



# FactoryTalk Optix v1.4



expanding human possibility®

May 2024



PUBLIC

# FactoryTalk Optix Program Priorities



## Core Capabilities

Core product capabilities that create a strong and sustainable platform for core automation visualization and edge applications.



## Expanded Architectures

Support for integrated hardware, larger distributed architectures, process systems, remote control, and cloud-based operations.



## Digital Design Experience

FactoryTalk Hub integrated workflows for a cohesive customer experience when building a system using SaaS-based design tools.



## Data Connectivity

Robust edge connectivity and application platform to enable data and analytics with core operations data.

# FactoryTalk® Optix™ Program Priorities

## Core Capabilities

- Core features and editors
- Optimized and efficient user workflows
- Flexible licensing
- Library and faceplate development
- OPC UA Companion Specification
- OPC UA Services
- Alarming / Eventing
- Data / Event logging
- Reporting / Charting
- Security – Users/Groups/Roles

## Expanded Architectures

- Embedded panels and gateways
- Distributed architectures
- Cloud / Hybrid
- Linux / Windows / Containers
- Remote management
- Redundancy / High Availability
- Web and workstation clients
- PlantPAx® Support
- Remote Operations Centers
- FactoryTalk® Integration

## Digital Design Experience

- Desktop and cloud-based editing, deployment and management
- Multi-user collaboration
- Integrated and open version control
- FactoryTalk® Remote Access™
- FactoryTalk® Design Hub™
- FactoryTalk® Design Studio™
- FactoryTalk® Twin Studio™

## Data Connectivity

- Preferred Logix and PowerFlex®
- Rockwell Automation® EtherNet/IP devices
- Major industrial protocols
- BACNet / Micro controllers
- Database connectivity
- MQTT, Azure IoT Hub and Kafka
- FactoryTalk® DataMosaix™
- Edge Applications – Analytics, Energy, OEE, etc.

# FactoryTalk Optix v1.4



## Core Capabilities

- Side-by-side version install
- Project Upload with retentivity
- Advanced SVG Enhancements
- Grid layout container
- Scale layout container - font scaling
- IP protection for widgets
- Template library merge (Y/N/Skip)
- Alarm shelving support
- Alarm widget updates
- Context sensitive help (F1)
- Localized Studio and Help (German, Portuguese)
- Many control, graphics and usability enhancements



## Expanded Architectures

- FactoryTalk Optix Runtime as a Service
- Docker w/ connected entitlement
- Subscription based runtime entitlements
- Perpetual runtime entitlement upgrades



## Digital Design Experience

- Allow user to change the organization in FactoryTalk Optix landing page
- Allow user to login into FactoryTalk Optix landing page directly
- FactoryTalk Optix Studio web editor
  - loads special fonts on-demand
  - disconnect indication on multiple tabs



## Data Connectivity

- Micro Controller Driver (Micro800 / MicroLogix)
- Datalogging to InfluxDB
- PowerFlex Drives Script

# FactoryTalk Optix v1.4 (Feature Preview)



## Core Capabilities

- Alarm Summary and Alarm Manager that include Logix Alarms



## Expanded Architectures



## Digital Design Experience



## Data Connectivity

- Logix extended tag properties
- Logix tag-based alarms and Instruction alarms
- Smart Objects (internal preview)
- ThingWorx Connectivity (internal preview)

Internal preview = call BU for support

# Core Capabilities

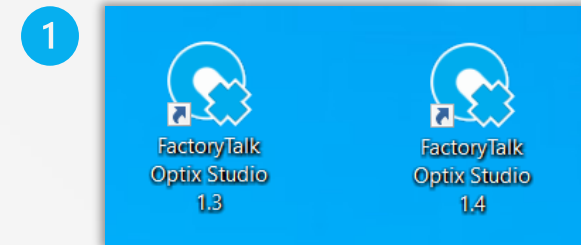


# FactoryTalk Optix Studio enhancements

## Core Capabilities

### 1. **FactoryTalk Optix Studio** allows for the installation of **multiple versions on the same PC**

- Each installation folder is named with the version number
- Each version of Optix has its own Application Update Service and FactoryTalk Remote Access adapter
- While multiple FactoryTalk Optix Studio can be executed simultaneously, the same project cannot be opened twice



### 2. Added **Portuguese and German** to IDE language

### 3. The online help can now be recalled by pressing **F1** also on Studio **dialogs and popups**

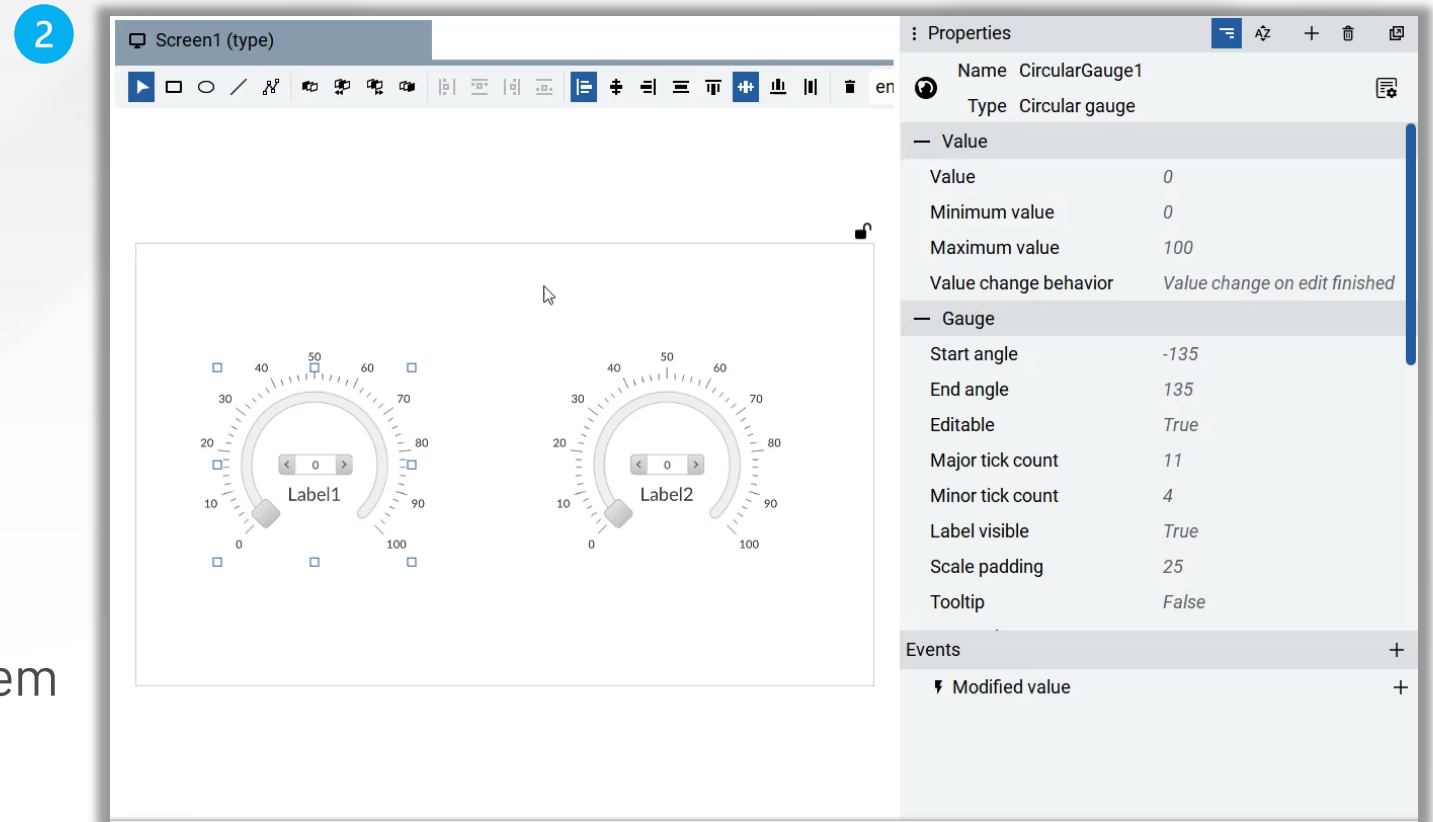
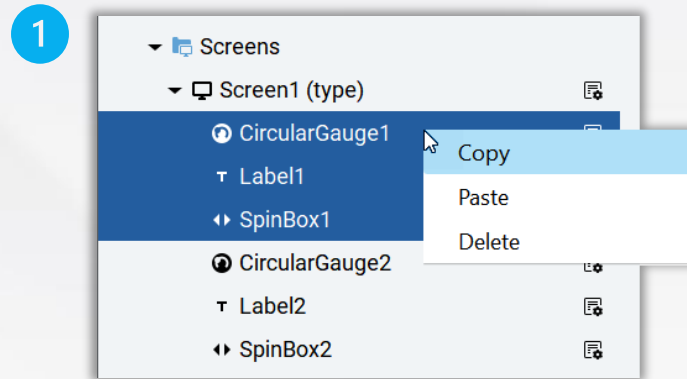




# FactoryTalk Optix Studio usability improvements

## Core Capabilities

1. Project view supports multiple selections and provides a context menu for **copy/paste/delete multiple nodes**



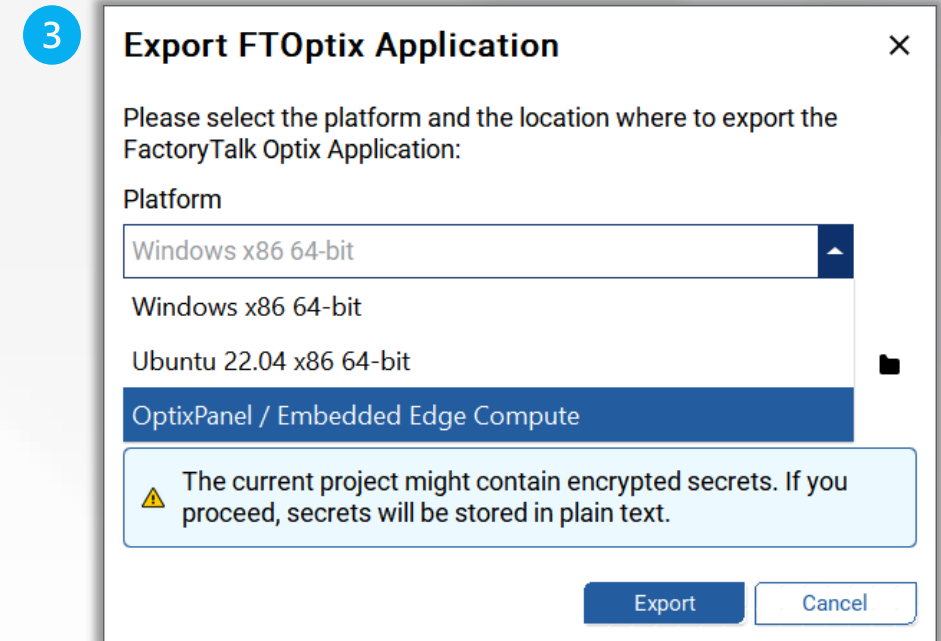
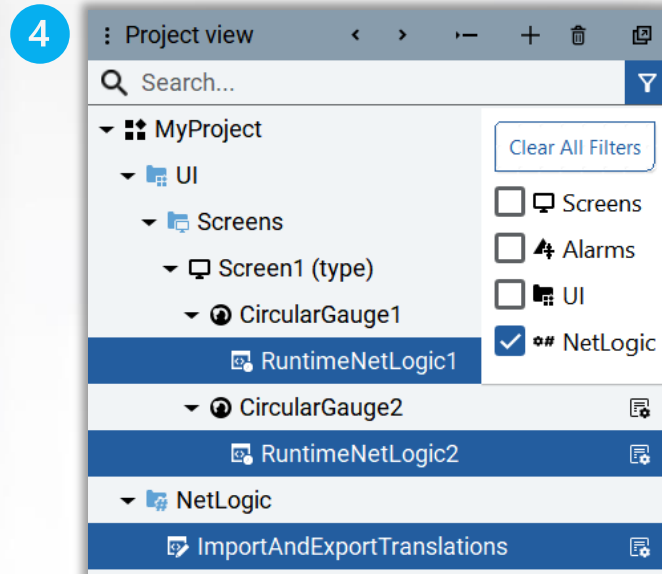
2. The **Dynamic Link popup** is placed on the last selected item



