

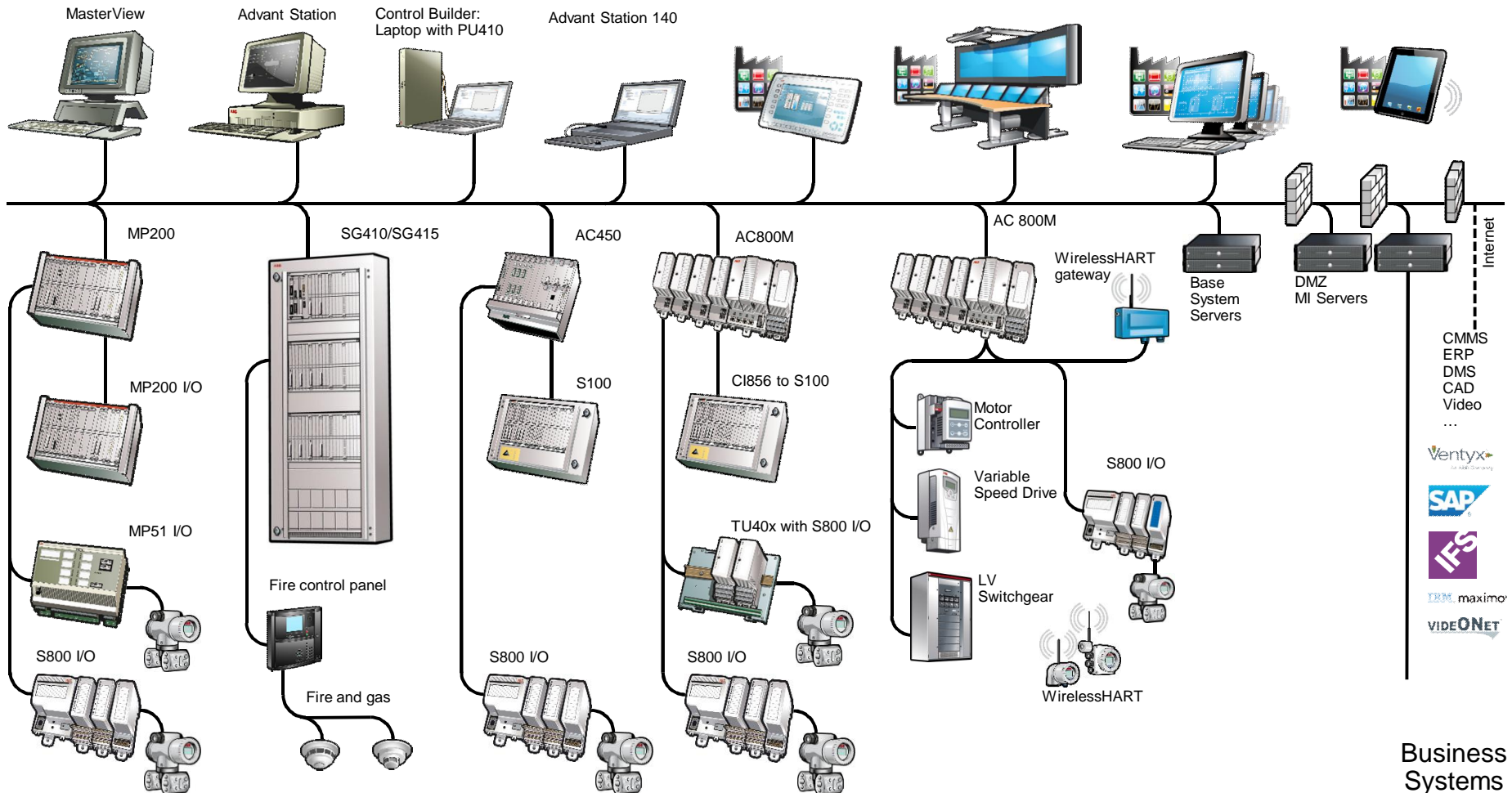


Clas-Goran Granebring BUCT Service, 2016

Heritage Systems

Typical Heritage systems installation

Mixed solution



CMMS
ERP
DMS
CAD
Video
...
Ventyx
SAP
IFS
IBM maximo
VIDEONET

Business Systems



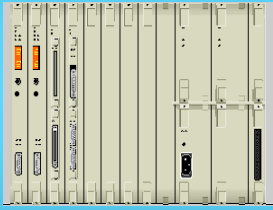
1000's of installations

**Advant
Station 500**



~# 7,000

Advant Controller 400



~# 10,000

2004 – System 800xA

2000 – IndustrialIT

S400 I/O



~# 2,000' ch

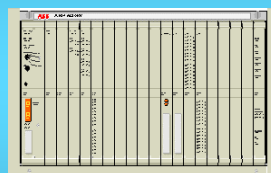
1994 – Advant

MasterView



~# 3,500

MasterPiece 200

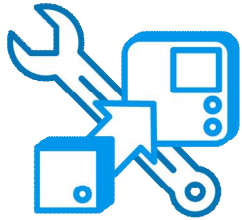


~# 10,000

1984 – Master

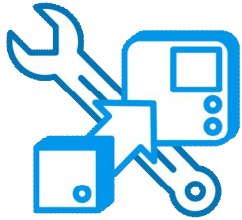


Heritage System



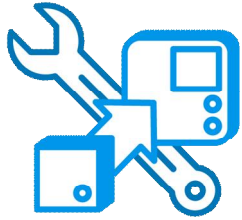
- There is a significant installed base left of Master Piece, and first generations of Advant controllers
- Heritage System Evolution Campaign 2016-03 till 2017-03:
 - Evolve all obsolete controllers to latest Advant Controllers and I/O
 - Ensure sufficient spare part stock at customer when no upgrading

Heritage System



- MP200 and AC450 controllers are 20-30 years old. Plastic as well as capacitors and other components are aging. From January 2016 ABB Control Technologies cannot guarantee the availability of spares, repairs and testing.
- The present test equipment is very old and the cost to renew it will be very high.
- Although MP200 was set to life cycle obsolete in 2009 we have as of today given full parts support. Thus it is now very high time to step up to AC450.

Heritage System



- System Evolution is the step between two generations of an ABB control system
