Can do.
Will do.
ZITON AT A GLANCE

ZITON is the market-leading service provider within offshore wind operations & maintenance. ZITON has carried out more than 900 service interventions at 54 wind farms across 7 countries.

ZITON’s business arises from owning and operating jack-up vessels designed to carry out O&M services on turbines at offshore wind farms. In recent years, the business model has evolved to include full-service and turnkey solutions.

ZITON provides full-service solutions with maritime project planning & execution, lift planning & execution, specialised tools & lifting equipment and technicians in addition to jack-ups manned by experienced crews. Full-service solutions are provided for major component replacements, including gearboxes, blades, generators, transformers, main bearings, main shafts etc.

ZITON also offers turnkey solutions for blade campaigns. In addition to full-service solutions, this also includes blade repair and upgrades as well as facilities that meet the requirements for temperature and humidity, among other things.

ZITON also offers turnkey solutions for decommissioning. In addition to a full-service solution, this also includes cutting, recycling of waste materials, seabed inspections and other services.

Our customers are leading wind turbine manufacturers and wind farm owners.

ZITON operates a fleet of dedicated O&M jack-ups that provides us with the flexibility and versatility to operate at almost every offshore wind farm in northern Europe, from 2.0 MW to over 10.0 MW. The fleet consist of the following vessels:

- J/U WIND ENTERPRISE has been bareboat chartered from 28 May 2019 to end March 2021. ZITON has an option to acquire the vessel. With the addition of J/U WIND ENTERPRISE to the fleet, ZITON can service customers on 6+ MW platforms;
- J/U WIND SERVER is the first jack-up vessel purpose built to provide offshore wind operations & maintenance services;
- J/U WIND PIONEER is a converted jack-up vessel adapted to the offshore wind industry, and;
- J/U WIND has the longest proven track-record in the industry in terms of major component replacements.

ZITON has about 130 employees, is headquartered in Horsens, Denmark, and has subsidiaries in Germany, the UK and China.

FOUR MAIN PHASES OF AN OFFSHORE WIND FARM
Orange shading indicates services provided by ZITON.

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The West of Duddon Sands blade upgrade campaign is one of the key projects for NEME Service. At Siemens Gamesa Renewable Energy, we fully support ZITON in successfully completing the project. Together with ZITON, we have gained tremendous experience from the WoDS blade campaign that will benefit us and our customers as we carry out more blade upgrade campaigns in the coming years.

Paulina Hobbs, CEO Service NEME, SGRE
HISTORY OF THE COMPANY

2007
- J/U WIND acquired
- J/U WIND on first long-term charter with Vestas

2008
- Jack-up operations carved out into separate entity

2011
- J/U WIND initiated three-year charter with Siemens via third party

2014
- 3-year charter signed for J/U WIND SERVER with Siemens Wind Power
- Fresh equity and issuance of EUR 40 million bond

2015
- J/U WIND SERVER operational in March 2015 and J/U WIND PIONEER in September 2015
- 2-year extension of agreement with MHI Vestas
- Issuance of EUR 100 million bond

2016
- J/U WIND SERVER initiated 3-year charter with Siemens Gamesa Renewable Energy
- Issuance of EUR 125 million
- DBB Jack-Up Services A/S changed its name to ZITON A/S
- Fresh equity and issuance of EUR 23.7m

2017
- Extension of agreement with MHI Vestas until further notice
- Foundation of ZITON Contractors A/S
- First full-service main component replacement carried out
- First decommissioning of offshore wind farm

2018
- J/U WIND SERVER initiated 3-year charter with Siemens via third party
- J/U WIND PIONEER acquired, and J/U WIND SERVER ordered from Nordic Yards
- Subsidiaries in Germany and UK
- Ownership in Jack-Up InvestCo 3 Plc. increased to 100% for EUR 23.7m

2019
- Subsidiary in China
- Hangout A/S established as a joint venture to provide blade repair solutions
- Amendment of corporate loans and new working capital facility improving liquidity by up to EUR 14.3 million

2020
- Bareboat charter of J/U WIND ENTERPRISE
- New framework agreement with Ørsted.
- Duration to March 2022
- Framework agreement with Vattenfall extended to November 2020
- MHI Vestas framework agreement amended and extended to December 2022
- Turnkey solution for blade campaign at West of Duddon Sands
ZITON’S SERVICE OFFERINGS

ZITON’s business arises from owning and operating jack-up vessels designed to carry out O&M services on turbines at offshore wind farms. The business model has evolved in recent years and now includes full-service and turnkey solutions.