# FactoryTalk Optix Studio usability improvements

## Core Capabilities

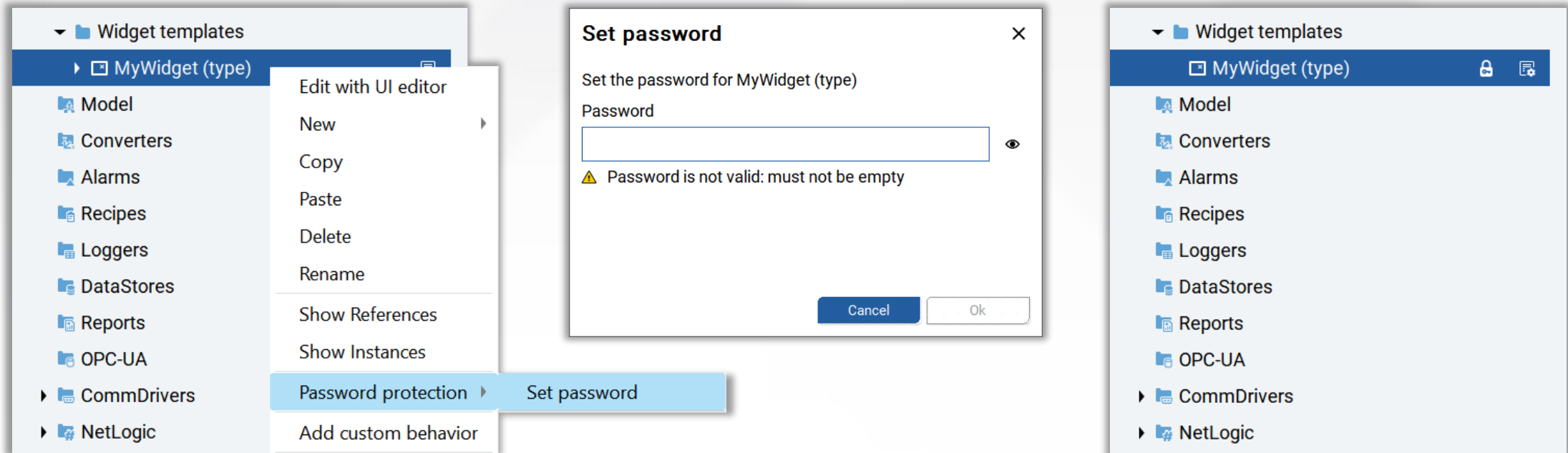
3. The “**Export FTOptix Application**” popup now includes the Embedded Edge Compute Module
4. A new **filter for Netlogic** has been added to the Project View



# Password-protected UI widgets

## Core Capabilities

- UI widgets can now be **password-protected** to **prevent unauthorized/unwanted changes**
- Enables you to share UI widgets with colleagues and collaborators, allowing them to use within the application without altering its behavior or appearance.



# Library

## Core Capabilities

- When **dragging objects into the Project** (or into the Library), you now have the option to **Skip, Replace or Rename** them.
- This is useful i.e. when a UI Widget has been upgraded in the Library and you want to include it in the Project,
- or conversely, when a UI Widget has been updated in the Project and must be included back into the Library.

**Conflicting types detected** X

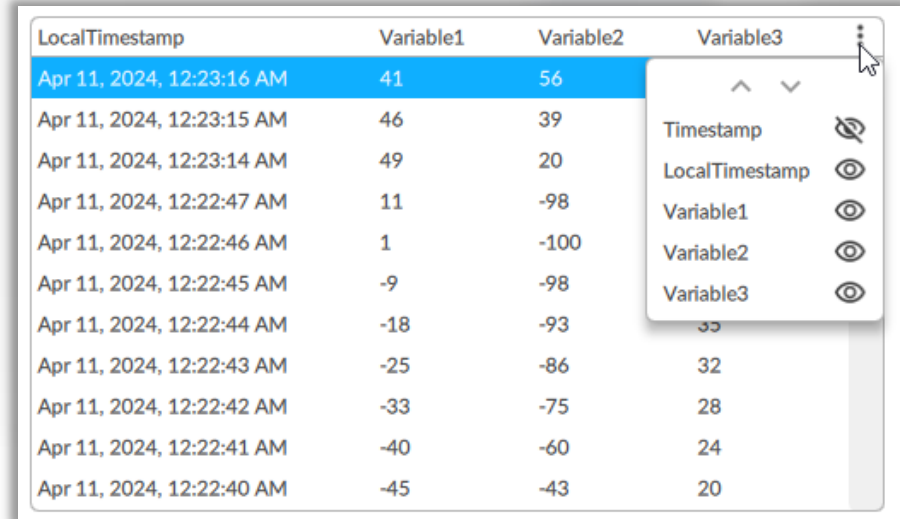
Type conflict(s) detected. Please select a resolution for each conflict.

	Skip	Replace	Rename
<input checked="" type="checkbox"/> MyWidget	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

# Controls enhancements

## Core Capabilities

- The **DataGrid** control,
  - now provides a 3-dots menu for **moving and hiding/showing columns**
  - supports **multiple row selection**
- The **SpinBox** control,
  - now provides **visual feedback** if **value entered** is **out of range**



LocalTimestamp	Variable1	Variable2	Variable3
Apr 11, 2024, 12:23:16 AM	41	56	
Apr 11, 2024, 12:23:15 AM	46	39	
Apr 11, 2024, 12:23:14 AM	49	20	
Apr 11, 2024, 12:22:47 AM	11	-98	
Apr 11, 2024, 12:22:46 AM	1	-100	
Apr 11, 2024, 12:22:45 AM	-9	-98	
Apr 11, 2024, 12:22:44 AM	-18	-93	
Apr 11, 2024, 12:22:43 AM	-25	-86	32
Apr 11, 2024, 12:22:42 AM	-33	-75	28
Apr 11, 2024, 12:22:41 AM	-40	-60	24
Apr 11, 2024, 12:22:40 AM	-45	-43	20



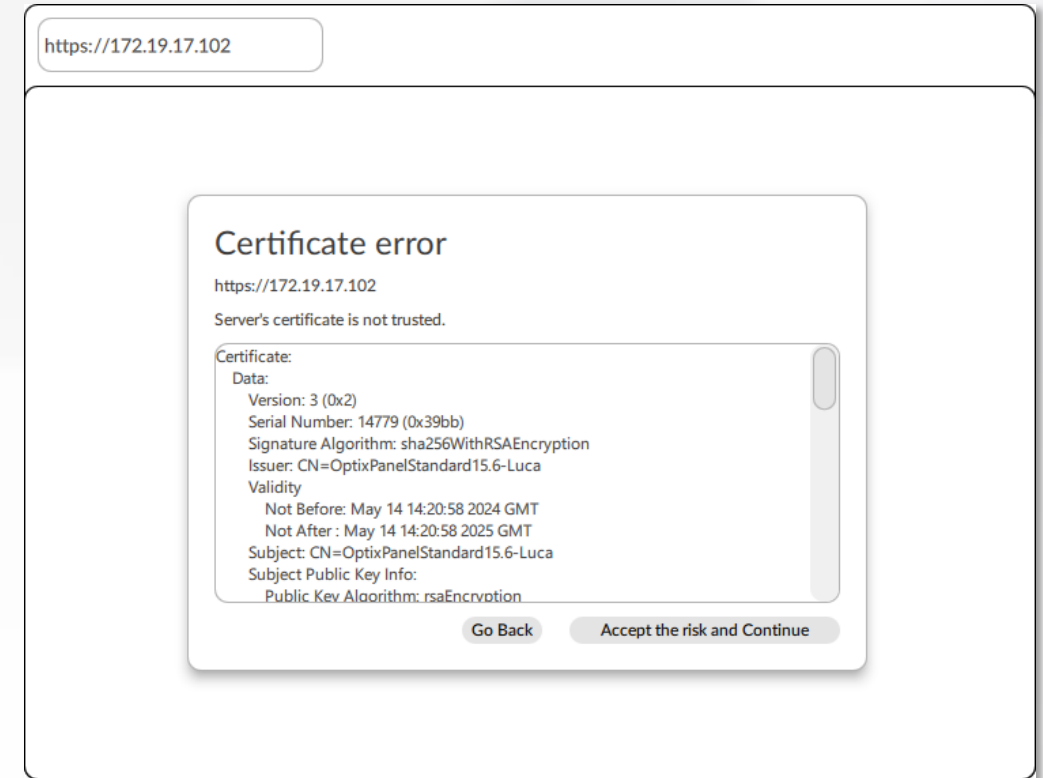
< 25 >

Min value: 20  
Max value: 50

# Controls enhancements

## Core Capabilities

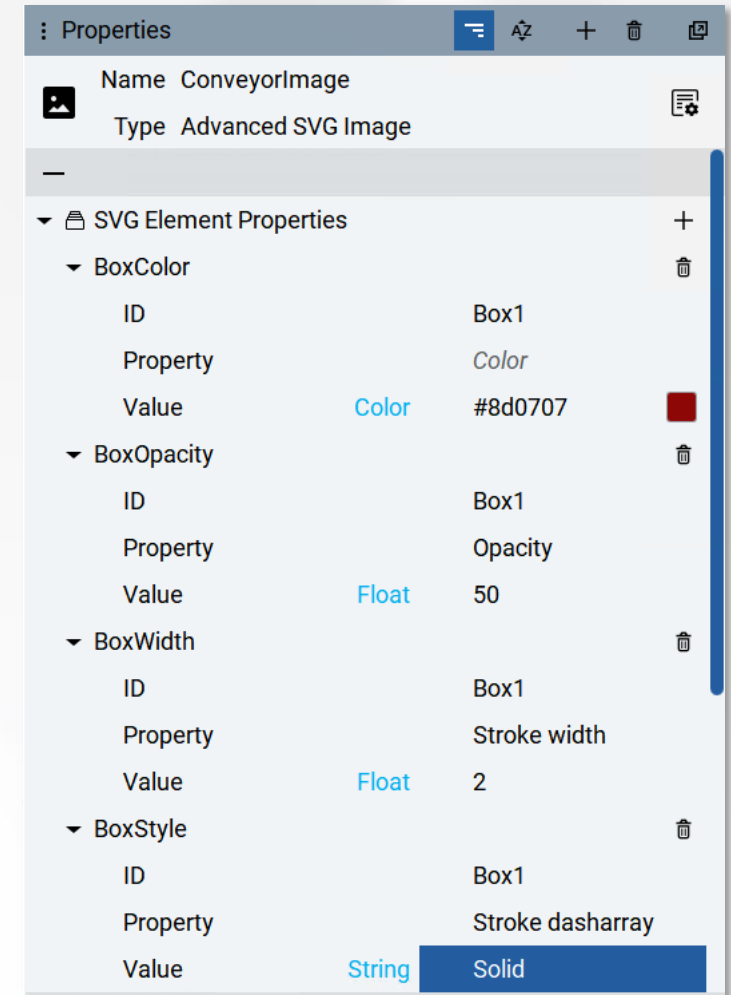
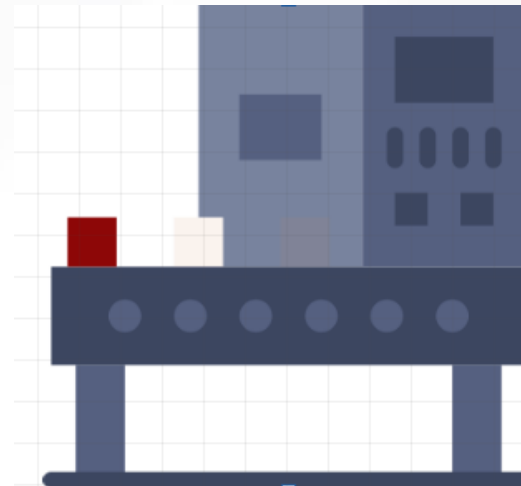
- The **WebBrowser** control
  - now displays a Certificate Error popup that allows to "Accept and Continue"  
**browsing web site with self-signed certificates**
  - provides also the new option "Ignore invalid CA errors" allowing to skip the Certificate Error



