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Energy

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HANNOVER MESSE extends its lead over rival shows



Oliver Frese,
Director Energy,
Deutsche Messe

The ash cloud may have paralyzed international air traffic, but the same cannot be said of HANNOVER MESSE. Quite the contrary: our exhibitors are reporting all kinds of concrete projects that took shape at the fair – everything from investment plans to signed deals. HANNOVER MESSE once again proved its worth and

market leverage as the world's most important technology showcase.

The energy-sector shows in particular were a big success, with Energy, MobiliTec and Power Plant Technology together occupying around one quarter of the total stand space at the Hannover showgrounds. More than 1,100 companies presented the full spectrum of tomorrow's energy mix, featuring state-of-the-art conventional and renewables technologies spanning the entire energy value chain, from generation, transmission and distribution through to transformer technology and energy storage solutions. Dedicated to electric mobility technology, MobiliTec, the latest addition to our energy-sector line-up, was an instant success with trade visitors. In fact, the growth-driver status of the renewables sector as a whole was very much in evidence at the fair.

HANNOVER MESSE's unrivalled coverage of energy themes sets it apart from other industrial technology shows around the world – a clear advantage we intend to build on in 2011, when the Wind show will once again be part of our energy line-up. We look forward to seeing you again at HANNOVER MESSE 2011!

A handwritten signature in black ink.

Oliver Frese

A show on the move

MobiliTec showcases the enormous innovative potential of companies grappling with one of the biggest technological challenges of our time



Hartmut Rauhen, Member of the Management Board and General Manager Transmission and Fluid Power, German Engineering Federation (VDMA), was delighted at the positive response to the debut MobiliTec show: "Electric mobility is one of the most ambitious technological transformation processes to take place over the last few decades. The show highlighted the immense innovative potential of powertrain electrification. Mechanical engineering firms and specialists in powertrain technology and production engineering showcased a host of great ideas for shaping a future built on electric mobility."

Around 100 companies ran exhibits on a total area of 4,000 sqm (43,000 sq. ft) at the inaugural MobiliTec, the trade fair for hybrid and electric powertrain technologies, mobile energy storage and alternative mobility solutions. The exhibitor contingent included big names such as RWE, EWE, Continental, Evonik, Siemens, Li-Tec Battery, Mennekes, ZF and Wittenstein.

The discussion on CO2 emissions has highlighted the pressing need for a paradigm shift in drive technology. There is no longer any dispute that the future belongs to hybrid drives, fuel cell-powered or even entirely battery-powered vehicles. Every conceivable option for achieving this was on show at the E-Motive group pavilion, right in the heart of the MobiliTec show. The pavilion was co-organized by the German Engineering Federation and the Research Association for Power Transmission Engineering (FVA). Other visitor magnets included the MobiliTec User Forum, the Hydrogen + Fuel Cells pavilion and the Renewables display area.

For further information and registration forms, visit:

hannovermesse.de/energy_e

Full range of electric mobility exhibits

Exhibitors and User Forum cover entire value chain – MobiTec concept paves the way for innovation

MobiTec delivered on its promise, providing a close-up look at the interplay between all industries and technologies that feed into electric mobility. For instance, WITTENSTEIN AG showcased its latest hi-tech powertrain developments, including gearboxes, motors, and high-performance SiC electronic systems. The company demonstrated its capabilities as a high-end partner for the development and production of high-performance electromechanical drive systems of the kind used in electric and hybrid motors. The Wittenstein drive system on display provided insights into the electric and hybrid drive technologies needed in the future – technologies that are integrated as highly efficient units comprising a motor, transmission and electronic systems, yet modular, featuring standard components that can be used to build different types of drive systems, and with sufficient flexibility to accommodate completely new drive architectures.

MENNEKES Elektrotechnik GmbH & Co. KG likewise used MobiTec as a platform for presenting its leading-edge electric mobility solutions to a high-caliber audience of industry professionals. Its exhibits included charging connectors that are currently in strong demand from leading European automobile manufacturers and energy companies. For its part, Siemens AG Energy Sector saw MobiTec as the perfect expert forum for in-depth discussion on e-mobility issues.