- System Evolution can be broken down into several sub categories
 - HMI evolution
 - Controller evolution
 - I/O evolution
- Lets the customer stay on an:
 - Active/Classic system
 - Access to life cycle services
 - Maintainable

AC450 upgrade to latest version, 2.3

- AC450 version 1.3 with PM510 upgrade to 2.3 with PM511
 - PM510 is related to the very old SW version for AC450 dated 1996.
 - PM510 is in Limited life cycle phase and will soon not be offered as spare for AC450.
 - PM510 spare part cost is 3 * the PM511 step up cost in connection to Automation Sentinel and the campaign.
 - PM510 installed is 20 years old and has a limited life time remaining.
 - A new PM511 will give 25 years new life.
 - PM511 with SW 2.3 supports many more functions, see [3BSE010000](#).

Main functions added in v2.3 vs v1.3

- Support of PM511 CPU with 8 or 16 Mbyte RAM
- Redundant AF100
- Redundant S100 bus extension
- Accuray QCS support
- New I/O racks DSRF 182A and DSRF 187A with more supervision and redundant power supply regulator.
- Redundant FCI for S800
- S800 added DI814, DO814, DI885, DI830, DI831, DO815, DP820, DI801, DI890, DO801, AI801, AI890, AI895, AO801, AO890, AO895.
- Profibus DP with CI541V1 with Multimaster.
- LONWORKS network interface CI572.
- INSUM switchgear integration through LON.

Advant with Master Software Preventive Maintenance Kits

- Service description document: [3BSE062093D0023](#)
 - For batteries, fans, filters and power supplies
 - Available for AC110, AC160, AC410, AC450, ACV450RMC, SG400, AC460.



