Advant news

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The ABB Advant Power news bulletin

Welcome to the second issue of the Advant Power news

Dear Readers,

I'm pleased to bring you our second Advant newsletter, intended for users of the ABB Advant Power Control system. I trust you enjoyed the reading of the first issue and thank you for all the positive feedback and requests received.

This second issue focuses on the life cycle services and enhancements of the Advant Power Control platform.

The first story is about the upgrade of the IMS (Information Management System) to PGIM, an integrated plant wide Information Management System to enhance the main control system including all third party systems with seamless:

- long term data storage and analyses
- comprehensive reporting capabilities
- plant wide process data diagnostics and analyses
- access to for different plant management level

One article informs about how to handle the subject of the Window XP operating system obsolescence to keep operation in a safe environment.

In addition we provide some details about the annual Advant Power Control User Conference (APCUC) held in US and Australia, where engineers share experience among themselves and get information and advice from ABB experts. Why don't you join one of the 2014 conferences?

I trust you get some interesting information within the newsletter and will find some additional values for your operation in the services described. We encourage feedback and invite you to share your interests and comments with us. We are delighted to provide any additional information or advice you may need.

I wish you happy reading.
Kind regards
Matthias Bolliger
VP, Head of Global Execution
ABB Power Systems

Power and productivity
for a better world™

Taking control of information management

ABB PGIM provides complete and flexible data reporting and diagnostic capabilities for power generation

An advanced ABB information management solution at a midsized power plant in Western Australia delivers fully flexible data reporting and diagnostics functionality that is completely compatible with any installed system or future system installations.

Owned by Synergy, the leading electricity producer in the state of Western Australia, the 240 megawatt (MW) Cockburn combined cycle power generating station supplies power to the southwest portion of the state and the Perth metropolitan area (pop. 1.9 million). Built in 2003, Cockburn was the first combined cycle gas turbine plant in the state. It captures exhaust heat from an Alstom GT13E2 gas turbine, which is used to drive a steam turbine and generate additional electricity.

In 2010, Synergy asked ABB to expand the functionality of the plant's existing information management system (Advant IMS), with special focus on providing sophisticated, user-friendly historical data and diagnostic tools. Specific requirements existed also for the interfaces the new system needed to deliver, as plant information is not only provided on classical control buses but also, for example, via ASCII files and FTP access (see layout drawing).

In response, ABB installed a Power Generation Information Manager (PGIM) system as the new central information management, data acquisition and reporting solution for the plant.

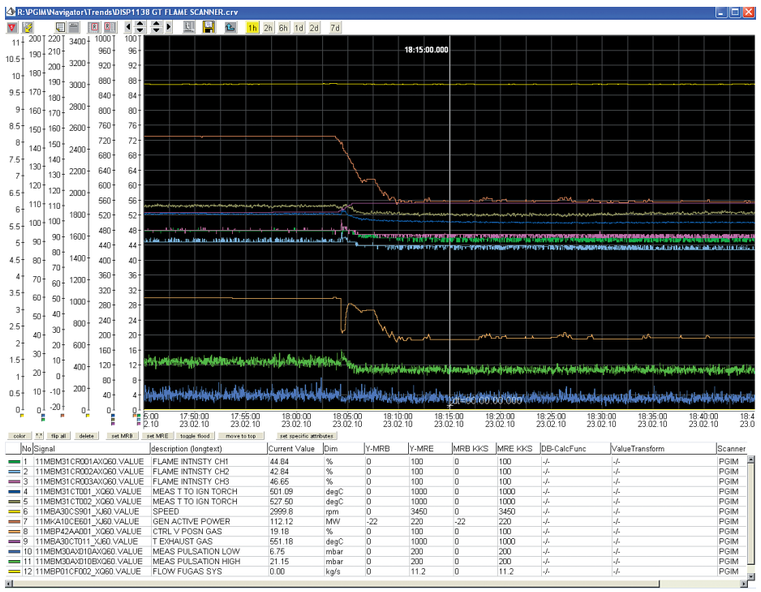
The scope of supply included redundant PGIM DB servers, a PGIM application and web server, including a report system with automatic report generation and the ability to generate special customer reports, PGIM SW counters, automatic mailing of generated reports, and PGIM graphics with special customer displays and trends.

