

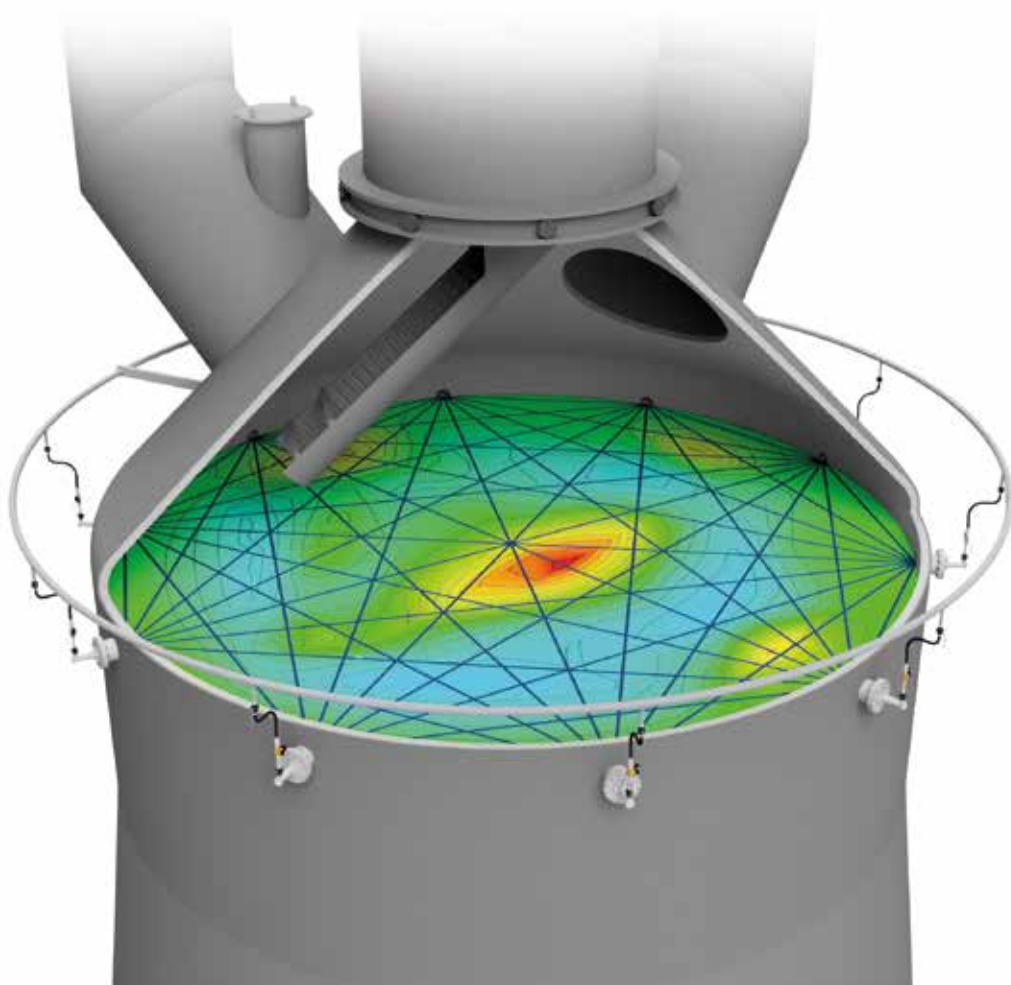
READY TO EXCEED.



**TMT** TAPPING  
MEASURING  
TECHNOLOGY

**TMT SOMA®**

# 2D TOP GAS TEMPERATURE MEASUREMENT



# REAL GAS TEMPERATURE READING

**RELIABLE FEEDBACK FOR BURDEN CHARGING OPTIMISATION**

## **Measurements reflected in a complete 2D isothermal view of the top gas temperature**

10-16 transceivers, each operating as transmitter and receiver, are installed on the circumference of the top cone. Each transceiver emits sound, recorded simultaneously by the other transceivers. The speed of sound is directly proportional to the absolute gas temperature.

A high performance processor calculates the actual gas temperatures in-between transceivers after each sound emission.

A specially developed tomography algorithm computes all measurements to reflect a complete 2D isothermal view of the top gas temperature. This view is updated every 4-6 seconds.

## **/ TMT SOMA® SYSTEM LAYOUT**



## **/ YOUR BENEFITS**

### **Accuracy**

No drift, no calibration. Constant precision from 0 to 2000°C. Real gas temperature.

### **Reliability**

Contactless and self cleaning. No wear and minimum maintenance.

### **Process transparency**

High resolution 2D top gas temperature distribution update every 4-6 sec. Trending of gas channel positions for immediate process correction.

### **BF process monitoring**

Monitoring of short-term process irregularity as well as longterm BF process performance.

