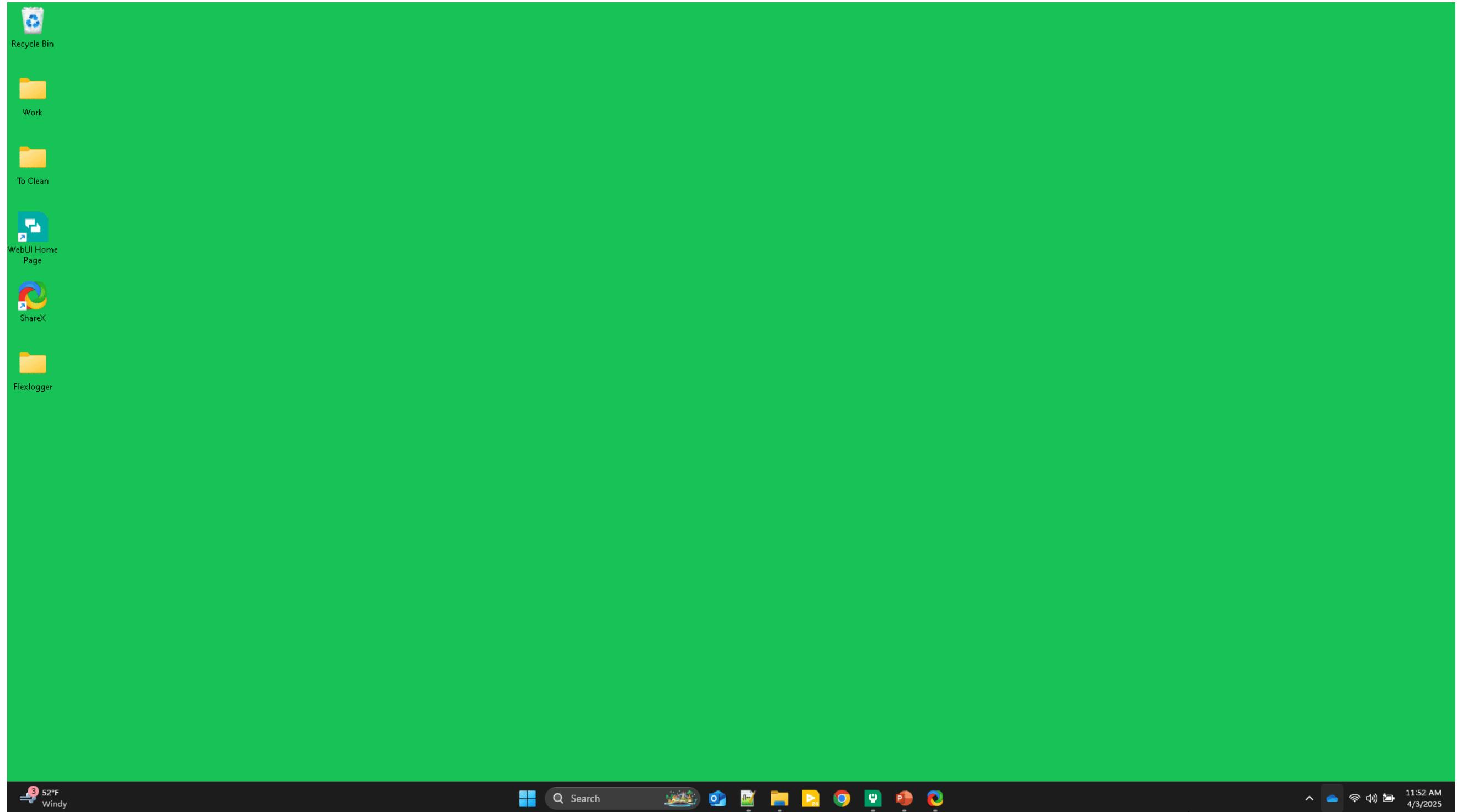
Simplify automated validation with built-in sequencing, alarms, events, logging triggers, and more

Expand and enhance core measurement configuration and monitoring capabilities

Capability	Status	2024	2025	2026+
Ecosystem Integration				
Free FlexLogger Lite edition for basic logging applications	Released	Q2		
Support for new USB multifunction DAQ devices (NI mioDAQ)	Released	Q3		
Simplified hardware connections via NI Hardware Configuration Utility	Released	Q4		
Support for NI mioDAQ functionalities like built-in CJC thermocouples, PFI trigger filters, and configurable digital voltage levels	In Development		✓	
Customization and Extensibility				
Public GitHub repository for FlexLogger plug-ins created by the Community *	Released	Q1		
Simplified plug-in development and debug experience through Measurement plug-ins (includes Python support) *	In Development		✓	
Enhanced CSV logging experience with additional customizations	Backlog		✓	
Expanded calculation channels and out-of-the-box data analysis	Backlog		✓	
Test Efficiency				
Decrease logging rates outside of events of interest to reduce disk space *	Released	Q2		
Improvements in project and application load performance	Released	Q3		
Automate FlexLogger tests with NI LabVIEW *	Released	Q4		
Automate FlexLogger tests with NI TestStand *	Released	Q1		
Import/export channel configurations from a spreadsheet *	Backlog		✓	
Additional conditions and methods for users to update the logging rate of their test *	Backlog		✓	
Additional conditions, actions, and notification methods for FlexLogger events *	Backlog		✓	
Access additional hardware specifications and configuration settings directly in FlexLogger	Backlog		✓	
Automate tests in FlexLogger with a simple, native sequencer *	Backlog		✓	
Minimize time to measurement with the FlexLogger AI Assistant *	Backlog		✓	
Security				
Security updates for third-party dependencies	In Development		✓	
Encrypt logged data and communications	Backlog		✓	

