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From Silo Thinking to System Solutions: Energy Grid Operators and the Automotive Industry Collaborate on Integrating Electric Mobility into the Energy System

The electrification of transportation is a concern for both the automotive industry and grid operators. In a newly established division within the Power Engineering Society (VDE ETG), representatives from both industries are working together with representatives from academia to develop a shared understanding of the system. Among other things, the focus is on bidirectional charging.

(Frankfurt am Main, June 9, 2026) Electric mobility has become a system-relevant energy issue. It is not only the transportation technology of the future but will also be a central component of the future energy system. Bidirectional charging, for example—put simply, the use of electric vehicles as additional energy storage during hours when neither the sun is shining nor the wind is blowing—is already in the starting blocks here in Germany. The Power Engineering Society within VDE (VDE ETG) is now responding to this.

“Historically, the automotive industry and the energy sector have had different ways of thinking, timelines, and targets. So far, there has been a lack of a shared understanding of the system,” says Dr. Ralf Petri, who bridges both topics at the VDE as managing director of the ETG and the Mobility division. He is even more pleased that experts from both fields are now exchanging ideas within the new A3 division, “Electromobility in the Energy System,” within the ETG. “The ETG acts as a bridge-builder between mobility and energy technology,” says Petri. “We see it as our mission to structure interdisciplinary technical issues at an early stage, ground them in technical expertise, and translate them into standards, research, and practice.”

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Cross-industry collaboration strengthens the system integration of electric mobility

The committee includes representatives from academia as well as several major companies in both industries. Dr. Moritz Vaillant, responsible for Smart Mobility product strategy at Porsche, is part of the division's leadership. He says: "Electromobility is no longer purely a vehicle issue. From the automotive industry's perspective, the success of electric vehicles increasingly depends on the interaction with power grids, charging infrastructure, and energy supply—this requires a shared understanding of the system." The division thus offers the opportunity to constructively and technically align perspectives between the automotive and energy sectors—for example, on topics such as charging capacity, grid orientation, and standardization.

Vaillant will head the division together with Dr. Ingo Diefenbach. At the distribution network operator Westnetz, Diefenbach is responsible for the standardization of products and services in the low- and medium-voltage sector. He, too, sees bidirectional charging as a central link between mobility and the energy transition: "From the energy sector's perspective, electric vehicles offer previously untapped flexibility potential to integrate volatile renewable energies more extensively into the energy system while simultaneously using them to stabilize the power grids," he says. His goal is to foster a common understanding among companies in the various sectors involved—which, in addition to the automotive industry and grid operators, include charging infrastructure operators, energy traders, and many others.

Even though the task force met for the first time in late May 2026, the VDE has been following the topic for some time. In the brief study "Energized into the Future" published in the fall of 2025, the association already advocated for cross-industry accepted solutions and regulatory clarity regarding bidirectional charging to unlock the full systemic potential. The first task force on electric vehicles was actually established within the VDE ETG as early as 2008. In addition to bidirectional charging, the VDE's agenda—in collaboration with the DKE and the FNN under the umbrella of the VDE—also includes standardization, interfaces, and control concepts, as well as the harmonization of grid connection rules. These priorities will also be incorporated into the division, which will additionally address a systemic analysis of neighborhoods and apartment buildings with regard to generation, storage, charging infrastructure, and energy flows.

About the Power Engineering Society within VDE (VDE ETG):

The Power Engineering Society within VDE (VDE ETG) promotes the development of energy systems in Germany. It combines expertise in the generation, storage, transmission and distribution of electrical energy and the relevant interdisciplinary technologies, as well as the many different ways in which this energy is used. Integrated into the VDE interdisciplinary network, ETG is a widely recognized and respected technical and scientific association. The volunteer experts create a common platform for knowledge exchange in science and industry,

contribute to accelerating the energy transition and to promoting an understanding of sustainable energy technology in society, and identify areas of action for policymakers. ETG connects people, different generations, start-ups and established institutions, science, business and society with performance and energy.

For more information, visit www.vde.com/etg

About VDE:
VDE, one of the largest technology organizations in Europe, has been regarded as a synonym for innovation and technological progress for more than 130 years. VDE is the only organization in the world that combines science, standardization, testing, certification, and application consulting under one umbrella. The VDE mark has been synonymous with the highest safety standards and consumer protection for more than 100 years.

Our passion is the advancement of technology, the next generation of engineers and technologists, and lifelong learning and career development “on the job”. Within the VDE network more than 2,000 employees at over 60 locations worldwide, more than 100,000 honorary experts, and around 1,500 companies are dedicated to ensuring a future worth living: networked, digital, electrical.
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The VDE (VDE Association for Electrical, Electronic & Information Technologies) is headquartered in Frankfurt am Main. For more information, visit www.vde.com

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