



Introducing ECPE European Center for Power Electronics

The Industrial and Research Network for Power Electronics in Europe

An Initiative of European Power Electronics Industries

Leading power electronics industries have founded ECPE in 2003 in order to promote research, education and technology transfer to the European industrial community. The eight founding members have been Conti Temic, Epcos, Infineon Technologies, NMB Minebea, Semikron, SEW-Eurodrive, Siemens and STMicroelectronics. Further companies joined ECPE e.g. Aavid Thermalloy, ABB, ALSTOM Transport, CADFEM, Control Techniques, CT-Concept, Daimler, Danfoss Drives, Dynex, EADS, Emotron, EnergieRegion Nürnberg, Friwo, W.C. Heraeus, hofer eds, ITI Energy, Johann Lasslop, Kunze Folien, Liebherr Elektronik, Maccon, MicroGan, Plexim, REFU Elektronik, Robert Bosch, Schneider Toshiba Inverter Europe, SEMELAB, Silver Atena, SMA Solar Technology, TranSiC, TridonicAtco, Vacon, Vincotech and Volkswagen.

Importance of Power Electronics

As a key and enabling technology, power electronics has heavy impact on the overall infrastructure of energy distribution. Power electronics influences and enables systems for power quality and energy saving, for intelligent automation and motor control, for efficient and clean automobile and transportation systems. Furthermore, power electronics is a technology driver for future intelligent systems with communication capabilities. The importance of power electronics shall be demonstrated to the public.

ECPE Objectives

The objective of ECPE is the promotion of research, innovation, education, publicity and technology transfer in the area of power electronics in Europe. The main activities of ECPE are:

- Precompetitive research on power electronic systems
- Education: basic, advanced and expert seminars for engineers working in industry
- Public relation: “one strong voice” of power electronics industry

The overall objective is to strengthen the competitive situation of European power electronic industries and users of power electronics. Improving design and production technologies in power electronics will facilitate that the focus remains in Europe.

As an industrial network, ECPE will show the importance of power electronics to the public, to increase the acceptance of the political and academic decision-makers and of students to look for a career in this area. ECPE intensifies and promotes research and development in the area of power electronics in an European competence network of research institutes coordinated by industrial partners.

Organisation and Structure of ECPE

Apart from the registered association ECPE e.V., a limited company (GmbH) has been founded. ECPE e.V. is 100% shareholder of ECPE GmbH. The association is responsible for the ideational non-profit tasks, whereas the company defines and controls research projects and holds the resulting intellectual property rights (IP). ECPE GmbH develops research roadmaps in cooperation with the involved industry and university partners and conducts research contracts with leading European Competence Centers - university institutes and research centers. The budget arises from a research fund, coming from the ECPE partner companies.

Major Activities of the Registered Association ECPE e.V.

- Establish the industrial and research network in Europe
- Provide a platform for networking activities e.g. the web site www.ecpe.org
- Promote the exchange of experience between industry and science
- Intensify research in power electronics
- Represent the interests of power electronics industry to the public and to politics
- Strengthen existing power electronics conferences e.g. CIPS, PCIM
- Organize seminars and workshops on power electronics topics
- Establish and operate an online course in power electronics

Joint Research with ECPE GmbH

With ECPE it could be managed for the very first time, to jointly formulate research topics in an European industrial consortium of main players in power electronics, and to push high-risk pre-competitive research with own resources.

The ECPE research activities funded by the ECPE partner industries is focussing at so-called demonstrator projects where new ambitious power electronic systems or sub-systems are developed and realized by leading European Competence Centers. A project coordination committee from the ECPE partner companies decides on the selection of project topics, some example are:

- System Integrated Drives for Hybrid Traction in Automotive
- Industrial Drives – System Integration employing 3D Passive Integration
- AC/DC Power Supplies with Ultra-high Power Density

Membership in ECPE

Members of ECPE e.V. enjoy all advantages of the network and have the option to become partners of ECPE GmbH and thus to establish research projects. Universities and research institutes are involved as Competence Centers in the ECPE network e.g. in the execution of research projects.

Apart from the regular membership, ECPE offers a special membership status for small and medium sized enterprises (SMEs) and technical associations with reduced membership fees and weighted voting rights in the General Meeting of ECPE e.V.

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