## Anker Maritime Managed Services





High-powered VSAT connectivity at sea.

telenor satellite

## About us

Telenor Satellite is the leading European provider of satellite broadcast and data communications services for maritime, offshore, and land-based sectors.

We operate a hybrid network comprising our THOR satellite fleet at 1° West, teleports and a terrestrial fibre network, delivering reliable high-powered satellite communications links to remote locations in the Nordics and across EMEA. We serve more than 2 000 land and maritime terminals, over 1 000 digital TV and radio channels, and nearly 18 million homes.

As part of Telenor Group, one of the longest established and leading telecoms companies in the world, the Telenor Way is at the core of everything we do. We strive to do business with integrity, to achieve sustainability and, first and foremost, to offer the highest levels of quality as we connect you to what matters most.



#### Unique coverage

Our high-powered Ka and Ku-band connectivity from 1° West extends across EMEA and the Nordics, up to 79° North.



#### Trusted partnerships

We care about our industry and take pride in delivering the promised service with precision, integrity and mutual respect.



#### Innovative solutions

We don't accept the status quo but continually challenge ourselves to push boundaries, expand our expertise and create future-proof solutions.



#### "Always-on" service

Our bespoke solutions supported by our agile and responsive team of experts mean you get the service you deserve at the time it is needed.

# Premium connectivity from the prime location of 1° West.



## Anker Managed Services

No longer an extravagance, reliable connectivity at sea is now essential. Onboard critical operations are dependent on "always-on" communications links, while seafarers expect to be as connected as they would be at home.

For the vessel itself, tracking, reporting or monitoring systems all rely on the sharing of data ship-to-shore. Smart ships require intelligent data transfer to maximise profitability and efficiency.

For crew welfare and retention, reliable connectivity is a must, whereas guests on passenger or leisure vessels, expect communications links to be as flawless as the rest of their onboard experience.

Every client's requirement is unique, so our Anker Managed Services are tailored to deliver connectivity solutions perfect for every client. And, by partnering with over 100 valued resellers operating throughout the global maritime industry, we can serve any vessel - from the smallest fishing boat to the largest passenger ship.

Our versatile and readily accessible Anker Managed Services portfolio offers unique service levels capable of meeting the requirements of all types of vessels.

We can accommodate seasonal flexibility and meet short term service demands every time. Anker is available in three service packages: Speed, Quota and Custom.



#### Speed

Speed service profiles are ideal for users requiring a highquality connection and fixed monthly costs. Service profiles can be selected from a pre-defined list.

- Up to 30/10 Mbps profiles
- · Guaranteed CIR with burstable MIR
- Fixed monthly rates



#### **Ouota**

Quota service profiles are best suited for low-volume or sporadic users with changeable bandwidth requirements, at predictable monthly costs.

- Volume plans 5–200GB
- · Top-up packages available
- · Notifications for reached 50% and 90% of guota limit

Tailored connectivity for any client, and every vessel.





#### Custom

Custom service profiles are perfect for users looking for full flexibility and service packages tailored to their individual requirements with custom rate-based service profiles.

- Symmetric/asymmetric profiles
- Wide selection of contention rates
- · Fixed monthly rates

Versatility for any requirement.

## An ocean of possibilities

Our Anker Maritime Managed Services portfolio delivers versatile connectivity solutions for all maritime segments. We can accommodate seasonal flexibility and meet short-term service demand, offering standard pre-packaged service profiles, as well as tailored solutions to meet specific customer needs and operational requirements of any vessel.

#### Anker Ka-band

- Coverage: pan-European, up to 79° North
- High Throughput Satellite (HTS)
  - · High-powered spot-beam technology
  - Seamless handover for continuous connectivity
  - Sophisticated rain fade mitigation techniques
- VSAT platforms:
- iDirect Velocity®
- Newtec Dialog®
- · Service profiles:
- From 512/128 kbps to 150/50 Mbps
- Fixed monthly rates with unlimited data
- Affordable, flexible pre-paid data packages
- Symmetric / asymmetric profiles

- Flexible service terms:
  - Increased profiles during peak periods
  - · Short-term tailored contracts
  - Lay-up periods
- Tailored IP configurations
- XipLink™ WAN optimisation
- Supported antennas range from 55cm to 1,5m
- Dual antenna solution
- Antenna financing solutions
- · One-touch commissioning
- 24/7/365 technical support