Demo

Demo: Hardware Setup



Summary: Hardware Setup

- Hardware is automatically detected
- Hardware is automatically imported to Flexlogger

Demo: Configuring Analog Channels

The screenshot shows the FlexLogger software interface for configuring data logging projects. The main window displays three levels of configuration hierarchy:

- Local System**: USAULT-L6G09R7
- cDAQ1 (Simulated)**: NI cDAQ-9178 (8-Slot USB CompactDAQ Chassis)
 - On-Board Counters**: Counter (100 Hz)
 - CTR0, CTR1, CTR2, CTR3: Not Configured
 - NI 9236 (C Series Strain/Bridge Input Module, Simulated)**: Fast (1,000 Hz)
 - AI0, AI1, AI2, AI3, AI4, AI5, AI6, AI7: Not Configured
 - NI 9213 (C Series Temperature Input Module, Simulated)**: Slow (1 Hz)
 - AI0, AI1, AI2, AI3, AI4, AI5, AI6, AI7, AI8, AI9, AI10, AI11, AI12, AI13, AI14, AI15: Not Configured

No files available.
Start logging to view files here.

At the bottom left, there is a link to [Errors and Warnings](#). The top right corner shows the user "Daniel Eaton".

Summary: Configuring Analog Channels

- Configure; no programming required
- Many sensor types supported
- Multiple scaling and calibration options supported
- Multi-select channel configuration for easy configuration
- Copy & paste channel configurations for easy replication

Demo: Configuring Digital and Counter Channels

No files available
Start logging to view files here.

cDAQ1 (Simulated)
NI 9213 (C Series Temperature Input Module, Simulated)

	CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
AI11	cDAQ1Mod2/ai11	-138.332 °C	Temperature, K Type, -200 / 1,372 °C	
AI12	cDAQ1Mod2/ai12	-114.284 °C	Temperature, K Type, -200 / 1,372 °C	
AI13	cDAQ1Mod2/ai13	-116.685 °C	Temperature, K Type, -200 / 1,372 °C	
AI14	cDAQ1Mod2/ai14	-185.613 °C	Temperature, K Type, -200 / 1,372 °C	
AI15	cDAQ1Mod2/ai15	-1.33E+31 °C	Temperature, K Type, -200 / 1,372 °C	

NI 9472 (C Series Digital Module, Simulated)

	CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
LINE0			Not Configured	
LINE1			Not Configured	
LINE2			Not Configured	
LINE3			Not Configured	
LINE4			Not Configured	
LINE5			Not Configured	
LINE6			Not Configured	
LINE7			Not Configured	

NI 9263 (C Series Voltage Output Module, Simulated)

	CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
AO0	cDAQ1Mod4/ao0	0.00000 V	Voltage output, -10 / 10V	
AO1	cDAQ1Mod4/ao1	0.00000 V	Voltage output, -10 / 10V	
AO2	cDAQ1Mod4/ao2	0.00000 V	Voltage output, -10 / 10V	
AO3	cDAQ1Mod4/ao3	0.00000 V	Voltage output, -10 / 10V	

NI 9234 (C Series Sound and Vibration Input Module, Simulated)

	CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
AI0			Not Configured	
AI1			Not Configured	
AI2			Not Configured	
AI3			Not Configured	

NI 9215 (C Series Voltage Input Module, Simulated)

	CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
AI0	cDAQ1Mod6/ai0	-9.30159 V	Voltage, -10 / 10V	
AI1	cDAQ1Mod6/ai1	-9.62661 V	Voltage, -10 / 10V	
AI2	cDAQ1Mod6/ai2	-9.74228 V	Voltage, -10 / 10V	
AI3	cDAQ1Mod6/ai3	-9.63882 V	Voltage, -10 / 10V	

Errors and Warnings

Summary: Configuring Digital and Counter Channels

- Built in counters need a digital module front end (e.g. 9401)
- Dedicated counter modules for additional counters (up to 64)
- Many sensors supported
- Same copy / paste & multichannel configuration options

Demo: Configuring Sample Times

The screenshot shows the Data Logging Project - FlexLogger software interface. The main window displays data for a simulated cDAQ1 chassis. The interface includes a navigation bar with File, Edit, Project, View, Help, and a RUN button. Below the navigation bar are tabs for Channel Specification, Logging Specification, Test Specification, Screen, and a plus sign icon. The central area shows three sections of data:

- On-Board Counters:** One channel, CTR3, is listed with a live value of Not Configured.
- NI 9236 (C Series Strain/Bridge Input Module, Simulated):** Eighteen channels (AI0 to AI7) are listed with their current values:

CHANNEL NAME	LIVE VALUE	DETAILS
AI0	-0.03560 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε
AI1	-0.04006 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε
AI2	-0.04283 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε
AI3	-0.04595 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε
AI4	-0.04680 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε
AI5	-0.04790 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε
AI6	-0.05141 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε
AI7	-0.05280 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε
- NI 9213 (C Series Temperature Input Module, Simulated):** Fifteen channels (AI0 to AI14) are listed with their current values:

