



The German ambassador Andreas von Stechow (2nd on the right) proceeds to cut the ribbon sealing of the exhibition area for the TRANSFORM 2004 in Pattaya. Dr. Songpope Polachan (2nd on the left) from Thailand's Ministry of Power, assisted under the eye of Managing Director Dr. Harro Lührmann (left) and Dr. Paul Strunk (German-Thai Chamber of Commerce, extreme right)

Transformer Talk in Thailand

TRANSFORM 2004 – A big Success

At normal trade shows it is not always easy to meet important business partners for two whole days while conducting detailed technical discussions and still trying to keep up a relaxed atmosphere. But the TRANSFORM 2004 trade show hosted at Pattaya (Thailand) offered just the perfect platform between March 18th and 19th. Some 250 guests from more than 25 nations used this opportunity to exchange shop talk with MR, Messko, HIGHVOLT, Röchling Engineering Plastics, EMB, HSP and Pfisterer.

The new arrivals were welcomed at the Royal Cliff Beach Resort's special VIP lounge in Pattaya. An evening barbecue held on a terrace with a magnificent view of the Gulf of Siam provided the perfect setting. The following morning saw the welcoming address of MR's Managing Director, Dr. Harro Lührmann, who elaborated a bit on the reasons for choosing that site for the Asian conference: "This is where we do over 50 percent of our business."

[see next page](#)



In his capacity as a high-ranking representative of Thailand's Ministry of Power, Dr. Songpope Polachan proceeded to cut the ribbon sealing off the exhibition area to officially inaugurate the TRANSFORM 2004. Throughout the entire day the guests had ample opportunity to pick among a wide range of technical lectures put on by the TRANSFORM partners. During the breaks, the exhibition area was packed with interested viewers. MR's stand attracted the viewers with its noted VACUTAP® technology (VR, AVT, VV) and electronic products (TAPCON®, TAPGUARD™).

Messko was equally present with its complete range of products. HIGHVOLT exhibited their products in a separate area. HSP offered a glimpse on state-of-the-art trends in bushings. Röchling Engineering Plastics exhibited technical plastics products for the field of transformer engineering. EMB's stand showed the latest on the Buchholz relay. And last but not least, Pfisterer's trade show team put on an impressive array of products from the field of connection technology.

The subsequent day, which had started out on a very technical note with specialists' lectures, continued in a pleasant manner when some of the guests laced up their golf shoes for a friendly tournament at the Laem Chabang Golf Course. Next TRANSFORM will take place in 2007.

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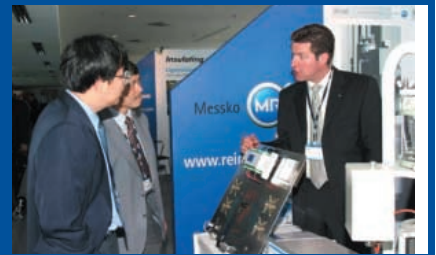


Guests from many nations from A to V
Australia, Bahrain, Bangladesh, Brazil, China, Germany, Iceland, India, Indonesia, Iran, Japan, Korea, Malaysia, Austria, Pakistan, Russia, Saudi-Arabia, Singapore, Slovenia, Sweden, Taiwan, Thailand, United Arab Emirates, USA, Vietnam

The program offered many opportunities for casual conversation.

Colorfully costumed dancers and musicians provided the background with Thai Bonglang folklore for the festive dinner. The guests took many souvenir photographs in the exhibition area.

Questions, questions, questions - the guests' thirst for knowledge during the two days was enormous. A challenge which the stand personnel of MR and the partner companies mastered brilliantly.



ASIAN TECHNICAL SEMINAR 2004 in Bangkok



The worldwide sales and distribution of static and dynamic systems for reactive power compensation in low-voltage and medium-voltage networks requires an extensive and sophisticated know-how. MR Power Quality Management's Erfurt based team of experts is accountable for the sales and distribution of compensation systems, including training of the distribution partners all over the world. Following the TRANSFORM 2004 trade show, MR POWER

Quality Management conducted a two-day advanced training workshop for MR agencies and MR distribution partners alike. The workshop focused on design and construction criteria for compensation systems, new techniques and technologies, and a multitude of application examples. The exchange of information was focused primarily on achieving improved customer satisfaction with MR systems, with the spotlight on applications in the pulp & paper sector and Asia's steel industries.

