Event Programme

ABB Energy and Automation Forum Canada 2014

Telus Convention Centre
Calgary, Alberta – September 9-11

Power and productivity
for a better world™

Agenda at a Glance

Tuesday	Wednesday	Thursday
11:00 **Registration**	07:00 **Registration**	07:00 **Registration**
	07:30 **Grab & Go Breakfast**	07:30 **Grab & Go Breakfast**
	08:30 **Opening Plenary** – Energy and Automation Global Outlook – Introduction by Greg Scheu, ABB North America, Daniel Assandri, ABB Canada, Dr. Jochen Kreusel and Dr. Bernard Eschermann, ABB Group and Don Leavens, NEMA	08:30 **WoMenpower Panel** – Diana McQueen, Alberta Minister of Energy, Gianna Manes, CEO of Enmax and Nathalie Pilon, VP and GM, Low Voltage Products, ABB Moderated by Velma McColl, Principal of Earnscliffe Strategy Group
	09:30 **Break**	09:15 **Break**
	10:00 **CEO Panel** – AltaLink, ATCO Ltd., BC Hydro, Emera, Hatch Ltd., Hydro One, Hydro Quebec, SNC-Lavalin, Total and TransAlta Corporation CEO Panel Moderator – Toby Heaps, Corporate Knights and Julia Frayer, London Economics Intl	09:30 **Future Perspectives - What's Next** – Greg Scheu, ABB North America,z Daniel Assandri, ABB Canada and Rick Janega, Emera, Newfoundland & Labrador
	12:00 **Break**	10:15 **Break**
	12:30 **Lunch**	10:30 **Exhibits and Breakout Sessions**
	13:30 **Keynote Speaker** – Introduction by Greg Scheu, ABB North America, Gary Doer, Ambassador of Canada to the US – Moderator, L. Ian MacDonald, Editor and Publisher of Policy Magazine	11:15 **Break**
		11:30 **Exhibits and Breakout Sessions**
		12:15 **Break**
	14:30 **Break**	12:30 **Lunch**
	14:45 **Exhibits and Breakout Sessions**	13:30 **Exhibits and Breakout Sessions**
	15:30 **Break**	14:15 **Break**
	15:45 **Exhibits and Breakout Sessions**	14:30 **Open Door** – Intro speaker, Carolina Gallo, ABB **Guest Moderator** – Hayley Wickenheiser, Bill Rosehart, University of Calgary, Bob Craig, Devon and Rand Ayres, SAIT
16:30 **Welcome Reception** Daniel Assandri, President and CEO of ABB Inc. (Canada)	16:30 **Showcase Exhibit Pavilions**	
17:00 **Exhibit Opening** – Ribbon Cutting and Reception	18:00 **Gala Dinner and Entertainment**	15:30 **Open Door, Exhibits** – Discover the world of engineering at ABB and join the hockey robot challenge with the academic community.
19:00 **Closing**	22:00 **Closing**	17:00 **Closing**

Exhibit Pavilions Plenary Session

Agenda subject to change.

Registration hours

September 9: 11:00 – 19:00
September 10: 07:00 – 19:00
September 11: 07:00 – 17:00

Event hours

September 9: 16:30 – 19:00
September 10: 07:30 – 22:00
September 11: 07:30 – 17:00

Exhibit hours

September 9: 16:30 – 19:00
September 10: 07:30 – 08:30, 14:30 – 18:00
September 11: 07:30 – 08:30, 10:30 – 14:30, 15:30 – 17:00

Live Updates

A message from Honourable Diana McQueen and Daniel Assandri

Message from Honourable Diana McQueen, Minister of Alberta Energy

On behalf of the Government of Alberta,

The Government of Alberta is committed to creating a strong foundation of research and development that supports innovation. This strong foundation is what attracts the world to our doorstep. Alberta has made innovation a core component of our economy and a key part of our energy strategy, and therefore I am proud to host this premiere event, the Energy and Automation Forum, in our province.

I hope this gathering of some of the best and brightest minds creates discussion and innovation focused on the challenges and opportunities in the global energy industry. Alberta's continued success as a world-class energy supplier will depend on continued innovation and technologies advances of all kinds.

I appreciate the opportunity to participate in ABB's cutting-edge forum, their first national forum in Canada. The goals of our government are aligned with this kind of forward-thinking, innovation-focused discussion, and I encourage all attendees to take advantage of this experience over the next two days.

Diana McQueen

Welcome Message from Daniel Assandri, President and CEO, ABB Inc. (Canada)

On behalf of ABB,

I am very pleased and honored to welcome leaders from China, Germany, Sweden, Switzerland, the United States and from across Canada.

The ABB Energy and Automation Forum program has been developed to provide insights and inspire attendees about the rapidly evolving technological advances and their impact on power and automation solutions.

