Newton-Evans Research Company's

MARKET TRENDS DIGEST

for the Computer, Communications, and Controls Industries

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Review of First Quarter 2006

Newton-Evans Research Company completed two proprietary studies in the first quarter. The company continues to work on the multiclient study of SCADA Systems in the Global Oil/Gas Pipeline Industry, while researching Protective Relay plans as well as trends in SCADA systems used in Water and Wastewater Utilities. Extensive updates were also made to *The Med Ring Project: Status and Plans*, which is now available for purchase.

Newton-Evans is once again partnering with Energy Central and its research unit (Sierra Energy Research) to sponsor an early morning Energy Market Briefing and breakfast for supplier and utility personnel attending the IEEE T&D Conference in Dallas.

We successfully partnered to conduct a similar market briefing in Tampa, coincident with the DISTRIBUTECH 2006 Conference, and the session was very successful, in fact a "sellout" crowd enjoyed breakfast and discussions prior to the three presentations.

The Dallas briefing session is called **T&D Insights** and will take place from 7:30-9:45 am on May 23, 2006, at the elegant Dallas City Club, located just a few blocks from the Dallas Convention Center. Featured speakers include Chuck Newton, President of Newton-Evans Research Company, who will be presenting **T & D Automation and Infrastructure: *Market Trends and the Outlook for 2006 & Beyond*;** and Martin Rosenberg, Editor-in-Chief of EnergyBiz magazine, who will be presenting ***The Energy Sector, from 30,000 Feet***. ***T & D Insights*** also features a networking breakfast, a great opportunity to meet with colleagues in a non-commercial, low-key environment.

IEEE attendees can register for ***T & D Insights*** by simply requesting a registration form, with a maximum of four attendees per company. Key clients of Newton-Evans Research can attend on a complimentary basis, by simply sending an email request to cnewton@newton-evans.com to let us know the names and email addresses of attendees. All others are welcome to register for the conference with a small registration fee. Send a note to msmith@energycentral.com to request the ***T&D Insights*** registration form. Seats are limited so if you want to attend, please sign up early.

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Distributech 2006: A Post-Conference Review

-Chuck Newton

The Distributech2006 Conference and exposition was very successful, perhaps more so than any over the past few years, according to representatives from about 12 exhibiting companies from whom I was able to glean some post-conference insight along with about 25 attendees.

The City of Tampa is a great destination itself, same warm, sunny weather, but easier to get in and out of than Orlando, and a lot less traffic. When you add in the restaurants and clubs of Ybor City, you have a great post-show evening destination as well. I for one am glad that the Conference will make a repeat showing in Tampa for the Distributech Conference 2008 Edition (January 22-25, 2008). For 2007, the conference alternates to the West Coast, convening in San Diego (February 4-7, 2007) at the waterfront San Diego Convention Center.

At the 2006 Conference, new products and equipment incorporating leading edge technology were on exhibit from about 150 manufacturers, addressing the needs of the electric, water and gas utility communities. Another 85 or so utility distribution services providers and energy industry focused IT firms were present to consult with, help design, or simply educate utility staff on how to take advantage of these continually evolving utility distribution technology shifts and sharing their ideas on how best to address changing business conditions.

Global competitors, regional suppliers and national and local companies all were present at this year's conference. The pre-conference tutorials were successful, and some very positive comments were recorded during my discussions with attendees. Speakers on leading edge topics at the conference were also well received, for the most part, with attendance up from recent years at many of the discussions and panel sessions.

Session tracks are becoming more numerous, with the original "distribution automation" track still paramount along with other "oldies" including substation automation, mobile workforce, metering and others. More recently added session tracks on security, T&D as a business, demand response programs and enterprise computing attracted attention from a wide range of conference attendees.

As an industry analyst, I think the Distributech Conferences provide the best large-scale forum in North America for learning about a wide range of utility distribution management and automation issues, talking over trends with suppliers, witnessing product demonstrations, and for me, catching up with many colleagues and friends dating back to the first Distributech Conference held in Orlando, in mid-January, 1994 as DA/DSM 1994. *Of course, my own industry contacts date back a few years before 1999, hard to believe though that may be*!