Much more than just products

"Totally charged!" were the words Hartmut Rauen of the German Engineering Federation (VDMA) used to describe the atmosphere at MobiTec. According to Rauen, it was not enough to simply focus on optimizing end-user products; the entire value chain needed to be scrutinized. Most exhibitors shared his view, with the majority of displays going beyond mere product presentations. They showcased faster, easier, safer and more energy-efficient mobility solutions.



One of the major MobiTec drawcards was the MobiTec User Forum, where experts discussed the challenges posed by tomorrow's electric mobility market. The Forum was co-organized by the VDMA, the German Electrical and Electronic Manufacturers' Association (ZVEI), the German Energy and Water Industry Federation (BDEW) and the German Renewable Energy Federation (BEE).

HANNOVER MESSE was the obvious choice of platform for this, Rauen said. Artur Otto, head of Sales & Marketing at Continental Engineering Services GmbH, explains: "As a provider of engineering services and a Continental AG subsidiary, it's extremely important for us to be represented at HANNOVER MESSE. Mobility themes are of central importance to us, especially future electric mobility solutions. We chose MobiTec to showcase our total technology portfolio, which also covers peripheral e-mobility functionalities, such as braking, communication and collision avoidance sensing systems. Being located among the multitude of innovations on show at MobiTec proved to be a very important and stimulating experience for us."

Integrated solutions are the key

Renewables technology is widely expected to become a pivotal driver of industrial growth. Germany alone is planning to invest some 235 billion euros in renewables plants by 2020 – an amount which is, of course, dwarfed by the equivalent worldwide figure. It is all the more important, therefore, that all renewables-sector stakeholders the world over take an integrated, coordinated approach to this enormous technological challenge. That means international cooperation between companies, in-depth analysis of all aspects of renewables in forums and discussion groups and a coordinated focus on evaluating all technology options. That MobiTec is equal to this task quickly became evident at its 2010 premiere.



This Siemens bike is powered by an electric motor. It has a range of around 80 kilometers (50 miles) per charge.



The draft standard for the charging connector preferred by leading European automobile manufacturers and energy utilities was developed by MENNEKES Elektrotechnik GmbH & Co. KG. The mechanism forms the basis for the international standardization process currently taking place.

How will we meet our future energy needs?

WORLD ENERGY DIALOGUE: social developments bring concrete challenges – Energy Efficiency Award recognizes innovative solutions

More and more people live in cities. Global energy demand is rising. These are undeniable facts that are driving technological innovation. Sufficient energy has to be made available to fuel the world's fast-growing urban centers and its steadily rising population. Tomorrow's energy mix has to be efficient, secure, sustainable and affordable. Integrated networks are vital to meeting these challenges: that is the unanimous conclusion of the 2010 WORLD ENERGY DIALOGUE (WED), staged for the fifth time during HANNOVER MESSE.

According to the experts, renewables will play an increasingly important role. Expanding installed renewables capacity will, in fact, be a crucial part of securing our future energy supply. Equally crucial will be the fast development and expansion of interconnected energy networks and the optimization of communication systems – to ensure maximum energy efficiency. A range of future energy supply scenarios was explored in presentations on "The future of urban mobility," "Energy-efficient urban development in major cities," "Interconnecting regions and networks: challenges and requirements – collaboration on the pan-European power grid of the future" and the DESERTEC project. Scientists, politicians and business leaders discussed these themes in front of an audience of around 500 delegates.

Using the desert

The Club of Rome first presented its DESERTEC initiative at the WORLD ENERGY DIALOGUE 2005. The purpose of the initiative is to harness the boundless solar thermal energy potential of the deserts of North Africa to make a significant contribution to global energy security and climate protection. DESERTEC aims to supply up to 15 percent of Europe's energy needs from renewable energy sources, preferably by harnessing North Africa's solar thermal potential, by 2050. The first steps have already been taken. For instance, SCHOTT Solar AG presented a new type of receiver pipe at HANNOVER MESSE 2010. Receiver pipes are core components of parabolic trough solar thermal power plants.

