

Learning Series

FactoryTalk Design Hub

February 2023

Our Presenters

Wayne Welk

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New Orleans

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Houston

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Rockwell Automation

Technical Seminars

Register to receive a calendar invite



Tech Talk

Month	Description
January 25 th	Grace Technologies – GraceSense
February 22 nd	Industrial CyberSecurity with Claroty
March 29 th	CyberSecurity with CrowdStrike
https://www.reynoldsonline.com/training-and-events/techtalks	

Learning Series

Month	Description
January 12 th	Automation Update
February 23 rd	FactoryTalk Design Hub
March 16 th	Networks and Security Update
https://www.reynoldsonline.com/training-and-events/learning-series	

Upcoming Road Show
Factorytalk Optix
April 12, 2023 TRC Houston

Visit our Resources page on [reynoldsonline.com](https://www.reynoldsonline.com)

The graphic features the Rockwell Automation logo (a red hexagon with 'RA' inside) and the text 'Rockwell Automation' in red. Below this is 'Automation Fair®' in black. A central photograph shows a busy trade show floor with people interacting. The graphic is decorated with stylized, overlapping geometric shapes in blue, green, and orange. To the right of the photo, the text 'EXPANDED DATES' is in small black letters, followed by 'NOVEMBER 6-9, 2023' in large, bold black letters, and 'Boston, Massachusetts, USA' in smaller black letters below it.

RA Rockwell Automation

Automation Fair®

EXPANDED DATES
NOVEMBER 6-9, 2023
Boston, Massachusetts, USA

We are excited to announce Automation Fair will be a four-day event

Automation Fair 2023 will be held November 6-9 in Boston, Massachusetts, USA – expanding from a two-day event to a four-day event to bring you a more enhanced, immersive experience.

We are also integrating the ROKLive Americas event into Automation Fair

Combining these leading events offers you even more enhanced training, industry-focused solutions, digital transformation strategies, networking with technology experts and industry leaders, and thought leadership presentations – all in one event.

SAAS ENABLED BY THE CLOUD



The unified experience (common login, context and data)

DESIGN



Streamlined automation
system design

OPERATE



Simplified cloud-native
operations management

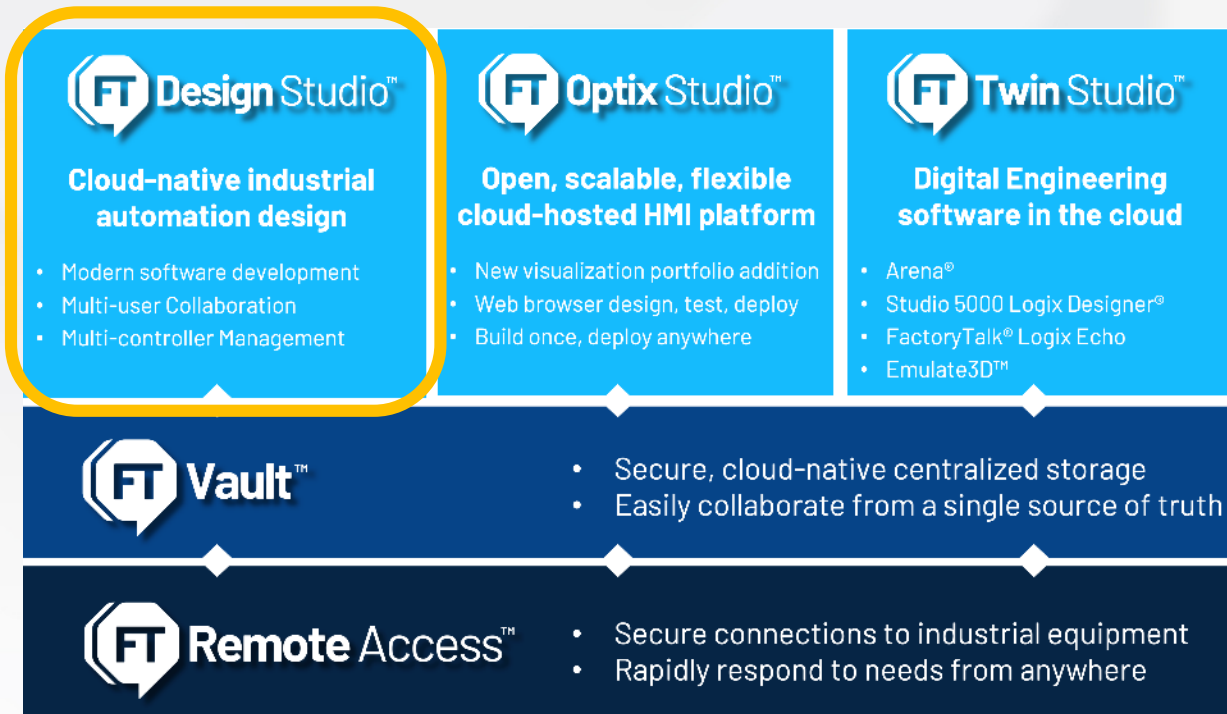
MAINTAIN



Asset management and
predictive maintenance

Edge Platform (data context, applications, analytics)

FT Design Hub™ Ecosystem



FactoryTalk® Design Hub™

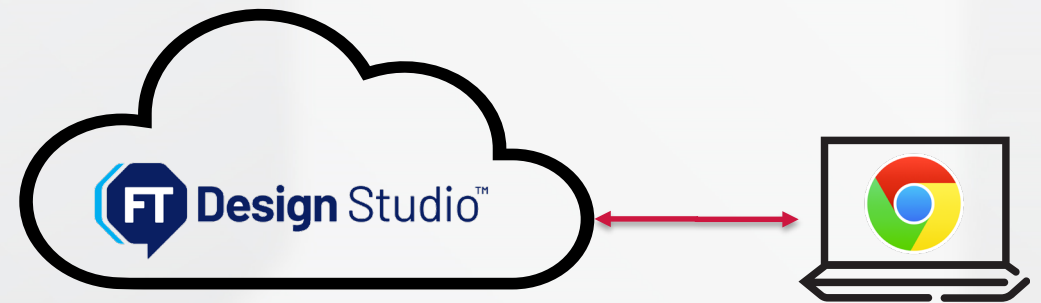
- On-demand platform that provides you and your customers design automation systems that:
 - Reduce risk
 - Accelerate schedules
 - Enable better agility
- FactoryTalk® Design Hub™ uses the cloud to:
 - Increase scalability
 - Reduce capital & maintenance expense
 - Deliver new tools that increase productivity

Available Anytime, Anywhere

Always-available access to the most up-to-date software and hardware resources

Log in to the latest software from anywhere with your web browser, no download or install required.

Accessible via the FactoryTalk® Hub™, work privately or coordinate with colleagues whenever and wherever you need. With project updates auto-saved and accessible in the cloud, you'll always have the access you need no matter where you are.



