



# ADVANCED STABILITY OF POWER GRIDS DUE TO COORDINATED REGULATION

About the company, our experience and requests

29.09.2016, MAT Hr Nilakantan

STRICTLY CONFIDENTIAL

MR

# AT A GLANCE

## Leading globally in niches of electrical power engineering

- | Founded in 1868, established 1901
- | Independent, majority family ownership in fifth generation
- | World market leader in transformer switching
- | 3,250 employees, 82% located in Germany
- | 90% of production in Germany
- | 34 subsidiaries and 5 affiliated companies – Indian presence since more than 20 years
- | Group turnover of 700 million EUR, highest available rating (banks)



**>50%**

of worldwide electricity consumption passes through our products.

**>80%**

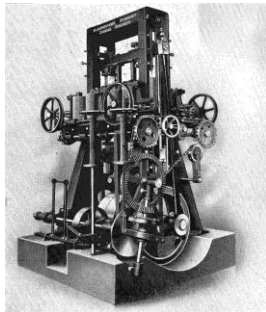
of all our products ever delivered are still in operation today.



# COMPETENT AND EXPERIENCED

1868

Founded in what is now the Reinhausen city district



1901

Company renamed Maschinenfabrik Reinhausen (MR)



1926

Patent obtained for the high-speed resistor-type tap changer



*Hansen*

1961

In-house patent office established



1995

Registration of the VACUTAP brand family



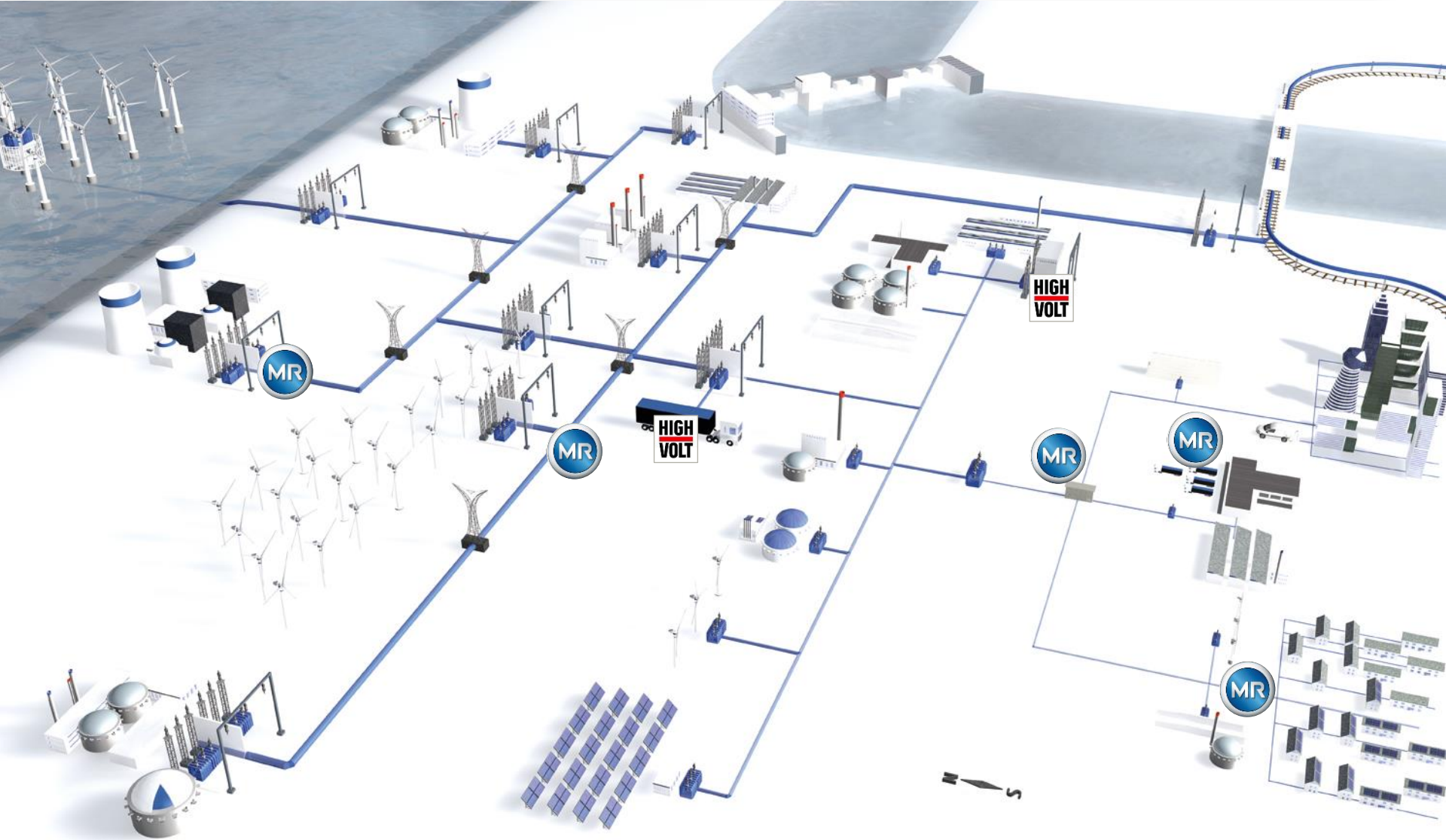
2016

772 patent applications worldwide since the foundation





# THE POWER BEHIND POWER

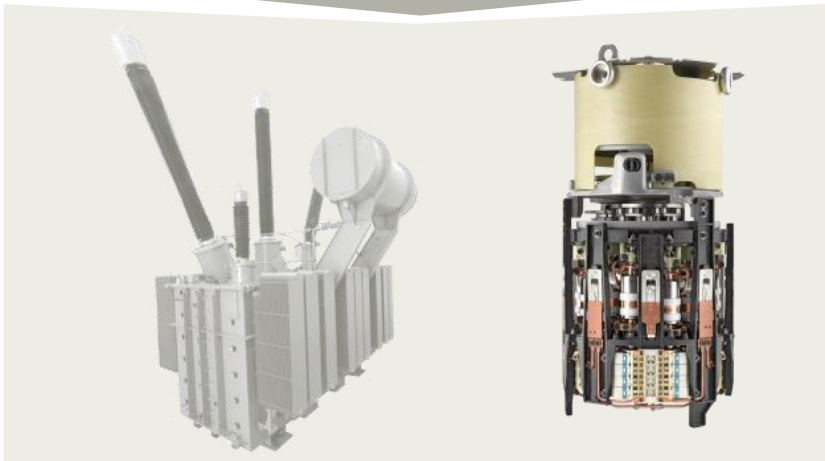


## Most extensively tested on-load tap-changer worldwide

- | Breaking capacity test with 100 switching operations > 2.5x the IEC 60214-1:2003 standard
- | Mechanical endurance test with 1.5 Mio switching operations > 3x the IEC 60214-1:2003 standard
- | Service duty test with 600,000 switching operations > 12x the IEC 60214-1:2003 standard



### TRANSMISSION



### DISTRIBUTION



**TAPCON® ISM™** – the latest development in modular hardware for dynamic control of transformer and shunt reactor





## SUMMARY

- | MR – World market & technology leader in transformer switching, highly reliable and having wide technological expertise.
- | Integration of renewables through green energy corridors would technically require fluctuations to be handled by **dynamically controlled transformers and variable shunt reactor** as done in Europe, Americas and China. So far these technologically proven concepts are not taken into consideration for the Green Corridors project.
- | Current projects are based on a technology developed in the 1970's and are not able to cope with the grid dynamics of today.
- | With our reliable, technological superiority and high number of maintenance free switching operation, we would like to have a fair competition on the basis of Life Cycle Costs (LCC).

THE POWER BEHIND POWER.

[www.reinhausen.com](http://www.reinhausen.com)

