ENERCON EPK+E  ___ Wide range of direct marketing and energy-related logistics services

ENERCON VISITOR CENTRE  ___ New presence in EEZ in Aurich

ENERCON IN PORTUGAL  ___ ENERCON remains involved after completing ENEOP tender
Dear customers, business partners and employees,

ENERCON is a synonym for technological excellence. Our systems are in use across the globe and convince by innovation, quality, and long service life. To further increase our technology lead we have established a new research organisation named “I4E Innovation for ENERCON”. This is an independent organisation that will exclusively deal with forward-looking technological development and innovation. Starting in November, the research unit is going to take up work on the fifth floor of the “Teerhof” location in Bremen. Its objective is to make ENERCON a trendsetter once again.

As with our “Advanced Technology Groups” we deliberately put the focus of the new research organisation on an interdisciplinary form of working to develop ideas and concepts. This means that experts from different fields work on a defined task for a specific period of time. At ENERCON the key to innovation is the experts’ profound technical know-how, interdisciplinary work, breathing room, the management’s clear commitment to technological research, and – last but not least – the use of innovative methods and instruments.

ENERCON makes a constant effort to optimise existing products and to develop new products that are clearly geared to customer needs, market conditions and trends.

We are convinced that the establishment of “I4E Innovation for ENERCON” will bring out a high-performance innovation service provider that substantially contributes to the efforts of our innovation centre in Aurich and adds to the innovation and technology map of ENERCON as a whole. Consequently, the new research organisation is another building block for ENERCON’s future-oriented realignment.

I hope you will enjoy this issue.

Nicole Fritsch-Nehring
ENERCON Managing Director
Wind energy still on the rise

With a newly installed capacity of 50 gigawatts worldwide, wind energy achieved a new record result in 2014. According to the World Wind Energy Association (WWEA), this is the highest number of newly installed WECs in any year before. The cumulative installed power has thus increased to a total of 370 gigawatts. Consequently, wind energy might soon surpass atomic energy. According to the International Atomic Energy Agency (IAEA), there are currently 438 nuclear reactors with a total power of about 376 gigawatts connected to the grid. Provided that the upward installation trend continues in 2015 – and there is a lot to suggest it – wind energy is going to surpass atomic energy before the end of the year.

Photo: 20 x ENERCON E-82/2.3 MW in Holßel wind farm, Lower Saxony, Germany
Positive customer feedback at Hanover Fair about the new EP4 platform

The customer feedback was universally positive when the new ENERCON 4 MW platform premiered at Hanover Fair (HMI) in April. Customers and interested members of the public from Germany and abroad visited the ENERCON stand to find out more about the E-126 EP4/4.2 MW, which was making its first ever appearance at a trade fair. “Our customers were impressed by the new 4 MW platform, and expressed considerable interest in the E-126 EP4”, according to ENERCON’s Managing Director, Hans-Dieter Kettwig. “The E-126 EP4 will complete our range of products in the 4 MW segment. It offers our customers the ultimate in quality and efficiency, and will make optimum use of onshore sites, even those which are far inland. In addition, at just 105 dBAI, its low level of acoustic power will make site planning that much easier”, says ENERCON Managing Director Nicole Fritsch-Nehring. ENERCON is to install prototypes of the new wind class IIA turbine in Germany by the end of the year. Series production – and with it, the first customer projects – will be launched in 2016. ENERCON’s appearance at the trade fair was planned with the introduction of the new E-126 EP4 in mind.

“‘The multimedia showroom, which gave visitors an opportunity to examine many aspects of the new EP4 technology, proved very popular’, remarks Nicole Fritsch-Nehring. ‘The HMI provides us with a good platform from which to showcase ourselves at the largest industrial trade fair in the world, and enables us to establish contact with customers and others in the industry. We are delighted that industry and the renewables sector are appearing together at the same trade fair, which affords us an opportunity to explore synergies’, adds Hans-Dieter Kettwig. Visitors to the ENERCON stand once again included senior politicians and decision-makers, who discussed wind energy issues and general conditions in the industry with ENERCON. Between 13 and 17 April, 6,500 companies from 70 countries exhibited their technologies and innovations in Hanover. The organisers claim that more than 220,000 trade visitors attended this year. Key issues under discussion were the digitalisation of industrial production, innovative subcontracting solutions, and intelligent energy systems.

