

# Embracing the octopus: The future of telecoms for the energy sector

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Neos Networks



# Company overview

## And what do we have to do with Octopuses (or is it Octopodes)?

### Company overview

- Business-to-business telecoms company
- 34,000+km UK wide network
- 20+ years of sector and industry experience
- Reputation built on ambition, simplicity, service, expertise, teamwork and safety

### Company mission

- At Neos Networks we believe in making complex connectivity challenges simple

### And what about the cephalopod reference?

- Octopus are unique in that their nervous system is decentralised. As we move to the smart grid, the model is rapidly evolving from a central brain to decentralised control which needs enhanced capabilities
- Telecoms is the critical central nervous system to the energy sector
- We offer a complete solution that can be relied upon as a long term partner to ensure that we get your mission critical data from the source to wherever is required in your network to drive your business



# The anatomy of an octopus

## And why does this have any relevance to Neos Networks and the Energy Sector?

### Overview of the Octopus' anatomy and nervous system










- Nine brains, one central for co-ordination, each leg is its own working both autonomously and in coordination via the central
- Three hearts to ensure there is always enough energy to drive the system
- Suckers that act as sensors for smell, taste, touch and other senses
- Skin can change colour instantly to adapt to new environments
- Decisions taken centrally and 'at the edge' makes their nervous system unique

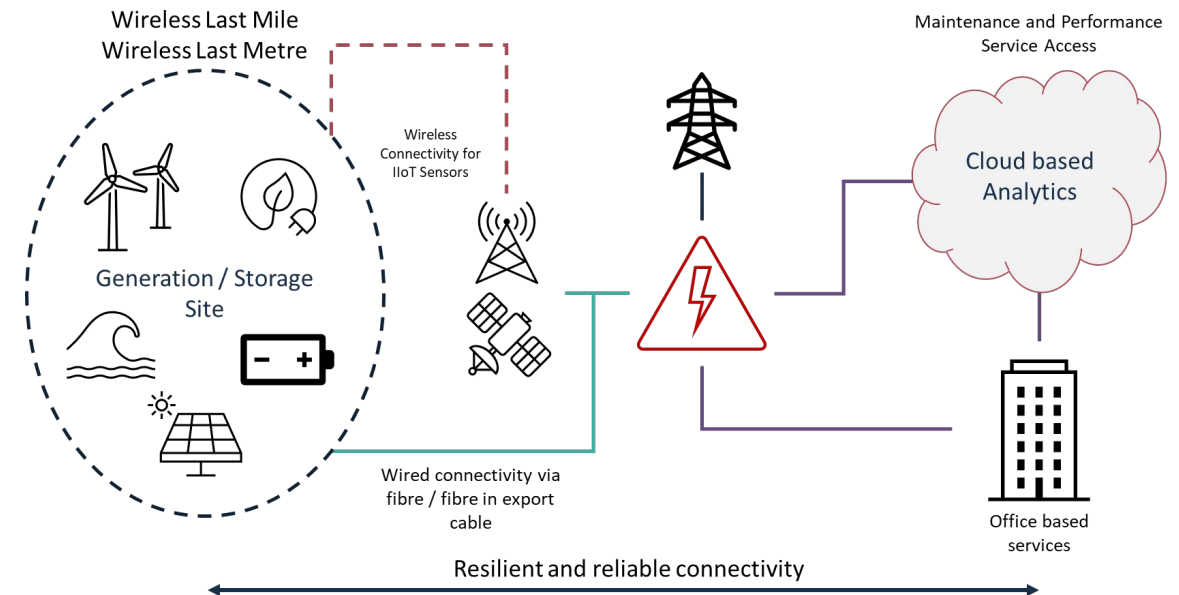
### Connection to Neos Networks' role in the energy sector and capabilities

- Capabilities allow the connection of remote sites and devices to a central cloud or data centre system to manage your estate
- Three UK Based NOCs work to ensure that we have 24/7/365 services running – key to Critical National Infrastructure resilience
- Wireless last mile and IIoT sensor connectivity solutions
- Agile and responsive to new technology to ensure your operation is futureproofed and protected from threats from bad actors or new, disruptive technology

