



Newton-Evans Research Company's

# Market Trends Digest

October 2012



- 2 A Look Back On Newton-Evans Research in Third Quarter 2012
- 3 The World Market Study of SCADA, Energy Management Systems and Distribution Management Systems in Electric Utilities: 2013-2015
- 4 Overview of the 2011-2012 U.S. Transmission and Distribution Equipment Market – Distribution Automation Series
- 6 Highlights from the EMS User Group Meeting in Sacramento
- 7 44th CIGRÉ Technical Programme and Exhibition
- 9 GridWeek 2012

# A Look Back On Newton-Evans Research in Third Quarter 2012

## Notes from CIGRE 2012

Chuck Newton attended the CIGRE 2012 meetings in Paris in late August, along with more than 300 other American delegates (the largest number of U.S. attendees ever.) In total, 6,000 delegates participated in this biennial gathering of (primarily) transmission oriented discussions, exhibits of HV equipment and large control systems, and engineering services related to bulk power transmission. Chuck is a contributing member of a joint working group on cyber security. The time was well spent in the session reviewing some recent Newton-Evans findings, including a specially commissioned study of cyber initiatives and procedures among a representative body of the world's electric utilities.

Please see Gerry George's excellent in-depth article for this edition of *Market Trends Digest* covering the highlights of this major international technical power conference.

## Italy: A World-Leading Nation for Solar Power Usage

Following the CIGRE meeting, two weeks of driving more than 1,200 kilometers throughout the hill country of central Italy provided many opportunities to stop in many small towns and large cities along the way to admire the rapidly growing numbers of solar power installations located throughout the country. Large solar farms are co-located with industrial sites, while large solar panel assemblies already numbering in the low thousands are seen on the roofs of commercial buildings. Within the urban areas of Italy as well as the beautiful countryside, thousands more of residential panels are in place throughout this largely "sunny" country.

Italy is a co-leader among world nations in its adoption of solar energy technology. The country ranks as one of the top few producers of electricity from solar power with an installed photovoltaic nameplate capacity of 12,750 MW at the end of 2011 with thousands of small-to-large plants now in operation. The total energy produced by solar power in 2011 was 10,730 GWh, or more than 3% of the country's total energy demand of 332.3 TWh. The installed photovoltaic capacity, compared to the previous year, tripled in 2010 and almost quadrupled in 2011.



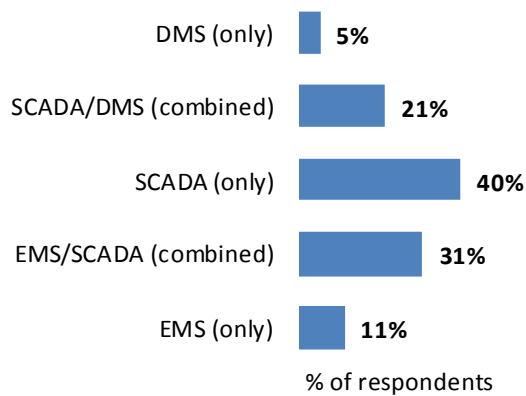
# The World Market Study of SCADA, Energy Management Systems and Distribution Management Systems in Electric Utilities: 2013-2015

Newton-Evans is preparing to revisit the World Market study of SCADA, EMS and DMS with a new survey that looks at expenditures, technology and protocol trends. Many topics from previous Newton-Evans surveys on SCADA will also be covered, such as the issues that surround combining EMS, DMS and/or OMS; IEC 61850; approximate number of RTUs, PLCs, and bay controllers to be installed; use of protocols within the substation and from the substation to external EMS/SCADA/DMS host/network; and more.

The last time this survey was conducted in 2010, a large portion of utilities said they already had SCADA installed in some form (either stand alone or with EMS or DMS) and a smaller subset had separate DMS or EMS systems. Sixteen percent of North American utilities surveyed said they had a control system made by EFACEC/ACS, while 14% indicated Survalent, 12% Areva, 10% OSI, 8% Siemens, and 8% GE.