Visitors to the ENERCON stand included Maroš Šefčovič (right), EU Commissioner for the Energy Union, shown here with ENERCON’s Managing Director Hans-Dieter Kettwig at the EP4 exhibit.

FAIR

ENERCON BAHN

ENERCON Bahn connects to the freight terminal at Bönén

The rail network of ENERCON Bahn, e. g. o. mbH now extends as far as the freight terminal at Bönén in North Rhine-Westphalia. The first wagons were loaded at the Ruhr-Ost logistics centre in Bönén in early April before joining the e. g. o. transport system. A daily connection is available to the new loading facility. This means that shipments can be sent from Bönén both to the North Sea ports of Jade-Weser Port/Wilhelmshaven, Bremerhaven and Hamburg, and south to the metropolitaan area of Munich and beyond to Italy and Turkey. Another connection heads for Berlin via Magdeburg. The new loading facility can handle combined road-rail shipments (KV) as well as traditional railway wagons. The freight transferred from road to rail at the terminal in Bönén is production material sourced from ENERCON suppliers in the northern Ruhr area and eastern Westphalia, and destined for ENERCON production sites, e. g. o. also transports freight via Bönén for an external client. The Westfälische Landes-Eisenbahn GmbH [WLE] conveys the goods as far as the e. g. o. hub at Lippstadt; e. g. o. has already cooperated successfully with the company in other regions. “The KV terminal is conveniently situated close to the A2 motorway, which means it can be reached quickly by road from every direction”, says e. g. o.’s Sales Manager Christian Stavermann as he explains the criteria behind the choice of the new location. “The loading facility at Bönén will also make the Ruhr area accessible to prospective cross-trade customers. We look forward to future growth and ongoing expansion.”

Visitors to the ENERCON stand included Maroš Šefčovič (right), EU Commissioner for the Energy Union, shown here with ENERCON’s Managing Director Hans-Dieter Kettwig at the EP4 exhibit.

ENERCON’s series of fairs proved extremely popular.

Loading ENERCON swap bodies at Bönén freight terminal.

ENERCON’s Managing Director Hans-Dieter Kettwig in conversation with Olaf Lies, the Minister for Economic Affairs of Lower Saxony (r).
EMDEN

EU Commissioner Šefčovič visits WEC Turmbau in Emden

ENERCON has commissioned a new concrete tower factory in Brazil. The production site in the city of Juazeiro in the state of Bahia focuses on the manufacture of precast concrete towers for the E-92/23.5 MW at its 66,000 m² site.

Some of the components are to be used for a major project in Bahia, where ENERCON is to install 67 wind energy converters of this type from the middle of the year. The work is performed in three stages: manufacturing the cloud reinforcements, performing concreting work, and finishing the tower segments. The production equipment includes seven dummies, three reels for reinforcement cages, a concrete mixing plant and four gantry cranes. An open-air hangar spans the production area and provides adequate weather protection. A total workforce of 250 is employed at the plant.

If a sustainable power supply system is to be achieved, renewable energy sources will have to take on a more significant role in the European Commission’s Energy Union. ENERCON Managing Director, Hans-Dieter Kettwig pointed this out at the meeting with EU Commissioner, Maroš Šefčovič, and of May in Emden. “Especially onshore wind energy is a domestic source of energy which can make a major contribution to help Europe become far less reliant on high-priced energy imports”, emphasised Kettwig during the tour of the tower production plant at WEC Turmbau.

ENERCON is fundamentally in favour of the idea of an Energy Union, said Kettwig. However, the energy transition and a sustainable reorientation of energy production in Europe, onshore wind energy and other renewable energy sources must be taken more into account in the European Commission’s framework strategy”, emphasised Kettwig.

Production for the major E-92 project: ENERCON’s new concrete tower factory in Bahia, Brazil.
ENERCON IS OFFERING A WIDE RANGE OF DIRECT MARKETING AND ENERGY-RELATED LOGISTICS SERVICES AS PART OF ITS EPK+E CONCEPT. THESE MAKE AN IMPORTANT CONTRIBUTION TO THE MARKET INTEGRATION OF RENEWABLES AND, AT THE SAME TIME, IMPROVE CUSTOMER PROFITS.

