



expanding **human possibility**™

PRPT07 - Batch Management:


Overview and What's New and What's Next

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PUBLIC



We connect the imaginations of people with the potential of technology to expand what is humanly possible, making the world more intelligent, more connected and more productive.

VALUE PROPOSITION



**Faster time
to market**



**Operational
productivity**



**Asset
management
& reliability**



**Enterprise risk
management**

FactoryTalk®

Most comprehensive and trusted industrial digital transformation software suite on the market



Design automation and information systems to **reduce time to market and mitigate risk** through your equipment lifecycle.



Everything you need to **confidently operate and optimize** production, quality, and uptime.



Maintain equipment health to **prevent unplanned downtime** and quickly restore it when it occurs.

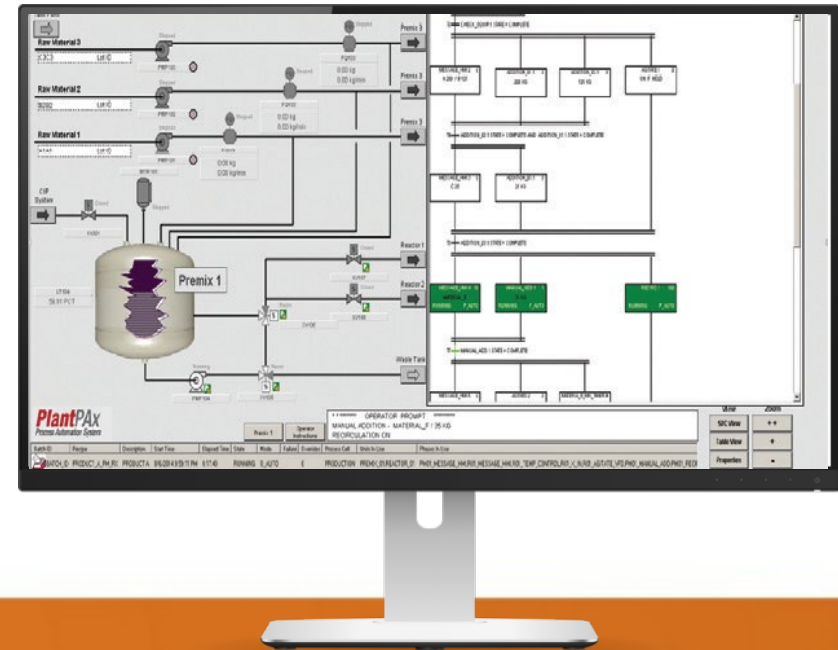


Innovative solutions to **connect your digital enterprise** that harness information faster, to make confident decisions.



OperationSuite

FactoryTalk® Batch



Flexible production

FactoryTalk® Batch enables you to develop modern batch control strategies to support flexible production capabilities and standardized company procedures while accelerating product and process development

Scalable architecture

FactoryTalk® Batch combines industry standards with proven technology that provides the flexibility needed for enterprise-wide architectures to single-unit applications

Intuitive operation

Modern interfaces and workflows allow operators to more easily navigate the system, while the option for mobile accessibility enables access to critical information from anywhere in the plant

BATCH CONTROL

EXPECT MORE



TRADITIONAL BATCH

- **Fixed**
- **Rigid** and Unadaptable Structures
- **Slow** and Limited
- **Unsecured** and Isolated Data



MODERN BATCH

- **Scalable and Distributed**
- **Intuitive**
- **Fast and Reliable**
- **Ease of Integration** and Information flow

Batch Portfolio

PhaseManager™

- Controller based solution for organizing routines for use with batch processing
- Embeds ISA88 state model directly in a Logix-based controller

SequenceManager™

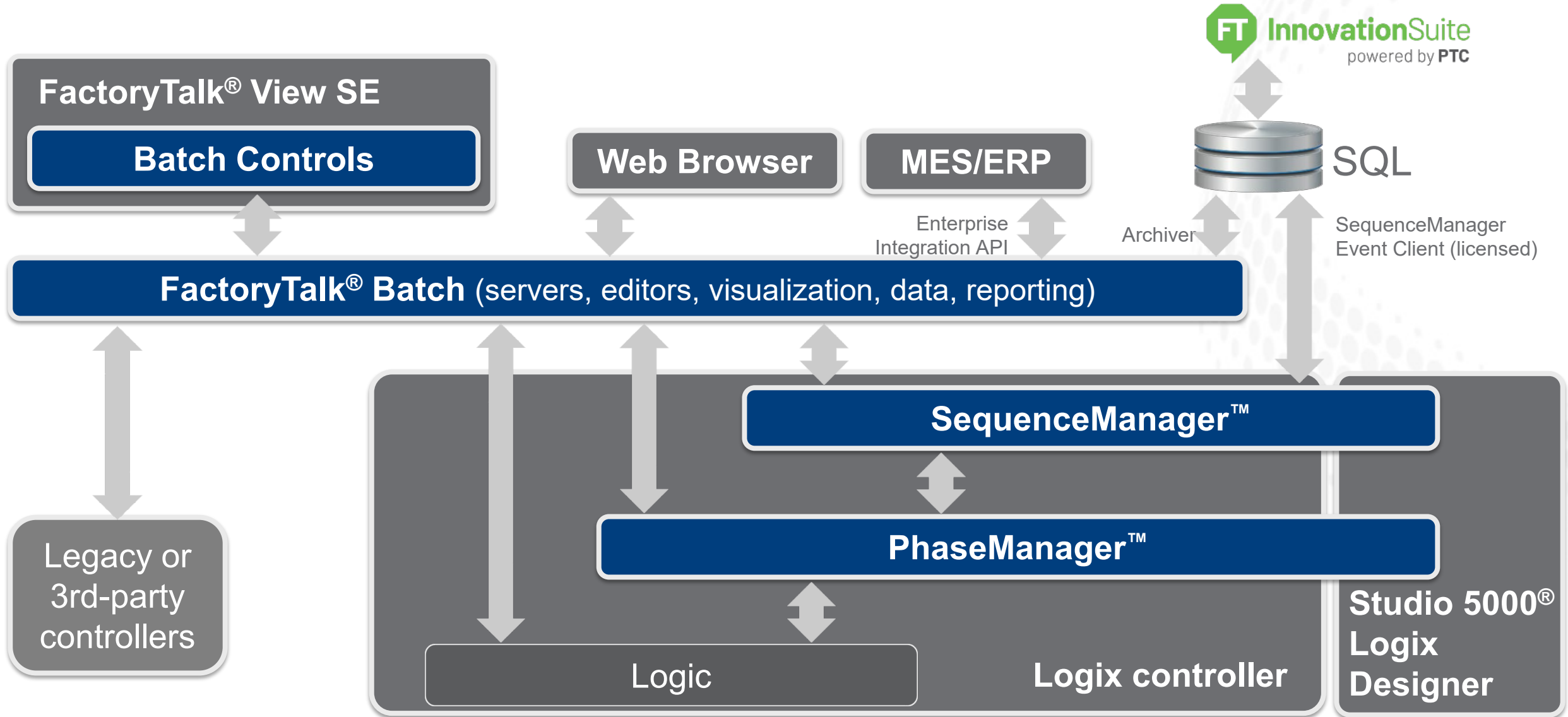
- Basic sequence execution on controller.
- Integrated visualization for FactoryTalk® View SE