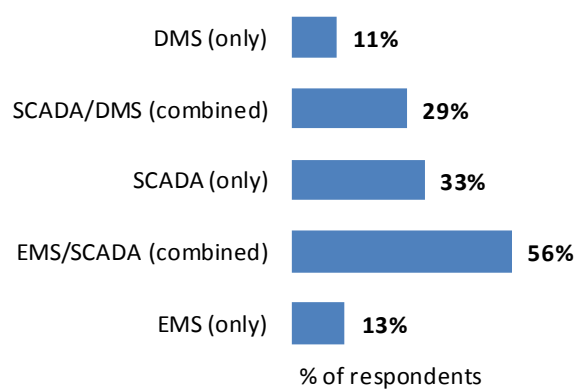
## North America

Fig. 1a-1. Types of Systems in Place



## International

Fig. 1a-1. Types of Systems in Place





## **Overview of the 2011-2012 U.S. Transmission and Distribution Equipment Market – Distribution Automation Series**

Estimated U.S. Sales of Distribution Automation Components, Including Equipment and Services, Accounted for more than \$500 Million in 2011, Forecast to Increase to \$704 Million by 2014.

The Newton-Evans Research Company has announced its publication of a set of nine U.S. distribution automation market two-page summaries. The new series of market overview reports (executive market summaries) includes supplier listings, representative products, and estimated market size for each topic, vendor market share estimates and market outlook through 2014. Electric utilities accounted for about 87% of all purchases of distribution automation related goods and services. A majority of distribution automation equipment purchased by American utilities and industrial firms currently is produced in the United States.

The Distribution Automation series (\$975.00 for all report summaries or \$150.00 per individual report summary) includes U.S. market size, market share estimates and market outlook for these 9 DA product and service categories: DA01 – Automatic Circuit Recloser Controls; DA02 – DA/DMS System Components (including distribution network analysis; distribution network condition monitoring and fault location and characterization) ; DA03 – Voltage Regulators; DA04 – Capacitor Bank Controllers; DA05 – Fault Indicators (covering both fault current indicators and faulted circuit indicators); DA06 – Pole Top RTUs; DA07 – Line Mounted Monitoring Devices; DA08 – Communications Components for DA (covering PLC/DLC; cellular and 900Mhz); and, DA09 – Engineering Services for Distribution Automation Projects (covering consulting engineering services, related services provided by manufacturers; DA services provided by smart grid consulting specialists).

Other topical series currently available include: substation automation (13 market segment snapshots), power transformers (11 market segment snapshots), protective relays (8 market segment snapshots), and medium voltage equipment (20 market overviews). The final two series to be released

later in August cover high voltage equipment market summaries (16 market segment overviews) and T&D control systems (11 market segment overviews).

Further information on this new series of U.S. T&D market snapshots is available from Newton-Evans Research Company, 10176 Baltimore National Pike, Suite 204, Ellicott City, Maryland 21042. Phone: 410-465-7316 or visit [www.newton-evans.com](http://www.newton-evans.com) for a brochure or to order any of the related report series or more than 90 planned individual report summaries online. For those interested in subscriptions to multiple report series, please call or email us for special introductory pricing offers. Eric Leivo can be reached at [eleivo@newton-evans.com](mailto:eleivo@newton-evans.com). Khristina Newton can be reached at [knewton@newton-evans.com](mailto:knewton@newton-evans.com).



# Highlights from the EMS User Group Meeting in Sacramento

*Chuck Newton*

The 2012 edition of the EMS USER GROUP meetings were held in Rancho Cordova, California during September 16-19, 2012. Day one of the conference included discussions of key topics including the “look and feel” required for 21st century control systems, generation management systems, advanced situational awareness and synchrophasor visualization.

The second day included a Newton-Evans presentation on contemporary control center topics related to standard operating procedures under varying operational conditions (normal, emergency, restorative and post-contingency), cyber security and operator visualization. This was followed by a presentation on the important role of advanced meteorology monitoring instrumentation at San Diego Gas & Electric. Cyber security considerations for control center operations took center stage later in the morning. Tuesday afternoon included visits to the California ISO Control Center. Two outstanding training sessions for operations personnel were conducted during the conference. The first tutorial topic was Development of DMS requirements and specifications (DNV KEMA) and the second topic covered the increasingly important issues surrounding Integrated Volt-Var Control, presented by the Structure Group.

I have found this very specialized conference to be very valuable, both in the timeliness of the topics covered and the speakers from the Electric Power T&D Operations community across the country. The camaraderie and networking among attendees from major electric utilities, ISO/RTO organizations and the software, consulting services and systems integration communities is outstanding, and while this conference is small today (less than 75 people) it deserves to be on the agenda for 2013 among utility operations personnel from across the country. The 2013 sessions will be held next September, in Austin, Texas.