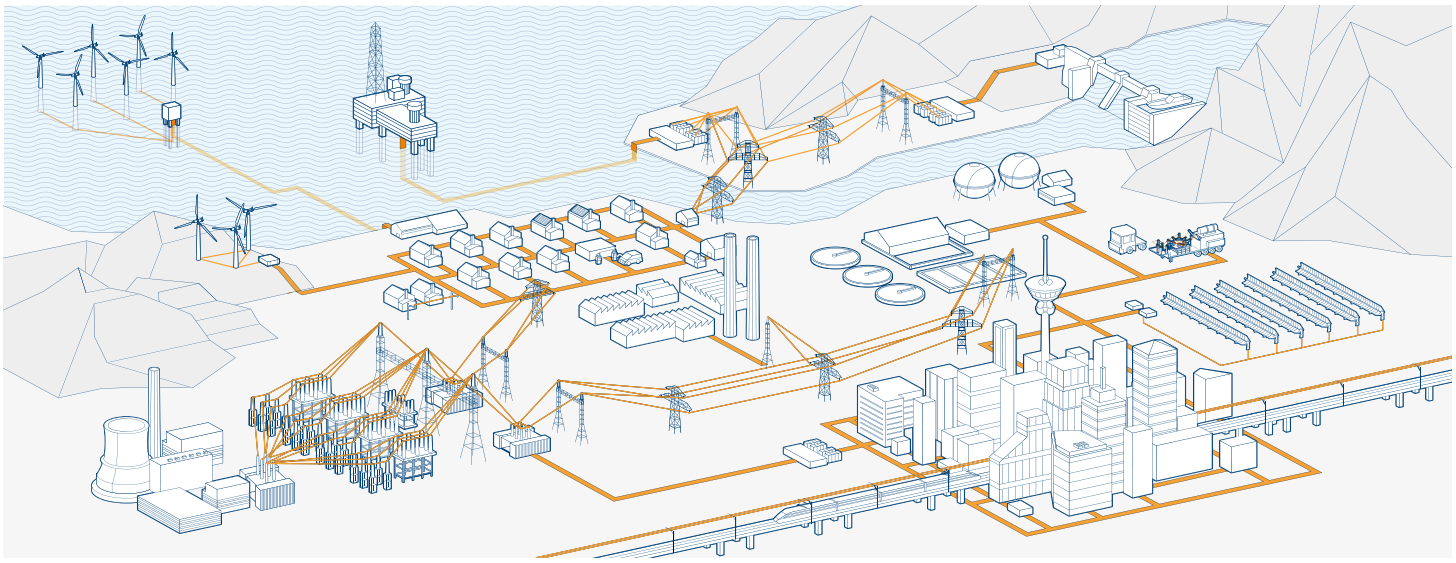
Never before in Canada has the full extent of ABB's global and local expertise been presented under one roof.

Programme highlights include an Open Plenary focusing on the global vision and economic markets outlook for energy development; a CEO panel including chief executives from utilities, energy and industries; an exhibition, panel and breakout sessions; a WoMenpower panel focusing on driving sustainability at the heart of business and government.

We look forward to welcoming existing and new customers as well as industry experts to an event that we believe will provide a forum for discovering new ideas and making powerful connections.

Daniel Assandri

Canada's Energy Landscape



Bringing leaders together to make a difference in the Energy and Automation dialogue

1. How does the overall balance of energy supply and demand (including national and interprovincial imports and exports) appears in Canada today and how do we expect it to evolve?

2. Which provinces in Canada have the opportunity to export energy today and in the future? To whom and how much?

3. If we compare exports of oil, gas and electricity (mainly from renewables), how will these in their current ratios evolve in 5, 10 and 25 years from now? How do they compare in terms of prices levelized ($/Energy Unit x Distance).

4. Which transmission corridors exist and where are new transmission projects being sited, provincially, inter-provincially and between the USA and Canada? How much energy will these new transmission corridors move?

5. How can existing rights of way for railways, pipelines and transmission lines be leveraged for HVDC transmission?

6. What can be done to overcome major regulatory and political roadblocks to the development of new energy transmission corridors?

7. What role should CEOs from the energy producing companies and their suppliers play to illustrate, inform and educate public opinion about energy matters?

8. How can advanced technologies help?

Plenary Highlights

Welcome Reception
Tuesday, September 9
16:30 to 19:00

Come and connect with ABB! View a technology premiere in Canada at an exhibit of the full portfolio of ABB's pioneering solutions in power and automation. Enjoy a Calgary Caesar and mingle at the opening cocktail event with CEO Daniel Assandri and the Canadian senior Executive team.

ABB in Canada
Daniel Assandri
President and CEO

ABB in Canada
Gabriel Azeroual
Process Automation

ABB in Canada
Greg Farthing
Front End Sales

ABB in Canada
Anders Hutberg
Power Systems

ABB in Canada
Marc Mitges
Power Products

ABB in Canada
Nathalie Pilon
Low Voltage Products

ABB in Canada
Chris Poynter
Discrete Automation and Motion

ABB in Canada
Ben Venter
Service

Open Plenary
Wednesday, September 10
08:30 to 09:30

Global vision and economic markets outlook for energy development delivered by senior ABB executives, Technology Experts and Chief Economist of National Electrical Manufacturers Association (NEMA).

ABB North America
Greg Scheu
President and CEO

ABB in Canada
Daniel Assandri
President and CEO

ABB Group
Dr. Jochen Kreusel
Head of Smart Grids

ABB Group
Dr. Bernhard Eschermann
Head of Technology Process Automation

NEMA
Don Leavens
VP and Chief Economist

CEO Panel
Wednesday, September 10
10:00 to 12:00

Bringing leaders together to make a difference in the Canada energy landscape dialogue.