# Advanced SVG image enhancements

## Core Capabilities

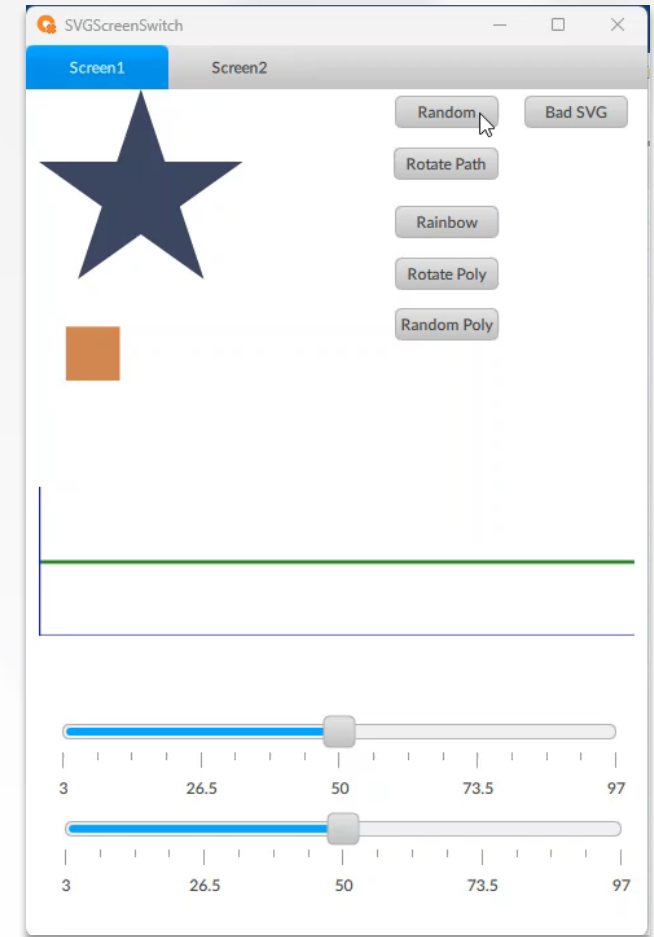
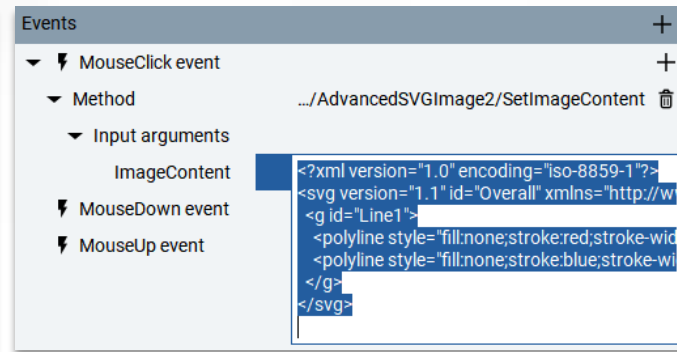
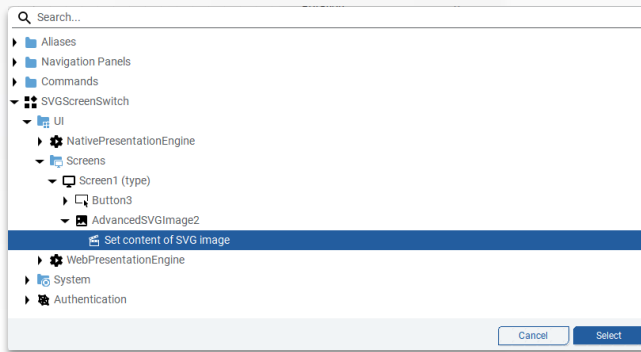
- Advanced SVG image sub-element property now also includes:
  - **Opacity**
  - **Stroke width**
  - **Stroke dash array style**
- Properties can be specified with static or dynamic values using tag binding
- Dasharray value specified as Solid or repeatable dash with a "*length;space*" format
  - Example: "Solid" or "5;2;10;2"



# Advanced SVG image enhancements

## Core Capabilities

- For greater flexibility, the entire contents of the SVG image can be manipulated using the Netlogic scripting interface
- To support this capability, a new method has been added to provide access to the AdvancedSVGImage object
  - "SetImageContent(string)"
  - Image Content (XML string) – Content to set in the SVG image
- Allows more advanced SVG animations such as dynamically changing the points on a polygon or path of an SVG image.

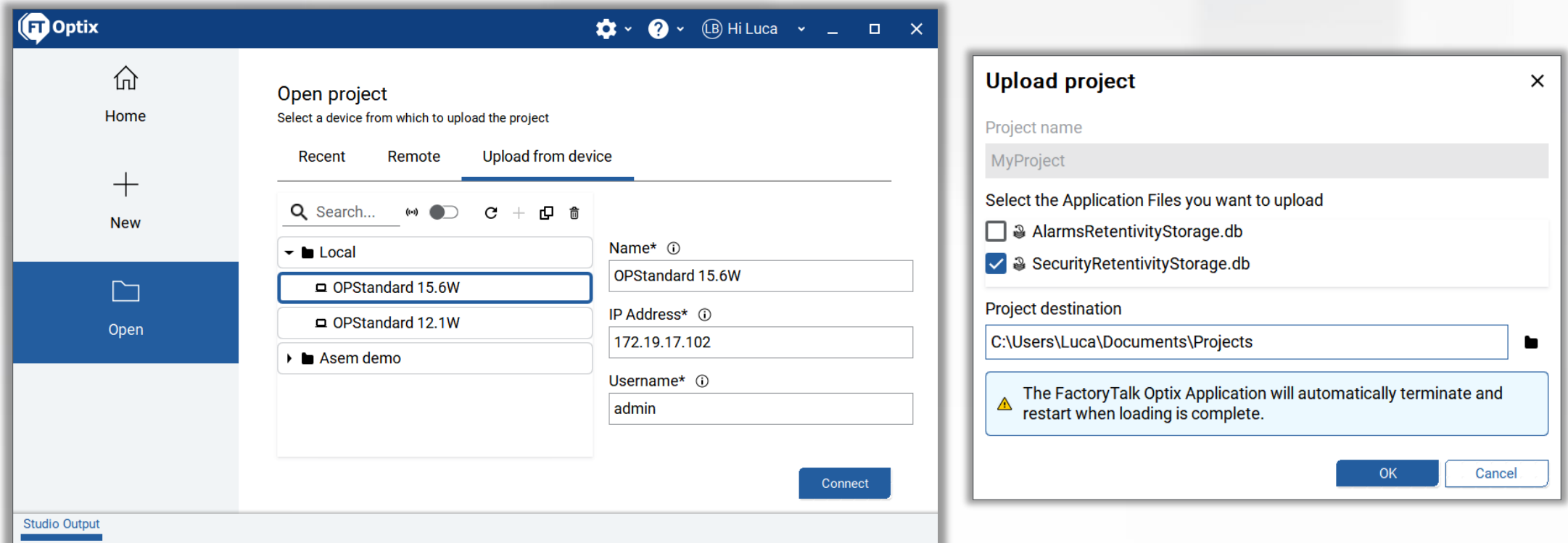




# Project upload: retrieving Application Files

## Core Capabilities

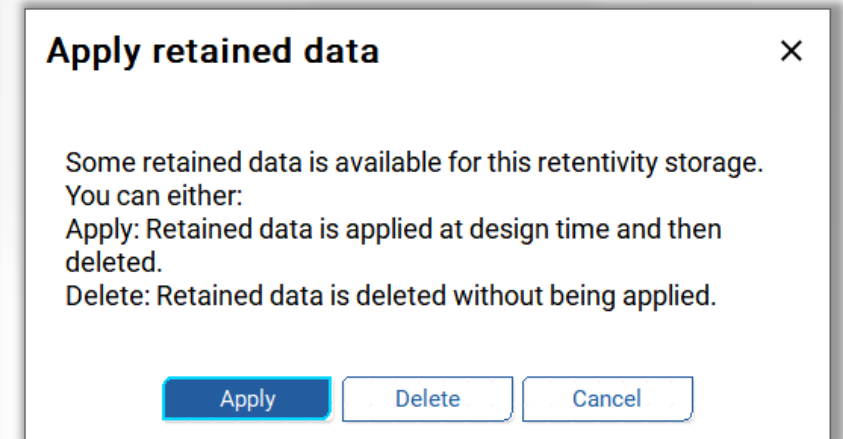
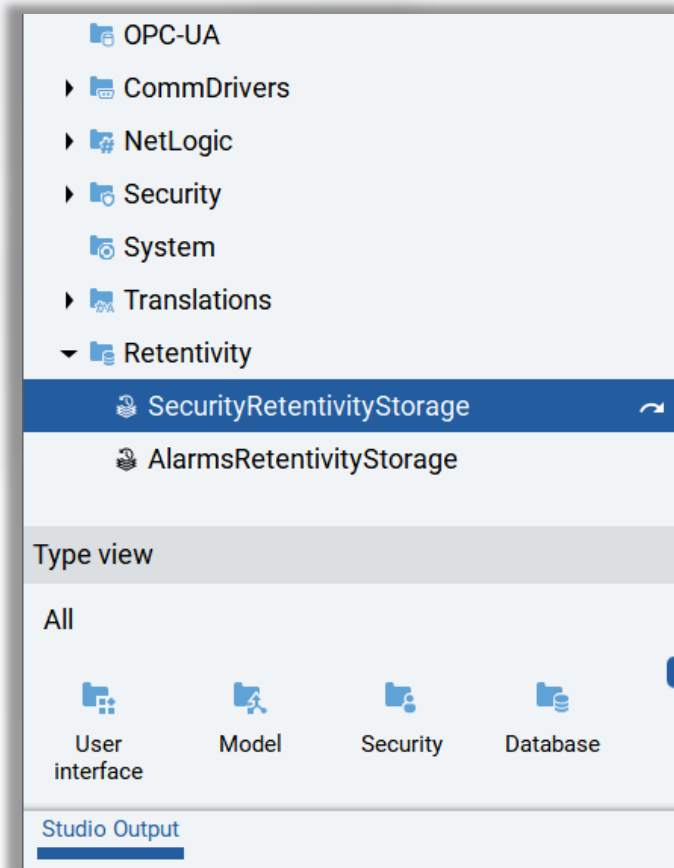
- The device's project upload now **retrieves Application Files**, enabling the upload of the embedded database and retentivity storage files
- This allows for the **retrieval of changes made to the project at Runtime**



# Project upload: merge of Retentivity Storage contents

## Core Capabilities

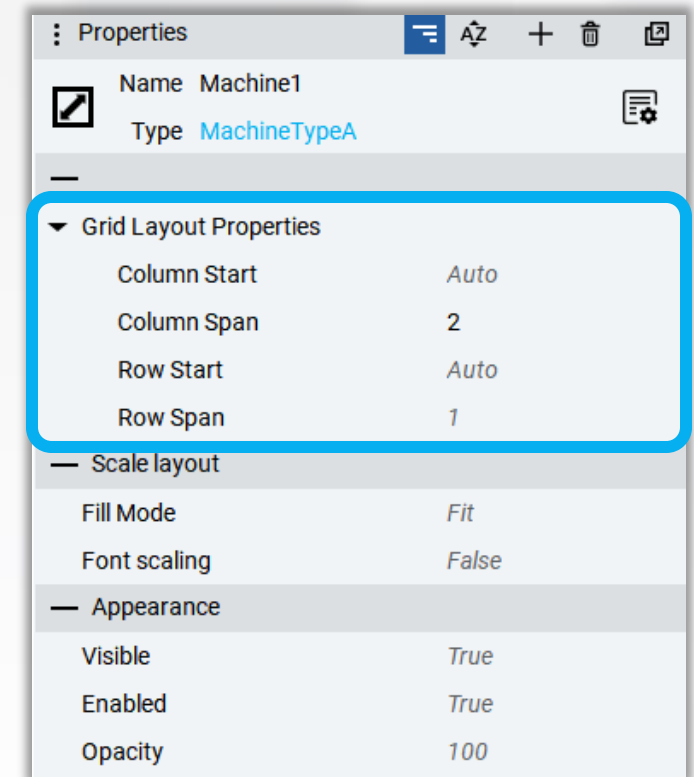
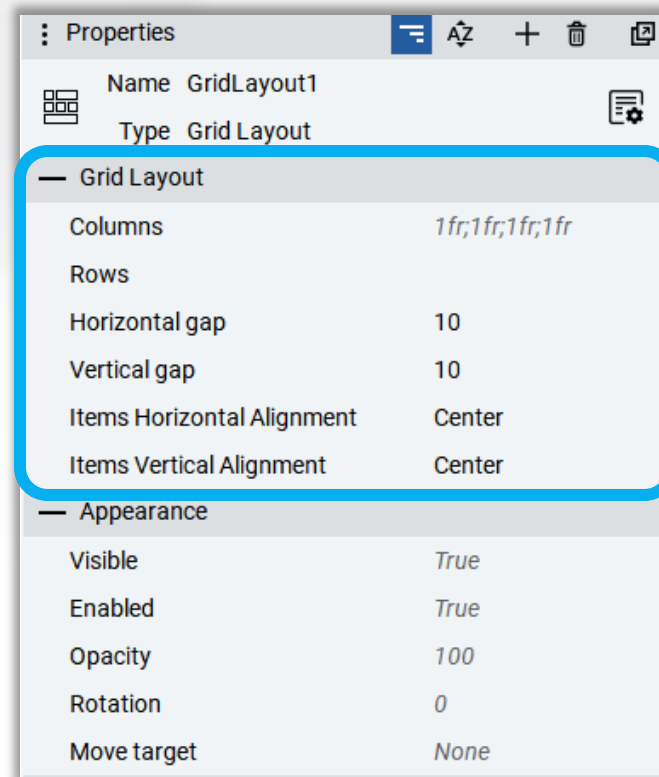
- The uploaded **Retentivity Storage** content, now can be **merged into the project**.
- Applying retained data to the project means that users created at runtime will be visible alongside the users defined at design time.