Guest speakers at the ASIAN TECHNICAL SEMINAR 2004 included the chairman of the IEEE section Thailand, Dr. Surapol. During the course of seminar, IEEE Thailand underlined the vital importance of innovative compensation measures in local industrial networks and distribution networks, and provided an impetus for advanced training of the distribution partners as a guarantee for future success in the Asian market.

The participants attending the ASIAN TECHNICAL SEMINAR 2004 came from Thailand, Indonesia, Pakistan, Korea, Vietnam, Malaysia und Australia. Further consultants speaking at the seminar included Mr. Thumrongdej Muncharoen of ITM Capacitor Co. Ltd. Thailand in representing the MR PQM agency, as well as Dr. Walther and Mr. Ziemke of MR Power Quality Management/Germany. ●

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Reinhausen Manufacturing

New Products at Doble Conference

An all-star line up of new products was presented by Reinhausen Manufacturing (RM) at the Doble Conference in Boston March 23rd. Highlights were:

- The Model B Monitoring system, designed for the type RMV-II OLTC. Equipped with redundancy, this new concept allows the customer 500,000 operations with no time limit before requiring an inspection
- A new CT Monitoring tester, designed to make it easy to check the runback safety circuit of the type RMV LTCs
- An impressive advanced design of the Automatic Voltage Controls, the TAPCON® family. Customers at the conference were extremely impressed by the user friendliness as well as the comprehensiveness of the design
- Messko, a Reinhausen subsidiary since 1999, presented Temperature and Oil level gauges as well as a new state of the art sensor-controlled Maintenance free Dehydrating Breather



RM President Bernhard Kurth summed it up in one brief sentence: "The pace of the conference was fast and the response to our new products was inspiring and overwhelming." ●

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TechCon in Australia

The workshop hosted by Reinhausen Australia und MR at the TechCon fair held in April in Sydney caused quite a stir: 250 guests from Australia, Japan, the United States, Singapore, New Zealand, Malaysia and Iceland witnessed an experts' presentation on "OLTC maintenance strategies from the viewpoint

of the user and manufacturer" put on by Reinhausen Australia und MR specialists. The presentation went into details about MR's VACUTAP® technology, among else, and provided a great deal of useful information about the potential of condition-based maintenance using the TAPGUARD™ and TM100.

