



Teleport Overview



Satellite Mediaport Services Ltd.

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Our Teleport

Our showcase facility is strategically located just outside the town of Rugby, in the beautiful British countryside. Our site is stationed carefully to provide a clear, extensive, uninterrupted line of sight to over 120 different satellites from 65° East to 65° West. The Teleport hosts more than 60 antennas, with antenna sizes ranging from 1.2 metres to 13.5 metres, fully licenced and operating in C-Band, Ku-Band, K-Band and Ka-Band.

Our fully manned and highly skilled Network Operation Centre located on site, monitors and maintains the Teleport 24 hours a day, 7 days a week and 365 days a year, using state of the art equipment and monitoring solutions including but not limited to Dataminer, PRTG and more.

Over the past decade, we have continually expanded our site, beginning with only 5 antennas, to our current offering of more than 60 antennas on site. In more recent years, we have expanded even further, obtaining an additional 2 acres of land, further increasing our look angles and service availability to new target regions, such as South America and Southeast Asia.



SMS offers exclusive redundant network connectivity of more than 10 Gbps to multiple Points of Presence in the city of London, such as Telehouse North, Harbour Exchange and more across the globe. SMS operates a low latency redundant fibre optic network, allowing our Teleport facility to offer the optimal infrastructure for providing essential and reliable Satellite Communications.

Reliable power is a key priority; with an on site substation from the National Grid and redundant backup Generators and UPS systems, we are able to ensure reliable, stable and continuous power to your equipment.

Access to our secure site is by appointment only, with gated entry and high perimeter fencing monitored by CCTV. Full access control is located on site allowing us to tailor visitor access levels according to exact requirements.

We pride ourselves on the extensive skillset we offer and the wealth of our team's experience in the Satellite Communications industry. SMS Teleport can provide you with expert advice and design solutions to satisfy your communication needs - however complex those may be.

Satellite Mediaport Services Ltd.

Lawford Heath Lane

Rugby

Warwickshire

CV23 9EU

United Kingdom





Our Services

SMS Teleport is amply equipped to provide a full range of ground station services for satellite operators, service providers and other communications service re-sellers. We also offer end-to-end Satellite Uplink, Downlink and Turnaround services for high-end broadcast and data clients across the world.

Using the advantages of the strategic location, our Teleport; combined with the resilient backbone connectivity to London, provides the optimal foundation for satellite communication services to the continent and beyond, including satellite services throughout the Atlantic, European, African and Eastern regions.

Uplink

With a vast array of transmit capable antennas, SMS has the ability to Uplink a variety of service types. Our Teleport is best suited for Uplinking broadcast carriers or IP trunking carriers.

The combination of our teleport's advantages, along with the resilient backbone connectivity it offers allows our clients to rest assured that their content contribution and/or distribution uplink is safe and secure as well as resilient.

Downlink

SMS can downlink services from any satellite within its arc. Downlink services may include services twinned with uplink or dedicated downlink services. Dedicated downlink services may involve broadcast content downlink as well as content analysis. SMS also offers downlink monitoring services, for both broadcast monitoring and any other project monitoring.

Content may be downlinked into your platform hosted at the Teleport and from there, sent/distributed to your respective operations and service centres. Alternatively, you may send it straight into the cloud from the Teleport.



Turnaround

SMS Teleport is equipped to provide quick and reliable Turnaround services. With access to almost all satellites within the 65°E to 65°W arc, SMS can downlink content from any of these satellites and have it repackaged as part of one of your Uplink services on any satellite.

Broadcasting and Distribution

Working with world-class equipment, SMS Teleport delivers professional broadcast services of the highest possible quality, enabling cost-effective video content broadcasting and distribution solutions at unbeatable prices. Our broadcast capabilities include:

- Uplink, Downlink & Turnaround
- Video and Audio Monitoring
- Occasional Use Services
- Fast Deployment
- Scrambling / Descrambling
- DVB Simulcrypt Compliant
- Any Input to Any Output
- EIT / EPG Insertion
- Multiplexing Architecture

We work with industry leaders such as: AppearTV, Ericsson, Cisco and others, utilising the latest technologies and techniques, in order to provide reliable and efficient broadcast solutions for our partners and clients.