EPK+E

Energy services of key importance to the energy turnaround
The success of renewable energies means that they now account for an increasing proportion of the power supply. More than 25% of German power consumption is now met from renewable sources. Wind energy will play a particularly important role in the next chapter of this success story. At the same time, politicians have launched a number of initiatives in recent months aimed at shifting additional market and system responsibility to renewable energies. As a result, the operators of wind energy converters in Germany must ready themselves for fundamental changes to statutory regulations. While for a long time the Renewable Energy Act (EEG) has guaranteed them a fixed level of remuneration for each kilowatt hour they produce, they are now finding themselves increasingly obliged to take personal responsibility for finding a profitable market for the electricity they generate. The EEG 2014, which makes the direct marketing of electricity from new plants compulsory, represented an important change. When the remuneration (the grid operator’s market premium and the market value from the electricity exchange) as part of its direct marketing service, ENERCON will deliver the remote control system for the wind energy converter which is required for direct marketing, and will set up the necessary hardware and notify the grid operator accordingly.

Quadra Energy GmbH, a wholly-owned subsidiary of ENERCON based in Düsseldorf, takes responsibility for the direct marketing and the additional energy services included in the EPK+E package. A seasoned team of 15 staff members handles trading on the electricity exchange around the clock every weekday. They benefit from many years of experience in energy trading and in assisting consumers to obtain the best possible energy deal. This means that they are very familiar with dealing with the flexible nature of fluctuations in power consumption and availability, and can achieve optimum savings and profits respectively for a range of customers. With its direct marketing portfolio covering the whole of Germany and its wide range of services, Quadra Energy is one of the leading direct marketers in the country. “Like ENERCON, our maxim is quality and sustainability”, says Quadra’s Managing Director...
Uwe Behrens. "That is why our main focus is on continuing to develop our products and the energy market in the long term, in close collaboration with our customers."

ENERCON views direct marketing as a starting point for the further development of the entire energy-related logistical value-added chain, up to and including the future decentralised match-up of production and consumption. The additional energy services offered as part of the EPK+E package should be regarded in this light. Because in addition to direct marketing, ENERCON is offering attractive green energy tariffs to meet the needs of the wind energy converters themselves. The electricity mix is made up of 85% hydroelectric power from the upper reaches of the Rhine and 15% wind power from ENERCON plants, and is generally cheaper than buying from regional suppliers. ENERCON also assumes responsibility for all the plant registrations and re-registrations and implements measures to optimise energy economy – for instance, by means of efficient reference power management – to cut the costs of supplying the wind park.

Another part of ENERCON’s EPK+E programme works with customers to develop concepts to supply end-users with 100% green energy based on the self-supply rate. When tenders are submitted for new wind parks, demands are often made for the inhabitants of nearby communities to benefit from local electricity tariffs. Supplying such end-users oneself takes a lot of time and money. Through its subsidiary Quadra Energy, however, ENERCON can make the right expertise available and assume responsibility for all energy-related logistics services, from procurement to invoicing.

concept for further implementation of energy turnaround

Another component of ENERCON’s EPK+E package makes it possible to supply major industrial customers directly on an individual basis. Decentralised self-sufficiency makes industrial enterprises independent of the electricity grid, relieving pressure on the grid and assisting in the realisation of the energy turnaround, as well as reducing the company’s power costs. ENERCON also benefits here from the experience it gained supplying its own foundry in East Frisia (GZO) with an E-101, which has been operating independently since the middle of 2016. The expertise it acquired there has helped ENERCON to try out and review the efficiency of the individual direct supply concept, project planning and the technical connectivity of the self-sufficient supplier to the wind energy converter, and to develop a power supply concept which ensures a reliable supply of energy despite fluctuating levels of self-generated power.

All of the components of our energy-related logistics concept illustrate how ENERCON sees the energy turnaround being realised in the future”, remarks Jens Winkler. As well as the further expansion of decentralised energy production with onshore wind energy converters, this includes matching supply and demand as effectively as possible at regional level, thus avoiding the need to transport power generated from renewables to other parts of the country. This can be achieved through local green electricity tariffs, self-sufficiency, and by supplying power directly – which has the positive side-effect that local value creation increases when the volume of power which is generated is consumed in the very same region, reducing the need to expand the grid. The flexible control of power consumption based on the volume available, or the provision of additional energy from large storage facilities can help in achieving the end goal.

Intelligent networking of producers and consumers

"At the end of the day, what is required is the intelligent networking of decentralised producers and consumers", says Jens Winkler. "By managing all of the energy-related logistical processes, we envisage a controllable virtual power station with the potential to replace conventional power stations one step at a time. As well as pooling energy production and consumption, this means logging supply and demand as accurately as possible through forecasts, actual data and electricity exchange information. By shifting production and loads, the marketing of energy can be optimised by trading in the volumes of power generated. And by providing reactive power and balancing power and avoiding peak loads, wide-ranging system services can be made available.

The EPK+E package has since received a warm welcome in the marketplace. “ENERCON customers have responded very positively to the offer”, reports Uwe Behrens. “They approve of our focus on quality, and welcome the extension of the tried-and-tested EPK concept. And they are well aware that they are being offered a comprehensive range of services which no other competitor is able to supply in the same form.”

The experience gained from the marketing of wind energy converters is also feeding into the development of marketing solutions for power from existing installations. The operators of such plants should be involved in the concept of the virtual power station, so that they can exploit its potential in terms of energy economy. Energy-related logistics services are currently being developed for older E-40 and E-66 series. “This is one way of demonstrating that ENERCON wind energy converters can continue to be operated sustainably at sites where repowering is not possible, and that they can make a contribution to the successful realisation of the energy turnaround in Germany”, says Jens Winkler. //
ENERCON opens visitor centre in EEZ and launches new training centre for apprentices

Facilities located in Aurich’s “Energie-, Bildungs- und Erlebniszentrum” (EEZ) (energy, learning and discovery centre) on Aurich’s “Industriegebiet Nord” (industrial estate). ENERCON concludes long term lease for use of facilities.

ENERCON visitors now have a new central attraction point in Aurich. Next to the company’s production plants, ENERCON has opened a visitor centre in the recently inaugurated “Energie-, Bildungs- und Erlebniszentrum” (EEZ) (energy, learning and discovery centre). The visitor centre contains an impressive display of original ENERCON components with multi-media stations providing detailed insights into ENERCON wind turbine technology and offers spacious conference and training rooms for meetings and seminars.

At the EEZ, ENERCON has also invested in apprentice workshops with the latest high-tech training equipment to ensure that their personnel get the best education and advanced training for specific qualifications. Apprentices in the electrical engineering, mechanics, metal working, electronics and IT sectors have extensively equipped work stations, labs and machinery at their disposal. The workshops at the centre are on the training schedule for practice and theory in the second year of ENERCON’s apprenticeship programme.

These facilities complete the circle of the overall EEZ concept in which ENERCON is involved. “As an energy network centre, the EEZ is intended to be a place of information exchange providing the various players with the opportunity to discuss and sensitise,” says Aurich’s first city councillor, Hardwig Kuiper. “The energy transition is essential for mankind and having ENERCON as a local partner, gives EEZ visitors an opportunity to gain further insights into wind as a source of energy.”

Covering over 6,800 square metres, the EEZ was built by the city of Aurich and its 1,600 m² interactive exposition area brings the topics of energy generation and conversion to life. The focal point is on renewable energies, in particular wind energy. The EEZ is also designed to be a discovery and learning centre for school children of all ages and will also be used for teacher training seminars. Including the visitor centre and two training workshops, ENERCON occupies a space of more than 1,600 square metres.

The official opening ceremony was held at the end of June and Aurich’s first city councillor, Hardwig Kuiper is pleased with this successful venture with ENERCON: “Sustainability and education are the key elements of the various partners at the EEZ. ENERCON, as a wind energy manufacturer specifically unites these elements in its visitor centre and two training workshops.”
The federal government is spending a long time behind closed doors debating how wind project auctions are to be designed from 2017. ENERCON is taking the opportunity to help influence the debate, in part together with the German Wind Energy Association (BWE) – although it is clear from the experience of other countries that the energy turnaround rarely benefits from changes to the remuneration system.

The core issue here is the extent to which publicly tendered wind energy capacity is actually generated. For it is evident from a number of other markets, such as Brazil and the Netherlands, that in many cases only a fraction of the projects given the go-ahead actually end up being built. In the Netherlands, that in many cases only a fraction of the projects given the go-ahead actually end up being built. In many parts of the industry, if ventures are included which are already a good chance of successful completion, projects are much more likely to stand that, for a variety of reasons, it is not always eventually to be fed into the grid – given that, for a variety of reasons, it is not always possible to bring projects to fruition. Wind projects are much more likely to stand a good chance of successful completion if ventures are included which are already well advanced – after all, it is those which are most likely to overcome the final hurdles too. In many parts of the industry, there is a general consensus that, once it has reached the point of obtaining approval under the Federal Immission Control Act, a wind park is almost certain to be built. Projects should reach this stage before bids are accepted. Stipulating a short completion time of two years will also be a quick way of determining whether the bidder will actually be able to bring his project to a successful conclusion. If he fails, then the industry proposes that he should forfeit the security deposit he had to pay when the bid was accepted within the following six months. The security deposit is intended to discourage speculative bidders and provide clients with funding security.

The issue of introducing special regulations for bidders who are systematically disadvantaged by the design of the tendering system remains unresolved. European Commission directives have left the federal government with plenty of scope in the regard up to six wind energy converters with an installed capacity of six MW each may be legally exempt from participation in the tendering process. In talks, the Federal Ministry for Economic Affairs has already expressed an interest in taking advantage of this opportunity – although the importance has been stressed of tailoring the special regulations to meet the actual needs of bidders who are unable to cope with the complexities of the bidding process. At present, consideration is being given to projects with an upper limit of two wind energy converters in close proximity to one another; these would be exempt from the tendering process. This compensates to some extent for the fact that the outlay required for mandatory reports and preliminary work is relatively similar, irrespective of the scale of the project.

The states in the country’s interior where wind conditions are more moderate have concerns about being left behind. It makes economic sense to give preference to sites in the windiest locations in the reference yield model, but this means that projects in the south will be neglected for years, until such time as the coastal states no longer have any new sites available. Six of the southern states have proposed a possible solution: they want 40% of awards to go to the south and 40% to the north, with the remainder being opened up to competition. That would certainly be one way of allowing the energy turnaround to reach the federal states which previously relied heavily on nuclear power. //

In addition, low sound power levels promote acceptance by the population. With TES (Trailing Edge Serrations) ENERCON offers an effective, certified solution for wide-spectrum noise reduction. //

The interaction of the wind energy converter rotor blades with the atmosphere produces a so-called boundary layer on the rotor blade surface. Turbulent structures of different sizes form inside this boundary layer. When these turbulences meet the trailing edge of the rotor blade, they produce a characteristic wide-spectrum “trailing edge noise”. For maximum reduction of noise emissions from WECs ENERCON offers optional Trailing Edge Serrations (TES) at sites where noise is a critical issue.

Trailing Edge Serrations are serrated GRP profiles that are fastened to the rotor blades by means of a gluing process and are structurally bonded to them. The TES principle originates in aviation research where serrated profiles on jet engines have been successfully used for decades to reduce the dominant noise emission. ENERCON has tested and further developed this technology since the introduction of the E-82 wind energy converter. Based on theoretical considerations, an in-house design method for ENERCON TES has been developed and validated on the basis of experiments. It allows for the best possible adaptation of the TES geometry to the rotor blade profile and to the air flow conditions that vary greatly along the rotor blade radius. With the test planning law, the acoustic properties of a WEC play a crucial part in the continued expansion of wind energy.
A success story continues

After completing the ENEOP tender project with 1,335 MW installed power, ENERCON continues its involvement in Portugal.

Together with its project partners Grupo Generg, Enel and EDP renewables, ENERCON recently celebrated the completion of the ENEOP tender in Portugal. During the last six years, a total capacity of 1,335 megawatts was installed in more than 50 wind farms all over the country in the scope of the awarded contract. After completing the tender, ENERCON will continue its involvement in Portugal and use the production capacities installed for ENEOP for export projects.

ENERCON managing director Hans-Dieter Kettwig is satisfied: “ENEOP is an outstanding example of a successfully completed wind energy project in the EU. No other consortium in the EU can show a comparable installed power capacity in a single country.” The decisive factor for ENEOP’s success was the trusting relationship with the project partners and the good cooperation with the Portuguese government and authorities. “We are proud especially of the industrial project created for the tender”, says Kettwig. In a country that has been severely affected by the economic and financial crisis, more than 1,800 skilled jobs were created at the ENERCON production facilities for wind turbine components in Lanheses and Viana do Castelo.

“The industrial project is thus an excellent example of how jobs and sustained value are created by developing onshore wind energy”, declares Kettwig. “ENEOP’s success shows that not only the price per kWh was relevant for the tender but also sustainable offers, the promotion of economy and industry, and the creation of jobs.”

Within ENERCON, the involvement in Portugal has a high priority. The modern production facilities, that produce for ENERCON export projects in addition to ENEOP, are considered showcases. Kettwig: “We appreciate the highly motivated and qualified staff as well as the exemplary productivity of the plants. After completing the tender, ENERCON will therefore continue to produce in Portugal for export in order to be available as a supplier for the second and third renewal phase of the EE power station fleet. Furthermore, we will create additional Service jobs and establish a training centre for skilled personnel on site as part of the project in the next few years.”

ENERCON also hopes to be able to implement new onshore wind energy projects in Portugal. The conditions are ideal: Portugal has excellent wind conditions and wind turbine sites as well as considerable potential, with a total of approximately 5,500 MW installed power capacity until 2020, including already approved projects and those still required for reaching the goals for the year 2020.

Hans-Dieter Kettwig is therefore confident about the long-term business development in Portugal and believes that ENERCON with its large number of competent staff is well-positioned for continuing the success story of onshore wind energy in the country: “I think that Portugal can become a model country for renewable energies in Europe, with 70% of its energy coming from renewable sources already by 2025, thus serving as an example for how new opportunities for value creation can be created for all of Portugal.” //

Alto da Coutada wind farm
ENERCON has installed a total of 50 E-82 wind turbines for the ENEOP project in the Serra da Pedrela region in northern Portugal.
The advantages of “on-site” manufacture for production and logistics

FOR THE PERALTA (URUGUAY) WIND ENERGY PROJECT, ENERCON IS MANUFACTURING THE SEGMENTS OF THE PRECAST CONCRETE TOWERS DIRECTLY ON THE SITE.

The factory has been constructed at the heart of Peralta GCEE wind farm. Over the next two years, ENERCON will be installing a total of fifty E-92/2.35 MW turbines on precast concrete towers with a hub height of 108 m at the wind farm, which will generate 100 MW of electricity altogether. The construction area serves two sub-projects – Peralta I and II – and covers a total area of some 2,800 hectares in the administrative district of Tacuarembó in central Uruguay. Thirty wind turbines have already been installed.

On-site manufacturing occupies an area of 9,936 m², which includes storage space for tools, production materials and pre-fabricated segments. The factory also manufactures the concrete to make the segments, as well as the prestressing tendons for the towers. It has been built in accordance with the same principles as ENERCON’s fixed-location concrete tower factories. There are distinct areas for manufacturing the steel reinforcements, for concreting work and for finishing the segments – it is here that the cured tower segments are provided with a paint coat. The production machinery is also identical. The most important difference is that Peralta is an open-air facility. Once finished, the segments are transported across the construction site by lorry to the location where they are to be installed. This production and logistics concept means a considerable reduction in transportation distances and delivery times for the segments. Other benefits too arise from the simpler handling process: “Lorries can transport their loads within the construction site without the need for licences or escort vehicles”, explains project leader Mirko Jacob.

The “on-site” factory in Peralta produces 42 segments per week, which corresponds to a production capacity of three towers per week. Once the wind farm is complete, the factory will be dismantled again. The same high ENERCON quality standards that apply to all production facilities also apply in Peralta. All employees receive special training and are supported by the respective ENERCON experts from Germany. “The cooperation between the employees recruited locally and the ENERCON experts is excellent”, says Mirko Jacob. The factory currently has a staff of 140.

ENERCON already has extensive experience with mobile concrete tower production facilities. Indeed, a mobile manufacturing facility was used back in 2011 to construct the Petrobras wind farm in Brazil. E-82 tower segments were manufactured in a 110 m long production hall at the wind farm itself.

Wind turbine installation in the Peralta wind farm in Uruguay.
ENERCON builds largest wind farm in the Baltic Countries

AMBERWIND WIND ENERGY PROJECT MARKS THE PREVIOUS HIGH POINT OF ENERCON’S LONGTIME ENGAGEMENT IN LITHUANIA.

In the setting of the Amberwind project ENERCON is currently erecting the largest wind farm in Lithuania. It consists of 22 x E-101/3 MW and 8 x E-53/800 kW. The wind farm’s power output is 73.5 MW. This makes Amberwind the largest wind farm in the whole of the Baltic countries yet. The customer is Amberwind, an owner association in which the Stemma Group and several minority shareholders are engaged.