Cloud-native, software-defined industrial automation design

Modern

- Reduce development time with proven workflows
- Improve and expand reusable content management
- Remove maintenance and access burdens



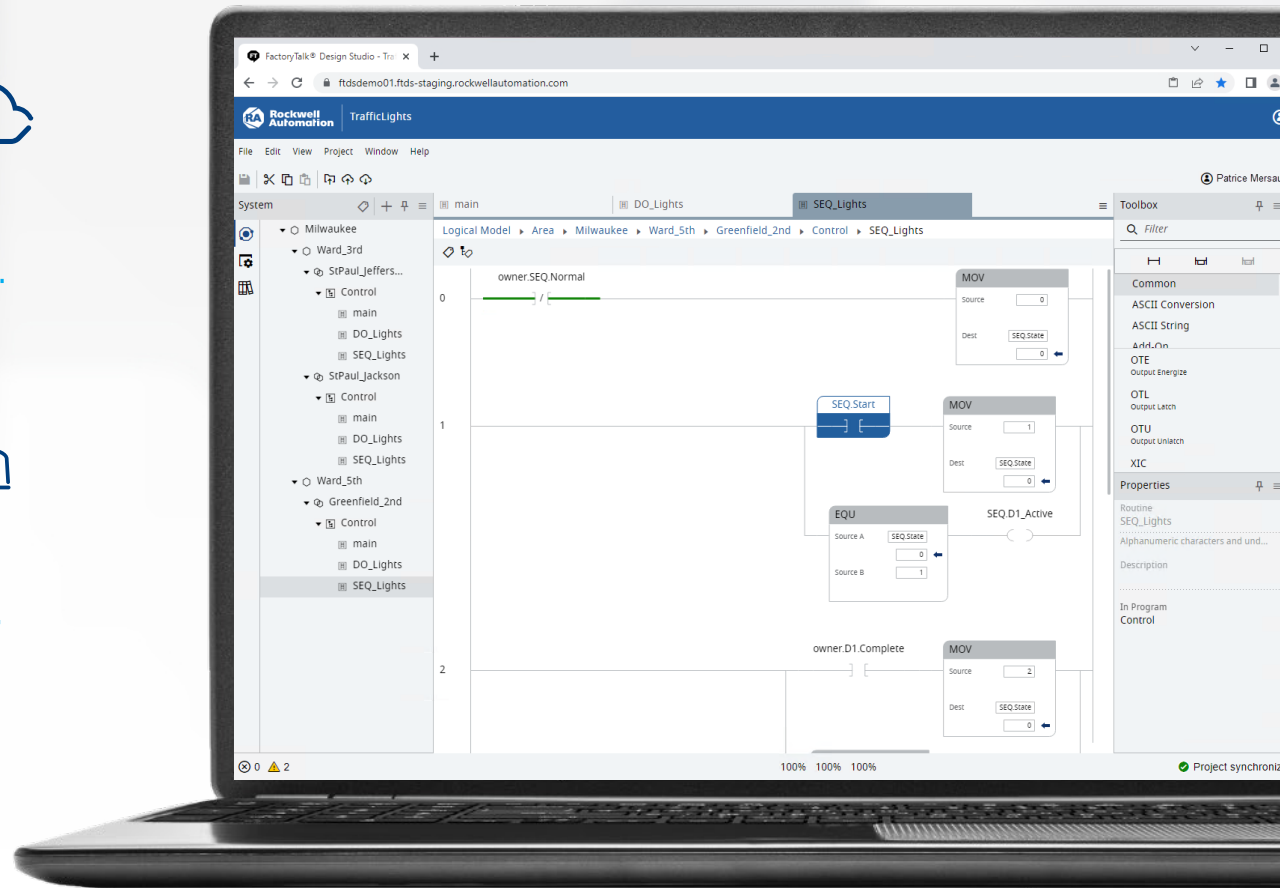
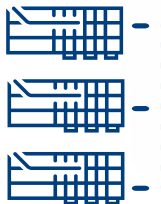
Multi-user

- Automatically merge edits from multiple users
- Monitor and approve any project changes
- Develop in text and deliver graphically



Multi-controller

- Manage all controllers in one place
- Connect to multiple firmware versions
- Deliver a system model abstracted from hardware



Modern

Development functionality to build and deploy faster

Enhanced Modular Development

Develop and maintain projects more easily with object-oriented programming concepts

Integrated Library Management

Increase code standardization and reduce repetitive steps with integrated library tools

Browser-based; Anytime, Anywhere

Always-available access to the most up-to-date software and hardware resources

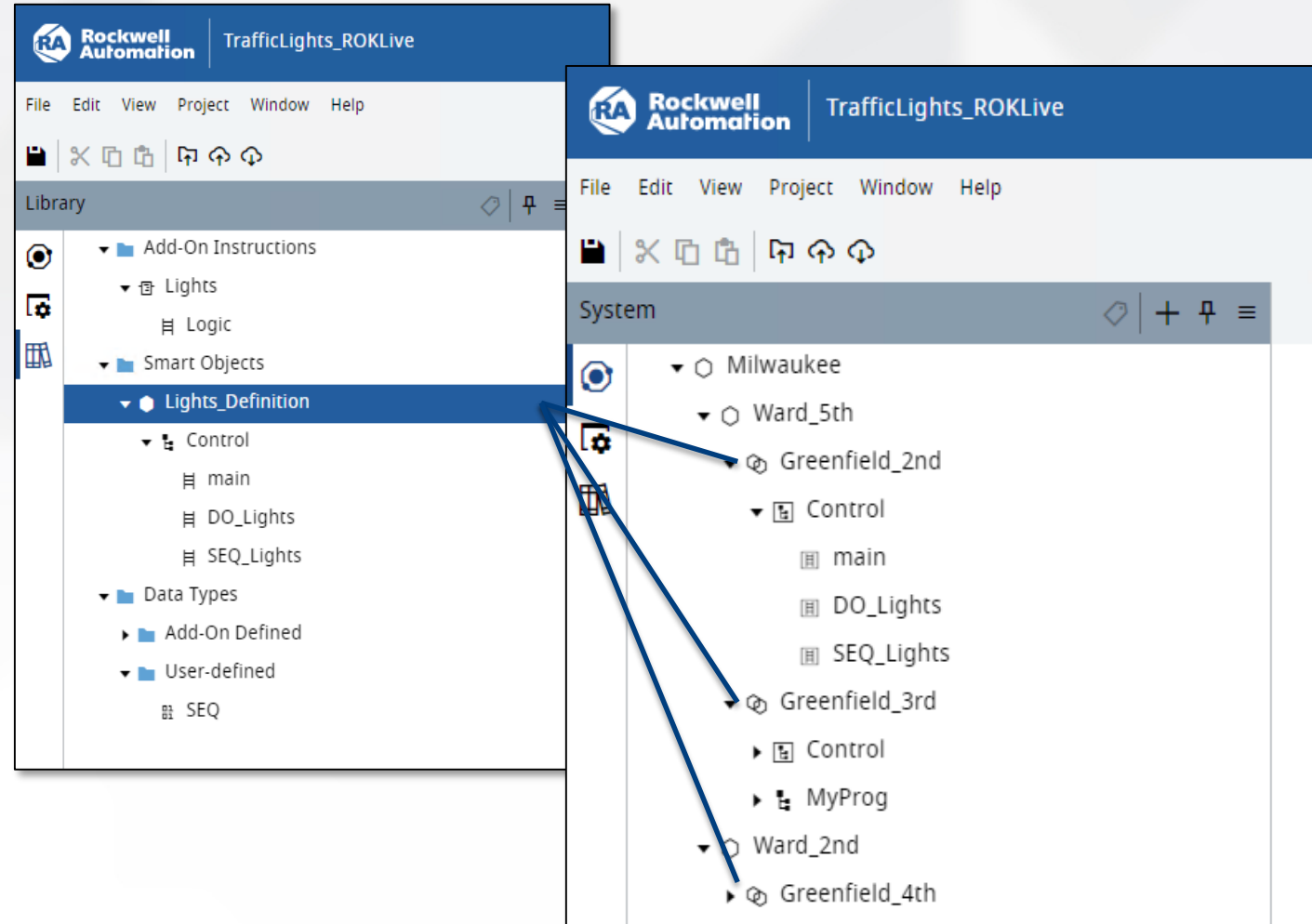


Integrated Reusable Content Libraries

Reduce repetitive steps and increase standardization with integrated library tools

BENEFITS

- Develop projects and manage reusable content in the same tool
- Inherit library updates with no import/export



Multi-user

Collaboration tools supporting scalable teams and varying skill sets

Integrated Version Control

Increase project management efficiency with git technology

Native Multi-user Collaboration

Maximize productivity across teams of all sizes with integrated multi-user collaboration tools

Text-to-Graphical Language Flexibility

Power-user development with an entirely text-based project structure that automatically renders graphically



Integrated Version Control

Reduce project change management complexity with integrated git technology

Track complete project change history including user identification, time/date, and comments

BENEFITS

- Log all project updates with change tracking and on-demand detailed comparison
- Easy testing and risk-free updates with checkpoints that can be rolled back

The screenshot displays the Rockwell Automation interface with a 'Change history' window open. The window shows a table of project changes with columns for Description, Update date, Email, and ID. Below the table, there is a 'Compare commits' section showing a comparison between Commit A and Commit B. The code comparison window shows two versions of a routine, with Commit B having additional lines of code highlighted in green.

Description	Update date	Email	ID
added rungs to light seq	08/31/22 - 21:12	jarobinson@ra.rockwell.com	5e53cee
Merge branch master of http...	08/31/22 - 18:45	ftdsdemo01@gmail.com	642f4cc
Added Orlando Controller	08/31/22 - 18:44	ftdsdemo01@gmail.com	221535c
Added NOP to Light Control	08/31/22 - 18:41	jarobinson@ra.rockwell.com	4dd46df
Added tags to Light control	08/31/22 - 18:40	jarobinson@ra.rockwell.com	c3e3693
FTDS: Project upgraded to ver...	08/29/22 - 17:17	ajgregory@ra.rockwell.com	935a6cd
First commit			

Compare commits

Description	Date	Author	Description	Date
Added Orlando Controller	08/31/22 - 18:44	ftdsdemo01@gmail.com	added rungs to light seq	08/31/22 - 21:12

Commit A

```
model/Milwaukee/Ward_3rd/StPaul_Jefferson/Control/LightControl_Control_DO_Lights.logix
1 routine Id LightControl.Lights_Control.DO_Lights()
2 Lights(D1,SEQ.D1_Active,SEQ.Normal){ desc := "D1"
3 Lights(D2,SEQ.D2_Active,SEQ.Normal){ desc := "D2"
4 }
```

Commit B

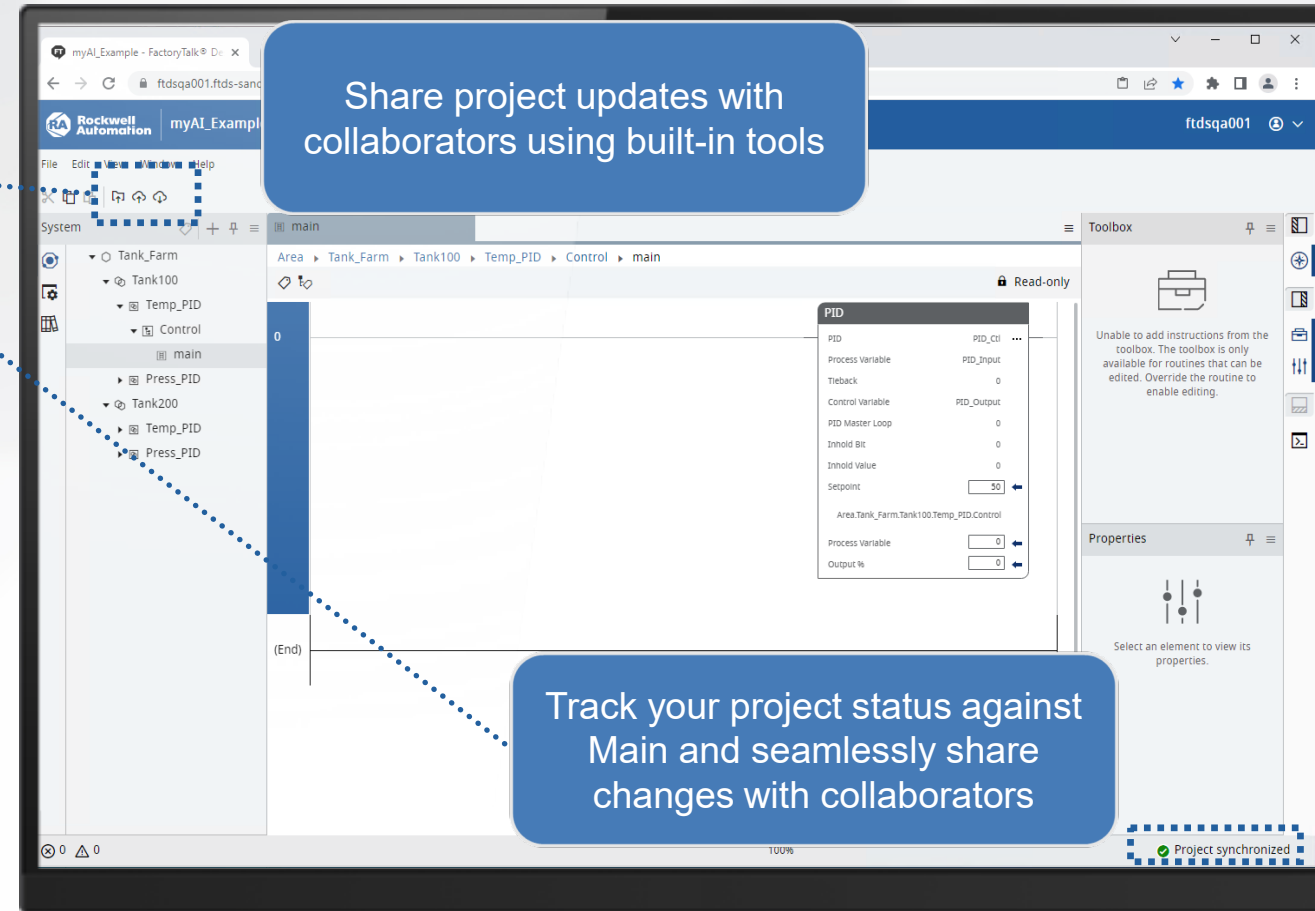
```
model/Milwaukee/Ward_3rd/StPaul_Jefferson/Control/LightControl_Control_DO_Lights.logix
1 routine Id LightControl.Lights_Control.DO_Lights()
2 Lights(D1,SEQ.D1_Active,SEQ.Normal){ desc := "D1"
3 Lights(D2,SEQ.D2_Active,SEQ.Normal){ desc := "D2"
4+ OTE();
5+ OTE();
6 }
```

Native Multi-user Collaboration

Automatically merge changes across multiple users working independently

BENEFITS

- Maximize collaboration efficiency with simultaneous project access
- Streamline parallel development by detecting and merging changes from collaborators



Power-user Development

Develop faster with native text-based programming that displays graphically

```
System
├── Milwaukee
│   ├── Ward_3rd
│   ├── Ward_5th
│   └── Greenfield_2nd
│       └── Lights_Cont...
│           ├── main
│           ├── DO_Lights
│           └── SEQ_Lights
├── Montreal
├── NewJersey
├── Orlando
└── SouthCarolina
```

```
1 routine ld LightControl.Lights_Control.SEQ_Lights() {
2
3   XIO(owner.SEQ.Normal)MOV(0,SEQ.State){ desc := "State = 0$!Indicates non-normal operation. $!Lights to F
4   [XIC(SEQ.Start)MOV(1,SEQ.State),EQU(SEQ.State,1)OTE(SEQ.D1_Active)]{ desc := "State = 1$!Direction 1 acti
5   [XIC(D1.Complete)MOV(2,SEQ.State),EQU(SEQ.State,2)OTE(SEQ.D2_Active)]{ desc := "State = 2$!Direction 1 wa
6   [XIC(SEQ.Normal)ONS(myONS.0),XIC(D2.Complete)ONS(myONS.1)]OTE(SEQ.Start){ desc := "Normal Operation activ
7   XIC(Input1)OTE(Output1);
8
9   tag INT myONS {
10  | style := 'DECIMAL';
11  };
12  tag BOOL Input1 {
13  | style := 'DECIMAL';
14  };
15  tag BOOL Output1 {
16  | style := 'DECIMAL';
17  };
18
19 }
```

Program in the FactoryTalk Design Studio domain specific language...

...and render it graphically with no import or export required



BENEFITS

- Support for graphical and text-based skillsets in the same environment
- Streamlined mass creation and mass edit workflows

Multi-controller

Support for all devices providing context across the entire system

Multiple Controllers, Single Project

Streamline development by configuring and managing all system controllers and devices in one development space

Flexible Firmware Compatibility

Reduce frustration with support for multiple revisions of controller firmware in a single environment

Logical, Hardware Abstracted Design

Deliver intuitive projects by building systems based on what they're doing, not where they're executing



Multiple Controllers, Single Project

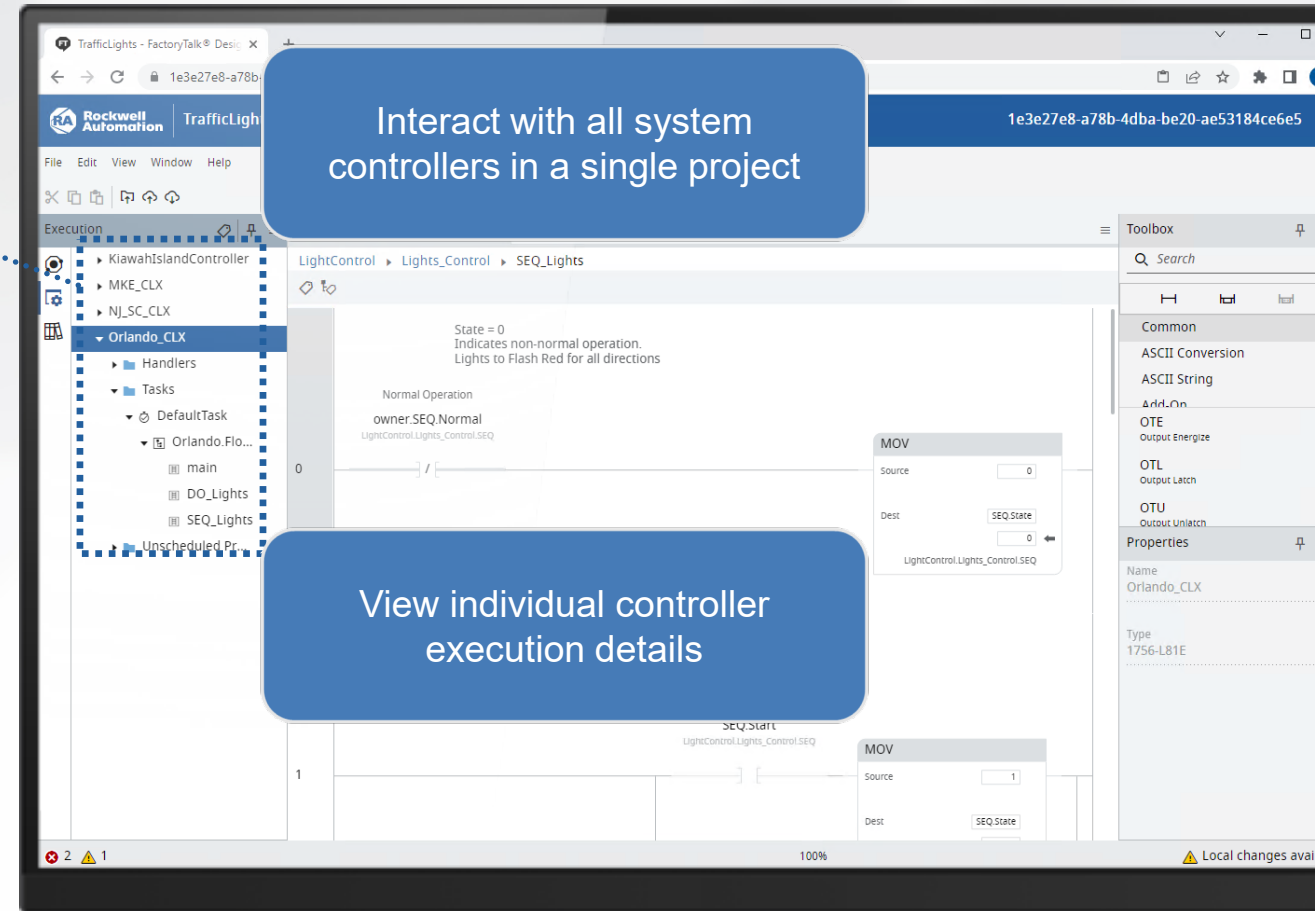
Streamline development by managing all controllers in one development space

Interact with all system controllers in a single project

View individual controller execution details

BENEFITS

- Scale projects easier than ever with the ability to manage multiple controllers in a single project
- Configure and troubleshoot content based on a familiar execution view



Studio 5000 Logix Designer® and FactoryTalk® Design Studio™

ON-PREMISES SOLUTIONS

Studio 5000 Logix Designer®

Established product

Full feature set

Continued investment

CLOUD-BASED SOLUTIONS



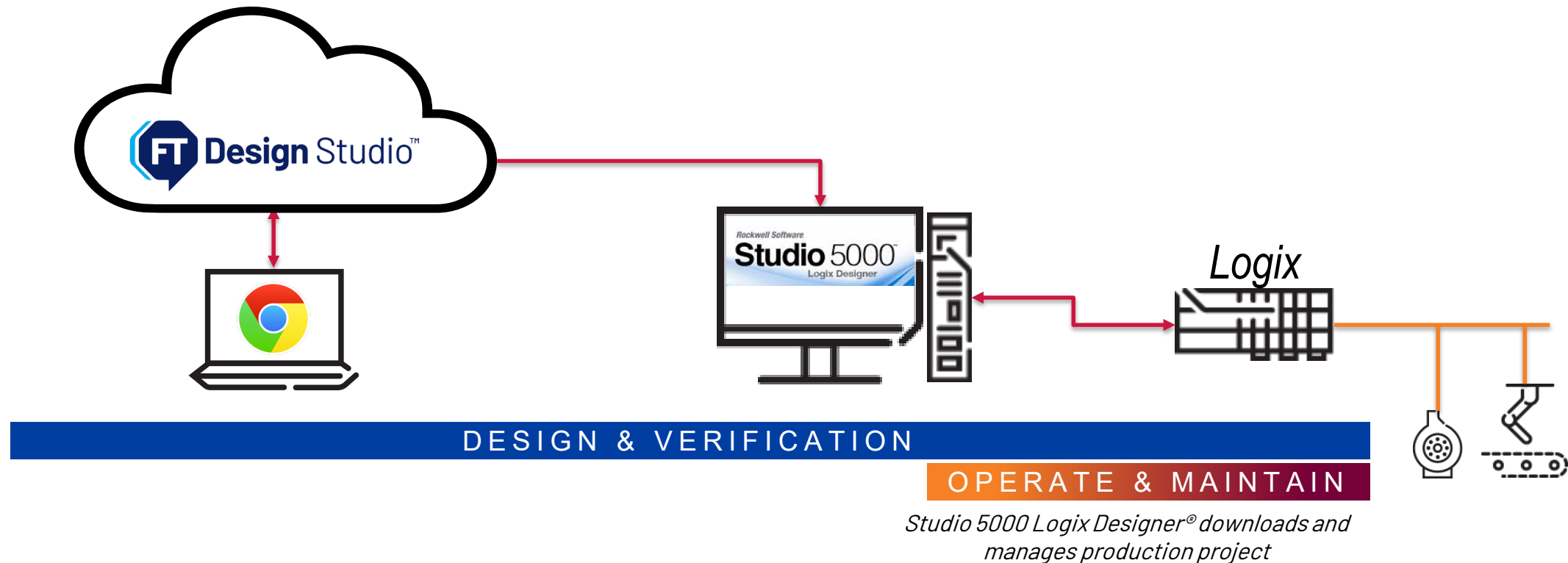
SaaS value

Foundational feature set

Frequent iteration

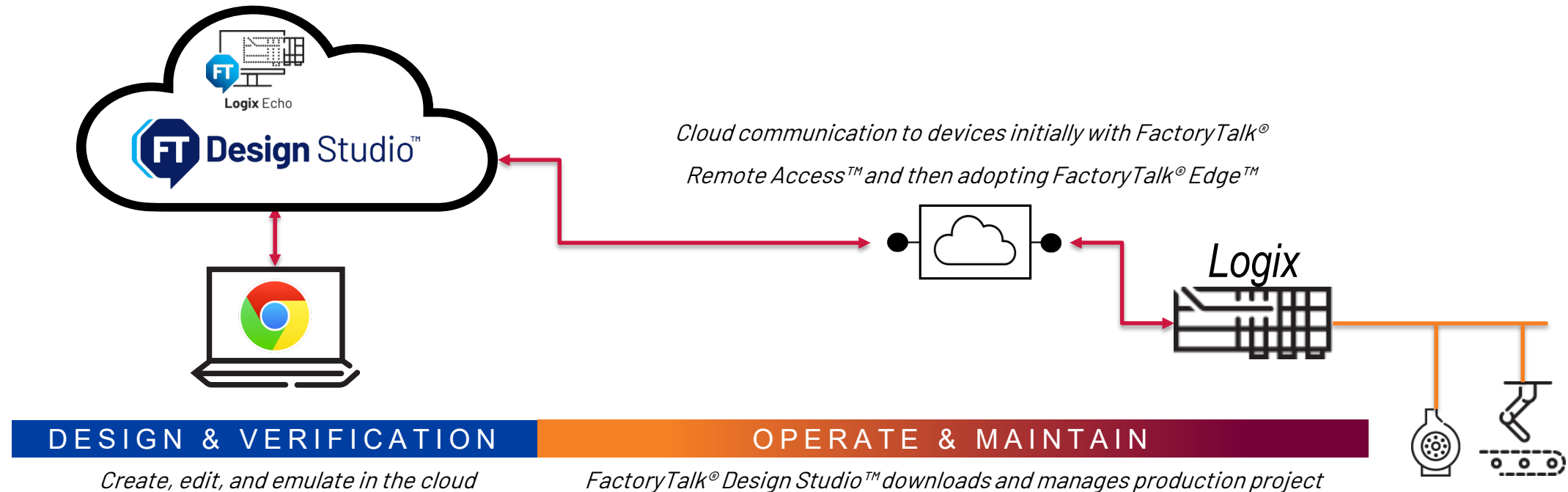
General Availability & On-premises Workflows

FactoryTalk® Design Studio™ will leverage Studio 5000 Logix Designer® for on-premises workflows



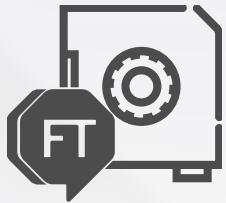
Future: Connecting Cloud to Edge

FactoryTalk® Design Studio™ is working toward cloud to edge communication for full cloud lifecycle





v1.02 update

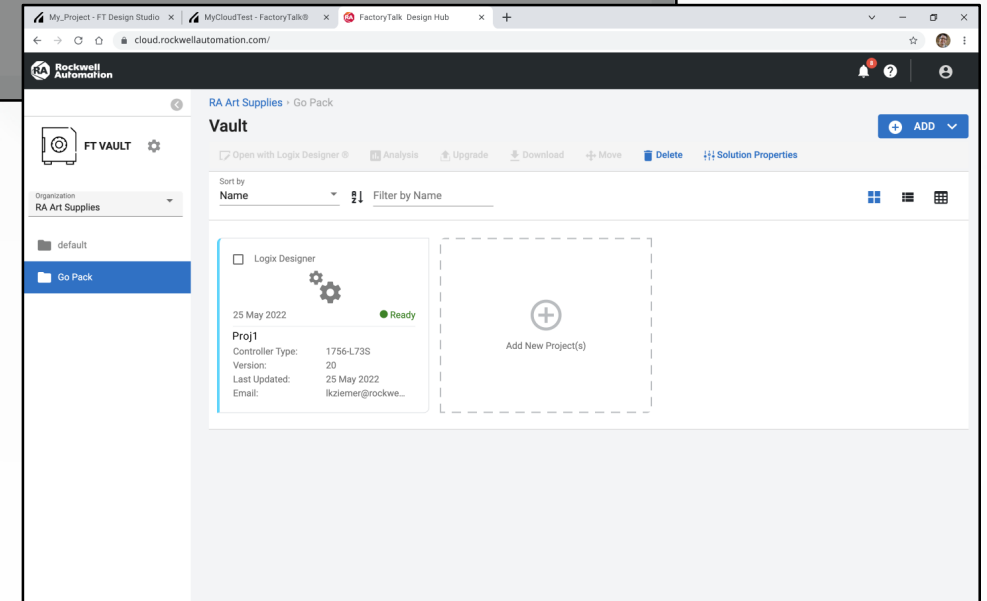
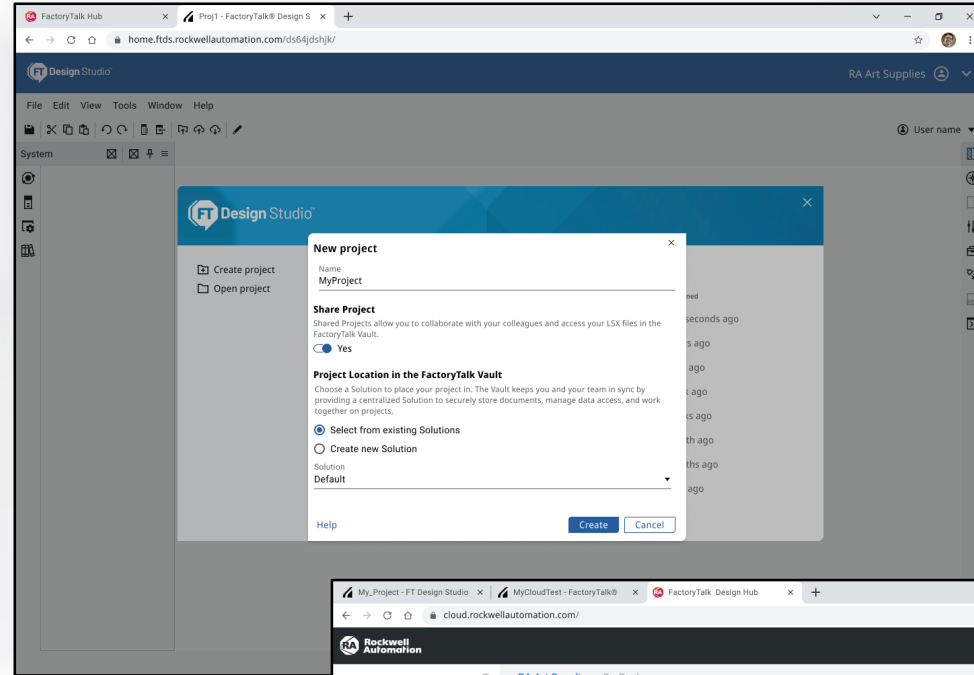


FactoryTalk® Vault™ Integration

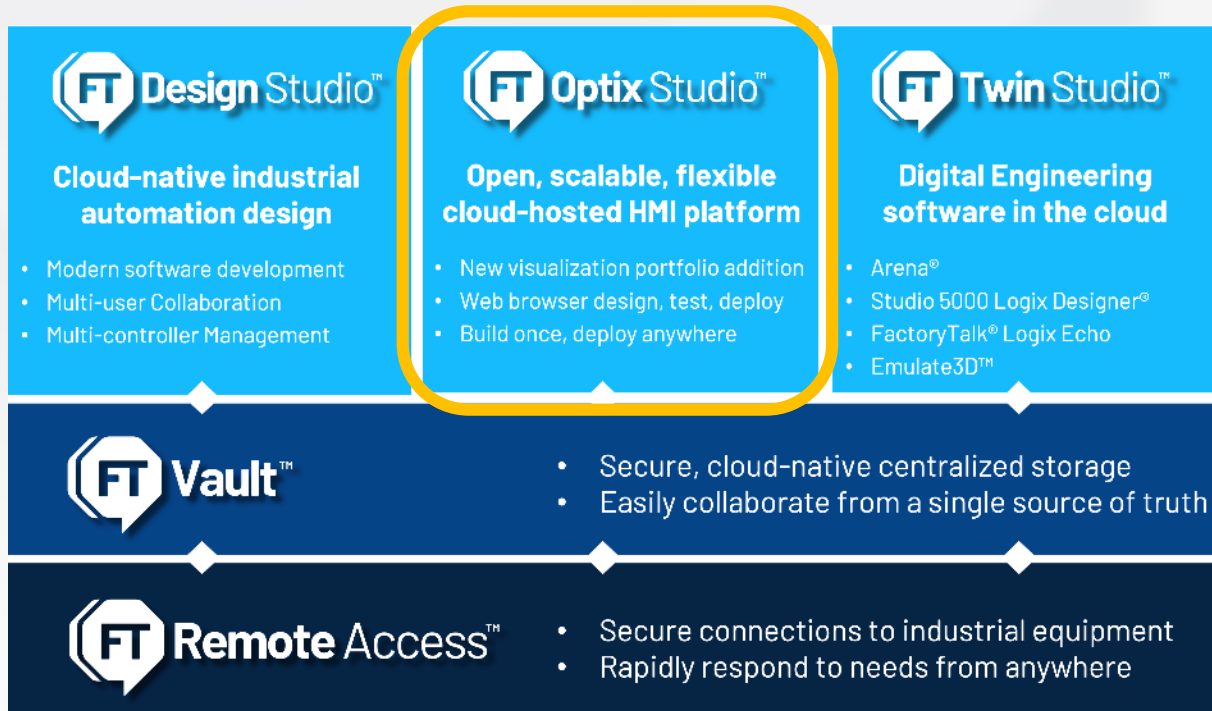
Convert FactoryTalk® Design Studio™
projects for storage in the Vault

Usability Updates:

- Multi-user conflict resolution updates
- New user enablement: Getting Started Page



FT Design Hub™ Ecosystem

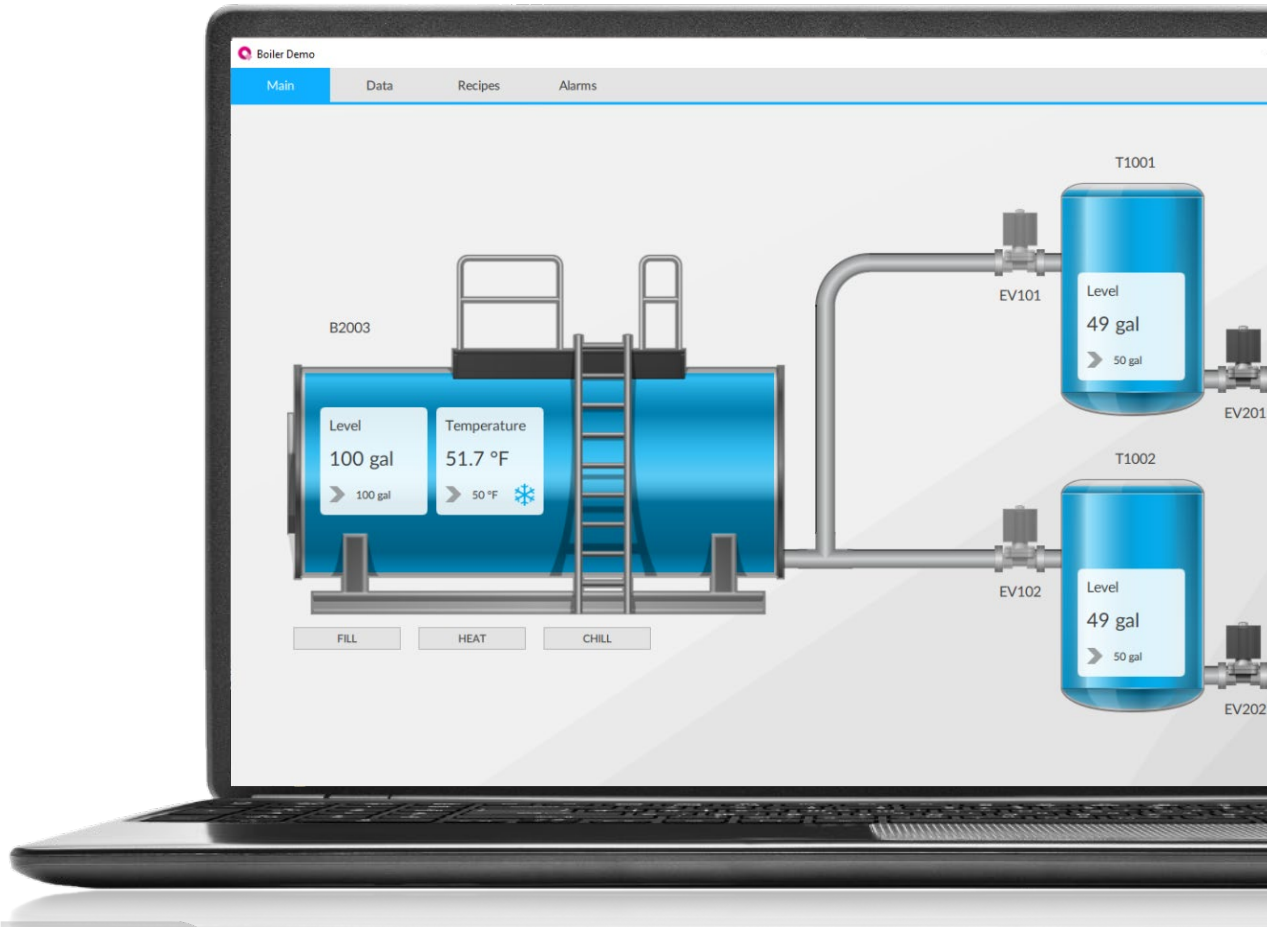


FactoryTalk® Design Hub™

- On-demand platform that provides you and your customers design automation systems that:
 - Reduce risk
 - Accelerate schedules
 - Enable better agility
- FactoryTalk® Design Hub™ uses the cloud to:
 - Increase scalability
 - Reduce capital & maintenance expense
 - Deliver new tools that increase productivity

FactoryTalk® Optix™

Rockwell Automation and ASEM™ collaborating to bring a new HMI offering to our visualization portfolio



PUBLIC

Machine Level Panel HMI

Closed terminal with embedded software for simple applications with easy maintenance



PanelView™ 5000

- Premier integration with ControlLogix
- Intuitive design-time software included with Studio 5000
- Automatic diagnostics and Logix alarming
No programming required
- I/O high-speed jog functionality
No physical button required



PanelView™ Plus / FT View ME

- Feature-rich offering with a broad assortment of panel options
- ControlLogix & 3rd party controllers via Kepware
- Common design-time across all PanelView Plus products and IPCs
Easily upgraded to an industrial PC
- Best migration for PanelBuilder32 applications



OptixPanel™

AVAILABLE EARLY-2023

- Cloud integration of the design environment with FactoryTalk® Design Hub
- Native 3rd party and MQTT connectivity
- OPC/UA interoperability
- Web clients, remote management