#### Anker Ku-band

- Coverage: pan-European, up to 79° North
- Extended coverage: North Atlantic and West Africa
- VSAT platforms:
  - iDirect Evolution®
  - Newtec Dialog®
- Service profiles:
  - From 512/128 kbps to 100/20 Mbps
  - Fixed monthly rates with unlimited data
- Tailored SCPC and "Carrier in Carrier" solutions

- Flexible service terms:
  - Increased profiles during peak periods
  - Short-term tailored contracts
  - Lay-up periods
- Tailored IP configurations
- XipLink™ WAN optimisation
- · Secondary beam for extended coverage or mast blockage
- Supported antennas range from 60cm to 2,4m
- Dual antenna solution
- 24/7/365 technical support

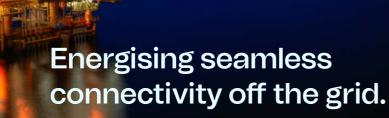


## Offshore

#### Powering communications across continents

The demand for energy is driving the offshore oil & gas and renewables sectors further afield. When conditions are hazardous, faultless connectivity is vital for both crew safety and the continuous running of efficient operations.

With the requirements on offshore operators to comply with strict regulations, intelligent and uncompromised communications are fundamental. Whether you are stationed in the North Sea or off the coast of West Africa, we provide high-powered services to maximise operational availability.





#### Sourcing intelligent data transmission

You can trust our high-powered satellites to provide the speed, throughput capacity and reliability essential for your critical missions. We supply the secure and intelligent data transfer solutions required for diagnostics and automated processes. Our robust connectivity guarantees that monitoring and maintenance of all critical systems can be performed remotely to minimise downtime.

#### Fueling capacity to boost performance

Offshore vessel operators must be certain that their crew are safe and comfortable while under contract. Our "always-on" connectivity ensures that emergency services are constantly accessible, as are close links with business colleagues and family. The Anker portfolio can be customised to accommodate payload requirements of both the heavy data applications of the workplace and the leisure usage of crew. Whether streaming, browsing the web or making video calls, we connect you with life on shore.

## Merchant

#### Propelling onboard digitalisation

As the maritime industry embraces digitalisation, connectivity has become ever more vital to the efficiency of shipping operations. IoT is prevalent throughout the vessel, from the bridge to the cargo hold, providing critical information from navigation systems through to hazardous goods monitoring.

This increase in the use of communications technology has proven to be a key driver towards monetising every possible aspect of a vessel's operations. Our connectivity solutions are geared to the specific needs of fleet management and those of the commercial shipping sector as a whole.





#### The direct route to faster connectivity

To ensure safety and strict adherence to regulations, smart and dependable ship-to-shore communications are crucial. Our "always-on" connectivity provides the large data payloads and high-speed links necessary for accurate tracking and instantaneous reporting, no matter what the conditions. We ensure robust and unobtrusive service for constant access to all critical systems so that monitoring and evaluation can be performed in compliance with the latest legislation.

#### Bridging the distance

Crew wellbeing is paramount for attracting and retaining a skilled workforce. Staying connected to life onshore is vital for onboard welfare and productivity, and this is one of the main focuses for today's vessel operators. The speed and bandwidth we can provide will offer your team the same high-quality connectivity at sea, as they receive at home. TV streaming, video calls and internet browsing are all available to help your seafarers unwind – you can choose the package that best serves the needs of both crew and your fleet's operational requirements.

## Fishing

#### Straightforward connection to the heart of the ocean

With exceptional coverage in the seas of the Northern Atlantic, Nordic region and the Mediterranean, we have been providing connections to the fishing industry for over 25 years, no matter the conditions. The fishing sector is especially demanding of a ship and crew's, performance: the destination is the heart of the ocean, where the weather is harsh, and the seas are rough.

While safety is paramount, staying connected to life onshore is vital for the wellbeing and comfort of the crew. Our powerful and constant connectivity ensures that emergency assistance is always within reach, while unlimited streaming, video calls and email are available for crew to enjoy on-demand.





#### Catch the right communications links

With the stipulation on commercial fishing operators to adhere to strict regulations and mandatory reporting, intelligent and reliable communications are vital. We can provide the higher speeds and seamless connectivity required for accurate, remote diagnostics and IoT support, instantaneous monitoring, tracking and reporting, even on compact antennas. Our Anker portfolio may be tailored to specific needs of any vessel, from a small fishing boat to the largest factory-processing ship.

