



Satellite services for the Oil and Gas industry

Satellite communication for both fixed and mobile services, providing extended reach

A large background image showing a turbulent sea with white-capped waves in the foreground. In the distance, an offshore oil rig is visible against a dark, stormy sky. The text "OIL & GAS" is overlaid in large white letters, with a white horizontal line underneath. A white arrow shape points from the left edge of the image towards the text.

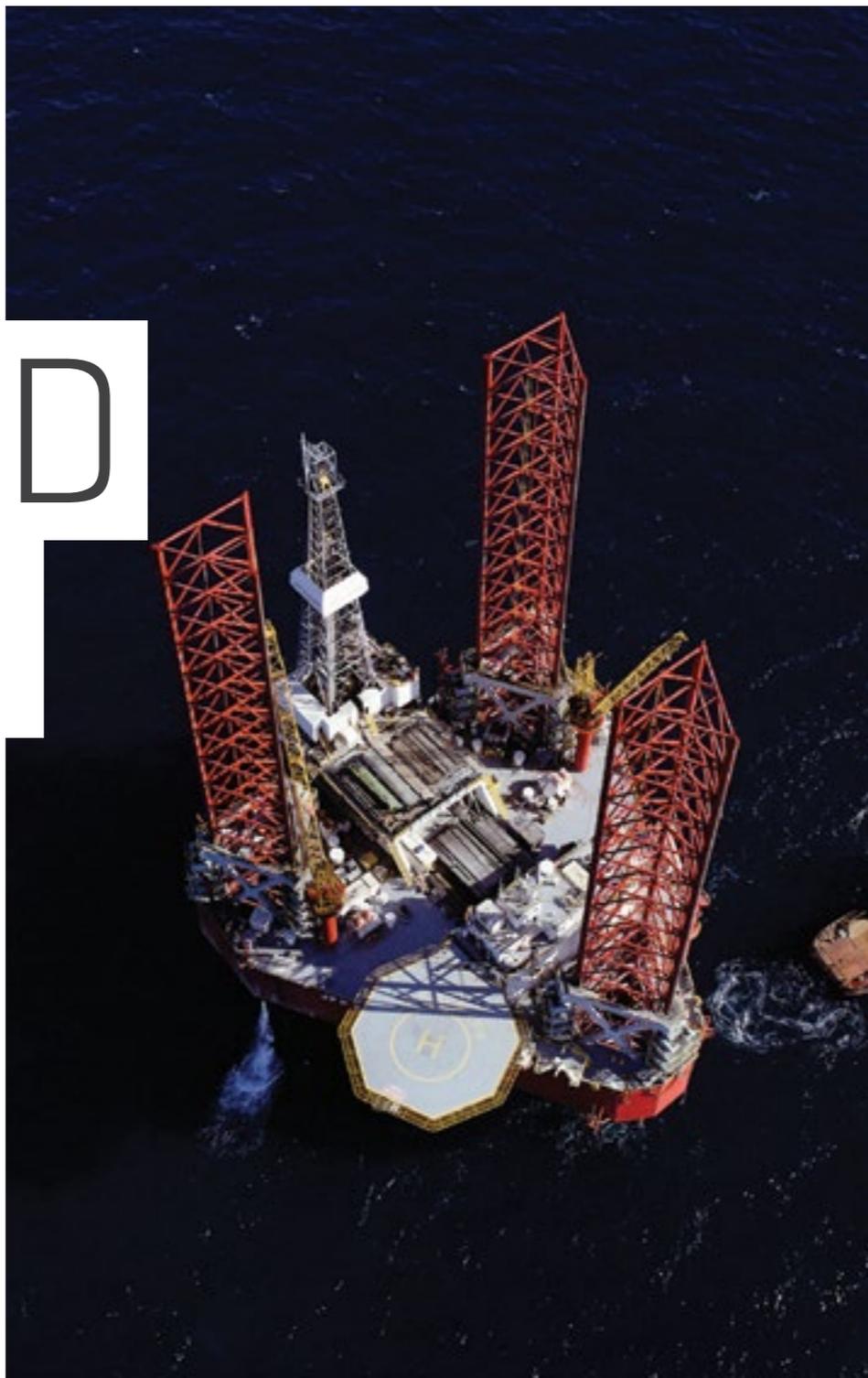
OIL & GAS

STAYING CONNECTED IN REMOTE REGIONS

The demand for energy is driving oil and gas exploration further into inaccessible regions and harsher environments, increasing the need for highly available and robust communications.