AltaLink
Scott Thon
President and CEO

ATCO Ltd.
Siegfried Kiefer
Chief Operating Officer

Emera Newfoundland & Labrador
Rick Janega
President and CEO

BC Hydro
Greg Reimer
Executive Vice-President

Hatch Ltd.
John Pearson
Global Managing Director

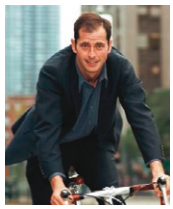
Hydro One Inc.
Carmine Marcello
President and CEO

Hydro-Québec TransÉnergie
André Boulanger
President

SNC-Lavalin Power Group
Sandy Taylor
President

Total E&P Canada Ltd.
André Goffart
President and CEO

TransAlta Corporation
Dawn Farrell
President and CEO



Corporate Knights Inc.
Toby Heaps
CEO & Publisher

London Economics International LLC
Julia Frayer
Managing Director

Keynote Speaker
Wednesday, September 10
13:30 to 14:30

Gary Doer has been Canada's envoy to Washington, D.C. since 2009 and previously was the Premiere of Manitoba for 10 years where Business Week in 2005 named him as a top international leader in climate change. Moderated by L. Ian McDonald, Editor and Publisher of Policy.

ABB North America
Greg Scheu
President and CEO

Government of Canada
Gary Doer
Canada Ambassador to the US

Policy Magazine
L. Ian MacDonald
Editor and Publisher

Plenary Highlights

Gala Dinner and Entertainment
Wednesday, September 10
18:00 to 22:00

WoMenpower
Thursday, September 11
08:30 to 09:15

Sharing insights about driving sustainability at the operations level of business and government policy. Moderated by Velma McColl, Principal of Earnscliff Strategy Group.

Government of Alberta
Diana McQueen
Minister of Energy

Enmax
Gianna Manes
CEO

ABB in Canada
Nathalie Pilon
VP Low Voltage Products

Earnscliffe Strategy Group
Velma McColl
Principal

Future Perspective: What's Next
Thursday, September 11
09:30 to 10:15

Future perspectives: President and CEO of ABB in North America Greg Scheu shares critical insight on strategy for power and automation technology and will be joined by Emera CEO Rick Janega, who will speak about the vision for Maritime Link, an important new chapter in the power transmission industry for Canada and North America.

ABB North America
Greg Scheu
President and CEO

ABB in Canada
Daniel Assandri
President and CEO

Emera Newfoundland & Labrador
Rick Janega
President and CEO

Open Door
Thursday, September 11
14:30 to 17:00

An exhibition showcasing energy technology solutions for a better world with the academic community and students. Moderated by Hayley Wickenheiser, Canadian Olympian.

ABB in Canada
Carolina Gallo
Director of Communications

Hockey Canada
Hayley Wickenheiser
Canadian Olympian

University of Calgary
Bill Rosehart
Dean of Engineering

Devon Canada
Bob Craig
Automation Leader

SAIT Polytechnic
Rand Ayres
Interim Dean

Breakout Schedule & Abstracts

Wednesday, September 10
Presentations starting at 14:45

800xA SV 6 World Tour

Presented in
Exhibit Pavilion – Innovation Theatre

Presented by
Roy Tanner, 800xA Global Marketing Manager – Control Business Technologies, ABB
Dr. Bernhard Eschermann, Head of Technology Process Automation, ABB Group

Session Abstract
It's all about control. Automation is a necessary part of manufacturing and, if used properly, can make a tremendous impact on productivity and profitability. This session celebrates the journey of ABB's extended automation concept and examines the need to take control of certain aspects of automation including cyber security, cost reduction, and operational effectiveness. ABB's world leading 800xA Automation Platform is the enabler in taking control of your plant, with world leading Electrical Integration capabilities; true safety integration and wireless connectivity, the release of SV 6 of 800xA give you full control to drive your plant profitability.

Future of Solar Energy

Presented in
Macleod E1 – Major Trends Driving Innovation

Presented by
Pablo Astorga, Business Development Manager - Solar, ABB

Session Abstract
During the last decade, growth of renewable energy sources such as wind and solar has shown an unprecedented rate at a global level, mostly as grid-connected systems fully driven by incentives. Looking forward, an increasing amount of end users will see solar as a source of energy that can generate electricity at a competitive price. In addition to this, solar is increasingly becoming a viable technology for isolated off-grid systems where the added value goes well beyond the reduction of electricity cost. Remote communities, island populations, mines, industrial facilities and other types of power consumers are often operating in so called microgrids, where the low cost, simplicity, flexibility and modularity of solar can help reduce electricity prices while providing additional benefits. In this session we will explore the potential of solar and microgrids independently, as well as the value of combining both technologies.

Integration of Variable Speed Drives into High Resistance Grounded Networks

Presented in
Macleod E2 – Reliability, Productivity and Best Practices

Presented by
Arnold Taddeo, Product Director – Traction, ABB

Session Abstract
With the increase in arc flash regulations, particularly in the mining, metals, and petrochemicals industries, there has been an increase in the use of high resistive grounded or floating networks. The integration of variable speed drives into these networks, in particular, motor ground fault protection, is becoming a topic of concern. Understanding the interaction between drive technology and different types of networks is important for equipment providers and those responsible for electrical integration and design. This session presents the technical issues and solutions available.

ABB Low voltage systems: safety by design

Presented in

Macleod E3 – Sustainable Development (Safety, Compliance & OPEX)

Presented by
Lutz Boettger, Global Product Group Manager and North America Business Unit Manager – Data Centers and Infrastructure, ABB

Session Abstract
With the stories heard all over the news on electrical safety incidents happening in the field including arc flash, it was important to design equipment that reduces those risks and makes it safer to handle and replace parts in the field. ABB has created, in its MNS Low Voltage Motor Control Centers, the bucket approach. A concept that reduces, by design, arc flash events and allows service personnel to replace parts safely and swiftly without the need of tools. Through some short videos, we will explain these concepts and help understand all the safety features embedded in the design of the ABB LV MCC.