More Than 80% of Global Utility Respondents Claim to Have Substation Automation and Integration Programs Underway

The Newton-Evans Research Company has released findings from its newly published four volume research series entitled: The World Market for Substation Automation and Integration Programs in Electric Utilities: 2005-2007. The new study compares the current round of research findings with earlier studies conducted by the company.

Newton-Evans Research estimates the current annual global spending for substation automation and integration programs at about $550-600 million, with an overall potential market size of nearly $40 billion.

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Additional Observations on SCADA Spending:

- The years 2002-2004 were slow growth - *or no growth* - years in most categories of intelligent electronic equipment sales related to the modern, increasingly digital, electric power substation. Few retrofit programs were undertaken except for the most critical of substations.

- Increasingly, it is becoming more difficult to separate substation product classifications as manufacturers tout their platforms as "multifunctional" and the product positioning of many electronic devices now cuts across multiple product classifications.
- Newton-Evans further estimates that only about 12% of utility operated substations have been fully automated and integrated by year end 2005. Most of these are in fact newly or recently constructed substations.

- Most substation equipment manufacturers (mid size and smaller companies) and integrators surveyed in the second half of 2005 have indicated some moderate-to-good growth market conditions within their utility sales sectors, resulting in sales that are as much as 5% to 15% higher than 2003 or 2004 sales levels.

- Economic growth has continued in many electricity dependent sectors. In turn, this spurs demand for increased electric power, and increasingly reliable power. This results in internal planning for infrastructure and automation programs.

- There remains some concern in the industry about the dearth of skilled engineering resources due to retirements and layoffs. This may further impact the ability of technology supplier companies to engage utilities for other than short-term requirements. However, third party engineering and integration service firms are now making significant strides in winning substation automation-related business from planning to design to construction.

- If distributed generation activities continue to increase across the world, there is some positive benefit that will occur for the substation automation, integration and retrofit business, as utilities become more involved with DG efforts.

- In summary, retrofit substations will be upgraded as warranted, based on load growth, criticality to customers, and development of DG programs. New substations will increasingly be designed and constructed as integrated and automated remote assets for the utility.

- Protocol use and plans among North American electric power utilities continue to differ from the trends among utilities in the international communities. North American utilities continue to strongly support DNP 3, and will likely migrate to a LAN version of this protocol. *See the comparative charts at the end of the release.*

- International utilities tend to use IEC protocols. Currently, the 60870-5-103 protocol is popular, especially in Europe, while migration to IEC 61850 is underway in Europe, the Middle East and Africa, and among some of the largest utilities elsewhere. Nonetheless, Latin American and Asian Pacific utilities report strong use of Modbus and Asia-Pacific utilities tend to align themselves more with DNP 3 at the present time.

The four volumes of reports comprising the 2005-2007 series on substation automation and integration have been published by Newton-Evans Research during the first quarter of 2006.

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Additional topics being covered in the series of substation studies include cyber and physical security practices, voltage ranges used to power substation automation equipment, external systems linkages to the substation, preferred equipment suppliers, and an assessment of where the world's electric power substations are positioned along a five-phase path to complete automation.

Additional information on the four volume study **"Worldwide Market for Substation Automation and Integration Programs in Electric Utilities: 2005-2007"** is available from Newton-Evans Research Company, 10176 Baltimore National Pike, Suite 204, Ellicott City, Maryland 21042. Phone 1-410-465-7316 or visit www.newton-evans.com for reduced Internet prices. Eric Leivo can be reached at eleivo@newton-evans.com and Chuck Newton can be reached at cnewton@newton-evans.com

Figure 1 - Current/Planned Use of Protocols within the Substation in North America:

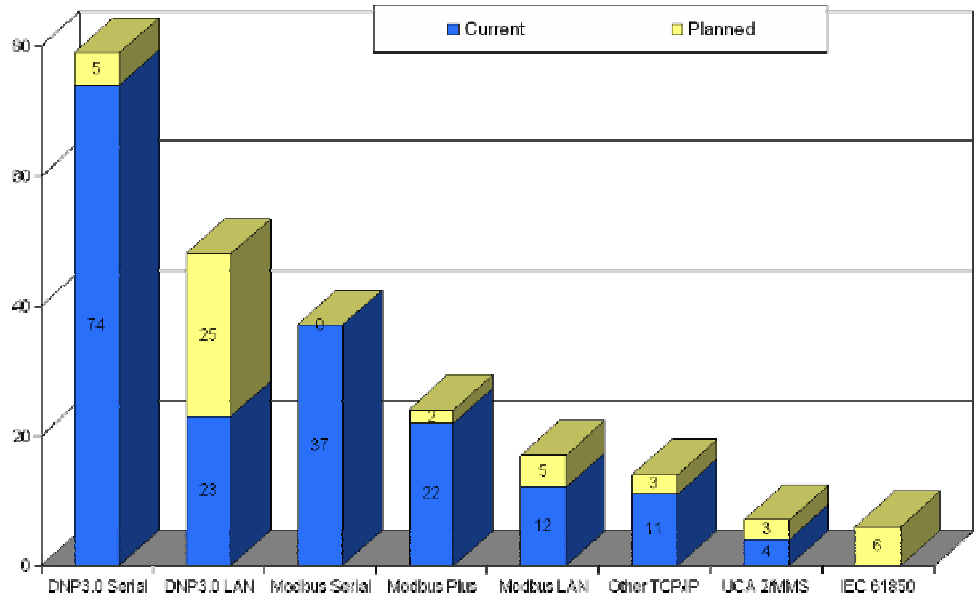
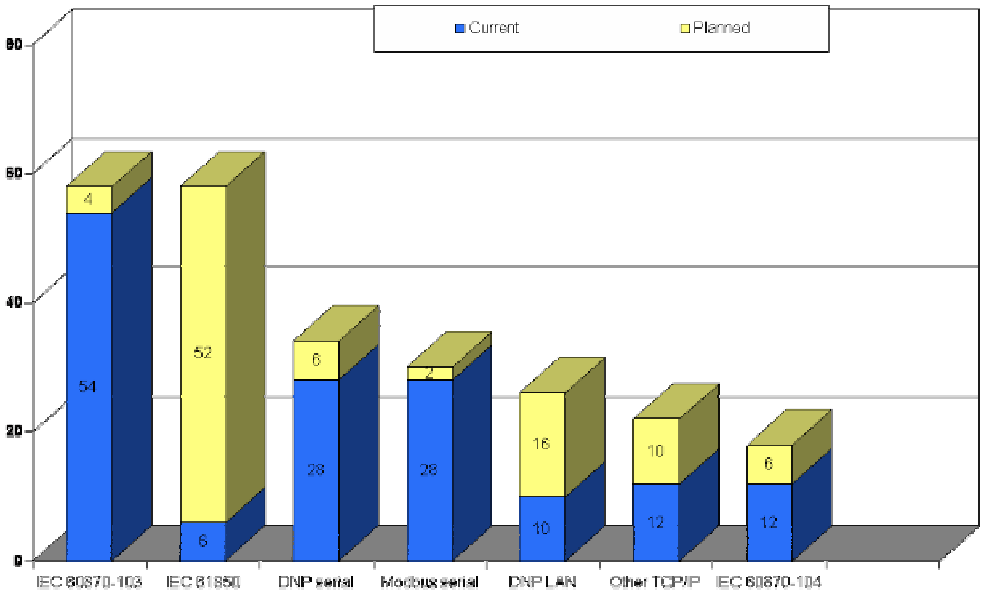


Figure 2 - Current/Planned Use of Protocols within the Substation Internationally:



Med Ring Project News

The goal of the ongoing Mediterranean Ring project is to provide interconnection of electric power transmission grids among the countries and regions that encircle the Mediterranean Sea. This, in turn, will increase energy security in the entire region, and enable more efficient power flows at lower costs and with a need for fewer power plants to meet rapidly increasing demand for electricity in the southern and eastern Mediterranean regions.