FactoryTalk® Batch

- Server based batch management system.
- Complex unit coordination, resource arbitration, and optimization of routes
- Recipe Management, including formulations, scaling, secure approvals, and versioning
- Web-based and integrated visualization

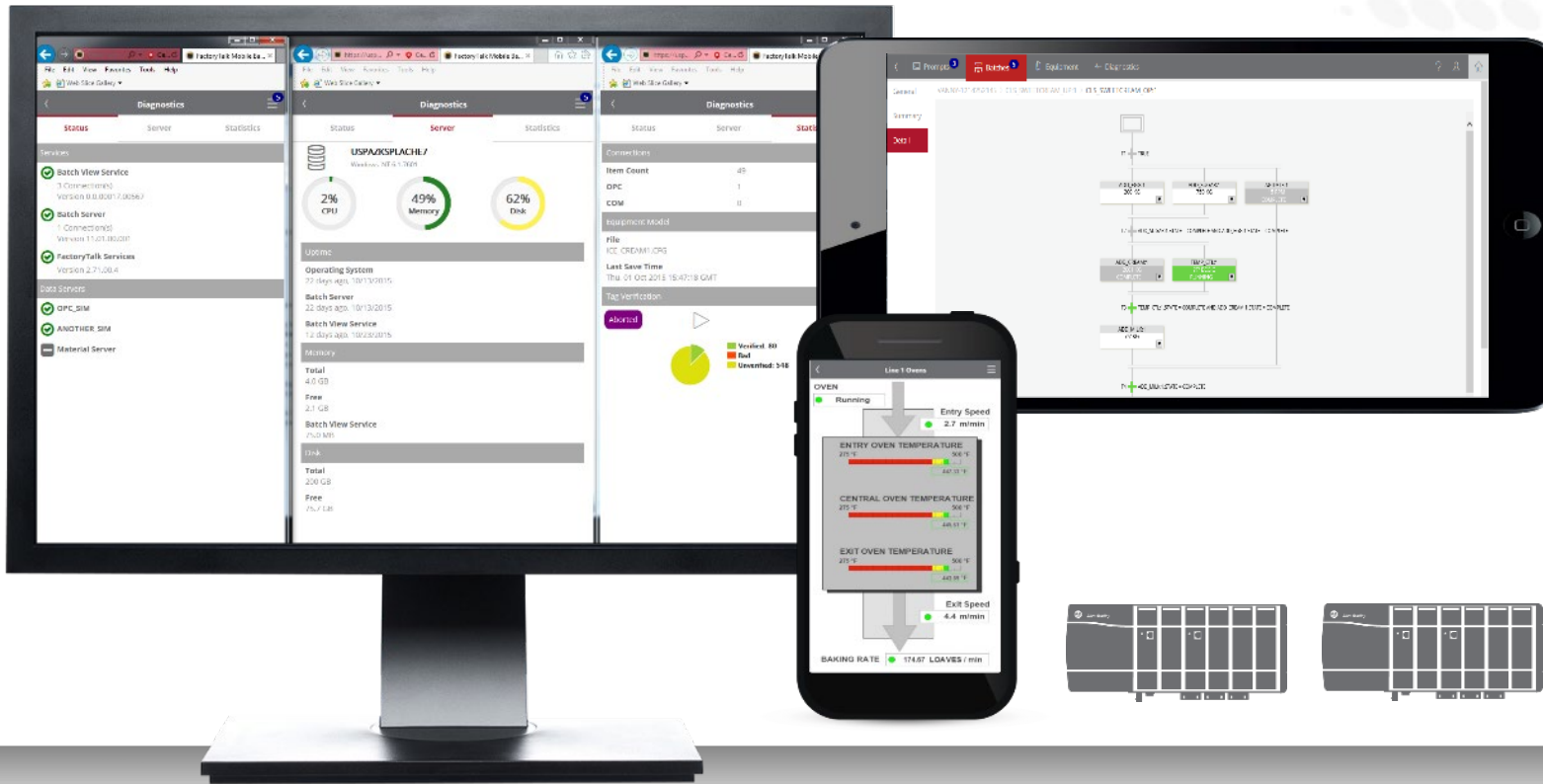


Batch Portfolio



FactoryTalk® Batch

SCALABLE | DISTRIBUTED | INTUITIVE | FAST & RELIABLE



Improved **EFFICIENCIES** for operators and supervisors

FAST navigation with **INTUITIVE** device-independent graphics

SCALABLE architecture integrates into existing strategies

COMPLETE coordination of S88 phases in the controller

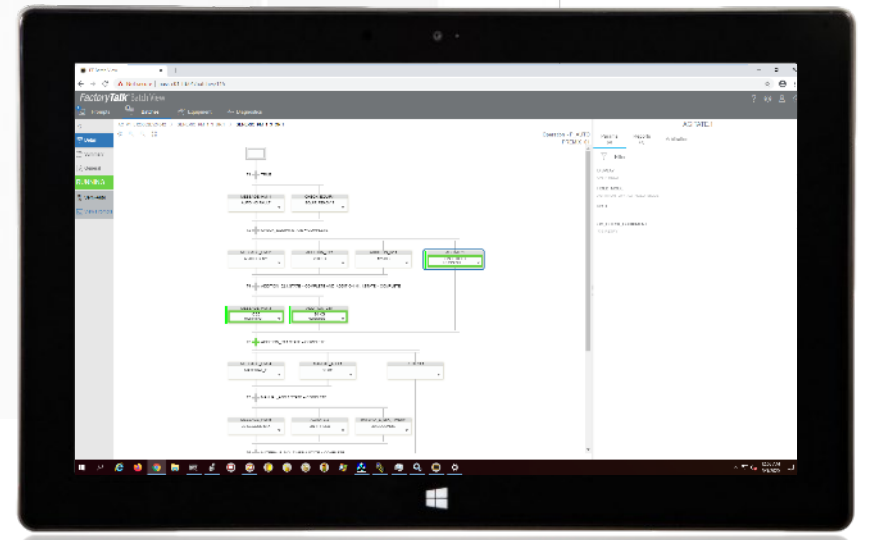
**Distributed
Control**



**Intuitive
Interfaces**



**Secured
Information**



FactoryTalk® Batch

What's New

Logix version 32 – PhaseManager™

- CompactLogix™ 5069 Controllers (5380/5480)
- ControlLogix® 5580 Controllers
- **Available today!**

FactoryTalk® Batch View™