# New Grid Layout container

## Core Capabilities

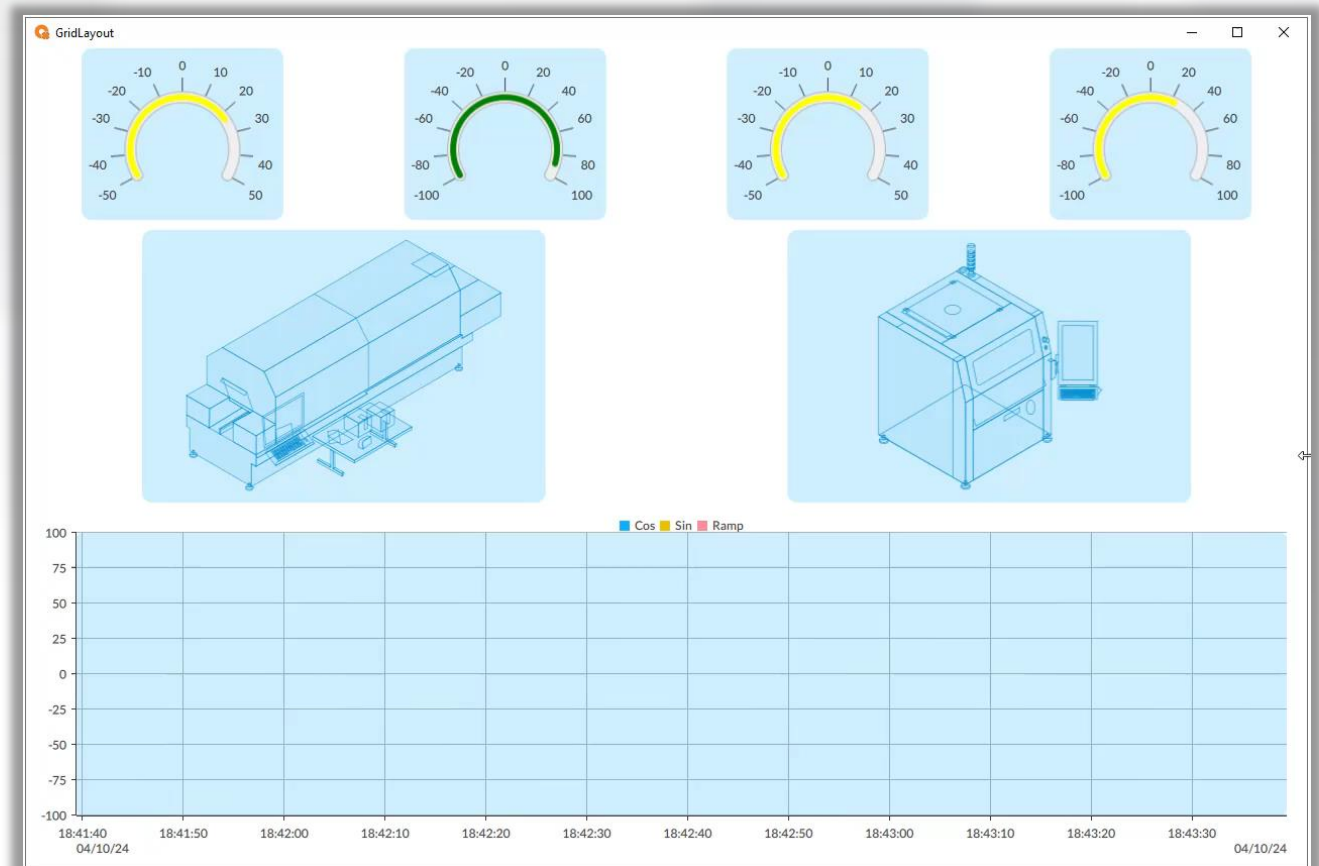
- A Grid Layout is a container that **arranges UI objects in a grid**
- **Columns and Rows** can be defined using:
  - a Fixed size in pixels
  - a Proportional size defining frames i.e. *1fr*, *2fr*
  - Auto
- **Grid Layout Properties**, can be added to grid's objects to manage
  - Columns Start
  - Column Span
  - Row Start
  - Row Span



# New Grid Layout container: use cases

## Core Capabilities

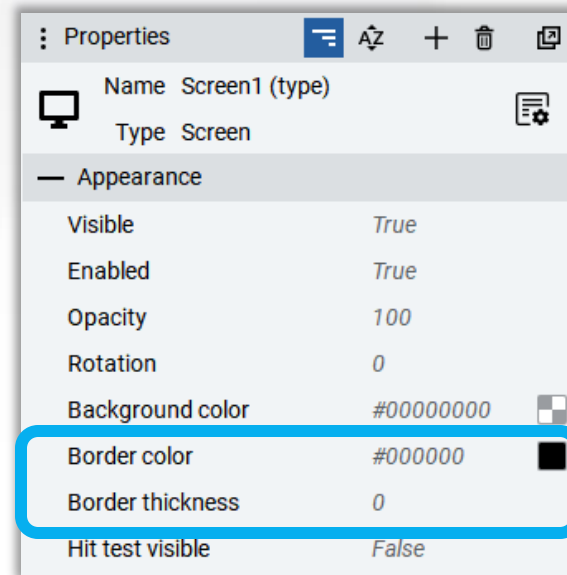
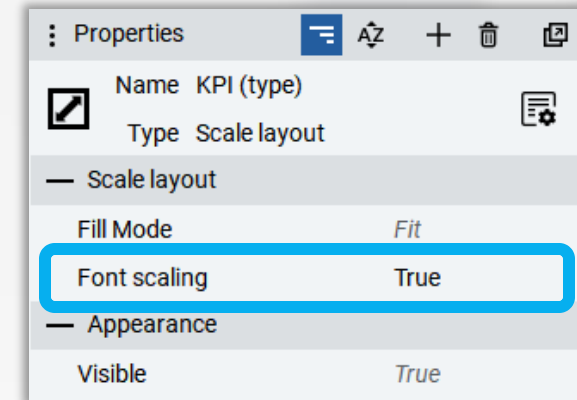
- Grid Layout container is a powerful tool for creating flexible and responsive layouts.
- Common use cases are
  - create **Dashboards** easily
  - leverage on **Auto-Placement**  
i.e. defining only Columns,  
at Runtime Items will be placed  
in the implicit grid, creating Rows as needed
  - define a **Responsive Layout**  
as shown in the video



# Other container improvements

## Core Capabilities

- The **Scale Layout** container now **supports font scaling**
  - allows you to maintain a consistent visual relationship, in terms of size, among all of a container's elements
- The **Screen container** shows two new properties
  - **Border color**
  - **Border thickness**



# Alarm enhancements

## Core Capabilities

- Added support for **alarm shelving**
  - Shelving allows alarms to be removed from the active alarm list for a period of time and allows operators to deal with lower priority or nuisance alarms
  - Supports **One-shot Shelf** and **Timed Shelf**
    - One-shot shelving allows the alarm to be shelved for its current active state
    - Timed shelving allows the alarm to be shelved for a fixed time period
- Added "**MaxTimedShelved duration**" and "**PresetTimedShelved duration**" properties to Alarm objects

Timestamp	Message	Active	Acked	Confirmed	Severity
Apr 11, 2024, 5:35:08 PM	Mixer1 input valve open	<input type="radio"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1
Apr 11, 2024, 5:35:00 PM	Mixer1 level is high	<input type="radio"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1
Apr 11, 2024, 5:34:19 PM	Mixer2 level is low	<input checked="" type="radio"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1
Apr 11, 2024, 5:34:19 PM	Mixer2 output valve closed	<input checked="" type="radio"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1

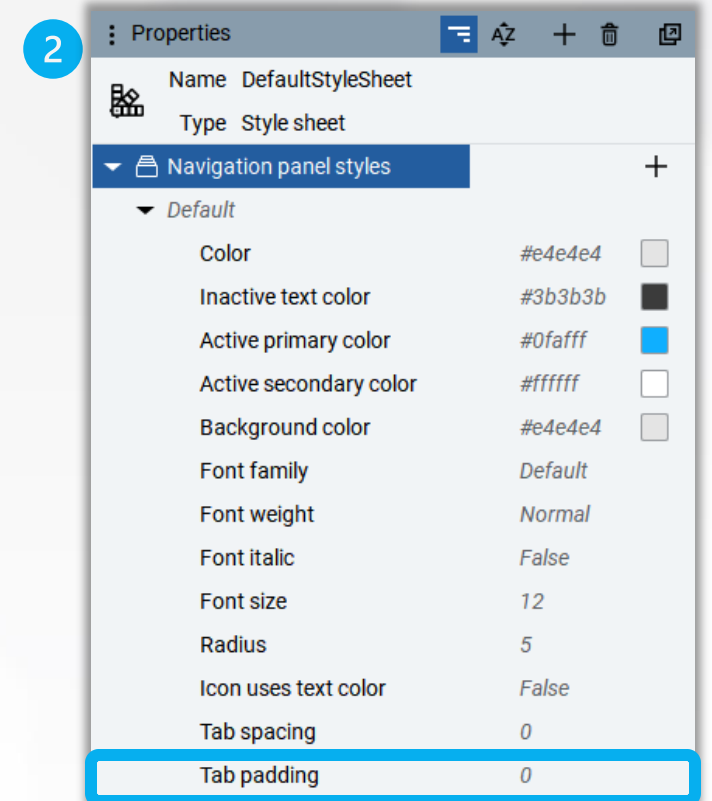
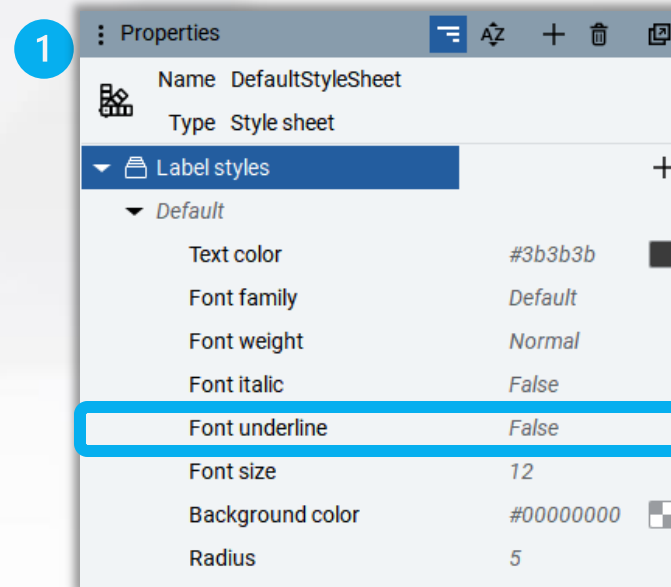
Acknowledge Acknowledge All Confirm Confirm All One-Shot Shelf Timed Shelf

Properties	
Name	Mixer1InputValveAlarm
Type	Digital alarm
Input variable	../Model/MixerInputValve
Max TimedShelve duration	0000:00:10.000
Preset TimedShelve duration	0000:00:05.000
Normal state value	0
Enabled	True
Auto acknowledge	False
Auto confirm	False
Message	Mixer1 input valve open
Severity	1

# New style options

## Core Capabilities

1. Added **Font underline** property to **Label** styles
  - Sets the underline property for labels
2. Added **Tab padding** property to **Navigation Panel** styles
  - Sets the padding between the panel tabs and control bar

