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The customer newsletter of ABB
Network Management

network



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Power and productivity
for a better world™



network



Jens Birgersson
Business Unit Manager Network Management

Dear readers,

To round off the third quarter of 2012, here is the latest edition of the Network Manager customer newsletter.

The news this quarter is that our Utility Communications business has been renamed Communication Networks. This is to reflect the changes brought by the arrival of Tropos, which has extended our communications offering to customers in mining, oil and gas, transportation and public infrastructure. Though the name has changed, the unit will maintain its commitment to excellence and top-quality customer service.

The stories in this edition cover all aspects of our business, from substation automation, through communications to enterprise software from Ventyx.

In substation automation, we have carried out a large number of projects in the Middle East, with seven systems energized in seven months, and we're about to start a substation retrofit project in Brazil. The work will be completed in time for the 2014 World Cup soccer tournament. It's a nice follow up to the projects ABB delivered in preparation for the South African World Cup in 2010.

Our substation automation products are being fitted in a UK substation to help connect EDF Renewables' windfarm to the grid, and our RTUs and MicroSCADA are helping to support a battery energy storage system in Switzerland. These projects highlight our contribution to the reliability and efficiency of power systems across the world.

Alongside stories about Tropos' new IP mesh network in Kansas City and Ventyx's latest recognition from the International Business Awards, we feature articles from the new edition of ABB Review, our corporate technical journal, which this quarter focuses on software. Software has become an essential component of the systems that run much of the world's critical infrastructure, and our business is at the cutting edge. As this edition of review points out, "With around 3,000 software developers in 40 countries worldwide and impacting about one quarter of ABB's revenue, there is no doubt that ABB is a major software company."

I hope you enjoy this newsletter and feel free to contact me with your comments and questions on how our offering in Network Management can help you and your organization.

Best regards

A handwritten signature in black ink, appearing to be 'JB', followed by a long horizontal line extending to the right.



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Advanced protection and control for key Brazilian substation

The retrofit project to improve power supplies to São Paulo, will be completed in time for the Brazilian Soccer World Cup in 2014

ABB has won a contract to deliver an advanced substation automation, protection and control system for the Edgard de Souza substation in Brazil. The retrofit project, which will improve the reliability of power supplies to the northern sector of São Paulo, will be completed in time for the Brazilian Soccer World Cup in 2014.

Owned by Cia de Transmissao de Energia Eletrica Paulista (CTEEP), and equipped with ABB circuit breakers in 2005, the Edgard de Souza substation plays an important role in delivering power supplies to a significant portion of Brazil's largest city, São Paulo.

The new substation automation system will integrate protection, control and metering devices, enabling operators to control equipment, either from within the substation, or from a remote location. Compliance with IEC61850, the global standard for substation automation, will ensure effective communication between devices within the substation, irrespective of manufacturer – existing equipment will not need to be replaced because of compatibility issues.

Use of the standard will also enable a dramatic reduction in the amount of copper cabling required. Using high-capacity fiber-optic cables in place of copper wires reduces space requirements, improves reliability and cuts installation and maintenance costs.

Another benefit of the ABB system is that the new technologies will be installed with no interruption in the operation of the substation. Maintaining continuity of service on such an important transmission line is a priority for the customer.

“For the city of Sao Paulo, reliable electricity is essential,” said Peter Hansen, manager of ABB’s substation automation systems business. “Our installations will help CTEEP upgrade to the most advanced global standards and achieve top levels of performance for its customers with minimal inconvenience.”

With a booming economy and rising living standards in the country, demand for electricity in Brazil has been increasing at around 5 percent a year for the past decade. The current global economic slowdown has done little to stem this



When Brazil hosts the soccer World Cup in 2014, reliable electricity will play a vital role.

Photo credit: Ronnie Macdonald (CC by SA 2.0)

rise and, while the Brazilian economy continues to grow, it is widely acknowledged that the country’s electricity system will need more expansion and modernization to keep pace.

ABB has extensive experience in both greenfield and refurbishment/retrofit projects for substation automation and provides sustainable migration strategies for step-wise as well as one-stop retrofit and upgrade projects. With operations in around 100 countries, and an office just outside São Paulo, ABB is particularly well-placed to support CTEEP on this project. The company also provided a number of installations to support the 2010 soccer World Cup in South Africa. These included the delivery of a turnkey substation project for the Ellis Park stadium in Johannesburg, and key installations (transformers, switchgear and control panels) at the Green Park stadium in Cape Town.

