OMEXOM

Quality@Work

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2002.20.I10.4.489

We change every breeze into megawatts

Planning, implementation and operation of offshore wind farms with Omexom Renewable Energies Offshore GmbH

OMEXOM

VINCI ENERGIES

Wind tells the greatest stories.

Whether on land or at sea, wind accompanies us everywhere we go. It moves everything it touches, and in doing so, shapes our lives. Sometimes, it's calm and enjoyable, while other times, it can frighten or worry us. Even when it's not blowing, it still continues to influence our lives. It can be brutal, but also tame. It's energy goes to waste, and yet is so valuable. We harness all this potential and turn it into energy. Thanks, wind.

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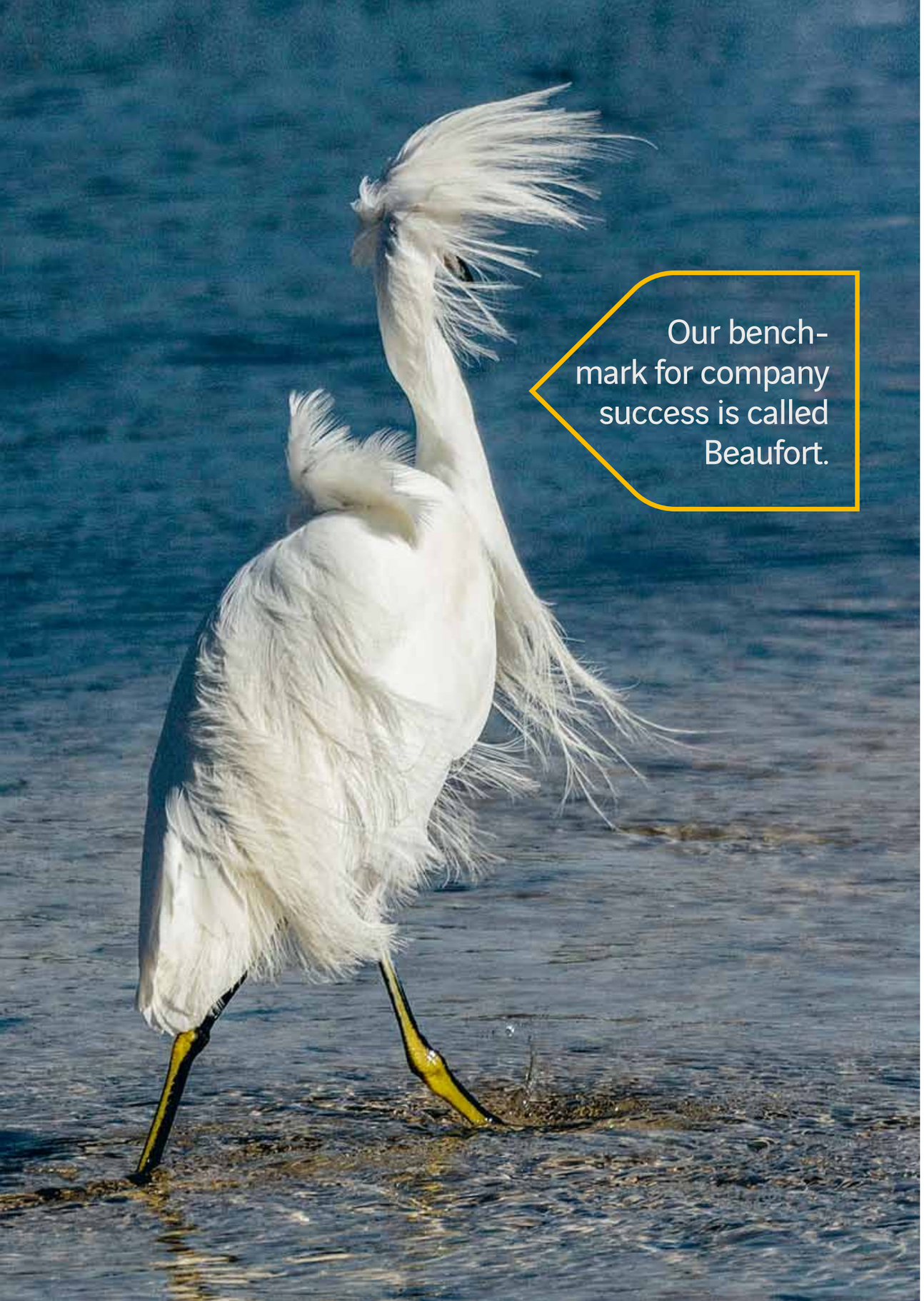

Offshore is our passion.

