

Registration (Fax Reply)

To: ECPE e.V.
Att.: Ingrid Bollens, Ingrid.bollens@ecpe.org
Please **e-mail** a scanned copy of the completed form or
send a fax to: +49 (0)911 / 81 02 88 – 28

Register before **23 November 2011**

Participation fee:

- ☐ €350.–* for industry
15 % discount for members of ZVEI
- ☐ €260.–* for universities/institutes
- ☐ €80.–* for students/PhD (shortened workshop package)

The fee includes dinner, lunch, coffee/soft drinks and a CD with the workshop presentations. A printed version of the workshop handout is available on request (€42.–*).

With the confirmation of registration you will receive the invoice. (*plus VAT) In case of cancellation after 23 November 2011 or non-attendance 50 % of the participation fee are payable.

Three participants from each ECPE member company are free of charge. Allocation in sequence of registration.

Sender:

Title, given name, name

Company, department

Full address

Phone, fax

E-mail

Date, signature

Organisational information

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|-----------------------|---|
| Organiser | ECPE e.V. 90443 Nuremberg, Germany www.ecpe.org |
| Chairmen | Prof. Eckhard Wolfgang, ECPE Helmut Keller, ZVEI Dr. Martin Rittner, Robert Bosch Thomas Harder, ECPE |
| Organisation | Ingrid Bollens, ECPE e.V. +49 (0)911 / 81 02 88 – 10 ingrid.bollens@ecpe.org |
| Workshop venue | Hilton Hotel Nürnberg Valznerweiherstrasse 200 90480 Nuremberg, Germany |



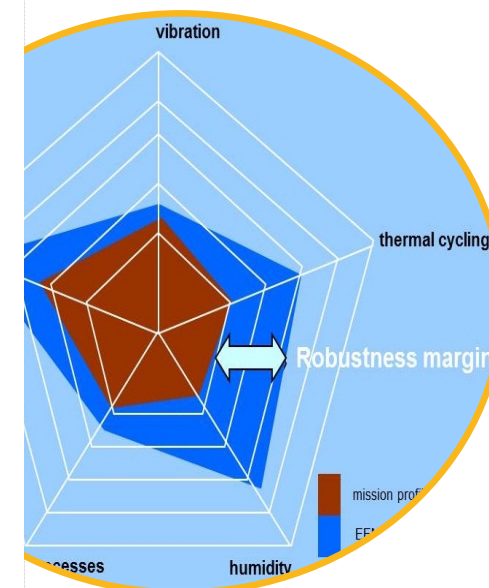
Further information (hotel list and maps) will be provided after registration.



ECPE Workshop

Robustness Validation in Power Electronics

**30 November –
1 December 2011**
Hilton Hotel
Nuremberg,
Germany



In cooperation with



ECPE Workshop

Robustness Validation in Power Electronics

30 November – 1 December 2011
Nuremberg, Germany

Members of **SAE**, **ZVEI**, **AEC**, and **JSAE** formed a joint task force to settle a **new Approach in Qualification** – the **Robustness Validation** process.

The new "test to fail" qualification approach (instead of a "test-to-pass"), is a paradigm shift from "Fit for Standard" to "Fit for Application". It generates knowledge on the relevant component failure mechanisms that may occur at the boundaries of the specification limits.

The first handbook was published in 2006. Since then 13 other documents were developed which cover semiconductor components, electric and electronic modules (ECUs) and systems. These documents are available from the ZVEI website www.zvei.org

2008 a joint ZVEI-ECPE power electronics working group was formed which works on the knowledge matrix for power semiconductor modules. So far interconnects and substrates were studied. Recently work on adequate reliability tests was started.

The ECPE-ZVEI workshop on "Robustness validation in Power Electronics" is aiming for:

- Describing the status of the RV process
- Success stories (case studies)
- Describing challenges
- General exchange of experiences
- Collection of needs for action

The workshop is chaired by Prof. Eckhard Wolfgang (ECPE), Helmut Keller (ZVEI), Dr. Martin Rittner (Robert Bosch) and Thomas Harder (ECPE). All presentations and discussions will be in English.

Programme

Wednesday, 30 November 2011

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|-------|---|
| 16:30 | Start of Registration / Welcome reception |
| 17:00 | Welcome Address, Opening T. Harder, E. Wolfgang, ECPE e.V. |
| 17:20 | Robustness Validation – A Must for Power Devices W. Kanert, Infineon |
| 17:50 | Status Robustness Validation Process H. Keller, ZVEI |
| 18:20 | Robustness Validation: Design for Reliability J. Breibach, Robert Bosch |
| 18:50 | Discussion |

19:30 Dinner at Hilton Hotel

Thursday, 1 December 2011

Case studies

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|------|---|
| 8:30 | The Audace Project P. Pougnet, Valeo |
| 8:45 | Electrical Overstress (EOS) Robustness of MOSFETs L. Lachèze, Presto Engineering - LaMips |
| 9:00 | Repetitive Clamping Applied to Smart Power Devices W. Kanert, Infineon |
| 9:15 | Case Study on Robustness Validation S. Pugliese, STMicroelectronics |
| 9:30 | Discussion |

10:10 Coffee Break

Requirements and Systems Engineering

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| 10:40 | Mission Profile and Drive Train Topology R. Plikat, Volkswagen |
| 11:10 | Application Specific Mission Profile F. Weikermann, Harman Automotive Division |
| 11:30 | Robustness Validation in Avionics B. Enser, Sanmina |
| 11:45 | Reliability Target's Setting and Follow up on Field Failure P. Rimmen, Danfoss Power Electronics |
| 12:00 | Discussion |

12:30 Lunch

Programme

Thursday, 1 December 2011

Life Time and Reliability

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|-------|--|
| 13:30 | Total Reliability Approach vs Robustness Validation U. Scheuermann, Semikron |
| 13:45 | Virtual Testing of Robustness Based on Predictive Computer Simulation G. Wachutka, TU Munich |
| 14:00 | Predictive Reliability at Freescale P. Dupuy, Freescale |
| 14:15 | Modelling of End-of-Lifetime Based on Physics of Failure M. Abrate, Fiat CRF |
| 14:30 | Discussion |

14:45 Coffee Break

Life Time and Reliability

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|-------|---|
| 15:15 | Combinatorial Reliability Testing O. Witter, Fraunhofer IZM |
| 15:30 | Lifetime Validation of Power Modules H. Voelkel, BMW |
| 16:00 | Discussion and Summary |
| 16:30 | End of Workshop |