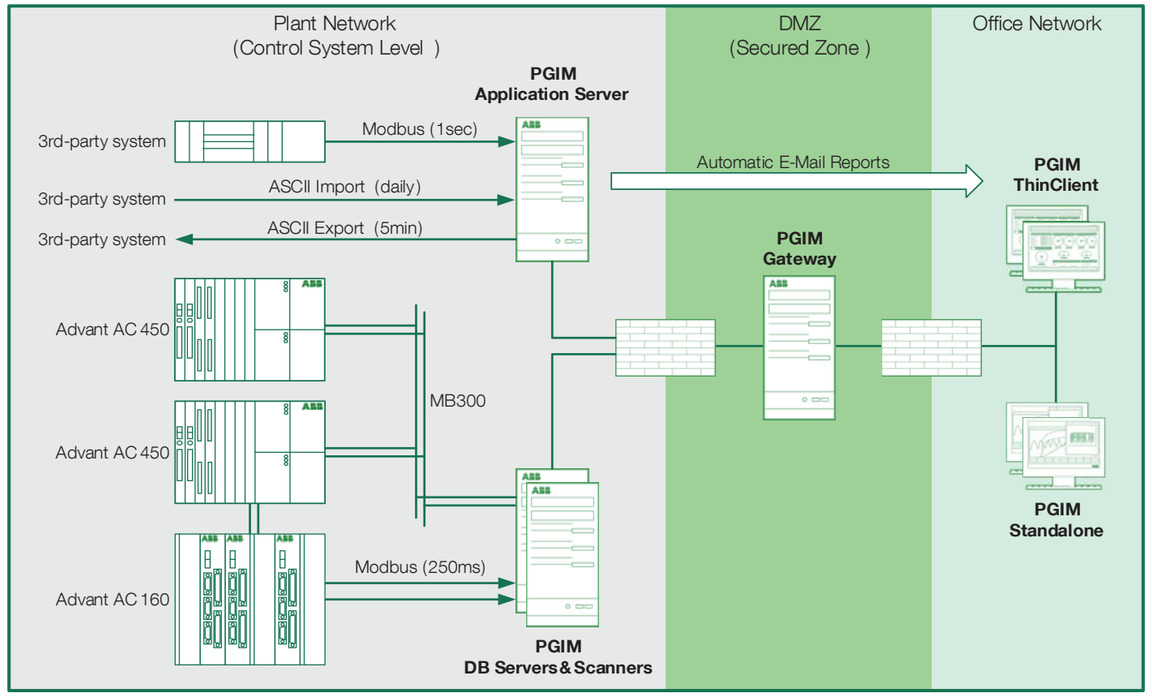
Synergy gained a state-of-the-art information management system with very high data base availability and capability, which accelerated and improved the plant's reporting and trending capacity.

While the standardized, well-tested solution for the Advant Master platform based on ABB's System 800xA certainly ensured Synergy made the right platform choice, the added incentives like high-speed data collection via 250 ms-cycled ModBus, bi-directional interfaces to any existing plant system and full enterprise integration really appealed to them.

The existing IMS system is still operational, but now only supplies historical trends to the Advant OS500 operator stations. The PGIM system has completely taken over as the plant's primary reporting tool, for historical data diagnostics (process data as well as events), for data presentation and operation disturbance analysis, etc. Both historians are directly connected to the plant's main MB300 control network without any interference.

Last November, a PGIM gateway server was installed for enterprise-wide data visibility, including a PGIM OPC DA server for continuous process data collection, a PGIM HDA server for historical data collection on demand and extracting existing data collected in the system. The gateway is connected to a corporate OSISoft PI data management system at





Synergy headquarters in Perth, and also provides the option of integrating other Synergy power plants, such as the nearby Kwinana coal-fired power plant. In addition, the high-speed Modbus interfaces were modified to enable direct timestamp transfer from the controllers via the Modbus interface.