Breakout Schedule & Abstracts

Benefit/Cost Analysis for Distribution Grid Modernization

Presented in
Macleod 4 – Technologies to Power the Future

Presented by
Doug Voda, Global Segment - Leader Smart Grid MV, ABB

Session Abstract
Deploying smart grid in distribution networks requires an understanding of existing infrastructure, operation costs, current performance, recent penalties and future objectives of the utility and utility commission. With this information, determining the order of activity, type and timing of investments, can be determined as well as calculating the benefit to costs. Benefit/cost examples will be provided for applications such as fault detection isolation restoration, conservation voltage reduction and voltage optimization, asset health monitoring, microgrids. A taxonomy chart will be presented showing the factors many utilities use in analysis models to select communication technology for application in their distribution networks.

Presentations starting at 15:45

Implementing and using new smart measurement technologies to improve plant performance

Presented in
Exhibit Pavilion – Innovation Theatre

Presented by
Greg Livelli, Senior Vice-President and Product Group Manager – Flow Measurement, ABB

Session Abstract
It's easy to forget that the whole reason for the field-device network is the smart device on the plant floor. There is little doubt that technological improvements, such as fieldbuses, have offered significant savings in wiring, but the real reason to install smart instruments is to get more information about the process and the device itself. Enhanced diagnostics of the sensor, electronics, and process, not only can communicate more information about the devices. Smart instruments are embedded systems and use a hardware-architecture strategy to increase measurement accuracy under varying operating conditions. These instruments use sensors to make physical measurements, a microprocessor to partially analyze sensor data, on-board memory to hold parameters and intermediate results, and I/O capabilities to report results to the next level of automation. Today's smart instruments provide a change in technology that takes full advantage of the microprocessor technology to provide fast, bidirectional digital-communications to decrease the overall cost of process instrumentation.

Oil & Gas: The Key Driver for the Future of Process Automation

Presented in

Macleod E1 – Major Trends Driving Innovation

Presented by
Larry O'Brien, Vice-President Research – Oil and Gas, ARC

Session Abstract
Globalization, rising energy costs, retiring experienced workers, replacement millennial workers and the proliferation of regulations are impacting the Oil and Gas industry, which are also under intense pressure to operate more safely to manage risk, manage cost, and collaborate faster and more reliably across a complicated value chain. What is the future for plant automation and what enablers will sustain and grow process manufacturing? ARC Advisory Group will present a summary of their research regarding the automation markets, identified key trends, drivers and the future direction of advanced applications.

Utilizing your distributed control system to improve your equipment reliability and predictability through integrated asset monitoring processes

Presented in
Macleod E2 – Reliability, Productivity and Best Practices

Presented by
Ben Venter, Vice-President Service
Darren Schultz, Automation Manager – Oil, Gas and Petrochemical, ABB
Shawn Lyndon, Senior Vice-President, Ventyx

Session Abstract
As a business you have invested significant resources in a DCS system and plant equipment from which many comes with the ability to monitor and provide smart data for operations & maintenance. The challenge is however the integration of the control systems and the data available within the installed equipment to drive overall equipment effectiveness, improve reliability and predictability while maintaining a controlled operational process. In other words: Driving reliability and performance through your

existing control system and installed equipment. Extended automation systems can provide the "Power of Integration" needed to address these challenges through:

– Establishing a reliability centered maintenance process that will incorporate smart data available within installed equipment
– Field device integration
– Continuous Health Condition Monitoring for all kinds of Plant Assets in one system with root cause detection capabilities reported into a single user interface
– Utilizing integrated data within the control system to monitor system (multiple monitoring signals) reliability through advanced asset monitors and external platforms (Asset Health Platform)
– Asset monitoring and the integration into a Computerized Maintenance Management System (CMMS)

These elements could optimize the ROI through utilizing your current DCS and installed base to drive improvement within operations, maintenance, reliability and predictability within your facility. This presentation will demonstrate the use of the integrated automation platform concept to drive these improvements.

Ask the expert – Operational excellence – challenges and best practice

Presented in
Macleod E3 - Sustainable Development (Safety, Compliance & OPEX)

Presented by
Robb Barr, Operational Excellence Director, ABB
Dennis Frehlich, Executive Vice-President and Chief Operating Officer, AltaLink
Dan Muldoon, Executive Vice-President, Major Renewable Energy, Chair of Board, Emera Newfoundland & Labrador

Session Abstract
This Breakout session aims to provide insight into how leading companies are delivering value to their customers, driving productivity improvements and operating in a safe working environment. The panelists will provide their thoughts and vision on the following themes which will be will be covered one at a time. Each panelist will have 5 minutes to provide their insight per theme. What is the importance of listening to the customer, and how do you ensure that value is being delivered? How are you getting employees engaged to drive productivity improvements? Which critical elements need to be in place to ensure that all individuals working in your operations return home safely at the end of the day?