# **44th CIGRÉ Technical Programme and Exhibition (26th to 31st August 2012)**

*Gerry George – Research Associate*

The International Council on Large Electric Systems (CIGRÉ) founded in France in 1921 held their 44th General Session in Palais des Congrès in France's beautiful capital city Paris. This year CIGRE 2012 set new records for the number of delegates (over 3,200), the number of visitors (3626) and the number of exhibitors (200) attending this bi-annual event. Attracting international senior executives, power technology experts and specialists from over 80 countries the CIGRE General Session is now regarded as one of the world's largest events in the power industry calendar.

The Technical Programme at CIGRE 2012 extended over a five day period and to satisfy the increasing demand the space allocated for the supporting Exhibition was increased by 50%. The Exhibition attracted manufacturers, network operators, consultants and service providers for the electricity industry from around the globe. The Conference and Exhibition was once again held in the magnificent, well appointed Palais des Congrès which is located very near the Arc de Triomphe, just one of the numerous famous landmarks and visitor attractions in this cosmopolitan city.

In 2012 the electricity industry continues to face major challenges to satisfy the increasing demand for an economic, reliable and secure of electrical energy. In addition to diminishing fossil fuel resources, which are now being partially offset by many forms of sustainable renewable energy systems, this challenge that requires huge capital investment coincides with a rapidly increasing world population and the need to comply with the demanding legislation introduced to manage global warming. Also the industry has responsibility to take the necessary steps to offer access to electricity to the two billion people in the world who at present have no connection to this source of energy.

This year's Technical Programme of formal presentations, panel discussions, technical meetings and poster sessions addressed these challenges by discussing the need to interconnect large renewable energy projects to transmission systems, for large-scale transmission systems overland and subsea interconnectors that employ the latest HVAC and HVDC technologies. The close interactions between transmission systems and distribution networks has also

become a critical matter for CIGRÉ. The latest developments linked to the key components of the transmission system namely, rotating machines, substations, transformers, overhead lines and cables were discussed together with system design, operation, control, management and system performance. Once again, the interaction with distribution networks was presented and this will certainly increase in the future in accordance with an Agreement signed recently with CIREN. The increasing benefits available from advanced information and telecommunication systems technologies now in wide-scale use in the industry were also included in the Programme as they play an increasing role in the industry's drive to develop 'Smart Grids'.

*To read more of Gerry's coverage of this event including speakers, topics and the full schedule visit our website:*

[http://www.newton-evans.com/44thCIGRE\\_Post-Conf\\_Rpt.pdf](http://www.newton-evans.com/44thCIGRE_Post-Conf_Rpt.pdf)





## GridWeek 2012: Oct. 2-4 2012

Globally recognized as the must-attend gathering dedicated to the modernization of our global Smart Grid, GridWeek is the only event that attracts the complete diversity of global electric-industry stakeholders to explore Smart Grid's impact on the economy, utility infrastructure, consumers and the environment. Now in its sixth year, GridWeek is planned by a representative committee of 14 industry stakeholder groups to ensure the agenda is focused on the most pressing industry topics.

Utility leaders, policymakers, regulators, researchers, technologists, advocates -- there's no better place to meet the industry's movers and shakers, forge new relationships, and uncover new business opportunities.

As grid-modernization and smart grid efforts provide the energy industry with more information, a broader system view, and more efficiency and control, we are faced with increasing complexity. The challenge lies in deriving value from that complexity -- for all stakeholders. GridWeek 2012 will tackle the challenge of deriving value from this complexity -- gathering utility, policy, regulatory and consumer experts to approach the topic head-on.

Providing a mix of in-depth panel discussions, value-focused case studies, and a forward look at how the ever-changing energy landscape will impact the electrical grid, GridWeek will explore three key themes:

**Stakeholder value:** A look at the value of grid-modernization efforts for diverse stakeholders, including utilities, consumers, government and more.

**Managing complexity:** Discussions on managing complexity of the ever-changing energy landscape -- from the integration of microgrids to the growing importance of natural gas -- as well as the challenges in handling increased volumes of data through analytics, building secure networks, managing expectations on privacy and more.

**Smart energy policy:** In an election year, it's hard to ignore the impact of politics on the energy industry. GridWeek will gather top political minds to discuss how election results could alter the path we're on -- or even provide a clearer road map.

For more information on this conference visit [www.gridweek.com/2012](http://www.gridweek.com/2012)

### GridWeek Delivers:

The industry's top speakers tackling the most relevant Smart Grid subjects.

Unprecedented networking opportunities with complete diversity of global stakeholders.