Telenor Satellite offers high-powered satellite capacity to facilitate ever-increasing industry demand for bandwidth and reliability.

Businesses involved in exploration and extraction in remote regions are thereby able to keep in contact thanks to uncompromised connections that deliver high-availability bandwidth via satellite. This ensures a robust and reliable service that supports vital communication applications that monitor systems, collate real-time data and provide broadband internet connections, VoIP (voice over IP) and VPN access.



Services tailored to individual requirements

As a wholesale provider of VSAT satellite services, Telenor Satellite works with distributors, resellers and service providers within the energy sector to deliver high-quality, two-way satellite services across our wide coverage area. We have a respected role in catering for the oil and gas industry, offering a suite of services that are tailored to the specific needs of the sector. The prime focus is on providing Ku- and C-band capacity and we are also preparing future Ka-band services.

Telenor's satellite communication services provide 24/7 operational support, satellite capacity, internet-backbone connectivity and teleport facilities to enable the delivery of reliable communications for a range of applications.

High-powered satellite coverage in key regions

Satellite fleet

The European and Middle East beams of Telenor's satellite fleet offer very attractive coverage to facilitate the provision of satellite broadband communication. Both beams deliver strong signals from 1° West, providing satellite coverage in key regions stretching from Greenland to the Persian Gulf.

Telenor Satellite's own high-powered capacity coupled with our additional capacity resources from third party providers enables extensive geographical coverage, allowing us to provide

customised solutions tailored to your requirements and designed to help you succeed in this competitive and demanding market. Telenor Satellite has also established inclined-orbit satellite operations at the 4° West orbital position.

Advanced ground operations for seamless distribution

Service platforms

Telenor Satellite offers a choice of standard options across a host of technology platforms such as SCPC, DVB-S2, MCPC, DVB-RCS and iDirect. Our service models – wholesale, Virtual Network Operator (VNO), and managed – give our customers the flexibility of being in control of their own services.

Teleport infrastructure

Telenor Satellite has one main teleport location in Norway as well as a large teleport in the UK. It also operates a Middle East gateway in Cyprus at the premises of teleport-hosting partner CYTA.

All of Telenor Satellite's teleports offer ideal facilities for hosting satellite-communication solutions. Environmentally controlled housing and resilient power supplies enable continuous operations and ensure the provision of secure, efficient and reliable managed and unmanaged rack space, which is situated close to the antennas used for uplinking and downlinking.

Through remote connectivity to the technology platform, customers are able to monitor service quality and control network configuration. They are also able to co-locate equipment that can be integrated into a variety of value-added services, including VoIP (voice over IP), firewalling and advanced traffic management.

Services summary:

- Satellite capacity provision
- Virtual Network Operator (VNO) services:
- Hardware VNO
- Soft VNO
- Managed services
- Hosting and co-location services
- Tier 1 backbone connectivity
- Uplink and downlink services

Features include:

- Unique and unmatched high-powered satellite coverage
- Excellent elevation angles from its orbital location at 1° West
- State-of-the-art VSAT technology
- The ability to use the same antenna for both VSAT and TV services at 1° West
- 24/7 monitoring and management of teleport and network
- A seamless migration path to Ka-band following the launch of THOR 7

Ka Band

Telenor Satellite continues to seek ways to innovate and expand its satellite-services portfolio and thereby provide its customers with enhanced services, greater reliability and security to enable their future growth at 1° West.

THOR 7, Telenor's latest satellite, is equipped with an HTS Ka-band payload that allows Telenor Satellite to strengthen its satellite services

proposition for the oil and gas industry. THOR 7 provides extensive satellite capacity and greatly increased throughput capability for data-communication services in areas including the North Sea, the Baltic Sea and the Mediterranean. Telenor Satellite continues to offer both Ku- and Ka-band to satisfy the different requirements of individual customers.