CHANNEL NAME	LIVE VALUE	DETAILS
AI0	202.994 °C	Temperature, K Type, -200 / 1,372 °C
AI1	117.204 °C	Temperature, K Type, -200 / 1,372 °C
AI2	59.7226 °C	Temperature, K Type, -200 / 1,372 °C
AI3	45.7106 °C	Temperature, K Type, -200 / 1,372 °C
AI4	13.2540 °C	Temperature, K Type, -200 / 1,372 °C
AI5	-31.5979 °C	Temperature, K Type, -200 / 1,372 °C
AI6	-70.1284 °C	Temperature, K Type, -200 / 1,372 °C
AI7	-70.6150 °C	Temperature, K Type, -200 / 1,372 °C
AI8	-103.217 °C	Temperature, K Type, -200 / 1,372 °C
AI9	-105.115 °C	Temperature, K Type, -200 / 1,372 °C
AI10	-99.7176 °C	Temperature, K Type, -200 / 1,372 °C
AI11	-77.9887 °C	Temperature, K Type, -200 / 1,372 °C
AI12	-58.7235 °C	Temperature, K Type, -200 / 1,372 °C
AI13	-77.3753 °C	Temperature, K Type, -200 / 1,372 °C
AI14	-45.4557 °C	Temperature, K Type, -200 / 1,372 °C
AI15	-1.33E+31 °C	Temperature, K Type, -200 / 1,372 °C
- NI 9472 (C Series Digital Module, Simulated):** Three channels (LINE0, LINE1, LINE2) are listed with a live value of Not Configured.

A message in the left sidebar says "No files available. Start logging to view files here."

Summary: Configuring Sample Times

- Three available rates for analog input tasks
 - Automatically synchronized with delta sigma modules
 - Actual value shown
- Separate rates for digital and counter acquisition

Demo: Configuring Additional Channels

The screenshot shows the FlexLogger software interface with the following details:

- Project Files** tab is selected.
- Data** tab is also present.
- Local System** section shows the system identifier **USAUSLT-L6G09R7**.
- cDAQ1 (Simulated)** section (NI cDAQ-9178 (8-Slot USB CompactDAQ Chassis))
 - On-Board Counters** table:

CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
CTR0		Not Configured	
CTR1		Not Configured	
CTR2		Not Configured	
CTR3		Not Configured	
 - NI 9236 (C Series Strain/Bridge Input Module, Simulated)** table:

CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
AI0	-0.05270 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε	
AI1	-0.05090 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε	
AI2	-0.04993 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε	
AI3	-0.04642 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε	
AI4	-0.04640 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε	
AI5	-0.04370 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε	
AI6	-0.03913 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε	
AI7	-0.03626 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε	
- NI 9213 (C Series Temperature Input Module, Simulated)** table:

CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
AI0	1,275.91 °C	Temperature, K Type, -200 / 1,372 °C	
AI1	1,239.52 °C	Temperature, K Type, -200 / 1,372 °C	
AI2	1,200.16 °C	Temperature, K Type, -200 / 1,372 °C	
AI3	1,144.29 °C	Temperature, K Type, -200 / 1,372 °C	
AI4	1,107.06 °C	Temperature, K Type, -200 / 1,372 °C	
AI5	1,079.13 °C	Temperature, K Type, -200 / 1,372 °C	
AI6	987.721 °C	Temperature, K Type, -200 / 1,372 °C	
AI7	973.054 °C	Temperature, K Type, -200 / 1,372 °C	
AI8	915.239 °C	Temperature, K Type, -200 / 1,372 °C	
AI9	828.802 °C	Temperature, K Type, -200 / 1,372 °C	
AI10	772.101 °C	Temperature, K Type, -200 / 1,372 °C	
AI11	689.787 °C	Temperature, K Type, -200 / 1,372 °C	
AI12	638.864 °C	Temperature, K Type, -200 / 1,372 °C	
AI13	571.204 °C	Temperature, K Type, -200 / 1,372 °C	
AI14	509.922 °C	Temperature, K Type, -200 / 1,372 °C	
AI15	-1.33E+31 °C	Temperature, K Type, -200 / 1,372 °C	

Toolbar: RUN, Ready, Trigger, Add channels, Filter.

Bottom Navigation: Errors and Warnings.

Summary: Configuring Additional Channels

- Ability to create additional calculated channels
- Calculated channels can use DAQ or other calculated channels

Demo: Make a GUI

Screenshot of the Data Logging Project - FlexLogger software interface.

The interface includes a top navigation bar with File, Edit, Project, View, Help, and a user profile for Daniel Eaton. Below the navigation bar is a toolbar with buttons for RUN, Ready, Trigger, and various configuration options.

The main workspace displays two sections:

- Local System (USAUSLT-L6G09R7): Calculated Channels**

CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
FILTER cDAQ1Mod6/ai0_Filter	3.81606 V	Filter of cDAQ1Mod6/ai0. Lowpass, cutoff: 1 Hz.	
FX Formula	14.3418	Formula: 'cDAQ1Mod6/ai0' + 10	
X>Y Formula_1	High	Formula: 'Formula' > 10	
INT cDAQ1Mod6/ai0_Integral	-29.5993	Integral of cDAQ1Mod6/ai0.	
MEAN cDAQ1Mod6/ai0_Mean	1.96364 V	Mean of cDAQ1Mod6/ai0. Actual block size: 1 s.	
RMS cDAQ1Mod6/ai0_RMS	1.65256 V	RMS of cDAQ1Mod6/ai0. Actual block size: 1 s.	
- cDAQ1 (Simulated) (NI cDAQ-9178 (8-Slot USB CompactDAQ Chassis))**