Additional Services

Equipment Colocation and Hosting

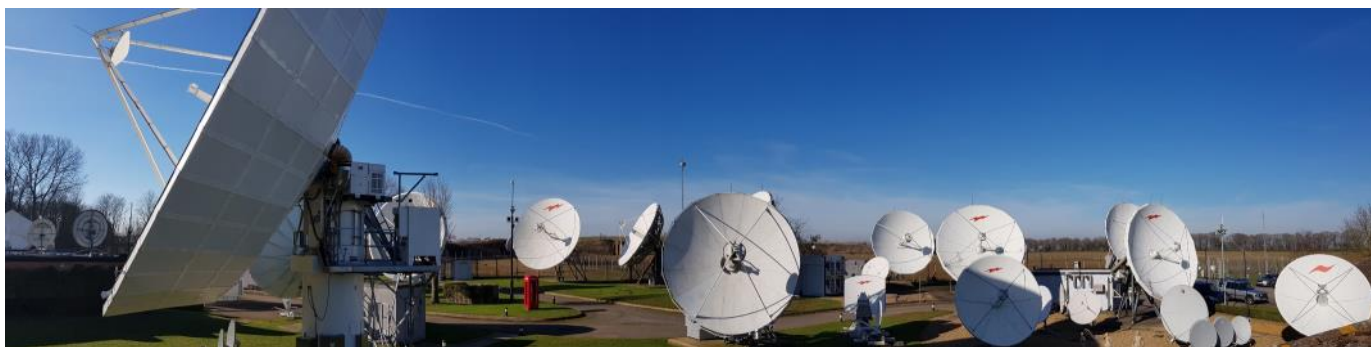
Our secure teleport facility provides a variety of colocation locations, supporting datacentre racks ranging from 42 up to 47 Rack Units. All of our hosting locations include Redundant Protected Power for each rack. Our hosting areas are monitored around the clock, 365 days a year by our experienced team. Power and Environment are also fully monitored; including the teleport generator systems, UPS systems, main grid power, temperature, humidity and smoke detection.

Clients may also choose to host their own racks at the Teleport and SMS can install, commission, deploy and/or test any installation on a client's behalf.

Antenna Colocation and Hosting

The Teleport also offers additional benefits for hosting a clients own antenna. Although SMS offers a wide variety of services which can be delivered using SMS own antennas, clients may also opt to host their own antenna dedicated to service their particular business needs.

- 24/7/365 Smart/Remote Hands
- Backup Generator Power
- Installation Services
- 24/7/365 Protected Power
- Fast Deployment
- Maintenance Services



Networking and Connectivity

We take pride in our resilient, fully redundant and high up-time core infrastructure. With the support of top-end routing engines, we offer exceptional performance and superb service quality as well as:

- Full Redundancy
- Low Latency (< 2ms)
- Transparent L2 Transit Services
- Guaranteed Throughput
- IPv4 & IPv6 Peering
- Datacentres in London

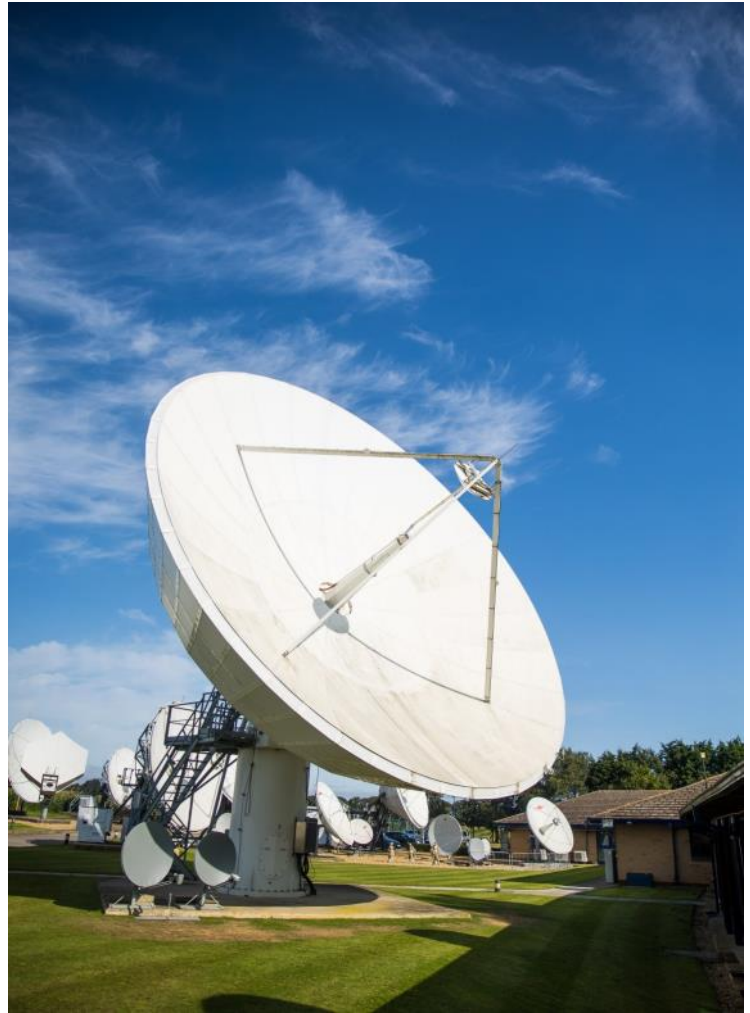
Disaster Recovery

In the modern era of communications, reliability is key, however there are limits to what you can achieve from only one location. If that facility or location suddenly becomes inoperable and if that happens, what can you do to immediately continue your service operations without experiencing either downtime or extensive interruption?

