## tampnet



**CONNECTIVITY AND** 4G LTE COVERAGE FOR **OFFSHORE WIND ENERGY OPERATIONS** 

## Constantly **Expanding**

We are proud of our communication network of fibre cables, radio links and 4G, providing so many with high-capacity, resilient and low-latency connectivity. But we are always looking to improve. Our goal is to always be the preferred offshore network provider, and we are constantly expanding our infrastructure and improving our capacity.

digital services

wind energy

oil & aas

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## **WE ENABLE**

## THE CONNECTED WORKER

- Crew with wireless devices will have realtime access to data.
- Optimise planning and execution of day-to day operations.
- Collaborate across transition pieces, towers, nacelles, substations, jack-up vessels and crew transfer vessels.
- Transparent coordination with control room operators and fellow workers.

## **CONNECTIVITY DURING CONSTRUCTION AND OPERATION**

- During the construction phase of a wind farm all suppliers will experience costeffective operations thanks to high-quality telecommunications.
- 4G LTE coverage enables offshore offices to coordinate and plan teams on site.
- Control operations from remote onshore control rooms.
- Crystal clear, HD live streams to other control rooms and vessels.
- Optimised operations with digital weather stations to analyse wind characteristics.

#### **IOT AND WINDFARM MONITORING**

- Remote monitoring with ultra-sensitive sensors that trigger inspection and maintenance.
- · Digital twin technology and the use of big data analytics for optimised operational performance.
- Inspection with drones.
- Improved worker safety on site.

## **SOVS AND WTW**

- We keep you connected when commuting between shore and windfarms.
- Stay efficient and get work done when onboard.

## **CREW WELFARE**

- Your staff will be able to stay in touch with family and loved ones while at sea.
- 4G LTE is a must for FaceTime, videoconferencing and other mobile services.
- We make your vessel a great place to work.



# Offshore Windfarms

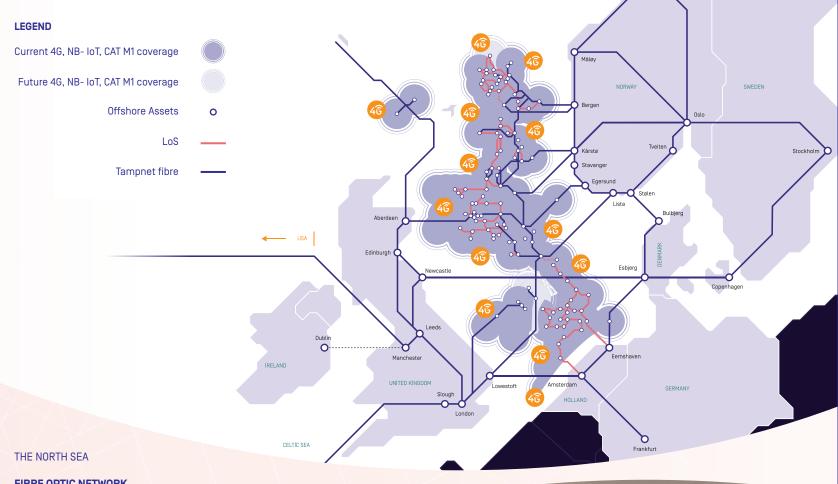
Tampnet connects offshore wind farm assets with subsea fibre optic cables, providing a high-capacity connection. We install and operate base stations on assets such as substations and RCS stations, to provide the entire wind farm area with 4G LTE coverage. This internal coverage provides the site coordination and planning teams with fully digitalised operations in the construction period.

## Hornsea One

Tampnet has installed base stations on reactor station (Z01) securing 4G coverage between shore and the wind farm area. Base stations are also installed on substations (Z11, Z12 & Z13) securing 4G coverage in the wind farm area for all construction vessels and Ørsted's service vessel. Edda Mistral.

## Gemini Offshore Wind Park

Tampnet provides 4G/LTE coverage from two base stations to the Gemini Offshore Wind Park. The wind park, with a total of 150 wind turbines, is located in the Dutch North Sea 85 km off the Dutch coast. Tampnet's solution will not only provide coverage for the Wind Park, but also for the Service Operation Vessel [SOV] and the Crew Transfer Vessels [CTV] working in the wind farm area.



FIBRE OPTIC NETWORK
AND 4G LTE COVERAGE

«Our collaboration with Tampnet creates a win-win situation for both companies: Tampnet expands its 4G/LTE network in the North Sea, whilst we benefit from the high-quality 4G/LTE coverage required to support the operation and maintenance of our offshore wind farm.»

Bart Hoefakker, CEO, GEMINI

## **SERVICES**

## CONNECTED PLATFORM

We connect offshore wind farms and platforms with Point-to-Point fibre, Point-to-Multipoint (offshore LTE) and with Line-Of-Sight radio links. Our high capacity and low latency gets your windfarm online and enables remote control.

#### MARINE COVERAGE

We provide offshore coverage for windfarms, SOVs and construction vessels. Service vessels can make use of our offshore coverage area reaching far out from the installations. High-capacity and low-latency 4G or NB-IoT.

## INDOOR COVERAGE

In most cases our 4G and NB-IoT marine coverage also works inside living quarters, towers and substations. If not we install antennas to provide internal coverage to make sure everybody working indoors is connected.

## **DIGITAL SERVICES**

We enable your connected workers to use their smartphones, tablets and wearables. We enable monitoring with sensors and get your data to the cloud. We offer security services that protect you from digital threats and cyber-attacks.

## **MOBILE DATA & VOICE**

You can roam on our offshore network. Data streaming, text and talk. Work or leisure. Easy to get started with Tampnet eSim.

## **ENGINEERING & CONSTRUCTION**

If you want to connect offshore installations with fibre optic cables we can do the engineering work for you. If you want a complete fibre turn-key project, we can do that for you too.

