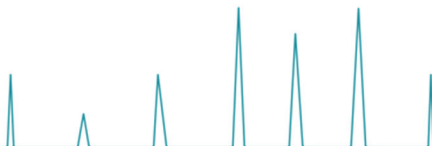


# TLM 2017

**11<sup>th</sup> TRANSFORMER-LIFE-MANAGEMENT  
CONFERENCE**



**September 18<sup>th</sup> - 19<sup>th</sup> 2017**  
**at the SAUERLAND STERN Hotel\*\*\*\***  
**Willingen**





## TRANSFORMER-LIFE-MANAGEMENT CONFERENCE

### About the Conference

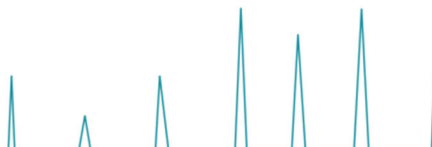
The focus of the Transformer-Life-Management conference (TLM) is safe and dependable transformer operations and optimized service. For over 10 years the TLM is a forum for experts, engineers, manufacturers and exhibitors that exchange information necessary for long operation times, high dependability and low maintenance and failure times of transformers.

Topics are new insulation materials, diagnostic measurements and their interpretation, continuous monitoring and asset management, recent developments in the energy sector as well as research and development. The approx. 20 speakers are operators and manufacturers, that like to share their experience and scientists, that present their research activities in diagnostics and material science. The exhibition with approx. 25 exhibitors provides room for practice-oriented discussions.

This year there is an emphasis on dry type transformers, special diagnostic methods and trends because of the energy transition.

### Topics

- **Energy transition in Germany and special transformer applications**
- **News from committees and standardisation**
- **Monitoring and diagnostic measurements**
- **High voltage testing, on location and in the factory**
- **News from research and development**





## TRANSFORMER-LIFE-MANAGEMENT CONFERENCE

### Program Day1

**Monday 18.09.2017**

**11:00** Check-in and welcome snack

#### Introduction

**12:00** **Welcome and Introduction**  
Prof. Dr.-Ing. Peter Werle (Leibniz Universität Hannover)

**12:15** **How will the the Energy Transition Influence the Service Business?**  
Dr.-Ing. Martin Schumacher (ABB, Member of the Board of Directors)

**12:45** **CIGRE SC A2: Actual and Future Activities Considering the World Wide Energy Transition**  
Symon Ryder (CIGRE A2)

**13:15** **Transformer Damages from an Insurance Providers Point of View**  
Dr.-Ing. Frank Hillmann (HDI Global SE)

**13:45—15:00** Coffee break and visit of exhibition

#### Special Transformers and Asset Management

**15:00** **New Trends for Traction Transformers in Railway Applications**  
Dr.-Ing. Florian Menius (Stadler Rail AG)

**15:30** **Experience with Dry Type Transformers in Industry Applications**  
Alexander Hanko (VW-Kraftwerk GmbH)

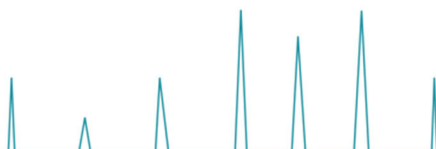
**16:00** **Effective Asset Management**  
Michael Lukas (Lausitz Energie Kraftwerke AG)

**16:30** **Asset Management for Transformers in Marine Applications**  
Thomas Völkel (ABB AG)

**17:00** **Summary by the Chairman**  
Prof. Dr.-Ing. Peter Werle (Leibniz Universität Hannover)

#### Social Program

**18:30** **Visit of Ski Jumping World Cup Hill and Evening Event**





## TRANSFORMER-LIFE-MANAGEMENT CONFERENCE

### Program Day 2

**Tuesday 19.09.2017**

#### Diagnostics and Monitoring

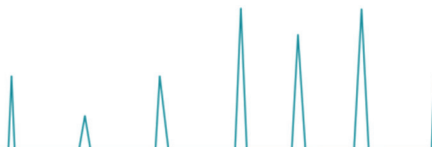
|                   |   |
|-------------------|---|
| <b>8:00</b>       | <b>Current Status of PD Measurement on Transformers On Site and in the Laboratory</b><br>Dr.-Ing. Jitka Fuhr (AF Engineers + Consultants (AFEC) GmbH) |
| <b>8:30</b>       | <b>Diagnosis of Dry Type Transformers</b><br>Dr.-Ing. Michael Krüger (OMICRON electronics GmbH)   |
| <b>9:00</b>       | <b>High Voltage Test Systems - The next Generation</b><br>Sven Vogel (ABB AG, Halle)  |
| <b>9:30—11:00</b> | <b>Coffee break and visit of exhibition</b>   |

#### Components

|                    |   |
|--------------------|---|
| <b>11:00</b>       | <b>Operation of Regulated Distribution Transformers with Newest Tap Changer Design</b><br>Werner Hofer (Maschinenfabrik Reinhausen GmbH)    |
| <b>11:30</b>       | <b>Trends in Insulating Fluids; Categorization of HV Behaviour, Required Maintenance &amp; Fault Markers</b><br>Carl Wolmarans (Nynas GmbH) |
| <b>12:00</b>       | <b>Ester- or Dry Type Transformer ? Applications, Diagnosis and Cold Start Behaviour</b><br>Mark-André Thelen (Cargill Deutschland GmbH)    |
| <b>12:30—13:30</b> | <b>Lunch</b>  |