Here at SMS we have been offering Disaster Recovery solutions for our partners and clients for many years. Whether it is data or broadcasting, having the ultimate arrangement for resilience can prove invaluable. We can offer our partners and clients a Disaster Recovery and Redundancy service option as per any specific requirements.

Consultation

For operations and project requirements that are complex and demanding, SMS is able to provide consultation services to the optimal means are placed at your disposal to ensure your project goals are achieved. Whether you decide to use SMS's consultation services or not, our primary interest is guided solely by our wish to ensure your and your clients' success.



Network Operations Centre

Our 24/7, Network Operation Centre (NOC) is staffed by a team of highly skilled engineers whose prime objective is to ensure that our clients and partners receive consistently high level support and service availability. Our NOC prides itself on the level of support it offers, including fault-finding, incident-tracking and in solving issues efficiently. To enhance our NOC, we have recently renovated our former nuclear bunker control room into a fully-functional state-of-the-art network operations centre. This upgraded operation now enables us to provide effective and reliable service to our customers and you will feel confident that the SMS team is on top of everything.



SMS Teleport recognises the need for fully redundant systems; and operates with fully redundant UPS Backup and Full Generator Backup for all systems in order to ensure both clients and partners that their services and operations will remain online at all times. In relation to this, as part of the business continuity plan. SMS has repurposed the former NOC into a Disaster Recovery operations centre. With this former NOC in a Ready-to-go state, clients can be further reassured that SMS has taken additional measures to perfect resilience and reliability for all teleport operations and services.

Our Network Operation Centre is the hub of the teleport, utilising state-of-the-art monitoring tools pictured here. These include but are not limited to Dataminer, PRTG, CCTV Monitoring, Weather Monitoring and Internal Environmental monitoring.

Teleport Engineering

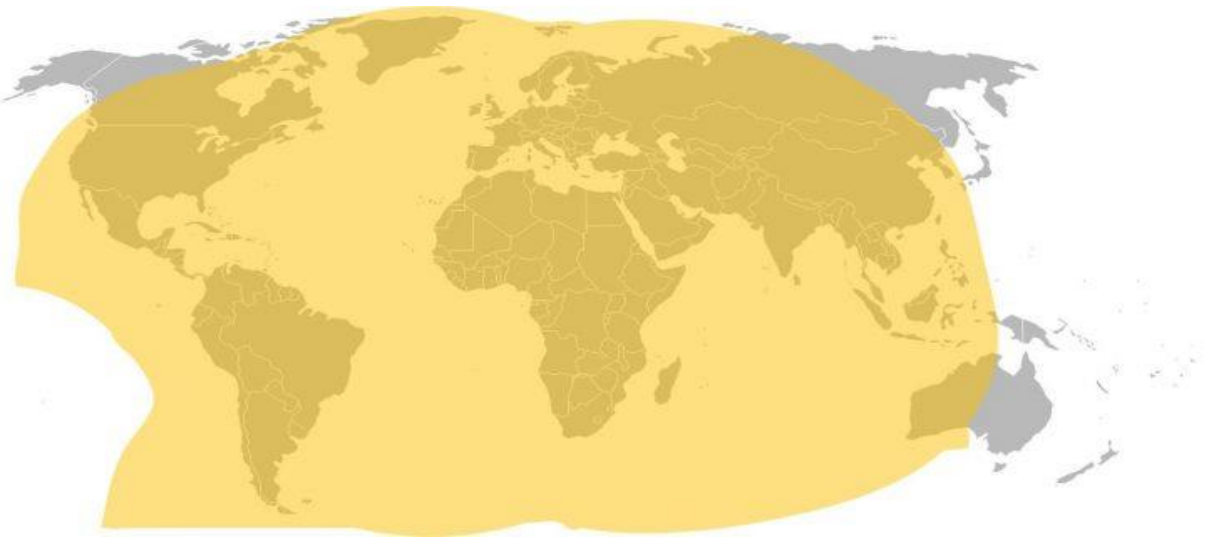
SMS is always striving to improve its high standard of preventive maintenance. This is built-into our culture. All teleport systems are inspected as recommended by each manufacturer, by reference to schedules tabling Daily, Weekly, Monthly and Annual maintenance activities. Continuous preventative checking and monitoring of RF and IP equipment are carried out to mitigate the chances of any potential hazards or faults, allowing these to be anticipated and thereby avoiding adverse impact to all services. Maintenance windows may be scheduled to resolve any issues or concerns. Routine services are also carried out to all RF equipment and Antenna elements on a regular scheduled basis.