In meteorological terms, wind is somewhat clinically described as “strong currents of air” that are created in part by “spatial differences in air pressure distribution.” We at Omexom Offshore see wind as something more than just that. Our key area of expertise is the generation of wind electricity at sea. This is combined with a focus on the accompanying electrical substations, which form the heart of any wind farm.
For us, the longevity of our offshore wind farms is crucial, which is why each step, from planning to operation, is handled with the utmost care and technical dedication. This mix of engineering excellence and the human aspect of creating new possibilities makes working with Omexom Offshore both profitable and a pleasure.

We examine
the smallest of
details in order
to see the
entire picture.

The teams make the difference

Aside from operative planning, it’s essential that every Offshore renewables project has the right team, who meet every challenge with a realistic and economical solution. Without our highly qualified specialists and professionals, Omexom Offshore would just be another service provider in the branch. What makes us stand out is our “can-do” mentality, a feeling of community, and our vast technical experience in the field.

Ahead is where the wind blows.

Farther, deeper, stronger.

In 2006, our team began with the planning of alpha ventus – Germany's first offshore wind farm. Since then, we've grown used to superlatives. Never before had there been a wind farm built so far from the coastline (64 kilometers) or at such a depth (32 meters). What's more, each turbine had a rated power of five megawatts, which was record-breaking at the time. This milestone helped set the bar for the entire sector. During it's planning, building, and operation, new industry standards were defined, whose relevance is just important today as back then. Everything had to be completely rethought, developed, and perfected. But the following success was worth it. In 2018, alpha ventus is set to generate an incredible two terawatts of energy.

alpha ventus, Riffgat, Borkum West. And now it's your project's turn.

Turning experience into competence.

In 2010, as alpha ventus went into operation, we were given a new challenge – the complete project development of Riffgat: Germany's first commercially operated offshore wind farm. Here, we were able to use all our previously gathered knowledge and experience and completed the project not only on time, but also with the highest degree of cost effectiveness and quality. And that's not just us talking, but also the jury members of the "German Renewables Award" who awarded us for the project in 2014.

From pioneer to routineer

Looking back, we're very proud of all that we have accomplished. This said, we're still hungry and never rest on past successes. On the contrary, we still enjoy the thrill of each new challenge and approach every project with a powerful combination of knowledge, precision, and passion. And we still know how important it is to keep one's balance even in times of change. We look forward to meeting all your project's needs and goals.

When you're out here, it's time to cut to the chase and get to the point. That's why on the following pages, you have a complete overview of our service profile. And in case you have any further questions, we're always available and happy to answer them. Our team is happy to receive your inquiries.

Give us the green light, and we’ll take care of the rest.

We see every project as a complete life cycle – from initial feasibility studies, planning, and plant construction – to cold and hot wind farm commissioning and final energy grid delivery. When desired, we also take care of the direct marketing of the generated energy, as well as the decommissioning of the wind farms, once they have reached their full life cycle. A common term or marketing phrase here would be full-service provider. But that term has become somewhat stale and meaningless from our point of view. That’s why we prefer open and honest straight talk and tell you up front what you can expect. What makes working with us different is that we not only take care of each little technical detail at every phase, but also have an expert eye for the picture as a whole. This not only means extensive expertise, but also the ability to take risks, a deep understanding of sustainability, and environmental compatibility. After all, at the end of the day it’s about installing technologically complex plants in challenging locations. What’s more, the plant has to generate energy for many years and under the hardest of conditions. Additionally, it must be economical and operate problem-free 24/7. We can’t offer you anything more than this, but also nothing less.

Offshore
is always
demanding
but never
impossible.

You can’t make plans for wind. Fortunately for wind farms, you can.

We take care of your project.