PM-Kits for Advant Controller 450

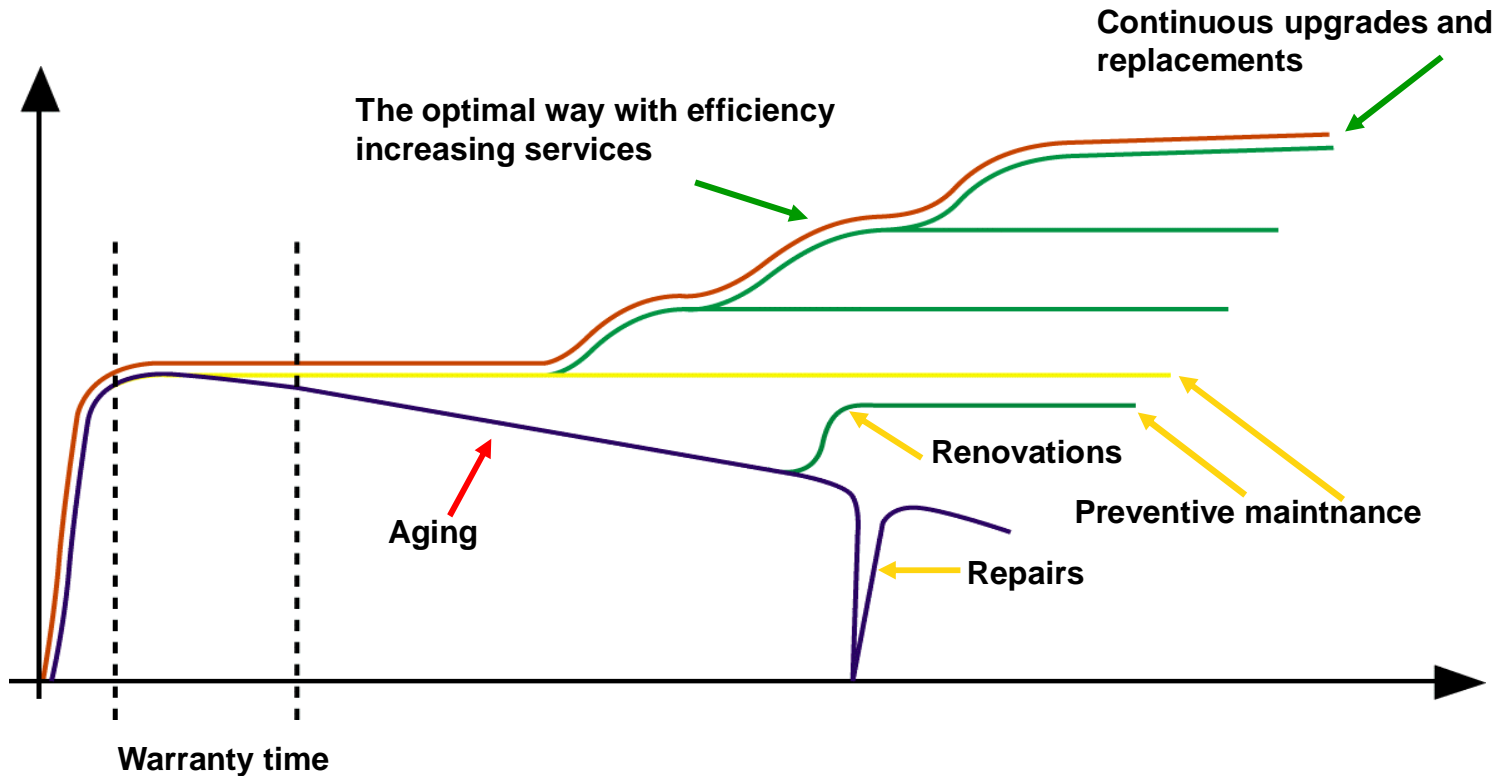
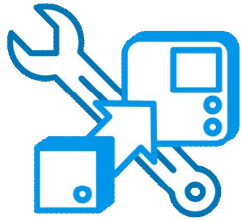
Prefix	System	Unit	Content
PM10Y	AC450	-SA161	SA161 Supply; 120V ac to 24V dc 10A
		-SA161M	SA161M Supply; 120V ac to 24V dc 10A
		-SA162	SA162 Supply; 230V ac to 24V dc 10A
		-SA162M	SA162M Supply; 230V ac to 24V dc 10A
		-SA167	SA167 Supply; 120V ac to 24V dc 25A
		-SA167M	SA167M Supply; 120V ac to 24V dc 25A
		-SA168	SA168 Supply; 230V ac to 24V dc 25A
		SA168M	SA168M Supply; 230V ac to 24V dc 25A
		-SA171	SA171 Supply; 120V ac to 48V dc 5A
		-SA172	SA172 Supply; 230V ac to 48V dc 5A
		-SD150	SD150 Power Supply Unit; 24-48V dc to 24V dc 20A
		-DSSR122	DSSR 122 5V Regulator 40A
		-DSSR122M	DSSR 122M 5V Regulator Unit , 40A
		-DSSR170	DSSR 170 5V Regulator 10A
		-SB510	SB510 Backup Power Supply; 120/230V ac/dc.
		-SB511	SB511 Backup Power Supply; 20-60V dc
		-SR511	SR511 Regulator 24V/5V