#### Reel in exceptional connectivity

Our uninterrupted connectivity keeps vessels connected day and night, giving owners and operators onshore situational awareness and delivering real-time access to the latest weather reports and fish migration data that will help in the planning of safe and time-efficient routes. Faster connection speeds enable catch reports to be processed immediately, allowing you to move straight on to your next fishing ground.

## Passenger

#### Connecting worlds of adventure

From the moment guests step onboard, they are looking for the highest levels of service, from catering to entertainment. Whether commuting for work, cruising around the Mediterranean or enjoying a weekend break in the Nordics, staying connected, and sharing unique experiences in real time, with family and friends back home is essential for passengers, so "always-on" connectivity is a must.

With the largest cruise ships and ferries carrying thousands of guests, supported by numerous crew, these vessels have multiple operational requirements that call for large bandwidths and super high-speed connectivity.





#### A secure bridge from sea to shore

We understand that crew and passenger safety is paramount, so internal communications systems and ship-to-shore connectivity must be consistent and dependable. Our satellite fleet provides exceptional coverage, bandwidth, and faster connectivity throughout the voyage, ensuring that crew have constant access to critical systems, and emergency services are always within reach.

#### Faultless connectivity for a flawless experience

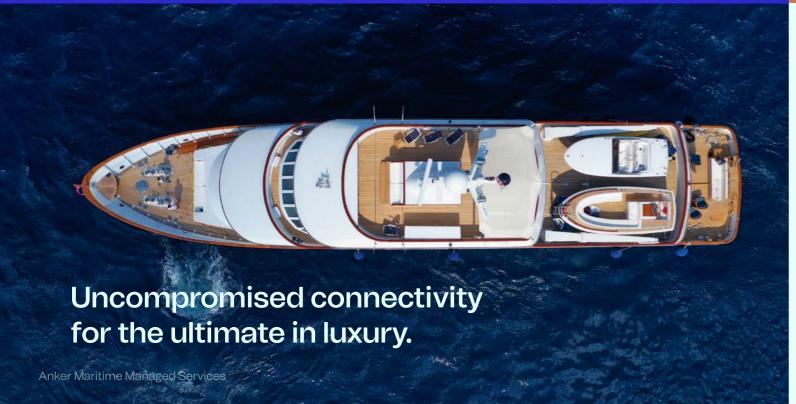
The complexity and sheer size of modern cruise liners and ferries necessitate continual monitoring of all electronic systems onboard and communications systems, linked back to shore. We offer different Anker packages, backed up by 24/7 customer support, to meet the data requirements of even the biggest vessels, with the flexibility to upgrade as needed. Our exceptional connectivity supports the operational needs of the crew while taking the guest experience to the next level.

## Yachting

#### Opening up connectivity horizons

Whether cruising around the Mediterranean or discovering the wilderness of the Nordic coastline, you still need to be linked to your professional connections and home life. Our services ensure that video calls and meetings, on-demand TV and streaming, are all available at the click of a button.

As you explore the oceans, we make certain both your business and leisure activities continue uninterrupted with our super high-speed and large bandwidths, delivering flawless connectivity for numerous guests and crew onboard.





#### Anchoring sea to shore

Unobtrusive, seamless connectivity and streaming of both business and entertainment services from around the globe are all de rigueur, but safety is essential. Our satellites offer an excellent look-angle and provide exceptional coverage and bandwidth, ensuring that crew have constant access to critical systems, and emergency services are always within reach.

#### Mooring up to the right communications package

Our Anker portfolio provides an agile service that can be tailored to the needs of individual clients, taking into account periods of reduced demand, such as when the owner is not on board, and times of greater usage. These bespoke packages can be designed to offer flexible data profiles with upgrades/downgrades available on demand. For those whose voyage is taking them further afield, we can offer comprehensive solutions to deliver extended coverage across the Atlantic and West Africa.

## Teleport services

Our main teleport located on the outskirts of Oslo in Nittedal, was established in 1985. It is one of Europe's largest, and the world's most northerly earth stations.

There are 55 Systems & Operations Engineers employed in our NOC (Network Operations Centre), ensuring that we can offer round the clock customer support. As a member of WTA (the World Teleport Association), our Nittedal teleport meets international security and safety standards.

In addition to our Nittedal teleport, we operate a Middle East gateway from the Makarios Teleport in Cyprus. Through these teleports we deliver managed data communications services for broadcasting, maritime mobility and the land-based sectors, as well as VNO (Virtual Network Operations) services for clients wishing to expand their network and increase capacity.