# Tailored solutions for DNOs









## How we support our DNO customers

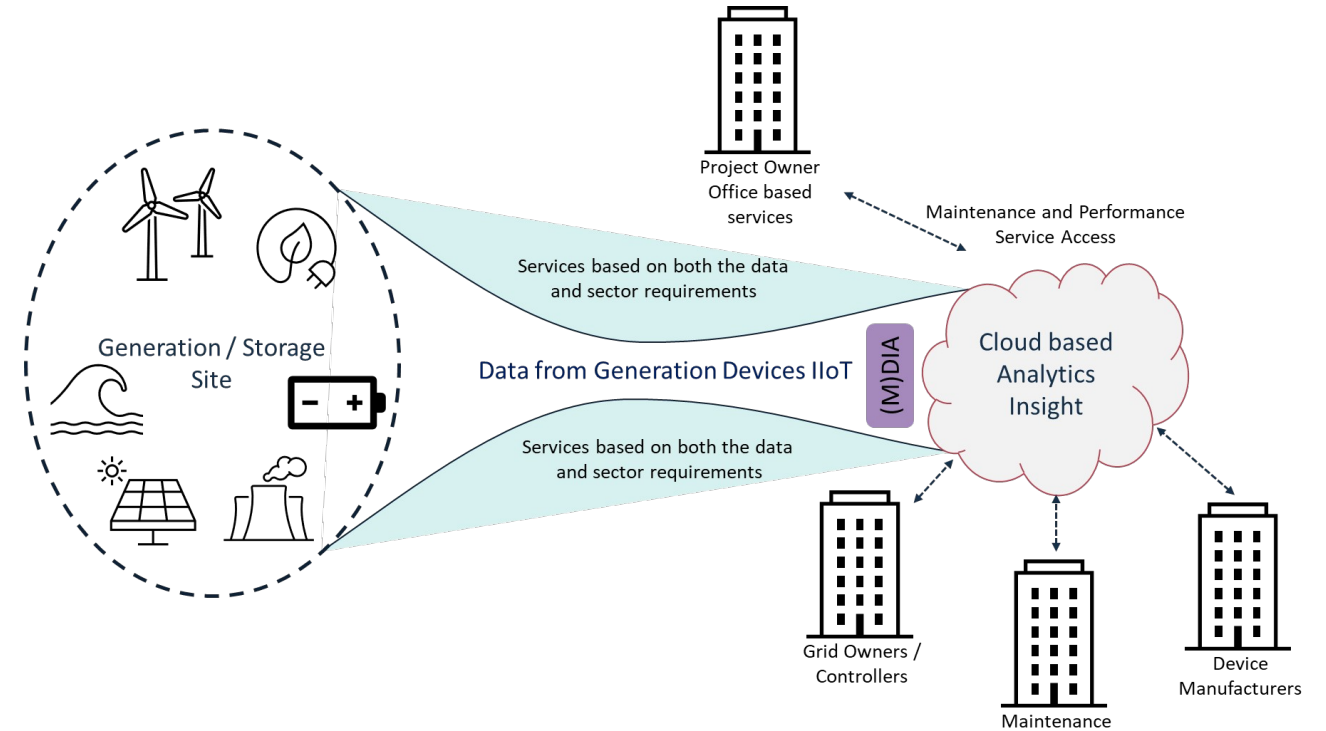
-  24/7/365 NOC services including 1st, 2nd and 3rd line support
-  Operational Technology Network design and build
-  CAT1 tele-protection and control (low latency – high availability services)
-  SCADA asset monitoring (RTU)
-  Voice (VoIP, SIP, ISDN/PSTN, PMR, IVR and video conferencing solutions)
-  Corporate, dedicated internet connectivity, managed WiFi
-  Security (alarms and asset management, CCTV connectivity)
-  Network operation management and support
-  General connectivity (Dark Fibre IRU's or leased fibres, 3rd party last mile integration, layer 2 point-to-point, microwave radio, SDH/PDH, DWDM, satellite)



# Tailored solutions for renewable energy and generation

## How we support the renewables and generation industry

-  24/7/365 NOC services including 1st, 2nd and 3rd line support
-  IoT, IIoT
-  Analytics connectivity including wireless last mile
-  SCADA asset monitoring (RTU)
-  OT data connections to operations centres
-  Corporate data connectivity including Internet and WiFi
-  Voice
-  Wireless connectivity for BIM, remote maintenance activity and predictive maintenance



# Why Neos Networks?

What we do and how we do it...

