ABB Control Systems Annual Partner Conference 2019
Freelance 2019 – New functions and highlights
Presenter
Global Product Manager Freelance

Presenter
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Agenda

Freelance Version 2019 – What’s new
Other news around Freelance
Success Story – Byworth Boiler
Q&A
Agenda

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Freelance 2019 – What’s new

Improvements over the whole system

Control

Operations

Engineering

Security
Extended AC 900F Controller Portfolio: PM 904F

PM 901F

- Controller Redundancy
- Serial interfaces
- Optional display
- 3x Ethernet Ports
- 2x Communication interfaces

PM 902F

- Controller Redundancy
- Serial Interfaces
- Optional display
- 4x Ethernet Ports
- 2x Communication interfaces

PM 904F

- Controller Redundancy
- Serial interfaces
- Optional display
- 4x Ethernet Ports
- 4x Communication interfaces
- Extended application memory

PM 904F: More Connectivity, More Application Memory
**Freelance 2019**

PM 904F: The newest controller in the family

- 4 slots for communication modules
- Optional Display Module
- Battery (underneath display)
- LED’s: Power, Error, Run/Stop, Prim/Sec, Batt.
- SD card slot for loading programs, backup, loading firmware
- Switches/Buttons: Reset, Toggle, Run/Stop
- Up to 10 direct I/O modules can be connected
- Power 24 V
- 4 x Ethernet 10/100 MB
- 1 x Diagnosis/ Radio-Clock
- 2 x serial lines, Modbus or Telecontrol
# Freelance 2019

PM 904F: Newest technology for upgrades and new projects

<table>
<thead>
<tr>
<th>Parameters</th>
<th>PM 802F</th>
<th>PM 803F</th>
<th>PM 901F</th>
<th>PM 902F</th>
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<th>Alternative to PM 803F by PM 902F</th>
<th>PM 904F</th>
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<td>CPU redundancy</td>
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</tbody>
</table>

*The AC 900F Controller Family has a different Memory architecture than the AC 800F/DCP. Memory figures between the controller families are not comparable.*
Memory architecture – principles*

DCP 8MB SRAM

- Appl. Data1...
- Appl. Data2...
- Config1...
- Config2...

RAM

PRAM

Others

AC 800F 4/16MB SRAM

- Appl. Data1...
- Appl. Data2...
- Config1...
- Config2...

RAM

PRAM

Others

AC 900F 11/24/48 MB SRAM + DRAM

- Appl. Data1...
- Config1...

RAM

PRAM

Others

SRAM

DRAM

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Available for all AC 900F controller

- Permanent storage of variables, e.g. lifetime counter and metering data
- The values will be kept during
  - Cold Start
  - Load Whole Station
  - Power Down Without Battery
  - Firmware Update
  - Version Upgrade
- Export capabilities and Identifier to avoid using wrong data (e.g. controller replacement)
- Configurable initial values and write cycle time
Freelance 2019

Various improvements like...

- High Performance HMI style
- Three tabs for faster navigation and handling
- Menu behind button to get more space for alarms
- Advanced search function in Display Explorer and Trends
- Configurable User Auto Log Off
- Larger Font Sizes and Buttons
- Quad Monitor support
- ...

Increased Operator effectiveness with full compatibility to existing user application
 Freelance 2019
Freelance Operations – Quad Monitor support

Advanced configuration options

- Amount of monitor to be used by Freelance is selectable (1-4).
- Amount and numbering of available monitors is detected by Windows (display settings).
- Display types which shall be shown on each monitor is selectable.
Freelance 2019
Freelance Engineering

Various improvements like…

- High Performance HMI style
- Auto routing capabilities in the FB Diagram editor
- Larger Buttons in the Tool Bar
- Search and sorting functionality
- Visualizations between Modes
- Advanced configuration options like for Display assignment
- Project Backup’s on SD Card
- Reduction of side effects
- …

Increased Engineering effectiveness with full compatibility to existing user application
Extended User Management