## Support from the ground

- Viewable Satellite Arc: from 45° West to 66° East (access to one third of the world's communication satellites)
- · Satellite connectivity to major orbital positions:
  - Our THOR satellite fleet at 1° West
- Over 40 antennas with C, Ku and Ka-band capabilities
- Europe-wide 10Gb fibre ring providing access and connectivity to all strategic POPs

#### 24/7/365 Customer support

- Network Operations Centre (NOC)
- Service monitoring and control
- Incident, request & change management (according to ITIL best practices)
- Engineering support, fault-finding, and service restoration
- Remote hands support



#### **Teleport services**

- Uplinks and Downlinks
- iDirect® shared access services:
- Ka-band Anker Managed Services on iDirect Velocity®
- Ku-band Anker Managed Services and VNO on iDirect Evolution<sup>®</sup>
- Newtec Dialog® shared access services:
  - Ka-band Anker Managed Services
  - Ku-band Anker Managed Services
- SCPC including Carrier in Carrier services
- Dual and Diverse fibre interconnectivity (Tier 1)
- Hosting and co-location:
  - Antenna, rack and baseband hosting
  - Leased lines

## Coverage maps

At 1° West, we are favourably positioned to offer a unique northerly coverage. Our THOR fleet provides Anker Maritime Managed services on Ka and Ku-band payload with an excellent look-angle across all pan-European maritime shipping routes, with an extended reach over the Atlantic and West Africa.

THOR 7 Ka iDirect Velocity®



THOR 10-02 S1 Ka iDirect Evolution®



THOR 5 T1 / THOR 10-02 S1 Ku Newtec Dialog®



THOR 7 (Nordic) Ka Newtec Dialog®



THOR 10-02 S2 Ku iDirect Evolution®



THOR 5 T1 / THOR 10-02 S1 Ku iDirect Evolution®



THOR 7 (Mediterranean) Ka Newtec Dialog®



THOR 10-02 S1 & S2 Ku Newtec Dialog®



THOR 5 T2 / THOR 10-02 S1 Ku iDirect Evolution®



THOR 6 K1 / THOR 10-02 S1 Ku iDirect Evolution®



T11N (Europe) Ku iDirect Evolution®



SES-6 Ka iDirect Evolution®



THOR 6 K2 / THOR 10-02 S1 Ku iDirect Evolution® (Europe)



T11N (Africa) Ku iDirect Evolution®



E36B Ku iDirect Evolution®



Combined Coverage Ka and Ku \*



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<sup>\*</sup> Ku coverage is illustrated in blue. Ka coverage is illustrated in green.

## Anker Managed Service Profiles

#### **Speed Profiles**

MIR Bandwidth	CIR Bandwidth	Contention Rate	Ku iDirect Evolution®	Ka iDirect Velocity®	Ku/Ka Newtec Dialog®
	102.4 / 25.6	1:10			
1024/256	204.8 / 51.2	1:5	•	•	
	512 / 128	1:2			
	1024 / 256	1:1			
	153.6 / 38.4	1:10			
1536/384	307.2 / 76.8	1:5	•	•	
	768 / 192	1:2			
	1.536 / 384 204.8 / 51.2	1:1 1:10			
2048/512	409.6 / 102.4	1:5	•	•	•
	1024 / 256	1:2			
	2048 / 512	1:1			
	307.2 / 76.8	1:10			
3072/640	614.4 / 153.6	1:5	•	•	
	1536 / 384	1:2			
	3072 / 768	1:1			
	51.2 / 51.2	1:10			
512/512	102.4 / 102.4	1:5	•	•	
	256 / 256	1:2			
	512 / 512	1:1			
	100 / 100	1:10			
1/1	200 / 200	1:5	•	•	
	500 / 500	1:2			
	1000 / 1000	1:1			
	200 / 200	1:10			
2/2	400 / 400	1:5	•	•	
	1000 / 1000	1:2			
	2000 / 2000	1:1			
	400 / 100	1:10			
4/1	800 / 200	1:5	•	•	•
	2000 / 500	1:2			
	4000 / 1000	1:1			
	600 / 200	1:10			
6/2	1200 / 400	1:5	•	•	•
O/ Z	3000 / 1000	1:2			
	6000 / 2000	1:1			
8/2	800 / 200	1:10			
	1600 / 400	1:5	•	•	•
	4000 / 1000	1:2			
	8000 / 2000	1:1			
30/10	7500 / 2500	1:4			
	15000 / 5000	1:2			•
	30000 / 10000	1:1			