Slot	Module Type	Value / Status	Sampling Rate	Output Type
1	NI 9236 (C Series Strain/Bridge Input Module, Simulated)	0.02950 ε 0.02512 ε 0.02297 ε 0.01599 ε 0.01093 ε 0.00609 ε 0.00195 ε -0.00356 ε	Actual rate: 10,240 Hz	Fast (10,000 Hz)
2	NI 9213 (C Series Temperature Input Module, Simulated)	699.656 °C 836.783 °C 877.802 °C 931.616 °C 996.924 °C 1,066.09 °C 1,082.97 °C 1,145.50 °C 1,223.81 °C 1,266.91 °C 1,283.43 °C 1,329.27 °C 1,314.00 °C	Actual rate: 10,240 Hz	Slow (1 Hz)
3	NI 9472 (C Series Digital Module, Simulated)			
4	NI 9263 (C Series Voltage Output Module, Simulated)			
5	NI 9234 (C Series Sound and Vibration Input Module, Simulated)	0.68811 g 1.11115 g 1.63003 g 1.92955 g	Actual rate: 10,240 Hz	Fast (10,000 Hz)
6	NI 9215 (C Series Voltage Input Module, Simulated)		Actual rate: 10,240 Hz	Fast (10,000 Hz)
AIO	cDAQ1Mod6/ai0	4.34180 V	Voltage, -10 / 10V	
AI1	cDAQ1Mod6/ai1	5.13680 V	Voltage, -10 / 10V	
AI2	cDAQ1Mod6/ai2	6.11093 V	Voltage, -10 / 10V	
AI3	cDAQ1Mod6/ai3	6.41917 V	Voltage, -10 / 10V	
7	NI 9401 (C Series Digital Module, Simulated)	High High High Low Low High High Low		Digital (10 Hz)
8	NI 9361 (C Series Counter Digital Input Module, Simulated)	0.00000 Hz		Counter (100 Hz)

No files available. Start logging to view files here.

Errors and Warnings

Summary: Make a GUI

- Create graphical interfaces in tool (no programming)
- Link to DAQ, calculated channels, other EXEs, or events
- Build any number of screens (not shown)

Demo: Create and Run a Log Spec

Screenshot of the Data Logging Project - FlexLogger software interface.

The interface shows the following sections:

- Top Bar:** File, Edit, Project, View, Help.
- Toolbar:** Home, Channel Specification, Logging Specification, Test Specification, Screen, +, RUN (highlighted), Ready, Trigger, Settings, Add channels, Filter.
- Local System (USAUSLT-L6G09R7):** Calculated Channels table.

	CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
FILTER	cDAQ1Mod6/ai0_Filter	9.46253 V	Filter of cDAQ1Mod6/ai0. Lowpass, cutoff: 1 Hz.	
INT	cDAQ1Mod6/ai0_Integral	9.57433	Integral of cDAQ1Mod6/ai0.	
MEAN	cDAQ1Mod6/ai0_Mean	9.45959 V	Mean of cDAQ1Mod6/ai0. Actual block size: 1 s.	
RMS	cDAQ1Mod6/ai0_RMS	9.46394 V	RMS of cDAQ1Mod6/ai0. Actual block size: 1 s.	
F(X)	Formula	19.4649	Formula: 'cDAQ1Mod6/ai0' + 10	
X>Y	Formula_1	High	Formula: 'Formula' > 10	

- cDAQ1 (Simulated) (NI cDAQ-9178 (8-Slot USB CompactDAQ Chassis)):** On-Board Counters table.

	CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
CTR0			Not Configured	
CTR1			Not Configured	
CTR2			Not Configured	
CTR3			Not Configured	

- NI 9236 (C Series Strain/Bridge Input Module, Simulated):** Actual rate: 10,240 Hz / Fast (10,000 Hz).

	CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
AI0	cDAQ1Mod1/ai0	-0.03953 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε	
AI1	cDAQ1Mod1/ai1	-0.04223 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε	
AI2	cDAQ1Mod1/ai2	-0.04506 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε	
AI3	cDAQ1Mod1/ai3	-0.04945 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε	
AI4	cDAQ1Mod1/ai4	-0.05159 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε	
AI5	cDAQ1Mod1/ai5	-0.05105 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε	
AI6	cDAQ1Mod1/ai6	-0.05416 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε	
AI7	cDAQ1Mod1/ai7	-0.05399 ε	Strain, Quarter bridge, -0.05553 / 0.06247 ε	

- NI 9213 (C Series Temperature Input Module, Simulated):** Slow (1 Hz).

	CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
AI0	cDAQ1Mod2/ai0	1,006.96 °C	Temperature, K Type, -200 / 1,372 °C	
AI1	cDAQ1Mod2/ai1	873.511 °C	Temperature, K Type, -200 / 1,372 °C	
AI2	cDAQ1Mod2/ai2	837.992 °C	Temperature, K Type, -200 / 1,372 °C	
AI3	cDAQ1Mod2/ai3	788.439 °C	Temperature, K Type, -200 / 1,372 °C	
AI4	cDAQ1Mod2/ai4	712.227 °C	Temperature, K Type, -200 / 1,372 °C	
AI5	cDAQ1Mod2/ai5	649.018 °C	Temperature, K Type, -200 / 1,372 °C	
AI6	cDAQ1Mod2/ai6	581.892 °C	Temperature, K Type, -200 / 1,372 °C	

Bottom Bar: Errors and Warnings.

Summary: Create and Run a Log Spec

- Configure log file:
 - Name
 - Location
 - Start / stop trigger
 - “Black Box” recording before trigger
 - File segmentation
 - Meta data (with prompt option)
- Run the log, get your data, and review!
- Again, no programming required

Demo: Review Log Files

Screenshot of the Data Logging Project - FlexLogger software interface.