Primary Asset Lead (PAL) approach to project execution

Presented in
Macleod 4 – Technologies to Power the Future

Presented by
Dan Peet, President, Tundra Process Solutions

Session Abstract
Traditional project execution models have an end user lean on an Engineering company, who in turn leans on various suppliers, for the delivery of the actual products and packages that make up a plant or facility. While this is ok, it has proven to have inherent inefficiencies and drawbacks in terms of ensuring a project is built on time and without cost overruns. The presentation will focus on a new model for project execution whereas the relationships between the manufacturers, in-house Subject Matter Experts (SME's), across an incredibly wide array of World Class products, from boilers, water treatment, electrical, instrumentation & controls, and valves, allow to drastically reduce complexity, costs and time to completion. This encompasses the large majority of the equipment needed for any plant or facility. By engaging the specialized SME's and services they offer, the project can count on the PAL approach to augment the chosen engineering team by designing around these known pieces of equipment very early on, (in the FEED Stage ideally), through construction, commissioning, start up, and ultimately operation of the facility for years. This reduces the traditional hand offs that can result in duplication of efforts and inefficiencies, and relies on the SME's expertise to properly implement the various supplied components. A project would follow the PAL approach and thus see the benefits of 'fit for purpose product' selection and purchasing, streamlined expediting, pre-commissioning of equipment wherever possible, efficient logistics, extended warranties, & stocking of equipment by people who know the equipment the best. The result would be much improved cost certainty, and highly compressed schedule over traditional execution models.

Thursday, September 11 Presentations starting at 10:30

Asset Performance Management Solutions: The journey to asset condition based maintenance planning and optimization

Presented in
Exhibit Pavilion - Innovation Theatre

Presented by
Gary Rackliffe, Vice-President Sales NE Region, ABB
Shawn Lyndon, Vice-President, Ventyx

Breakout Schedule & Abstracts

Session Abstract
Transitioning from costly asset time based maintenance to condition based maintenance has been a long term goal of many utility organizations. The problem that has kept organizations from achieving this goal has been the inability to create a solutions that can interpret SCADA data, historical data and other back office data in a way that enables the ability to model an asset's behavior such that, the model can predictively provide the following indicators:

- Maintenance task(s) that should be conducted on an asset based on its current performance
- Historical asset's performance in comparison to maintenance activities that have been performed on that asset
- Dynamically generated indicators regarding how critical an asset may be to the operational state of a given circuit(s) (reliability)
- Forecasted comparative cost of maintenance versus replacement of an asset or fleet of assets

These elements comprise the bases for a generic solution that has the ability to more efficiently enable an organization to plan and optimize maintenance based on the fleet of assets' condition. This presentation will illustrate how to construct such a solution, show which data is needed and the required skill sets. The results will enable an organization to complete the journey to asset condition based maintenance.

Electrification of Transport: ABB innovative solutions to reduce the impacts on the grid

Presented in
Macleod E1 – Major Trends Driving Innovation

Presented by
Daniel Simounet, Director North America - Market Segment Transportation, ABB

Session Abstract
In a context of growing urbanization and increased demand for mobility, transit operators are challenged to increase their services with limited budgets while they are forced to adopt innovative solutions to reduce the air pollution generated by their vehicles. The electrification of mass transportation is developing quickly to answer this challenge as it offers zero emission and low maintenance fleet vehicles. However, the impacts on the electrical infrastructure are not negligible and need to be considered as part of the new system implementation in an urban environment. With recent development of technology in the field of power electronics, as well as energy storage management, transit operators now have access to new solutions to help them solve this industry challenge while limiting the impacts on the grid. This presentation will describe two examples of solutions developed by ABB in this context of developing SMART transit for SMART cities:

- The ENVILINETM ESS: The first train braking energy recovery system to reduce the electricity consumption while simultaneously generating revenues by participating in the grid regulation (SMART GRID) in Philadelphia
- The TOSA eBUS concept: The first large capacity on route "flash" charging 100% electric bus carrying around 135 passengers in the city of Geneva

Achieving delivery certainty for today's large projects

Presented in
Macleod E2 – Reliability, Productivity and Best Practices

Presented by
Brian Loos, Project Director, ABB

Session Abstract
Today's large automation projects in the oil & gas industry involve many participants, including the client, EPC's, equipment suppliers and fabricators from around the world. These projects are faced with pressure to deliver on budget and to aggressive schedules. This presentation will outline ABB's approach to executing large automation projects as a Main Automation Contractor (MAC) to ensure cost, schedule and execution certainty. The presentation will cover ABB's approach to execution and outline lessons learned from executing large scale oil & gas projects as a MAC.

Lower Your Risk by Ensuring Personnel Safety, Asset Protection and Minimized Downtime through Arc Flash Mitigation Methods in MV Switchgear

Presented in
Macleod E3 – Sustainable Development (Safety, Compliance & OPEX)

Presented by
Gianmarco Di Menna, Business Development Manager, ABB

Session Abstract
This session will present the application of product or design solutions for MV switchgear intended to mitigate the risks associated with arc flash events. In recent years, arc flash mitigation has become an important topic because of increasing awareness of its dangers, both to personnel and equipment. The most effective arc flash safety programs should not rely solely on planning safe work

practices and selecting appropriate personal protective equipment (PPE) to protect against shock and arc flash hazards. Instead, the development of arc flash safety programs should also consider fundamental design choices, as this can ultimately impact the levels of arc flash hazard when the system is in operation. This can help engineers more effectively design safety into a system as many different solutions exist to mitigate and/or reduce the effects of arc flash in medium voltage (MV) switchgear.