The Extended Automation System 800xA is currently only installed to provide data-acquisition connectivity to the Advant AC450 controllers. But the platform could easily be expanded any time in the future to seamlessly replace the old Advant OS500 operator stations and provide full operation of the plant. The specific Advant Power extensions for System 800xA provide a complete set of compatible graphics that enable a smooth transition with the lowest training requirements for the existing plant personnel, minimizing the time needed to prepare and commission such a complete HMI upgrade project.

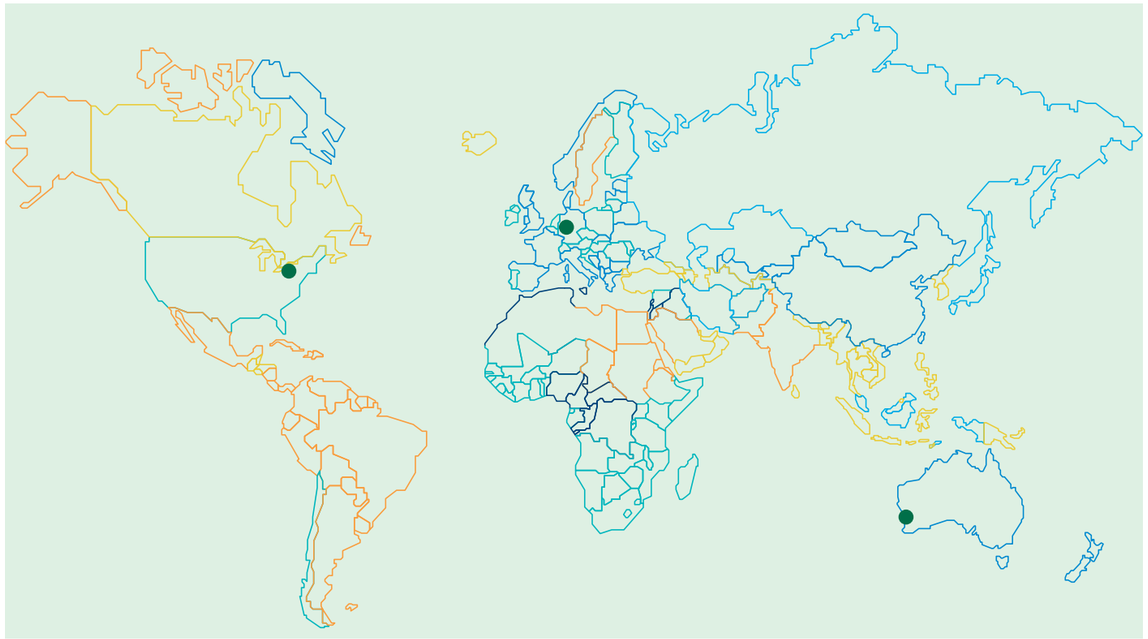
PGIM (Power Generation Information Manager)

PGIM (Power Generation Information Manager) is the preferred historian for ABB Power Systems. The platform is tightly integrated into both System 800xA and S+ Operations and acts as long term data storage and analysis platform for both systems.

With its flexible system architecture, multiple DCS interfaces and historian functionality, PGIM is the ideal solution for today's demanding power generation applications. In addition to its state-of-the-art historical process and event data analysis capabilities in the form of trends, graphics, reports and an event management portal, it provides Excel-based reporting functions; trends with the same accuracy across the entire online archive validity (usually several years of data); and an event management system with diagnostic tools.

In addition to many other functionalities, the system also provides the historical data platform for the ABB Optimax portfolio enabling sophisticated plant monitoring and optimization functionalities.

PGIM is the most powerful information management tool for the power generation industry today and helps to
- save costs by providing company-wide access to critical information
- accelerate business processes, find and solve potential bottlenecks fast
- increase productivity with effortless collection of condition data
- create new quality standards by comparing past and present operation processes
- extend data access to include all relevant information and parties



Welcome to the ABB events

Here you can find all events and conferences from the power generation industry that may be of interest for you.