Example: 10 year AC450 DSSR122 PM-kit : PM10YAC450-DSSR122

Parts Services

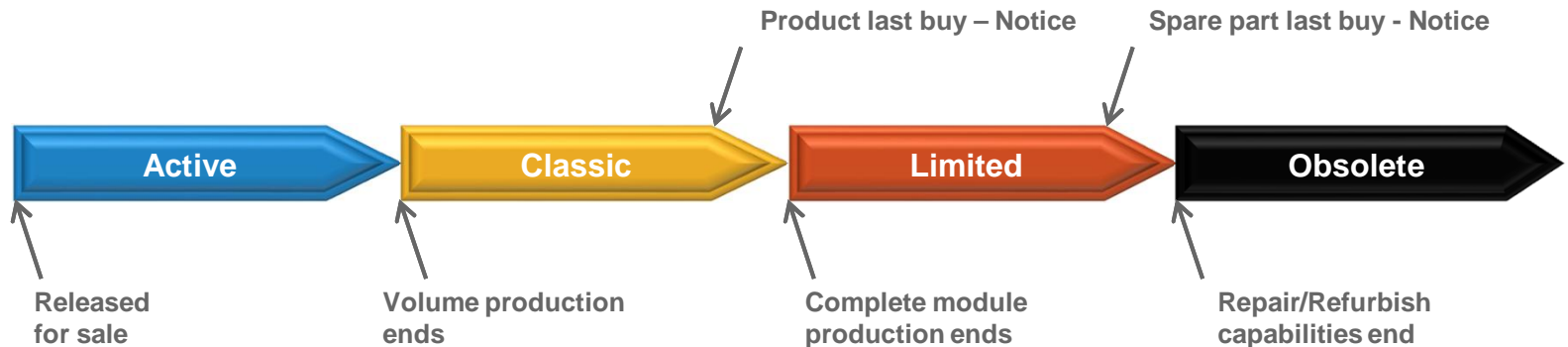
Life Cycle Parts Services

How to mitigate the effects of aging of system parts



Life Cycle Parts Services

Product management through the Life Cycle model



- ABB uses a four phase Life Cycle model to secure service availability during the system lifetime
- Throughout the product lifetime, the product is transferred through different life cycle phases
- No service is guaranteed when the product or part has moved into the Obsolete phase.
- ABB offers evolution services to maintain your investment in a supported Life Cycle phase (Active, Classic and Limited)