The concept involves linking electric power grids from Spain to Morocco through the remaining *Maghreb* (North African and Western Arab) countries, on to Egypt and the *Mashreq*, (Eastern Arab) countries, and from there up to Turkey. From Turkey the Ring would then link back into the European grid via Greece or through the newly interconnected Eastern European country grids. The European Union nations have taken the lead in assisting the Mediterranean region in its quest to be synchronously interconnected to the European grid. The objectives of such a huge system of electric power interconnections include these:

1) Provide increased levels of energy security to participating nations;
2) Defer or avoid construction of new power plants by importing/exporting electric power among nations;
3) Balance the load and the demand for electric power across the region; and,
4) Cut back on the primary electricity reserve requirements within each country.

Organizational Involvement in the Development of the Med Ring Project:

There are several international electric power organizations heavily involved in the development of the Med Ring interconnection project. Because of the implications of linking grids from one region to another region that have such different operational and technical characteristics, standards organizations, regional electrical associations, and even the European Union and EURELECTRIC are necessarily involved parties to this development. The reason for such high levels of involvement in reviewing grid interconnections is that the stability of existing mature networks in Western Europe is paramount to that highly electrified region. All new connections must be equally stable.

European networks are highly meshed, consisting of high voltage lines, with high consumption and high density of consumers, and predictable load patterns. Grids in the Southern Mediterranean region are typically lower voltage grids, non-redundant, serving fewer loads, concentrated in highly urbanized areas, and strung out through the countryside at lower voltages.

Newton-Evans Research continues to find in its discussions and meetings with involved utilities in the region that North American and European transmission equipment manufacturers and control systems integrators are welcome to join in this effort as individual tenders for towers, lines, substations, transformers, switchgear, protection equipment as well as energy management and SCADA systems are released.

The 50-page Newton-Evans report is entitled ***The Mediterranean Ring Project: Status and Plans in 2006***. The new report is priced at $495.00 and includes detailed discussions of the electric power infrastructure of the involved countries. The report also contains several illustrations of the region and its electric power linkages, plans for expanded interconnections with the Gulf States, listings of current and planned links between countries, and descriptions of each of the associated technical and financial resource organizations involved in the Mediterranean Ring project.

Figure 3 – Map of the Mediterranean Ring Project

Performance Based Rates – A Look Back at 2003 Forecasts

Forecasts from the Newton-Evans Study, *Performance Based Rates (PBR) for U.S. Utilities*, conductes in both 2003 and 2004 with all 50 state PUC's and the District of Columbia, indicated that substantial spending differentials were likely to occur in those states wherein public service commissions had become approving or mandating performance based rate structures for electric utilities. We went out on a limb by projecting a 10-15% increase in T&D spending as being likely to occur as a result of implementing PBR structures.

To date this year, we have informally tracked more that two billion dollars in transmission and distribution spending contracts aimed at shoring up American power delivery infrastructure, making delivery reliability a paramount goal of utilities (and of state PSC's). Grid expansion, distribution network management and more and better focused automation programs have now begun to take off.

Where is this spending occurring and in which states is T&D spending rising faster than others? By and large, it is in the 11 or so states that have enacted some form of performance (or penalty) based rate structures. These states were identified in our report, and these same states continue to lead the way to an improved and more reliable electric power grid for their residents. In that study, investor-owned utilities clearly indicated their plans to boost spending on T&D programs by 10-15%, and now that is certainly coming to pass.

Summary of the Outlook for EMS, SCADA and DMS Activities in Central and South America

The line graph shown below provides our mid-range forecast of EMS, SCADA, DMS and PX/ISO/RTO spending by Central and South American utilities over the 2005-2007 period. During this three year period, at least $40 million and as much as $157 million will be spent for electric power control systems, equipment and services. More than one half of this total amount is likely to be spent in just two of the countries in the region, Mexico and Brazil.