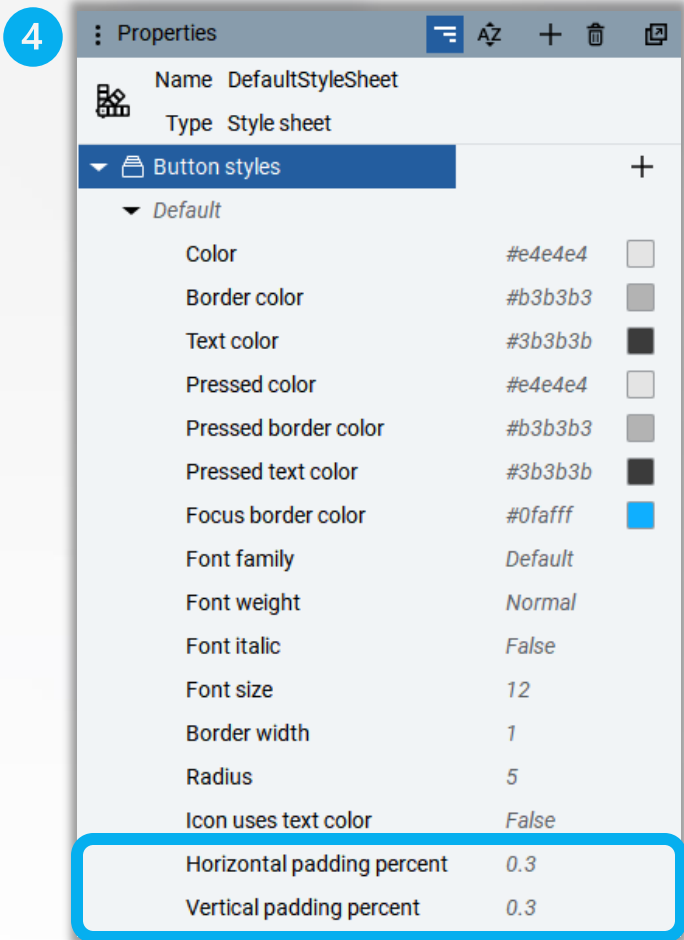
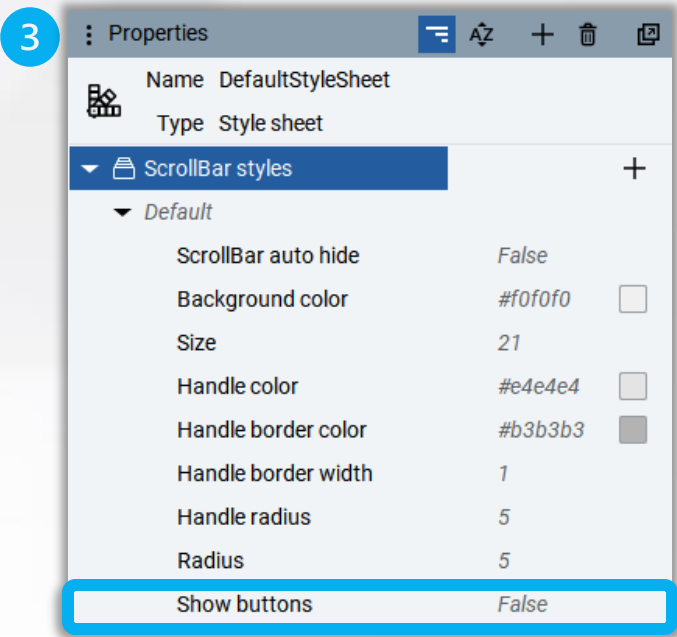




# New style options

## Core Capabilities

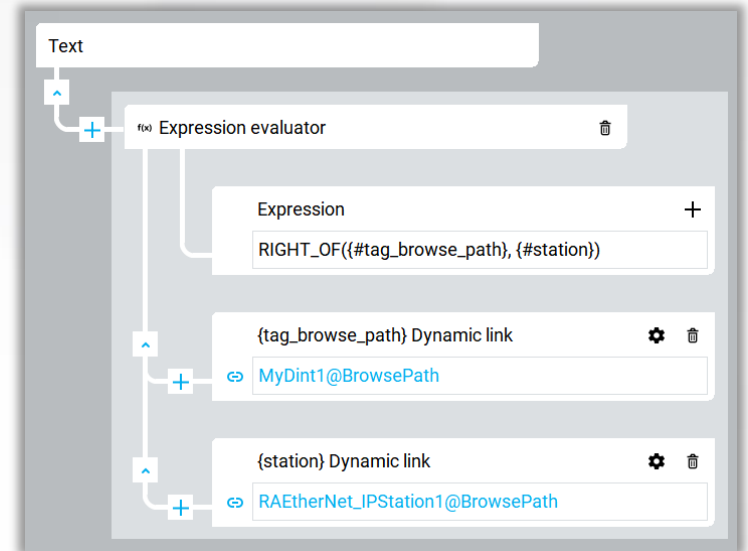
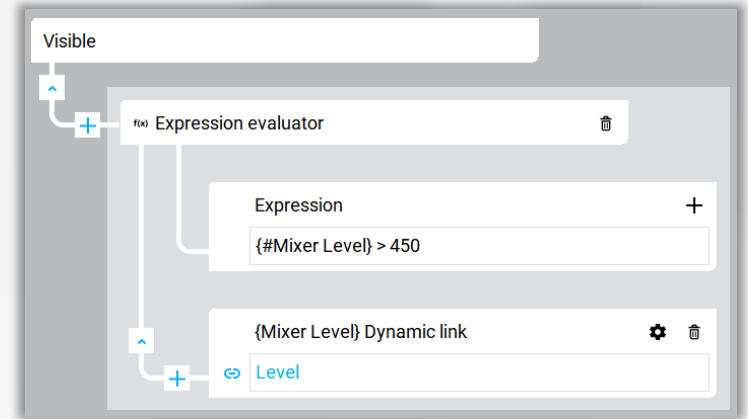
- 3. Added **Show buttons** property to **ScrollBar** styles
  - Allows you to show/hide the up and down arrow on scrollbars
- 4. Added **Horizontal and Vertical padding percent** properties to **Button** styles
  - Sets the horizontal and vertical padding between the button content and edges



# Converter enhancements

## Core Capabilities

1. Added **named placeholders** support for String Formatter and Expression Evaluator converters
  - Allows placeholders to have meaningful names with **{#placeholder}** in addition to {0}, {1}...
2. Added new **"LEFT\_OF"** and **"RIGHT\_OF"** built-in functions to the Expression Evaluator converter
  - Returns the characters to the left or right of a string
  - Example: to return the characters to the right of the station in a browse path



### MyDint1 Full Tag Path

Root/Objects/MyTest/CommDrivers/RAEtherNet\_IPDriver1/RAEtherNet\_IPStation1/Tags/Controller Tags/MyDint1

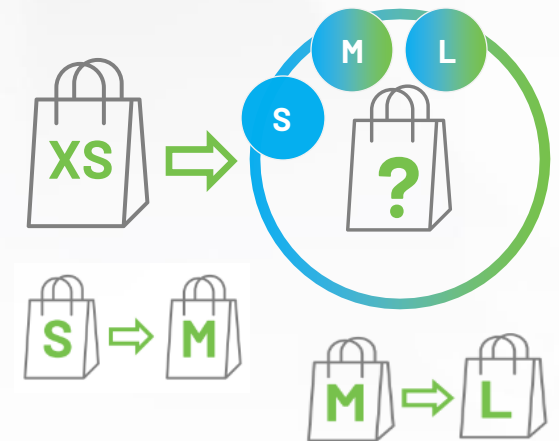
### MyDint1 Tag Path RIGHT OF station

/Tags/Controller Tags/MyDint1

# New entitlements

## Core Capabilities

- Subscription-based Runtime entitlements
  - New entitlements/catalog numbers will be available May 2024 after v1.4 AFC
  - All runtime packages available as subscription or perpetual licenses
  - What happens when the runtime license expires?
    - System logs daily messages for 7 days before the license expires
    - When the license expires, the system will automatically enter a 7-day grace period
    - If there is a new activated license, the system will switch to the new license and grace period ends
    - If the grace period expires and there is no new license, the system will enter 2-hour demo mode, after which the runtime will close
- Perpetual Runtime entitlement upgrades available
  - Allows FactoryTalk Optix runtimes to be upgraded to a higher package size offering an increased feature token count
  - Easy license upgrades for application expansion
  - Will be offered via new software catalogs on the portal
  - Granular upgrade options let you move from any size Runtime license to a larger size
  - Subscription upgrades will follow in a later release



# New Alarm Manager and Alarm Summary (Feature Preview)

## Core Capabilities

- Enhanced controls for viewing and interacting with alarms
- Alarm Summary – displays information about active alarms in an application
- Alarm Manager – displays information about all alarms in an application

Priority	Status	Event Time	Condition Name	Name	Message
!	🔔	May 6, 2024, 12:53:40 PM	Inactive	MixerTemperature	
!	🔔	May 6, 2024, 12:53:05 PM	Inactive	MixerLevel	
!	🔔	May 6, 2024, 12:53:05 PM	Inactive	MixerOutput ValveOpen	Mixer input valve closed
!	🔔	May 6, 2024, 12:53:05 PM	Inactive	MixerInputValveOpen	Mixer input valve open

Filtered by: ▼

✓ Acknowledge   ⏰ Confirm   ⌚ Timed Shelve   🔄 One-Shot Shelve   👁 View Details

Status	Inhibit	Name	Source Variable
🔔		MixerTemperature	Temperature
🔔		MixerOutput ValveOpen	OutputValve
🔔		MixerLevel	Level
🔔		MixerInputValveOpen	InputValve

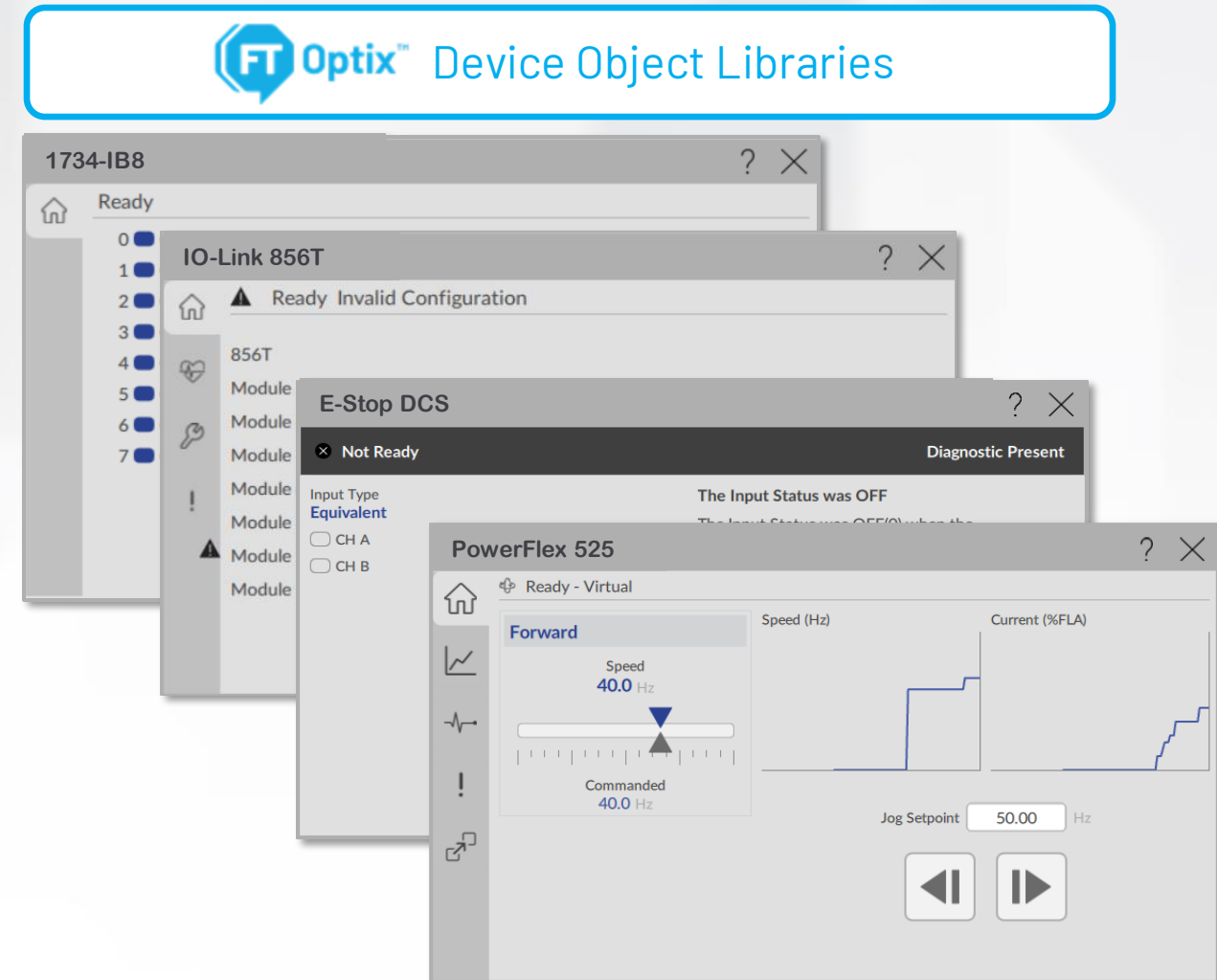
Filtered by: ▼

Unshelve   ⌚ Timed Shelve   🔄 One-Shot Shelve   👁 View Details

# FactoryTalk Optix Device Library Support

## Core Capabilities

- FactoryTalk Optix support for Power Device and Safety Device libraries
- New FactoryTalk Optix HMI faceplates being added for all existing Power Device and Safety Library objects!
- Will be published to PCDC in Power Device and Safety Libraries as free download.
- Available May 2024 after v1.4 AFC