SMS is registered and licensed by the United Kingdoms' Office of Communications 'Ofcom' for C Band, Ku Band and Ka Band Services. The Teleport is generously equipped with top-of-the-range testing equipment, from Signal generators, Spectrum Analysers to Radiation meters. Our teleport use top grade manufacturers and the equipment in use is supplied by industry leaders. Our site is equipped with the full range of recommended equipment for testing, operating and maintaining a prime satellite communication facility to the highest standards.

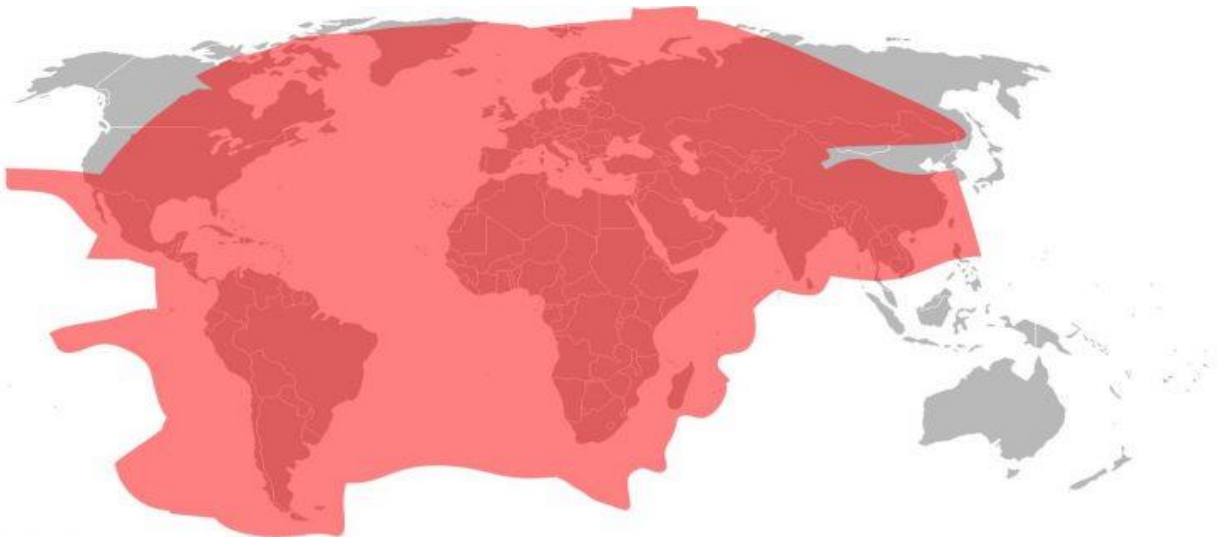


The Teleport team has a long history of experience in antenna construction and RF equipment integration. All but 5 antennas on site have been constructed and tested by our in-house team of engineers. As with all other equipment and projects, each constructed antenna goes through a rigorous testing regime, prior to production. These tests may include co-ordination with satellite operators to ensure full compliance and conformity to industry requirements and practices.

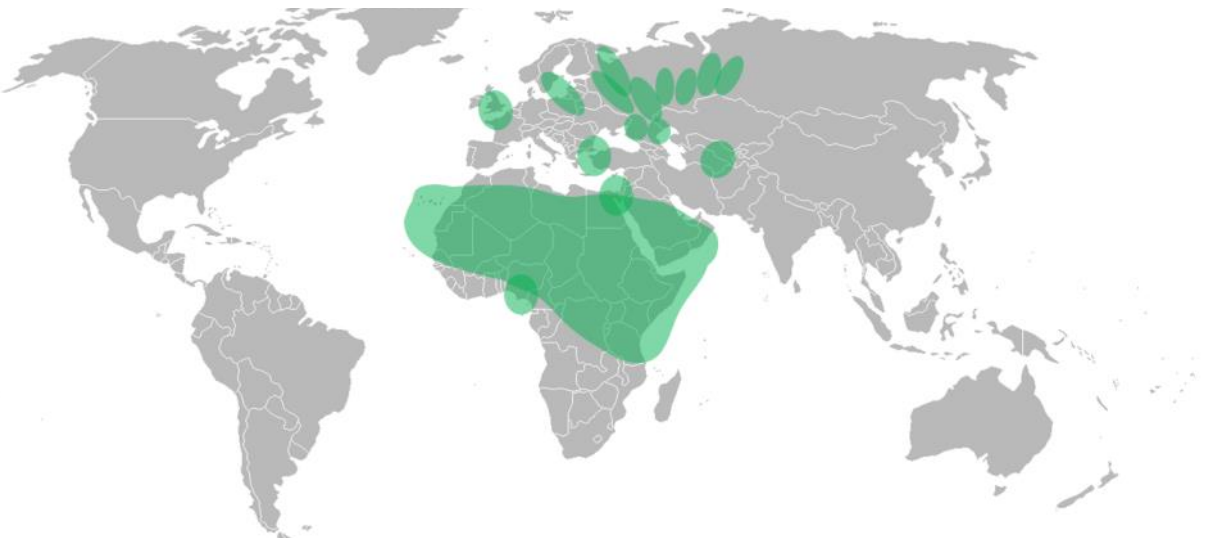
Satellite Coverage



C-Band Coverage



Ku-Band Coverage



Ka-Band Coverage

Antenna List (Part 1)