#### **Selected Custom Profiles**

MIR Bandwidth	CIR Bandwidth	Contention Rate	Ku iDirect Evolution®	Ka iDirect Velocity®	Ku/Ka Newtec Dialog®
	1200 / 200	1:10			
12/2*	2400 / 400	1:5			
	6000 / 1000	1:2	•	•	•
	12000 / 2000	1:1			
	1600 / 200	1:10			
16/2*	3200 / 400	1:5			•
10/2	8000 / 1000	1:2	•	•	•
	16000 / 2000	1:1			
	2000 / 200	1:10			
20/2*	4000 / 400	1:5	•	•	
20/2"	10000 / 1000	1:2	•	•	•
	20000 / 2000	1:1			
	1200 / 300	1:10			
12/3*	2400 / 600	1:5			
12/3"	6000 / 1500	1:2		•	•
	12000 / 3000	1:1			
	1600 / 300	1:10			
16/3*	3200 / 600	1:5			
10/3"	8000 / 1500	1:2		•	•
	16000 / 3000	1:1			
	2000/300	1:10			
20/3*	4000 / 600	1:5			
20/3"	10000 / 1500	1:2		•	•
	20000/3000	1:1			
	2000 / 500	1:10			
20/5*	4000 / 1000	1:5			
20/5"	10000 / 2500	1:2		•	•
	20000 / 5000	1:1			
	2400 / 600	1:10			
24/6*	4800 / 1200	1:5		•	•
	12000 / 3000	1:2			
35/6*	3500 / 600	1:4			
	7000 / 1200	1:2		•	•
	17500 / 3000	1:1			
	10000 / 2500	1:4			
40/10	20000 / 5000	1:2			•
	40000 / 10000	1:1			

\*WAN optimisation/UDP tunnel (-1500b) is required on iDirect Velocity® or iDirect Evolution® applications. Telenor Satellite can provide WAN optimisation with its Managed XipLink™ solution.

Profiles continued overleaf.

MIR Bandwidth	CIR Bandwidth	Contention Rate	Ku iDirect Evolution®	Ka iDirect Velocity®	Ku/Ka Newtec Dialog®
	12500 / 2500	1:10			
50/10	25000 / 5000	1:5			•
	50000 / 10000	1:1			
	18750 / 2500	1:10			
75/10	37500 / 5000	1:5			•
	75000 / 10000	1:1			
40/20	20 / 10	1:2			•
40/20	40 / 20	1:1			•
50/20	25 / 10	1:2			_
50/20	50 / 20	1:1			•
75/25	37.5 / 12.5	1:2			•
15/25	75 / 25	1:1			•
100/25	50 / 12.5	1:2			•
	100 / 25	1:1			•
125/25	62.5 / 12.5	1:2			•
120/20	125 / 25	1:1			•

\*WAN Optimisation/UDP tunnel (-1500b) is required on iDirect Velocity® or iDirect Evolution® applications. Telenor Satellite can provide WAN Optimisation with its Managed XipLink™ solution.

#### Quota Ka

Quota Profile	Quota (GB)	CIR Bandwidth (kbps)	MIR Bandwidth (kbps)
Small	5	51.2 / 12.8	4000 / 1000
Medium	10	51.2 / 12.8	8000 / 2000
Large	25	51.2 / 12.8	12000 / 3000

Top ups	Quota (GB)
5	5
10	10
25	25
50	50
100	100
200	200

#### Additional Services with Anker

In addition to standard and custom profiles available within our Anker Managed Services portfolio, we offer a range of Additional Services that are designed to support specific needs of our customers.

Service	Description
Antenna testing	Used for antenna vendors needing test support
Technical Support / Advanced Configuration	Custom QoS setup or remote support
Terminal lock	Remote lock preventing Satellite Router from being used by other providers
Public Static 1:1 NAT for Default IP setup	Single host Public IP NAT for remote access
UK IP	Provision of UK IP address
Public /30	2 Public host IP's
Public /29	6 Public host IP's

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### Managed XipLink™

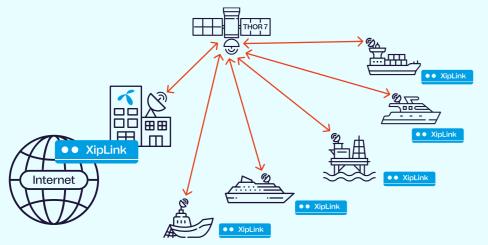
As part of our Additional Services, we offer market leading XipLink™ end-to-end WAN optimiser solution. This service is available via THOR 7 Ka-band on the iDirect Velocity® platform and can be made available on Ku-band on request for services uplinked from Nittedal teleport.

