

A holistic approach to wind energy



Kaveh Etemadi, Managing Director, ROBUR Wind GmbH and Director Global Sales of the whole Business Unit ROBUR WND, spoke to PES about his holistic vison and approach to wind: turbines, assets and services. This company offers a total package throughout the life of a turbine, with training and H&S permeating every aspect. Firmly established in Europe, the US and Latin America, their sights are firmly set on Africa and South East Asia.

PES: Hi Kaveh, it's great to welcome you to PES Wind and to get know a little bit more about ROBUR WIND. I believe you are part of ROBUR?

Kaveh Etemadi: Thanks it's great to be here. Yes, that's right, ROBUR WIND is part of the ROBUR Industry Service Group. We are a strong group with 3,000 employees globally and work in the wind, water, energy, industrial $\,$ and process industries.

PES: It would be lovely to learn a bit more about the background to ROBUR WIND and the services you offer.

KE: ROBUR WIND currently unites six companies: ROBUR Wind GmbH, ROBUR Wind Sp z.o.o., ROSCH Industrieservice GmbH, Ynfiniti from Spain and our renewable energy specialist RME and EREDA. We deploy teams to onshore and offshore wind farms as well as PV plants throughout Europe, Africa, Latin America and the United States.

In addition to erecting, troubleshooting, both minor and large correctives, servicing and installing, inspecting and maintaining wind turbines, from gearboxes to rotor blades, and we also manage the replacement of major components of PV plants. For your renewable energy project, we deliver a holistic approach to development, implementation and asset management and we add value all along the lifetime of the projects.

So as you can see, we offer our services along the entire value chain of a wind turbine and see ourselves as a holistic and globally active specialist for your renewable assets.

PES: What changes have you noticed in the wind industry over the last few years?

KE: On the one hand, wind industry has reached to be a major player in energy industry. At the moment nobody considers the energy mix, without taking into account the contribution of renewable energies.

Wind is an industry that has matured. There are less and bigger players in this sector now. H&S and Quality, which have been always our top priorities, are in the centre of the picture now. The amount of information obtained from wind farms has skyrocketed, and this allows us to propose tailored solutions that increase the life of the assets and the benefits to the customers.

Fortunately, even under the current conditions we keep on discovering new opportunities and challenges which we are going to develop side by side with our partners.

PES: 2020 was quite a year for us all wasn't it? But what effect has the pandemic had on the industry from your viewpoint, in all the territories that you cover, and are you seeing signs of change now?

KE: 2020 was a crazy year. Our lives have changed completely and we have had to adapt to many new circumstances. 2019 was already rather weak in terms of the economy, and this is worsened in 2020. Stagnant supply chains due to production downtime in China and Italy lead to production bottlenecks, we also felt this, especially in our production for obstacle markings.

In some cases we were unable to meet delivery deadlines. Production of wind turbines came to a standstill for our customers, projects were postponed. The pandemic was felt in many areas.

However, now things are slowly starting up again, with many ups and downs and discontinuous processes.

PES: How is technology being embraced to make the various processes of the job and services you offer easier on and offshore?

KE: Some of our technicians are completely on duty via a specially developed app from one of our partner companies. This means that they receive projects, carry out the documentation there and can track their

hours and assignments themselves. The big advantage is that we in the office, can see in 'real time' what is happening in the field. Especially in times of pandemics, this is a huge advantage.

Not to mention that we also rely on new technology such as AR and VR in parts of our training. We already conduct many of our basic training courses online. New technologies such as virtual reality are highly interesting, especially as they offer the possibility of providing training that is difficult to carry out in practice, and therefore often cost-intensive, virtually at low cost.

New opportunities are arising every day. For example, EV. Until now, due to high prices, low capabilities and difficulties to find recharge stations, EV did not take into account the mobility needs of our technicians. But at the moment the 500km autonomy capacity has already been crossed, and we see that our towns are beginning to install charging stations. It is becoming more and more common to see EV in our everyday life, and so in a matter of months they will become a part of our mobility solutions for wind.

Drones and Al are also part of our portfolio. Blade inspection has been a very traditional task, carried out by experienced technicians with either telescopes or ropes for a closer and more detailed check. Now our drones team have automated this activity, relying on drones for taking the photos and in powerful Al programs to detect and classify damages, determine the status of our customer assets and propose ad-hoc solutions that optimize results and cost.

PES: Health and safety must be high on the list of challenges you face, not to mention adverse weather conditions, are there any others you would like to mention?

KE: Creating safe environments must be our

first commitment with our colleagues and the society, H & S must be always at the forefront of our minds. Additionally, we need to reinforce the qualification of our technicians. The requirements of the market are intensifying, better services carried out by more prepared technicians, with more capabilities and able to face the new technical challenges.

Offshore wind is already here, and we are going to have to expand our activities there and replicate our success cases also overseas. New markets, such as Africa and South West of Asia are going to create opportunities for those who want to grab them.

Also, lifetime time extension together with recycling, for example, blade recycling, are also going to be important topics.

PES: How do you ensure that all safety regulations are adhered to and keep abreast of the changes as and when they take place. Training must play a vital role?

KE: Training is part of the core of our business. Our commitment to our colleagues and we as a part of our company have to create safe environments where we all can go back home in the afternoon, as we left in the morning, or even better. To do that we teach and train our people so they can be always alert and in the event of a problem, they have a pool of resources that will enable them to minimize the consequences.

We have our own five-people training department in Germany that is solely

concerned with training our technicians to keep them up to date. We also have our own GWO training centers in Madrid, Mexico, Uruguay and Italy.

We are focused on achieving the highest level of training and courses. For this we have trainers who, apart from being trained under the high GWO standard, are superior risk prevention technicians, which means we provide solutions that not only comply with the technique but also with the highest national legislation found in Health & Safety.

PES: Talk us through some of your most recent contracts, we would love to learn about one or two that you are particularly proud of.

KE: We have been awarded with more positions doing commissioning for both Siemens Gamesa and Nordex Acciona. This has always been one of our strongest points. Commissioning involves a group of tasks that require a holistic view of the turbine, and so requires highly skilled technicians.

We are proud to see that two of the biggest companies in industry keep on relying on ROBUR for the starting point of the life of their turbines. After a very challenging 2020, blade activities have restarted strongly in 2021, continuing with the traditional sites and customers, and expanding our portfolio with contracts with Käufer and with new activities in LATAM. We have signed a partnership agreement with OWS that is going to strengthen our presence offshore.



Kaveh Etemadi

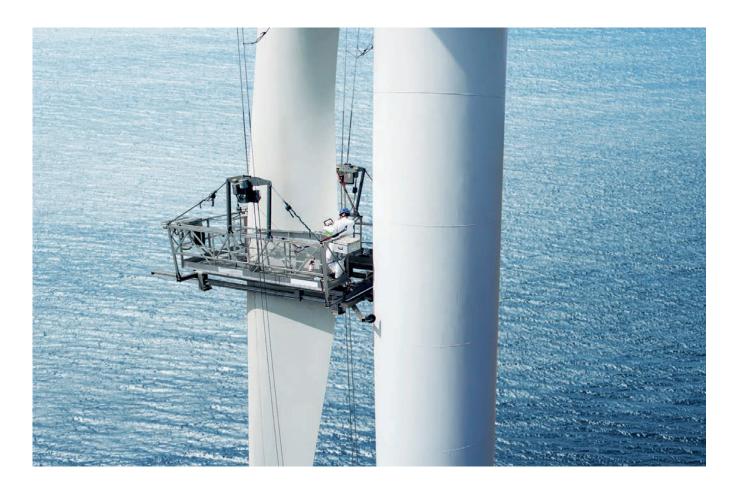
PES: How many technicians do you have on board and how are they managed from a logistics point of view?

KE: We have around 350 technicians in Germany and around 1000 in the entire unit.

We have our own service vehicles and travel management, which fortunately takes care of all the logistics for the technicians.

PES: ROBUR WIND recently announced a partnership with OWS Off-Shore Wind Solutions which is exciting. Can you tell us a little bit about that and what it means for your customers?





KE: Yes, sure. We are very proud to announce our global partnership with OWS and Wind Multiplikator (WM). The partnership will combine OWS's significant operational and executional experience, ROBUR WIND's on- and offshore services experience and WM's extensive experience in operational management. The value proposition for our clients will be the delivery of targeted asset &

operational management services, including engineering support for the on- and offshore wind industry. It is intended to limit asset and operational risks for our clients.

PES: What ecological challenges are driving your range of services and solutions?

KE: Taking care of the environment as we help providing clean safe energy is our goal.

So we try to make it simple. As our children in schools, we keep in mind permanently three easy words: reduce, reuse and recycle.

We optimize the consumption of resources, from fuel to electricity and water, from chemical products to paper in the office or cardboard for packaging. Sorting and storing the waste properly is a part of our everyday tasks.

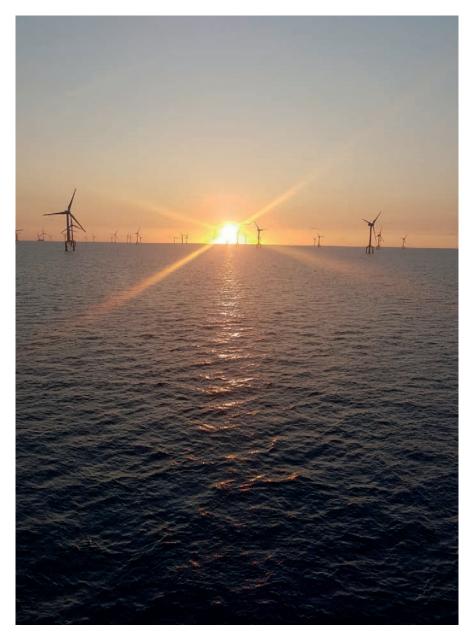
Our contribution to the EV transition is continuous, and this active approach ensures that our footprint is much smaller, helping us to achieve major energy savings.

PES: What makes ROBUR WIND stand out from the competition? What are the end user benefits in terms of efficiency and cost?

KE: I think what sets us apart is our geographical spread and the associated services. We can cover services along the entire value chain of a plant worldwide - and all from a single source. One supplier, one contact, one customer relationship. Not to forget the cost effects that result from this. It is clear that there are often positive cost effects here, while quality remains the same.

We can also look back on a variety of experience, having worked on many different





turbines 'from the very beginning'. If the customer wants, we can even cover their obstacle markings as an add-on, as well as light-on-demand night marking, which will be mandatory in Germany from 2022.

You need to train your technicians for your operation? No problem, we have our own GWO centers. You need support in the field of PV and solar? All right, RME and EREDA are at your side. What I mean to say is that I think we are unique in our construct and services covered.

PES: You operate in North and South

America as well as in Europe; how do these areas differ in terms of what you offer and how you can operate?

KE: Our presence in America has grown over the last five years. We have evolved from 40 technicians four years ago, to more than 200 at the moment. In parallel with the increase in the number of technicians, our portfolio has also widened. Initially we worked only for Siemens Gamesa. Now we have more than ten different customers, both OEM, SGRE, Nordex-Acciona, Vestas, and final customers ENEL, IBERDROLA, CMI, Grupo Dragón, Next Era, ...

For these customers we carry out nearly everything from commissioning to servicing, troubleshooting, QA/QC, blade repair, technical supervision and large correctives. This portfolio is very similar to the one we offer in Europe, taking into account local regulations and specificities.

Our teams are deployed in an area of nearly 10,000 km from the north of the USA to the south of Chile. The agility and flexibility of our technicians and the superb work of our logistics team means we can reach any area in the right moment and with the proper resources.

PES: Geographically, are there any other markets you would like to break into?

KE: Africa is a market we have been cooperating with in the previous years. 300 million people in need of safe and cheap energy, and renewables are a solid option. Until now we have been cooperating in commissioning wind farms in Egypt and Mauritania. Taking advantage of our current presence in Egypt with TEC GmbH, our objective is to make that permanent and then to develop all the activities of our wind portfolio throughout the rest of the continent.

On the other hand, Asia is also increasing their share of renewables, and we would love to be there to provide our expertise.

PES: What do you think is in store for the industry over the next five years or so? Where do you see ROBUR WIND fitting into this?

KE: For us, the most important sector over the coming years is going to be offshore, moving from being just a small part of the business to having a central presence. How to deal with aging wind farms is also a beautiful challenge, where lifetime extension, repowering and recycling will have to be combined to offer the best solution in each case.

Both offshore and onshore wind farms will have to provide energy to the net in higher quantities than in the past, and this net will have to be strengthened to make sure that this energy gets to our homes in optimum conditions.

Last but not least, data. Technology enables the collection of millions of data from each one of our assets, so deciding how to use all this information to improve service will be a major challenge.

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