



Making the leap

RSView[®]32 to FactoryTalk[®] View SE Modernization

May 2020



expanding human possibility™



PUBLIC

Agenda

- 1** What does your modernization roadmap look like?
- 2** What do you lose/gain by modernizing?
- 3** Upgrade or innovate?
- 4** Highlights of a FactoryTalk View SE system
- 5** Modernizing the RStudio32 application – tools and utilities
- 6** Modernizing the RStudio32 application – considerations
- 7** Commercial considerations
- 8** Next steps



**Rockwell
Automation**

What does your modernization
roadmap look like?



Where do you want to be in five years?



What value can new platforms bring to you and **your** customers?

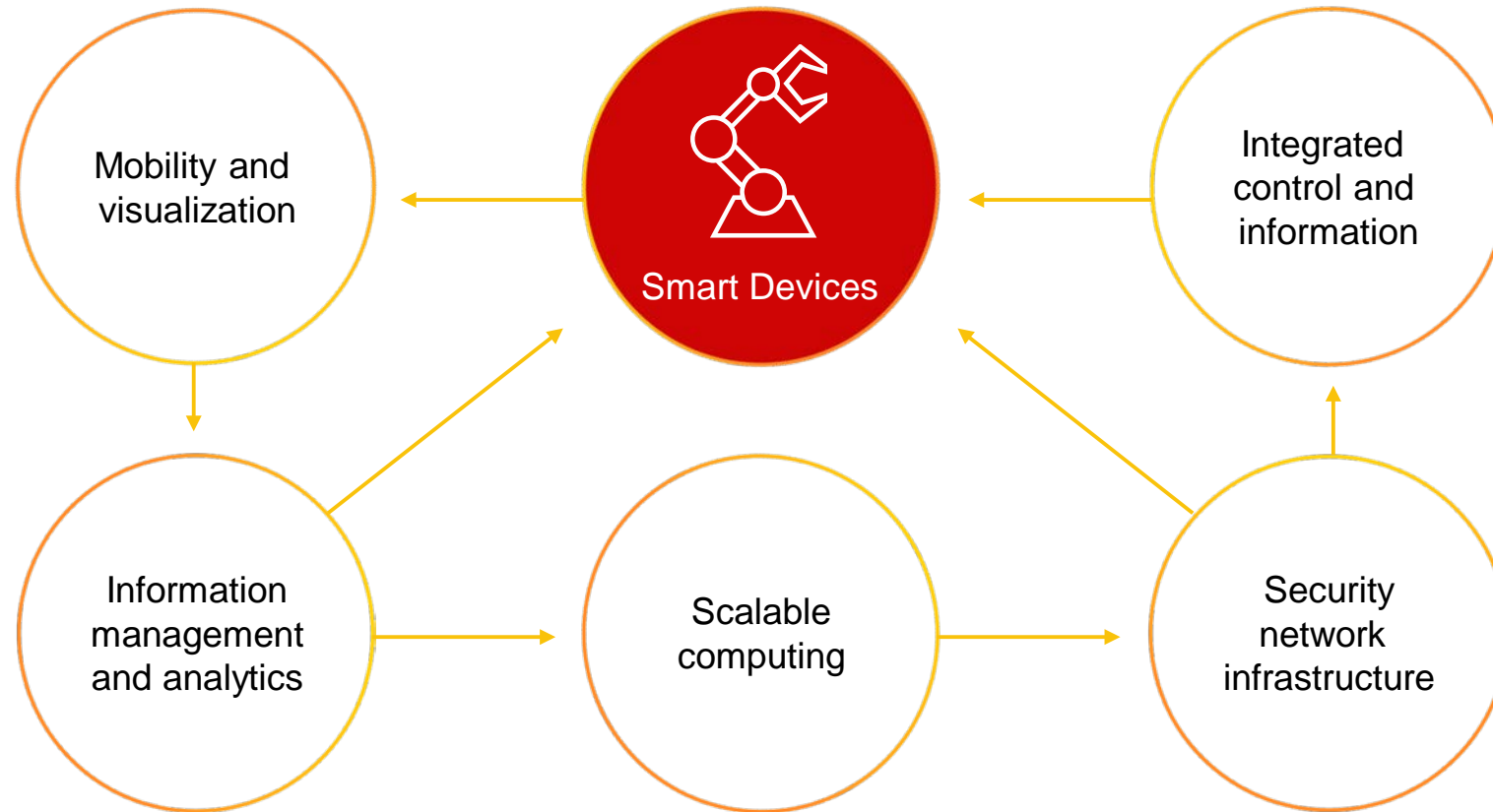


Modernize now while laying the foundation for the future – then grow while minimizing engineering time and costs



Reduce the impact of employee turnover on operations, now and in the future

Contemporary technologies and The Connected Enterprise



Self-aware and system-aware smart devices are at the core of IoT

THE CHALLENGE

**A lack of
connectivity,
not data**

**Stranded
data**

**Unplanned
downtime and
losses**

**Cost to design
and deploy new
technology**



What do you lose gain by modernizing?



What do you gain by modernizing?

RSView32 requires 32-bit PC, operating system support is limited and out of date



- Modern operating system support means access to system updates, protection from security vulnerabilities, and performance enhancements



- More manageable security with Windows domain user/group-based authentication



- 64-bit platform support, virtualization, and integrated thin-client architectures

Gain the security and flexibility of modern operating systems and hardware platforms

What do you gain by modernizing?

Most RSView32 applications were used for dedicated terminals



- Flexible, scalable FactoryTalk View SE architecture supports a station application up to a centralized distributed system with 120 clients



- FactoryTalk Alarms and Events provide plant-wide alarming with pre-built alarm objects for the HMI



- Integrated system-wide security configuration across the entire platform – not just the HMI



- System-wide audit trail for compliance with requirements such as 21CFR Part 11

**Explore the
benefits of true
plant-wide
visualization**

What do you gain by modernizing?