Managed XipLink<sup>™</sup> solution is ideal for clients who require higher bandwidths and "always-on" connectivity even with a high number of simultaneous users and concurrent TCP sessions.

## Greater performance for exceptional Quality of Service

- TCP acceleration (# of sessions)
- QoS shaping
- Data compression and caching
- Link balancing and bonding
- Increased throughput
- Maximum wireless performance
- Improved QoE for end users

Remote Device	Max Aggregate MIR (Mbps)
XA6k	20
XA6k	30
XA10k	40
XA10k	50



## Antenna subsidy & financing

We work with the leading maritime VSAT antenna suppliers across the entire maritime fleet. Whether you are looking to lease or purchase an antenna, we can offer you an attractive financing solution\*.

\*This offer is available with Anker Managed Services on Ka-band only.



Optimise your cash flow and the total cost of ownership.



Select an installment period



The goods are sent



The first payment is made one month after antenna is shipped

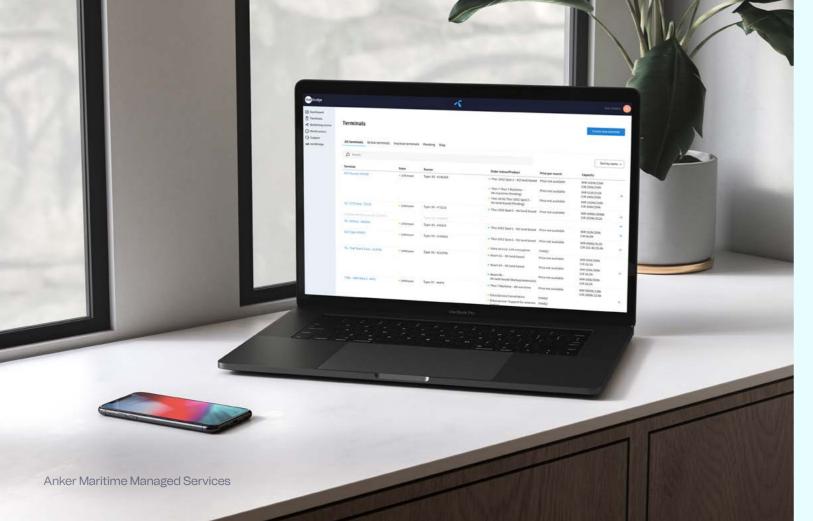


You install and maintain the antenna (if necessary, get training from manufacturer)

Anker Maritime Managed Services

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# Your dedicated self-service portal





#### The Bridge

The Bridge is our self-service portal, designed to give you the freedom to manage your services with ease.

The Bridge is an interactive and intuitive tool, configured to improve overall quality and accuracy of information about your terminals, allowing you to:

- Order new or change existing services
- Calculate price of service before you order with Anker Price Calculator
- View live operational statistics and parameters related to your services
- Access contractual and support documents
- View and download latest offers, "how-to" guides, and marketing assets
- Log support queries
- ...and much more.

#### The miniBridge

The miniBridge is designed to provide our partners simple end-user / fleet activation and management, and to offer additional benefits to ship operators, fleet managers and vessel officers.

The miniBridge users can retrieve and monitor vessel data for specific fleets, accessing live data for active terminals whenever they need it, whether it's the fleet tracking map or information about the on-board data usage.

Take control of your service portfolio.

# Our network of partners

We partner with over 100 resellers in the satellite connectivity sector, offering excellent coverage, support and customer service that is sure to please your clients. Working together, we serve the global maritime and land-based industries, while achieving mutual growth.

We are recognised for our expertise and quality of service, incorporating all the attributes embraced by all in the Telenor family. We welcome partnerships with companies who share our ethos and values.

Our reseller network is located throughout EMEA.

If you'd like to partner with us or find a Telenor Satellite reseller near you, don't hesitate to contact our Data Services team at dataservices@telenor.com

Learn more about Telenor Satellite at telenorsat.com





Connecting you to what matters most.

telenor satellite