There is a saying that if you plan everything in advance, nothing can go wrong later. And it’s true! That’s why, during the planning phase, we’re already thinking about the finished product. What are your expectations from a continually operating offshore wind farm? What technological necessities must be implemented on-site? Is the chosen offshore site even suitable for what you have planned? And can the project be realized in an economical, maintenance-friendly, and danger-free way? Of course, you and your team have many more important questions. We and those we work with do too. That’s why we see ourselves as a coordinator, catalyst, consultant, realizer and supervisor – as well as communicator, interface manager, trouble shooter, optimizer, and reliable anchor during the entire process. We look forward to discussing what roles your specific project needs and how to realize all desired goals as quickly and efficiently as possible.
For all of these services offered, we rely on our long-standing experience in building substations in confined spaces and at a great distance, which operate in a low-maintenance and space-optimized manner, with the aim of taking care of them at the highest possible level of quality throughout their entire life cycle.

Your benefit:
Making sure that your project is executed smoothly within the set timeline, budget and quality, meaning:

- Safe execution of works without interference and in line with your HSE standards
- Efficient planning of resources
- Effective delegation and communication with all involved parties
- Implementation of Workflows and processes
- Keeping track on tasks and documentation
- In depth evaluation of your asset performance

Our contribution:

- Feasibility studies
- Profitability calculation / Interface management / Permitting process
- Design Basis
- Logistic Concepts
- Tender preparation
- Installation concepts
- O & M concepts
- IT / SCADA concepts
- Technical specification / Package management / Project management
- Documentation

It’s not about what we can do, but what you need.

We always keep calm during every project. Even when things get stormy.

Owner´s Engineer – Technical consultant

From the planning phase – to commissioning. We consider ourselves as a highly specialized and integrated competence centre. With our extensive know-how, we're able to take on the responsibility of fully realizing your project. And that within the framework of set goals, timetables, costs, and quality expectations.

It would be wrong if we said we see ourselves only in the role of a technical consultant or owner's engineer during the realization of a wind farm. Our commitment and competencies go much deeper. And that means we're never on the sidelines or don't feel a sense of complete responsibility for what we do. This may be the case elsewhere, but that's the differentce with us. For some of our clients, we are solely responsible for the planning implementation and operation of their asset. That's why we know that "just a little" support doesn't get the job done. Wouldn't it be great to already know what may happen when you operate your wind farm? We're not able to give you a perfect prediction, but we are prepared for everything. And if something does go wrong, our expert team is there to develop the right solutions.

Problems don't make the job impossible – just more demanding.

Your benefit:
No matter if your windfarm is under construction or in full operation, be sure that everything runs safely and in line with your expectations - Keeping an eye on safety and quality is key for a successful project. Our experienced personnel will act as your Owner's Engineer or Client Rep towards executing parties. All deviations will be tracked and evaluated in order to address potential project risks as early in the process as possible. Making sure that your project is executed smoothly within the set timeline, budget and quality, meaning:

- Safe execution of works without interference and in line with your HSE standards
- Efficient planning of resources
- Effective delegation and communication with all involved parties
- Implementation of Workflows and Processes
- Keeping track on tasks and documentation
- In depth evaluation of your asset performance

Hands-on
We have seen virtually all types of asset failures, function tests. Our expert teams are there to find causes, have mitigation strategies in mind and will help developing and defining the most appropriate solution. moreover, you will benefit from our implementation expertise. We will either send out engineers and technicians who will execute the rectification themselves. Or we will supervise your subcontractors and take care of their performance. Depending on the case you may decide which offer is best for you.

Waves and wind always change - so does your project and we adapt to it.

Owner´s Engineer – Technical consultant

When your project reaches the point where decisions need to be made; Our technical team will find the answer to all relevant questions for you:

- How can identified performance issues be solved?
- What can be done to eliminate root causes?
- Is my inspection strategy still appropriate?
- How can downtimes be reduced?
- What's the best way forward when it comes to major component exchanges?
- Which improvements have been applied before and is the outcome worth the investment?

Our contribution:

Our experienced team of engineers will evaluate different scenarios and make suggestions based on costs, time, consequences and your business needs.

This results in:

- Optimization of existing concepts
- Coordination of the internal project team, all suppliers, engineer offices, and trades
- Permanent reporting to the client
- Planning control and adaption implementation
- Safety control on-site
- Production supervision
- Construction supervision
- HSE support
- Supplier audits
- Documentation
- Acceptance tests
- Hot / Cold commissioning
- Feasibility studies
- Root cause analysis
- Technical optimization
- Risk assessments
- Training programs
- Solutions engineering

Being offshore - being a step ahead.

