



## With customers into the desert

TRANSFORM 2007 in Qatar a massive success



It was a customer event of superlatives – the TRANSFORM 2007 in the desert nation of Qatar attracted some 400 experts from over 40 countries. A record in the history of the event. The Intercontinental Hotel in the capital city of Doha provided the stage for the event from 18-19 March 2007. Along with MR, PQM,

Messko and HIGHVOLT at the conference were Röchling Engineering Plastics, Pfisterer and HSP, plus Asta Elektrodraht (Austria), all with their own stands and presentations on new trends and developments. ●

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## 1000th VACUTAP® VR provides stable voltage in Austria



During a small celebration at the hydroelectric power plant in Lambach, MR managing director Michael Rohde officially presented the 1000th VACUTAP® VR to representatives of the customer Energie AG Oberösterreich (a power provider in upper Austria). He expressed pleasure at how quickly this innovative on-load tap-changer type which was just only introduced in 2006 has made a name for itself on the world market. "We are particularly proud to have our products used for such technically demanding projects like the ones here at Energie AG." MR delivered a total of two VACUTAP® VR on-load tap-changers for Energie AG's largest transformer station in Lambach-Edt. These on-load tap-changers will be used in a 200/200/30 MVA transformer.

In addition to the power transmission between two electrically isolated networks, it also provides an in-phase regulation or regulation in quadrature to control reactive and active power distribution in the network of Energie AG. Furthermore, a step-by-step adjustable in-phase voltage or a step-by-step adjustable transverse voltage of an adjacent phase are added

to a primary-side or secondary-side phase voltage. The special transformer was developed together with EBG Linz and also built there. ●

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Learn more about our vacuum technology at: [www.switch-to-300000.com](http://www.switch-to-300000.com)

### Energie AG

Energie AG is the number 1 infrastructure concern in Austria. The company is also active in southern Germany, the Czech Republic and Hungary as well as in additional neighboring countries. Its steady expansion course has made it a top player in Central Europe.

[www.energieag.at](http://www.energieag.at)

## Long awaited – Here we are!

The First MRcademy in Great Britain



of the energy market of that region came together for two days. Now this event will take place in Birmingham. You will be able to use that platform to get in touch with colleagues of energy supply

MRcademy, our clients' academy started in 2005 and since then took place all over the world. In China, USA, Thailand, Dubai, South Africa, just to name a few, up to 100 experts

companies and utilities from Great Britain and Ireland. Guest speakers will present their view of how to secure the energy availability of tomorrow. On October 24 and 25 you will have the opportunity to get the latest information on all novelties concerning tap-changer technology and transformer equipment.

Come and join us in Birmingham – 2 informative days are awaiting you! ●

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# Reducing costs, increasing reliability

MTraB® of Messko in use at the public services in Bochum



Conventional breathers ...



... replaced with MTraB®

The public services in Bochum aim to reduce the costs for their assets within the coming years. At the same time the reliability should of course not suffer. That is why the experts decided to apply the maintenance-free dehydrating breather MTraB® of Messko. Altogether 27 power transformers are to be controlled more in future and with it the maintenance intervals should be extended. Each power transformer operates according to the n-1 principal (50 % load – in case of break down the second transformer takes up the full load). The public services predict a life time of altogether 60-70 years. For the monthly inspection average costs of 4,000 € occur (2.5 hours per transformers a 60 €/h) at the moment. In order to gain operational experience, two transformers (Trafo Union, year of construction 1970) have been equipped with MTraB® dehydrating breathers. ●

#### Advantages of MTraB®:

- No exchange of silica gel
- Applicability under all operational circumstances
- Self control & remote control
- No environmental problems / disposal of silica gel

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#### Public services Bochum

Important utility in the Ruhr Basin (electricity, water, district heat). A total of 2,057.8 million kWh has been supplied to the customers in the last year. The public services Bochum operate two block heat plants, two cogeneration plants as well as one hydroelectrical power plant. They cooperate over the ewmr (nationwide company) with the public services Herne and Witten (cities in the Ruhr Basin).

# A world's first on the Hanover fair

Reactive power compensation system PQM 500



At the Hanover fair in April our business unit Power Quality Management presented a world's first: the **PQM 500**. This is the name of a new reactive power compensation system of MR. This system with a rated power of up to 500 kVar per panel is controlled automatically and is offered either without or with tuned reactor. In combination with an internal arc tested panel design and detuned up to  $p = 14\%$  this is the first system of its kind on the market.

