

# Tampnet Private 5G Networks

# Offshore Energy: Reliable Connectivity

Through reliable and fast connectivity, operators can leverage the power of the latest IIoT technologies to enable connected workers, digital twins, remote collaboration and improved onsite safety and efficiency. With onsite 5G, strong signal can be achieved throughout the rig or vessel, eliminating black spots often seen with WiFi.



## Primary challenges



IIoT and Digitalisation initiatives are often stunted by connectivity issues caused by complex structure geometries and thick steel walls resulting in WiFi black spots or the need to install expensive cabling.



## Ideal solution

Secure, reliable and fast wireless connectivity solutions, particularly for older facilities predating the IIoT revolution.

Tampnet's Offshore 5G Private Network and Azure cloud connectivity streamlines and enhances offshore operations.



## Desired outcomes

Complete on-site connectivity providing secure access for all modern operational IIoT sensors, crew welfare and safety systems, and environmental monitoring.



# On-Asset Coverage

Internal 4G/5G network provides complete internal coverage for reliable and fast connectivity.

## Applications include:

- Connected worker applications and devices
- Drones, AUVs, inspection crawlers and robots
- IoT devices and sensors
- CCTV and remote monitoring
- Remote operations and collaboration
- Improved emergency response and crew safety
- Mission-critical communications



# Tampnet Private Offshore 5G Networks

Tampnet is renowned for offshore connectivity. The Offshore Private Network extends our capabilities throughout the offshore facilities to provide reliable and secure connectivity



## Onsite 5G Macro Core Network

Penetrate the deepest layers of your offshore rig or vessel with strong and reliable signal.

## Azure Core with Local Break out

With powerful edge-compute capabilities, AI and Autonomous Robots and Drones can capture and analyze data for rapid inferencing and remote decision making.

## Mission Critical PTT & VoLTE ready

The next level of remote offshore operational safety is complete. With LEO & MEO satellite connections and Tampnet's 4G offshore network available, the site is never too far from a network.

# Building Onsite Infrastructure – Future Readiness

- On-asset coverage can be enabled in **stages** as the facility develops and implements new technologies for asset integrity, remote monitoring, inspection and safety applications.
- Mobile facilities [e.g. Rigs, FPSO's] can be set up to enable cloud connectivity for critical communications, while maintaining onsite network for local breakout. Cost & operational efficiency benefits



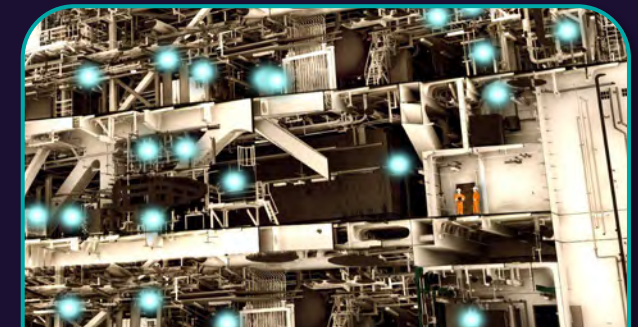
## Phase 1: 5G Ready

- Install 4<sup>th</sup> Sector network
- Integrate Leaky Feeder system
- Reliable onsite connectivity.
- Eliminate WiFi and drop-outs



## Phase 2 – Private Network Lite

- 5G Macro Core and leaky feeder to generate 100% onsite coverage
- Local core & Local breakout.
- Suitable for Sensors, Remote work and Robotics/Drones



## Phase 3 – Offshore Private Network 5G PMEC

- All analytics possible
- Greater autonomy
- Island mode possible for 'transit'
- Local calls and remote worker applications via onsite core
- MCX ready /VoLTE
- Edge Compute enabled with Microsoft Azure

# Implementation success: Offshore Drilling Rig Fleet

Offshore Private 5G network with Microsoft Azure 5G Core has driven efficiency and innovation for our offshore rig operator.

From crew welfare through operations and HSE initiatives, all aspects of offshore work are benefitting from the power of complete connectivity.



>90% onsite coverage achieved

All operational areas connected.