FactoryTalk® Optix™

Feature Highlights

Design options

Design & test your HMI projects directly from a web browser

Collaborative workflows allow modifications from anywhere, anytime

Version management tracks changes keeps track of who did what and when

Build project dynamically, by scripting, or even at runtime

Deployment options

Flexible host hardware

Panel • Station • Distributed

Pay only for what you use

Graphic options

Responsive graphics

Reporting, dashboarding

Style sheets

Multi-language

Extensible options

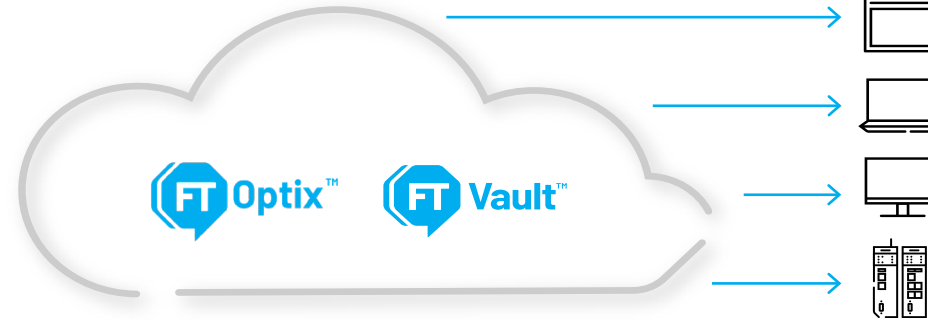
Library management

Third-party drivers

IOT native connectivity

Full support of OPC UA companion specs

Open interface with C# scripting



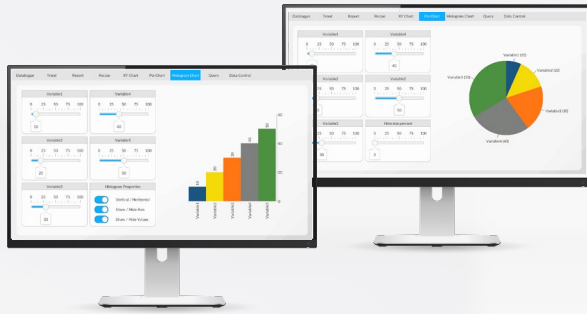
PUBLIC

FactoryTalk® Optix™

Powerful HMI platform for IIoT and Industry 4.0 applications

FactoryTalk Optix™ Station

AVAILABLE DECEMBER 2022



OptixPanel™

AVAILABLE EARLY 2023



What is FactoryTalk Optix?

The result of a collaboration between Rockwell Automation and ASEM bringing a new HMI offering to the Rockwell Automation Visualization portfolio



What are the key benefits?

- Cloud integration of the design environment with FactoryTalk® Design Hub
- Web clients, remote management with FactoryTalk® Remote Access
- Native 3rd party and MQTT connectivity included
- Dashboarding and reporting included
- OPC/UA interoperability for machine-to-machine communication
- Open scripting interface (C#) for customization and extensibility
- Scalable runtime deployment and licensing – pay only for what you need

Who should use it?

Machine builders, system integrators, customers seeking a scalable OPC UA platform with extended functionality for IIoT and Industry 4.0 applications.

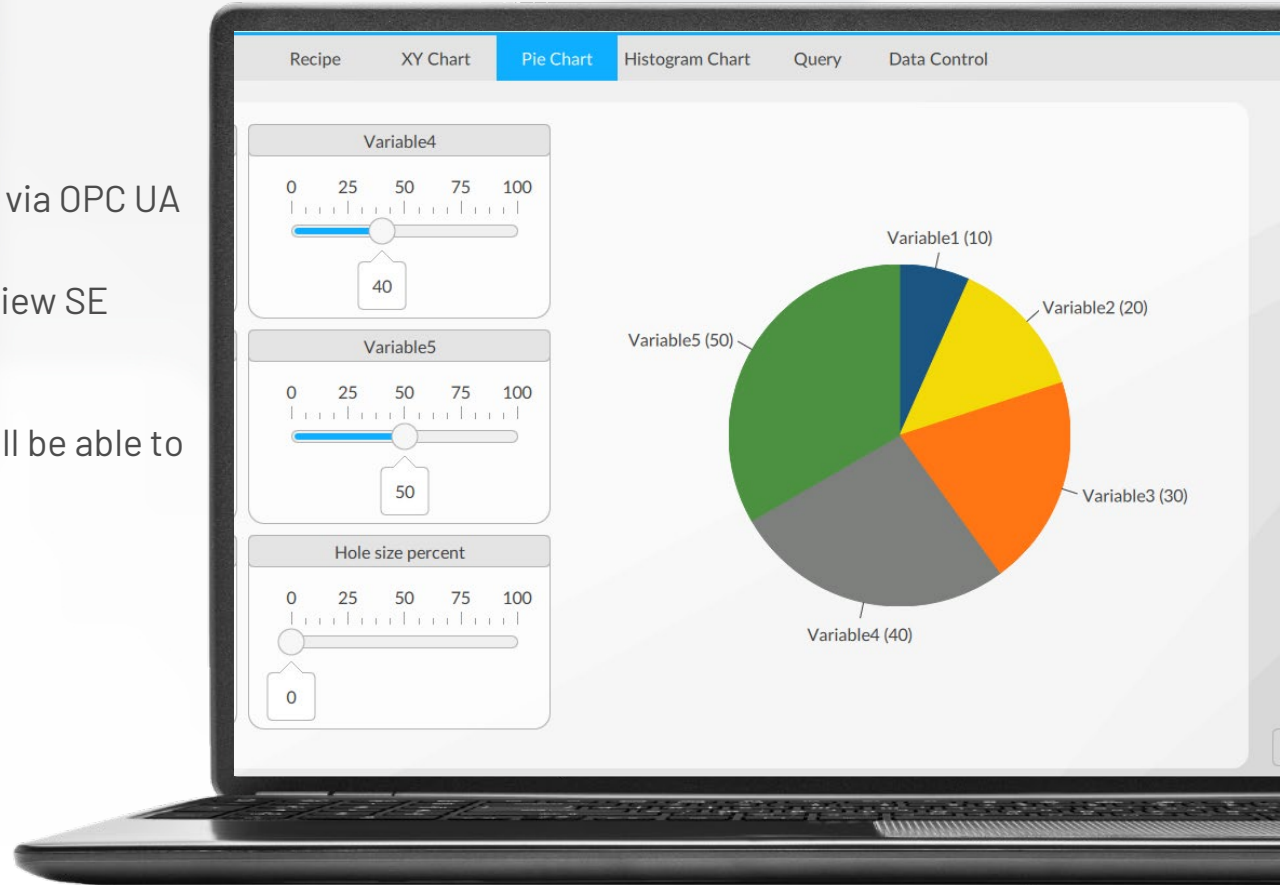
Existing Rockwell HMI customers looking to append their HMI solutions with new functionality.

How FactoryTalk Optix Complements FactoryTalk View SE

FactoryTalk Optix™ can complement existing and new installations of FactoryTalk View SE



- **Connectivity extensions**
 - MQTT (IIOT)
 - 3rd party controllers and making the data available to View SE via OPC UA
- **Basic Dashboarding**
 - ODBC database integration and dashboarding by leveraging View SE embedded web browser to view the data
- **Basic reports**
 - Running parallel to FactoryTalk View SE, FactoryTalk Optix will be able to generate PDF reporting
- **OPC UA Interoperability**
 - OPC UA Companion Spec for
 - PackML M2M communications
 - ISA-95 Common Object Model
- **Scripting engine extensibility**
 - FactoryTalk Optix will provide a set of libraries written in C#
 - Notifications push agent, etc.



DEMO