Paralleling Power Transformers

It's simple - with TAPCON®



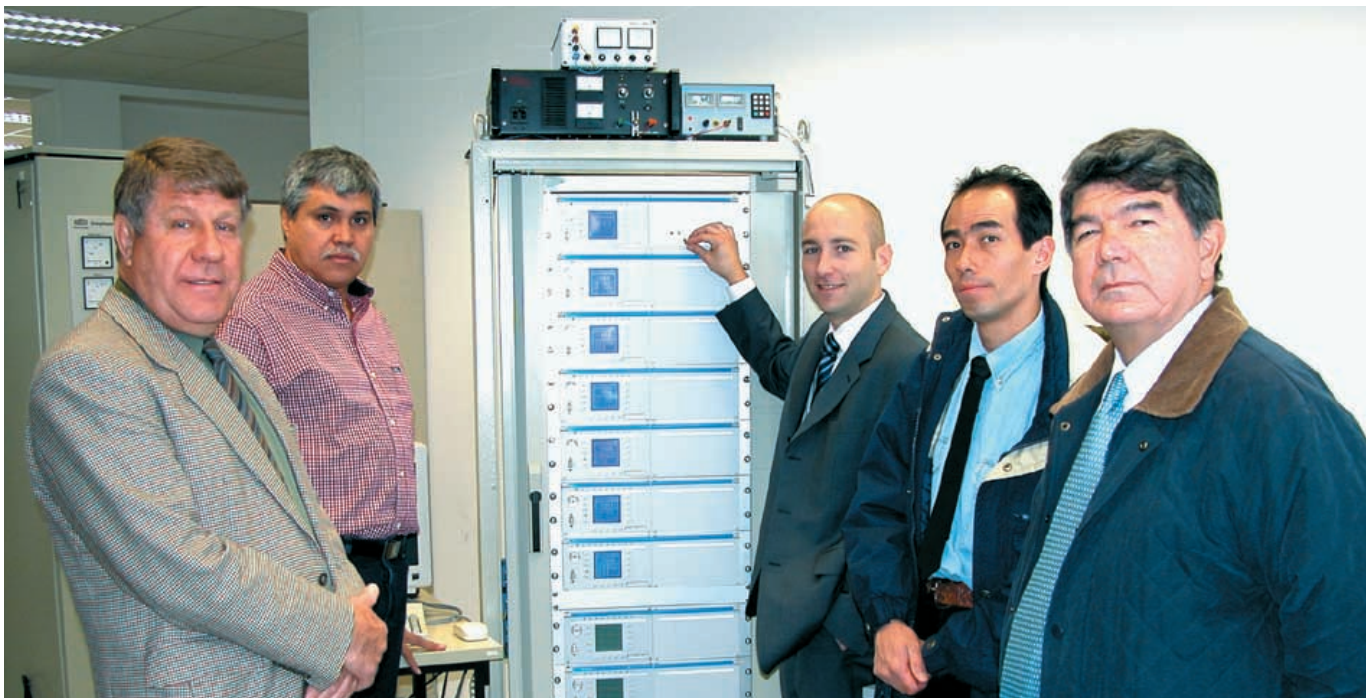
Customer feedback shows that Reinhausen "hit the mark" with the introduction of the TAPCON® automatic voltage control (voltage regulator) series. Especially its standard, integrated parallel operation has convinced utilities and industry users all over the world. Often, power transformers are run in parallel to maintain load reserves or to cover load peaks through balancing of operations. Usually the choice is between the Master/Follower principle and parallel operation by the circulating current method (Minimum reactive circuit current). This method is suitable for power transformers of comparable output and short-circuit voltage, whether with uniform or non-uniform step voltage. No information on tap position is required. The reactive circuit current is calculated on the basis of the transformer currents and their respective phase angles.

To correct the measuring circuit voltage, a voltage proportional to the reactive current is applied to the regulators which operate self-sufficiently. This correction voltage can be either decreased or increased through adjustment of the "stability" setting. If an

inadmissibly high reactive circuit current is detected, all tap-changers involved will be reset after only 10s, regardless of the delay time preset at the regulator. Communication between the regulators is via the internal CAN-Bus system, with every regulator featuring an identifier of its own. The outstanding reliability of this application is one of the key reasons for TAPCON®'s success. It therefore comes as little surprise that more than 1,500 units of the new series have already been sold world wide.

The TAPCON® voltage regulator series combines easy system configuration with an outstanding range of possibilities. For instance, even the topology of a switching system can be recorded: to that end, all transformers engaged in parallel operation at the given time will be automatically identified by the regulators. And what is more: this feature does not even require a separate, additional device. ●

Find out more about Reinhausen's solutions at www.voltage-regulation.com !



Brand New And Only From MR

The Substation Simulator

Fast and simple simulation of an entire substation topology – made easy by MR. MR's electronics specialists have developed a test environment which allows the user to emulate voltage regulation and parallel connection even of highly complex systems. To perform a simulation, all you need is a TAPCON® 240 or 260 voltage regulator by MR and a program with graphical user interface for simulation control. Whether you want to simulate a motor drive or an OLTC, the control equipment in the

control room, remote control equipment, or an operations control system – this new system lets you perform a one-to-one simulation of the interplay between the voltage controller and any other component. Our picture shows the new system being demonstrated to some customers. Curious for more? ●