Energy Efficiency Award

Four innovative companies received the Energy Efficiency Award for exemplary energy efficiency projects. The award, which is part of Germany's nationwide Energy Efficiency Initiative and worth a total of 35,000 euros in prize money, is offered by the German Energy Agency (dena) in association with Deutsche Messe and DZ BANK AG. It also receives funding from the German Federal Ministry of Economics and Technology. The winners are:

1st prize: Viessmann Werke GmbH & Co. KG and SMA Solar Technology AG

2nd prize: Saigon TanTec Limited

Recognition prize: Alunorte – Alumina do Norte do Brasil S.A.



Germany's Federal Minister of Economics and Technology, Rainer Brüderle, presents the Energy Efficiency Award prizes at the WORLD ENERGY DIALOGUE (from left): Dr. Wolfram von Fritsch, Chairman of the Board of Management of Deutsche Messe, Rainer Brüderle, Dr. Werner Schnappauf, Director-General and Member of the Presidential Board of the Federation of German Industries (BDI), Jutta Knödler, General Manager of I-T-G GmbH Environmental Technology (representing Saigon TanTec Ltd.), Hans-Theo Macke, Member of the Board of Management, DZ BANK AG, Stephan Kohler, Chief Executive of the German Energy Agency (dena).



Solar power stations using parabolic trough technology convert solar radiation to heat. SCHOTT Solar AG is one of the initiators of the DESERTEC project, which aims to supply Europe with solar power from the Sahara.



The WORLD ENERGY DIALOGUE (WED) was chaired by Prof. Klaus Töpfer (at lectern). The patron of this year's WED was Germany's Federal Minister of Economics and Technology, Rainer Brüderle. The event was co-organized by the Federation of German Industries (BDI), the German Energy Agency (dena) and Deutsche Messe.

Renewables on the rise – exhibits clustered in single location for the first time

Climate change and dwindling fossil fuel resources are driving efforts to develop new energy concepts. Renewables are already a core part of this. The growing importance of renewables was clearly evident at this year's HANNOVER MESSE where, for the first time, all exhibits associated with renewables technology were clustered in a single location. The entire renewables sector was represented in Hall 27 alongside the German Renewable Energy Federation (BEE). There, some 200 exhibitors showcased their latest solar and bio energy developments and geothermal, hydro and wind power innovations on a combined display area of around 5,000 sqm (53,820 sq. ft).

Lively renewables dialogue at HANNOVER MESSE 2010

A number of well-attended renewables events complemented the clustered sector exhibits and made an important contribution to the success of HANNOVER MESSE 2010. This year was the ninth time that the fair has included a dedicated forum where renowned experts from all parts of the renewable energy industry gather to share their views on topical issues. For instance, solar power specialists used the forum to discuss the potential of large-scale solar projects in the MENA region. The Renewables

Party, on the other hand, provided a more relaxed environment in which exhibitors and visitors from the worlds of business, politics, the media and government were able to network, share experiences and discuss the latest technology trends.

Renewables highlight:

German Chancellor visits Vestas stand

HANNOVER MESSE's Renewables showcase also generated strong interest among political delegations. German Chancellor Angela Merkel visited the stand of Vestas, the world's largest wind technology manufacturer, where Hans Jørn Rieks, General Manager of Vestas Central Europe, informed her about the current state of the art. Key discussion points included the excellent prospects of the sector's offshore technology and the replacement of older wind turbines with high-performance next-generation units. Even before the start of HANNOVER MESSE, Vestas attracted a great deal of media attention when it announced its plans to exhibit a turbine blade from such a unit at the Energy Park open-air site. Transporting the 59 meter long, 50 tonne exhibit to the Hannover showgrounds necessitated temporary traffic diversions and the removal of a number of traffic lights and crash barriers.

New hall layout well received by visitors

This year, HANNOVER MESSE's Energy show featured a completely re-vamped hall layout spanning four halls and an expansive open-air site. Hall 13 was home to all theme areas relating to energy generation and supply for industrial applications. There, power plant technology exhibitors were located right next to the energy utilities who buy and operate their equipment. And for the first time, all renewables exhibits were clustered in a shared display area in Hall 27 alongside the new MobilTec fair and the Hydrogen + Fuel Cells pavilion. The restructuring of the Energy show successfully achieved its objective of maximizing synergies between the individual energy themes – as evidenced by this year's high visitor numbers.