It's time to connect: HVDC Light technology

Presented in
Macleod 4 - Technologies to Power the Future

Presented by
Étienne Veilleux, System Specialist - Grid Systems, ABB

Session Abstract
High Voltage Direct Current (HVDC) is an established technology that has been in commercial use for 60 years. With the changes in demands due to evolving environmental needs, HVDC has become a common tool in the design of future global transmission grids. HVDC Light, developed by ABB and launched in 1997, is used to transmit electricity for grid interconnections and offshore links using overhead lines or using environmentally friendly underground and subsea cables. The technology is now in its fourth generation and technology modules developed and refined during the last 15 years have made it possible to create a converter that addresses and solves many of the limitations while retaining operational functionality and reduced losses. In this session, the HVDC Light technology and functionalities are presented with an outlook at the future trend such as tomorrow's HVDC grid.

Presentations starting at 11:30

Fast, Cost-Efficient Power Deployment Strategies

Presented in
Exhibit Pavilion – Innovation Theatre

Presented by
François Mailloux, Business Development Manager, ABB

Session Abstract
High voltage Gas Insulated Substation (GIS) in combination with modular E-houses provide fast installation and energization, thus resulting in reduced labor costs, scheduling time, and space requirements. Discover the GIS features that make this technology the best contribution to grid reliability and efficiency, while addressing the need for fast project execution and reduced footprint under extreme environmental conditions. Learn about e-houses and modular solutions available for utility and industry applications that deploy usable power in the fastest, most cost-efficient way.

Electrical Integration: Bringing Automation and Power together to increase productivity and reduce costs

Presented in
Macleod E1 – Major Trends Driving Innovation

Presented by
Brad MacDonald – DCS Marketing Manager, ABB

Session Abstract
ABB 800xA technology is a complete solution that provides the integration capabilities for all power and power automation areas such as process instrumentation, process electrification, substation automation and power management. ABB enables true full-plant integration eliminating the need for duplicate systems while providing a one-window solution that saves both operating and capital cost while opening up new opportunities to improved production and productivity. This presentation will examine how the 2 worlds are integrated into one platform under the 800xA Automation technology examining both the technical solution but more importantly the implementation in the real world from a cost saving and net benefit solution.

Cable Tray Systems – Innovations for Project Cost Reduction

Presented in
Macleod E2 – Reliability, Productivity and Best Practices

Presented by
William Smith, Product Manager, Thomas and Betts

Session Abstract
Engineers, contractors and end-users involved in industrial construction projects need to effectively manage wire and cable logistics without compromising integrity or safety, often within tight deadlines and budgets. Steel supports, used in overhead cable tray runs, are a significant contributor to a project's overall material and labour costs. Learn how two tested installation alternatives can significantly reduce the number of steel supports required for overhead cable tray runs as well as the associated installation and material expenses. Discover new advances in splice plate design that eliminate the need for additional supports.

Breakout Schedule & Abstracts

Transformer solutions for meeting the present Canadian PCB legislation requirements

Presented in
Macleod E3 – Sustainable Development (Safety, Compliance & OPEX)

Presented by
Ed teNyenhuis, Technical Operations Manager, ABB

Session Abstract
Recent Canadian legislation has toughened the PCB requirements for transformers and set compliance timelines in place. This will have a large impact on transformer maintenance and asset management programs. The methods and experience for assessing, preparing and executing a program to comply with the legislation will be presented. The solutions are enhanced to extend the life of the transformer assets so that better value is achieved from the expenditures spent on this issue.

The Power of Power Quality on an LV network

Presented in

Macleod 4 – Technologies to Power the Future

Presented by
Avikul Hemmad, Product Manager – LV Power Quality, ABB

Session Abstract
Power quality in low voltage networks primarily refers to power factor correction and harmonics mitigation. Improved power factor leads to efficient utilization of power consumed, which returns to the consumer several tangible benefits, both direct and cascaded. Harmonics mitigation on the other hand, helps prevent and/or minimize undesirable side-effects of non-linear, electronically-switched loads that are increasingly prevalent in modern industrial and commercial environments. Learn how ABB's low voltage power quality solutions can help improve overall operating efficiency and network quality at plant level… and beyond.

Presentations starting at 13:30

IT/OT Convergence

Presented in
Exhibit Pavilion – Innovation Theatre

Presented by
Gary Rackliffe, Vice-President NE Sales Region, ABB

Session Abstract
IT/OT Convergence represents the utility investment trend to integrate information technologies such as work and asset management, customer information, geographic information, meter data management, business intelligence, and mobile systems with operational technologies such as asset management, distribution grid management, and distributed energy resource management systems. This convergence is being accelerated by the application of analytics to help further improve the reliability, efficiency, and health of the grid. IT/OT convergence is also helping to enable the expanded integration of distributed energy resources such as renewable generation, storage, microgrids, and demand response. Convergence of these technologies will also be a core element of the transactive energy models that the industry is evaluating.

Help reduce your downtime by managing your motors and learn about synchronous condensers for remote weak networks

Presented in
Macleod E1 – Major Trends Driving Innovation

Presented by
Mark Gwinnett, Service Manager – Discrete Automation and Motion, ABB

Session Abstract
ABB's Motor Management program includes four key services to ensure the highest availability of your critical motor applications. Through these services, we can maintain your critical spares, predictive services to prevent critical failures and repairs services to recondition your existing motors. Also, synchronous condensers from ABB ensure efficient and reliable operation of power grids through reactive power compensation and additional short circuit power capacity. ABB can tailor synchronous condenser modules to match system performance requirements and site conditions, and deliver optimum cost-efficiency. See how ABB helps reduces the risk of downtime and provides the comfort that your equipment is in top operating condition.