FULL-SERVICE SOLUTIONS
ZITON’s core business is to own and operate jack-up vessels. In recent years, we have expanded on this platform by introducing value-added services.

ZITON provides full-service solutions for major component replacements, including maritime project planning & execution, lift planning & execution, specialised tools & lifting equipment and technicians in addition to jack-ups with experienced crews. Our expanded scope of a full-service solution is illustrated below.

In a turnkey solution, ZITON takes full responsibility for the solution and assumes the risks that we feel we are better equipped to handle than our customers are, and that customers are willing to pay for. ZITON has the experience to handle risks better than anyone, including when it comes to weather risk, project management, coordination with sub-suppliers, etc.

ZITON is determined to remain an important player both in the blade campaign segment and in major component replacement. As a result, ZITON offers a range of solutions for blade campaigns that meets the requirement of customers at the most cost-effective price, including:

Onshore blade repair and upgrade solutions that specifically targets blades with deeper structural damages and upgrade of blade performance. Blades are transported from the offshore wind farm to an onshore blade repair facility, repaired, and then used to replace worn blades on the next turbine.

On-deck blade repair and upgrade solutions that is similar to onshore in scope, but carried out on the deck of the vessel.

HangOut tip repair that mainly involves basic repair of the tip and the leading edge of a blade. This solution is more limited in scope, but also more cost effective than the others. “HangOut” is an advanced container that is raised from the deck of the jack-up and lowered over the tip of the blade using vacuum suction cups.

All ZITON’s solutions mentioned above, enable a considerable higher process quality than other blade access solutions like rope access or platforms, due to improved work ergonomics and by providing climate-controlled habitats. All solutions are illustrated on the next pages.

TURNKEY SOLUTIONS
ZITON has expanded its scope further by offering turnkey solutions for blade campaigns and decommissioning. For blade campaigns, ZITON collaborates with sub-suppliers to repair and upgrade blades, provides facilities that offer temperature and humidity management and other compulsory requirements when it comes to blade repair. For decommissioning, ZITON collaborates with sub-suppliers where relevant, and provides a turnkey solution for cutting, recycling of waste materials, seabed inspection, etc.

A typical O&M setup and ZITON’s solutions are illustrated on the next pages.
OFFSHORE WIND FARMS

TYPICAL O&M SETUP AND ZITON’S SOLUTIONS

CREW TRANSFER VESSEL (CTV)
Used for near-shore wind farms for transporting technicians to the turbines for everyday O&M routines.

SUBSTATION
The substation connects the offshore wind farm to the onshore electricity network and converts and transmits the power.

ONSHORE BLADE REPAIR AND UPGRADE FACILITY
Blades are transported from the offshore wind farm to the onshore blade repair and upgrade facility.
Occasionally, it is necessary to exchange a major component, such as a gearbox, blades, generators, etc. This requires a dedicated O&M jack-up positioned next to the turbine.

The met mast is erected prior to installation of the wind farm to provide actual measurement of weather conditions at the site.

Used for far-offshore wind farms for transporting technicians to the turbines for everyday O&M routines.

Advanced container that is raised from the deck of the jack-up and lowered over the tip of the blade to perform basic repair of the tip and leading edge.
DEDICATED O&M SERVICE PROVIDER

CLIMATE-RELATED RISKS AND OPPORTUNITIES

• Offshore wind
ZITON operates within the offshore wind industry, which is expected to play an important role in the transition to a low-carbon and climate-resilient economy. For ZITON, the offshore wind industry provides important climate-related opportunities for growth as the number of turbines installed in northern Europe is expected to continue to increase in the foreseeable future. In addition, as the offshore wind industry becomes increasingly global, it will provide opportunities for ZITON to expand its global presence.

