



# SEMINAR INVITATION

Partner:



**WÜRTH ELEKTRONIK** MORE THAN YOU EXPECT

# **INVITATION TO THE SEMINAR**

## **EMC: BACK 2 BASICS**

On June 6, 2024, KU Leuven and Würth Elektronik will organize a one-day seminar. Below, you will find the agenda with a brief explanation of the topics.

### **Main topics:**

- Design for EMC in Philips Healthcare ... a road to a multidimensional and interactive approach
- Unleashing the power of a low impedance (return) path
- EMI debugging – designing your ideal filter
- How to really comply with the EMC Directive: from rule – based to risk – based

### **Seminar location:**

KU Leuven – Brugge  
Aula 03.01.  
Sporwegstraat 12  
8200 Brugge

Are you interested in participating? If so, you are cordially invited to this seminar. You can register via the website [www.we-online.com/seminarregistration](http://www.we-online.com/seminarregistration). Participation is free of charge and your lunch is included.

Should you be unable to attend after registration, please cancel free of charge via [nathalie.vanherck@we-online.com](mailto:nathalie.vanherck@we-online.com). This is possible up to 1 week before the start of the event. In case of a later cancellation or no cancellation at all, we reserve the right to charge € 27,50 in connection with reservation costs reserved.

We are convinced that we can offer you an interesting seminar and look forward to your participation.

(The organization reserves the right to change the agenda and/or the location)

Kind regards,

**Würth Elektronik eiSos GmbH & Co. KG & KU Leuven**

# AGENDA TO THE SEMINAR

## EMC: BACK 2 BASICS

- 9u00: Registration
- 9u15: Word of welcome
- 9u30: **Design for EMC in Philips Healthcare ... a road to a multidimensional and interactive approach.** (Rob Kleihorst)  
Depending on who you ask, you will receive very different answers to the question of what EMC (Electromagnetic Compatibility) actually means to them. Sometimes, you hear about knowledge acquired from a book, during a training or seminar, or from an internet blog. If someone was fortunate, they might have learned about it in high school and passed their exam. Other times, you encounter stories about EMC tests repeatedly failing in expensive test laboratories. In such cases, engineers had to find solutions based on tables that only listed frequencies where emissions exceeded the limits. Alternatively, you might hear tales of frustration stemming from fruitless attempts to control the unexpected and inexplicable electromagnetic anomalies in their designs. Ultimately, some attribute this puzzling behavior to inadequate measuring equipment or flawed test methods, wondering why “a previous test was OK, yet nothing has changed!”  
I am curious to know what EMC means to you, and I would be delighted to describe the path our company has taken to systematically maintain control over electromagnetic behavior, ensuring the safe and timely marketability of our products.
- 10u30: Break
- 11u00: **Unleashing the power of a low impedance (return) path** (Tristen Boeckx)  
The concept of creating a low impedance (return) path plays a crucial role in enhancing EMC performance. A low impedance path serves as a vital foundation for improving EMC performance. During this seminar, we will explore the key principles and strategies for designing and implementing an effective low impedance (return) path
- 12u15: Lunch

- 13u00: **EMI debugging – designing your ideal filter** (Raf Vleugels)  
The primary focus of my session is about explaining the differences between common mode noise and differential mode noise and why it is so important to identify which one is dominant. While shielding can offer a good solution for radiated emissions or immunity, time constraints limit a detailed exploration of this secondary measure. I will explain the effects of introducing filter components like an L (inductor) or a C (capacitor) into both high and low impedance systems. In the case of CM, a more in-depth examination of the material properties of Common Mode Chokes (CMCs) is conducted, exploring their combination with (Y) capacitors. The discussion also zooms in on the DM filter, taking into account aspects such as the leakage inductance of CMCs and the utilization of filter inductors.
- 14u00: Break
- 14u30: **How to really comply with the EMC Directive: from rule – based to risk – based** (Davy Pissoort)  
In the dynamic landscape of product compliance, understanding the nuances of the Electromagnetic Compatibility (EMC) Directive is paramount for manufacturers. This talk delves into the paradigm shift from a traditional rule-based approach to a more nuanced risk-based strategy, emphasizing the critical role of risk assessment in meeting essential requirements. Drawing on the guidance that "Harmonised standards never replace legally binding essential requirements," this presentation underscores the importance of recognizing harmonized standards as technical tools rather than standalone solutions. A citation emphasizes that adherence to these standards does not absolve manufacturers of their responsibility to comprehensively assess all risks associated with their products. Even when leveraging harmonized standards, manufacturers must remain vigilant in determining the applicability of essential requirements. Attendees will gain insights into the intricacies of risk-related harmonization legislation, learning how manufacturers, by adopting a risk-based mindset, can enhance their ability to identify and mitigate potential electromagnetic compatibility challenges. The talk will also explore practical methodologies for conducting thorough risk assessments, ensuring that compliance efforts go beyond mere adherence to standards and encompass a holistic understanding of product risks. In conclusion, this presentation aims to empower manufacturers with the knowledge and tools needed to transition seamlessly from rule-based compliance to a risk-based approach under the EMC Directive. By embracing this shift, manufacturers can not only meet regulatory requirements but also enhance the overall safety and reliability of their products in the electromagnetic environment.
- 15u30: **Free tour of EMC measurement rooms** (optional)  
There will of course be plenty of opportunity to chat with the speakers of the day, as well as to get additional advice if needed.