Gift of wind power for Angela Merkel: Hans Jørn Rieks (Vestas) presents Germany's Chancellor with a miniature kitset wind turbine. Merkel plans to donate the gift to a Kindergarten to help ensure that "... the kids grow up playing with the right toys".



Merkel praises Celle's geothermal expertise

Group pavilion underscores the Celle region's geothermal expertise and positioning as a European center for geothermal research and technology

Wind energy was not the only thing on German Chancellor Dr. Angela Merkel's "must-see" list. During her tour of the Hannover show-grounds, the former physicist also visited the "Geothermie Celle" pavilion, a group presentation mounted by the business development body of Celle's municipal authority and ten local companies. Impressed by the unique showcase, Merkel said: "I will remember Celle as a center of geothermal expertise."

Celle's Lord Mayor, Dirk-Ulrich Mende, and Municipal Councilor Susanne Schmitt, who is also Chairperson of the GeoEnergy Celle Association, also welcomed Lower Saxony's Prime Minister, Christian Wulff, at the group presentation. According to online magazine *celle-heute.de*, Wulff said that he would give "favorable consideration" to grants aimed at further developing Celle's geothermal capability. Such a grant would represent a major milestone for the city, which aims to bundle its existing geothermal know-how and position itself as a European center for geothermal research and technology. The group presentation was complemented by a lecture forum on current developments and future trends in the geothermal sector, which was run by the GeoEnergy Celle Association.



The "Geothermie Celle" group pavilion, a joint project between the Celle municipal authority and ten local companies, showcased innovations in the geothermal technology sector.

Thrilling rides on e-vehicle test track



What's it like to ride an environmentally friendly electric bike? What are its road-handling characteristics? How does it turn, accelerate and brake?

Many HANNOVER MESSE visitors took advantage of the opportunity to get first-hand answers to these questions by taking innovative e-vehicles, such as the *enercity* Segway shown here, for a spin on a specially designed test track.

Renewable Energy Forum

What is the likely future direction of the global renewables markets? That was the keynote topic of this year's Renewable Energy Forum.

The high-caliber event – co-organized by the German Energy Agency (dena), Deutsche Messe and eclareon GmbH – was staged for the ninth time at HANNOVER MESSE and once again proved its worth as a true visitor magnet. Renowned experts from all parts of the renewables sector discussed market trends and regulatory frameworks. The Forum also provided trade visitors with a free-of-charge opportunity to gather information about the latest innovations and financing options for projects targeted at existing and potential markets.

The presentations and panel discussions focused on forward-looking strategies for companies operating internationally in the solar, bio, wind, geothermal and hydropower sectors.



Antares DLR-H2: must-see highlight at H2+FC pavilion

The Hydrogen + Fuel Cells group pavilion is a firmly established feature at HANNOVER MESSE. In 2010, around 150 companies and institutes from 25 countries once again presented their practice-oriented solutions at the world's biggest hydrogen and fuel cells showcase. Participants at the pavilion included organizations of international note, such as the German Aerospace Center (DLR) and the Fraunhofer Institute. The pavilion presented a range of applications for consumers as well as industrial users, including the Antares DLR-H2 flying research lab, the world's first manned, 100% fuel cell-powered aircraft.

For further information and registration forms, visit:
hannovermesse.de/energy_e



Power Plant Technology 2010 a powerhouse of international sales potential

"HANNOVER MESSE is Central Europe's top trade fair when it comes to state-of-the-art energy technology and the energy mix of the future," said E.ON Kraftwerke GmbH media spokesman Andreas Brandtner. In his view, Power Plant Technology 2010 "...has a broad range of exhibits and attracts quality visitors. The fair's energy-sector displays as a whole have gone from strength to strength."

But what does the future hold?