ABB Excitation Division: Industry leader in innovation and technology

Presented in
Macleod E2 – Reliability, Productivity and Best Practices

Presented by
Christoph Moeglich – Technical Sales, Power Conversion, ABB

Session Abstract
In our presentation we will introduce our group and capabilities with the North American mandate, discuss basics of generators and excitation systems, examine our industry leading technology: the PEC800 regulator, highlight innovation and technology advancements with our converter bridges, HMI and software, look at some innovative solutions to difficult customer issues and focus on our technical support and service.

Improve the efficiency of existing transmission systems using the SVC Light Next Generation

Presented in
Macleod E3 – Sustainable Development (Safety, Compliance & OPEX)

Presented by
Mikael Halonen, Manager – FACTS Lead Engineers, ABB

Session Abstract
SVC Light Next Generation is the latest contribution to the FACTS family of grid-optimization solutions. SVC Light® improves the efficiency of transmission systems, increasing the power transmission capacity as well as reducing the risk of voltage collapses and blackouts. Its design is uniquely tailored to perform reliably at all times, combining simplicity and versatility. Chain-link multi-level topology allows for simple configuration of power circuits, while Pulse Width Modulated (PWM) power converters enhance their robustness. The result is an unrivalled combination of performance, user-friendly design and dependability. This session presents the innovative design that makes SVC Light particularly suitable for power grids facing a variety of challenges.

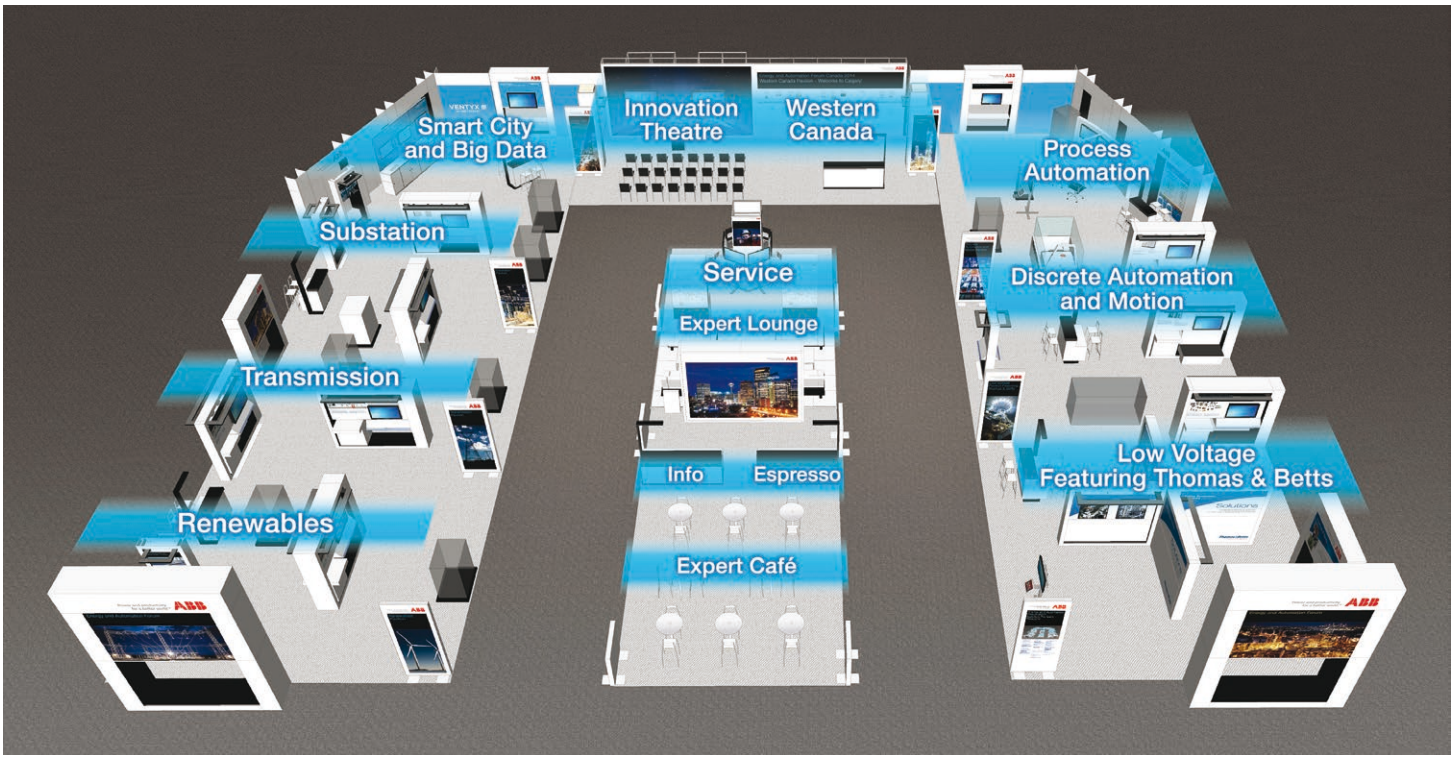
The Digital Substation: the evolution of Protection, Control and Automation

Presented in
Macleod E4

Presented by
Steven Kunsman, Vice-President and General Manager North America – Substation Automation, ABB
Dr. Jochen Kreusel, Head of Smart Grids, ABB Group

Session Abstract
What is so special about the Digital Substation? The session will overview the digital substation's key benefits highlighting safety, reliability, functional consolidation, and cost drivers leading to customer savings. Utilities are facing an increased demand on substation information and the digital substation opens the door for real time data exchange. The Digital Substation solution's key technologies (Relion relays, advanced substation automation and modern instrument transformers) are the advantages where IEC 61850/Ethernet and Cyber Security are positioned as technology enabler not obstacles. The session will also overview recent customer success stories and their key selling features.

