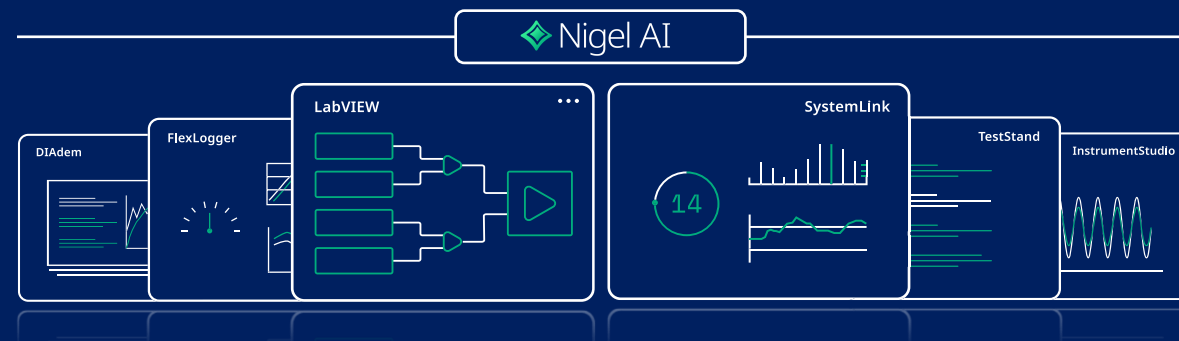




Nigel AI is for Test & Measurement

Braemac T&M Team



Nigel AI transforms Test & Measurement by providing unparalleled productivity gains through end-to-end test workflow orchestration with NI Platform leverage. With AI-assisted code generation and intelligent engineering guidance, Nigel helps engineers accelerate every stage of the development process.

Nigel AI

Nigel AI is your trusted test and measurement companion, assisting you in your daily tasks with expert information and guidance while keeping you in control of every engineering decision.



Explain Test Applications and Methodologies

Get instant information on test and measurement concepts and learn best practices to decrease your development time



Design and Build Your Test System

Get hardware recommendations for your application, compare specifications, and make informed decisions



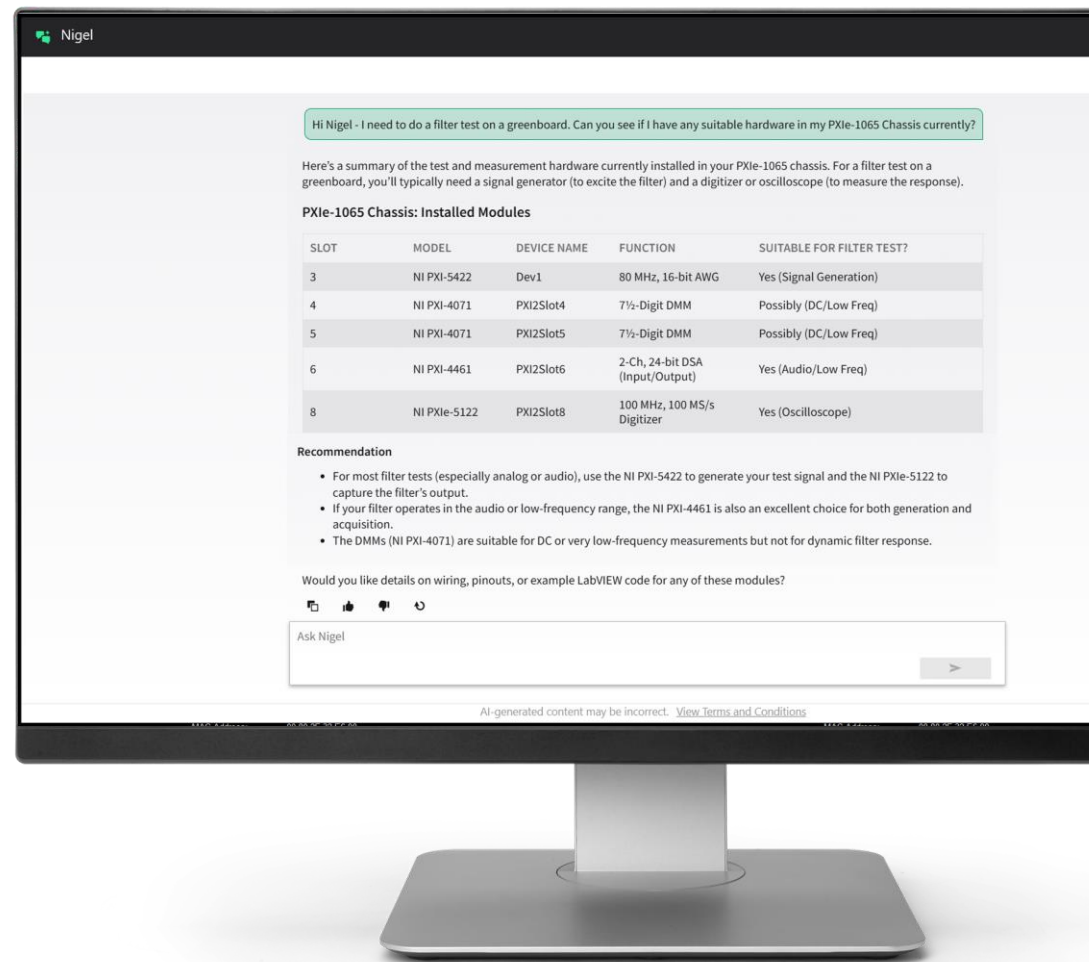
Quickly Onboard to NI Software

Nigel accelerates onboarding with software guidance and provides examples demonstrating core concepts and functionality



Develop Faster

Nigel generates code and guides development in NI Software specific to your exact project to eliminate roadblocks



Let's Take a Look at Nigel

Expert in Test

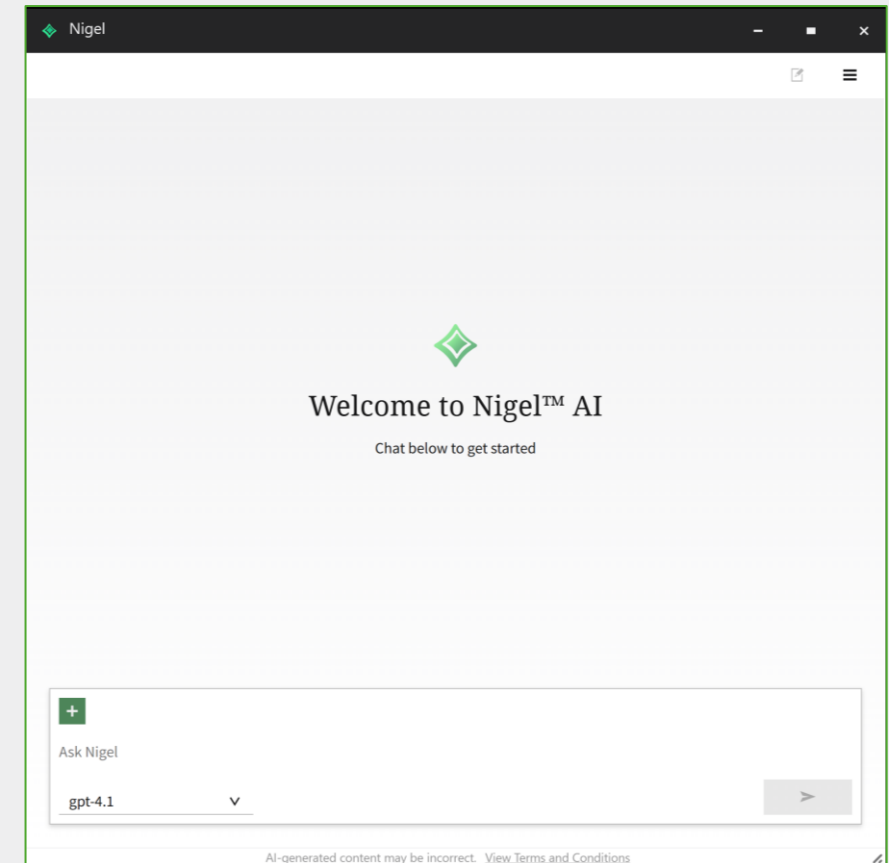
- Nigel has been taught test system design, methodologies, and data analysis so you can get instant information on best practices, measurement setup, and more.