Digitalization enabled for valve monitoring, condition monitoring, CCTV for HSE,

Connected workers with mobile technology.

Wireless HART and 4G connectivity.



20% cost saving on inspections

Inspection Mobile App implemented to enable efficient work execution and paperless reporting

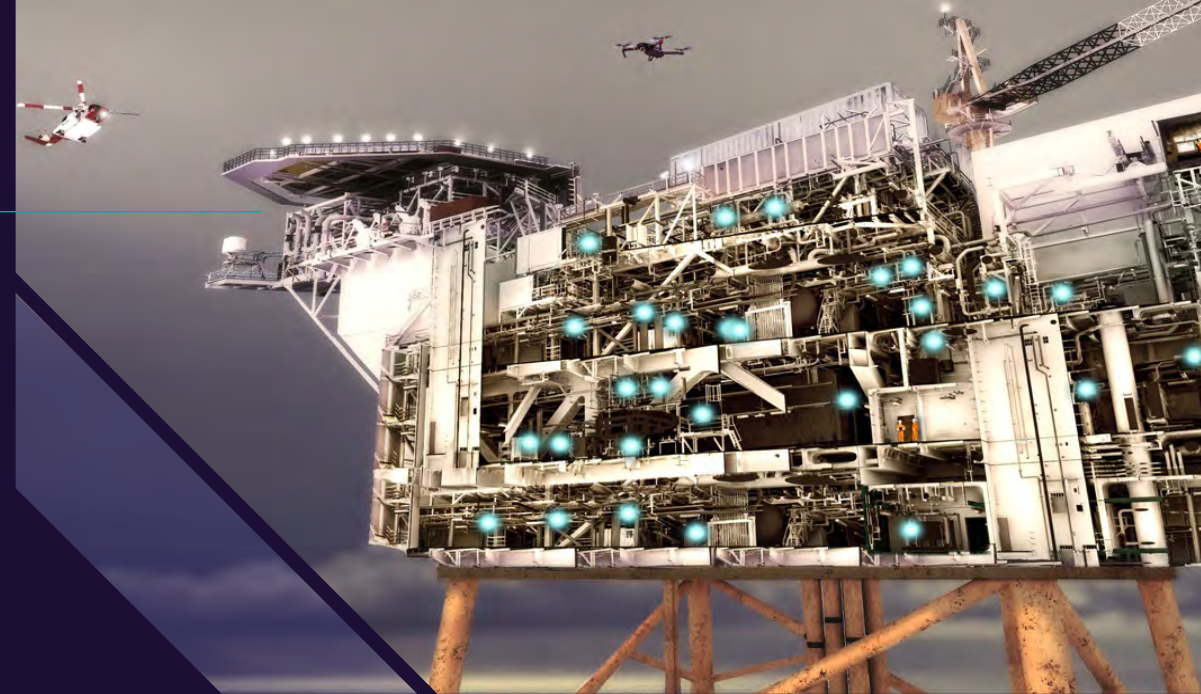


Consolidated IoT data

Interactive Dashboard implemented to support decision making offshore for improved efficiency.

# Tampnet, Private Offshore 5G, and Microsoft Azure

With Tampnet's Private 5G Network and Microsoft Azure core, onsite connectivity is no longer a challenge. Connected workers, real-time operational data, safe and secure networks are accelerating implementation of digital initiatives for improved offshore operations.



## IIoT – Analysis and optimisation

With the latest environmental, production and asset integrity sensors connected, onsite teams can harness the power of the onsite 5G macro core for data processing. Operations are optimised resulting in improved decision making, reporting and operational cost reductions.

## Connected Rig

Onsite 5G installed for full internal coverage.

With LEO satellite and 4G/5G network connectivity, critical data can be accessed, while the onsite Private Network carries out operational data crunching and remote worker functions

## Autonomous Inspections

Multi-sensor robots collect large volumes of data for IT and OT applications – data can be segregated and sent to relevant parties.

Through remote viewing, remote specialists can make immediate recommendations for improved operations



## Contact us to discuss your needs and options

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