RSView32 provides limited information to a limited audience



- Contextualize production data in FactoryTalk View SE to improve operator awareness
 - Combine production data with operator actions and alarm information to give operations and maintenance the full picture



- Support for new technologies like mobility, thin-client architectures, or even virtual reality presents information wherever it's needed

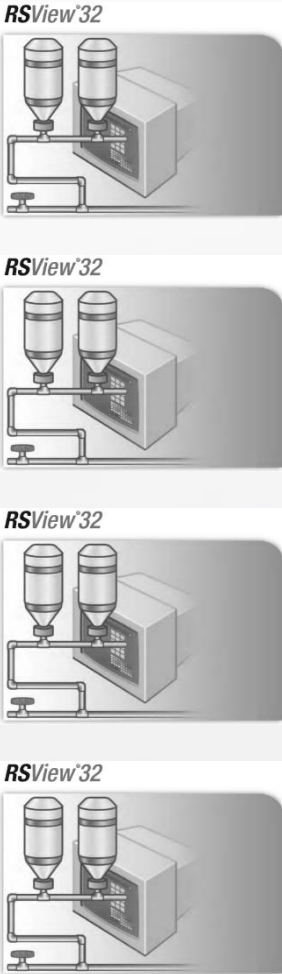


- Integration with FactoryTalk AssetCentre asset management strengthens security and improves overall ROI

Modern client architecture makes information available to anyone who needs it, wherever they want it

True plant-wide visualization

A great opportunity to centralize content and make it available to everyone



Multi-display control room



Maintenance/management laptop



Mobile device



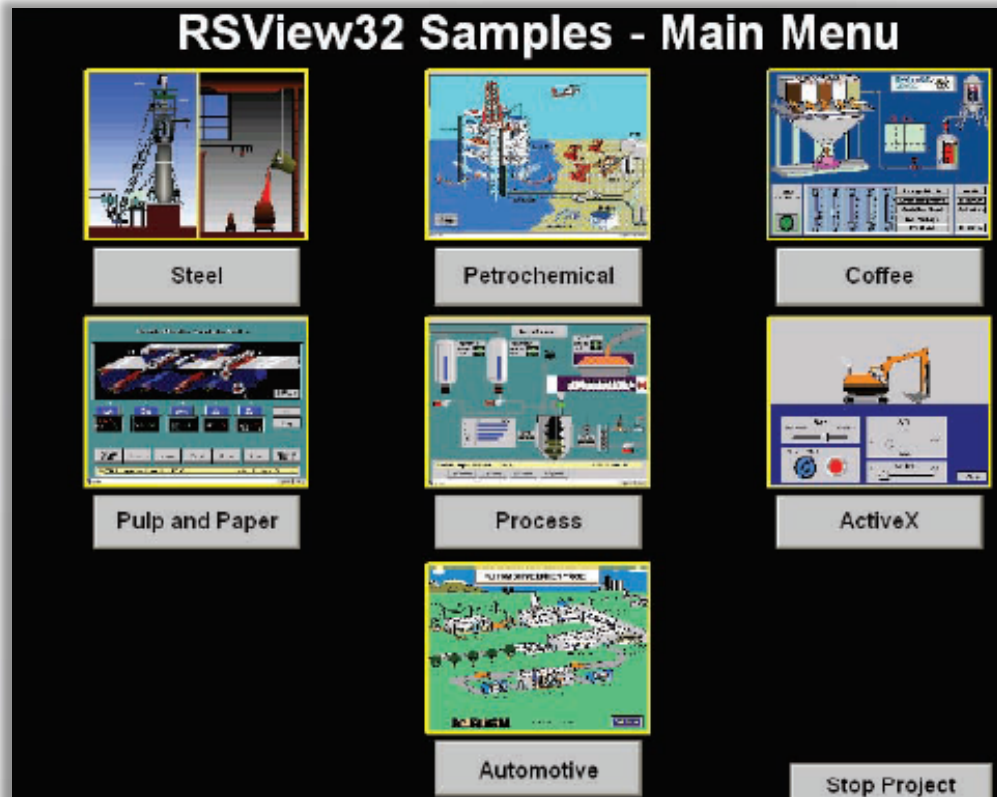


Upgrade or innovate?

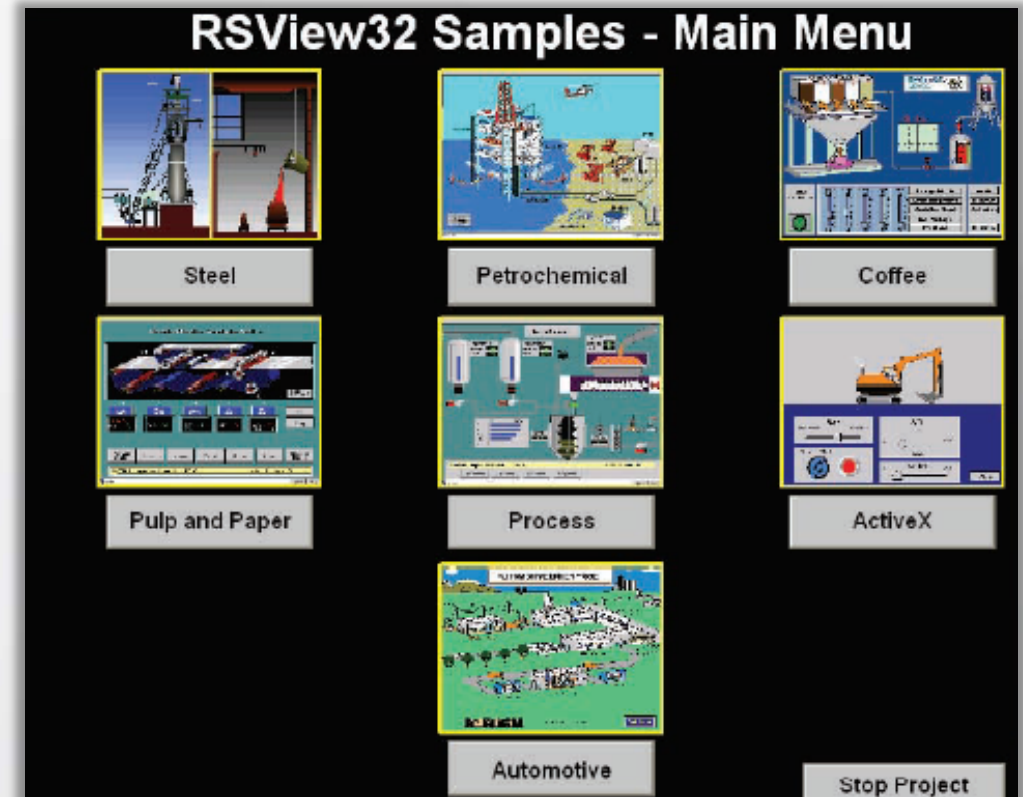
Upgrade or innovate?