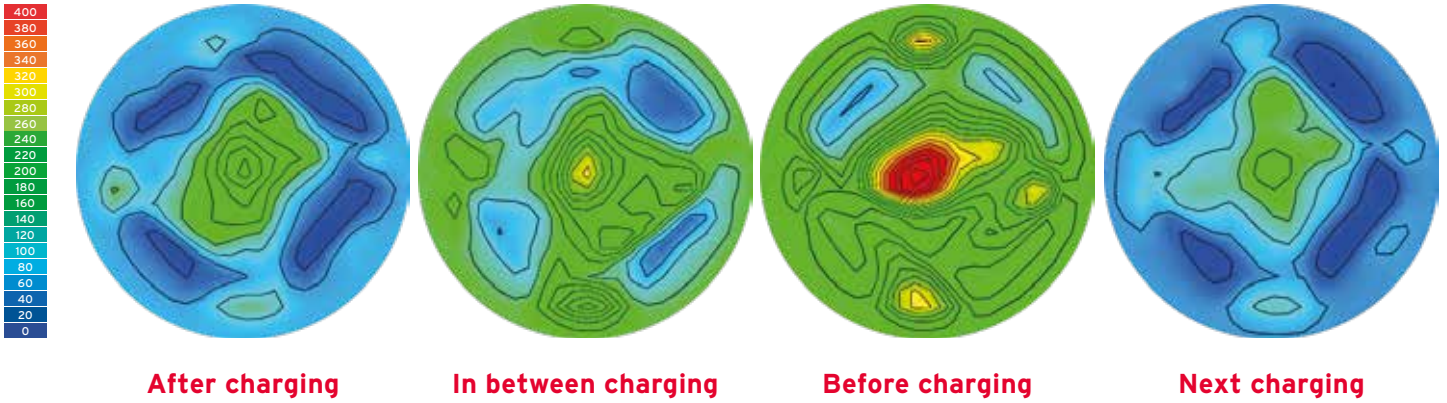
### **State of the Art**

Stand alone system and integration in BF expert system. Modern and modular software architecture. Monitoring via webinterface from everywhere. All temperature data stored for 10 years.

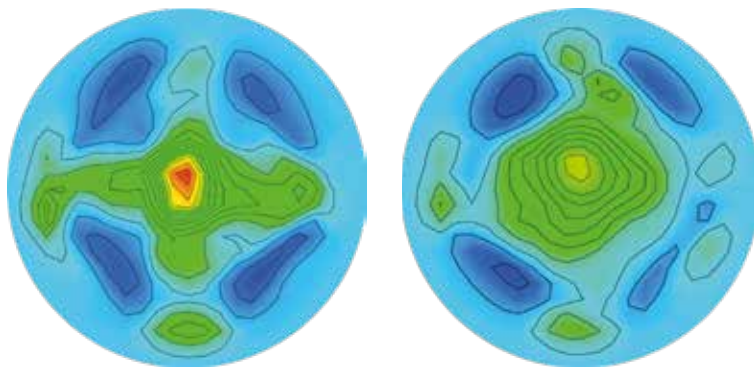
### **Installation**

Decentralized digitalization for flexible installation concepts with reduced cabling.

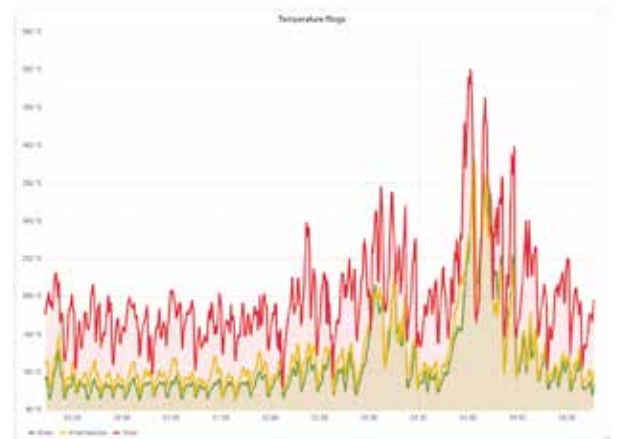
**/ ISOTHERMAL PLOTS OVER A COMPLETE CHARGING CYCLE**



**/ LONGTERM COMPARISON OF AVERAGED ISOTHERMALS OVER 8 HOURS**



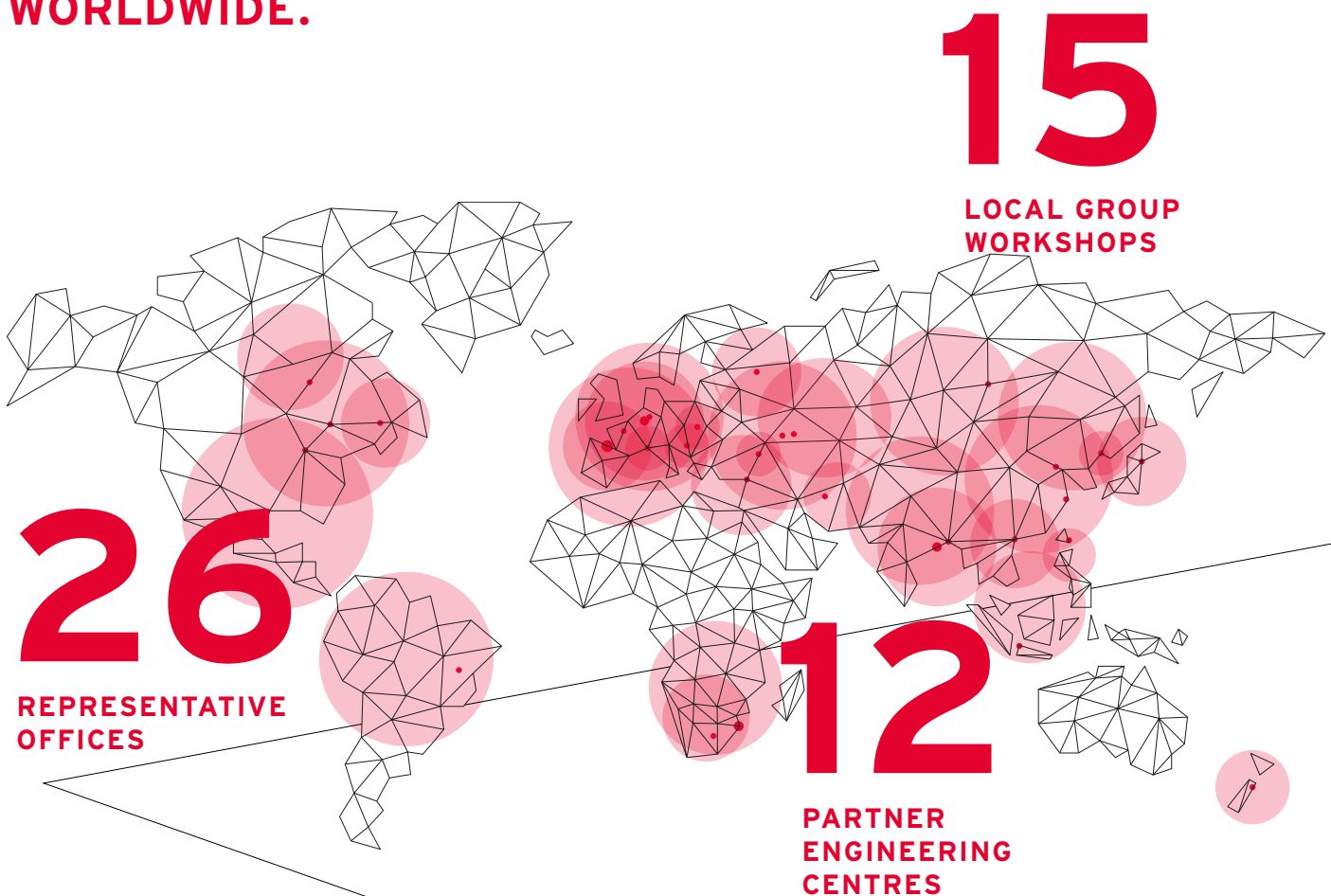
**/ TEMPERATURE TREND OF INNER, INTERMEDIATE AND OUTER RING**



**TECHNICAL DATA**

- ▶ Number of transceivers: **10 - 16**
- ▶ Measuring range: **0 - 2000 °C**
- ▶ Measuring accuracy: **value ± 2.5 %**
- ▶ Connection flange: **DN200 / DN250**
- ▶ N<sub>2</sub> consumption: **typ. 150 - 250Nm<sup>3</sup>/h**
- ▶ N<sub>2</sub> pressure: **6 - 8 bar**  
above furnace pressure

**NO MATTER WHERE,  
SUPPORT IS JUST  
AROUND THE CORNER.  
WORLDWIDE.**



### **Maximum equipment availability**

With TMT you have local support around the world. OEM subsidiaries and workshops spread around the globe are ready to assist you throughout the lifetime of the equipment.

### **/ SERVICES**

- ▶ Comprehensive refurbishments to extend the lifetime of your equipment
- ▶ Tailor made technology upgrades to boost the performance of existing equipment and to increase the safety level
- ▶ Site surveys and preventive maintenance to ensure availability of the equipment
- ▶ Supply of OEM spare parts and consumables to ensure reliable performance

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