LifeCycle Parts Services for DCS

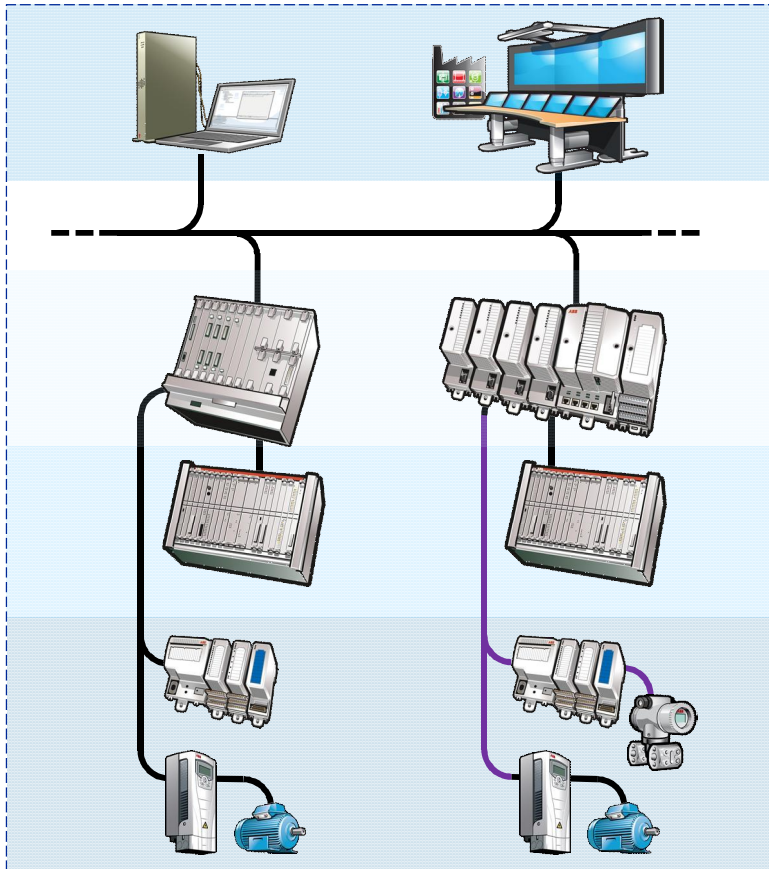
Availability by DCS

	System 800xA	Freelance	Advant Master	Advant MOD 300	SATT	Symphony DCI System Six	Symphony Harmony	Symphony Melody
Spare Parts Service	✓	✓	✓	✓	✓	✓	✓	✓
Emergency Parts Service	✓	✓	✓	✓	✓	✓	✓	✓
Refurbished Parts Service	✓	–	✓	✓	✓	✓	✓	–
Parts Repair Service	✓	✓	✓	✓	✓	✓	✓	✓
Parts Exchange Service	✓	✓	✓	✓	✓	✓	✓	–
Parts Test Service	✓	–	✓	✓	✓	✓	✓	–
Preventive Maintenance Kits	✓	–	✓	✓	–	✓	✓	–
Inventory Access Program	✓	✓	✓	✓	✓	✓	✓	✓
Parts StepUp Service	✓	✓	✓	✓	–	–	–	–
Parts Root Cause Analysis Service	✓	–	✓	–	–	–	–	–

<http://new.abb.com/control-systems/service/lifecycle-policy/availability-of-spare-parts>

Stepwise Advant Evolution

Evolving the I/O's - challenge



I/O's

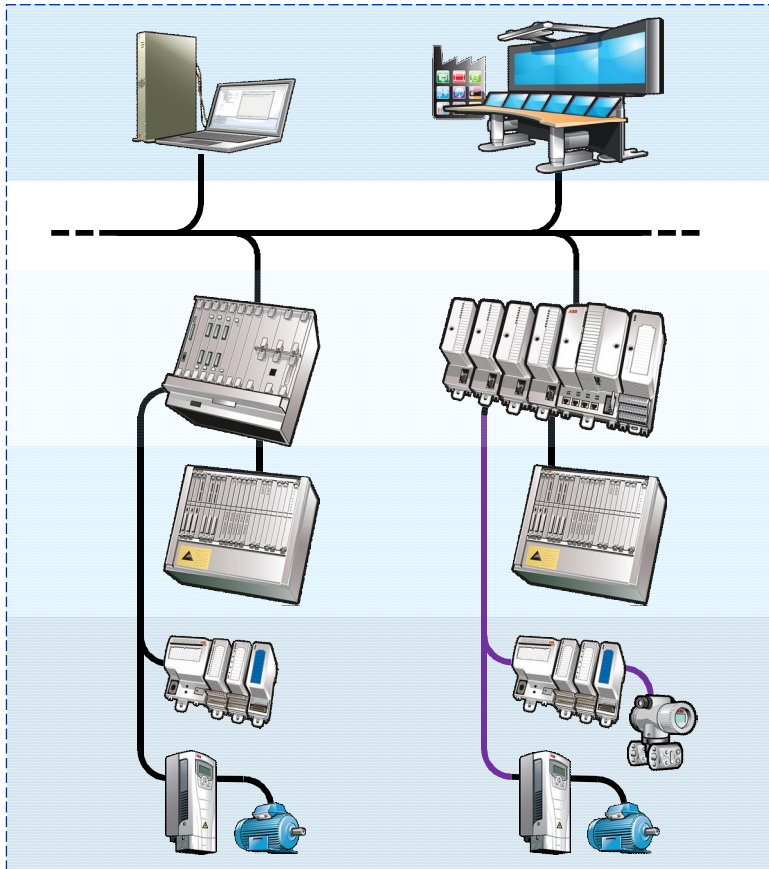
I/O cards are 20 to 30 years old
Plastic in connectors and backplane
will brittle with age
Relay for outputs gets unsecure
Opto-coupler for Digital Inputs
deteriorates
Analog cards get reduced accuracy
due to aging components
Failure rate increases significant
after 20 Years



1978
S100

Stepwise Advant Evolution

Evolving the I/O's - solution



I/O's

- Redesigned rack I/O cards
- Optical extension available for distributed S100 I/O racks
- Possible to replace MP200/1 racks with AC450 I/O racks
- Step up offers
 - S100 old to S100 new version A with very attractive exchange pricing to end of March 2017