For more information about ABB’s substation automation portfolio, please visit www.abb.com/substationautomation. Contact: sian.curtis@ch.abb.com



São Paulo is the largest city in the southern hemisphere and a key venue for the 2014 soccer World Cup. ABB’s IEC61850-compliant substation automation systems will help to improve the reliability of power supplies to the northern sector of the city. Photo credit: MAClarke21 (CC BY SA 2.0)

Saudi Arabia's largest mining company adopts Ventyx IMS

Ma'aden to implement Ventyx's Intelligent Mining Solutions across existing and developing gold mining operations in Saudi Arabia

Ventyx, an ABB company, recently signed an agreement with Ma'aden Gold and Base Metals Company, a wholly owned subsidiary of Ma'aden, the largest mining company in Saudi Arabia.

The company will deploy Ventyx's leading mining operations software to further improve planning and performance at its existing and developing Saudi gold mining operations.

"Ventyx has a long and successful record of helping complex, large-scale mining operations such as ours to optimize their performance," said Yahia

AlShangiti, president of Ma'aden Gold and Base Metals Company. "We have been impressed with both the company's deep domain expertise in mining, and the power and flexibility of the software."

Ma'aden is deploying two core mining applications from the Ventyx Intelligent Mining Solutions (IMS) portfolio:

- Ventyx Production Accounting, which streamlines metal accounting and provides insight into plant performance, and
- Ventyx MineMarket, which allows mining companies to track ore movements from the mine to the plant, manage

stockpiles, track and manage logistics, and manage complex sales and service contracts.

"The Saudi mining sector is growing and widely expected to become a 'third pillar' of Saudi Arabian industry," said Craig Jones, chief operating officer, Ventyx. "This is a strategically important agreement with Ma'aden, in which we are partnering with the region's largest mining company to help further their operations."

For more information on Ventyx Intelligent Mining solutions, visit www.ventyx.com. Contact: samantha.moore@ventyx.abb.com



The Sukhaybarat site, just part of Ma'aden's extensive operations, is run by the company's gold and base metals business. The plant processes ore from the Bulghah Mine, 75 km to the South. Ventyx IMS helps mining companies to optimize complex processes across multiple sites, from exploration to outbound logistics and sales. Photo credit: Ma'aden

Wireless communications for power distribution automation in Missouri

New mesh network to help KCP&L improve energy delivery through active Volt/var optimization and feeder load transfers

ABB's newly acquired Tropos Networks will provide a wireless IP mesh network to extend advanced distribution automation solutions for KCP&L, a major power provider in the American Midwest.

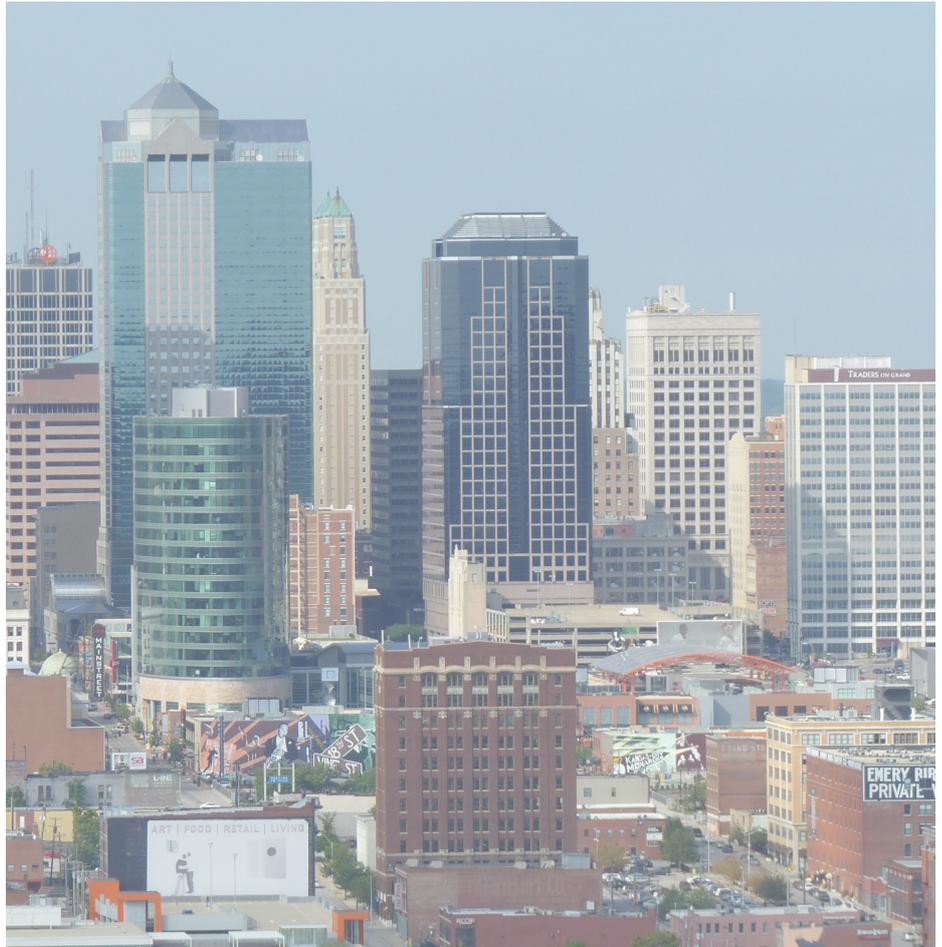
The Tropos network will create a high-performance distribution communications system. The network will extend KCP&L's existing SmartGrid IP network to reclosers, capacitors and fault indicators in the field, providing direct monitoring and control communications to automated distribution controllers in substations and to the centralized distribution management system.