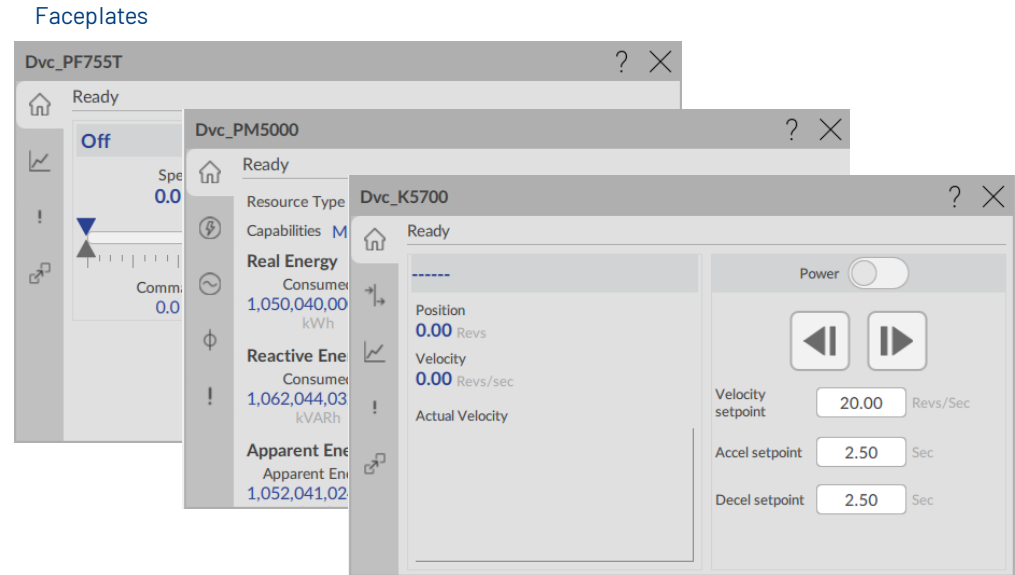
# Power Device Library v3.05 for FactoryTalk Optix

New FactoryTalk Optix HMI faceplates being added for all existing Power Device Library objects!

Anticipated release in May 2024 immediately following the released of FactoryTalk Optix v1.4.0.



Graphic Symbol  
Launch Buttons



## Supported Devices

Discrete:

- E300™ Electronic Overload Relays
- SMC™-50 / SMC™ Flex Soft Starters
- ArmorStart® 280/281/290/291

Velocity:

- PowerFlex® 525/753/755/755T/6000T/7000
- ArmorStart® 284/294
- Armor PowerFlex® 35E/S

Motion:

- Kinetix® 350/5100/5300/5500 /5700/6500
- Armor Kinetix
- PowerFlex® 527/755CM

## Power Monitor & Energy

PowerMonitor™:

- PowerMonitor™ 500/1000/5000

## Extensions

Energy Monitor:

- E300™, SMC™-50
- PowerFlex® 525/527/755/6000T
- Kinetix® 5500/5700

State Monitor:

- All devices

Predictive Maintenance:

- PowerFlex® 755T
- 100-E Contactors

## Important Notes

Requires FactoryTalk Optix v1.4.0+

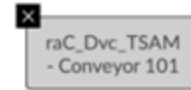
Enable “Feature Preview” in FactoryTalk Optix to enable Extended Tag Properties.

Will be published to PCDC in Power Device Library as free download.

# Safety Device Library v1.05 for FactoryTalk Optix

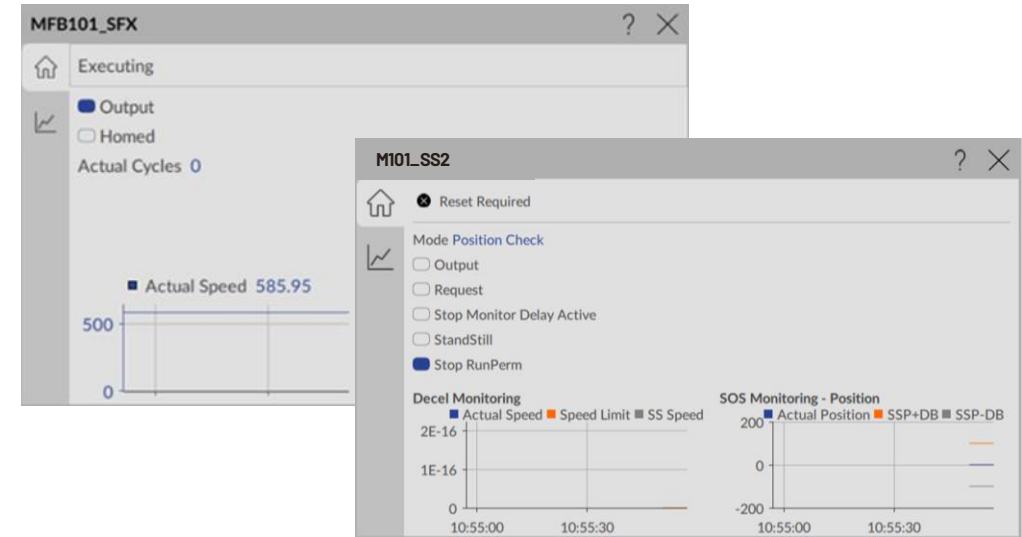
New FactoryTalk Optix HMI faceplates being added for all existing Safety Device Library objects!

Anticipated release in May 2024 immediately following the release of FactoryTalk Optix v1.4



Graphic Symbol  
Launch Buttons

Faceplates



## Supported Devices & Instructions

### Instructions:

- DCS – Dual Channel Input Stop
- DCSTL – Dual-Channel Input Stop w/ Test & Lock
- DCSTM – Dual Channel Input Stop w/ Test & Mute
- CROUT – Configurable Redundant Output
- FSBM – 4 Sensor Bi-Dir Muting
- SMAT – Safety Mat
- THRSe – Two Hand Run Station Enhanced
- TSAM – 2 Sensor Asymmetrical Muting
- TSSM – 2 Sensor Symmetrical Muting
- SFX – Safety Feedback Interface
- SS1/SS2 – Safe Stop 1 & 2
- STO – Safe Torque Off
- Safety Group Monitor & Member

## Diagnostics:

- Safety Group Monitor provides status for up to 32 safety I/O devices.
- Monitor ID number, demand, reset required, diagnostic, fault, and mute/suspend status
- View first out demand and event log

## Important Notes

Requires FactoryTalk Optix v1.4+

Enable “Feature Preview” in FactoryTalk Optix to enable Extended Tag Properties.

Will be published to PCDC in Safety Device Library as free download.



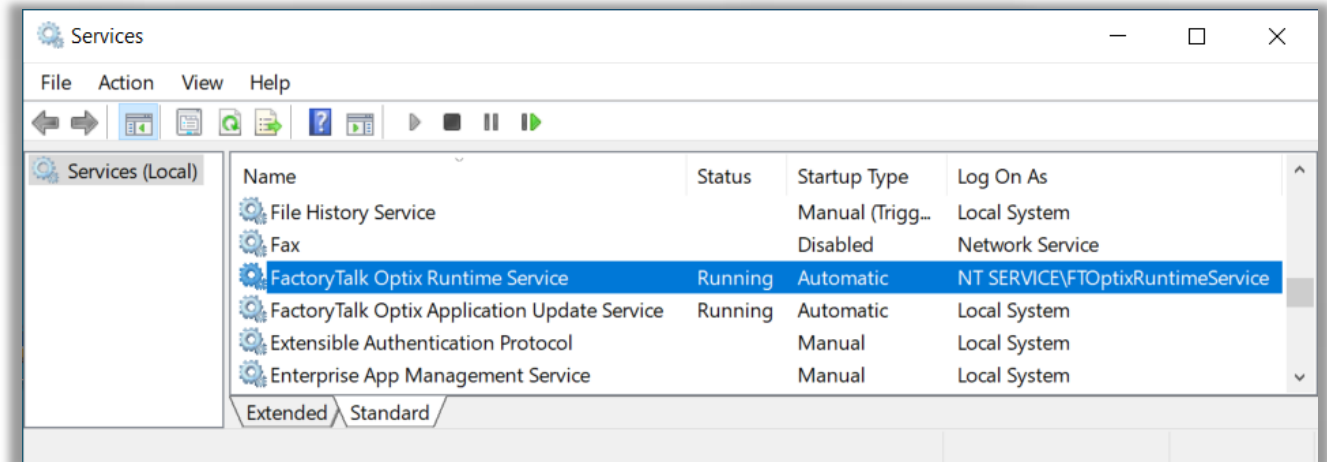
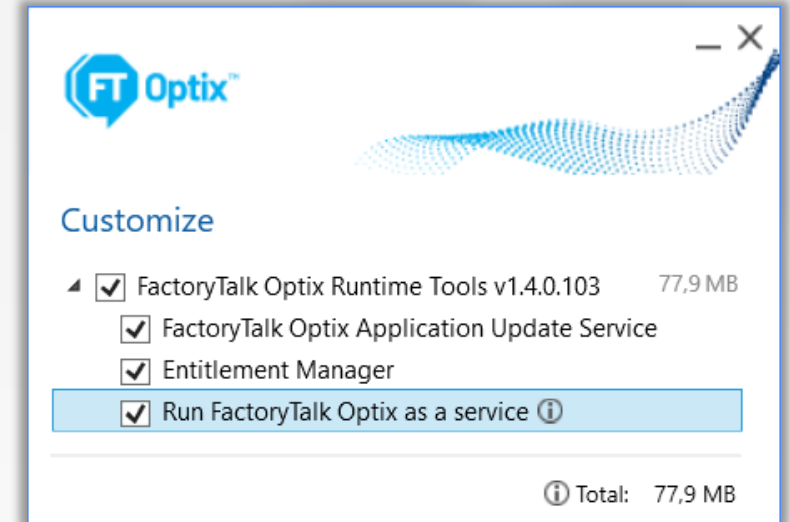
# Expanded Architectures



# Optix Runtime as a Service

## Expanded Architectures

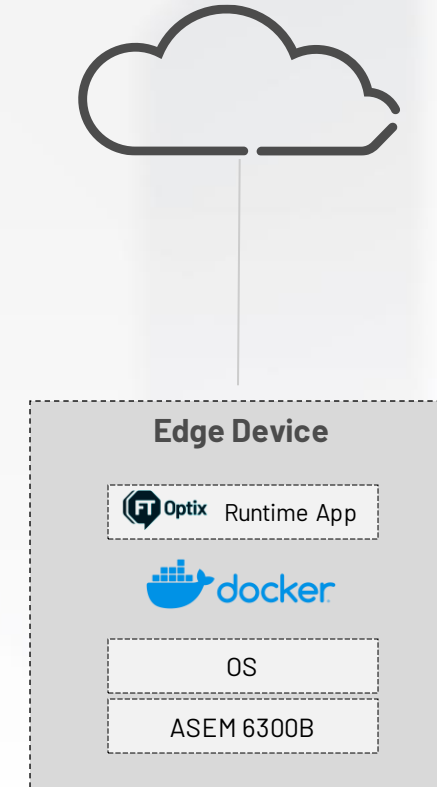
- FactoryTalk Optix Runtime now can be set to **Run as a service**
- The installed service **starts automatically on device startup and runs** the deployed **FactoryTalk Optix application**
  - NOTE: The service only runs applications without the Native Presentation Engine. If needed, use the Web Presentation Engine.
- To install/configure the service:
  1. execute the Optix Runtime Tools setup,
  2. select Customize
  3. then check "Run FactoryTalk Optix as a service"