APCUC, the Advant Power Control User Conferences are warmly recommended to attend. These are hosted by the Advant users themselves and the focus is really on meeting, sharing experiences and exchanging best practices. In addition, they are the perfect platform to experience the latest Advant Power product updates and system news by ABB. If you would like to participate in one of the two Advant User Conferences, please do not hesitate to contact us:

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Event	Start date	End date	City	Country
POWER-GEN Europe	June 3	June 5	Cologne	Germany
APC User Conference USA	August 14	August 15	Mohegan Sun, Montville	USA
APC User Conference Australia	November 20	November 21	Fremantle	Australia

Advant Power Control User Conference – an event by customers for customers!

APCUC team in Australia, 2012

Every year ABB meets with power plant operators at user conferences in North America and in Australia. All operators have one thing in common: The Advant control system controls their power plant and is therefore an indispensable part of it. The conferences provide a unique opportunity for communication between the customer and ABB. Their object is to share experiences about the Advant system and to discuss the latest innovations. The discussions currently focus on the life cycle, the advantages of replacing the user interface with the 800xA system and expansion with PGIM (power generation information management).

APCUC North America

Last year's North American conference was the tenth one to be held. Washington DC was the venue for this anniversary meeting in August.

It is clear that the interest in this topic is even greater than in previous years. Many customers have come to a turning point because their user interface has reached the end of its life cycle. There is therefore a great interest in migrating to the 800xA system and PGIM. The task involves replacing the old existing Unix platform with the latest Windows platform. In lively discussions, ABB experts provided explanations and answers to the participants' remarks and questions.

The conference made all participants noticeably more confident and the customers are now all the more curious about and interested in the 800xA system and PGIM. To address this situation, ABB will incorporate a plant visit into the North American Conference next year for the first time. The Lake Road plant in Connecticut has been selected as the site for this visit.

APCUC South Asia

Last November, Australia was the venue of the second Advant Power Control User Conference for customers from South Asia.

The conference in Australia celebrated its fifth anniversary this November and had already incorporated a plant tour this time for its participants. The SAS Conference took place in Mooloolaba, Queensland. The conference also focused on the replacement of the user interface with the 800xA system and an expansion with PGIM. The 800xA system and PGIM were implemented and virtualized last year in the Swanbank E plant and the visit to this plant was certainly an impressive experience for the power plant operators. It was an absolute highlight and great pleasure for us to be able to spark the visitors' enthusiasm with such a realistic example.

Customers really value these user conferences. The conferences provide a platform to exchange ideas and information on the one hand and on the other, a unique opportunity to keep ABB technology present in the plants.

Managing Windows XP end-of-life

Windows XP background

As announced several times, Microsoft will stop supporting the ageing Windows XP operating system on April 8, 2014. After this date, XP users will no longer receive software updates or tech support from Microsoft, although the company announced earlier this year that it will continue to provide virus warnings for Windows XP until 14 July 2015. (Windows Server 2003 server operating system will also reach its end-of-life in July 2015.)

Risks to consider

Microsoft is recommending XP users upgrade to Windows 7 or 8, but this involves costs for new operating system software, and could also require investment in new hardware since the PCs (or other hardware devices) that have used to been run XP for some years may be incompatible with the latest Windows operating systems.

Computers using XP Windows after support ends could become more vulnerable to security risks and viruses, and XP users will find new software and hardware is optimized for more current Windows operating systems, so that greater numbers of apps and devices will not work with XP.

XP end-of-life presents some critical risks to the safe management of assets and plants operating on XP-based solutions, a situation that also affects ABB automation and control systems.

ABB can help you

For our customers using Windows XP, ABB has two solutions to help eliminate or mitigate the end-of-life risk.

