

**PROMECON®**

we focus on your process



# Competence in thermal process measurement



TO MEASURE IS TO KNOW

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

**COMPANY**



Power



Cement



Waste to Energy



Steel

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PROMECON®

McON Air Compact  
digital

F1 F2

COM

SENSOR

DUST

RESET

185  
200  
224

F  
E  
D

**#wefocusonyourprocess**Dipl.-Ing. **Hans Georg Conrads**, CEO/President




## Welcome to PROMECON

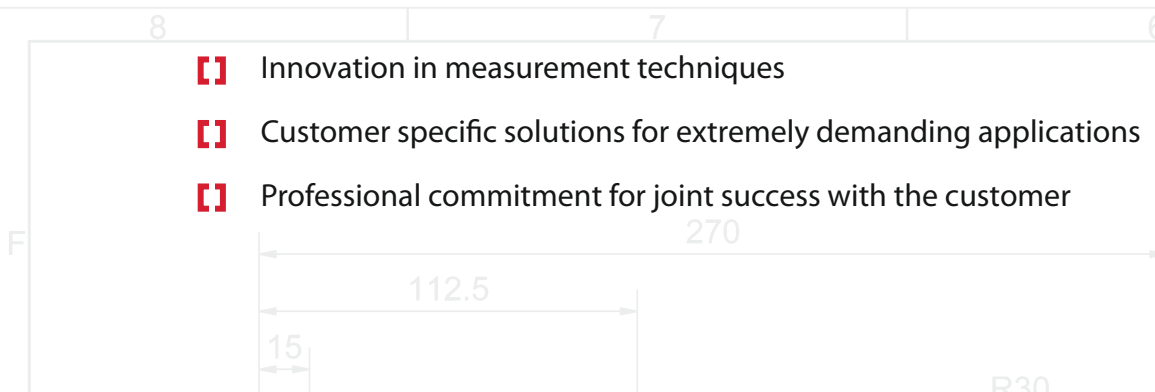
PROMECON specialises in the design and manufacture of high technology measurement systems for monitoring and optimisation of thermal processes as used in the power, cement and smelter industries.

Our common goal with our clients is to save money and resources in their thermal processes, whether it be a smelter, a large size boiler, furnace or other machinery creating gas and solid material flows by thermal processes.

Since its foundation in 1995 PROMECON has focused on correlation based flow technologies in conjunction with microwave and optical measurements. We enable our clients to measure and optimise hot and dusty stratified as well as multiphase flows. Our technology stands at the forefront in the heavy industry and is often used in measurement locations that to date have been unaccessible to conventional measurement principles.

Our goal is to deliver complete solutions that guarantee technical success as well as rapid return on investment. Our team of engineers and sales partners is active around the globe to create the best solution for process optimisation. Thus the name PROMECON stands for:

-  Innovation in measurement techniques
-  Customer specific solutions for extremely demanding applications
-  Professional commitment for joint success with the customer





# Our Commitment



## Operational cost reduction

Whether measuring hot and dusty gas flows or multiphase flows such as pulverized coal or biomass: getting reliable and drift free process data is key in order to ensure an optimised industrial process. By using PROMECON technology, plant operators can prevent system failures or high costs due to the waste of resources – our systems reduce emissions and enhance the efficiency and operability of plants.

September 1995

Founding of PROMECON Prozess- und Messtechnik Conrads GmbH

July 1997

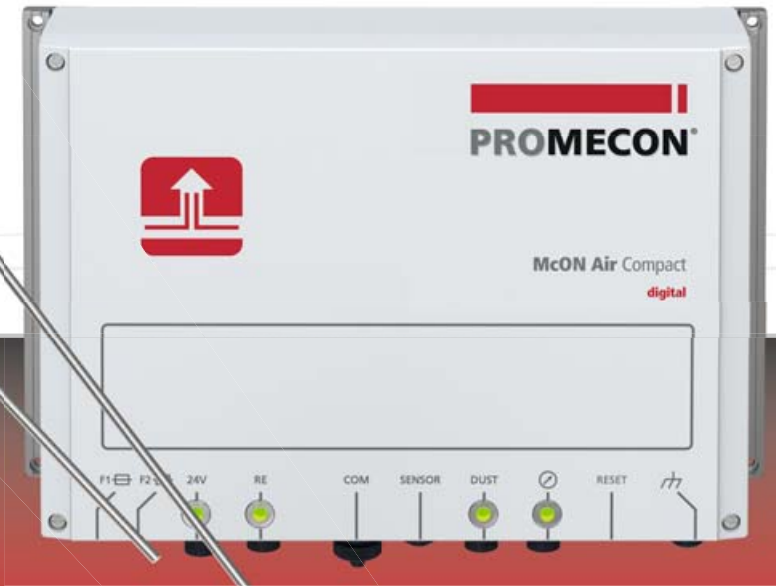
Patent for the measurement of a two phase flow



## Technology for the environment

Plant operation goes hand in hand with environmental compliance. Whether it be reduction of pollutants such as NOx and dust emissions or reduction of greenhouse gas emission by energy savings on fans, saving recuperative heat or directly in the thermal process: PROMECON technology is a key factor in environmental management of thermal processes.

As long as we live in an industrialised world thermal processes will be present and they will need to be managed better every day. Also in the transition of thermal processes from carbon based to carbon neutral, hot gas flows and advanced process control will demand the best available digital gas and multiphase flow technology. This is already available by PROMECON today.



Reliable flow measurement for hot and dust laden gases – single channel solution

**July 1998**  
Prize for Innovation and Technology of the state of Saxony Anhalt

**August 1999**  
Award for Innovation and Entrepreneurship by the President of Germany, Roman Herzog



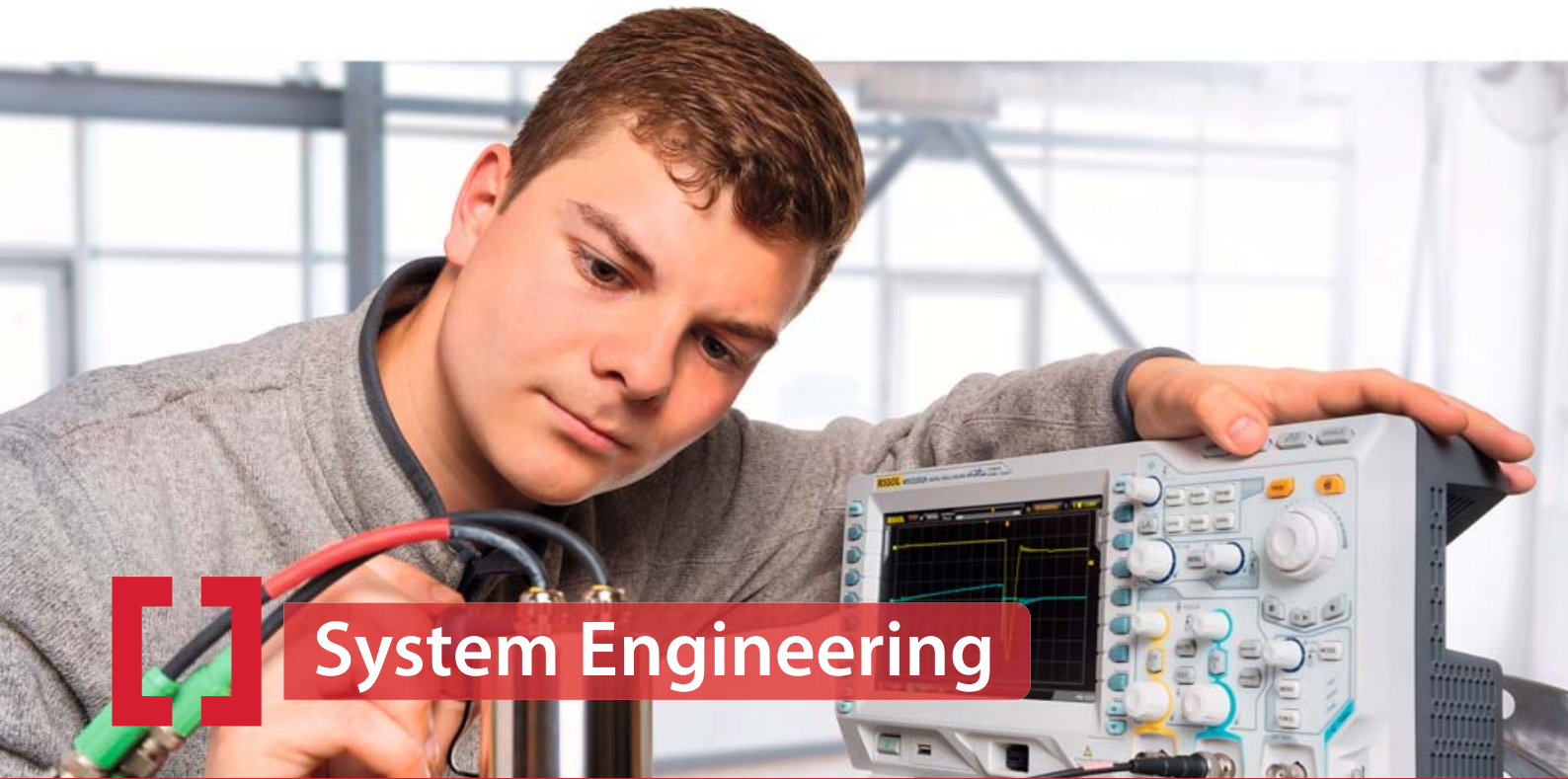
# Power Industry

- ❑ Decrease NO<sub>x</sub> & CO<sub>2</sub> emissions
- ❑ Reduce fuel consumption
- ❑ Increase boiler availability and fuel flexibility
- ❑ Optimise fly ash quality
- ❑ Optimise biomass firing systems

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# System Engineering

## Measurement Systems

PROMECON is the inventor of novel measurement methods for single and two phase flows. The starting point for our development are the physical laws of flow and the newly invented methods of measurement which in great parts have been internationally patented by PROMECON. By digital signal processing algorithms we derive measurement values. All this is then developed into a measurement system which comprises sensors, processing units as well as digital and analog interfaces to the plant or a user. Our systems are thoroughly tested and undergo strict qualification tests for various international technical standards such as the IEC.



## Made in Germany

Sensors are assembled by ISO 9001 certified partners of PROMECON. Control of the production process and sample testing is done by PROMECON to ensure constant product quality.



February 2001

Patent for the measurement of unburned carbon in fly ash

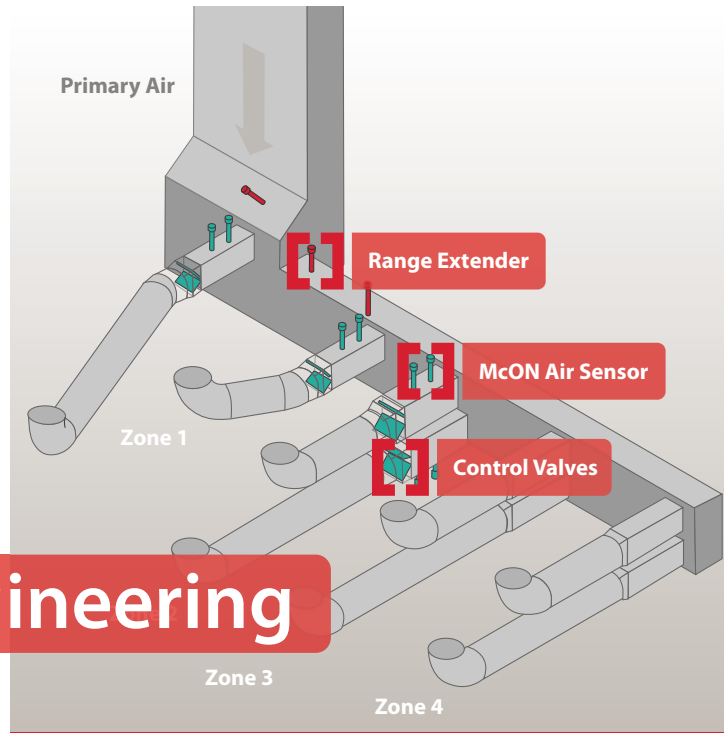
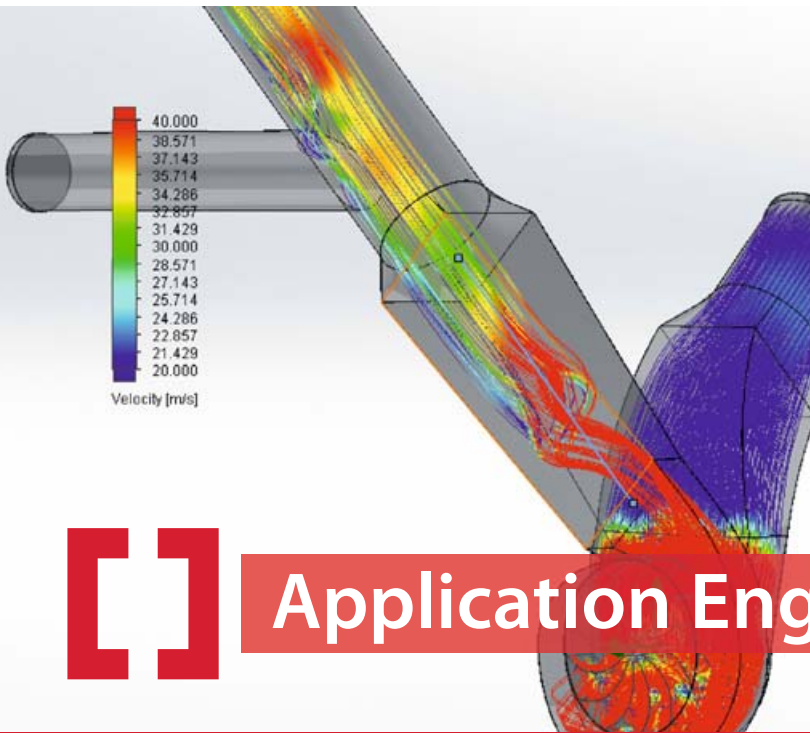


July 2001

First Installation of an unburned carbon monitoring system in Wedel Power Station, Hamburg







## Application Engineering

### Designed for performance

Systems designed out of the process – applied back into the process. Our systems are developed out of the deep knowledge of the processes that we work with: steelmaking, power boilers, gas turbines, cement making and many more. But we also know that a good measurement system is only one part of the equation. The professional application of the measurement into a process is a key element. In most of our applications the customer’s plant was there first! So we have to apply our technology into an existing process, an existing machine, an existing piece of equipment and make sure that the final results stand the test of time.



### Digital Future

Industry 4.0 is becoming reality. The fourth industrial revolution is here, and it also affects the thermal process industries. PROMECON is part of it.

Our intelligent sensors are able to communicate with each other and with you. Doing real-time optimisation, sharing the data or integrating them into your networked data world, PROMECON Connect makes it possible. It also enables us to forecast problems and provide you an excellent support, no matter where you are.

**July 2002**  
First installation of a cross correlation measurement in a Tertiary Air Duct in Cement Plant Bernburg

**March 2003**  
First installation of a digital air measurement for boiler control at PS Reuter West, Berlin



# Cement Industry

- ❑ Reduce energy consumption
- ❑ Optimise the grinding process
- ❑ Reduce calciner down time
- ❑ Increase the usage of alternative fuels
- ❑ Reduce NO<sub>x</sub> emissions

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# Global Success

PROMECON

PROMECON USA, Inc.

„Over 55 countries, 300 plants and thousands of PROMECON sensors world wide.“

300+

World wide there are more than 300 facilities trusting our innovative technologies. Most of these over 300 facilities decided to install different measurements in order to gain reliable insights on their production processes. From freezing cold temperatures in northern Russia to tropical heat in the Philippines – you need something you can trust. Thousands of drift- and calibration free PROMECON sensors world wide keep production processes running.

July 2003  
Foundation of PROMECON USA Inc.

May 2004  
First successful installation of biomass flow measurement at Gelderland Power Station, The Netherlands

## Meet our partners

In 55 countries PROMECON has a tight collaboration with their partners. Jointly we support our clients around the world. In different parts of the world we manage local and specific conditions of the plant that we are serving including the specific trade related issues that come with large projects. Our partners around the world support us in organising all commercial as well as technical aspects that come with the coordination of our projects.

Beyond that PROMECON has a tight cooperation with all partners in servicing PROMECON products. For this PROMECON qualifies each partner by training sessions and documents successful training with certificates that allow customers to rely on PROMECON partners locally all around the world.

PROMECON seeks to have long term relationships with their partners. In the world of process and plant optimisation experience, long term relationships and proven track record are a key element to joint success



Dipl.-Phys. **Alexander Halm**, Technical Sales Support

“ Working at Promecon for me means working in an interesting and fast changing environment. Being out installing our systems is always challenging but also fun. Meeting new people, seeing different plants and working in even different industries is what I like most about working at Promecon!”

**May 2005**  
First successful optimisation of a large raw mill in a cement plant in the USA

**March 2006**  
First installation of a gas flow measurement system in a steel plant in Wheeling, USA





# Steel Industry

- ❑ Reduce dust emissions
- ❑ Optimise gas flow measurement
- ❑ Optimise BOF/EAF operation
- ❑ Optmise sintering- and pelletising plants
- ❑ Reduce fan power



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# Employee Benefits

## Our corporate culture

- ❑ Flat hierarchies
- ❑ Direct job responsibility
- ❑ Function and work related compensation
- ❑ Attractive benefits
- ❑ Flexible working hours
- ❑ Corporate health management
- ❑ Active training and coaching
- ❑ Business-relevant insights



LinkedIn XING

July 2007 TÜV approval of PROMECON system for SIL2 certified applications

June 2008 Base patent for the ionisation and cross correlation measurement of gas flows







**Kerstin Ackmann, CFO**

„To me PROMECON represents good opportunities to balance career and family in a modern working environment. I like working in flat hierarchies with empowered people and short decision lines. In my position as CFO I have a clear idea to lead PROMECON to be recognised as a dependable business partner and an attractive employer that takes its social responsibility seriously.“

**M.Sc. Anette Franke, Marketing Manager**

„PROMECON offers the opportunity to develop and realise marketing strategies both online and offline. I am also involved in the marketing of PROMECON products and the success analysis of marketing tools. I am able to apply my knowledge and interests in PROMECON's marketing mix. I am convinced that my future lies in this profession.“



**Dr. Jörg Fochtman, Research & Development**

„With my work in PROMECON's Research and Development Department, I can contribute my knowledge and relevant experience and take the next step in my career. Working together is the key factor for me to achieve major success. Strategic, initiative thinking and enthusiasm is highly important for me.“



**B.Sc. Arne Kohlhaupt, Working Student**

„During my time at PROMECON, I had the great opportunity to gain experience in the Research and Development Department. It was a good opportunity to escape the theoretical everyday life of the university. I was able to put my accumulated knowledge into practice. My supervisor and colleagues give me a lot of trust, appreciate my opinion and let me work independently.“



**January 2009**  
First installation of large scale air flow measurement system in Camden Power Station, South Africa

**August 2009**  
Large scale installation of PROMECON technology in largest new built cement plant worldwide, St. Genevieve, USA



# Waste to Energy

- ❑ Accurate flue gas measurement
- ❑ Reduce NO<sub>x</sub> emissions
- ❑ Increase throughput
- ❑ Optimise combustion control
- ❑ Increase grate life

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# Quality Control

## Integrated Management Process at PROMECON

As an innovative manufacturer of state-of-the-art technologies, we attach great importance to meeting the quality requirements of our customers. Our integrated management system has been determining our business processes at a very high level for many years. Through very good quality and reliability we act as a competent partner for our customers worldwide. At PROMECON we work with an integrated management system in order to ensure the flow of information and the control of all business processes according to our company management handbook and guidelines.

**February 2011**  
First large scale installation of air flow measurement on 4 units in Itaqui and Pecem, Brazil

**September 2015**  
20<sup>th</sup> anniversary and celebration in Barcelona with team members





## Certificates

In order to ensure and continuously improve the quality of our products and services, we are regularly certified by accredited bodies based on the international quality standard DIN EN ISO 9001: 2015, as well as the international standard for occupational health and safety, ISO 45001: 2018.



**July 2016**  
Launch of PROMECON 2.0 initiative

**June 2017**  
Best Paper Award on the Power Gen Cologne for the dynamic control of large steam generators



# References



HEIDELBERGCEMENT



GE Power



## International expertise

PROMECON have long term relationships with large multinational corporations operating hundreds of plants all over the world. PROMECON are fulfilling the quality as well as the financial requirements of these global players. In the world of heavy industry and thermal plant operation, in the energy, the mineral or smelter sector there are few companies that we have not dealt with so far. We are fond to be part of the global business community in this vitally important industry.

**January 2018**  
PROMECON GmbH become Process Measurement Control GmbH

**April 2018**  
Installation of biomass flow measurement at largest biomass power generation plant in the world, DRAX, UK





# Other Industries and Applications



Large Diesel Engines



Glas Industry



Chemical Industry



Gas Turbines and HRSG

**June 2018**  
Patent for the optical correlation of IR light for the measurement of hot gas flows

**September 2020**  
25 years of PROMECON – 300 systems sold in 55 countries on 6 continents – Congratulations

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