Productivity Acceleration

- Nigel AI is integrated into NI Software to help you build test systems faster. It has the context of your system and project to help you develop and debug more efficiently.

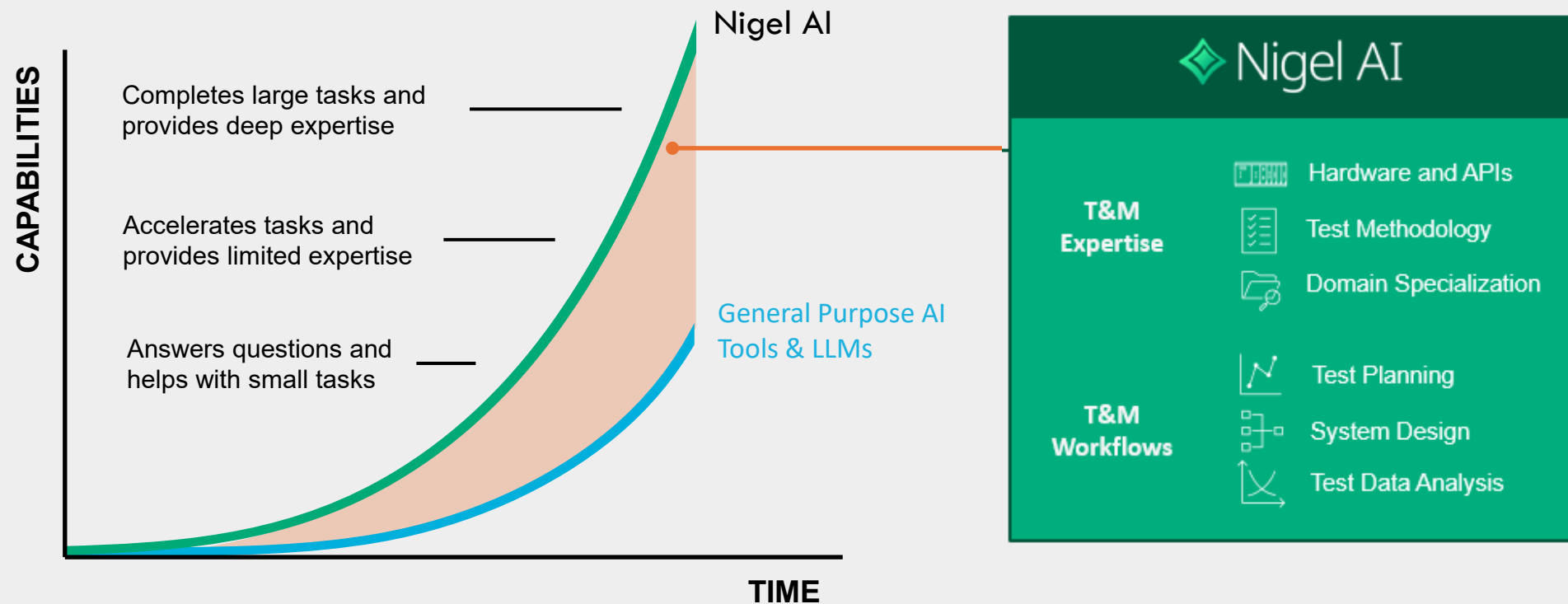
Rapid Increase in Capabilities

- The rate of change in AI for both adoption and capability are unprecedented. Nigel is built on leading technology, continuously improving, growing as an advisor, an author, and agent soon, too.



Built for Test

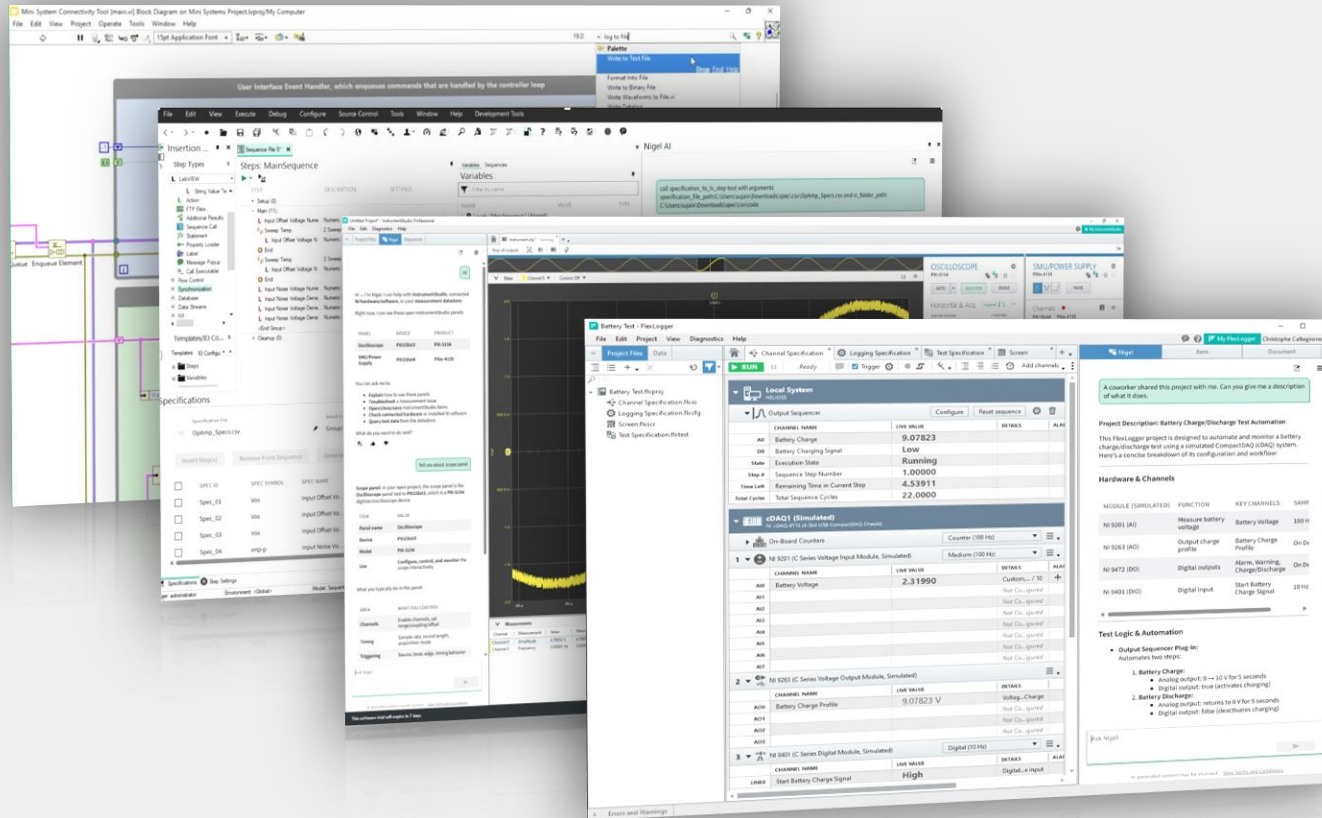
Nigel combines the industry's latest AI models with our test expertise