Antenna Name	Frequency Band	Size (Meters)	Current Satellite	Orbital Position	Polarisation
LFD-01	Ku Band	3.7 m	Eutelsat 36B	36.0° East	Linear
LFD-02	Ku Band	5.6 m	Intelsat 10	47.5° East	Linear
LFD-03	Ku Band	5.6 m	BADR 4	26.0° East	Linear
LFD-04	C Band	8.1 m	NSS-12	57.0° East	Circular
LFD-05	C Band	11.1 m	Africasat 1A / Azerspace 1	46.0° East	Linear
LFD-06	C Band	4.0 m	SES-5	5.0° East	Circular
LFD-07	Ku Band	8.1 m	Eutelsat 8 West B	8.0° West	Linear
LFD-08	Ku Band	1.8 m	Pending	Pending	Linear
LFD-09	Ku Band	4.0 m	Eutelsat 21B	21.5° East	Linear
LFD-10	C Band	7.3 m	Express AM7	40.0° East	Circular
LFD-11	Ku Band	6.1 m	Express AM6	53.0° East	Linear
LFD-12	C Band	4.6 m	Eutelsat 8 West B	8.0° West	Circular
LFD-13	C Band	2.4 m	Pending	Pending	Linear
LFD-14	Ku Band	7.2 m	Express AM44	11.0° West	Linear
LFD-15	C Band	7.3 m	Intelsat 39	62.0° East	Circular
LFD-16	Ku Band	3.2 m	Eutelsat 7A/7B	7.0° East	Linear
LFD-17	C Band	9.3 m	Intelsat 33e	60.0° East	Circular
LFD-18	C Band	9.1 m	Eutelsat 8 West B	8.0° West	Circular
LFD-19	Ku Band	8.1 m	Telstar 11 N	37.5° West	Linear
LFD-20	Ku Band	13.1 m	Telstar 12 Vantage	15.0° West	Linear
LFD-21	C Band	9.1 m	Pending	Pending	Linear
LFD-22	Ku Band	5.5 m	Yamal 402	54.9° East	Linear
LFD-23	Ku Band	4.5 m	SES 6	40.5° West	Linear
LFD-24	Ku Band	6.1 m	TurkmenÄlem / MonacoSat	51.5° East	Linear
LFD-25	Ku Band	9.3 m	Express AM44	11.0° West	Linear
LFD-26	K Band (DBS)	11.1 m	AMOS 17	17.0° East	Linear
LFD-27	Ka Band	13.5 m	BADR 7	26.0° East	Circular
LFD-28	C Band	3.8 m	Eutelsat 8 West B	8.0° West	Circular
LFD-29	Ku Band	3.8 m	Eutelsat 9A	9.0° East	Linear
LFD-30	Ku Band	3.8 m	Eutelsat 10A	10.0° East	Linear
LFD-31	C Band	9.1 m	AMOS 17	17.0° East	Linear
LFD-32	C Band	9.1 m	SES-4	22° West	Circular

The latest version of our antennas list can be viewed at: www.sms-teleport.com/antennas

Antenna List (Part 2)