2000
S100 version A
2016 (planned release)
S100 version A, G3 coated

Advant with Master Software Preventive Maintenance Kits

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Example: 10 year AC450 DSSR122 PM-kit : PM10YAC450-DSSR122

My Control system

MyABB/My Control System

Features - general availability for all ABB control system customers



- Contact information of designated ABB Service organization
- System Reports
- Safety Reports and Product Alerts
- Available training - overview
- Security Bulletins
- Cyber Security Reports
- Access to the subscriptions and software licenses of the control system:
 - Scope of licenses
 - Expiry dates
 - License key
 - License certificate

MyABB/My Control System

Services included for Automation Sentinel customers

The screenshot displays the MyABB/My Control System interface. It is divided into three main sections:

- Cyber Security:** Includes links for Cyber Security Premium (with a 'More info' icon), Security status, and Security bulletins.
- Training:** Includes links for Available trainings, Web Coach sessions (with a 'More info' icon), and Web Tech Talk sessions (with a 'More info' icon).
- System Status:** Features a donut chart showing performance and software status. The chart is divided into three segments: a large green segment for 'Passed' (566), a yellow segment for 'Warnings' (113), and a small red segment for 'Failed' (18). The data was collected on 2015-09-15. There are 'Reports' and 'Details' buttons at the bottom.

On the right side of the interface, there is an 'ABB Local Service Contact' section with a gear icon. It includes a dropdown menu for 'Kundencenter Service' and contact information for ABB Automation GmbH: Kallstadter Straße 1, 68309 Mannheim N/A Germany, Telephone: 0180 5 222 580, and Email: automation.service@de.abb.com.

Extended access to My Control System is exclusively available, at no additional cost, for all Automation Sentinel subscribers.

Product documentation (User manuals, Bulletins, Alerts)

Software downloads

System Performance Benchmark tool

- Cyber Security Premium with
 - security bulletins
 - Microsoft security updates
 - Anti-virus scanner updates
- Price incentives for Online training: Web Coach, Web Tech Talks

MyABB/My Control System

Services included for Automation Sentinel customers



Parameter	Value	Status
System	...	Good
Software	...	Good
Computer	...	Good
Network	...	Good
Controller	...	Good
...

Click [here](#) for more information
Click [here](#) for more sample "Performance Status Report"

▪ **System Performance Benchmark Tool**

- Check the overall performance status of the installed control system
- Analyzes most relevant system parameters and KPIs for System, Software, Computer, Network and Controller
- Automated data collection
- Automatically generated, easy to read 'Traffic Light' report showing control system status and cyber security status, highlighting deviations and potential risks
 - Good
 - Ambiguous
 - Incorrect

MyABB/My Control System

Customer benefits (1/3)



- **Stay updated** with email notifications and receive relevant information for selected SIDs. Notifications may be configured for different control system families and/or other ABB products.
- **Modern navigation concept** ready for use on mobile touch devices (tablets)
- **Lower the total support cost** and reduce after-hours phone support or service calls by using My Control System to access pre-filtered information dedicated to your installed control system

MyABB/My Control System

Customer benefits (2/3)



- **Access to relevant subscriptions and software licenses** of the control system: Scope of licenses, expiry dates, license key, license certificate
- **Check software status** of the control system, quickly access to relevant safety reports, alerts or product documents
- **Improve performance** by continuously enhancing the control system with system specific software updates, see the overall health and equipment status of your system

MyABB/My Control System

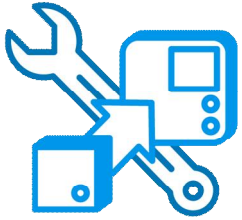
Customer benefits (3/3)



- **Protect the ABB control system** against malware infection and cyber-attacks with the latest Microsoft® security updates and verified 3rd party Antivirus files - validated by ABB for relevance and system compatibility with ABB control system software
- **Easily find training** modules specific to your control system for improving competences (Web Coach and Web Tech Talk)
- **Reduce equipment downtime**
 - by receiving recommendations for maintenance with future quick access to spare parts availability and ordering
 - by using Advanced Services; Run Benchmark reports to check the overall status or Fingerprint report to get recommendations on how to improve installed control system productivity.

DCS Audit

Heritage System Audit



- Inspection of Controller cabinets and I/O cabinets
 - Plant Network, Control Network, Profibus network, etc.
 - Access to the Automation system servers, OS, controllers etc.
-
- A report will be written with recommendations

Power and productivity
for a better world™