- Browser Based Client.
- Batch v11.01 through v13.02
- **Available today!**

V13.000 / V13.02

- Server 2016 support
- Scalability
- Management
- Intuitive Operator Interface
- **Available today!**

Enterprise Integration API

- Web API for enterprise integration
- **Available today!**

FactoryTalk® Batch V14 & FactoryTalk® Batch View™ V2.0

- Aligned with:
 - PlantPAx® v5.0
 - Logix v33
- **Estimated - October 2020**

The logo for FT Batch 14.0 is centered within a white octagonal frame. The frame has a dark blue outer border with a glowing blue circuit-like pattern. The text 'FT' is in a blue speech bubble, 'Batch' is in blue, and '14.0' is in black.

FT Batch
14.0



Improved Uptime



Reduce Recipe Management



Faster More Reliable Communication



Modern Intuitive Interface

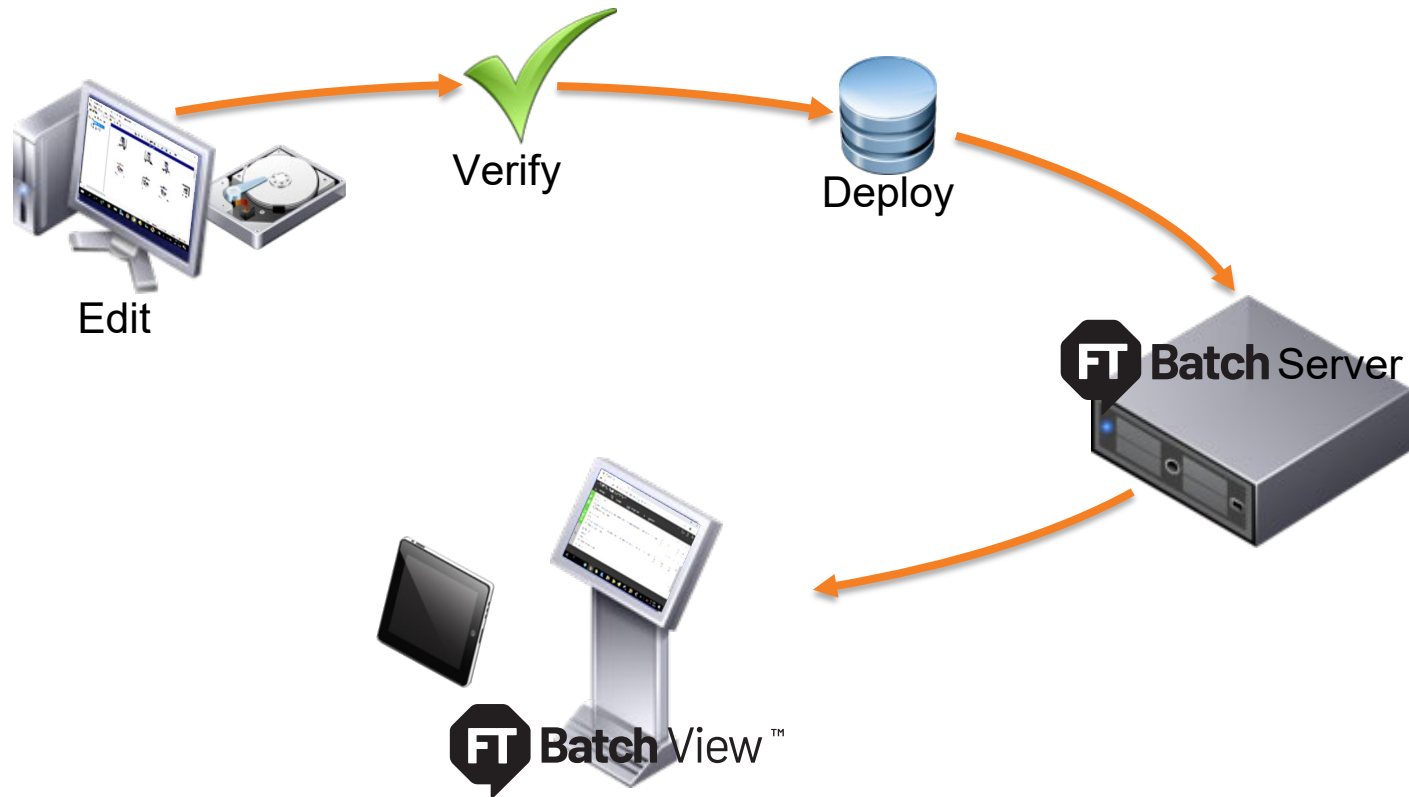


Enterprise Integration

FactoryTalk® Batch v14

Runtime area model updates

Ability to modify and update the Batch Area Model at runtime.