Nigel AI at the center connecting the entire NI ecosystem.



Integrated in NI Software



Accelerating Productivity

Nigel is available across NI Software so you can get help right where you work.

Additionally, this gives Nigel relevant context on your project so that guidance and information is unique to your work.

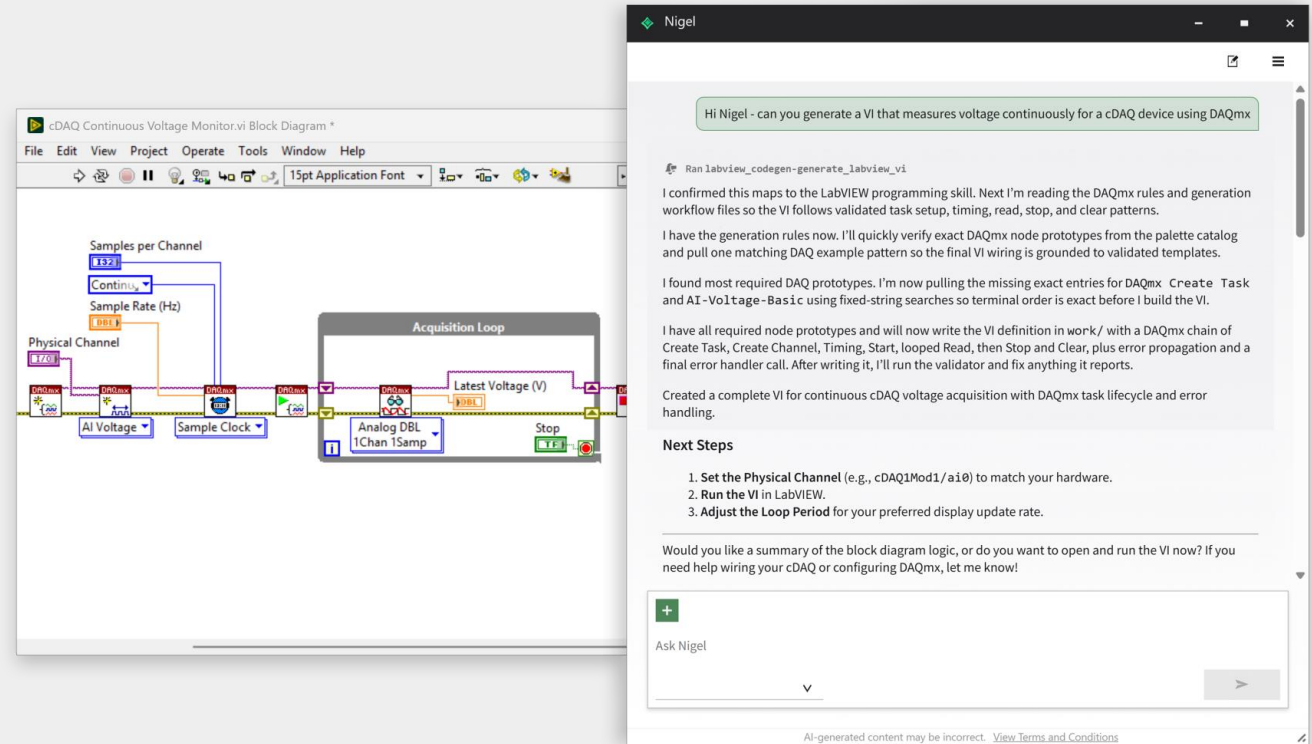
Get an NI Software expert at your side.

Nigel AI in LabVIEW

Your Trusted Companion in LabVIEW

Nigel AI assists users while using LabVIEW so that they can develop and build systems faster.

- **Learn LabVIEW *Faster*** – ask about LabVIEW concepts and programming advice
- **Develop Code *Faster*** – get intelligent suggestions for functions as you develop
- **Review Code *Faster*** – get an instant analysis of your code and what it does