1. Our intermediate solution is a “PC refresh,” which involves replacing existing PCs with new hardware capable of running Microsoft’s existing and out-dated operating system for an extended time. The solution isolates a system, meaning it is separated from Internet and intranet connections in order to reduce cyber security risk. The end user should also introduce organizational measures to prevent malware from entering the system through careless use of CD’s, USB memory sticks, external drives, etc.

2. The ABB Evolution pathway updates and upgrades an existing system to the actual versions of operating systems as well as product and application software. In addition, for customers not yet subscribed to ABB Evolution programs such as Sentinel, ABB offers special maintenance contracts for a specific time period as a means of upgrading and avoiding end-of-life operating system issues.

Advant platform solutions for XP obsolescence

The Advant platform and the applicable Power Generation add-ons are fully supported by ABB and have overcome the XP obsolescence issues for quite some time.

For all products required to operate and maintain an Advant Power system ABB is offering upgrades and seamless evolution paths to the latest versions:

- Control Builder A supports Windows 7/Server 2008 since version 1.3 and 64-bit systems including Server 2008 R2 since version 1.3/1 including all Advant Power add-ons (engineering libraries).
- The PU410 external RTA board solution is totally independent of Server HW and also supports virtual systems.
- System 800xA including AC400 and AC100 connectivities fully supports Windows 7/Server 2008 (R2) for 32-bit and 64-bit since System Version 5.1 Rev.A.
- The Advant Power add-on packages for AC450 and AC160 based on System 800xA fully support the latest Microsoft Operating Systems including 32-bit and 64-bit versions since versions 5.1.0.

For details about the available upgrade paths specific to your configuration and type of application, please contact your local ABB Power Generation contact.

Core Advant Power and related products

Latest Revisions

Product	Version	Released	Remarks
Connectivities and Operator Stations			
AdvaCommand	1.8/6	2004	
AdvaCommand Extensions 1	1	2006	Station backup on file
AdvaCommand Extensions 2	2	2007	Print to file
APC for OS500	2.3/4	2004	
APC AC160 for 800xA EDB	5.1.0	2012	PG2 graphic elements
APC AC160 for 800xA DAT	5.0.0	2008	
APC AC450 for 800xA	**5.1.1**	**2014**	**64bit compatible; PG2 graphics (faceplates and symbols)**
AEH Enterprise Historian	2.2/0	2000	
IMS Reports	2.1/0	2002	
AC100 OPC Server	5.1.0/1	2012	64bit support
System Software and Libraries			
APC AC450 UDPC version	**2.1/2**	**1999**	**Released for Advant Controller 450 2.3/10**
APC AC450 PC version	**2.3/0**	**1999**	**FlashPROM version; Released for Advant Controller 450 2.3/10**
Advant Controller 450	2.3/10	2012	
AC160 SSW	2.2/6	2012	
Engineering Tools			
CBA for Advant Power	1.3/1	2012	Win 7, Win 2008 Server 32 and 64 bit support
FCB	6.3/1	2012	Connect simultaneously to more than 9 PM665
ONB	3.1/1	2012	Win 7, Win 2008 Server support for PU410
Hardware			
PM665	PR: N	2002	Successor of PM645x with higher performance and capacity
CI630	PR: L FW w	2012	Improved redundancy switchover
CI631	PR: K FW w		
CI820V1	2.2/5	2013	Fixes issue described in APN2072, see page 7
CI869	PR: C	2010	AF100 interface for AC800M controller
CI527A		2006	3.3V PCI Support
DI651	PR: G FW e	2005	Support of DI651x DB element to avoid nuisance time-jitter alarms
DP640	PR: L FW e	2009	Fast Trip from low speed
CSM01	A	2008	Support module for SIL3 certified protection
PU410	1.0.1.0	2010	External RTA board

Coming soon

Product	Version	New Feature
Connectivities and Operator Stations		
APC AC160 for 800xA DAT	5.1.x	PG2 and 64bit support
APC AC160 for 800xA EDB	5.1.x	PG2 and 64bit support
Hardware		
CI630A	FW x	Improved robustness and fault finding
CI631A		
CI527A for PCI Express		External solution for current server HW