The new mesh network will help KCP&L optimize energy delivery through active Volt/var optimization (VVO) and feeder load transfers.

VVO uses real-time information and online system modeling to provide optimized and coordinated control for unbalanced distribution networks. It enables electric distribution companies to achieve huge savings by maximizing the efficiency of energy delivery and optimizing peak demand.

The Tropos network also helps to improve power reliability by centrally monitoring fault indicators and automatically configuring around faults, which reduces the impact and duration of outages, a cause of increasing concern for customers.

"Our Tropos GridCom network will provide the high-capacity, low-latency and security required to support the applications we will deploy to implement our advanced distribution automation



KCP&L's Smart Grid Demonstration Program, to which the Tropos network will contribute, has received financial support from a Smart Grid Demonstration Grant (SGDG) funded by the U.S. Department of Energy (DOE) under the American Recovery and Reinvestment Act (ARRA). Photo credit: ctj71081 (CC BY SA 2.0)

vision," said Ed Hedges, manager SmartGrid Technology Planning for KCP&L. "Tropos' support for standards such as IEC 61850 and IP was also a key consideration in selecting them as our distribution automation communications network vendor. The Tropos network will enable KCP&L to deliver electricity more reliably and efficiently to our customers."

KCP&L's Smart Grid Demonstration Program received financial support

from a Smart Grid Demonstration Grant (SGDG) funded by the United States Department of Energy (DOE) under the American Recovery and Reinvestment Act (ARRA). Of the program's more than \$49.8 million cost, \$23.9 million is being underwritten by SGDG funds.

For more information about ABB's Tropos portfolio, visit www.abb.com/tropos.

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Protection and control scheme delivered for UK offshore windfarm

ABB has delivered state-of-the-art substation equipment for EDF Energy Renewables' offshore wind farm near Redcar in the UK

The protection and control project was awarded by Morrison Utility Services, the UK's leading utility service provider, for the Warrenby substation, the wind farm's onshore connection. It is ABB's first UK implementation of IEC 61850, the global standard for substation automation, which represents a major step forward in simplifying the integration of intelligent electronic devices (IEDs).

The windfarm is connected by 33 kV subsea cables to Warrenby, where it will be stepped up by two grid transformers to 66 kV and fed into the regional and national grids via the Northern Power-grid network.

Complete protection and control system

According to Andy Osiecki, head of ABB's Network Management business unit in the UK, "The Teesside Offshore Wind Farm project was quite a challenge. We were working with a new customer and a whole new technical approach, but the real challenge was

to meet the fast-track delivery date. We had just three months for the entire process, from design, engineering, building the panels, carrying out the FAT (factory acceptance test) and shipping the panels to the site. It was a proud moment when we completed on time, and a great accomplishment for the team."

Flexible open system architecture

The adoption by ABB of the IEC 61850 standard offers significant technical advantages through its flexible open system architecture. These include a standardized model of the IEDs and their data and communication services, full interoperability between electrical devices from different vendors, reduced cabling and effective future-proofing of the infrastructure by making it easy to extend and update as needs change.