Only the wind
knows wether your
project will be a success.
And us of course.

Supervision and Maintenance Services:

Planned maintenance and repairs ensure a high degree of technical performance and system longevity. Nevertheless, it may happen that defects occur and asset performance decreases for a multitude of reasons.

Supervision is not only related to site works, but also to your assets itself. A team of 24/7 available experts make sure that information from the windfarm SCADA systems is evaluated and processed and failures are being remedied quickly. Permanent monitoring of the movement of vessels, helicopters and persons in the windfarm area allows safe transfers. In case of any unforeseen danger emergency procedures will be coordinated.

Your benefit:
It may sound simple, but the reality is, a very effective formula: our expert teams are there to continually guarantee that your offshore substation as well as transition pieces are running as smoothly as possible. For the turbines, we either bring in a tried and tested subcontractor into our network, or coordinate with your chosen service provider, for example the manufacturers of the wind turbines. You decide which offer is best for you.

Our contribution:
- Operational control of the offshore wind farm via our central control room
- Coordination of all service, repair and manufacturer teams
- Permanent performance optimization on all technical and operative levels
- Marine coordination
- Offshore control center
- Permit to work system
- Remote switching operations
- Grid management
- 24/7 standby teams
- Substation maintenance services / Performance management
- Supplier Audits
- HSE management
- Real-time and monthly reporting
- Inspection and maintenance of transition pieces and offshore substations
- Scheduled and non-scheduled maintenance of HV/MV/LV- and auxiliary systems
- SAP services
- Supervision services
- Troubleshooting
- Optimisations on request

Offshore means
always on duty.

With us, you and your project will never walk alone. Our team’s extensive and bundled expertise makes it all possible. In addition to this, we’re closely networked with allsubsidiary companies of VINCI Energies. Together with company specialists, we offer complete service packages such as the direct marketing of energy, telecommunication solutions and new information technology. That way, your wind farm is always one step ahead and fit for the future.

That‘s rare in the offshore business: Support from every direction.

Inspection Body – ISO / IEC 17020 accredited

The range of services offered by our Inspection body includes all essential parts of an offshore wind farm: from the offshore wind turbine to foundations and cables to transformer and converter stations. A technical review of all elements that are required for the safe and smooth operation of the systems can be carried out. In addition to checking technical systems, documentation or processes can also be checked. This means that official requirements or your own quality requirements for manufacturing processes or detailed technical solutions can be independently checked and confirmed.

Your benefit:
Omexom Offshore will bring their decades of experience together with our customers‘ demands. Optimized assessment criteria will form the basis of our inspection services, accredited according to ISO 17020. We will apply the essence of regulatory requirements and the practical needs of our customers. Omexom Offshore‘s inspection body offers independent expertise in various technical disciplines: Systems engineering, Electrical engineering, construction as well as quality inspections and verification of permit requirements.

Our contribution:
- Turbine Technology
- Electrical Engineering
- Construction
- Documentation review
- Process review

Doing everything yourself is not important: knowing the perfect partner is.

VINCI Energies

With Omexom Offshore, your projects benefit from extended know-how of the Omexom network and a uniquely innovative corporate culture all over the world. By providing services that cover the entire electricity value chain from production to consumption, we can provide our clients turn-key solutions. This broad expertise allows us to bring new skills and innovation to the energy industry in all our activity sectors.

The Omexom Network
In addition to Omexom Offshore, numerous other teams in the Omexom network possess the expertise to help you implement your project time, budget, and quality. Network highlights include:

Booth & Associates, USA
Onshore substation design, procurement & construction administration

Omexom Substations, UK
Substation engineering, design, electrical and civil construction services (275 kV, 132 kV, 66 kV and 33 kV voltage levels) to the UK & RoI

Omexom LS, UK
A high-voltage underground cable specialist and EPC provider

Omexom Engineering, UK
A specialist in the design and development of high voltage equipment (11 kV – 400 kV)

Omexom Major Projects, UK
Engineering, design, electrical and civil construction services to the UK & RoI (33 kV – 400 kV)

Omexom Transmission, UK
Overhead line engineering and construction services

Omexom Power Solutions, UK
Substation engineering, design, electrical and civil construction services (HVDC) (400 kV, 275 kV, 132 kV, 66 kV and 33 kV)

Omexom Renewables, PRT
Project management, delivery of design construction and commissioning for civil construction, Wind farm, PV Solar and Battery storage developers

Kelvin Power, UK
Design & supply of steel and aluminium structures for substations & design of transmission lines

Actemium Oil & Gas, GER
Provides comprehensive solutions in electrical, instrumentation and process automation for Oil and Gas industries

Ebehako, GER
Construction and upgrading of substations, switchgear and energy distribution systems

Omexom Assen, NL
A specialist in mid- and high voltage installations featuring (design & engineering) maintenance, services, preservation and projects

Nickel Kraftwerk Service, GER
Project management, project planning, delivery, assembly, commissioning, documentation and maintenance of air conditioning and ventilation technology with special knowledge of nuclear power plants (German nuclear power plants since construction) and power plants (conventional plant construction in Europe)

The mixture makes the difference.

HSE – BCQ – SCL - IT

HSE - Health and Safety Environment (HSE)
At Omexom Offshore, the health and safety of our employees, clients and subcontractors is fundamental to us; this is why we have implemented the ISO 45001 to enable continuous improvement of occupational safety – with a certified HSE management system and Safety Culture Ladder (SCL) Step 3.

Our HSE managers take care of every occupational safety issue. They deal with both internal questions and the fulfilment of contractually regulated customer requirements. Right from the beginning of each planning phase of a project, they support the creation of a basic concept, check and comment on work methods and risk assessments. They create escape and rescue concepts as well as necessary documents for approval. During the project implementation and operation phase, our HSE team ensures that the HSE concept, is implemented and that every working step is compliant.

For objective and impartial expert opinions concerning the topics of occupational safety, our expert for occupational safety offshore wind energy, certified according to DIN EN ISO / IEC 17024 and certified by the Federal Association of German Experts and Expert Witnesses (BDSF), is at your disposal.

BCQ - Business Culture & Quality
Our experienced quality management ensures that in every department of Omexom Offshore smooth operation is guaranteed to the highest safety, environment and quality standards. We are certified according to ISO 9001: 2015 quality management, ISO14001: 2015 environmental management, ISO 45001: 2018 occupational health and safety management.

SCL - Safety Culture Ladder
To push our safety awareness to a new level, we have also implemented the Safety Culture Ladder and successfully certified to Step 3.
Our employees in the Business Culture & Quality department are experts for the Safety Culture Ladder and consult companies from all sectors for the successful introduction of the system. We support our customers from the initial analysis, through project planning, project execution for implementation, to successful certification at all steps of the Safety Culture Ladder. In this context, communication and trainings are an essential part of the successful realization.

Your safety and quality - with us in experienced hands.

IT - Information Technology

Our IT team consists of specialists who know exactly what distinguishes offshore from onshore IT. They plan and implement the network and communication infrastructure of offshore wind farms and ensure maximum data security for our customers. Our teams are formed of highly qualified specialists for project planning, 2nd level support, adaptation and expansion of SCADA systems, automation technology, network topology and offshore-specific maritime systems as well as all questions regarding certifications according to „IT-Grundschutz“ (BSI), ISO 27001 and KRITIS (critical infrastructure).
Operation of virtualization servers, virtual machines, conventional servers, workstations, switches, firewall clusters and 24/7 support for all systems in-house.

Project planning, 2nd level support, adaptation and expansion of complete SCADA systems, processing of all interface issues, configuration of the data points and creation of the necessary representations, grid connection rules, expansion and improvement of the operational management software as well as operation and optimization of the control of wind farms including 24/7-support.
Technical support regarding SCADA systems, automation technology, network topology, offshore-specific maritime systems and radio systems, support in the selection of suitable systems and tendering procedures and assessment of existing infrastructure.

Testing of own and customer-owned systems according to „IT-Grundschutz“ (BSI), ISO 27001 and KRITIS, security-relevant interfaces when introducing new software, verification of vulnerabilities reported via the BSI and reporting of security-relevant facts to management. Accompanying certifications with respect to the „IT-Grundschutz“ (BSI), ISO 27001 and KRITIS.

Data security - everywhere.

We hope we’ve caught your eye with all the possibilities offshore wind farms have to offer. But perhaps you have some more questions that need answering. If so, then you’ve definitely caught our eye. And when that happens, we have questions of our own. What’s the best way to go from there? Easy – get together, discuss, and see all that’s possible.