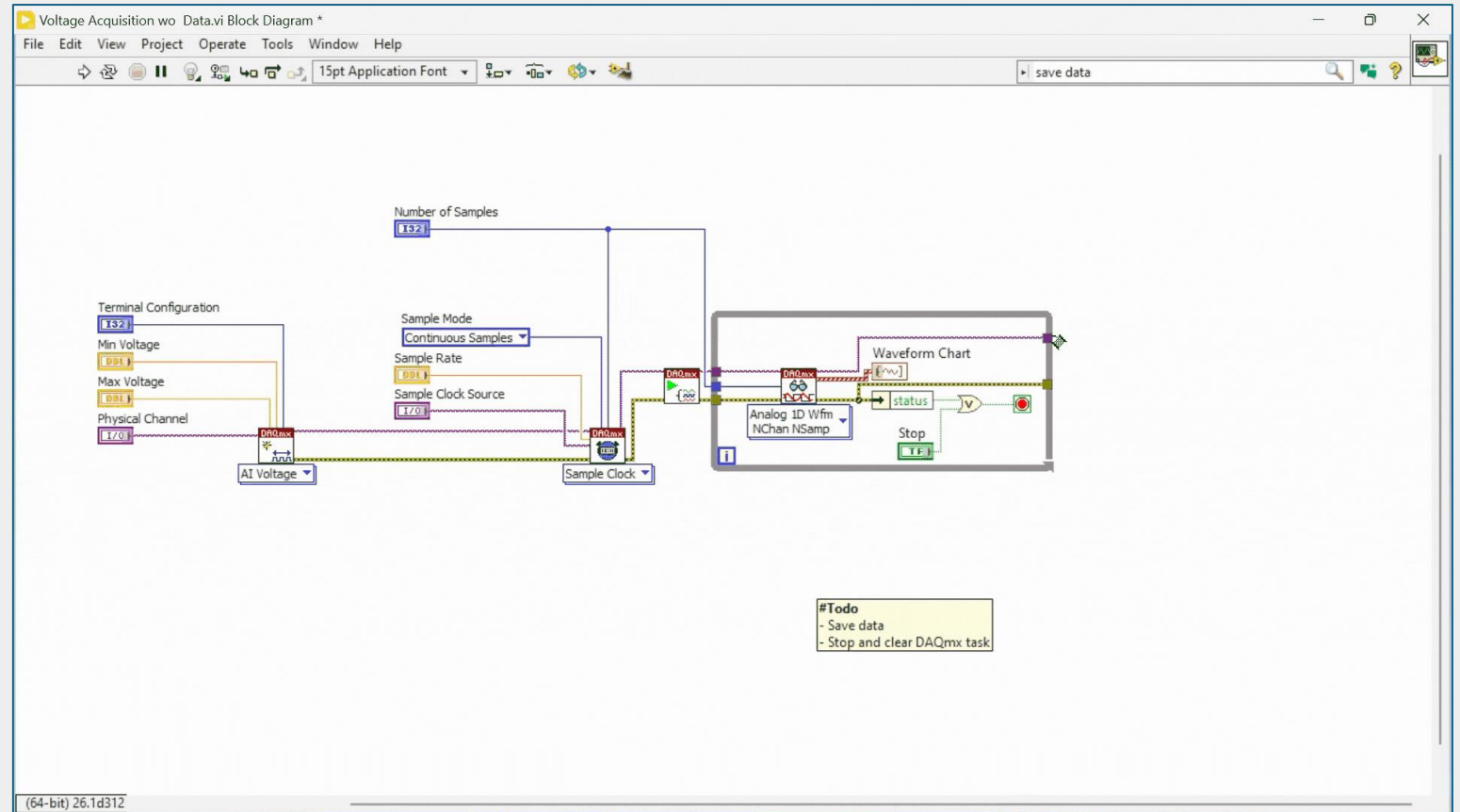


Develop Faster in LabVIEW using Nigel AI

Generate code at your request

Nigel can help you while developing in several ways. It can generate entire VIs, complete your code by providing intelligent suggestions as next steps, recommend functions, with rationale as to which ones might be the best fit, and shipping examples.

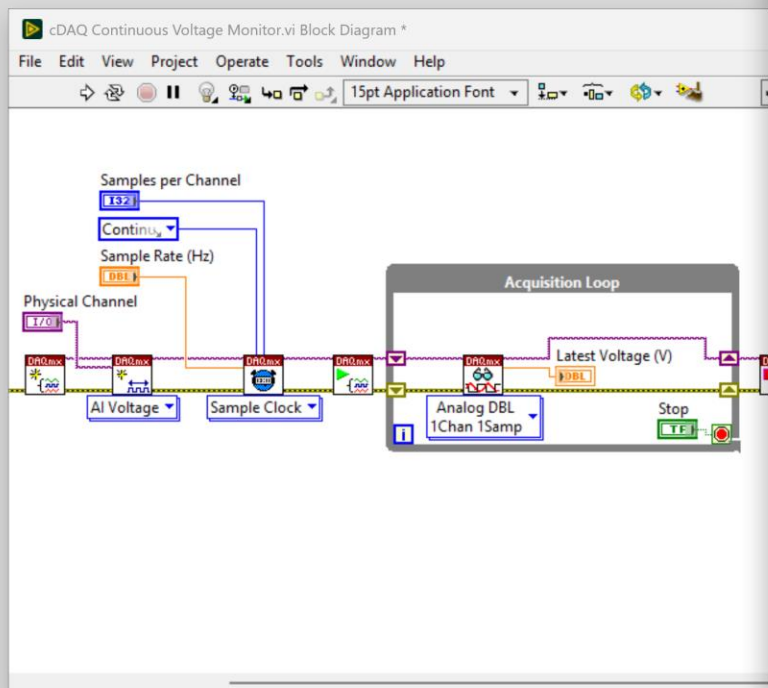
Don't get stuck while developing because you're unsure about the next step.



Code Generation in LabVIEW using Nigel AI

Nigel AI can now generate VIs from your conversation

- Generate measurement code for NI Hardware [NI-DAQmx and PXI] and 3rd party devices
- Nigel can also generate FlexLogger Plug-ins and standard architectures



Hi Nigel - can you generate a VI that measures voltage continuously for a cDAQ device using DAQmx

Ran labview_codegen-generate_labview_vi

I confirmed this maps to the LabVIEW programming skill. Next I'm reading the DAQmx rules and generation workflow files so the VI follows validated task setup, timing, read, stop, and clear patterns.

I have the generation rules now. I'll quickly verify exact DAQmx node prototypes from the palette catalog and pull one matching DAQ example pattern so the final VI wiring is grounded to validated templates.

I found most required DAQ prototypes. I'm now pulling the missing exact entries for DAQmx Create Task and AI-Voltage-Basic using fixed-string searches so terminal order is exact before I build the VI.

I have all required node prototypes and will now write the VI definition in work/ with a DAQmx chain of Create Task, Create Channel, Timing, Start, looped Read, then Stop and Clear, plus error propagation and a final error handler call. After writing it, I'll run the validator and fix anything it reports.

Created a complete VI for continuous cDAQ voltage acquisition with DAQmx task lifecycle and error handling.

Next Steps

1. Set the Physical Channel (e.g., cDAQ1Mod1/ai0) to match your hardware.
2. Run the VI in LabVIEW.
3. Adjust the Loop Period for your preferred display update rate.

Would you like a summary of the block diagram logic, or do you want to open and run the VI now? If you need help wiring your cDAQ or configuring DAQmx, let me know!