The interface shows the following sections:

- Project Files**: Shows a log file entry: **LogFile_2025-04-03-20-57-47.tdms** (4/3/2025 8:57:47 PM).
- TDMS logging**:
 - Base path**: C:\Users\deaton\Documents\FlexLogger\data
 - File name**: LogFile_{Year}-{Month}-{Day}-{Hour}-{Minute}-{Second}.tdms
 - Description**: (empty)
- Logging options**:
 - Back up file
 - Backup path**: C:\Users\deaton\Documents\FlexLogger\data\backups
 - Segment into multiple files
 - Based on**: File size (MB)
 - Create new file when the file exceeds**: 100
 - Export automatically to CSV file format when logging completes
 - File will be saved to specified TDMS logging » Base path directory**
 - CSV file data rate**: 100 Hz
- Test properties**:

The following properties will be stored on every logged TDMS file under the test properties group

Property name	Property value	Prompt on start
Operator	deaton	<input checked="" type="checkbox"/>
DUT		<input checked="" type="checkbox"/>
Test Location		<input checked="" type="checkbox"/>

Add property
- Logging trigger**:

Trigger conditions

Start: Start logging at channel rate when... Channel value change
Channel (Required): cDAQ1Mod6/ai0
Value change (Required): Rises above value

Stop: Stop logging at channel rate when... Test stop

Summary: Review Log Files

- Quickly review large data sets
- Run additional post processing routines

SystemLink Targeted Outcomes

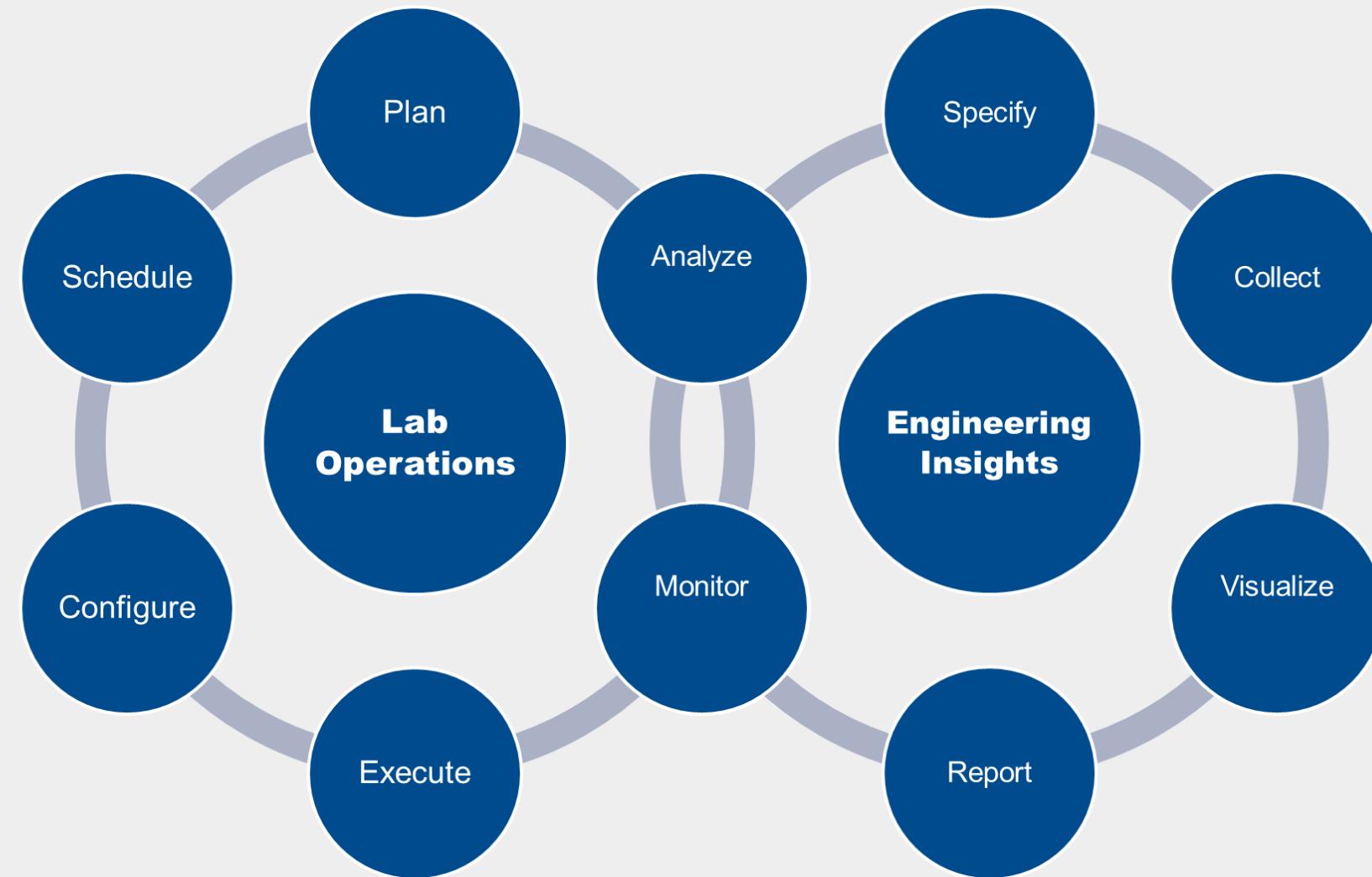
Streamline lab operations & amplify engineering insights

Optimize Lab Operations

Coordinate and schedule test plans to increase lab throughput and increase the visibility for all stakeholders.