What will tomorrow's energy mix look like? How can innovative power station technology help us put a stop to climate change? Global energy demand continues to rise, and with it the impor-

ance of sustainable resource management. The question of how future power station design can address these multiple challenges was the central focus of the Power Plant Technology fair in 2010. For instance, E.ON, one of the largest exhibitors, profiled its vision for an intelligent, future-proof energy mix: a balanced portfolio of different generation technologies – comprising renewables, coal-fired plants with CO₂ sequestration, nuclear energy and high-efficiency coal and gas-fired power plants – aimed at meeting the company's climate protection goals (to cut specific CO₂ emissions to half their 1990 levels by 2020) and ensuring security of supply.

Diversity of HANNOVER MESSE exhibits highlights interplay of energy themes

The Power Plant Technology fair presented innovations that significantly improve the efficiency of power stations while substantially reducing CO₂ emissions. Grouped into three theme areas, the displays ranged from planning, project management and maintenance solutions (Engineering & Services), cutting-edge technologies for oil, gas, and coal-fired power plants and combined heat and power stations (Power Plants/CHP Plants), through to turbines, boilers, valves, generators and motors (Power Plant Components).

A big highlight at this year's Power Plant Technology fair was the group pavilion run by the European Power Plant Suppliers Association (EPPSA), the European Technical Association for Power and Heat Generation (VGB PowerTech), the Association of German Steam Boiler, Pressure Vessel and Piping Manufacturers (FDBR) and EnergyAgency.NRW.

The successful integration of a broad range of individual themes is a unique feature of HANNOVER MESSE and one of its main attractions, according to German Engineering Federation expert Thorsten Herdan: "HANNOVER MESSE's importance lies in the fact that there is simply no better platform for forging linkages between energy and policy themes. Its coverage of a broad spectrum of interconnected themes is without equal. Hannover is the place to go if you want to understand the interdependencies and relationships between all parts of the energy sector."

Power Plant Technology forums: Ideal platforms for active knowledge sharing

The User Forum provided ample opportunities for discussion on a range of topics, such as power station technologies, climate protection and efficiency, primary energy sources, system integration and network regulation.

At the Solar Gigawatt forum, system specialists for solar thermal power station technology explored our solar energy future.

The Concentrated Solar Power pavilion presented fresh perspectives on solar thermal power station technology.



Life Needs Power: key forum celebrates ten years

Robust discussion on and off stage



Life Needs Power, a respected energy forum for experts from industry, the energy sector, science and government, celebrated its tenth year at HANNOVER MESSE 2010. The forum is organized by two of Germany's leading electrical and electronics industry associations, the ZVEI and the VDE.

Life Needs Power is a vital knowledge-transfer hub for energy sector companies, as Jörn Kröpelin, a project manager at ENBW Vertriebs- und Servicegesellschaft mbH, explains: "Energy companies can no longer afford to view energy in isolation, which is why the opportunities for dialogue and exchange with other exhibitors are so very valuable."

The discussion at this year's forum focused on energy market change and the resulting opportunities, plus the latest ideas for optimizing

energy supply architectures. The keynote themes were renewables and energy transmission.

These themes are right on point at the moment, given the EU's climate protection target of generating more than 30 percent of its electricity requirement from renewables by 2020. The main challenge here is maintaining grid stability in Europe's interconnected system in the face of the inherently fluctuating nature of electric production from renewables. It is against this thematic backdrop that the experts at the forum examined the relative merits of various renewable energy options, particularly offshore wind. The forum also explored new technologies like carbon capture and storage (CCS), the DESERTEC project, and directions in energy policy.

ZVEI und B.KWK: Contracting for Success

This year, the Contracting and Combined Heat & Power pavilion was a feast of information for trade professionals interested in energy contracting. One of the key messages to emerge from the event was that operators of cogeneration (CHP) plants don't necessarily have to go to the expense of employing their own cogeneration experts. In fact, in recent years, energy contracting has been pivotal to a great deal of investment in cogeneration plants – investment that would otherwise not have happened for lack of expertise or financial resources. Organized by the German Electrical and Electronic Manufacturers' Association (ZVEI) and the German Cogeneration Association (B.KWK), the pavilion served up four days of quality panel discussion on energy services and cogeneration. The themes included "Efficient Technology and Process Optimization," "The Implications of Government Policy for Cogeneration," "Power Plant Financing," and "Cooperation between Distributed Generation and Grid Operators."

