

SIITME2024

IEEE 30th International Symposium for
Design and Technology in Electronics Packaging

16th - 19th October 2024, SIBIU, Romania

Conference & Exhibition



Keynote speaker: Dr. Philipp Weigell

Job Position: Vice President of the Market
Segment Industry, Components, Research and
Universities

Company: Rohde & Schwarz

Title of the presentation:

Challenges and Solutions in Building AI Data Centers: A Component-Level
Perspective

Short CV:

Dr. Philipp Weigell is the Vice President of the Market Segment Industry, Components, Research and Universities at Rohde & Schwarz, a leading manufacturer of test and measurement equipment. He has been with the company since 2013, when he joined as a Product Manager for Oscilloscopes.

He holds a PhD in Physics from the Technical University of Munich, where he conducted research on high energy physics instrumentation at the ATLAS experiment at the LHC at CERN. He has authored and co-authored several publications and patents in the field of high energy physics, instrumentation, power electronics and measurement technology.

Dr. Weigell has a strong background in physics and electrical engineering, with a focus on developing innovative solutions for applications, such as battery testing, high-speed digital compliance testing, renewable energy and particle accelerators. He is also an expert on the semiconductor ecosystem. Dr. Weigell is a frequent speaker at industry events and trade shows, where he shares his insights and

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vision on the latest trends and challenges in the power products market. He is passionate about delivering high-quality products that meet the needs and expectations of customers worldwide.

Abstract:

In the rapidly evolving landscape of artificial intelligence, the demand for robust and efficient data centers is at an all-time high. This keynote delves into the intricate challenges and innovative solutions involved in constructing AI data centers from a component-level perspective.

Building AI data centers involves overcoming technical hurdles, particularly in high-speed component integration and power management. High-speed components are vital for ensuring low latency and high bandwidth, essential for AI workloads. This presentation will explore challenges and solutions in semiconductor technology, interconnect design, power management, and power integrity techniques that ensure optimal performance and reliability.

Powering AI data centers presents another significant challenge due to immense energy consumption. Efficient power conversion and management are essential for maintaining operational efficiency and sustainability. We will discuss pioneering approaches and their associated challenges for EMC (electromagnetic compatibility) and testing.

Through an examination of these component-level issues, and by presenting case studies and cutting-edge test and measurement solutions, this keynote aims to provide valuable insights for engineers, researchers, and industry professionals. Attendees will gain a deeper understanding of the fundamental components required to construct next-generation AI data centers, equipping them to push the boundaries of AI infrastructure development.

This presentation will be particularly beneficial for specialists in electronic packaging and design technologies who are looking to enhance their understanding of the technicalities and solutions critical to the success of AI data centers.