See the listing of country-by-country known and projected spending for control systems.

At least 13 energy management and SCADA/DMS systems costing one million dollars or more were procured by Latin American utilities in just eight countries in the region during the 2003-2005 periods. Total value of these awards is estimated at about $40 million. ABB, Eliop, Invensys, Siemens and EFACEC are among the international suppliers which won one or more electric power control systems contracts in this region during that period.

Figure 4 - Mid-range forecast of EMS, SCADA, DMS and PX/ISO/RTO spending by Central and South American utilities over the 2005-2007 period:

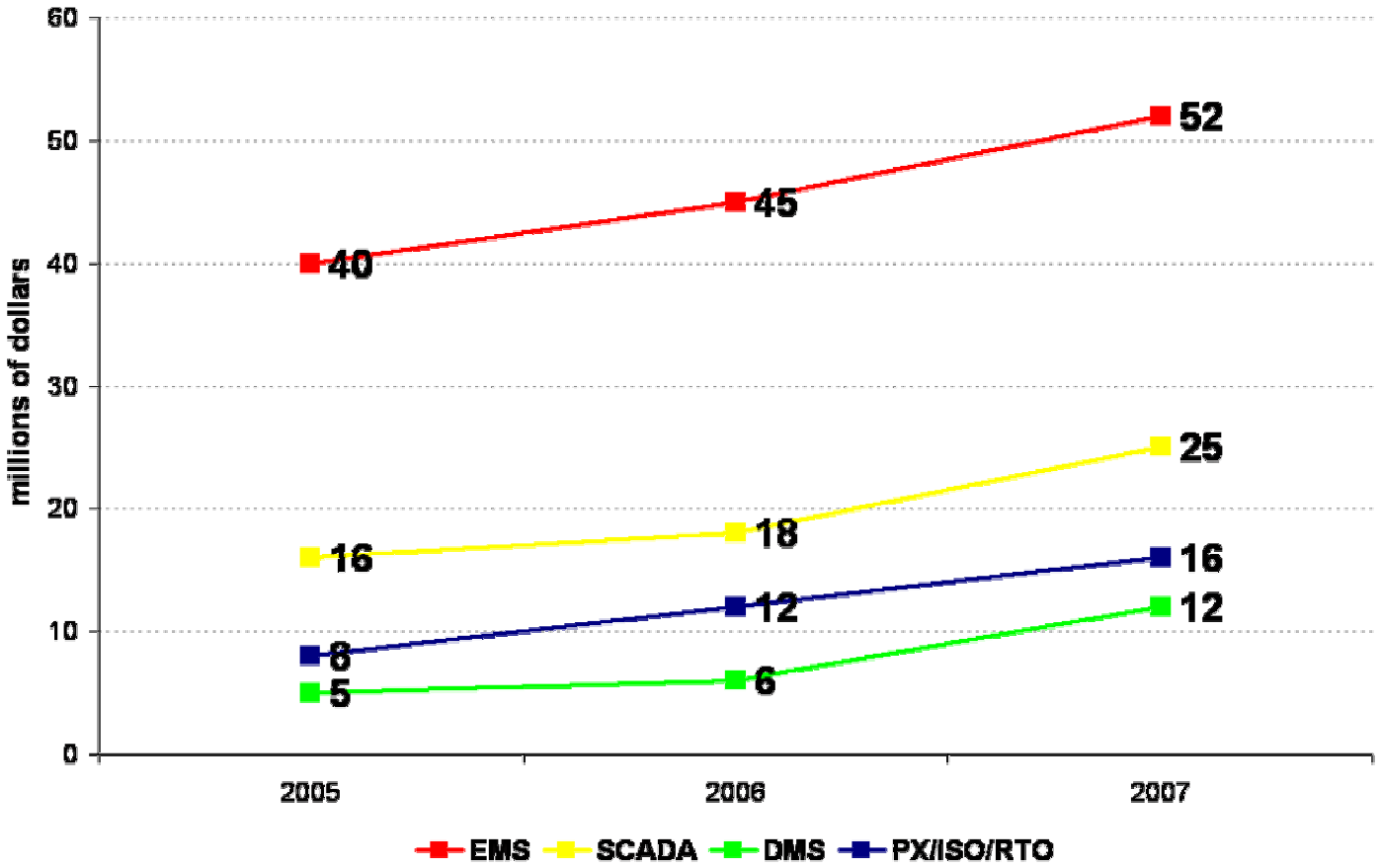


Table 1 - EMS/SCADA Procurement activity in Central and South America: 2005-2007:

Country	EMS/SCADA/DMS Procurement Activity Known to be Underway during 2005-2007	Total Forecasted EMS/SCADA/DMS Procurement Activity during 2005-2007
Argentina	$2-4 Million	$4-8 Million
Bolivia	<$1 Million	$2-4 Million
Brazil	$4-7 Million	$10-30 Million
Chile	$2-4 Million	$4-6 Million
Columbia	$2-4 Million	$4-8 Million
Ecuador	$2-4 Million	$4-7 Million
Paraguay	<$1 Million	$1-2 Million
Peru	$3-5 Million	$5-9 Million
Uruguay	$2-4 Million	$3-5 Million
Venezuela	$2-4 Million	$4-7 Million
Costa Rica	<$1 Million	$1-2 Million
Cuba	$1-3 Million	$2-5 Million
Dominican Republic	<$1 Million	$1-2 Million
El Salvador	$2-4 Million	$2-5 Million
Guatemala	<$1 Million	$1-2 Million
Haiti	<$1 Million	<$1 Million
Honduras	<$1 Million	<$1 Million
Mexico	$9-12 Million	$25-35 Million
Nicaragua	<$1 Million	$1-2 Million
Panama	<$1 Million	$1-3 Million
Other Latin American	$5-10 Million	$10-15 Million
TOTALS	**$40-69 Million**	**$85-157 Million**

2006 Study of Trends in SCADA systems used in 100 Largest North American Water and Wastewater Utilities

Newton-Evans continues its survey of North American water and wastewater utilities. Close to 100 total responses have been gathered so far, with 17 of them representing customer sizes of more than 190,000 from largely populated cities such as Toronto, Cincinnatti, Philadelphia, Atlanta, Edmonton, and San Jose. Results from this survey request will be broken down into 3 separate categories: water utilities, wastewater utilities, and organizations that manage both water and wastewater systems.

Present survey results indicate that almost none of the respondents plan on integrating an automated irrigation system, while about 10% plan on using an automated meter reading system (roughly 40% indicated that they already have an automated meter reading system in place.)

The completed three volume study will include a profile of over 20 SCADA suppliers, a North American Summary of Research Findings, and a Water Industry IT and SCADA Market Analysis/Forecast. Project completion is slated for the beginning of May.

Forthcoming 2006-2008 Protective Relay Study

The study will be launched with a survey pre-test using our panel of five relay experts at large North American utilities. The full field work with hundreds of electric utilities and oem's will be underway in early May and run through mid-August. Interim progress reports will be made to our pre-paid subscribers at the end of each monthly period through September, when all reports will be available.

Pre-paid subscribers to this study have the opportunity to submit ideas for research topics or questions that will be considered for inclusion in the study. **The deadline for prepaid early-bird subscriptions is April 21**.

The responses to this new study will yield important information enabling Newton-Evans Research to prepare this four-volume series with reliable forecasts for major classes and types of relays. Between 2002 and 2004, and again between 2004 and 2006, a number of events have occurred to reshape the demand curve. First, the continuing pervasiveness of digital relays for new unit purchase consideration: nearly 90% of all new relay unit purchases are now digital units. This is up another 20 percentage points from mid-1999. Secondly, ongoing utility restructuring is occurring in spite of a slowdown in deregulation activities. Thirdly, the need for increased grid operational and informational security is apparent to all observers.

Figure 5 - Approximate Budget Allocation for Protective Relays: