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SG gets personal with offshore kit

Manufacturer Siemens Gamesa is working on a number of new offshore turbine specifications within its existing platform that will feature extended rotors and alternative top power ratings.

Offshore chief executive Andreas Nauen told reNEWS at WindEnergy Hamburg that details will be unveiled in the "near future" on units to join the 8.0-167 machine.

Discussions are ongoing with customers about optimal configurations for projects that have different site-specific characteristics, he said on the sidelines of the event.

The supplier is also attempting to nail down a pipeline of projects over the coming years that are a perfect fit for the new models.

"We are working at the moment on what is the ideal combination of new rating and rotor diameter. We want to be spot on," he said.

"We constantly model our development against the competition," he added.

Nauen said Siemens Gamesa wants to avoid committing to new models to sidestep "pedalling back" on the technology in the future should the specifications prove uneconomic.

TAILOR-MADE: Nauen

Photo: Siemens Gamesa

Unnamed additional innovations on top of an extended rotor are also in the works. "There is a lot we can do with new technology on the rotor."

Nauen also said the company is planning for a next-generation offering for a "really large" turbine to be available in the "mid 2020s".

New materials, bearing concepts and modular components are among the innovations being examined.

■ Optimising existing and future offshore turbine hardware for use at low wind sites is key for manufacturers looking to gain a foothold in emerging markets, WindEurope conference delegates have heard.

Senvion chief technology officer Servet Sert told the event, which is being run alongside WindEnergy Hamburg, that various innovations are required for markets such as China, India and the US.

"Manufacturers need increased modularity in their designs so platforms can use different rotor sizes and electrical systems according to where they are deployed," he said.

Finding economically viable ways to increase a platform's rotor size is now a heavy focus of turbine outfits, he added.

"The current fleet of machines were designed for high wind sites off Europe where large rotors are not ideal as the loads acting on turbines are too strong."

Senvion is developing a 12MW-plus platform and plans to install a prototype onshore around mid-2020 followed by an offshore demo in 2021, it is understood. Final specifications remain under wraps.

Single market 'is vital for Siemens Gamesa in UK'

EU policymakers must ensure the European single market including the UK remains intact after Brexit, according to Siemens Gamesa chief executive Markus Tacke. p2

Suction bucket jackets 'to be top foundation pick'

Successful deployments of suction bucket jacket foundations at two major offshore wind projects this year has set the stage for the technology to go mainstream, the WindEurope conference 2018 will hear. p3

New-look ZX puts lidar on turbine to tune performance

Specialist company ZX Lidars, the former Zephir, is offering the market a new turbine-mounted wind lidar following a three-year development and test programme. p4

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Today, three GE senior executives p5

Baltic test-bed for German zero bids

A proposed Baltic Sea test field for wind turbines is expected to play an important role in ensuring zero-subsidy bid projects are built off Germany in the mid-2020s. p6

TRENDING ON reNEWS.BIZ LIVE@ WEH 2018

'New wind farms need more blade repairs'

O&M managers need to monitor turbine blades closely at wind farms less than five years old as these require more repairs than older units, according inspection and repair specialist Altitec.

DNV GL puts Dutch platforms to the test

Transmission system operator TenneT has hired DNV GL to carry out project certification for two offshore substations for the 750MW Hollandse Kust Zuid offshore wind complex in the Dutch North Sea.

Offshore taskforce looks beyond Europe

The Global Wind Energy Council has created a taskforce to accelerate offshore wind deployment in markets beyond Europe, including North America and Asia-Pacific.

EU and UK industry 'need frank talks on Brexit '

Marine contractor OMM has called on companies and associations in the EU and UK offshore wind sectors to come together at the WindEnergy Hamburg expo to have a tough, frank conversation to ensure that the industry thrives post-Brexit.

Join the Global Wind Summit

WindEnergy Hamburg
The global on & offshore expo

Wind EUROPE
The global on & offshore conference

Day 3 expo and conference highlights

At her majesty's service
UK Department for International Trade to give an overview of offshore wind opportunities around the world. Trade Commissioner to Europe Andrew Mitchell will chair the session.
Conference room St. Petersburg 2, 09.30-10.30

At your service
Eon's wind service business head Sandra Dettmer gives delegates her insights on what makes for successful O&M.
Speakers corner, 10.15-10.25

Mapping wind
In 'Wind atlases: a global perspective on wind resource assessments', experts will give the conference insights on how to predict the resources at locations around the globe.
Bilbao, 10.45-12.00

Under the hood
Executives from Chinese manufacturer Ming Yang are lined up to give two talks about using big data to predict turbine health and advanced controls for smart machines.
Speakers corner, 13.00-13.25 & 15.45-16.10

Tomorrow's world
Conference delegates get the inside edge on new skills and competences for the future wind industry.
Bilbao, 13.00-14.15

Single market 'is vital for Siemens Gamesa in UK'

EU policymakers must ensure the European single market including the UK remains intact after Brexit, according to Siemens Gamesa chief executive Markus Tacke *(right)*.

Any trade barriers would put the German-Spanish turbine manufacturer's export operations at its Hull blade facility in north-east England "under scrutiny" and increase the price of components, he warned at WindEnergy Hamburg 2018.

"This could lead to a negative outcome for the people that work in Hull. But it is not a decision I can make. It is just a consequence our business will need to face," he added.

Tacke said the company "benefited" from the ease of doing business in the EU when establishing the production facility.

"It might not have been possible under very strict regulations. If free movement is limited it will be more expensive."

Depending on the final Brexit outcome, Siemens Gamesa may use the site to serve as a "natural hedge" for the UK market in the future. Other component imports will still be required, he added.

"Given that scenario I still have my honest belief that there will be a good solution in place."

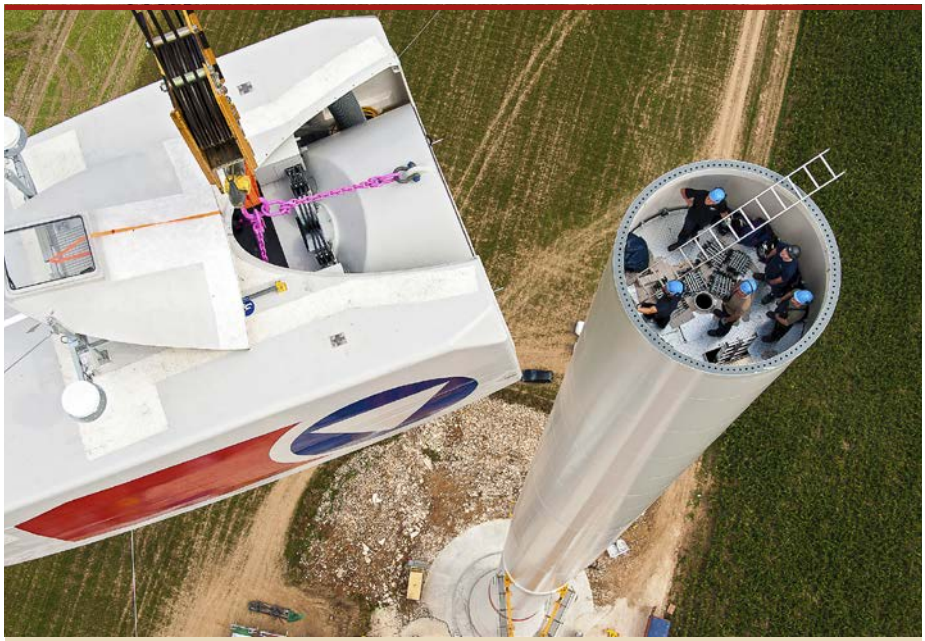
Photo: Siemens Gamesa

French offshore logistics marriage

Buss Offshore Solutions and IDEA Groupe have formed a joint venture to provide logistics support to the French offshore wind sector.

Buss IDEA Offshore, launched at WindEnergy Hamburg, aims to provide a comprehensive offering including base harbour operations to support project installation and operations and maintenance. IDEA Groupe brings local know-how and experience while Buss has provided logistics project management and engineering at more than 15 offshore developments in the North and Baltic seas.

Buss Offshore Solutions chief executive Martin Schulz said: "We are convinced that IDEA is the ideal partner for our intentions in the French offshore market."



FOCAL POINT: WindEnergy Hamburg delegates have been treated to an industry picture exhibition at the expo this week. Hamburg-based photographer Ulrich Mertens has displayed his 'Wind in Sicht' work made up of 14 large-format panoramas highlighting turbine construction and operation across Europe. Photo: Ulrich Mertens

Suction bucket jackets 'to head developer pick for foundations'

Successful deployments of suction bucket jacket foundations at two major offshore wind projects this year has set the stage for the technology to go mainstream, the WindEurope conference 2018 will hear.

Danish developer Orsted put in 20 of the units at its 450MW Borkum Riffgrund 2 wind farm off Germany while Vattenfall installed 11 at its 93.2MW Aberdeen Bay project in Scottish waters.

"The two successful installation campaigns have helped de-risk the technology," Marijn Dekker, senior geotechnical engineer at suction specialist SPT Offshore, will tell delegates.

Dekker is speaking during a session titled 'Innovations in offshore logistics & installation' on Thursday at the event, which is being run in parallel to WindEnergy Hamburg.

"No major changes are needed in terms of designing and installing suction buckets at future projects," he will say.

Dekker will highlight the speed of the installation at Aberdeen Bay, where Heerema vessel Aegir installed one foundation in just two hours and 40 minutes.

"You cannot install any other foundation type so quickly. At those speeds you could install up to three in a single day, which offers significant savings on vessel costs."

Dekker will go on to highlight a perfect storm of external factors that will likely result in commercial-scale projects adopting the technology as their principle foundation solution within the next two years.

"Larger turbines, deeper water locations and increasingly stringent noise reduction legislation make suction bucket jackets increasingly attractive," he will add.

Regions call for 9.5GW build boost for Germany

A coalition of German regions has called on Berlin to offer some 4GW of extra capacity each for onshore wind and solar as well as some 1.5GW for offshore wind in the North and Baltic Seas.

Ministers from Lower Saxony, Hamburg, Schleswig-Holstein, Bremen and Mecklenburg-Western Pomerania signed a joint declaration outlining the demands at WindEnergy Hamburg 2018.

The onshore wind boost is needed over the next decade in order to reach the government's goal of a 65% share of renewable electricity in 2030, the signatories said.

Offshore wind should have a 20GW target for 2030 and at least 30GW for 2035, they added.

In addition, capacity that was awarded in earlier tenders but not installed should be re-auctioned.

"We are worried about the increasingly negative outlook for the German market," said Lower Saxony Energy Minister Olaf Lies.

"We already lost more than 1000 jobs in Lower Saxony and do not want this trend to continue."

Worker safety always first priority — VDMA

The wind industry must not use rapid expansion and cost pressures as excuses to run too much risk with workers' safety, trade body VDMA will tell WindEnergy Hamburg 2018.

"Employees as well as their colleagues from contractors need to be sure their physical integrity is always the goal of project planning and implementation," energy policy expert Urs Wahl will say.

On a construction site, developers are dealing with numerous safety cultures, those attending a workshop organised by VDMA will hear.

"It is important to create a country-specific awareness of the local culture," participants will hear. "Safety is not only about paperwork but also about actually getting across all relevant information to the guys in the field."

■ 'Challenges of different safety cultures' is on Thursday at 3.45pm in Kopenhagen 4

New-look ZX puts lidar on turbine to lift performance

Specialist company ZX Lidars is offering the market a new turbine-mounted wind lidar following a three-year development and test programme.

The former Zephir has already deployed the hardware at scale across Norwegian developer Fred Olsen Renewables' UK portfolio.

Units "optimised the installed turbines and wind farms as a whole", said ZX, which was officially launched on day one of WindEnergy Hamburg 2018.

The company said the lidar remotely measures the wind ahead of turbines "to accurately compare energy production from the site to the available wind resource through accepted power curve measurements".

ZX added: "Turbines can be individually and collectively tuned to actual site conditions, overcoming shortfalls in original site modelling or wind conditions encountered". The company has also formed a new business unit, ZX Measurement Services, to provide industry with "data as a service", primarily through turnkey lidar measurement systems.

REMOTE SENSE: ZX adds to product spectrum Photo: ZX Lidars

Ex-RES man Ian Ravey will lead the change across the UK and Europe from a Scottish base. Ravey said: "High quality and high availability of data are the cornerstones of a modern wind project so the need for low cost, accurate and reliable measurements has never been more important."

Auction system design a way to hammer offshore finance costs

Further cost reductions in offshore wind could be found if governments design auction mechanisms that make it easier and cheaper for developers to secure finance, the WindEurope conference 2018 will hear on day three.

Experience in the supply chain has made fixed-bottom wind projects increasingly attractive to financial investors as costs and revenues have become more predictable, according to Jerome Guillet, co-founder of renewable energy financial advisory Green Giraffe.

Despite this, Guillet, who is speaking at a session on auctions, will say raising the capex for new projects from lenders is still a "significant cost" for developers.

Long-term contract for difference-style mechanisms that offer a fixed rather than a floor price for energy will allow lenders to offer cheaper capital at lower rates, he will say.

Future auction or incentive schemes will require stronger co-operation between wind developers, grid operators and customers, Vattenfall market development director Catrin Jung-Draschil will tell the session.

■ 'Designing auctions: what we have learned and where we should go' takes place at 13.00 on Thursday in the Brussels room.

THE INTERVIEW reNEWS

Pete McCabe

John Lavelle

Duncan Berry

Ahead of WindEnergy Hamburg 2018, reNEWS spoke with senior industry figures on the most vital issues shaping the sector. Third in the chair are executives from GE.

Q Ahead of Hamburg 2018, what for you will be the main subjects that you want to see discussed/debated during the week?

A Onshore chief executive Pete McCabe: The positive impact of high-scale innovation and technology in the journey towards a lower levelised cost of electricity. GE is at the forefront of renewable innovation across the board and has the capabilities across Europe to leverage this know-how.

At events like WindEurope, we look for ways to share our knowledge and learn from others focused on using innovation to ensure we can generate, transmit and distribute renewable energy cost-effectively and reliably. We have it as a constant goal to develop innovative technologies that drive down the levelised cost of energy and improve annual energy production to make our customers' projects more commercially viable in Europe and beyond.

Q How do you see the prospects for the offshore sector in the short and long term?

A Offshore chief executive John Lavelle: The growth prospects for offshore wind are very strong. With a projected industry growth from 17 to 90 gigawatts in the next 12 years, and China potentially adding more to this, offshore wind is expected to account for 15% of the global wind industry going forward. The offshore wind market is booming, particularly in northern Europe, China and the northeast USA.

Our new Haliade-X 12MW unit, which we are investing in, is designed to significantly improve the levelised cost of energy and support our customers to drive that growth. A couple of weeks ago we completed installation of the 400MW Merkur project in Germany and, last March, GE finished the installation of the Xinghua Gulf demo project, becoming the first supplier in the world to have installed offshore wind turbines in the Americas, Europe, and Asia. We're proud to be playing a role to drive growth for the offshore wind industry worldwide.

Q Has the sector convinced policymakers/governments and persuaded public opinion that it can be a big part of the future energy mix?

A Duncan Berry, chief executive at GE-owned LM Wind Power: We feel it is important to make the case for wind. The cost of wind energy has decreased by as much as 10% every decade since we began manufacturing wind turbine blades over 40 years ago. Today, we are focused on one goal: ensuring that we achieve cost parity with all forms of energy – including renewables, oil, gas and nuclear – without subsidy and in the most sustainable way possible.

We have already reached this crucial point in certain wind markets with certain products and, together with our customers and suppliers, we innovate constantly to drive costs down further. Reducing the cost of wind energy will serve the whole global economy but, ultimately, it represents the chance to light up the world for the 1.3 billion people who presently have no access to clean, affordable electricity. We believe that as we succeed we will, quite literally, change their world for the better.

Q What is your company currently doing to lower the cost of energy in the sector?

A Pete McCabe: To power the world, the energy industry and policymakers must continue to innovate. As electricity demand continues to grow, new generation will be added, primarily renewables, and the world will change how it manages electricity. GE Renewable Energy is focused on leading the transition through innovative technology at large-scale, new business models for renewable innovation and the integration of sources of power that will allow us to position renewables from a mainstream source of power to the new baseload.

Photo: GE

Baltic test-bed for German zero bids

Conference digs into wind in a merchant environment on day three, writes **Hans-Dieter Sohn**

A proposed Baltic Sea test field for wind turbines is expected to play an important role in ensuring zero-subsidy projects are built off Germany in the mid-2020s.

The 250MW to 300MW demonstration site for up to a dozen prototype machines is set to be offered by the state of Mecklenburg-Western Pomerania from 2021, it is understood.

German trade association VDMA Power Systems head Matthias Zelinger said the zone could boost prospects for the build-out of zero-bid projects such as EnBW's 900MW He Dreiht, due online by 2025.

Orsted won the right to build the 240MW OWP West and 240MW Borkum Riffgrund West 2, expected online in 2024, on a subsidy-free basis.

"Such a testing opportunity will increase the probability that developers will actually implement the projects they bid for in Germany's auctions," he added. Wind in a merchant environment is the theme of day three of the WindEurope conference 2018.

CRANE FLY: Heerma installs the substation at EnBW's Hohe See site Photo: VDMA

Experts from finance, investors and supply chains will discuss how market innovations have brought subsidy-free projects into view.

Among the advances are next-generation 10MW-plus turbines that will be needed for unsupported offshore projects. GE has unveiled its 12MW Haliade-X model with a 220-metre rotor diameter and Siemens Gamesa, MHI Vestas and Senvion are expected to follow suit.

However, Zelinger believes it is "still unclear" if 10MW-plus turbines will be commercially available when EnBW and Orsted make final investment decisions in the early 2020s.

The next generation of turbines will not be upscaled versions of current models, he added. "Manufacturers will have to come up with new solutions such as a reduced specific weight of blades."

The VDMA Power Systems chief believes zero bids are also a punt on falling construction costs and as-yet unproven technology.

"To minimise the risks associated with new turbine technology, it will be important to install intermediate generations in the early 2020s," he added.

Zelinger is concerned the zero bids are "only secured options" to build the projects and believes the penalties for non-implementation are "rather low compared to large projects in the oil and gas sector".

"With low or even zero-subsidy strike prices, we will have to get used to the fact that some projects might not come online and policymakers should therefore make sure that the capacity of such projects will be auctioned off again."

One session on Thursday, 09.15-10.15, will hear from panellists who will discuss challenges and opportunities posed to the wind industry by subsidy-free projects.

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