With this novelty the capacitive reactive power can be provided at a central place of an energy distribution grid and with it

transmission losses are significantly reduced. Saving energy and costs it also serves the preservation of energy supplies as well as the reduction of CO<sub>2</sub> emission. As a result of the high power density per field extremely compact solutions can be offered. The high customer interest at the fair confirmed this pretension. ●

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## MR at CIGRÉ Conference in Saudi Arabia

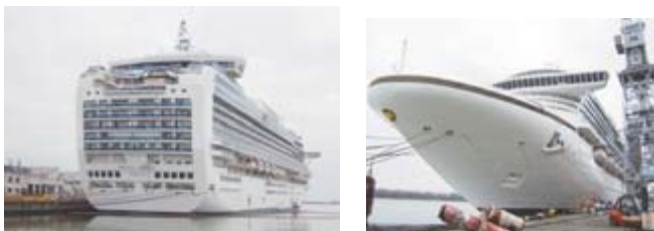


MR and CIGRÉ Saudi Arabia performed on May 23rd 2007 a conference at the Holiday Inn Hotel in Al Khobar. More than 100 engineers from Saudi Electricity Company, Saline Water Conversion Corporation, SABIC, ARAMCO and many others from all over Saudi Arabia participated. Main topics of the conference were "Operation and Maintenance of on-load tap-changers" and "Increase of transformer's value through upgrading". Respective lectures were held by Werner Fleischmann (MR Germany) and Oliver Reetz (Reinhausen Middle East - RME Dubai). Both emphasized that OLTC maintenance is an excellent tool to assure the further reliable operation of an OLTC. The diverter switch insert can be cleaned from carbon and the wear at the arcing contacts can be checked. The technical service department of MR is well experienced worldwide as main contractor for maintenance of OILTAP® OLTCs. Whether East-Asian, Arabian or other countries in the world, many customers benefit from the service contracts with MR. Additionally MR's proven vacuum technology was presented. VACUTAP®

OLTCs perform 300.000 tap-change operations without any maintenance. ●

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## Italian marine powered by MR



2006 Reinhausen Italia, our subsidiary in Milan, supplied two of the most important strategic shipyards in Italy with tap-changers and voltage regulators.

Transformer manufacturer "CELME SRL" equipped 25 transformers with MR Oiltap™ tap-changers and TAPCON® 230 voltage regulators. These transformers ensure the electricity supply for the "Arsenale Militare Marittimo" in Taranto. This is the biggest marine arsenal in South Italy and strategically very important for the Italian fleet.

The arsenal has the transformers located directly on the wharf, where the warships are regularly sent for maintenance. The correct functionality of the complete supplying system is ensured by MR's devices.

MR is also present in the biggest shipyard for cruising ships of Italy, the Fincantieri. It's located in Monfalcone, close to Gorizia and Venice.

Ships weighing up to 130,000 t and carrying more than 3,600 passengers are built here. TAPCON® 230 voltage regulators have been applied at this important shipyard. Two are in use and one serves as spare. They regulate the necessary electricity during the building of a ship, where more than 5,000 people are involved. ●

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## Zurich banks on VACUTAP®

First phase shifter with vacuum technology at ewz

As a modern company ewz adapts its products and services to customer demands as well as to the state of technology. Since already 50 years the Swiss experts bank tap-changers of MR. Now they opt for the vacuum technology from Regensburg. The reason: no oil contamination, significantly extended maintenance rates and therefore considerable economisations.

The first two VACUTAP® VR have been bought for a phase shifter with in-phase regulation or regulation in quadrature. They have been delivered beginning 2007 and will be connected to the grid August 2007 at the latest. This transformer is the first of a series of 5 such transformers which ewz plans to put into operation. The following transformers are also thought to be equipped with the vacuum technology made by MR. The biggest city of Switzerland can therefore rely on constant electricity supply now and in the future. ●

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### Ewz (electrical works of the city of Zurich)

Since 1892 ewz (electric works of the city of Zurich) supplies the city of Zurich and parts of the canton Graubunden with electrical energy. A total of approximately 220,000 customers receive their electricity from ewz. The 880 employees of the civic company offer however also other services linked to electricity. Always with the pretension of efficiency, reliability and environmental compatibility.

[www.ewz.ch](http://www.ewz.ch)

# Messko found the solution

## Compact Retrofit Kit for the US-market



Within a typical USA power distribution company a half-dozen different types of temperature gauges may be used on their high voltage power transformers. This presents problems for their maintenance departments. The gauge they want to install won't always attach easily to the old gauges' fitting. Messko has solved this problem.

The normal transformer design in the USA has the temperature gauges mounted on the side of the transformer rather than on the top. The variety of gauges used makes it very difficult for the maintenance team to repair or replace the gauges. It seems that all too often the gauge they want to use won't attach to the fitting. Their only choice is to replace in-kind (which in some cases may be impossible) or take an additional hour to modify the fitting.

This problem was brought to Messko's attention during discussions with major USA power generation/distribution companies. They needed and wanted a solution. Messko researched the issue and identified the mounting requirements for all major temperature gauge manufacturers. The design team developed a unique Compact Retrofit Kit that can easily mount the wide variety of gauges.

Duke Energy, who operates over 8,000 power transformers, has expressed an interest in using the kit to make their maintenance job easier. As they see it, their maintenance crew can carry 1 or 2 Retrofit Kits in their truck "just in case".

Messko's Compact Retrofit Kit will be available for delivery the first of July 2007. ●

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