Improve system uptime.

Support regulatory requirements.

Simplify new product introduction.

Increase system flexibility.

Support modular approach to manufacturing systems.

FactoryTalk® Batch v14

Recipe formulations

One recipe, many options

Recipe Formulations - CLS_FRENCHVANILLA

	Name	Details
1	DEFAULT	Parameters ...
2	EXTRA_VANILLA	Parameters ...
3	THICK...	Parameters ...

Parameters for Formulation EXTRA_VANILLA

	Name	Type	Min	Recipe Default	Formulation Value	M
1	CREAM_AMOUNT	Real	0	2001	2001	500
2	EGG_AMOUNT	Real	0	200	200	500
3	FLAVOR_AMOUNT	Real	0	50	90	100
4	MILK_AMOUNT	Real	0	1999	1999	500
5	SUGAR_AMOUNT	Real	0	750	750	150

FactoryTalk® Batch View

Prompts Batches Equip

CLS_FRENCHVANILLA Version 1.0 (10/...

Batch ID *
BATCH_ID

Batch Scale *
100 %
1% 1000%

Description
French Vanilla Premium - class based

Recipe Formula

<Default>

DEFAULT

EXTRA_VANILLA

THICK_AND_CREAMY

0 KG 5000 KG

EGG_AMOUNT *
200 KG
0 KG 500 KG

FLAVOR_AMOUNT *
50 KG
0 KG 100 KG

MILK_AMOUNT *
1999 KG

Reduce complexity of recipe management.

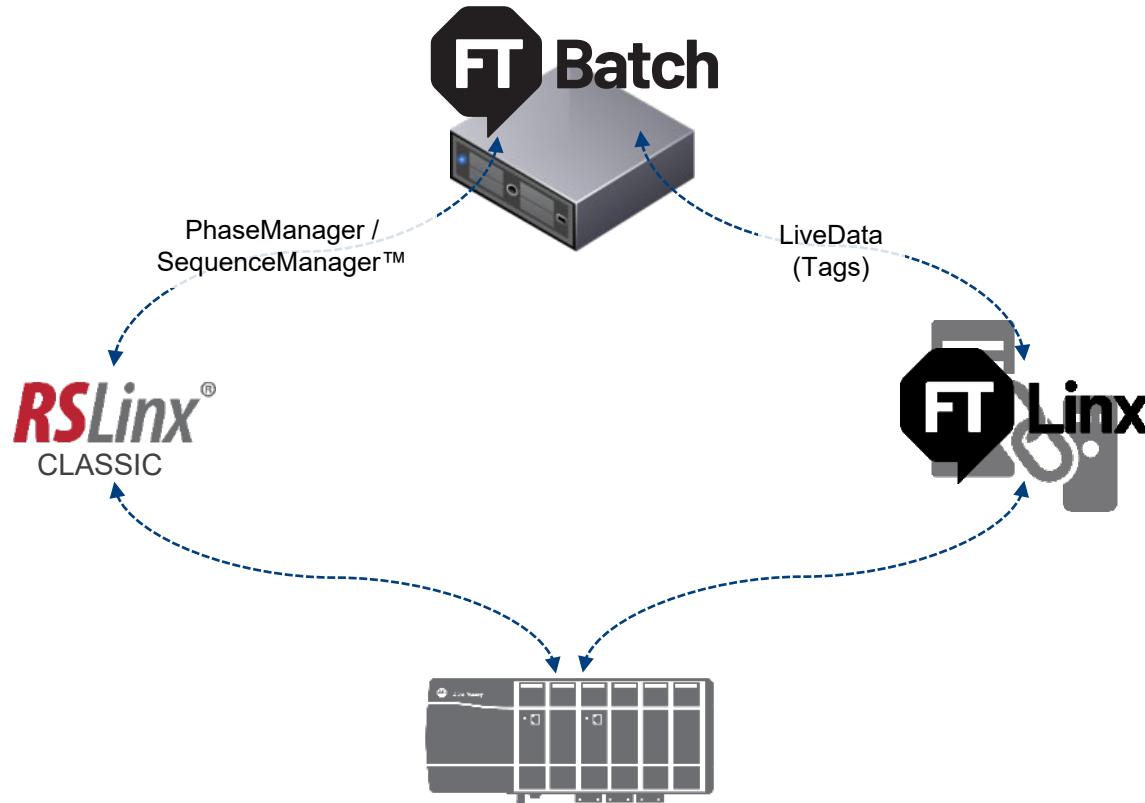
Greater flexibility in product variations.

Adjustment for seasonal, environmental, or material discrepancies.