• Fuel consumption
Operating vessels involves fuel consumption. However, ZITON’s vessels are generally lighter and smaller than their installation counterparts. Thus, our fleet enables customers to select the vessel that provides the industry’s lowest carbon footprint. However, ZITON’s operations are considered to have a very positive net effect on climate as CO2 emissions in 2019 merely amounted to the greenhouse gas emissions equivalent avoided by 3.7 wind turbines running for a year.

DIFFERENCE BETWEEN DEDICATED O&M SERVICE PROVIDERS AND PROVIDERS OF INSTALLATION JACK-UPS

There are certain important differences between a dedicated O&M provider and a provider of installation jack-ups, such as:

• Dedicated provider of O&M services
ZITON is the only dedicated provider of jack-ups dedicated to O&M assignments like major component replacement, blade campaigns and decommissioning. Such vessels are not occupied by long-lasting installation assignments.

• Coverage of all turbines from 2MW to 10MW and beyond
Our fleet of jack-ups provides us with the flexibility and versatility to operate at offshore wind farms, from 2.0 MW to over 10.0 MW. Our fleet allows us to offer our customers a cost-effective set-up for their particular needs.

• Lower carbon footprint
Being lighter and smaller, O&M jack-ups consume less bunker fuel than their installation counterparts. Thus, our fleet allows customers to select the vessel that provides the industry’s lowest carbon footprint.

• Technical capability of the vessel
To carry out O&M assignments, our vessels do not require a large deck space and crane lifting capacity, and, smaller crews are required to operate them. This means significantly higher OPEX and CAPEX for installation jack-ups than for dedicated O&M jack-ups and, accordingly, a need to charge higher charter rates.

• Experience of the crew
Crews with 10 years of experience are rarely seen in this young industry, but that is what we can provide at ZITON. Our crews have experience from working with a variety of wind turbine models, sites, ports and under various operating conditions. Everyone knows exactly the sequence and details of operations including the imperative of ‘safety first’ in all operations. The experience of our crews enables us to execute major component replacement with unrivalled efficiency.

• Organisation
ZITON has a lean organisation, geared towards completing efficient operations in a matter of days, and often at short lead times. The costs of O&M operations would simply be too high for large organisations geared towards the complexity of projects with a duration of six months and beyond. The ZITON Portal enables us to cost-effectively deliver project documentation and to collaborate with our customers on operations.
MARKET DEVELOPMENT OF OFFSHORE WIND

Expected growth in the number of turbines installed in Europe
Turbines grid connected, end of period

Source: ZITON data

Average size of turbines installed per year
MW/turbine

Source: ZITON data

Average MW per turbine
Can do. Will do.

VISION AND MISSION

OUR VISION
Offshore renewables are the preferred future source of energy.

OUR MISSION
To provide second-to-none solutions to the offshore renewables industry through our dedication to skilled people, specialist equipment and safe operations.
J/U WIND ENTERPRISE

TECHNICAL SPECIFICATIONS

GENERAL INFORMATION
Length, overall: 100.0 m
Width, overall: 40.0 m
Hull depth: 8.0 m
Pre-drive capacity, active: 6,750 t/leg
Elevating speed: 0.7 m/minute
Transit speed: Approx. 6 knots
Accommodation: 28 single cabins for charterer and 20 single cabins for crew
Ownership: Bareboat chartered until end of March 2021 with an option to acquire the vessel

CARGO CAPACITY
Payload: 4,500 t
Main deck area: Approx. 2,850 m²

MAIN CRANE AND LIFTING CAPACITY
Main crane: Liebherr BOS 35000
Main crane boom length: 102 m
Main crane max. lifting capacity: 800 t at 25 m radius at 116 m height above deck

OPERATING CONDITIONS
Service: Unrestricted (as per DNV rules)
Endurance: 21 days
Jacking operations - wave height: 2 m
Jacking operations - wind: 15 m/s
Jacking operations - tidal current: Up to 1.2 kn.
Jacking operations - max. depth: Up to 48 m
GABE CARGO CAPACITY
Payload: 1,500 t
Main deck area: Approx. 1,000 m²

MAIN CRANE AND LIFTING CAPACITY
Main crane: Liebherr BOS 14000
Main crane boom length: 87 m
Main crane max. lifting capacity: 400 t at 20 m radius at 96 m height above deck