#### Research and Development

|                    |  |
|--------------------|--|
| <b>13:30</b>       | <b>PD Measurement under DC Voltage</b><br>Prof. Dr.-Ing. Michael Hartje (Hochschule Bremen)  |
| <b>14:00</b>       | <b>Comparison of DGA Interpretation Results by Means of Algorithms in the Multidimensional Space of Fault Gases</b><br>Prof. Dr.-Ing. Stefan Kornhuber (Hochschule Zittau/Görlitz) |
| <b>14:30</b>       | <b>Development of a new low-cost DGA System</b><br>Mohammad Akbari Azirani (Leibniz Universität Hannover)  |
| <b>15:00</b>       | <b>Diagnosis of Power Transformers: Demand and Reality</b><br>Sebastian Schreiter (HTWK Leipzig)   |
| <b>15:30</b>       | <b>Dry Type Transformers for Medium and High Voltage / Safety Instructions for Factory Tour</b><br>Gaby Luckey (ABB AG, Brilon)  |
| <b>15:50—16:00</b> | <b>Summary and Discussion</b><br>Prof. Dr.-Ing. Peter Werle (Leibniz Universität Hannover)   |
| <b>16:30—18:00</b> | <b>Factory Tour, ABB Dry Type Transformers, Brilon</b>   |





# TRANSFORMER-LIFE-MANAGEMENT CONFERENCE

## Partners in Exhibition



**ENERGY** SUPPORT

**ABB**

**NYNAS**



**Megger**<sup>®</sup>



**WEIDMANN**

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 **Ekofluid**<sup>®</sup>

**Cargill**<sup>™</sup>

**RWE**  
The energy to lead





## TRANSFORMER-LIFE-MANAGEMENT CONFERENCE

### Registration

#### **Transformer Life Management Conference 2017**

September 18<sup>th</sup> to 19<sup>th</sup> at the SAUERLAND STERN\*\*\*\* Hotel,  
Kneippweg 1, 34508 Willingen (near Brilon)

Please resend to:

E-Mail: info@energy-support.de or fax: + 49 2131403 9608 or

E-Mail: silvia.anton@de.abb.com or fax: + 49 345 5686 120

Company name: .....

Participant: .....

Street: .....

City , ZIP code: .....

Phone: .....

E-Mail: .....

Included in the fee of 695 € + VAT for each Person:

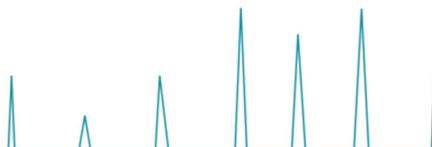
- Colloquium materials
- Welcome drinks
- All Snacks
- Lunches
- Official dinner

Invoice must be paid before conference starts.

I would like to participate in the factory tour of ABB Brilon on Tuesday,

Sept. 19th approx. 5 pm :  yes  no

Signature: .....





# TRANSFORMER-LIFE-MANAGEMENT CONFERENCE

**ENERGY SUPPORT**  
Experts in providing mobile Solutions

## Equipment for Transformer Oil Analysis



### Contamination Free Oil Sampling Set

- to get a reliable Oil sample according to IEC/ASTM Standard
- to avoid any misinterpretation of your Laboratory results
- measure the Oil Temperature
- avoid any contamination with ambient air or dirt particles



### MobilGC

- Portable DGA Equipment for Analysis 9/11 Gases
- according ASTM D3612/IEC 60567
- direct Analysis of Buchholz gases
- with Partial Vacuumdegassing Unit
- with Software Package Expertsystem

### TOPTOGA

- DGA Analysis according to ASTM D3612/IEC 60567
- with Autosampler 16/32 Syringe 50/100ml
- fully automatic Vacuumdegassing
- with Analysis of 11 Gases with high sensitivity
- with Software Package Expertsystem



### Breakdown Voltage Measurement

- BA 75/100 KV
- according to all usable Standards
- smallest Breakdown Voltage Analysator
- USB drive, Software controlled
- Battery operated



### Pocket TitratorKF

- Water content measurement using Karl Fisher Method
- full automatic with high precision
- measuring low concentrations



### TDM 4000

- Automatic Dielectric Constant Tan Delta & Resistivity Measurement
- Heating Chamber with automatic Temperaturcontrol
- automatic drainage of your Oil sample
- with Printer and Calibrator



[www.energy-support.de](http://www.energy-support.de)

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## TRANSFORMER-LIFE-MANAGEMENT CONFERENCE

# Contamination Free Oilsampling Set

**ENERGY SUPPORT**  
Experts in providing mobile Solutions



## Avoid Misinterpretation of your Oilsamples

**ENERGY Support developed the Contamination Free Oilsampling Set with temperature control, to avoid any misinterpretation of Oilsamples.**

Results are strongly dependent on Temperature and Oil Ageing Conditions.

|                             |    |    |    |
|-----------------------------|----|----|----|
| Temperature in C°           | 80 | 15 | 46 |
| Dielectric Strength (kV/mm) | 13 | 70 | 45 |
| Water in Oil (mg/kg)        | 48 | 10 | 20 |

- Where does the water come from?
- Moisture can be in the insulation when it is delivered from factory.
- If the transformer is opened for inspection or has a leak, the insulation can absorb moisture from the atmosphere.
- Moisture is also formed by the degradation of insulation as the transformer ages.
- Additional benefit is the sampling with gas-tight syringes according to standard IEC 60475/ASTM D 923.
- The aim of proper sampling is to ensure that the result of the dissolved gas analysis are not distorted by contamination with ambient air or dirt particles.
- This guarantees a reliable and exact dissolved gas analysis and a solid decision basis for the further treatment of your Transformer.

With this in mind, we organise our TLM Conference 2016. To achieve a stable integrated electricity network, generation, transmission and distribution companies must employ best practice performance methodologies to achieve optimal resilience and a future-proof grid.

**Interested in learning more and share your knowledge at Transformer Life Management Conference?**

[www.energy-support.de](http://www.energy-support.de)

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