Ask Nigel

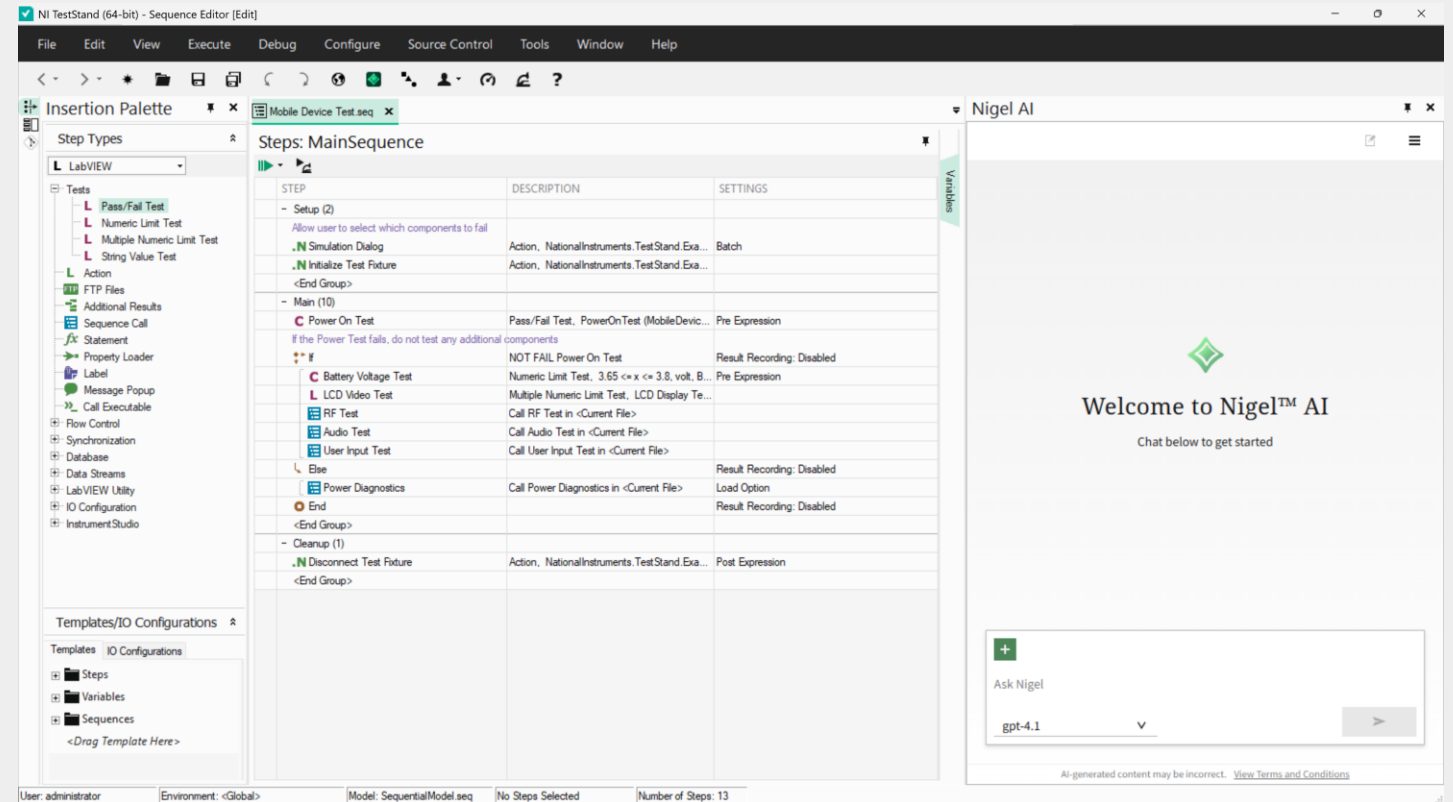
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Nigel AI in TestStand

Your Trusted T&M Expert

Nigel AI assist users in TestStand to accelerate sequence development and improve execution.

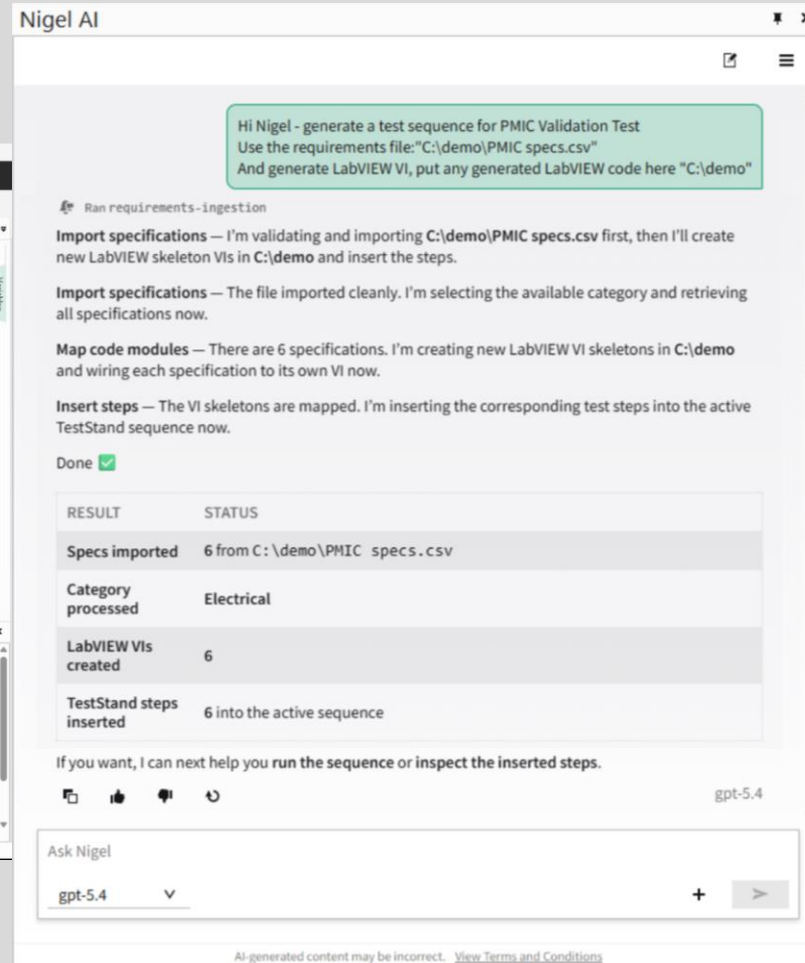
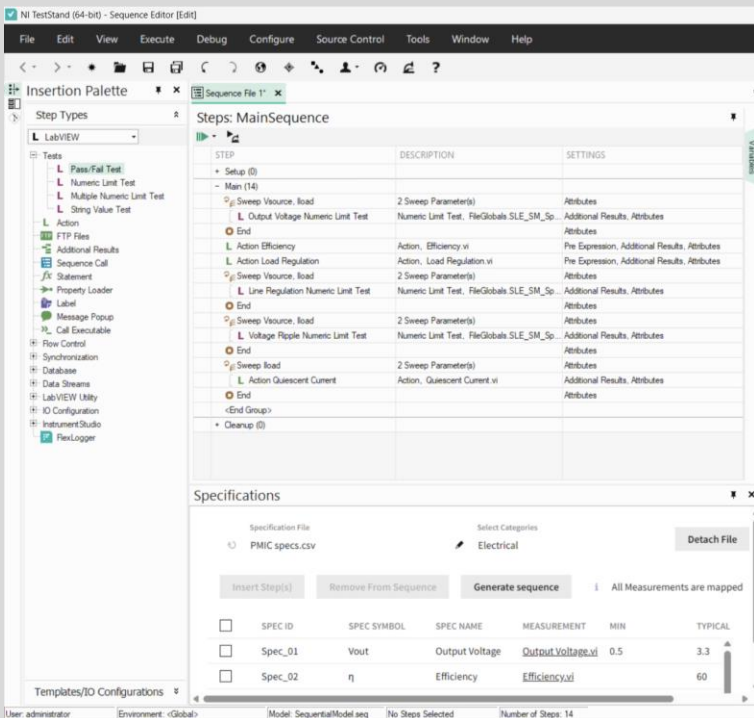
- **Learn TestStand *Faster*** – ask about how to use TestStand and learn quickly
- **Develop *Faster***– Nigel can open menus and change settings for you
- **Review Projects *Faster***– Nigel can review existing sequences and provide information on functionality



Sequence Generation in TestStand using Nigel AI

Nigel AI can now generate sequences from a specifications document

- Nigel can map existing LabVIEW or Python code into the steps it creates
- Nigel also generate placeholder VIs and Python modules for user completion



Nigel AI in FlexLogger

Your Trusted T&M Expert

Nigel AI assists users in FlexLogger by accelerating onboarding and application development.

- **Get Started *Faster*** – ask how to set up your project and get hardware specifications
- **Review Projects *Faster*** – Nigel can review existing projects so that you move to development quicker
- **Develop *Faster*** – Nigel help you locate settings and provide guidance on completing your test system

The screenshot displays the FlexLogger software interface with the Nigel AI chat window open on the right. The main window shows a project configuration for a cDAQ1 (Simulated) system. The chat window displays a welcome message and a chat input field.

FlexLogger Interface Details:

- Local System:** AITEST101
- Variables:** 0.00000
- cDAQ1 (Simulated):** NI cDAQ-9174 (4-Slot USB CompactDAQ Chassis)
- On-Board Counters:** Counter (100 Hz)
- NI 9201 (C Series Voltage Input Module, Simulated):** Medium (100 Hz)

	CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
AI0	cDAQ1Mod1/ai0	2.30525 V	Voltag.../ 10 V	
AI1	cDAQ1Mod1/ai1	1.47985 V	Voltag.../ 10 V	
AI2			Not Co...igured	
AI3			Not Co...igured	
AI4			Not Co...igured	
AI5			Not Co...igured	
AI6			Not Co...igured	
AI7			Not Co...igured	

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

NI 9263 (C Series Voltage Output Module, Simulated): 0.00000 V

NI 9205 (C Series Voltage Input Module, Simulated): Medium (100 Hz)

Nigel AI Chat Window:

- Header: Nigel | Item | Document | Jose Hernandez
- Message: Welcome to Nigel™ AI
- Subtext: Chat below to get started
- Input field: Ask Nigel
- Text input: gpt-5.4

Review Projects Faster in FlexLogger using Nigel AI

Instantly review and understand your test system

Inherit a test system? Revisiting an older project? Or trying to understand an unfamiliar setup?

Nigel AI quickly explains the project's hardware, channels, logging configuration, and test intent. Get the context you need in seconds so you can spend less time investigating and more time executing your test.

Motor - Hysteresis (Step_Dwell) - FlexLogger
File Edit Project View Diagnostics Help

Channel Specification
Screen
+

RUN
Ready
Trigger
Add channels
Filter

Local System
NIGLEDemos

Analog Tachometer (Select Channel : Tachon)
Plug-in is not installed.

CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
RPM	Current Speed		

Output Sequencer
Configure
Reset sequence

CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
AO	Motor_Control_Set	0.00000	
State	Execution State	Wait for test	
Step #	Sequence Step Number	-1.00000	
Time Left	Remaining Time in Current Step	-1.00000	
Total Cycles	Total Sequence Cycles	-1.00000	

cDAQ1 (SN: 0186FABD)
Not Detected: check hardware configuration

2
NI 9213 (C Series Temperature Input Modul)
Not Detected: check hardware configuration

CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
AI0	Motor Temp	Temperature: / 2,192 °F	

4
NI 9263 (C Series Voltage Output Module)
Not Detected: check hardware configuration

CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
AO1	Motor Control	Voltage output, 0 / 5 V, Source: Motor_Control_Set	

7
NI 9234 (C Series Sound and Vibration Input)
Not Detected: check hardware configuration

CHANNEL NAME	LIVE VALUE	DETAILS	ALARMS
AI0	X Accelerometer	Acceleration: / 5 / 5 g	
AI1	Y Accelerometer	Acceleration: / 5 / 5 g	
AI2	Tachometer	Acceleration: / 5 / 5 g	

Nigel
Item
Document

describe this project

Project: This is a motor test / drive characterization FlexLogger project built around a USB cDAQ-9178 chassis with sensor monitoring, output sequencing, and TDMS logging. The FlexLogger project structure aligns with the standard documents described in the [FlexLogger User Manual](#).

Hardware and channels

AREA	CONFIGURATION
Chassis	NI cDAQ-9178
AO module	NI 9263 in slot 4
Thermocouple module	NI 9213 in slot 2
Dynamic/voltage input module	NI 9234 in slot 7

CHANNEL	TYPE	SOURCE	UNITS
Motor Control	Analog output	cDAQ1Mod4/ao1	V
Motor Temp	Thermocouple, J-type	cDAQ1Mod2/ai0	°F
X Accelerometer	Voltage-scaled acceleration	cDAQ1Mod7/ai0	g
Y Accelerometer	Voltage-scaled acceleration	cDAQ1Mod7/ai1	g
Tachometer	Voltage input	cDAQ1Mod7/ai2	g

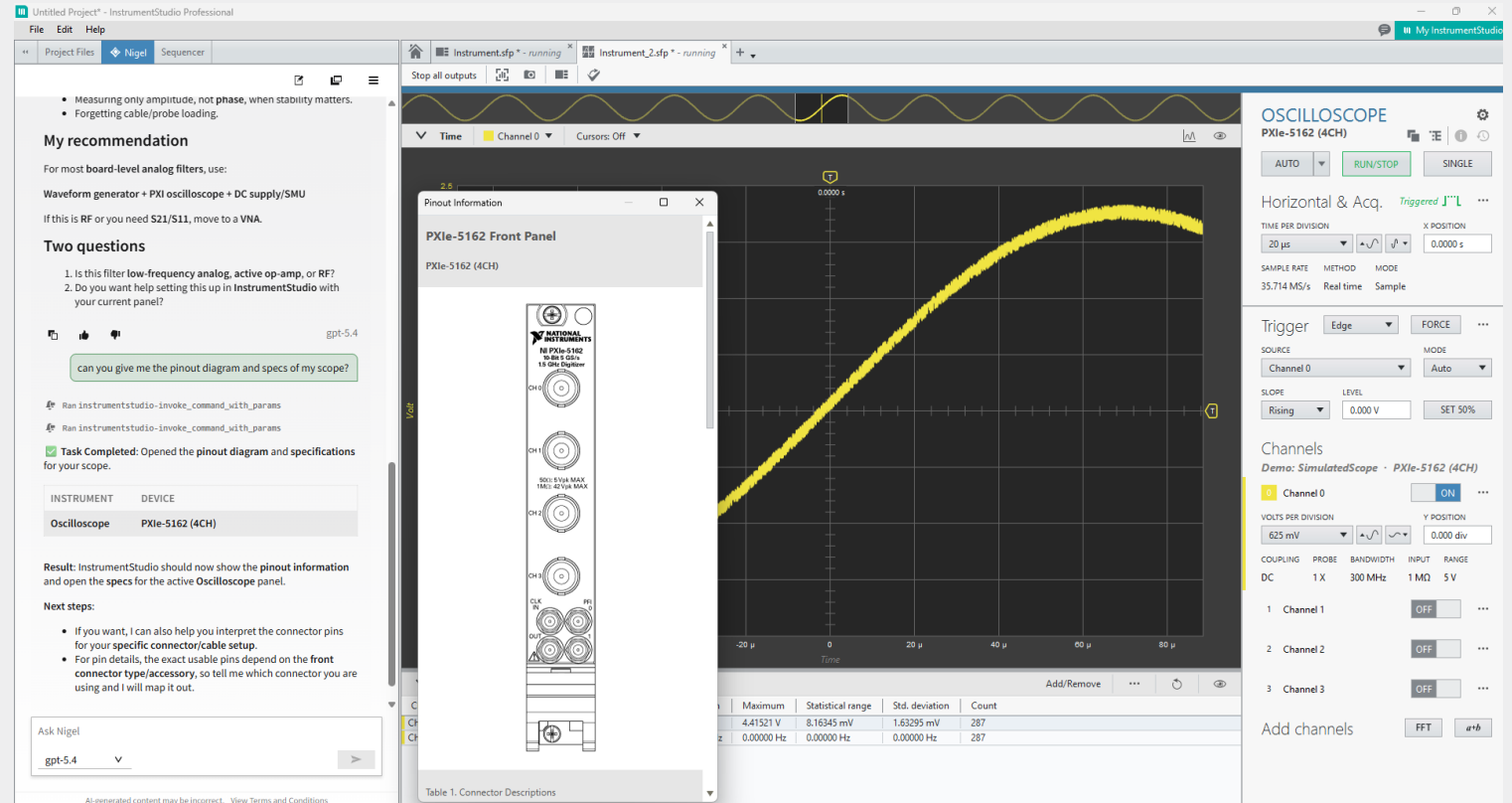
Ask Nigel
gpt-5.4

Nigel AI in InstrumentStudio

Your Trusted T&M Expert

Nigel AI assists users in InstrumentStudio by accelerating onboarding and development.

- **Get Started *Faster*** – Instant expert guidance on using your hardware with InstrumentStudio
- **Work *Faster* on Your Projects** – Nigel can review existing projects and make recommendations to assist you.
- **Develop *Faster*** – Debug, explore your data, and plan for automated test for your exact set up



Work Faster on Your Projects in InstrumentStudio using Nigel AI

Get the context you need to keep moving

Whether you're picking up a colleague's project or revisiting your own, Nigel can tell you what's in it — hardware, channels, and configuration — in seconds.

As you work, Nigel can provide recommendations to complete your project.

Tell me about the Start Up and Rise Time measurement

Start Up and Rise Time looks like a power-up transient measurement for your DC-DC converter.

ELEMENT	CURRENT SETUP	WHAT IT SUGGESTS
SMU/Power Supply	PXIe-4141, Channel 0 in Voltage mode, Output On, 100 mA current limit	You are likely powering the DUT with a controlled input rail
Oscilloscope	PXIe-5162	Used to observe startup waveform and rise behavior
Scope timebase	20 μ s/div	Focused on a fast transient, likely startup edge details
Scope trigger	Edge, Channel 0, 0 V, Rising	Triggering on the output ramp or another startup node
Scope acquisition	83.333 MS/s, 100 kS	Good for capturing detailed startup shape
Captured outputs	PNG + TDMS files in project	You already saved repeatable evidence for analysis

Practical interpretation

This measurement likely answers:

- How fast does the output rise?
- Is startup monotonic or does it overshoot?

Ask Nigel

gpt-5.4

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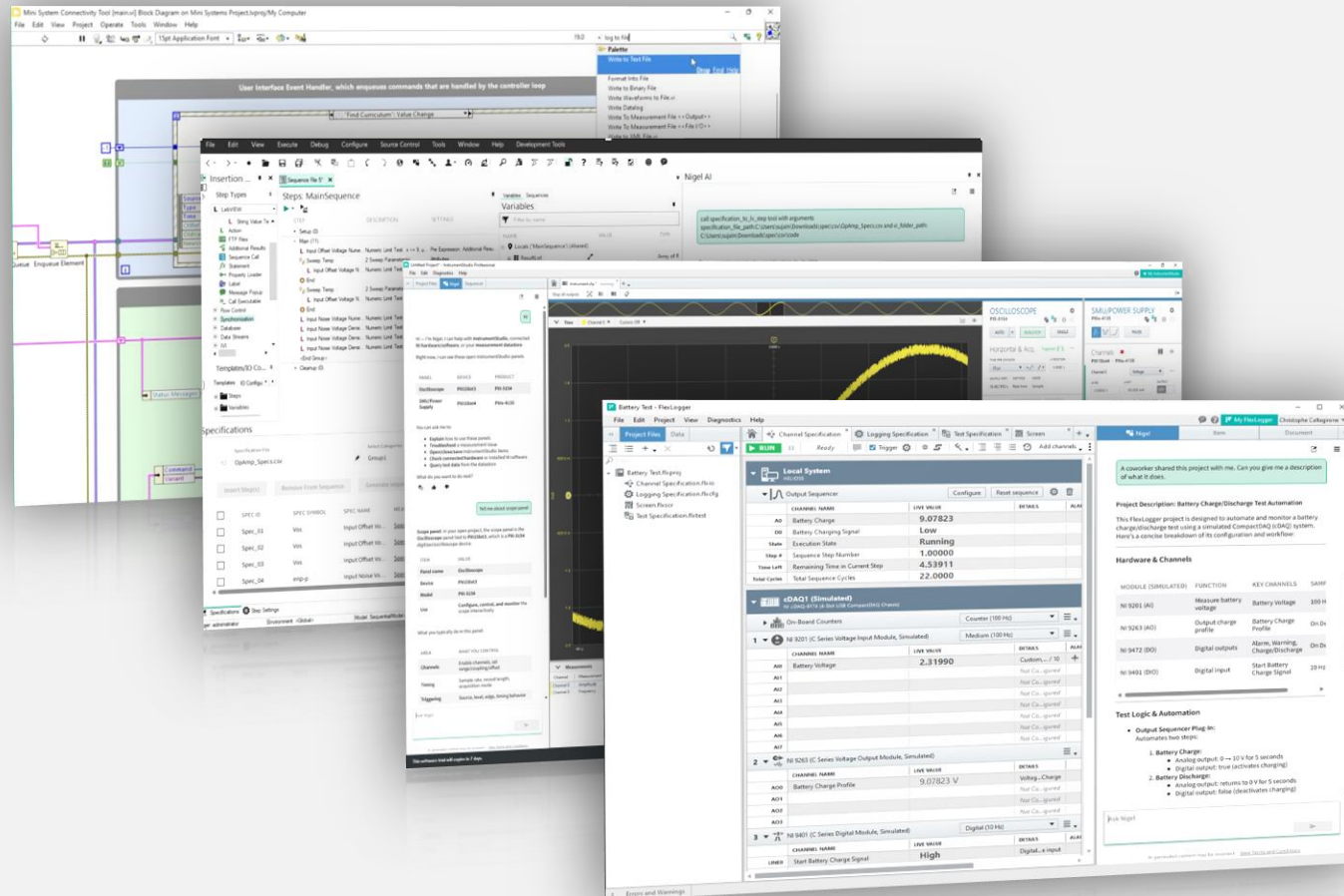
OSCILLOSCOPE
PXIe-5162 (4CH)
AUTO RUN/STOP SINGLE
Horizontal & Acq. Triggered
TIME PER DIVISION: 20 μ s, X POSITION: 0.0000 s
SAMPLE RATE: 83.333 MS/s, METHOD: Real time, MODE: Sample
Trigger: Edge, FORCE, SOURCE: Channel 0, MODE: Auto, SLOPE: Rising, LEVEL: 0.000 V, SET 50%
Channels Demo: SimulatedScope - PXIe-5162 (4CH)
Channel 0: ON, VOLTAGE PER DIVISION: 625 mV, Y POSITION: 0.000 div
COUPLING: DC, PROBE: 1X, BANDWIDTH: 300 MHz, INPUT: 1 MO, RANGE: 5 V
Add channels: FFT, μ sk