A simple “like for like” upgrade means reduced implementation costs, same functionality, and same operator experience

RSVIEW32



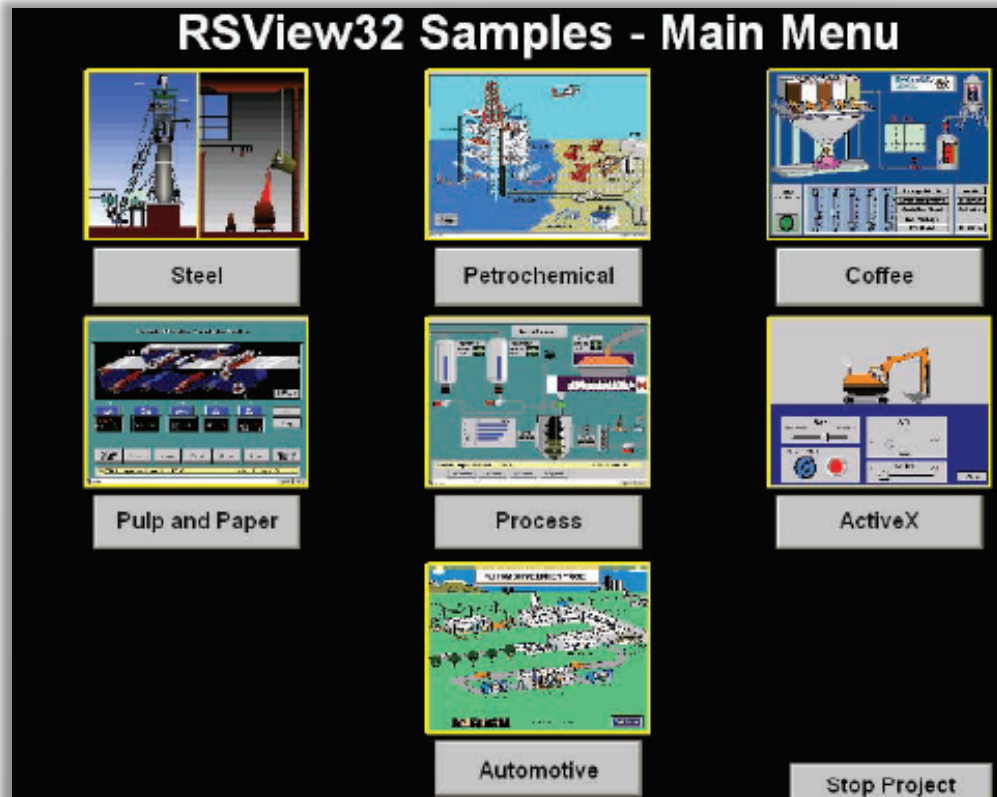
FACTORYTALK VIEW SE



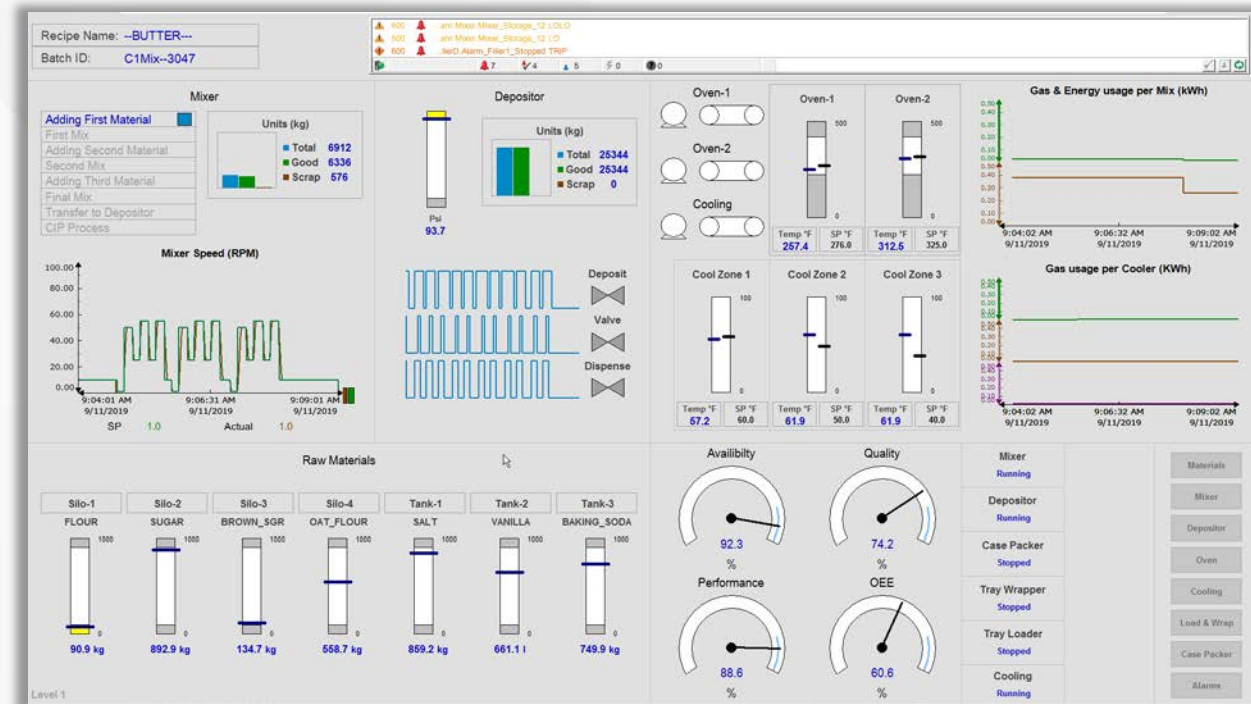
Upgrade or innovate?

Innovation can provide you with a more modern interface for your operators, maintenance, and engineering

RSVIEW32

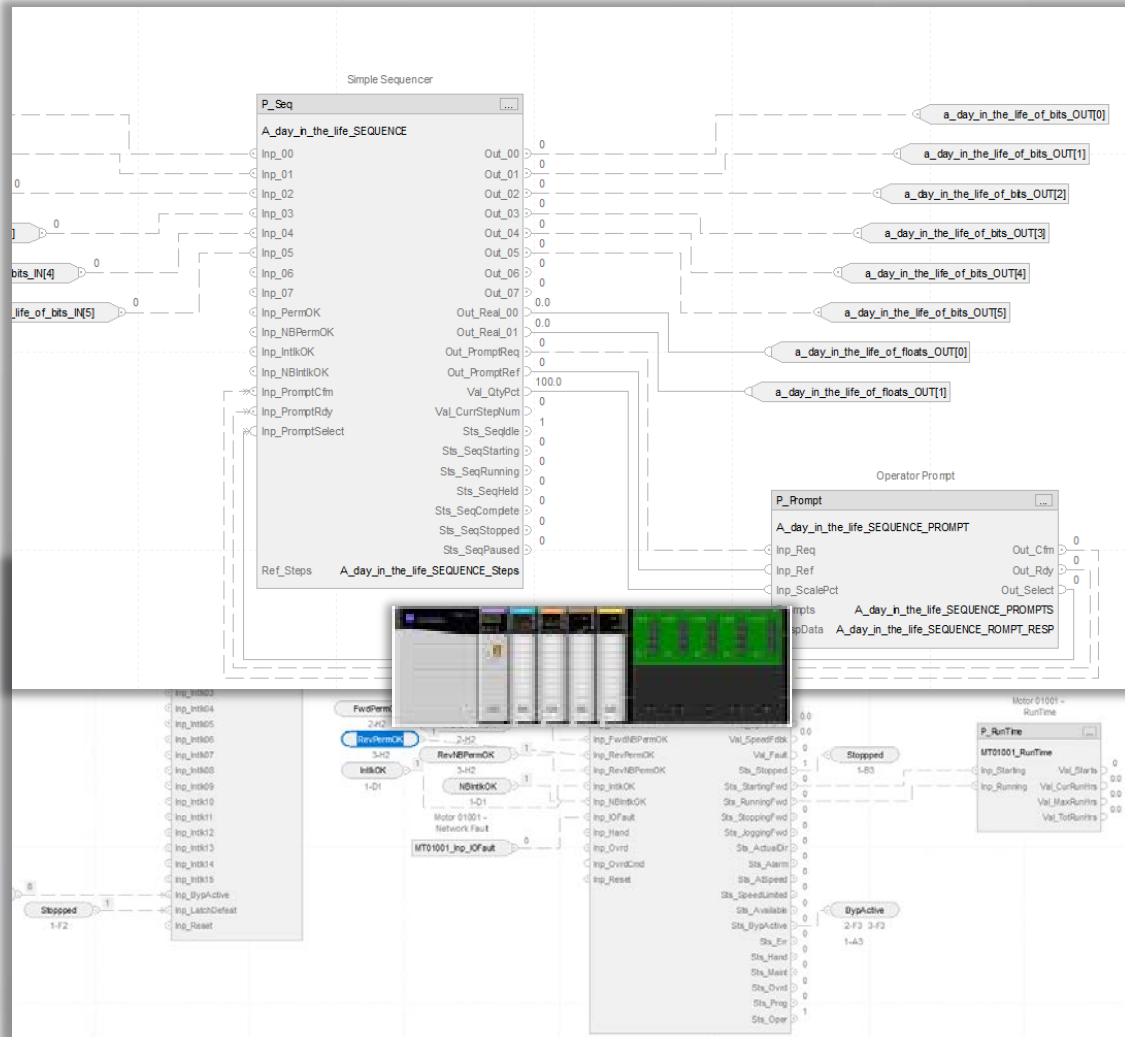


FACTORYTALK VIEW SE



Upgrade or Innovate?

Pre-built Rockwell Automation libraries are designed to provide complete control and visibility



The HMI interface displays several panels for a 'P3 Motor - Pump #3 Variable Frequency Drive'. The top panel shows 'Speed Setpoint Limits' with 'Maximum' at 60.00 and 'Minimum' at 0.00. Below this is the 'Interlocks and Permissives' section, where 'Bypass Enabled' is set to 'No'. A 'P3_Motor_Intlk - Interlocks with First Out' panel lists various interlocks: 'Group Interlock', 'Group NB Interlock', 'Power Failure', 'Overload Trip', 'High Vibration', 'Flow Switch Failure' (checked), 'Hi Pump Case Temp', and 'High Bearing Temp'. The bottom panel shows a 'P3_DosingSeq - Pump #3 Dosing Sequence' with a 'Ready' status and a 'Waiting For: Dosing Complete' message. The interface also displays 'Elapsed Run Time' (0.00 Hours), 'Elapsed Megawatt' (0.00 MWhr), 'Overload Count' (0.00 %), and 'Drive Temperature' (0.00 °C). A 'Digital Outputs' table is visible at the bottom right.

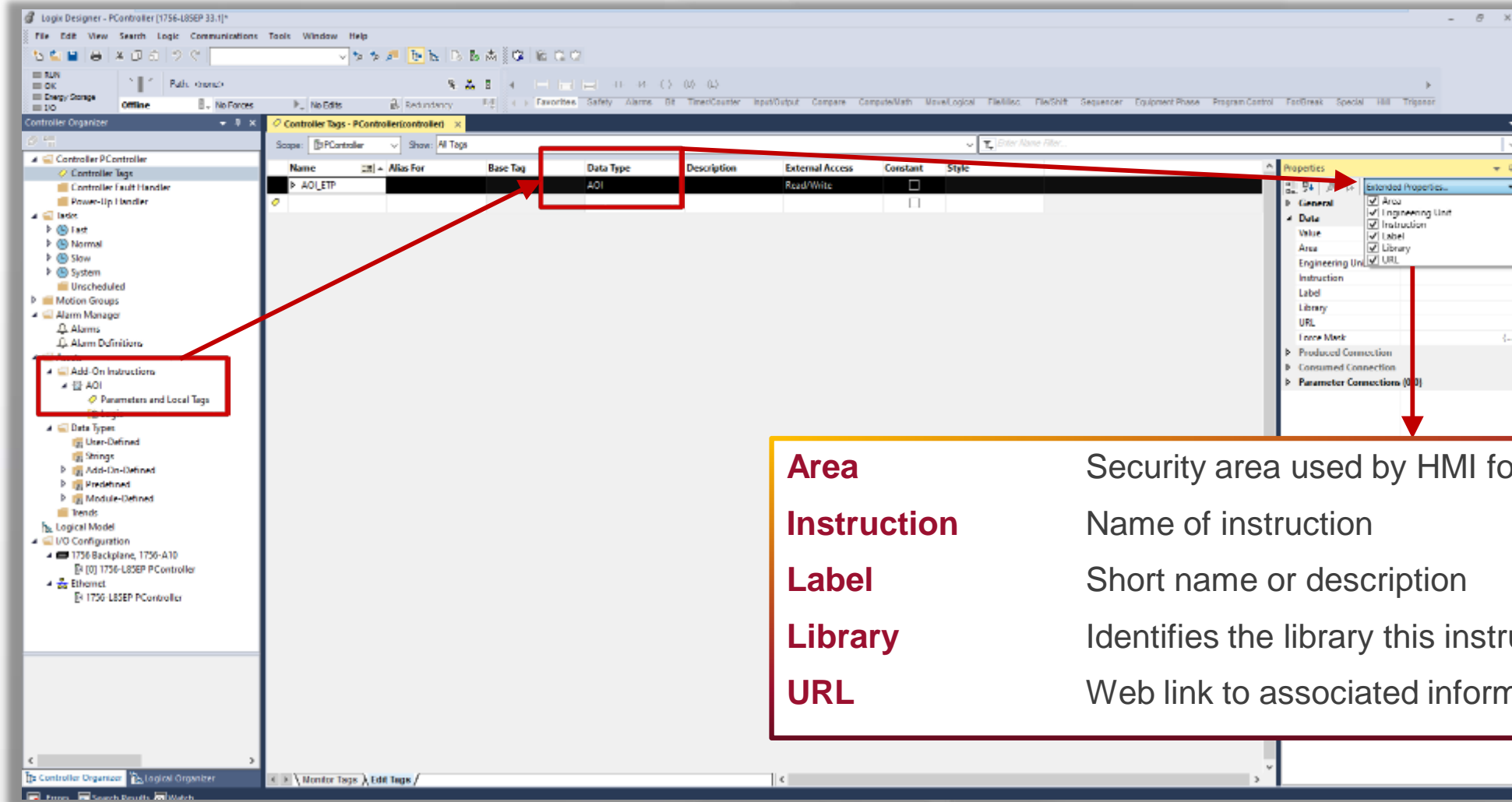
Output	Value
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0



Highlights of a FactoryTalk View SE system

Systems evolve

Extended tag properties for library support



Area	Security area used by HMI for restricting access
Instruction	Name of instruction
Label	Short name or description
Library	Identifies the library this instruction is associated with
URL	Web link to associated information

Systems evolve (Alarming/FactoryTalk Alarms and Events)

Using Logix tag-based alarms and tag properties

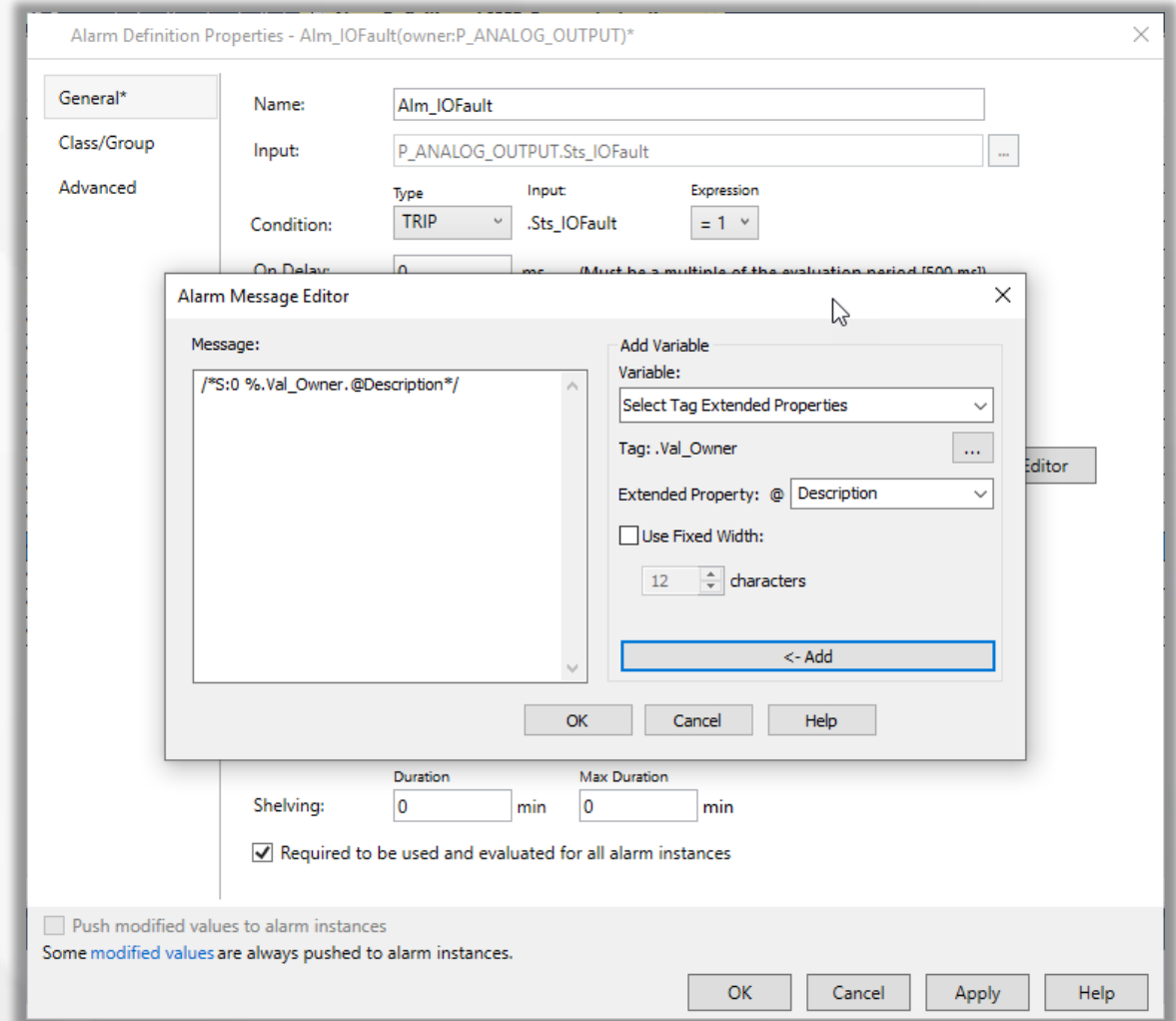
Overview

Access extended tag properties in the alarm message editor of Logix tag-based alarms

Build up alarm messages using contextual data already available

Benefit

- Additional flexibility in building the alarm message
- Ensures consistent data throughout the control system
- Increases productivity due to data reuse



Systems evolve - Automatic Diagnostics (AD)

Access and display diagnostic information without additional programming

Overview

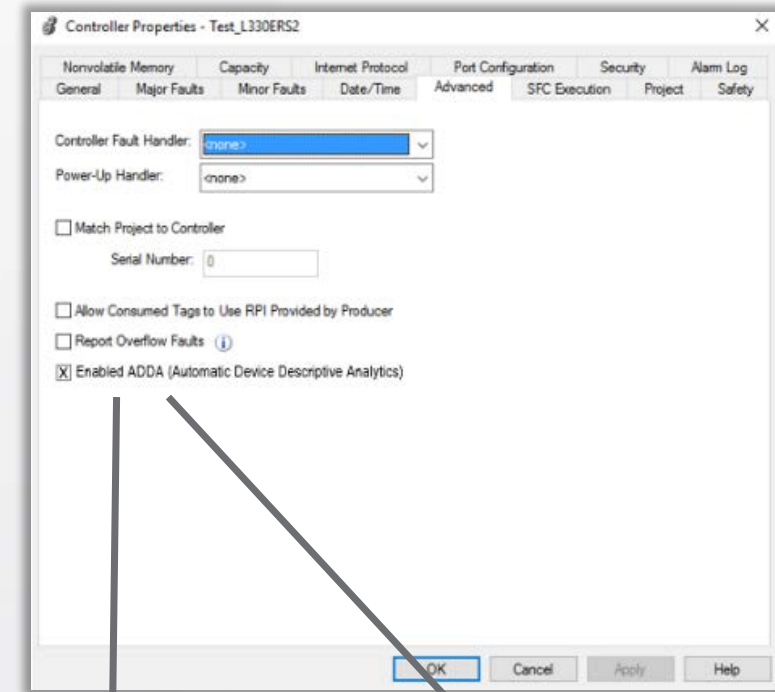
Add a diagnostic frame to visualization space and populate automatically with device information

Alarms automatically created for devices in IO tree that support AD

AD ready devices in the IO tree provide both current and historic diagnostic information

Benefit

- No more programming through alarms to get and display diagnostic information
- Provide contextual information to the right person to properly and specifically diagnose machine behavior
- Curate diagnostic list by toggling each device



Maintenance displays

Connection Fault North Building rack 8 slot 3
Open Wire Channel 3 module 7 slot 5

Alarms and Events database



Modern operating system support

 Windows Server 2016

 Windows Server 2019

 Windows 10



Modernizing the RSView32 application – tools and utilities

Components of a FactoryTalk View SE system

Development environment

RSView32 Works



FactoryTalk View Studio Enterprise

This is also the main tool used to modernize RSView32 applications

Single station runtime system

RSView32 Runtime



FactoryTalk View SE Station

Station applications can have either "local" or "network" scope

Distributed runtime system

RSView® Active Display Server™



FactoryTalk View SE Server / Client

A FactoryTalk View SE client file is created, then run on a client PC



Three basic steps to modernize a RSVIEW32 application

Modernization from RSVIEW32 to FactoryTalk View SE is easier than any other conversion