Increase Lab Efficiency

Automate software deployment, track and manage assets/DUTs, and monitor system health to maximize asset utilization.



Improve Test Coverage and Compliance

Elaborate product specifications, limits, and conditions. Link to test data to ensure product requirements are adequately tested and in compliance.

Accelerate Product Insights

Monitor and analyze test results to quickly discover test and product issues and decrease design/test iteration time.

SystemLink Architecture Fundamentals

Standards-Based

Developed with industry-leading technologies, IP best practices

Scalable

Megabytes to Petabytes of data from 1000s of data sources

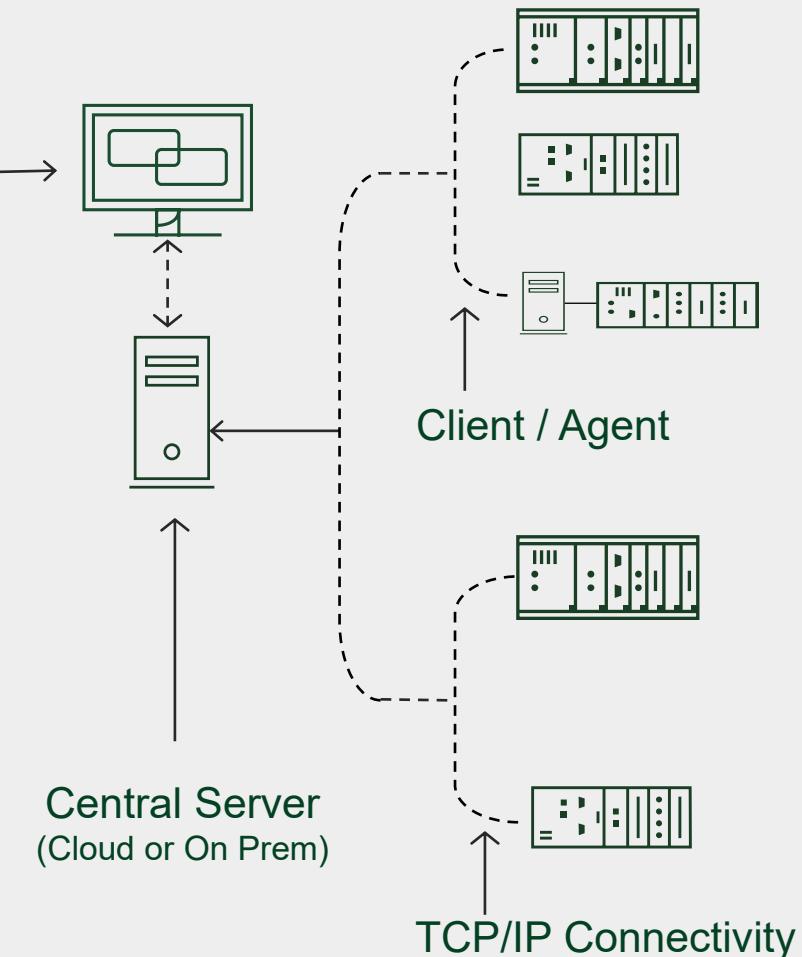
Extensible

Config-based dashboards, plug-in applications, open APIs, partners

Secure

HTTPS / TLS data encryption; authentication & access control

Systems							
75 Systems	19 Connected	52 Disconnected	4 Virtual	5 Pending			
Install software		Edit	Restart	Download	More	X 3 selected	
Site matches Austin							
NAME	MODEL	UTILIZATION	DISK	MEMORY	TEST STATUS	DASHBOARD	PENDING STATUS
Semiconductor Lab (1)	30D0S34J00	0 %	53.27 %	15.48 %			
Safety Lab (1)	Latitude 7420	0 %	50.67 %	62.48 %	Passed		
Battery Pack Lab (3)							
Battery Test Station 1	NI PXIe-8133 Embedded Control	17.87 %	67.16 %	36.13 %	Failed		
Battery Test Station 2	NI PXIe-8133 Embedded Control	2.8 %	70.12 %	68.54 %	Passed		
Battery Test Station 3	NI PXIe-8135 Embedded Control	96.68 %	34.31 %	79.67 %	Failed	Refreshing.	
RF Lab (1)							
PXIe-8880-031062CE	NI STS T1	0 %	60.09 %	50.16 %			
Crash Lab (1)							
Desktop 1	Precision 3630 Tower	0 %	52.18 %	39.28 %			
Battery Cell Lab (3)							
Battery Cell Station 1	NI cRIO-9042	0.08 %	40.01 %	20.45 %	Idle	Test Cell	
Battery Cell Station 2	NI cRIO-9042	0.02 %	40.26 %	20.77 %	Idle	Test Cell	
Battery Cell Station 3	NI cRIO-9042	0.43 %	39.92 %	20.68 %	Idle	Test Cell	