The protection and control system for the Warrenby substation is based on IEDs from ABB's Relion® family of equipment, developed specifically to implement the core values of the IEC

61850 standard. They include Relion RET 650, RET 630 and RET 615 transformer protection and control devices. As an example of the ease of integration with third-party equipment, the scheme incorporates an AVC (automatic voltage control) device supplied by another manufacturer.

One of the key technical challenges solved by ABB in designing the system was to ensure that it met the needs of the engineering recommendation G59, which sets out the standards required for the connection of a generating plant to the distribution systems of a licensed distribution network operator.

Rigorous FAT

The rigorous FAT for the Warrenby panels was carried out at ABB's unique automated System Verification Simulator (SVS) based at Stone, Staffordshire. Rather than carrying out manual switching to simulate the operation of substation plant, the SVS is able to duplicate the whole substation within the test laboratory. It runs a series of automated, self-monitoring test sequences to provide a high level of rigor and repeatability, as well as a full audit trail.

"The Teesside Offshore Wind Farm is a key reference project that confirms ABB's capability to deliver IEC 61850 substation projects," concludes Andy Osiecki. "It is proof positive that the technology has made the transition from laboratory to real-world applications."

This UK project joins the growing list of IEC 61850 installations deployed by ABB around the world. For more information about ABB's projects, read the ABB Review Special Report on IEC 61850 at www.abb.com/review.

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According to EDF, once up and running, the 27-turbine windfarm will have the capacity to produce 62 megawatts of electricity, enough green energy to power up to 40,000 households

Ventyx named “Company of the Year — Metals & Mining”

Top honors go to Ventyx in the 12th Annual International Business awards, for innovation and leadership in global mining

Ventyx, an ABB company, has won the coveted Gold Stevie® Award as “Company of the Year — Metals & Mining” in the 12th Annual International Business Awards. The International Business Awards are a global, all-encompassing business awards program honoring outstanding performance in business. Winners of this year’s Stevie Awards were selected from more than 3,200 entries, received from organizations and individuals in more than 50 nations and territories.

The International Business Awards are overseen by a board of judges and advisors featuring prominent business professionals from around the world.

“For more than three decades, Ventyx has helped the world’s leading mining companies manage complicated, remote operations and quickly respond to ever-changing market conditions to maximize business performance,” said Jeff Ray, CEO of Ventyx.

“Today, 17 out of 20 of the world’s largest mining companies rely on Ventyx’s mining and enterprise applications,” added Ray, “We are honored to be named company of the year by such a distinguished panel of global business leaders, and pleased to accept this award in recognition of our customers and employees worldwide. Together with ABB, Ventyx solutions can help our customers bridge the gap between

information technologies (IT) and operational technologies (OT), to effectively manage the intelligence these combined systems provide — enabling faster and smarter decision making, in both daily mining operations and long-term planning strategies.”

The awards will be presented to winners at an awards banquet on October 15th at the Ritz-Carlton Hotel in Seoul, South Korea.

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Ventyx mining solutions are used to manage complicated, remote operations and respond to ever-changing market conditions to make the most of the resources that matter.

United Illuminating standardizes on Network Manager SCADA solution

Leading New England utility will use Ventyx's modern SCADA platform to improve reliability and efficiency

The United Illuminating Company (UI), one of New England's leading power utilities, has selected the Ventyx Network Manager™ SCADA solution to replace its legacy SCADA systems. Standardizing on a single, modern and secure SCADA platform from Ventyx will enable UI to enhance its compliance, reduce operating costs and increase its reporting capabilities.

"Replacing our legacy control infrastructure with Ventyx's modern SCADA deployment will make an important contribution to the future growth and strength of UI's transmission and distribution network," said Rich Reed, vice president, Engineering and Project Excellence at the United Illuminating Company. "After a comprehensive bidding process, Ventyx was selected not only for the capabilities of its products and breadth of its offerings, but also because Ventyx's vision for the integra-

tion of operational and information technologies aligns perfectly with UI's own vision for the future."

Ventyx Network Manager SCADA will provide UI with a control center solution for secure and efficient energy system operation, combined with an energy information system for empowering decision makers with reliable process information. Ventyx remains uniquely capable of providing utilities with operations technology (OT), such as SCADA solutions, that integrate with information technology (IT) including Ventyx solutions for distribution and outage management, mobile workforce management and business intelligence.