FactoryTalk® Batch v14

FactoryTalk® Linx Adoption

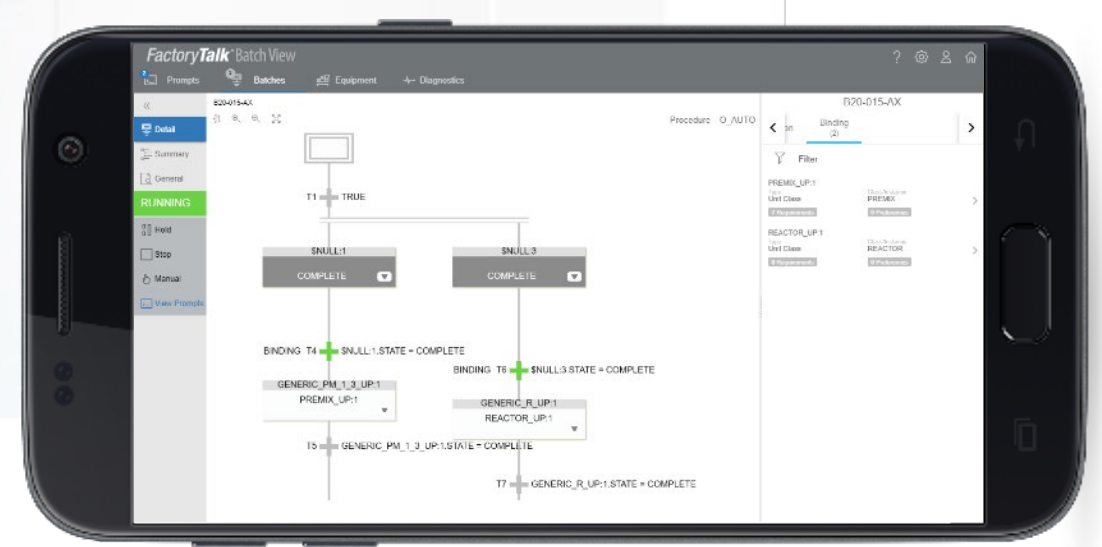
Use FactoryTalk® Linx as data server for PhaseManager™ & SequenceManager™.



Faster, more reliable communication.

Simplified installation and management.

Portfolio alignment.



FactoryTalk® Batch View™

Modern, consistent visualization across all devices and form factors

- Phone, tablet, laptop, PC, or FactoryTalk® View SE
- Consistent “look and feel” with other Rockwell Automation® products that leverage the mobility toolkit
- Reduce client hardware costs with more device hardware options

Zero install simplifies device administration on the client

- Use any modern web browser as a truly thin client
- No requirement to install FactoryTalk® platform, or the FactoryTalk® Batch client components

Leverages and integrates with FactoryTalk® Batch v14

- Instantly modernize the visualization for an existing installation
- Included in FactoryTalk® Batch installation package.
- Supports new features and functionality of FactoryTalk® Batch v14.

FactoryTalk® Batch View™ v2.0

Unit Binding

Support flexible and agile manufacturing through dynamic unit binding.

- At batch creation:
 - Bind to specific unit(s)
 - Prompt for units while running
 - Automatically bind to first available
- Prompts for binding
 - Show in Prompts list
 - Are generated when unit is required
- Only units meeting requirements are available for selection.

The image displays three overlapping screenshots of the FactoryTalk Batch View web interface. The top screenshot shows the 'ACROUNDI' batch creation page with fields for 'Batch ID' and 'Batch Scale', and a 'Unit Bindings' section with a dropdown menu. The middle screenshot shows the 'Prompts' page with a list of prompts for unit selection, including 'Please select unit to be used as: PREMIX_UP:1' and 'Please select unit to be used as: REACTOR_UP:1'. The bottom screenshot shows a prompt dialog box with a dropdown menu for selecting a unit, with 'PREMIX_01' and 'PREMIX_03' visible. The interface includes a navigation bar with 'Prompts', 'Batches', 'Equipment', and 'Diagnostics' tabs.

FactoryTalk® Batch View™ v2.0

Arbitration

The screenshot displays the FactoryTalk Batch View v2.0 interface. The main window shows a batch in progress with a process flow diagram. The right-hand pane is open to the 'Arbitration' tab, which lists resources. The 'Needs' section in the 'Binding' tab is also visible, showing resources that are needed by the batch. Red circles and an arrow highlight the 'PREMIX_01' resource in the 'Arbitration' tab and its corresponding entry in the 'Needs' section of the 'Binding' tab.

Identify which resources a batch needs, what owns the resources, and where the batch is in the queue.

FactoryTalk® Batch View™ v2.0

FactoryTalk® View SE Integration

New and improved HMI Controls support additional functionality and easier migration.

- New HMI Controls
 - Batches List
 - SFC
 - Prompts List
- Updated “Full” control

The image displays three overlapping screenshots of the FactoryTalk Batch View v2.0 HMI interface. The top screenshot shows the 'Batches' screen with a list of three running batches. The middle screenshot shows the 'SFC' (Sequential Function Chart) screen for a specific batch, displaying a flowchart with various steps and transitions. The bottom screenshot shows the 'Prompts' screen for a specific batch, displaying a list of prompts and a 'Sign for force transition' button.

Batches Screen:

Batch ID	Mode	Recipe	Equipment	Status	Time
AC_V1_L123362E524342	O_AUTO	ACROUNDI, ACROUNDI	PREMIX_01, REACTOR_01	RUNNING	Today at 2:16 PM (8:35:55)
AC_V1_L25632343KJ3B2ED	O_AUTO	ACROUNDI, ACROUNDI	PREMIX_01, REACTOR_01	RUNNING	Today at 2:17 PM (8:35:24)
AX_V1_L6536299875	O_AUTO	AXIAA, AXIAA		RUNNING	Today at 2:24 PM (8:28:36)

SFC Screen:

Operation - P_AUTO PREMIX_01

AGITATE:1

Params (4) Reports (3) Arbitration

Filter

DISPLAY ON IF HELD

HOLD_MODE AGITATOR_OFF AG_HOLD_MODE

NOTE

OO_CHECK_EQUIPMENT

??? RETRY

Flowchart steps: T1 (TRUE), MESSAGE_HMI.1 (AUTO NO FAULT), CHECK_EQUIP.1 (EQUIP. READY ?), T2 (CHECK_EQUIP.1.STATE = COMPLETE), MESSAGE_HMI.2 (A 200 / B 125), ADDITION_01.1 (200 KG), ADDITION_02.1 (125 KG), AGITATE.1 (ON IF HELD RUNNING), T4 (ADDITION_02.1.STATE = COMPLETE AND ADDITION_01.1.STATE = COMPLETE), MESSAGE_HMI.3 (C 25), ADDITION_03.1 (30 KG RUNNING).

Prompts Screen:

AC_V1_L123362E524342 - ACROUNDI 1

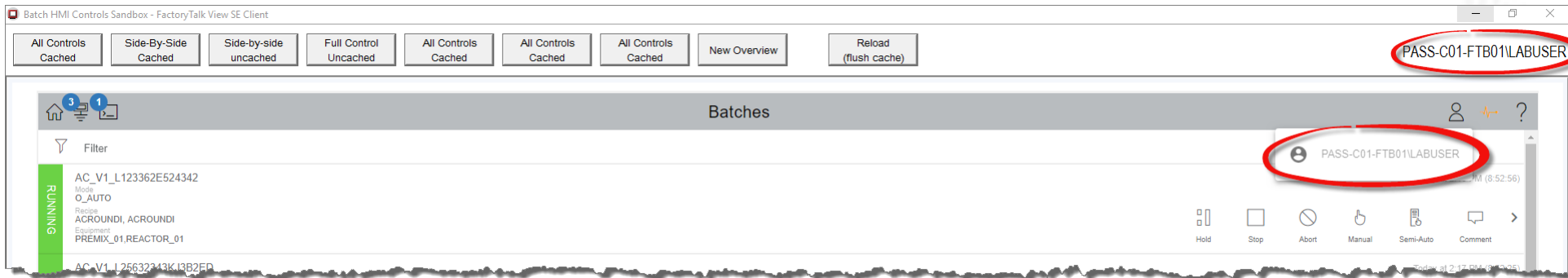
Sign for force transition
Created Today at 10:49 PM

Recipe: ACROUNDI\GENERIC_PM_1_3_UP:1\GENERIC_PM_1_3_OP:1\T3

FactoryTalk® Batch View™ v2.0

FactoryTalk® View SE Integration

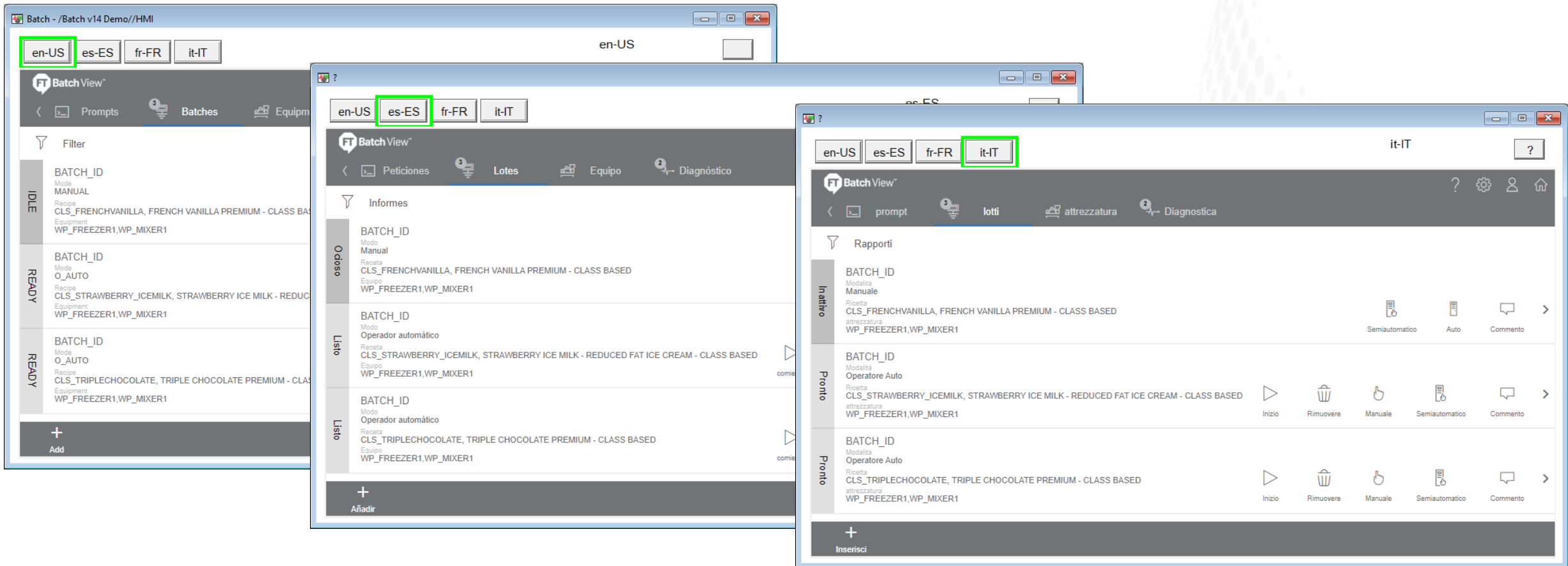
- Integrated Security
 - User credentials are automatically inherited from FactoryTalk® View SE Client



FactoryTalk® Batch View™ v2.0

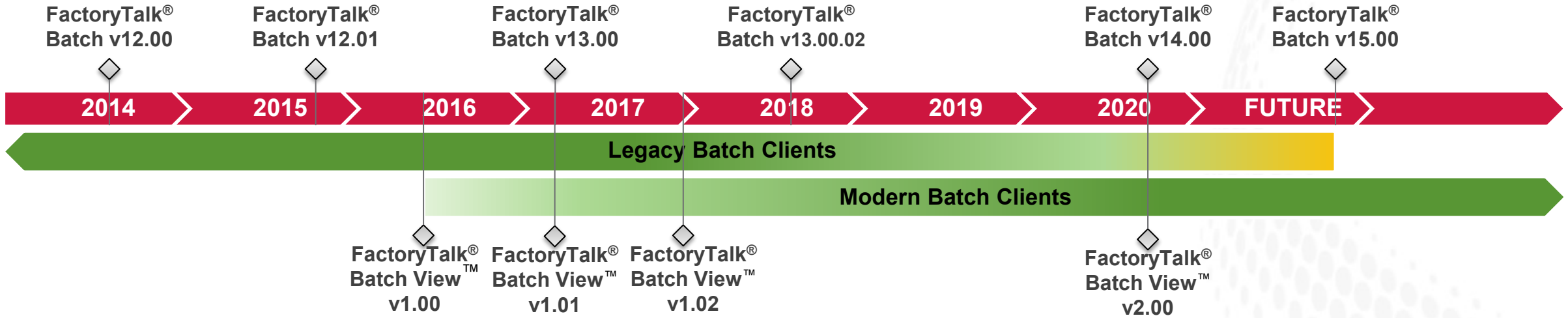
FactoryTalk® View SE Integration

- Integrated Localization
 - Runtime language is automatically inherited from FactoryTalk® View SE Client



FactoryTalk® Batch Clients

Migrating to Modern Batch Client Applications



Legacy BatchView™ Client

- Install FactoryTalk® Batch View™ web service
- Migrate Security Policies

↓

Modern BatchView™

Legacy eProcedure® Web Client

- Identify and replace scripting as required

↓

Modern BatchView™

Legacy Batch ActiveX Controls

- Install FactoryTalk® Batch HMI Controls on FactoryTalk® View SE Client PC
- Replace existing controls in graphics
- Identify and update properties and scripts

↓

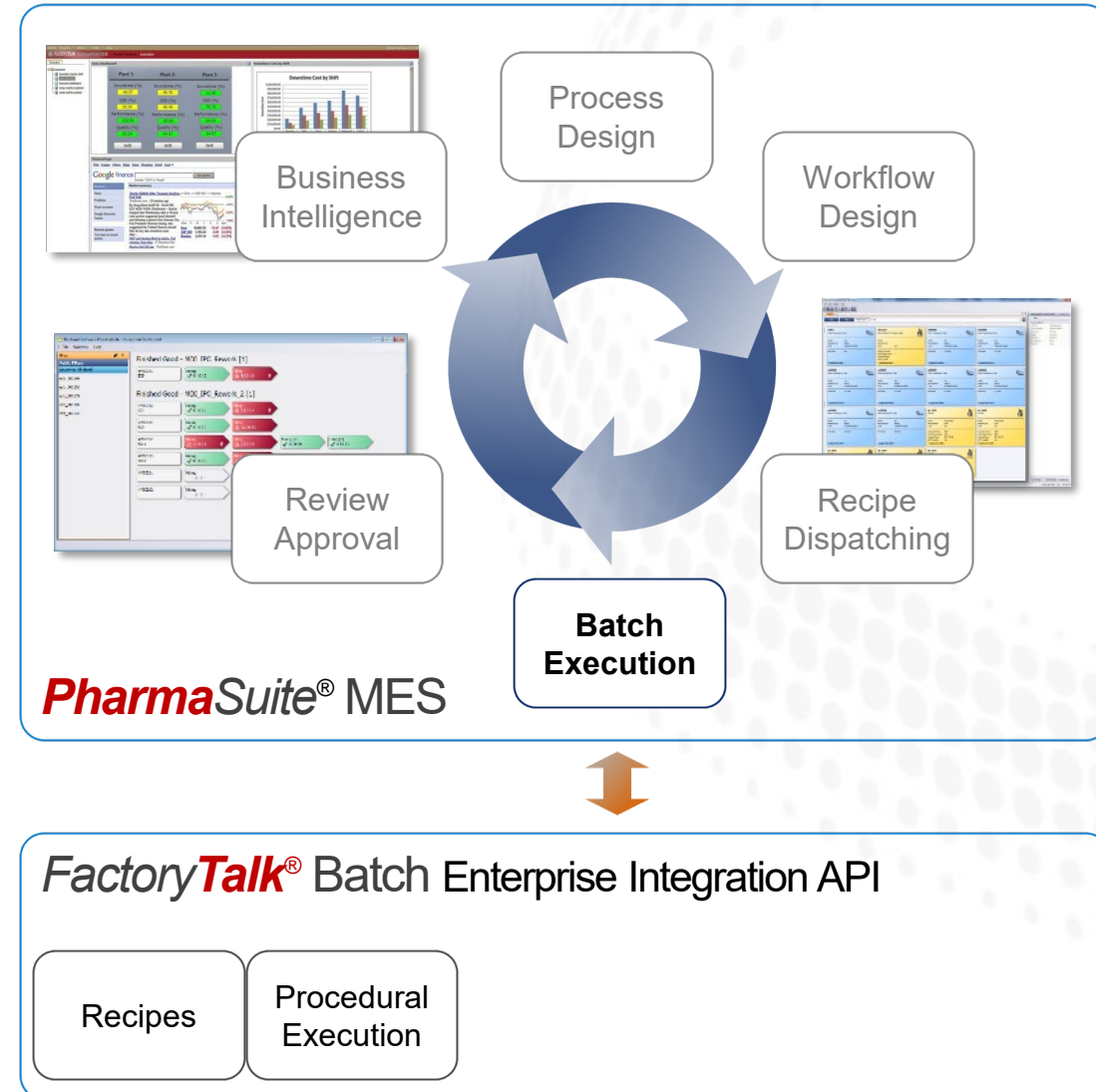
Modern Batch HMI Controls

FactoryTalk® Batch

Enterprise integration API

Realize the benefits of a fully integrated MES and Batch system:

- Feature-rich procedural control of the process areas
- Accelerate exception-based reporting with data extracted directly from the process control layer
- Vendor-supported integration eases validation efforts
- Streamlined workflows of the overall enterprise operation
 - Equipment tracking & Inventory management
 - Workforce Policies to help achieve compliance and training
 - Prebuilt modules for automated and manual procedures:
 - Weigh & Dispense, Formulation, and more
 - Integration to Business systems such as ERP, LIMS, Warehouse



FactoryTalk® Batch v14.0

System Requirements

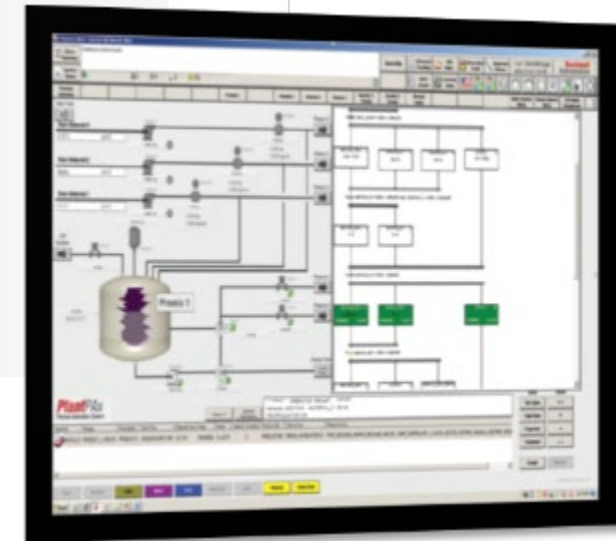
- **Windows Server® operating system:**
 - **Windows Server 2019 Standard Edition (preferred)**
 - **Windows Server 2016 Standard Edition (preferred)**
 - Windows Server 2019 DataCenter
 - Windows Server 2016 DataCenter
 - Windows Server 2012 R2 Standard or DataCenter Edition
 - Windows Server 2012 Standard or DataCenter Edition
- **Windows® (client) operating system**
 - **Windows 10 Professional 64-bit (Preferred)**
 - Windows 10 Enterprise 64-bit
- **Microsoft® SQL Server®**
 - SQL Server 2019 (English version only)
 - **SQL Server 2017 (English version only)**
 - SQL Server 2016 Service Pack 1 (English version only)
 - SQL Server 2014 Service Pack 3 (32-bit and 64-bit, English version only)
 - SQL Server 2012 Service Pack 4 (32-bit and 64-bit, English version only)
- **FactoryTalk® View SE (BatchView™ HMI Controls)**
 - FactoryTalk® View SE v12
 - FactoryTalk® View SE v11



What's Next?



Caution: Items on the roadmap appear closer than they really are.



FactoryTalk® Batch

What's Next

Logix version 32 – PhaseManager™

- CompactLogix™ 5069 Controllers (5380/5480)
- ControlLogix® 5580 Controllers
- **Available today!**

FactoryTalk® Batch v13

- Improved Scalability
- Simplified database management
- Intuitive operator interface
- **Available today!**

FactoryTalk® Batch v14 & FactoryTalk® Batch View™ v2.0

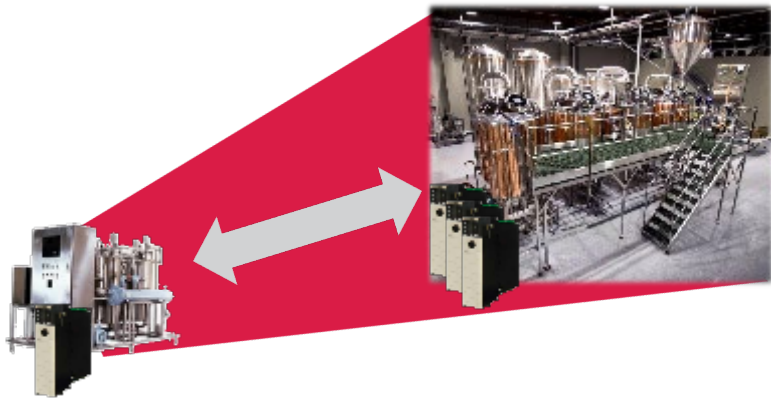
- Improve system availability with runtime area model edits
- Reduce recipe management overhead with recipe formulations
- Improve operations with better access to information and context in runtime
- Web API for enterprise integration
- **October 2020**



Beyond FactoryTalk® Batch v15

Scalability

- Improved Integration
- Distributed Control



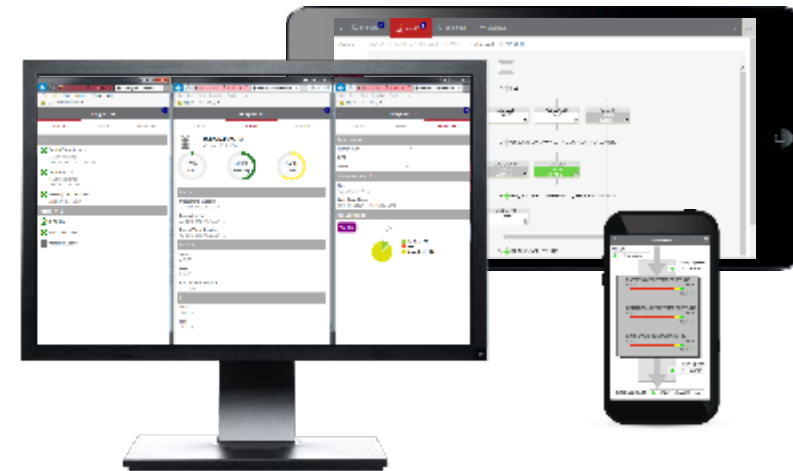
Reporting & Analytics

- Enterprise Integration API Enhancements
- Ease of Correlation
- Analytics



Modernized User Experience

- Updated Designers
- Integrated Runtime





expanding **human possibility**™

Thank you



www.rockwellautomation.com