- Security improvements
  - Alternative user management and authentication based on Windows User Accounts
  - Auto-logoff, Password aging, Password complexity, min. Password length, Central Password Management
  - Password management via Local User Accounts or Domain Server

- Options for User Management
  - Security Lock (known from former Versions)
  - Extended User Management (based on Windows Accounts)
## Freelance 2019

### User Management - Overview and comparison

<table>
<thead>
<tr>
<th>No Security</th>
<th>Security Lock</th>
<th>Local Accounts</th>
<th>Domain Accounts</th>
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<tbody>
<tr>
<td>No security features</td>
<td>Group based permissions Auto log-off</td>
<td>Group based permissions Auto log-off Password policies with Single Sign-On Option</td>
<td>Group based permissions Auto log-off Password policies with Single Sign-On Option Centralized Password Management</td>
</tr>
</tbody>
</table>

To be configured in Freelance Settings tool

Independent user management options to fit all needs
Freelance 2019

Supported Operating System

Supported Operating Systems in Freelance 2019

- Operating Systems
  - Windows 7
  - Windows 10
- Mixed architecture, that means combinations of Windows 7 and Windows 10 PC’s within the same system are possible

Benefits

- Easy upgrade from older Freelance Version without the need to update the Operating Systems
- Smooth and stepwise upgrade of Operating Systems in the plant, no need to update all PCs at once
- Easy expansion in the installed base, e.g. additional Operator Stations by using newest PC’s
Freelance 2019

Live Demo
Freelance 2019

Summary

**Enhanced scalability:** New PM 904F controller

**Improved usability:** Increase Operator and Engineering efficiency

**More connectivity:** Up to 4 communication Interfaces for AC 900F

**Compatibility:** Support of Windows 7 and Windows 10

**Enhanced Security:** New Extended User Management

Freelance 2019 - significant improvements in all areas: scalability, usability, connectivity, compatibility and security
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Other news around Freelance

Modular Automation

Reduce cost, risk and schedule by

- Focus on core business of production of goods – partners for modules
- Higher flexibility in production in terms of scaling and change of product variants
- Faster Time to market (from idea to market introduction)
- Over the plant life cycle reduced cost as upgrades can be done on smaller granularity
- Standardization in process modules enables flexibility of suppliers

⇒ ABB solution already released
⇒ Freelance is ready made for MTP’s
Other news around Freelance

Automation for Modular Plants - System architecture
Agenda

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What We Do

- Manufacture industrial steam and hot water boilers
- Boiler house installations
- Boiler service and commissioning
- Steam plant training
Traditional Boiler Control

- Several independent controllers
- Older technology
- Heavily restricted functionality
- Reliant on 3rd party development
Why ABB Freelance

• Single programming environment
• Distributed control (multi-boiler)
• Configurability
• Connectivity
Remote Monitoring

- Cellular network
- Modbus TCP communication
- Remote alarms / management
Remote Support

- Full dial in access
- Remote fault analysis
- Peace of mind for customer
Jura Outcome

12% fuel volume reduction

“Using less fuel reduces your carbon footprint and that’s multifaceted because using less fuel reduces carbon all through the fuel supply chain. The reduction means maybe 2 less lorries a month having to come to Jura.”

Andy Jardine – Whyte and McKay
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Questions?
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>2.45 pm</td>
<td>Growth opportunities in Control Systems’ Lifecycle</td>
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<td></td>
<td>Segment Offering</td>
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<tr>
<td>3.30 pm</td>
<td>Break</td>
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<td>4.00 pm</td>
<td>Partner success story</td>
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<td>4.30 pm</td>
<td>Guest speaker from a leading Digital company</td>
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<tr>
<td>5.15 pm</td>
<td>Summary of Day 1</td>
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<td>5.30 pm</td>
<td>End Day 1</td>
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<tr>
<td>5.40 pm</td>
<td>Group Picture</td>
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<tr>
<td>6.15 pm</td>
<td>Networking event program and dinner</td>
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</tbody>
</table>