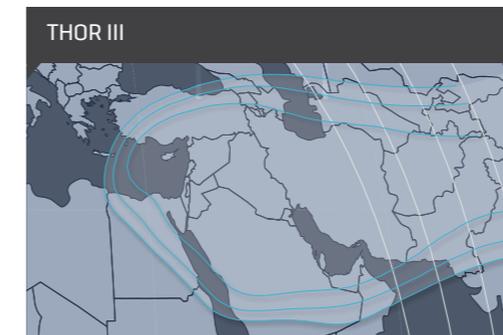
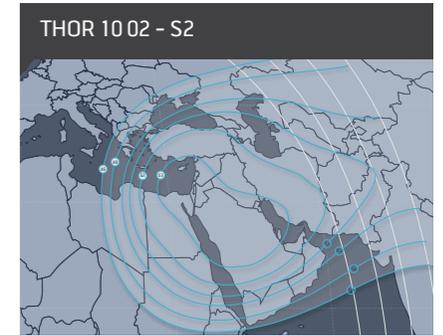
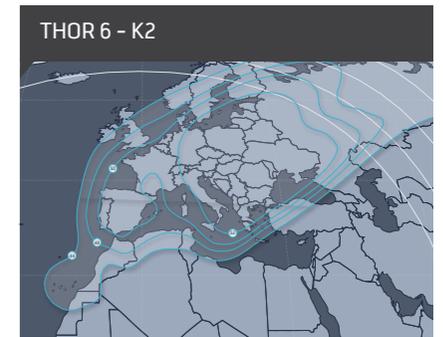
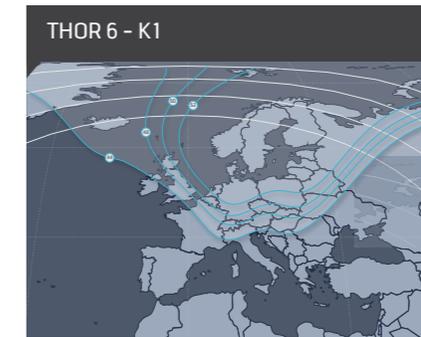
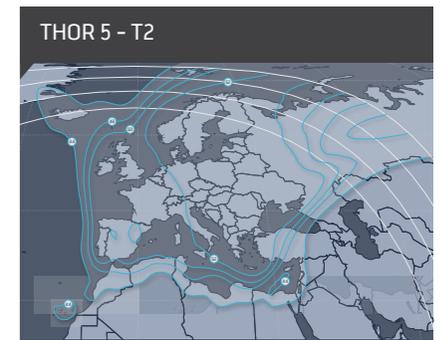


**FUTURE
GROWTH**

Our satellite fleet

Our satellite fleet offers attractive coverage for broadcasting and data services throughout the Nordic region, Europe and the Middle East. Telenor Satellite operates from the orbital locations of 1° West and 4° West.

SATELLITE	ORBITAL POSITION	COVERAGE
THOR 5 T1	1° West	Nordic region
THOR 5 T2	1° West	Pan European
THOR 6 K1	1° West	Nordic region
THOR 6 K2	1° West	Central and Eastern Europe
THOR 7 Ku-band	1° West	Central & Eastern Europe
THOR 7 Ka-band (fixed)	1° West	North Sea, Red Sea, Baltic Sea, Persian Gulf & Mediterranean Sea
THOR 7 Ka-band (Steerable)	1° West	Likely position over the North Sea
THOR 10 02 S1	1° West	Europe
THOR 10 02 S2	1° West	Middle East
THOR III	4° West	Middle East (inclined orbit)



About us

Telenor Satellite is a major European satellite provider of broadcast and broadband services for customers in the media, maritime, and oil and gas sectors.

Utilising a hybrid network that comprises our satellite fleet, teleports and a terrestrial fibre network, Telenor Satellite delivers turnkey broadcasting solutions, end-user connectivity and application services via satellite throughout Europe, the Middle East and Africa.

From the distribution of digital TV and radio content to millions of European homes to the provision of reliable communications in remote locations on land and at sea, we are committed to keeping our customers connected via satellite.

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