Prepare

- Understand the components of the FactoryTalk View SE system
- Evaluate your application for what will and won't modernize
- Back up the RSVIEW32 application

Modernize

- Convert the RSVIEW32 HMI tag database to SQL Server Express format
- Create an application in FactoryTalk View Studio
- Import the RSVIEW32 application into FactoryTalk View SE

Complete and verify

- Configure communications
- Complete migration of system components using conversion tools
- Test your application



Tools and utilities for modernization

Most tools installed with FactoryTalk View Studio

Alarm modernization tool

- Converts HMI alarms to FactoryTalk Alarms
- Converts alarm tags to a format usable by the FactoryTalk Alarms and Events server
- Available in Knowledgebase AID [QA51785](#)

Tag import and export wizard

- Built into FactoryTalk View Studio
- Used to export HMI tag information to a .CSV file, which can then be:
 - Imported into a FactoryTalk Alarms and Events server
 - Edited using Excel, then reimported into an application

Legacy Tag Database conversion utility

- Installed with FactoryTalk View version 6.1 or later
- Also available in Knowledgebase AID [QA11595](#)
- Converts tag database from old (Watcom) format to new (SQL Server Express) format that supports 64-bit systems
- Allows you to import RSView32 project into FactoryTalk View SE on a 64-bit machine

HMI tag to direct reference converter wizard

- Converts HMI tag database references in graphic objects to direct controller tag references
- Available in Knowledgebase AID [QA521](#)
- Can be used with both View SE and View ME

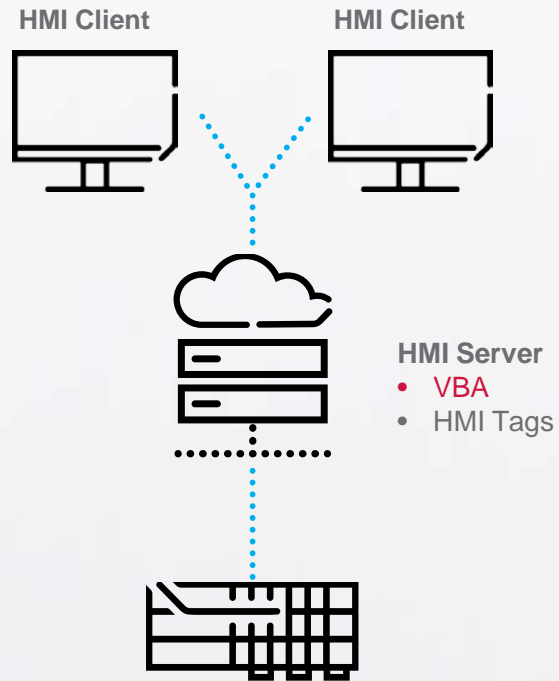


Modernizing the RSView32 application – considerations

VBA execution in RSView32 vs. FactoryTalk View SE

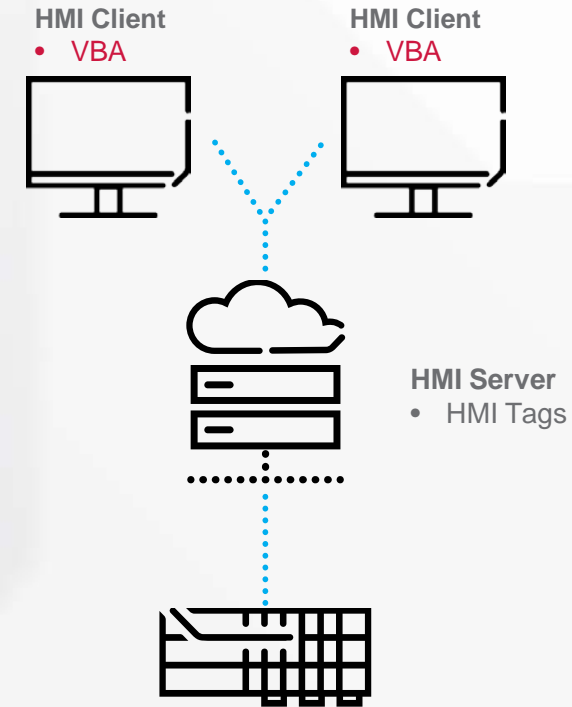
VBA EXECUTION MODEL IN RSVIEW32

VBA executes on server, functionality based on HMI tag manipulation with no exposure to client graphical objects



VBA EXECUTION MODEL IN FACTORYTALK VIEW SE

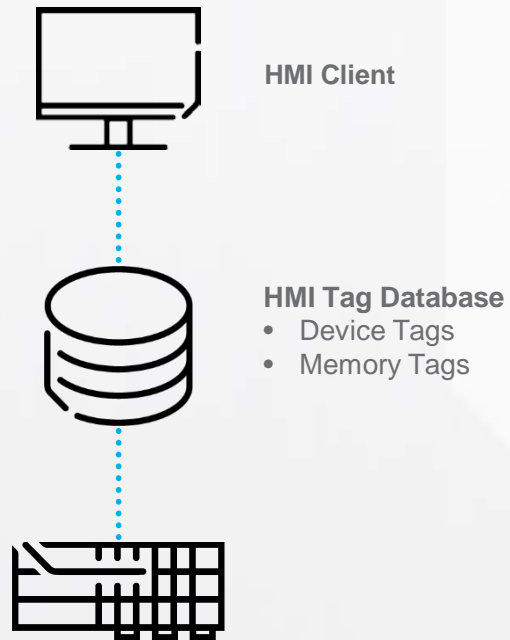
VBA executes on clients, functionality based on events from graphic objects



