

September | 2015  
E-MAGAZINE FOR OUR CUSTOMERS



# Impulse

*online*

**SEE YOU AT THE 15<sup>TH</sup> VEM  
TECHNICAL CONFERENCE!**



14<sup>TH</sup> TECHNICAL CONFERENCE

That was the 14<sup>th</sup> Technical Conference  
on 15<sup>th</sup> and 16<sup>th</sup> September 2015

**Review | Statements | Speakers | Outlook**



Sylvia Blankenhagen, chief designer at VEM motors Thurm, and Frank Steuer, chief designer at VEM motors

■ 14<sup>th</sup> VEM Technical Conference at Wernigerode

## Technical expertise and legal frameworks

The motto of the 14<sup>th</sup> VEM Technical Conference was brought to life in a total of 19 presentations. Unbroken interest through to the very end.

Yet another successful event can now be added to the company chronicles – the 14<sup>th</sup> VEM Technical Conference on 15<sup>th</sup> and 16<sup>th</sup> September 2015. The motto for this year's gathering at the Harzer Kultur- und Kongressshotel in Wernigerode was "Electric drive systems: Balancing the applicable laws and regulations".

The 227 participants from 18 countries were treated to a total of 19 presentations. Those who had perhaps feared that this year's topic could be a little dry and too narrowly focused were soon convinced otherwise. Over the course of the two days, both the organisers and the invited speakers once more offered admirable proof of what makes this conference series so unique: The blend of topics from theory and practice, and discussions bringing together engineers, scientists, manufacturers and users, characterise the special mix of the Technical Conference.

Roland Zänger, VEM sales manager for Germany, Austria and Switzerland, summed up: "The important topic of energy efficiency was a common denominator across the broad spectrum of presentations. For me, it was also interesting to hear about new research results and trends which affect not only motors, but also associated systems."

One good indicator of the interest which can be generated by such an event and then maintained over a period of two days: The attentiveness and number of listeners during the last presentation before the closing address. This year, it was Martin Heidenreich and Harro Reiff from Wieland-Werke AG who stood before the auditorium. Hardly any of the other speakers had so many questions to answer after their presentation. The discussion documented the unbroken interest of the participants through to the very end.

### 15<sup>th</sup> Technical Conference

The motto for the coming jubilee conference:  
"Industry 4.0 – What does that mean for electric drives"

As a minor break with tradition, the next conference will be a little later than usual. Please note the following dates in your diary:

**18<sup>th</sup> and 19<sup>th</sup> October 2016**

■ Speakers at the 14th Technical Conference:

# That was my message to the participants

**Oliver Timmerhues, SEW Eurodrive GmbH & Co. KG:**

It is important to view the drive system as a whole and to keep in mind how the individual components are matched to each other. For us at SEW, that plays a key role in our classic drive solutions, for example for conveyor systems.

My concern was also to address the operating points defined by the EN 50598 standard. There are naturally many other operating points which could be represented. If the manufacturers were to provide more such data, it would bring real added value. That naturally entails im-

mense additional outlay, which in turn influences development costs and time. And there are no standards for the additional data. It is a marketing plus, however, if I can offer more data, and view and present the drive as a system.

This was my first Technical Conference, and I must say that I was even a little annoyed at myself for having missed the previous conferences. I have experienced an interesting mix of topics from research and practical application.



The complete presentation can be found here:

[“Saving energy with systems – how EN 50598-2 has changed drive technology”](#)

**Jürgen Albig, ZIEHL-ABEGG SE:**

It is necessary to distinguish the two aspects of the topic: Standards describe the technical basis, while directives provide a legal framework. The standard EN 50598 was the subject of several presentations. My intention was to encourage also a critical analysis of the standard, because it is still far from solving all problems. It establishes a basis for quality demands, but not for all customers' applications. That is where it does not go far enough.

The customers demand that we, as fan manufacturers, provide very exact data. But for that, we need corresponding data from our own suppliers. Since we are not receiving the required data, we have to perform our own measurements. A standard which specifies a 10 % calculation accuracy is problematic for us.

I am attending the VEM Technical Conference for the first time. I wanted to see whether this kind of event could also be useful for us and our customers. With the right topic, I would certainly come again. “Industry 4.0”, for example, sounds interesting. The complex of system integration is also something we are dealing with regularly. Further future-oriented topics for our company are bionics and sustainability. My suggestion for next year: More advertising of the conference! That is something I missed up front. It would also raise the number of customers compared to VEM staff among the participants.”

Title:

[“Ventilator fans: Requirements for suppliers of electric drive systems”](#)



**Uwe Heine,  
Wärtsilä SAM Electronics GmbH:**

It is not sufficient to concentrate just on the machine itself; we must consider the whole drive system. I wanted to demonstrate that with the example of a thruster drive, which comprises a tunnel with a propeller and a motor on top. Shipbuilders have been using these drives for the last 100 years, and the problems with vibration-induced effects have accompanied us from the very beginning. With the VEM method of calculation, which views the system as a whole, I was able to show how the cause can be eliminated.

Our large machines were not at the focus this year, but the conference was nevertheless very interesting for me. If time allows, I will be back next time.

The complete presentation can be found here:

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["Vibration strength of thruster motors on ships"](#)



**Prof. Dr.-Ing. Winfried Hofmann,  
Dresden University of Technology:**

I chose the example of servo drives to illustrate how we must not stop at the motor and converter; for the designing of energy-efficient drives, we must also approach the process and the driven machine, because that is where the greatest energy saving potential lies. This is of course equally applicable to the other drives which played a role at

the conference, e.g. pumps, fans, compressors, roller table motors or rolling mill shears. We can also expect more in the way of standards in the future. The next step will be to properly define the certification fields for applications and components.

In the past, the tight schedule of the Technical Conference left little room for discussion. That was pleasantly different this time, because the time allowance for the speakers was shortened. The event is an industrial conference, primarily for practical designers and users. That is the difference to a scientific conference – not just the larger numbers of participants – and at the same time the appeal of such a meeting place. For future Technical Conferences, I could well imagine topics which place an increased focus on manufacturing processes and/or reliability. That would, on the one hand, attract those who supply semi-finished products, e.g. insulation materials, electrical steel or permanent magnets, and at the same time interest the users.

The complete presentation can be found here:

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["Selection criteria for energy-efficient single- and multi-axis servo drives" "](#)

**Marcel Lehr,  
Darmstadt University of Technology:**

With my presentation, I wanted to emphasise the important role played by standards, especially with regard to the new legislation. We must remain constantly aware of the possible applications of electric machines and of the means to realise savings potential, whether with manufacturing technologies or improved efficiency ratings.

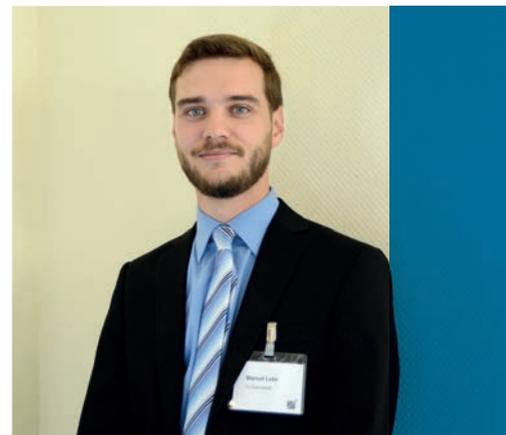
I had heard a lot of positive comments about the conference series from various university colleagues. When Prof. Binder asked me if I would like to attend, I was pleased to ac-

cept the invitation. I have learned a lot from the presentations, because standards play a rather subordinate role in basic research. But I now understand just how important it is for the branch to consider the entirety of a system and not just its individual parts.

Title:

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["Comparison of various electric machines with permanent stator magnets in industrial drive systems"](#)



**Frank Steuer,**  
**chief designer, VEM motors GmbH:**

VEM cooperates very closely with the steel and rolling mill industry. With this example, I wanted to show how important it is to consider the specific application



when determining the measures necessary to achieve an ideal drive solution. That applies both to the classification of products and to loss calculations. And it is also true for the increasing numbers of variable-speed drives in use in the most diverse branches.

I have been at VEM for 35 years and I have also attended most of our Technical Conferences. This time, however, I followed the conference from a different perspective in my new role as chief designer. One of the next topics on the agenda for our design department will be IE4 asynchronous motors. In general, it will also be important for VEM motors to optimise its internal processes. In that way, we can respond faster to accommodate growing market demands.

The complete presentation can be found here:

[“EN 50598 – A chance for more efficiency in the steel industry”](#)

## *Thank you!*

Since the 14<sup>th</sup> Technical Conference, we have received a considerable number of mails, phone calls and other feedback from participants. That is especially pleasing. Firstly, because it is always useful for an organiser to hear the reactions of those who attended an event and in this way to be able to learn from past experience. And secondly, because we received almost exclusively positive comments! In other words, double reason for joy. On behalf of the whole VEM team, we would like to thank you for your kind words, and, in particular, for your ideas and suggestions regarding the future orientation of the conference series.

We will gladly take up these thoughts in our further planning.

We have set the bar high, and the credit belongs to everyone involved.

**At the 15<sup>th</sup> Technical Conference, the next jubilee for our conference series, this is the standard against which we must measure ourselves.**

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