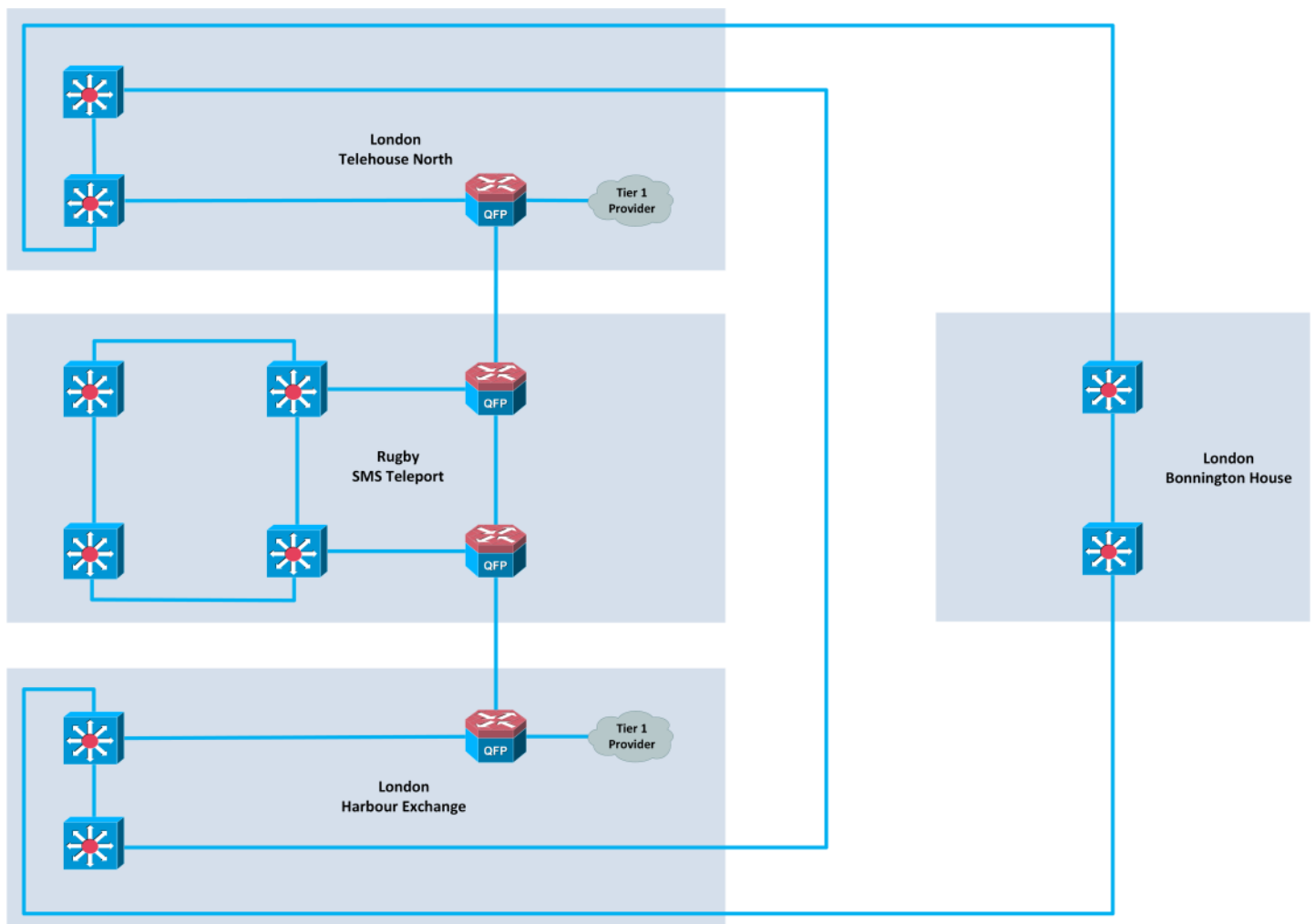
Antenna Name	Frequency Band	Size (Meters)	Current Satellite	Orbital Position	Polarisation
LFD-33	Ku Band	8.1 m	Pending	Pending	Linear
LFD-34	Ku Band	6.1 m	Pending	Pending	Linear
LFD-35	C/Ku Band	6.4 m	Paksat 1R	38.0° East	Linear
LFD-36	C Band	9.2 m	Intelsat 37e	18° West	Circular
LFD-37	C Band	5.0 m	SES-5	5.0° East	Circular
LFD-38	C Band	5.0 m	Arabsat 5C	20.0° East	Circular
LFD-39	Ku Band	3.0 m	Türksat 3A	42.0° East	Linear
LFD-40	K Band (DBS)	3.5 m	Pending	Pending	Circular
LFD-41	Ku Band	4.5 m	Various	Various	Linear
LFD-42	Ku Band	4.5 m	Various	Various	Linear
LFD-43	C/Ku Band	4.5 m	Various	Various	Linear
LFD-44	Ku Band	4.8 m	THOR-6	0.8° West	Linear
LFD-45	Ku Band	4.5 m	Eutelsat 16A	16° East	Linear
LFD-46	Ku Band	4.5 m	Hella Sat 3	39.0° East	Linear
LFD-47	Ku Band	3.7 m	Eutelsat 8 West B	8.0° West	Linear
LFD-48	Ku Band	3.7 m	Eutelsat 3B	3.0° East	Linear
LFD-49	Ku Band	3.7 m	Eutelsat 21B	21.5° East	Linear
LFD-50	C Band	7.3 m	Commissioning	Commissioning	Linear
TVR-01	Ku Band	1.2 m	Astra 2	28.2° East	Linear
TVR-02	Ku Band	1.2 m	Astra 3	23.5° East	Linear
TVR-03	Ku Band	1.2 m	Astra 1	19.2° East	Linear
TVR-04	Ku Band	1.2 m	Hot Bird 13	13.0° East	Linear
TVR-05	Ku Band	1.8 m	Hispasat 30W-5	30.0° West	Linear
TVR-06	Ku Band	1.8 m	Astra 2	28.2° East	Linear
TVR-07	Ku Band	1.8 m	Eutelsat 36B	36.0° East	Linear
TVR-08	Ku Band	1.8 m	Eutelsat 8 West B	8.0° West	Linear
TVR-09	Ku Band	1.8 m	Telstar 11 N	37.5° West	Linear
TVR-10	Ku Band	1.8 m	Eutelsat 5 West B	5.0° West	Linear
TVR-11	Ku Band	1.8 m	Pending	Pending	Linear
TVR-12	Ku Band	1.8 m	Pending	Pending	Linear
TVR-13	C Band	2.4 m	Pending	Pending	Circular
TVR-14	Ku Band	1.8 m	Intelsat 37e	18° West	Linear