Direct referencing

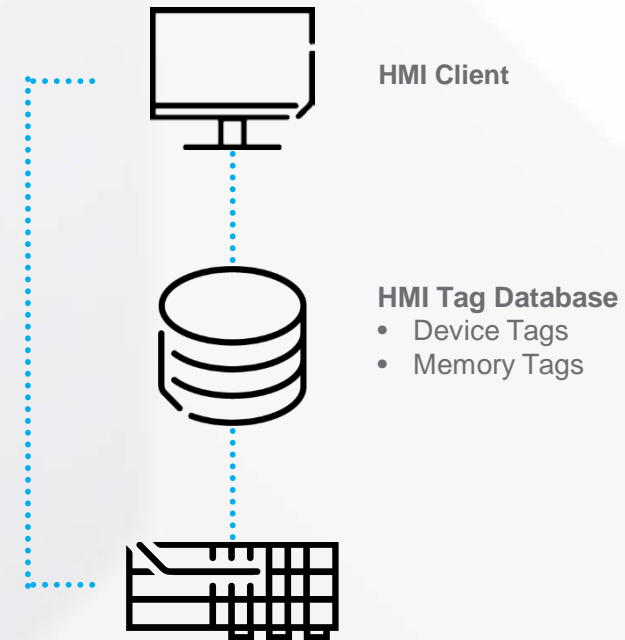
HMI TAG DATABASE

HMI Clients use HMI Device Tags in the HMI tag database for communications with a controller. Both RSView32 and FactoryTalk View SE support HMI Device Tags.



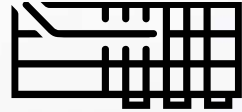
DIRECT REFERENCE TAGS IN FACTORYTALK VIEW SE

HMI Clients can use either HMI Device Tags or go directly to the controller with a Direct Reference Tag.



FactoryTalk Alarms and Events

DEVICE-BASED ALARMS



- Pre-built alarm instructions that are programmed in a Logix 5000™ project and then downloaded into a Logix controller.
- The controller detects alarm conditions and publishes event information, which is routed through the system for display and logging.

TAG-BASED ALARMS



- Software-based tag servers monitor data tags for alarm conditions and publish event information for display and logging.
- Tag based alarm monitoring is supported by Logix controllers, PLC-5® controllers, SLC™ 500 controllers, or any third-party device through OPC Data Access (OPC-DA).

Key considerations

Activex
controls

Alarming

Users and
security

Communication

VBA

Direct
referencing

Exploring mobile options

Go mobile! And improve operator effectiveness



STANDARD CLIENT

- Full client installation
- Can use tablet for other things, like a laptop



REMOTE DESKTOP

- Terminal services
- Single remote client setup
- Easy to maintain clients
- Needs infrastructure
- Effective for small solutions
- [AID 554813 Remote Desktop Services](#)



BROWSER

- Mobile devices
- Extension of FactoryTalk View
- See and interact with HMI displays via a web browser
- Displays rendered in HTML5
- Supports a full range of mobile devices

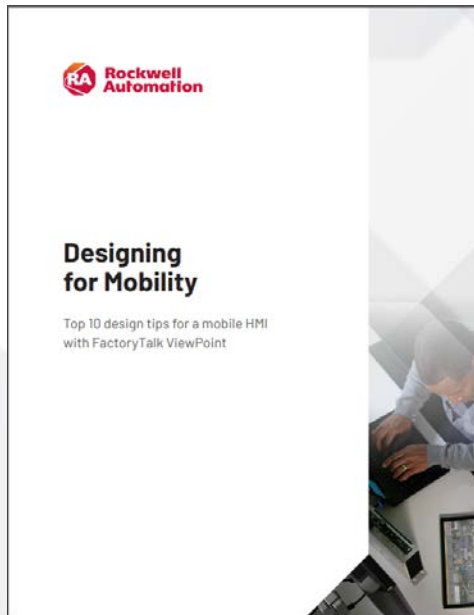


Getting more from your mobile HMI

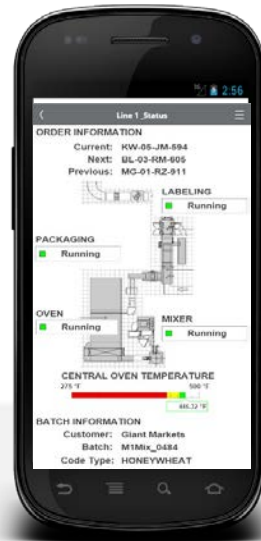
It's more than just smaller displays!

At home, in the office, or on the run, mobile HMI makes everyone more productive and effective.

Reference this white paper to learn 10 tips that will help you design your HMI with mobility in mind to enable not only operators but everyone responsible for keeping the plant running.



Publication FTALK-WP012



Modern client architecture (ThinManager/thin clients)

Content delivery and device management

Content types



Configuration



Delivery

PanelView™
Plus
PanelView™
5000



HMI
ERP
MES
CMMS
™



Web
Content



IP Camera
USB Camera



...AND MORE!



ThinManager® provides secure configuration and delivery of content



Devices



Users



Locations





Commercial considerations

Commercial incentives to modernize

Rockwell Automation makes it easier to modernize with the **StepForward™** program

StepForward program reduces the cost of modernization for RSVIEW32 users

“Trade in” RSVIEW32 licenses toward purchase of FactoryTalk View SE

Ask about RSVIEW32 StepForward benefits from Encompass™ partners

Rockwell Automation offers a broad line of industrial PCs that can be paired with FactoryTalk View SE when required





Next steps



Where do I start?

Find the RSView32 to FactoryTalk modernization Guide, and other white papers, manuals, and product information on the Rockwell Automation [Literature Library](#)

View tips and tricks and how-to videos on the YouTube FactoryTalk View [playlist](#)

Read our blog, view other HMI webinars and find other helpful material on rockwellautomation.com

When you're ready to modernize, your **local distributor or Rockwell Automation sales representative** can help you:

- Build your modernization roadmap
- StepForward program options
- Find the right engineering assistance



Thank you!



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