The site is located near Pagegiai, a small town in the Taurage district in the country’s southwest bordering Kaliningrad, Russia. With an average annual wind speed of 7.0 m/s at 100 metres and 7.8 m/s at 135 m hub height, wind conditions are considered favourable. The expected annual energy yield of the wind farm is 195 million kWh.

The access roads and crane platforms, the wind farm cabling and the transmission substation were provided by the customer. ENERCON is responsible for the delivery, installation and commissioning of the wind energy converters, including construction of the foundations and the towers. The first 8 WECs were installed by mid-June. By the end of the year the entire wind farm will have been built, commissioned, and handed over to the customer.

ENERCON has a long-standing working relationship with Stemma Group, its wind project owner associations, and their general director, Egidijus Simutis. For instance, the first joint wind energy project with a power output of 9.13 MW was realized about nine years ago near the town of Palanga. This was followed by projects in the Krevenai region in southwestern Lithuania (5 x E-82/2.0 MW and 7 x E-82/2.3 MW) and now the largest wind farm to date, Amberwind Amberwind is also the first project in Lithuania where ENERCON installs 3 MW class turbines. By the end of 2014 ENERCON had installed a total of 242 MW in Lithuania, which translates into a market share of about 86 per cent. //

Construction site of the Amberwind wind farm (in southwestern Lithuania).
ENERCON has installed 13 x E-70/2.3 MW wind turbines in the northeast of Scotland for its client BayWa.r.e. This is the fourth biggest wind farm installed by ENERCON in the UK.

The small Scottish village of John o’ Groats is well known in the United Kingdom. It is the counterpart of Land’s End in Cornwall/England and marks the point that is farthest northeast on a diagonal through the island of Great Britain. A crossing of the entire country is therefore also referred to as “from John o’ Groats to Land’s End”. ENERCON has recently installed its fourth biggest wind farm in the United Kingdom near the village with a population of 300. For the Stroupster project, 13 x E-70/2.3 MW wind turbines were installed for the client BayWa.r.e. Because of the wind conditions, the wind turbines were installed on steel towers at a hub height of 74 metres and a total height of 110 metres. “The location has excellent wind conditions”, explains Robin Borgert, ENERCON Regional Sales Manager Northern Europe. The wind farm is rated wind class I and is expected to generate a total annual energy yield of approximately 100 million kWh. “This is unusual for a wind farm with only 13 wind turbines”, says Borgert.

The biggest challenges of the project were the transport of the components and the grid connection. ENERCON had to have the route changed during the project phase in order to be able to supply the construction site. This unforeseeable change had the advantage that the abnormal load transports were able to take a shorter route.

The grid connection requirements were also a challenge because of the particular grid conditions in Northern Scotland – a relatively large area with few consumers and a small number of centres with higher demand.

“The Stroupster wind farm was our most important and biggest project in the UK in 2014. It is another positive example of how onshore wind energy contributes to grid stability and to a sustainable power supply system in Scotland”, states Borgert.
Innovative ideas are the hallmark of our successes and move us on. We are passionate about realizing wind energy projects across the globe and meeting tomorrow’s energy technology challenges. You and your ideas can make a contribution to shape the future of renewable energies.

**Key Expert Corporate Technology (m/f)**

**Responsibilities**
- Develop innovative ideas and concepts to boost the efficiency of our WEC technology and to expand our product portfolio
- Generate ideas to fill the innovation and technology roadmaps
- Develop technology up to TRL 6 (ensure technical feasibility)
- Manage technology and innovation projects
- Advise the management regarding strategic technical issues
- Generate ideas for active, systematic development of the patent portfolio and analysis of competitors’ patent portfolios
- Fast-track development of ideas/concepts to address defined technology and innovation projects
- Anticipate and develop ideas/concepts to address changing customer requirements
- Further develop methodical competences and act as multiplier for passing on specialist knowledge to departments
- Scout technologies and analyze scientific progress in the relevant field of competence
- Create and analyze technological scenarios
- Build and develop networks with universities and research institutions as well as technology-relevant partners

**Qualifications**
- University degree in an engineering discipline
- At least 5 years of successful work experience in the wind energy technology sector
- Project management and leadership experience
- Demonstrable success in technical materialisation of innovation
- Goal-oriented; able to make decisions, to take criticism, and to deal with conflict

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