The latest version of our antennas list can be viewed at: www.sms-teleport.com/antennas

Network Connectivity & Presence

The SMS network is robust, diverse and redundant throughout, with reliable connectivity between our 3 points of presence in London and our Rugby Teleport. The loop architecture of the fibre network and its multiple peering locations ensure the highest reliability and uptime for your and for your clients services.

The SMS Teleport's terrestrial connectivity offers our clients high-speed capacity tailored to low-latency high-throughput and may be tailored for specific connectivity needs. Utilising a redundant topology over multiple Fibre providers, we ensure uncontested uptime for our operations and our client services. The SMS network is fully designed, built and managed in house on net, and uses the latest Cisco hardware to achieve a robust topology. With our own Autonomous System (AS) number of AS13126 peering with the largest Tier 1 providers we are able to support many services in both IPv4 and IPv6 networks. Additionally, EoMPLS (Type 5 Virtual Connection) services are available for transparent connectivity to and from London. Our 'less than 2ms' latency adds real value to your satellite services, especially where latency is a critical factor.



The picture above is a high level diagram of our core network, and its redundant connectivity design over the multiple fibre connections outlined above and identifies the relevant locations of each of SMS Teleport's points of presence.

- Telehouse North, London
- Equinix LD8, London
- Bonnington House, London

SMS has been housed for almost a decade in the above specified connectivity hubs that afford direct peering to the largest Tier 1 and global service providers. Customers, with presence here or in our teleport's vicinity, can take advantage of our high-speed network by connecting their own network directly to the Teleport via one of these data centres.

Firewall platforms and service policies are available and can be implemented where necessary to filter, protect or manage the flow of services. These are deployed on a service requirement basis.

Power Infrastructure

The requirement for stable power is a key service factor. The SMS Teleport utilises the latest Uninterruptible Power Supply (UPS) technologies, providing around-the-clock redundant, protected power to all our devices and these redundant UPS systems ensure your devices remain protected and online in the event of any mains failure. With an autonomy time of at least 1 hour, our UPS system ensures there is ample availability in critical power supply for the duration of any switchover and maintenance period. As with other systems on site, our UPS is designed with scalability in mind. This means additional capacity can be added at will without risk or downtime for services.

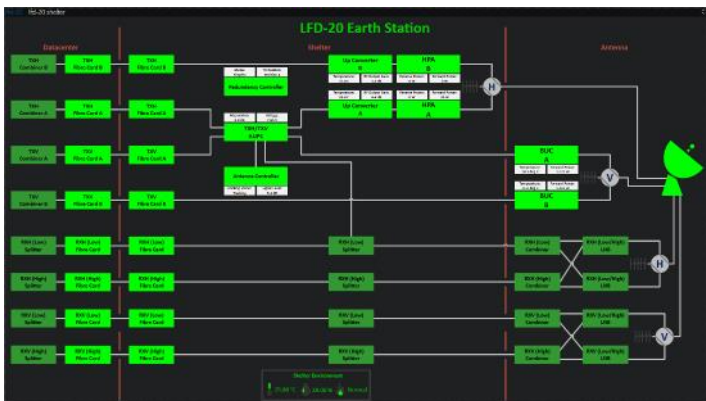
In addition, we maintain on-site redundant generators on standby, capable of taking up the full load of the site to ensure all services remain online and continue without interruption in case of a mains power failure. On-site generator fuel store reserves enable us to operate independently from external power for up to 4 days. Moreover, and our emergency power procedures allow continuous generator runtime in emergency situations, giving added peace of mind in knowing that your services will remain stable, uninterrupted and online in case electrical power needs arise.



Overall emergency power system sourcing switching provides for seamless switchover allowing for the load of the site to be transitioned to and from national mains power whilst retaining redundancy without risk or impact to services. All of our power systems are monitored 24/7/365 through our site monitoring systems, giving our Network Operation Centre real time readings and alerts ensuring the highest levels of service are upheld.