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We are here to support you

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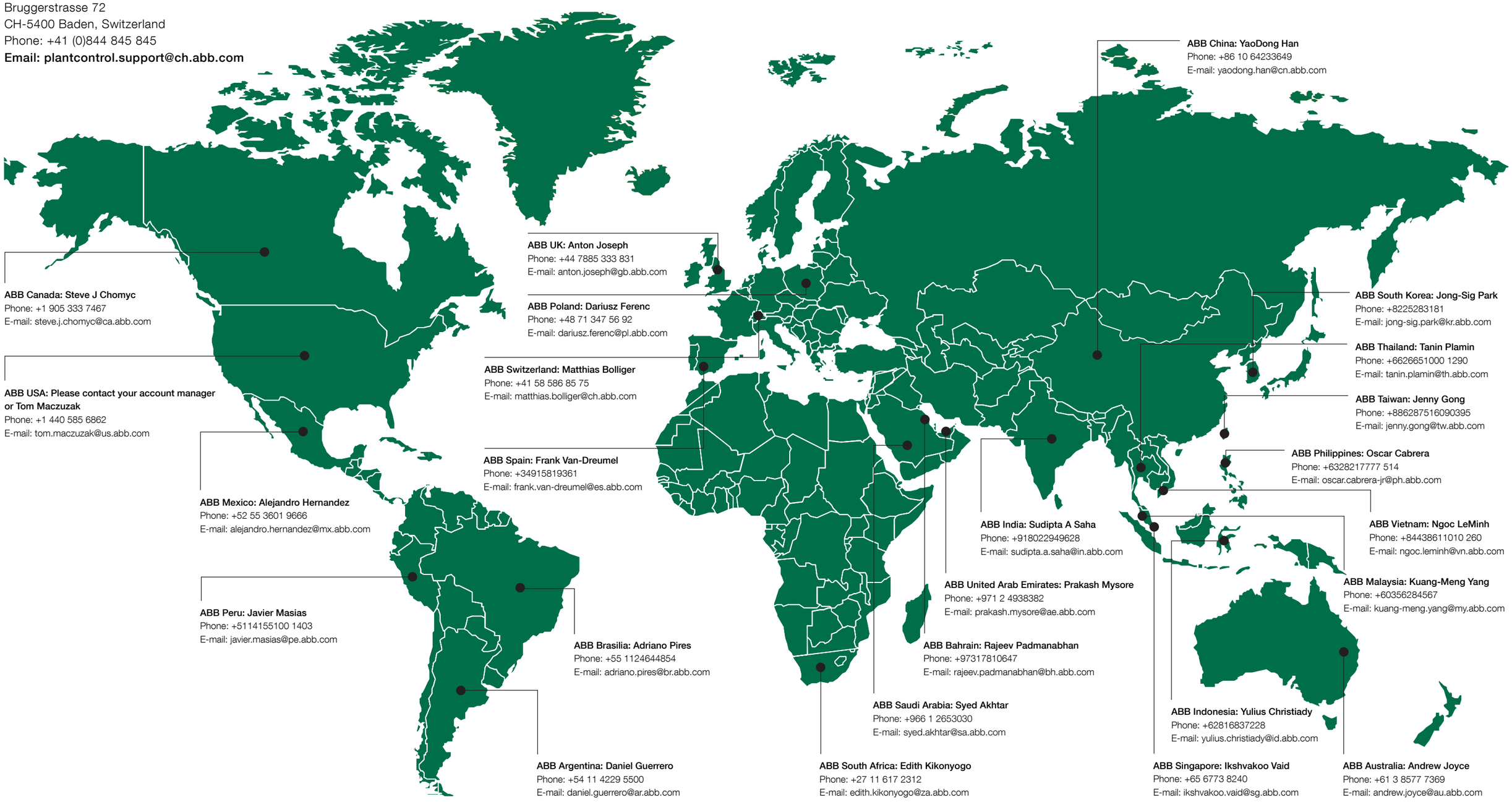

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