# Docker Container Support with Connected Licensing

## Expanded Architectures

- Support for deploying the FactoryTalk Optix runtime application within Docker containers, initially with online entitlement verification
- Users can deploy the container for the runtime application via FactoryTalk Edge Manager and other container management tools
- Helps with setup and makes scaling the application across multiple environments easier



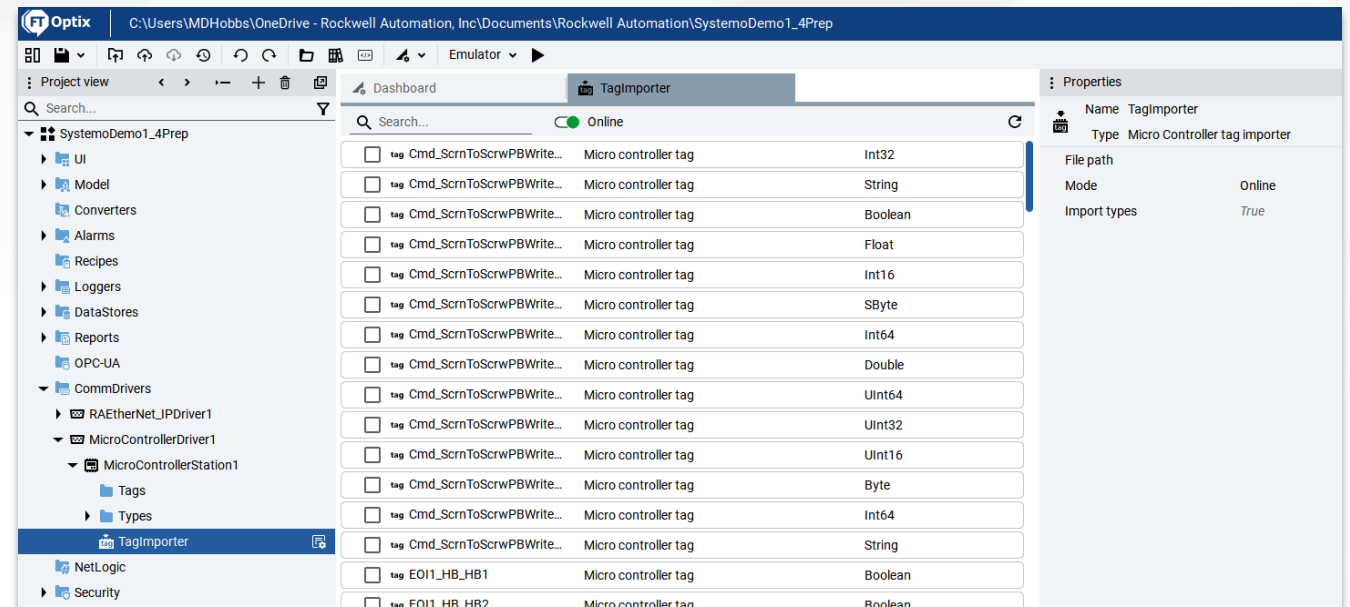
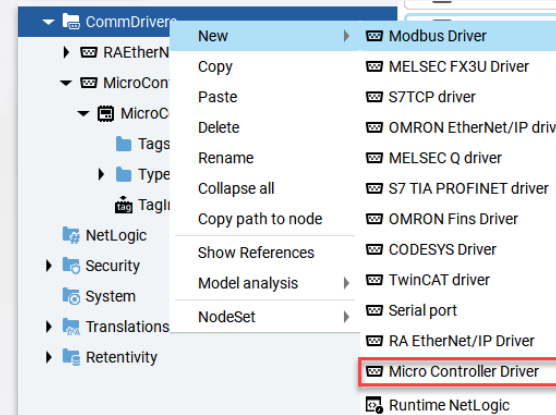
# Data Connectivity



# New Micro Controller Driver

## Data Connectivity

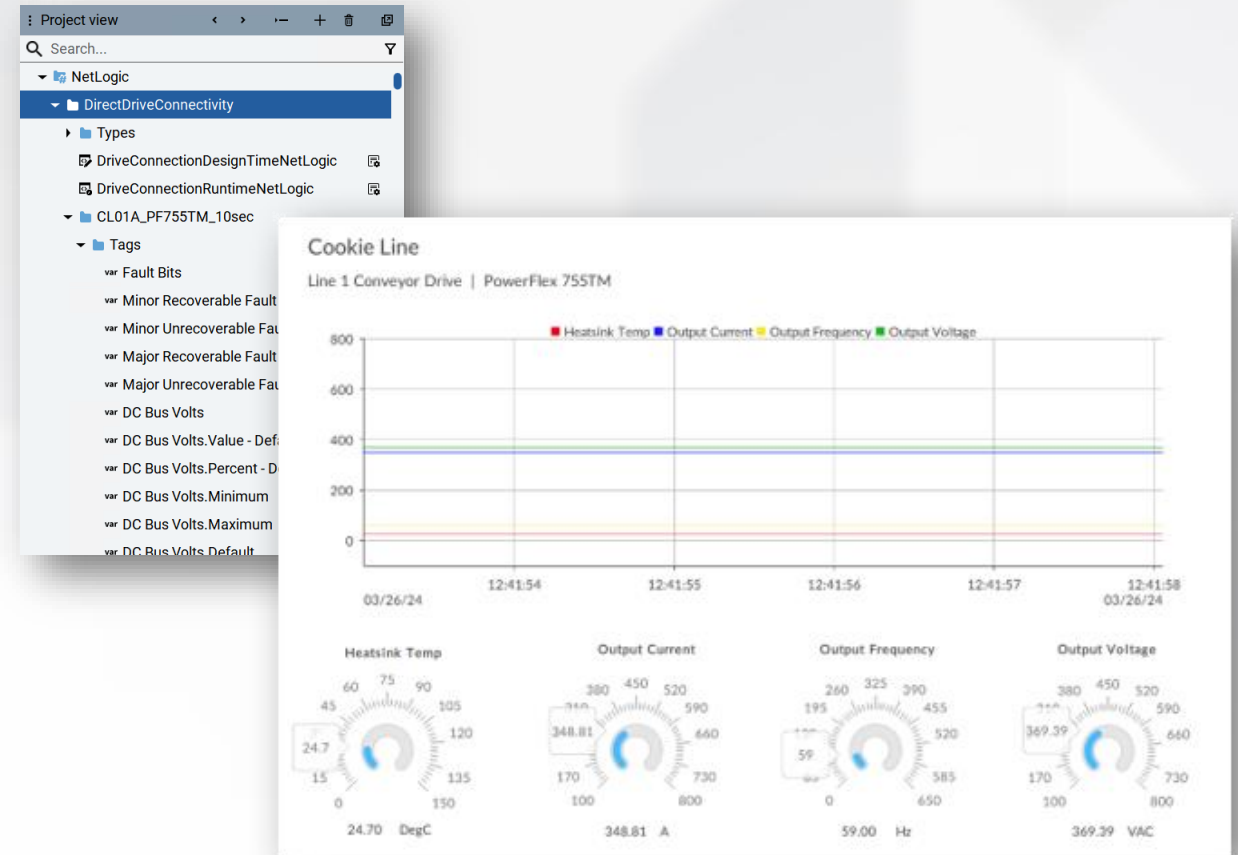
- New driver provides connectivity to Micro800 and MicroLogix 1400 family of controllers
- Supports Micro800 online tag import
- Feature preview is no longer required



# New Direct Drives Connectivity Script

## Data Connectivity

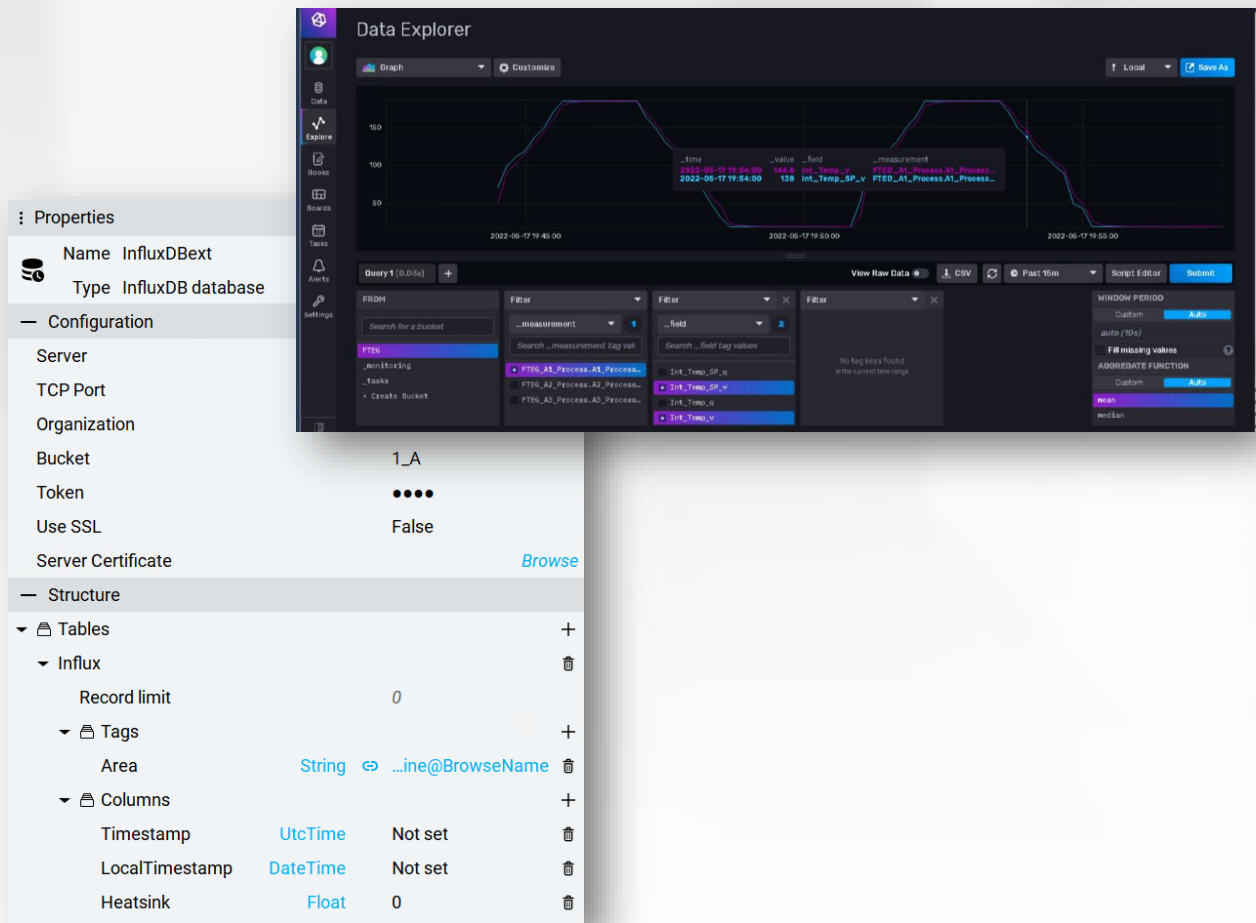
- Netlogic script enables direct connectivity to PowerFlex drives for data access
  - Supported drives [PF 755, PF 755TM, PF 7000, and PF 6000T].
  - Update rate [10 sec, 1 min, 2 min, 5 min].
  - Windows only.
- Users can access and customize drives' information model data points for specific applications
- Facilitates real-time data visualization and transfer to other applications for further analysis



# New InfluxDB External Database Support

## Data Connectivity

- Integration with InfluxDB time-series database for high-performance data operations.
  - Supports external databases
- Facilitates real-time data monitoring and analysis with optimized time-series data storage
- Enhances data access and visualization for greater insights
  - Supports data grid, trends, pie/histogram charts