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New Communication Standard

IEC61850 running on TAPCON® 260

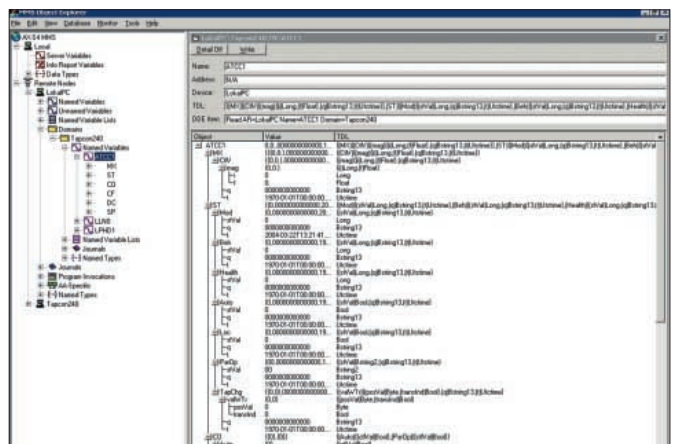
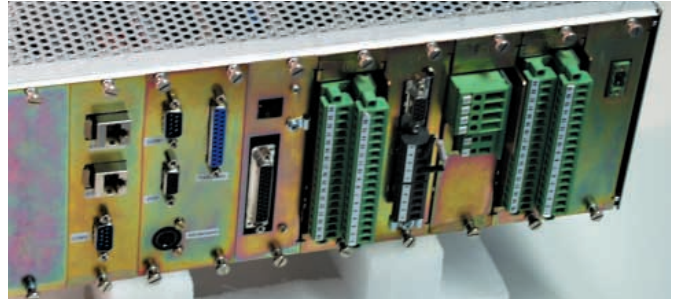
IEC61850 means an open communication system that provides interoperability between all devices in substations, independent of manufacturer. The first fully standardised protocol in IEC61850 running on TAPCON® 260 will be based on 100Mbit-Ethernet and MMS with TCP/IP. This communication standard provides free assignment of function, expandability to project-specific or future application needs, and separation of the application level from an underlying communication stack. Since maintenance and upgrading impose a lot of changes in the secondary technology throughout the overall life cycle, the IEC61850 standard ensures long-term validity by splitting application and communication. The result is a significant reduction in costs for the secondary system throughout the entire life cycle.

The feature of combining device capabilities with communication configuration description and (at least a functional) assignment to the substation primary equipment allows a lot of advanced possibilities above the goals considered by IEC61850. A basic feature of such a standard is the facility of an open communication system.

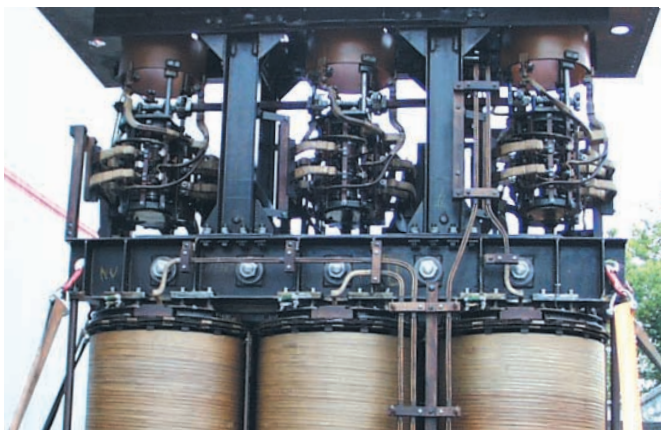
Advanced possibilities are

- Automatic testing
- Object-based engineering and maintenance
- Communication performance calculations
- Filling of data bases and gateway engineering

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A 65-year-old Transformer Turned Into New



What happens to a 65-year-old transformer that was found to be damaged during the course of an overhaul? Will it be carted off to the scrap dealer's? Wrong! The Peine-Salzgitter steel works thought differently. When their AEG transformer (dating back to 1939) broke down, MR service professionals immediately came to mind. One call and they arrived on the scene. Since no technical documentation was available for this tap-changer, everything depended completely on MR's know-how and long years of experience.

The rest of the story was time-consuming work (a total of approx. 580 hours). MR specialists' opinion: "It was a very fascinating experience for all of us to get an up-close view of such a 60-year-old, highly-intelligent solution." The transformer now is planned to be on duty for another eight years.

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Links That Are Worth Your While

Here we go again: a whole bunch of useful links, hand-picked by the MR webmaster. Most of them provide simple and easy help, some are a bit tricky or even surprising. But they are all worth a click. Go for it and enjoy!

- www.soople.com
- www.sciencedaily.com
- www.medicinenet.com
- www.geonames.de
- www.wordspy.com
- www.worldtimeserver.com
- www.museumofhoaxes.com
- www.voltnet.com
- www.countrycallingcodes.com
- www.lpl.arizona.edu/impacteffects

IMPRINT | INSIGHT – The MR-Infoletter, Issue 2|2004

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