In conjunction with Ventyx Network Manager SCADA, UI will implement cyber-security software from Ventyx partner, Industrial Defender, for state-of-the-art protection against system security threats.

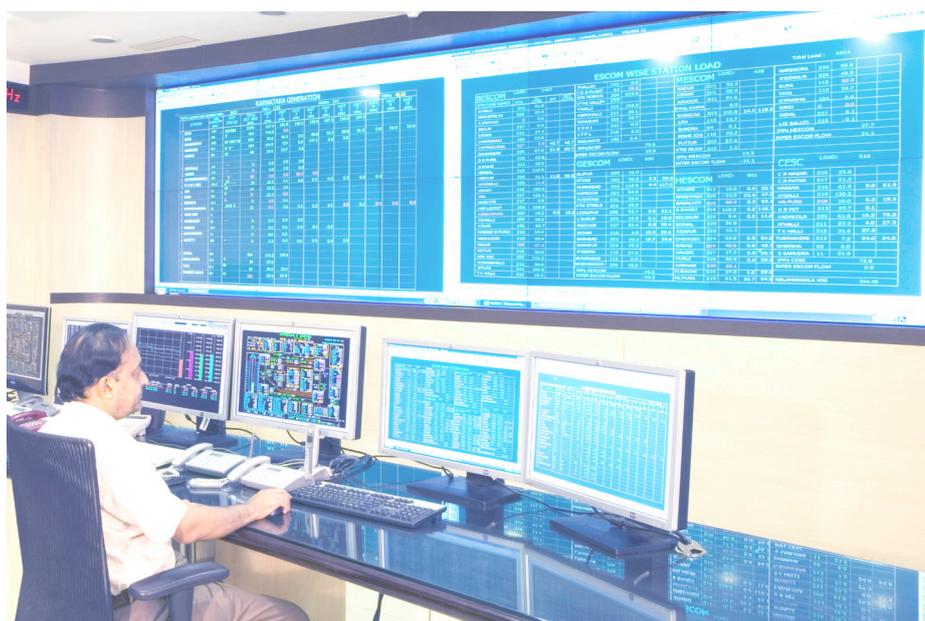


Network Manager from Ventyx will enable UI to enhance its compliance, reduce operating costs and increase its reporting capabilities.

"Utilities are under enormous pressure to optimize the reliability, efficiency and safety of their networks. We are very pleased to be providing UI with a key enabler of meeting those goals," said Chris Warrington, president of Ventyx in the Americas region. "UI's selection of Ventyx underscores the value of our comprehensive solutions portfolio, which allows UI to address its current needs immediately and to extend its Ventyx deployment as those needs expand and evolve.

The United Illuminating Company (UI) is a New Haven, Connecticut-based regional electric distribution company established in 1899. UI is engaged in the purchase, transmission, distribution and sale of electricity and related services to 325,000 residential, commercial and industrial customers in the Greater New Haven and Bridgeport areas.

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Ventyx remains uniquely capable of providing utilities with operations technology (OT), such as SCADA solutions, that integrate with information technology (IT) including Ventyx solutions for distribution and outage management, mobile workforce management and business intelligence.

Ventyx closes deal with Africa's largest electricity provider

Eskom embarks on implementation of Ventyx's SCADA distribution management and equipment reliability solutions

Ventyx has signed two significant software license agreements with the South African utility, Eskom. Under the new agreements, Eskom will undertake the largest implementation in Africa of Ventyx's supervisory control and data acquisition/distribution management system (SCADA/DMS) for real-time network monitoring and control of electric power operations.

In addition, Eskom will deploy the Ventyx Equipment Reliability solution in its Koeberg nuclear power station, the only nuclear power plant in Africa. Ventyx Equipment Reliability is designed to help improve processes, equipment reliability and performance within power generation, transmission and distribution operations.

"The new contracts represent a significant expansion of Ventyx's footprint within Eskom and further cements our leadership in Africa's fast expanding electrical utility market," said Johan Engelbrecht, sales director Africa, Ventyx.

"With an increasingly urban population, demand for electricity in Africa is rising fast, increasing pressure on utilities to maximize the availability and efficiency of their networks. Ventyx network management and equipment reliability solutions help utilities reduce operating and maintenance costs while improving reliability of service."

Eskom is among the top seven utilities in the world in terms of generation capacity, and among the top nine

in terms of sales volume. The utility generates approximately 95 percent of the electricity used in South Africa, and approximately 45 percent across all Africa. It generates, transmits and distributes electricity to industrial, mining, commercial, agricultural and residential customers and redistributors.

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Eskom will implement Ventyx's supervisory control and data acquisition/distribution management system (SCADA/DMS) for real-time network monitoring and control of electric power operations. It will also deploy the Ventyx Equipment Reliability solution in its Koeberg nuclear power station, the only nuclear power plant in Africa. Photo credit: Pilipp P Egli (CC by 3.0)

ABB Review software edition now available online

This quarter's edition provides a special focus on ABB software, including articles on the Ventyx portfolio

This month saw publication of 2012's third edition of the ABB Review, the company's corporate technical journal. This issue focuses on ABB's software offering across the company, from automation to power products and systems.

There are four articles from the Ventyx team, specializing in enterprise software, and an overview article that points to ABB's growing portfolio of cloud-based applications.

ABB Review is published four times a year in five languages, for a worldwide audience. Special reports are published in English on topics such as ABB's busi-

nesses in China, or the application of specific technologies, such as the IEC 61850 standard for substation automation.

The extracts here provide a taste of the articles in the Software Review. For the full stories, or to download this edition of the journal, please visit www.abb.com/review.

For additional information on ABB Review, contact: andreas.moglestue@ch.abb.com



Software in the cloud

An extract from ABB Review article *ABB's software is everywhere*, by Martin Naedele

An important aspect of ABB's growing software portfolio are the applications that are no longer installed at customer sites, but instead hosted and operated by ABB on behalf of the customer. This usage model, some years ago called Application Service Provisioning and more recently relaunched as "cloud computing" offers various advantages.

For some applications, customers only have to pay for those functions and instances that they actually use (known as "pay per use" model), and do not need to worry about hardware or software maintenance or updates as this is all taken care of by ABB.

Initially, such application hosting was used for business information systems such as payroll system, enterprise resource planning (ERP), customer relationship management (CRM), asset management etc., as well as for optimization and diagnosis applications. However, ABB realizes that in the classical automation space there are also applications where customers appreciate not having to deal with managing a full con-



Neptuno system enables farmers to monitor and modify irrigation schedules via the internet, using PCs or mobile devices.

trol or SCADA system. An example for ABB's hosted automation system offering is the Neptuno irrigation solution, which is successfully deployed in Spain. It serves more than 60,000 farmers who can fully monitor and control the irrigation of their fields using a web browser on a mobile device.

Hosted solutions are also offered for enterprise asset management, where ABB combines the management of data for all installed ABB devices, including their updates and spare parts needs and service requirements. Such solutions use innovative diagnosis and service intelligence methods to permit a critical asset condition to be recognized and treated before it fails, so preventing costly unplanned downtime.

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IT/OT convergence: what it means for performance in distribution systems

How this convergence increases distribution system performance

Historically, information technology and operational technology have developed along separate paths, with separate goals, operating in separate arenas, living separate lives, so to speak. Now there is much to be gained by marrying, aligning and integrating the work that goes on in both.

IT/OT integration is happening across numerous sectors and industries. With the increasing sophistication and application of smart grid technologies in the electrical distribution industry, IT applications can now work in tandem with OT applications to increase distribution system performance. Over the last several years ABB has established a leadership position

in integrated IT/OT for distribution management. Distribution organizations are now applying integrated ABB solutions to increase organizational performance, enhance system efficiency and reliability, and improve customer satisfaction.

With practical examples at many distribution organizations, IT/OT convergence is not entirely new. But now there are strong technology and business reasons driving increased distribution IT/OT convergence.

To read more about the impact of IT/OT integration on distribution systems, visit www.abb.com/review

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A capital asset

An extract from ABB Review article *A capital asset* by Gordon J Melvin and John Benders

Many of ABB's clients are involved in asset-intensive industries like mining, energy, public infrastructure and transportation. A holistic, efficient and whole-life approach to the management of physical assets is vital to be able to manage costs and risk and align operations with business strategy. In addition, asset and maintenance managers are increasingly required to report on performance against key indicators such as asset utilization, risk and return on assets.

These metrics are critical in understanding the overall health of an asset-intensive organization, and they rely on current and accurate asset information. Known as PAS 55, the publically available specification (PAS): 55-1:2008

asset management standard is rapidly being accepted worldwide as good-practice guidance for optimizing asset management systems and processes and reducing risks to people, the environment and the business. Ventyx Ellipse is a fully integrated enterprise

asset management solution that is aligned with PAS 55.

