System 800xA
Feature Pack 3 Update
The concept of Feature Packs
More value to Sentinel subscribers

- Release of new features and functions between system version releases
  - To be used as “add-ons” to an already available system version
  - Allows a more agile response to market requirements without revising or releasing a system version
- Feature Packs include previously released Feature Packs and all available Revisions
- All features will be put into the next version.
• Alarm Response
• Alarm Grouping*
• Tab Navigation
• Simplified Batch and Parameter Management (Batch Spreadsheet Scheduler)
• SFC Viewer Improvements
• Multi-System Integration support for Point of Control, FF, and IEC 61850
• CMMS Integration support for Maximo version 7 and SAP ECC6

*Part of 800xA's Alarm Management Option

Alarm Response - Giving operators a “head start” regardless of their experience level!
System 800xA 5.1 - Feature Pack 2
Foundation Fieldbus Improvements

- Live list improvements
  - Real device type is shown instead of ABB version
  - Device that is Backup LAS is indicated
- Improved system diagnostics through LD800HSE

![Live List and Diagnostics Table](image)
System 800xA 5.1 - Feature Pack 3
Value Proposition

- **Reduces unplanned shutdowns** through improved navigation and situation awareness
- **Streamlines batch operations** through simpler scheduling and improved monitoring
- **Increases asset utilization** through an improved enterprise asset management architecture
- **Improves engineering efficiency** through a more automated workflow

800xA’s latest release, 5.1 Feature pack 3, improves productivity and profitability by increasing operator effectiveness, asset utilization and engineering efficiency.
800xA 5.1 Feature Pack 3
Operator Workplace Improvements

- Feature pack 3 includes improved ways to make operators more aware of the current situation and then help navigate to where they can take action.
  - Alarm Indications in Tabs
  - One line tool bar for improved workplace arrangements
  - Harmonized icons and selectable icon size
  - Aspect Link with “previous display” indication
  - Hot Key support for history list

Reduced unplanned shutdowns through improved navigation and situation awareness
800xA 5.1 Feature Pack 3
Operator Workplace Improvements

Tabbed Navigation with Alarm Indication Improvements

Hotkey navigation to Previous and Next Displays

Aspect Link with “Previous Display” indication

Single line tool bar

New larger, harmonized icons
Feature Pack 3 - Operator Workplace Improvements

Tab Navigation – Improved Situation Awareness

Indications for alarms and shelved / hidden alarms (for ex.)

Status “bubbles” up to the top automatically

Support for display levels – important for High Performance HMI designs:
Lvl 1: Overview
Lvl 2: Area
Lvl 3: Unit

Can now be configured to indicate if alarms exist “on” the graphic as well as status like shelved alarms

Alarm status and color definitions can be referenced

Can now be configured to indicate if alarms exist “on” the graphic as well as status like shelved alarms
Feature Pack 3 - Operator Workplace Improvements

Navigation Improvements

- Aspect Link with indication that it’s target is the last display that was accessed.
  - No extra configuration required
  - New highlight properties available

- New harmonized icons available at small (16) and medium sizes (24)
  - Small-Classic
  - Small
  - Medium
Feature Pack 3 - Operator Workplace Improvements

Navigation Improvements

- Hotkey Navigation to Previous and Next Displays

New Selections in Hotkey Configuration
800xA 5.1 Feature Pack 3
Batch Management Improvements

- Feature Pack 3 takes scheduling batches to a new level of **simplicity** by adding ways to schedule and monitor batches that better matches today’s operational workflows.
  - Ability to have the Batch Scheduler Spreadsheet on non-800xA nodes
  - Enhanced security on the Batch Scheduler Spreadsheet Parameters
  - New Batch Scheduler Graphic Aspect for simplified scheduling
  - Accessibility to batch status parameters for improved visibility

Improving productivity through streamlining batch operations
What is 800xA Batch Management?
Comprehensive batch automation solution

- Configuring recipes and procedures
- Configuring batch equipment
- Scheduling, monitoring and controlling batches and campaigns
- Automatic arbitration of resources between batches at runtime
- Organization of batch historical information – Production Data Logs

800xA has the most integrated and full featured batch offering on the market
Batch Production Scheduling in 800xA (pre-5.1)

- Schedule control recipes based on master recipes
- Supports multiple execution of batches within a campaign
- Select equipment at schedule time or dynamically at run-time
- View batch status, parameters, history options and messages
- Easily navigate procedure hierarchy of all active batches
Review of 5.1 Feature Pack 1
Batch Spreadsheet Scheduler

- Feature Pack 1 included Batch Spreadsheet Scheduler
- Based on MS Excel, is embedded in 800xA as a File Viewer Aspect
- Includes ability to use Formulas / Parameters for Scheduling
- Simplifies Batch Operations, Formula and Parameter Management
Feature Pack 3 – Batch Management Improvements
Simple and Secure Batch Operations

- Spreadsheet Scheduler on Non-800xA nodes
  - Easy to install
  - Connects to 800xA via web services
  - New license available “Spreadsheet Scheduling for Desktops”

- Enhanced Security options for the Excel Spreadsheet Scheduler
  - Configurable security levels for users that require stricter control of their formulation parameters.
Feature Pack 3 – Batch Management Improvements

Batch Scheduler Graphic Element / Status

- Batch Scheduler Graphic Aspect
  - Even simpler Batch Scheduling
  - Configurable to show only what operators need to schedule a batch
  - Ability to access Formulas from Batch Spreadsheet Scheduler

- Additional Batch Status properties exposed to for improved visibility
  - Batch Status
  - Batch Priority
  - Batch Mode
Batch Scheduler Aspect and Status Properties

Batch Status, Priority and Mode

Batch Scheduler Graphic Aspect
Configuration of Batch Scheduler Aspect
As easy as 1, 2, 3

1. Add the Batch Scheduler Aspect
2. Reference the Spreadsheet Scheduler (if using formulations)
3. Select the fields that are required for the operators to schedule batches
Feature Pack 3 – Batch Management Improvements
Simple and Secure Batch Operations

From this

To this

Simpler means…
Reduced training
+ Reduced risk of making mistakes
+ Reduced number of scrapped batches

= increased productivity!
800xA 5.1 Feature Pack 3
Device and Asset Management Improvements

- Feature Pack 3 increases asset utilization by supporting the latest protocol’s for smart device communications and consolidated asset management for multi-site systems
  - HART 7 support in Generic Device Type Managers (DTMs)
  - HART Device Management support with AC 870P
  - Multi-System Integration support for Asset Optimization

Increasing asset utilization through predictive maintenance
Reliability Centered Maintenance
800xA Asset Optimization

- Maintenance is the single largest controllable cost in a plant
- Moving towards predictive maintenance makes a major contribution to asset utilization and lifecycle savings.

- 800xA has the capability to support effective maintenance strategies

Cost of maintenance (ARC Advisory Group)

Corrective maintenance can cost up to 10x more than predictive!
Integrated Device Management
Fast signal check-out saves commissioning time

- All device configuration and diagnosis from the Engineering Workplace
- Device simulation and I/O input verification in the same workplace – Faster loop checks!
- No need to connect locally to devices in the field
- Built in device documentation
- Real-time condition monitoring using asset monitors available already during commissioning

Reduced time to commission = Producing sooner!!
Feature Pack 3 - Device Management Improvements

Full support for HART7 in basic DTMs

- Basic HART DTM supports HART7 Transmitter/Actuators
  - For wired and wireless devices
  - Backward compatible, same DTM for HART 5, 6 and 7
- Supervision and force of up to 8 HART variables
- Support for country code, SI unit and clock settings
- Wireless HART support (identification and statistics)

NOTE: SV5.0 SP2 RevE and SV5.1 RevB includes significant performance improvements in device communication
Feature Pack 3 – AC870P Improvements

HART Device Management with AC 870P

- Integrated HART device management enables:
  - HART device configuration and diagnostics in 800xA workplaces
  - Real-time condition monitoring using asset monitors
- Same functionality as the 800xA Device Management Profibus/HART
- System topology planning is performed in Composer and imported to 800xA
Feature Pack 3 - Asset Optimization Improvements
Multi-system Integration Support

- Remote operations can access the same maintenance data as local operations
- Retains a common maintenance workflow throughout multiple sites and systems
- Asset Optimization (AO) servers reside in provider systems and AO aspects can be viewed in subscriber system
Feature Pack 3 improves engineering efficiency through improved support of fieldbus I/O allocation and automated configuration of sequential logic.

- Improved IO allocation in Function Designer for IEC61850, Profinet, and Foundation Fieldbus
- Automated importing of sequential logic from MS Excel to Control Builder and Function Designer

Improving engineering efficiency through better workflows
Feature Pack 3 – Engineering Improvements

I/O Allocation for Fieldbus Devices

- Common IO Allocation and representation for IEC61850, Profinet, and Foundation Fieldbus in Function Designer
  - Reduces additional logic needed to bring in signals from Communication Interfaces
  - Each IED/Module shall be treated as I/O Modules with channels
  - Proxy Blocks for Foundation Fieldbus Application Diagrams

Reduced number of steps to allocate I/O when using fieldbus!
Foundation Fieldbus
Integrated Engineering
Feature Pack 3 – Engineering Improvements
Bulk Configuration of Sequential Logic

- Bulk import capability of Control Builder M’s Sequential Function Chart (SFC) and Function Designer’s Sequential Programming Language (SPL) configurations
  - Uses Bulk Data Manager
  - Improves workflow by directly importing customer logic

Simpler + Faster + Less mistakes = increased efficiency!
Feature Pack 3 – Engineering Improvements
Bulk Configuration of Sequential Logic

1. Customer/Engineer defines Sequence overview in MS Excel

2. Define Transition Logic (Function Designer SPL only)

3. Import into Control Builder SFC or Function Designer’s SPL
System 800xA 5.1 - Feature Pack 3

Highlights

- Reduces unplanned shutdowns
  - Alarm summary information in tab navigation
  - New aspect view button with display history indication
  - Display history navigation via hotkeys and selectable icon size

- Streamlines batch operations
  - Batch scheduler spreadsheet available on non-800xA nodes
  - New batch scheduling graphic element

- Increases asset utilization
  - Multi-System Integration support for Asset Optimization
  - Support for latest HART protocol

- Increases engineering efficiency
  - Improved fieldbus support for IO allocation
  - Bulk configuration for SFC and SPL

Feature pack 3 improves productivity and profitability by increasing operator effectiveness, asset utilization and engineering efficiency.
Power and productivity for a better world™