**Abstract tutorial: “Enhancing power converter performance and reliability by integrated design”**

An increasing demand for efficient, reliable and flexible control of electricalenergy is stimulating a growing interest in power electronics systems. To enhance the state-of-the-art and meet the challenges of novel and more widespread application requirements, the enablers for competitive development need to be identified, re-thinking power system design accordingly. This tutorial will focus on integration as a key methodology towards the improvement of system efficiency, reliability and performance, key drivers of power electronics technology evolution.

TOP1 - Conventional power module assembly and shortcomings

- Power components and modules
- Performance and robustness limitations
- Reliability issues

TOP2 - Integrated solutions and design methodologies

- Integrated power converters
- Built-in reliability design
- Virtual prototyping methodologies and tools

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