Critical National Infrastructure

Long Term Partnership and Consultancy

Helpdesk / NOC 24x7x365 UK Based

## Design

- Consult
- HLD
- LLD
- Supplier selection

## Build

- Fibre
- Civils
- Equipment
- Configuration
- Project management
- Supply chain Management

## Service

- 24/7/365 monitoring
- 1<sup>st</sup> Line, 2<sup>nd</sup> line and 3<sup>rd</sup> line expertise
- Reporting & proactive Management

## Product Portfolio / Capabilities

- Office Services
- Network Build
- Mission Critical Connectivity
- Wireless Last Mile
- Cyber Security (Cyber Essentials Plus)

# Our certifications



## Cyber Essentials Plus

Issued by the UK government as a rubber stamp for our investment in cyber security.



## ISO27001

Offering reassurance of a demanding, externally validated information security management standard.



## MEF 3.0

We can offer E-line, E-Access, E-LAN and E-Tree services.



## ISO9001

Quality management systems award ensuring that our products & services consistently meet customer requirements.



## MEF 2.0

Enabling multiple classes of service (Multi-CoS) and manageability over interconnected provider networks.



## Crown Commercial Service supplier

Eligible to provide Public Sector organisations with gigabit-capable connectivity services.



## RoSPA President's Award

Awarded the President's award following 10 years of demonstrating we take a firm view on ensuring safety in the workplace.



## CHAS

Demonstrated compliance with the CHAS standards in line with SSIP core criteria and H&S legislation to the requirements of CDM regulations 2015.



## Information Commissioner's Office

Accreditation for safe and secure use and storage of data.

# DNO case study

## Management of winter storms – Storm Arwen

Brief overview of a success story from a distribution network operator:

- Yellow and red storm warnings in Northern England & Scotland
- Neos Networks invoked storm process, shared pre-storm checklist
- Pre-emptive activities: radio signal level checks, resource allocation
- Central command in NOC for co-ordination and communication
- Storm Arwen: severe winds, millions affected, significant damage
- Neos Networks managed 151 cases for SSE (vs. typical 10 - 15 cases)
- 964 radio sites within storm footprint, minimal downtime
  - 5 sites dark (0.51%)
  - 4 sites dark < 8 hrs (0.41%)
  - 1 site dark > 8 hrs (0.10%)
- Effective response, minimised risk, manageable impact on SSE





# How Neos Networks supports SSE Group



Protects and controls  
30% of UK grid



Manages over 2m  
calls per month



Controls storage of two  
days gas for the UK



Controls water levels  
in 91 dams



Manages the UK's  
largest renewable fleet



Enables £60bn in  
trades per year



Connects its 11,000+  
employees across UK



Is part of the team that  
'keeps the lights on'

# Renewables Case Study

## Seagreen Windfarm

Seagreen: offshore wind farm project in Scotland

- Goal: power one million homes with low carbon, renewable energy
- Neos Networks: communications infrastructure support
- Comprehensive Wide Area Network (WAN) between substation and operations centre
- Real-time data transfer and analytics for efficient energy management
- Collaboration for regulatory compliance and operational efficiency
- Contributes to UK's net zero targets and £1bn economic boost
- 1075MW generation capacity, powering 40% of Scottish homes upon completion (2022/23)



"The UK needs to be generating 40GW of offshore wind power by 2030 to contribute toward net zero targets, so projects with the scale and ambition of Seagreen will be vital components of that low carbon vision."

Mick McCaffery, Seagreen Systems Project Manager



# Conclusion

## What does this all mean?

- The transformation of the “nervous system” of the modern energy eco system is critical to the future of the UK energy industry to move to the ‘smart grid’
- The secure and effective movement of data between this complex ecosystem is often taken for granted with ad-hoc solutions implemented to move ‘mission critical’ data
- Neos Networks are a business-to-business specialist in telecoms for the energy industry
- We offer end to end services covering design – build – run in long term partnerships

Embrace the Octopus and come and talk to Neos Networks about what keeps you awake at night and how we can help

# Contact Information of the Team

Come and talk to us, we can help...

List out key people, roles and contact information

- Andy Ainsley – Head of Energy & Utilities – [andy.ainsley@neosnetworks.com](mailto:andy.ainsley@neosnetworks.com)
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