Monitoring Capabilities

Our Teleport offers an array of monitoring and analysis options for clients and their services. All services typically include comprehensive monitoring to ensure maximum reliability and availability; however in addition to this, SMS can provide dedicated monitoring and analysis solutions tailored to your requirements. Additionally SMS is proud to operate an automatic spectrum analysis monitoring platform alongside its 24/7 NOC, to ensure all services have duplicated real-time monitoring capabilities to allocate additional support where required.



We utilise the Dataminer system to monitor all of our site infrastructure, including Power, Environment, Earth Stations and other site wide systems (screen capture can be seen to the left). The Dataminer system is able to provide responsive and accurate monitoring of all devices, enabling the NOC to be pro-active and locate issues prior to service impact. Network monitoring is performed using Paessler Routing Traffic Grapher (PRTG), which provides SNMP based monitoring of all of our Core and Local Devices generating real-time graphics of traffic flows, statistics and other relevant information. In addition, it logs all syslog services and other relevant loggings.

Teleport hosting and equipment rooms are monitored for Temperature, Humidity and Smoke detection. The system is linked to an independent site fire alarm system that provides additional protection with early-warning for potential intervention over a live feed that identifies exactly those specific locations needing attention. Our NOC Team uses a range of additional tools in its M&C monitoring; including spectrum analysers, transport stream analysers and weather monitoring tools. The teleport also hosts a nationwide Met Office weather station on site to ensure very accurate forecasting for this area.

Future GEO, MEO and LEO Ground Segment

The recent developments of new technologies based on LEO (Low Earth Orbit), MEO (Medium Earth Orbit) and other orbital constellations create new satellite-based use cases as well as new opportunities. With this in mind, the requirement for the professional ground segment is clear. All of these new constellations require ground stations hosted on Earth. These ground stations must be hosted in strategic locations for the benefit of the service.

Our Teleport is already strategically located for satellite communications, twinned with the fact that it is surrounded by vast amounts of unrestricted space, providing a perfect opportunity for constellation operators; taking full advantage of hosting their Gateway site in the heart of the UK, where there is reliable power and excellent low latency connectivity.

GEO (Geostationary Earth Orbit) gateways typically look at individual dedicated satellites at a fixed position, requiring a limited amount of space with only a clear line of sight in that particular direction. LEO and MEO gateways require a much greater line of sight in many directions and based on elevation requirements, much more space.

As detailed above, our Teleport is an ideal location to host any type of satellite Gateway and can offer a real competitive advantage to the operator, with the cost-effective, strategic deployment on offer. With almost no industrial buildings or facilities in close proximity, as well as very low horizon views with no obstructions, you can be assured the longevity of service provisions at SMS.



Even with the advent of these new technologies, GEO satellites are still relevant and will continue to be an essential component in the satellite communications industry, including future GEO gateway opportunities. SMS currently hosts and will continue to host GEO gateways, for TT&C, Platform, Data, Broadcast, Triple Play, or any additional gateway platforms, as required.

Whether your company specialises in Geo, MEO, LEO or other orbital services, we invite you to meet our customer-devoted team and to become acquainted with its project-management and operational experience; to visit and to get to know our site with its network and power infrastructure, and to satisfy yourselves that SMS will place at your disposal ground segment partnership benefits of the highest order.

Our technical capabilities and project testimonies speak for themselves. Our experience, location, network and power resilience are unparalleled. SMS is poised to host any gateway as required, and has the expertise, site and space to ensure great success.

Contact us today to find out how SMS can help you with your Gateway requirements.

Security

At SMS, safety and security is a top priority, and as such the security of the site is at the forefront of our minds. We have a number of physical, digital and procedural security measures that keep you, your infrastructure, and your data safe at our site.

Our teleport is located on the outskirts of the historic town of Rugby; the site is surrounded by agricultural fields and has no direct or overlooking neighbours. Being a former military installation, the foundation of the site is well placed to accommodate necessary security protocols. We have built upon this to achieve the security level in place today. The first thing you will notice as you approach our site is our perimeter fence, surrounding the site 360 degrees. It provides a wall of security acting as an effective barrier to unauthorised entry.



The site has two entrances, both accessible from Lawford Heath Lane with monitored CCTV coverage. The compound and access road is private property with no access to the public. Visitation to the site is strictly by appointment only. Visitors to the site must be approved in advance, checked against customer records to ensure individuals have adequate clearance to the site before entry is approved. The site is fully covered by CCTV internally and externally, all secure datacentre rooms are accessible by time limited swipe cards provided to visitors during each visit.

Additionally, the environment for each datacentre equipment hosting room and Earth Stations are monitored using our Monitoring & Control software, giving our engineers real time monitoring of our datacentre rooms. This is primarily Access monitoring, although includes Smoke, Humidity and Temperature monitoring.

One thing you can be sure of, is that your equipment will be safe at our facility.





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Rugby
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CV23 9EU
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