# FT Hub & Online Portal

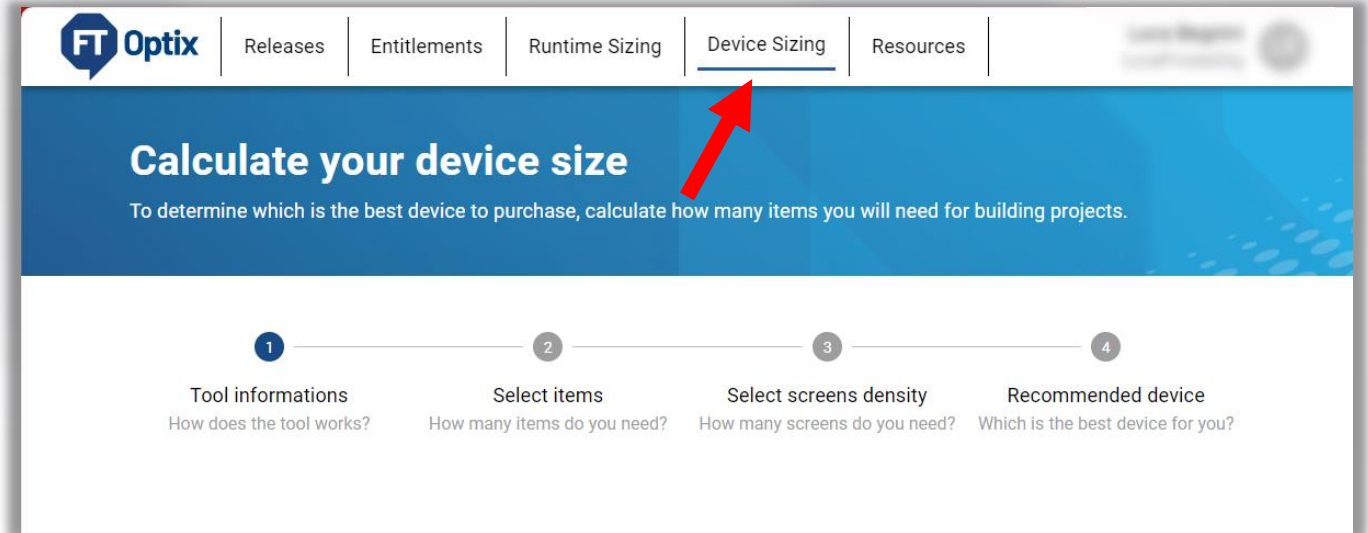


# FT Hub Enhancements

## FT Hub & Online Portal

- **New "Device Sizing" tool**

- This tool helps users choose the best device for their needs based on the number of items required for their project, such as tags, alarms, screens etc.



- Accessing the **FT Optix dashboard** **no longer requires Multi-Factor Authentication**

- will still be necessary to access FactoryTalk Optix Studio in the browser or to use/activate FactoryTalk Optix Studio Pro in a desktop environment

**Webinars**



# Visualization webinars

Save the date, register and share!

## FACTORYTALK OPTIX AND FACTORYTALK REMOTE ACCESS WEBINARS

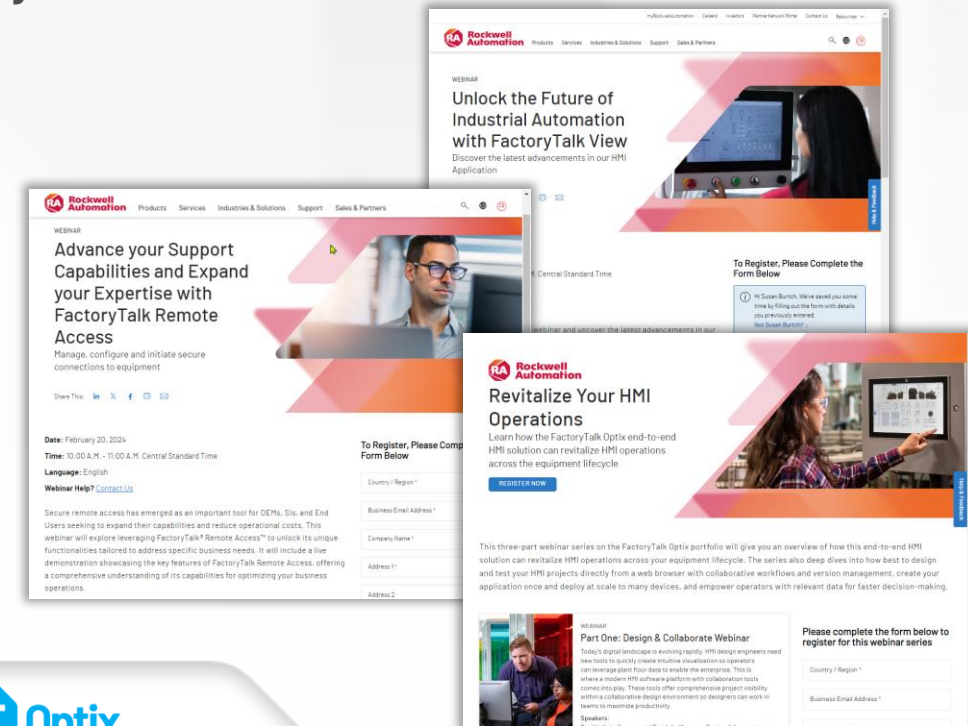
- **FactoryTalk Optix: Revitalize Your HMI Operations webinar series (3 webinars)**
  - ON DEMAND(February 7, 2024) *Design and Collaborate* [LINK](#)
  - ON DEMAND(May 8, 2024) *Deploy Applications at Scale* [LINK](#)
  - Wednesday August 14, 2024 - 10:00 AM Central *Operators Empowered* [LINK](#)
- **Advance your Support Capabilities and Expand your Expertise with FactoryTalk Remote Access**
  - ON DEMAND(February 20, 2024) [LINK](#)

## FACTORYTALK VIEW WEBINARS

- **Unlock the Future of Industrial Automation with FactoryTalk View**
  - ON DEMAND(January 24, 2024) [LINK](#)
- **FactoryTalk View SE V14 Release Features Genius Webinar**
  - ON DEMAND(October 26, 2023) [LINK](#)



Register for the Optix webinar series now!

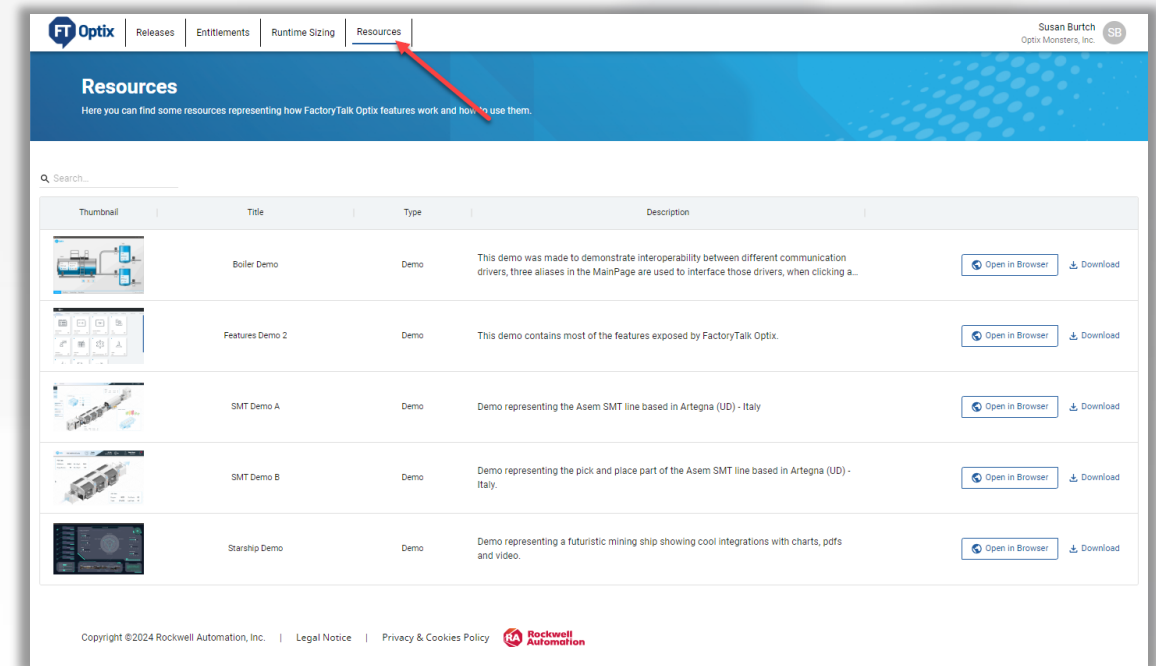


**Online Demos**



# FactoryTalk Optix Instant Online Customer Demos!

- Resources tab provides access to many FactoryTalk Optix demo applications
  - These demo applications can be viewed using your browser
  - A description for each demo is also available
  - Use the Search bar to look for a specific demo
- Available to anyone with a FactoryTalk Hub account, including customers!
- Click **Open in Browser** to run each demo application in your web browser
  - Boiler demo
  - Features demo
  - Demo applications for ASEM factory machines
  - Trade show and event demo applications
  - More coming soon!



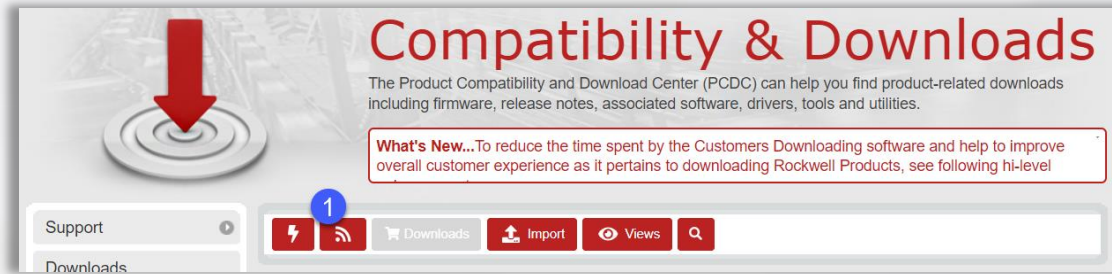
**Now available:** Preview demo application in browser, then download demo application files from GitHub on the Resources tab

# PCDC Release Notifications

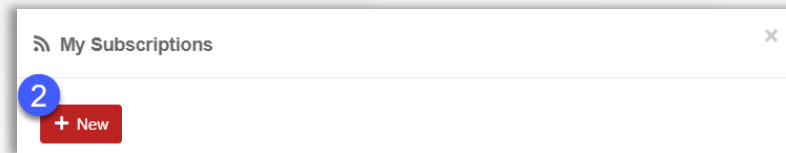


# How to get notification of a new release on PCDC

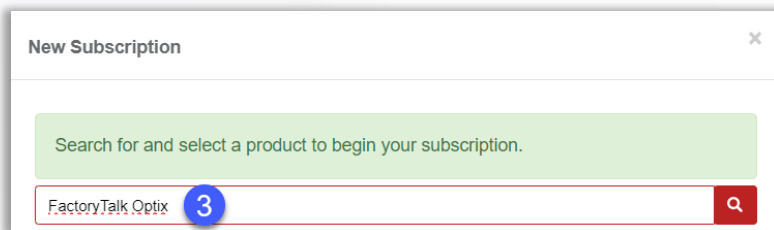
1. Log in to [PCDC](#) and click the **Subscription button** 



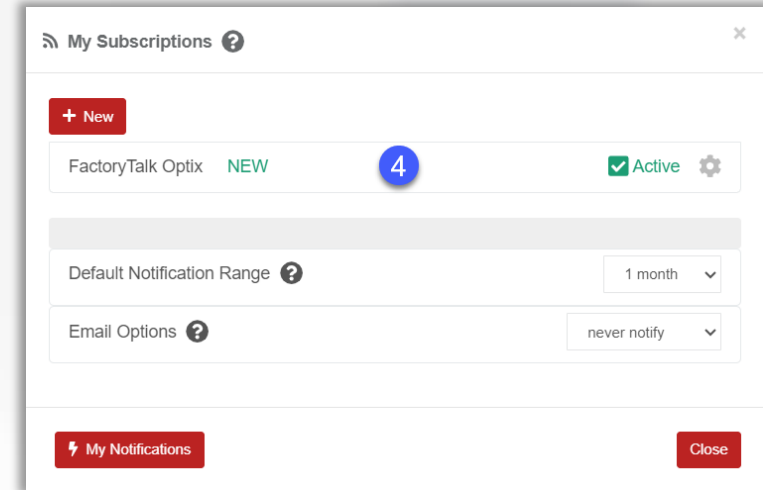
2. Click on **+ New** button




3. Search for "FactoryTalk Optix" and select it



4. FactoryTalk Optix is added to your subscription list



5. With the settings button  you can select the notification types that interest you, and with the Email Options you can be notified via email when you have new notifications



# THANK YOU



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