75 Systems

19 Connected

52 Discon

	<input type="button"/> Install software	<input type="button"/> Edit	<input type="button"/> Restart	<input type="button"/> Download	
<input type="checkbox"/>	<input type="checkbox"/> Site matches Austin				
<input type="checkbox"/>	<input type="button"/> NAME ↑	<input type="button"/> MODEL	<input type="button"/> UTILIZATION		
<input type="checkbox"/>	Semiconductor Lab (1)	<input type="radio"/> 30D0S34J00	0 %		
<input type="checkbox"/>	Semiconductor Bench	<input type="radio"/>			
<input type="checkbox"/>	Safety Lab (1)	<input type="radio"/>			
<input type="checkbox"/>	Josh's Laptop	<input type="radio"/> Latitude 7420	0 %		
<input checked="" type="checkbox"/>	Battery Pack Lab (3)				
<input checked="" type="checkbox"/>	Battery Test Station 1	<input type="radio"/> NI PXIe-8133 Embedd...	17.87 %		
<input checked="" type="checkbox"/>	Battery Test Station 2	<input type="radio"/> NI PXIe-8133 Embedd...	2.8 %		
<input checked="" type="checkbox"/>	Battery Test Station 3	<input type="radio"/> NI PXIe-8135 Embedd...	96.68 %		
<input type="checkbox"/>	RF Lab (1)				
<input type="checkbox"/>	PXIe-8880-031062CE	<input type="radio"/> NI STS T1	0 %		
<input type="checkbox"/>	Crash Lab (1)				
<input type="checkbox"/>	Desktop 1	<input type="radio"/> Precision 3630 Tower	0 %		
<input type="checkbox"/>	Battery Cell Lab (3)				
<input type="checkbox"/>	Battery Cell Station 1	<input type="radio"/> NI cRIO-9042	0.08 %		
<input type="checkbox"/>	Battery Cell Station 2	<input type="radio"/> NI cRIO-9042	0.02 %		
<input type="checkbox"/>	Battery Cell Station 3	<input type="radio"/> NI cRIO-9042	0.43 %		
<input type="checkbox"/>	ADG (1)				
<input type="checkbox"/>	ateccgen2_host	<input type="radio"/> NI PXIe-8880			

Increase Lab Efficiency

- Mass deploy NI and test software for your entire fleet from a central web interface
- Monitor test systems and assets health with alarms and notifications as well as customizable dashboards
- Manage and track the assets calibration status, calibration history, and location history
- Track utilization for DUTs, assets, systems, and the entire lab

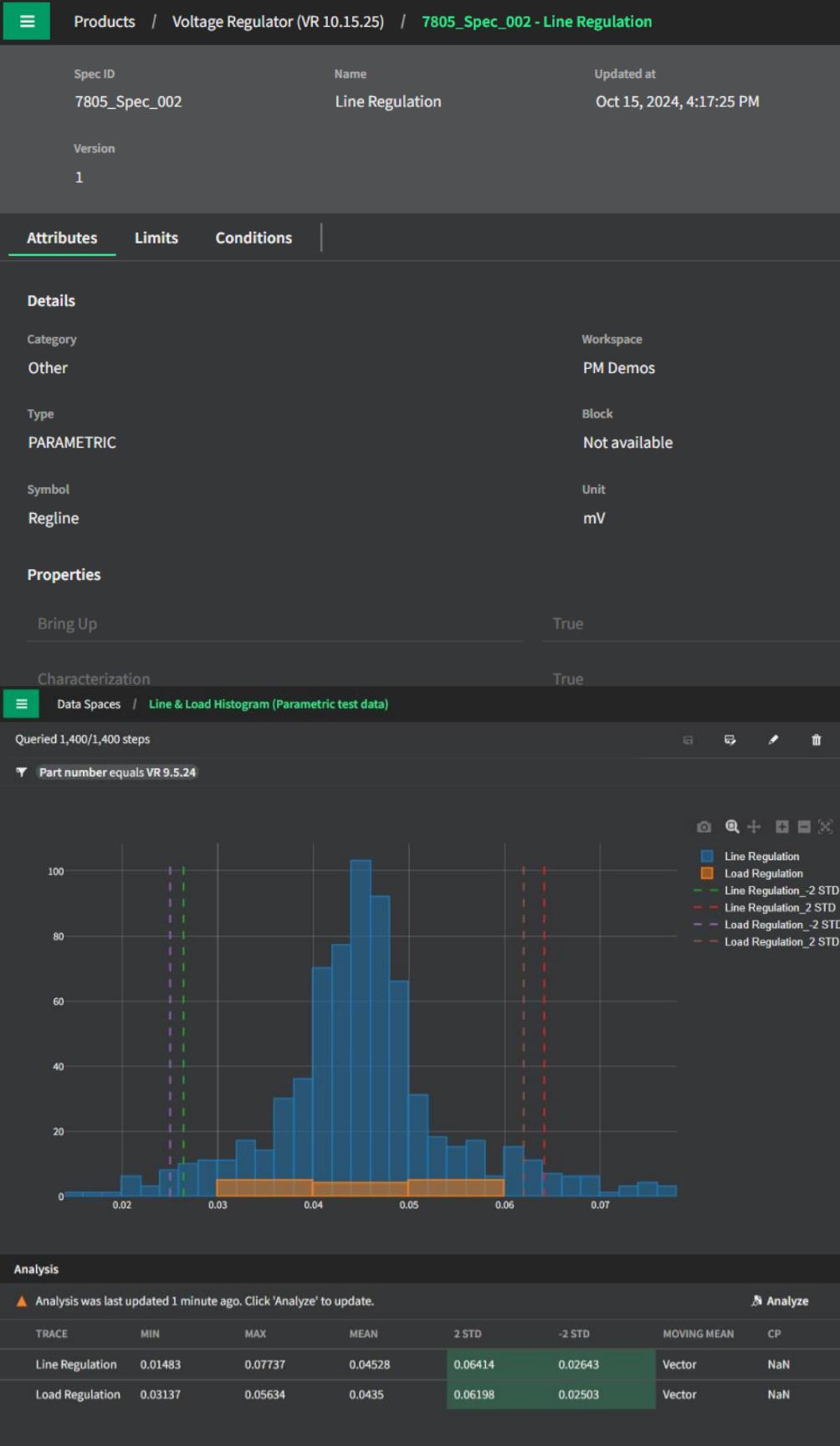


Accelerate Product Insights

- Collect, store and view test results, files, parametric and waveform data from LabVIEW, TestStand, FlexLogger and 3rd party test software
- Quickly search and filter data to analyze past results and gain additional insights
- View waveform and parametric measurement data from a web-based user interface
 - Plot and group measurement data across different conditions
 - View distributions using box and violin plots as well as histograms

Optimize Lab Operations

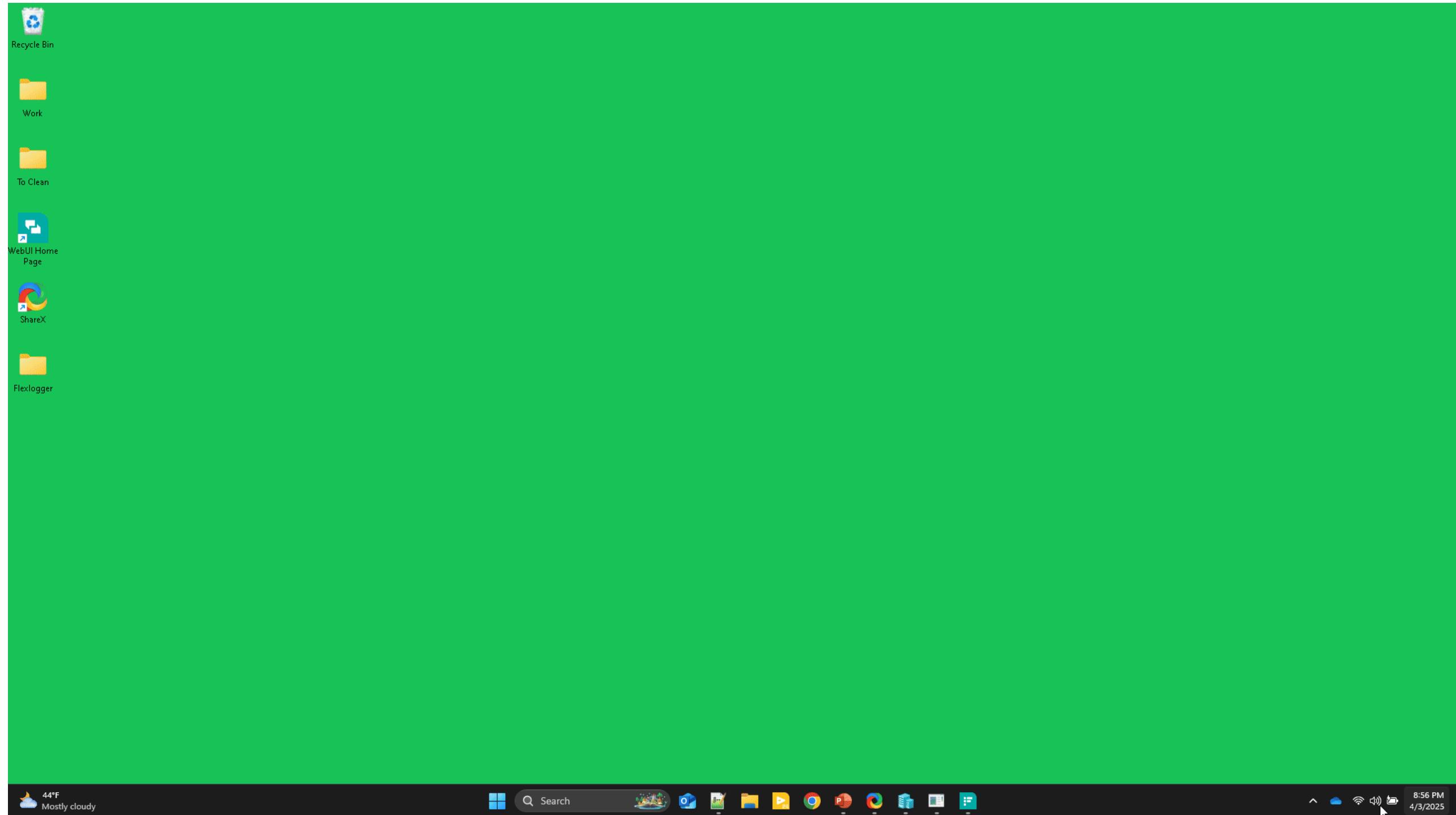
- Plan and schedule systems, assets, and DUTs to be used for testing
- Define customizable test parameters and custom actions that can be integrated with both NI and 3rd party systems
- Define, manage, schedule, deploy, remotely start, and monitor tests
- Monitor test execution and measurements in real-time and get immediate updates as test result data is available



Improve Test Coverage and Compliance

- Import and store product specifications in a central repository with a web UI
- Map specs to measurement data stored in SystemLink parametric and waveform stores.
- Compute compliance and coverage using Specifications + Test Data
 - Compliance: Did the product behavior match specifications?
 - Coverage: Did I test enough unique DUTs to be confident moving to production?
- Customize specification compliance statistics and measurement analysis

Demo: SystemLink Integration



Summary: SystemLink Integration

- Share slow speed tags to SystemLink
- Within SystemLink, use tags for:
 - Web based GUIs
 - Alarming
 - Analysis
- Automatically upload data files to SystemLink
- Within SystemLink, use data files for:
 - Post process analysis using Python / Jupyter Notebooks
 - Web based GUIs
 - Downloading to local machine
 - Data management