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The PAS 55 asset management specification is rapidly being accepted worldwide as good practice for optimizing asset management systems.

Optimizing mining operations

An extract from ABB Review article *Optimizing mining operations*, by John Jessop

As the resources sector continues to gain momentum, mining companies around the world are seeking to maximize production, enhance productivity, streamline processes and improve profitability to maximize returns from their operations.

However, mining's complex value chain typically creates organizations that are structured into divisions based on their functional or expertise area. In most cases, each division stands alone with little or no interaction. The reality of multi-site operations further increases this complexity. The formation of these "functional silos" makes it difficult for mining companies to reach peak performance.

This issue is further exacerbated by the lack of information systems crossing the functional divides. Ventyx, an ABB company, provides a full suite of integrated mining solutions software that bridges the functional and information silos that populate most mining organizations. This incorporates enterprise support systems for managing the entire mining support mechanism, including equipment, maintenance, logistics, production and personnel, as well as enterprise mission systems that cover the extraction, processing and delivery of raw material. This results in improvement in key performance metrics all along the value chain.

For more information, visit:
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Volt/Var control in distribution

An extract from ABB Review article *Model behavior*, by Tim Taylor

Power distribution organizations are under pressure to become more efficient and manage increasing peak demand. As the cost of adding incremental capacity to networks has risen, organizations have had to evaluate new operational strategies to reach these goals.

Distribution volt/var control, while not a new topic, is experiencing a resurgence in the industry, due to technology advances that have increased its effectiveness. Volt/var control includes conservation voltage reduction, where the system demand is reduced by controlled voltage reduction at customer load points. This can typically reduce demand by 2 to 4 percent.

System loss reduction can also be minimized by the optimal operation of reactive compensation equipment. Operational strategies can be optimized by using a dynamic operating model in the distribution management system (DMS) that reflects the current state of the network. In this way, model-based volt/var optimization always takes into account, for instance, outages and system reconfigurations.

With the commercialization of model-based volt/var optimization, distribution organizations are now able to achieve significant performance benefits such as reductions in demand, real power losses and operating costs.

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MicroSCADA and RTUs in battery storage systems for Swiss utility

Governments around the world are striving to meet rising demand for electricity while curbing carbon dioxide emissions. It's a difficult challenge, but more efficient energy use and the introduction of renewable power are making a difference. As more wind and solar capacity is integrated into the grid, the portion of low-carbon electricity is rising, but so too are concerns about grid stability. When the wind drops, power production falls, and utilities must act quickly to balance out supplies.

Pumped hydro offers a large-scale solution to energy storage needs, but where this is not available, utilities need an alternative. ABB's battery energy storage systems (BESS) offer just that. They enable utilities respond to unpredictable renewables by balancing power demand and supply, reducing electric surges and sags (voltage drops), and maintaining frequency stability in the network. They also ensure that power remains available for critical loads when outages

occur, and even provide enough power to maintain operations until systems can be systematically shut down or backup generation becomes available.

EKZ, one of Switzerland's largest energy companies and a leading distribution utility, involved with both energy efficiency and renewable energy initiatives, is partnering with ABB in a pioneering battery-storage project – the largest of its kind in Switzerland and the first in Europe. The aim is to enable additional power to be provided to the grid on demand.

To this end, ABB supplied and installed a battery storage system using lithium-ion batteries capable of delivering one megawatt of power for a period of 15 minutes. A MicroSCADA (supervisory control and data acquisition) system is used to control and supervise the battery management system, as well as the converter and system optimizer through which the system feeds power into the

grid. The storage facility will be integrated into EKZ's power distribution network and evaluated in key functions such as balancing peak loads with intermittent power supplies, and grid optimization.

ABB provided the entire BESS for EKZ, comprising 432 battery modules (accommodated in a 45-foot outdoor container), a converter to transform direct current (DC) to alternating current (AC) and vice versa, and the MicroSCADA system to control the grid interface. An RTU211* was built in to integrate low-voltage switchgears and to supervise auxiliary systems, such as the battery container and the uninterruptible power supply, as well as collect data for overall monitoring and control purposes.

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*Remote Terminal Unit



Inside view of the battery storage

Network

The newsletter of ABB's Network Management business unit

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www.abb.com/networkmanagement

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