OPERATING CONDITIONS
Service: Unrestricted (as per DNV rules)
Endurance: 30 days
Jacking operations - wave height: Up to 2.6 m
Jacking operations - wind: Up to 15 m/s
Jacking operations - tidal current: Up to 3 kn.
Jacking operations - max. depth: Up to 45 m

GENERAL INFORMATION
Length, overall: 79.6 m
Width, overall: 32.3 m
Hull depth: 7.4 m
Pre-drive capacity, active: 2,700 t/leg
Elevating speed: 1.0 m/minute
Transit speed: Approx. 9 knots
Accommodation: 24 single cabins for charterer and 15 single cabins for crew
Ownership: Owned since 2014
CARGO CAPACITY
Payload: 650 t
Main deck area: Approx. 530 m²

MAIN CRANE AND LIFTING CAPACITY
Main crane: Liebherr BOS 7500
Main crane boom length: 78 m
Main crane max. lifting capacity: 150 t at 19 m radius at 78 m height above deck

OPERATING CONDITIONS
Service: P2 (as per DNV rules)
Endurance: 30 days
Jacking operations - wave height: Up to 1.35 m
Jacking operations - wind: Up to 14 m/s
Jacking operations - tidal current: Up to 2.5 kn.
Jacking operations - max. depth: Up to 34 m

GENERAL INFORMATION
Length, overall: 56.0 m
Width, overall: 28.0 m
Hull depth: 4.5 m
Pre-drive capacity, active: 1,200 t/leg
Elevating speed: 0.5 m/minute
Transit speed: 5 knots (towed)
Accommodation: 22 single cabins for charterer and 12 single cabins for crew
Ownership: Owned since 2012
GARGO CAPACITY
Payload: 220 t
Main deck area: Approx. 430 m²

MAIN CRANE AND LIFTING CAPACITY
Main crane: Liebherr LTR 11200
Main crane boom length: 28-110 m (telescopic)
Main crane max. lifting capacity: 30 t at 30 m radius at 100 m height above deck

OPERATING CONDITIONS
Service: Weather restricted, site specific
Endurance: 30 days
Jacking operations - wave height: Up to 0.75 m
Jacking operations - wind: Up to 10 m/s
Jacking operations - tidal current: Up to 1 kn.
Jacking operations - max. depth: Up to 35 m

GENERAL INFORMATION
Length, overall: 55.1 m
Width, overall: 18.1 m
Hull depth: 4.0 m
Pre-drive capacity, active: 600 t/leg
Elevating speed: 0.7 m/minute
Transit speed: Approx. 6 knots
Accommodation: 20 single cabins for charterer and 11 single cabins for crew
Ownership: Owned since 2006
HangOut is a crane supported work platform used for basic repair of the tip and the leading edge of a blade. It is an advanced container that is raised from the deck of the jack-up and lowered over the tip of the blade using vacuum suction cups. The HangOut contains all the necessary equipment to make the repairs, and it provides a safe and protected working zone for blade technicians. Also, it is operational at harsher weather than basic blade repair performed using rope or platforms, thus providing significantly more working days per year. With a full repair including jacking up time taking two days, HangOut can reduce costs and speed up large-scale leading-edge erosion campaigns significantly.

**GENERAL INFORMATION**

- Length, overall: 12.4 m
- Width, overall: 4.1 m
- Height, overall: 3.4 m
- Self-weight: 8.15 t
- Internal load capacity: 1.5 t
- Manpower: Up to 3 persons
- Operations – wind: Up to 10 m/s
- Ownership: Owned since 2019 with Flex Wind (50% each)
## GENERAL INFORMATION

**Manpower:** Supervisors and senior technicians for all platforms

**Platforms:**
- SGRE: G2, G3, G4
- MVOW: V66, V80, V90, V112

Quick adaption to other OEM turbines

**Lifting equipment:** Most lifting equipment for all main components on all platforms

**Tools:** Hand tools, special tools, tension and torque tools and torque tools

## SPECIFICATIONS

### EQUIPMENT & TOOLS

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### LIFTING GEAR

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<tr>
<td>V80</td>
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Supporting tools required for major component replacements