SMU/POWER SUPPLY
PXIe-4141
Channels Demo: SimulatedSMU - PXIe-4141
Channel 0: Voltage, LEVEL: 5.00000 V, LIMIT: 100.000 mA, OUTPUT: ON
Channel 1: Idle
Channel 2: Idle
Channel 3: Idle

Measurements

Channel	Measurement	Value	Mean	Minimum	Maximum	Statistical range	Std. deviation
Channel 0	Amplitude	4.41345 V	4.41210 V	4.40552 V	4.41513 V	9.61304 mV	1.67043 mV
Channel 0	Frequency	0.00000 Hz	0.00000 Hz	0.00000 Hz	0.00000 Hz	0.00000 Hz	0.00000 Hz

Nigel AI in 2026



Nigel AI Becomes More Capable and Expands Across LabVIEW+

Nigel AI

Deep test expertise for best practices and guidance. Local Hardware context for practical system design advice. Select different Models. Use your own IP by connecting to private MCP Servers

LabVIEW

Nigel AI can now generate VIs from prompt, focused on generating measurement code for NI and 3rd party devices. Nigel will enable Front Panel Cleanup.

TestStand

Nigel AI can generate sequences from requirements.

InstrumentStudio

Nigel AI is now integrated in InstrumentStudio to accelerate onboarding, give information about your projects, and edit your instrument layout

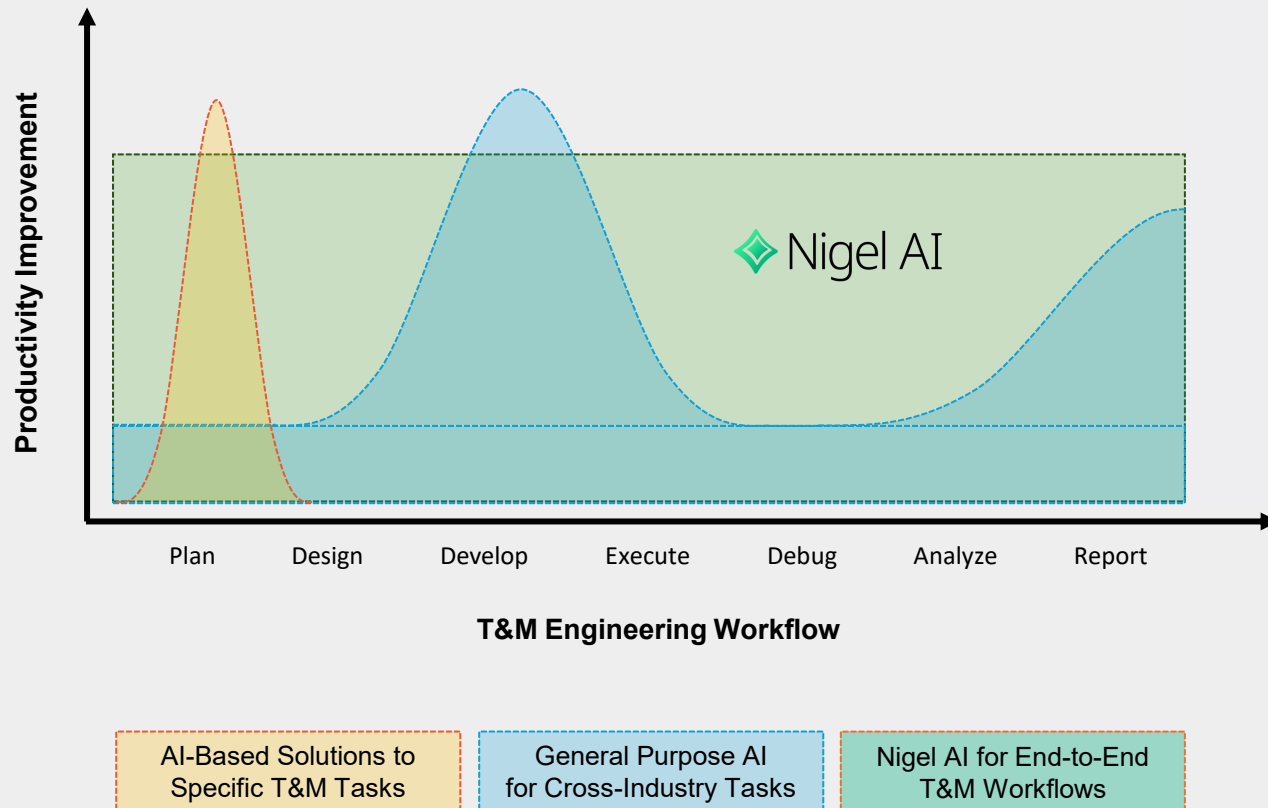
FlexLogger

Nigel AI is now integrated in FlexLogger to accelerate test configuration, find plug-ins, troubleshoot DAQ hardware, and onboard team members

VeriStand

Nigel AI is now in VeriStand to assist users in learning how to build test sequences more effectively through expert, instant how-to guidance.

Nigel AI Will Raise the Bar Across T&M Workflows



Nigel AI is purpose-built for T&M

Nigel AI integrates deep T&M expertise, while general-purpose AI tools are focused on mainstream use cases.

Nigel AI includes the latest AI advances

As general-purpose AI technology improves, so will Nigel AI. That includes LLMs and Agentic AI technology.

Nigel AI prioritizes real T&M outcomes

Unlike alternatives, Nigel AI accelerates the entire test engineering workflow – from planning to insights.

Frequently Asked Questions

- **Is Nigel secure?**

Nigel is built on Emerson's secure and robust cloud operations platform. The underlying models used in Nigel are the best-in-class OpenAI models from Microsoft. By using these models, Microsoft makes privacy and security guarantees for the OpenAI APIs we use. Communications between NI's desktop software products, like LabVIEW and TestStand, and the Nigel cloud service are encrypted traffic with web standard transport layer security (TLS).

- **Does Nigel store my data?**

Nigel only stores your prompt data locally. Emerson will not have access to your conversations with Nigel unless you intentionally send us that information. Emerson will not use your data for training large learning models.

- **Is Nigel accurate?**

AI Agents, including Nigel, are emerging technologies. Over time, Nigel will constantly continue to improve in its accuracy while also adding new capabilities. In the meantime, since these agents are in their infancy, they can currently make mistakes so its important to review the responses you get for accuracy.

- **Can I select my own model to use with Nigel?**

We are planning to expand what models and tools Nigel can connect to in the future. For the July release, we will be limited to the OpenAI models.

- **Can I talk to Nigel in my own language?**

Nigel supports many languages for conversational language understanding. 95 languages are currently supported, though the experience may be different in different languages.