CHP in action

"HANNOVER MESSE is the world's biggest industrial technology expo and, as such, one of the most effective forums for advancing the uptake of cogeneration in industry and positioning it on the market, whether as an owner-operator or contracting solution. Our pavilion, which is themed Contracting and CHP: Intelligence and Efficiency, lets industrial companies see CHP in action, plus it enables CHP plant manufacturers and contractors to network directly with this extremely important, high-potential segment of the market. There is arguably no better platform for achieving this than HANNOVER MESSE."

This comment from Adi Golbach, General Manager of the German Cogeneration Association (B.KWK), shows that the pavilion's combined focus on CHP and energy contacting continued its successful reign at this year's HANNOVER MESSE.

E-Energy: beacon project for an "Internet of Energy"

"E-Energy" is the official name of a German government initiative to promote the development of smart grids. Increasingly, electricity is being generated in decentralized, small-scale power plants, particularly in the renewables sector. The resulting complexity calls for technologies that intelligently manage all areas of the electricity system, from generation to consumption.

"Smart grids offer the greatest potential in terms of an energy supply that is cost-effective, reliable and ecologically sustainable," com-

mented Germany's economics minister and official patron of the Energy show's E-Energy Centre, Rainer Brüderle. The center is part of the electric power systems/energy technology display area, which, spanning some 20,000 sqm (215,280 sq. ft), is the backbone of the Energy show. "HANNOVER MESSE provides [...] a highly effective platform for showcasing the latest E-Energy advances. Exhibitors from Germany's E-Energy model regions are profiling the best options for harnessing ICT to transform the electricity sector."



Energy fair in the media

The energy-sector innovations on show at HANNOVER MESSE 2010 received a lot of media attention

The *Financial Times Deutschland* took a decidedly upbeat tone: "People are looking to HANNOVER MESSE as a turning point. The fair is just what industry needs right now: the global economy may well be picking up, but Western Europe is lagging behind. It is hoped HANNOVER MESSE will change all that." But, just before the grand opening, it looked like the fair would not be living up to these expectations, thanks to a cloud of volcanic ash from Iceland that closed Europe's air space and prevented German Chancellor Angela Merkel and Italian Prime Minister Silvio Berlusconi from officiating at the opening ceremony.

The ash cloud may have been the main story in the lead-up to HANNOVER MESSE 2010, but this changed as soon as the fair opened. Barely had Angela Merkel finally made it to Germany, than she went on an extensive tour of HANNOVER MESSE. On the Tuesday of the fair, the *FAZ* wrote: "Fascination in green and blue. HANNOVER MESSE is the shop window of the industrial sector. While past shows focused on automation and rationalization, the emphasis this year is on climate protection and resource conservation." On the Wednesday, the fair's energy themes made the headlines. *Handelsblatt* wrote: "Wind power industry goes global. Lured by the enormous



All media reports spoke of the great potential and importance of HANNOVER MESSE 2010, particularly its energy-themed displays, and of a feeling of renewed confidence among many sectors of industry.

opportunities for growth, Europe's wind manufacturers are following their customers around the globe and building production plants in key foreign markets." Adjacent to that article was an interview with Vestas CEO Ditlev Engel headlined "Vestas CEO Engel: 'The fast will beat the slow'" plus a photo of the Vestas turbine rotor blade that made headlines as the largest exhibit at HANNOVER MESSE 2010. The Hannover-based

Neue Presse newspaper carried a string of articles headlined "The future of energy," "Need for better coordination of electricity production and consumption. Intelligent grids required," and "RWE showcases 1,000 charging stations for electric cars." All of which goes to show that, despite getting off to a shaky start, this year's HANNOVER MESSE lent significant impetus to the incipient recovery.



"For Germany's manufacturers, who are technology leaders, HANNOVER MESSE is one of the most important showcases. It is a platform where our industry can communicate its strengths to a wide international audience."

Björn Klusmann, CEO, German Renewable Energy Federation (BEE), Berlin



For further information and registration forms, visit: hannovermesse.de/energy_e

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