Solution Pavilions Directory



Renewables Pavilion
– Solar and Hydro Solutions
– Power Products featuring Transformers
– Microgrids Info-Station
– GIS – Gas Insulated Switchgear Model
– Experts Desk

Transmission Pavilion
– CAPTHOR Plasma Capacitor Podium
– High Voltage Solutions
– FACTS Flexible AC Transmission Systems
– HVDC High Voltage DC Touchscreen Demo Station
– HVDC Info-Station
– High Voltage Cables

Substation Pavilion
– Power and Distribution Transformers
– Capacitor Podium
– Medium Voltage Solutions
  - Modular Substations
– AIS Substation Model
– GIS Substation Model
– Integrated Switchgear Info-Station
– Electric Rack-in Breaker Podium
– MV GIS Switchgear Podium
– Protection and Control RELION Relays
– Experts Desk

Smart City & Big Data Pavilion
– 61850 Demonstration
– IT/OT Information and Operational Technology Convergence
– Ventyx – Outage Lifecycle Management Demo Station
– Ventyx – Asset Health Centre Demo Station
– Tropos – Wireless Mesh Networks
– Experts Desk

Service Pavilion
– ABB Full Service Solution App Kiosks
– Service Demo Stations

Innovation Theatre
– Discover a World of Innovation

Western Canada Pavilion
– ABB Calgary Welcomes You!

Process Automation Pavilion
– Industry Segments and Solutions
– Automation Touchscreen Demo Station
– 800xA console
  - Ergonomically Optimized Workstation
– Automation Solutions App Kiosk
– Flow Rig Podium
– ARC Advisory Group – Experts Desk

Discrete Automation and Motion Pavilion
– ABB Hockey Robot Challenge!
– Robotics Info-Station
– Excitation Systems
– Drives Demo Station
– PLC's and Power Conversion
– DC Rail Solutions
– Motors and Generators Featuring Baldor
– Motion Control and Drives Demonstration
– Industrial Drives Podium
– Experts Desk

Low Voltage Pavilion Featuring Thomas & Betts
– Switches and Disconnectors Info-Station
– Cable Protection Systems
– Wire & Cable Management
– Safety Technology
– Power Connection & Control
– T&B App Kiosk
– Experts Desk

Expert Café
– Network with ABB's Local and Global Experts
– Expert Lounge

Information Desk

The Exhibit showcases the full range of ABB's offering in Canada. Experience a walk-through tour of the solution pavilions – from source to socket.

Pavilions start with solutions that harness and intelligently integrate renewables onto the grid for optimized performance and financial results. The tour continues with transmission systems and grid stability solutions connecting HVDC to modern underground substations adapted to urban settings. Explore ABB's project successes in Mining, Aluminum and the Oil Sands with project and on-site service experts who share their experiences with you. Watch ABB's operator console in action featuring plant control and the latest in process automation, drives and high-efficiency motors.

Discover how ABB's Thomas & Betts portfolio of proven equipment and accessories enables the most innovative industrial and commercial customers in Canada.

The exhibit also offers ABB's Expert Cafe, where breakout session presenters, attendees and industry experts gather to meet, chat and share ideas – while enjoying an espresso together!

Partners and Associations

CIGRE Canada is the Canadian National Committee of the International Council on Large Electric Systems (CIGRE), the leading international organization on high-voltage electricity generation and transmission. CIGRE was founded in France in 1921. For more information or to join CIGRE, visit cigre.org

University of Calgary - The Schulich School of Engineering is embarking on a $158.3 million expansion and renovation that will create more opportunities for engineering students and researchers. It will transform engineering education in Alberta, create capacity to graduate more highly-skilled engineers to meet industry demand, and drive innovation in Alberta and beyond.

SAIT ... Established in Calgary in 1916, the Southern Alberta Institute of Technology – or SAIT Polytechnic – is a Canadian leader in post-secondary education. SAIT is a member of Polytechnics Canada, a national alliance of leading research-intensive, publicly-funded colleges and institutes of technology dedicated to helping colleges and industry create high-quality jobs for the future.

The Engineering Institute of Canada
"Engineering for a prosperous, safe and sustainable Canada".
"Le génie pour un Canada sûr, prospère et durable"

Join ABB in Houston, Texas for Automation and Power World, March 2-5, 2015. This event delivers a wide variety of educational content and a comprehensive Technology & Solution Center dedicated to automation, manufacturing and power solutions. The event is held for four days and will attract over 5,000 people from more than 40 countries. Visit www.abb.com/apw for updated information.

Alberta Flood Response 2013 – The Canadian Red Cross continues to support Albertans as they rebuild their lives. To date, assistance has been provided to nearly 70,000 individuals. Join ABB in support of The Canadian Red Cross – just scan your badges!

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