



# Wavesight

Our range of products deliver  
powerful communication and  
connectivity capabilities.



## ABOUT WAVESIGHT

Through our extensive portfolio of reliable, scalable and secure communication platforms; managed by cloud-based software, Wavesight enables governmental agencies; oil, gas and utility companies; Internet service providers; and public safety operators to build powerful and seamless communications networks.

Wavesight is headquartered in Bedfordshire U.K and with R&D and manufacturing centres in both England U.K and Goa India.



### QUALITY

At Wavesight, we build quality in through design, manufacturing, testing, partner selection, and support, to ensure our clients are delivered responsive, reliable and dependable communications infrastructure.

Customers choose Wavesight solutions over other systems because they work first time – and don't stop. Our quality, warranty and price are unbeatable. We understand and value the demands of mission critical communications and deliver solutions that safeguard your vital connectivity.



### OUR MISSION

Wavesight aims to deliver industry-leading performance, unparalleled reliability high value and lowest cost of ownership in high-capacity wireless networking infrastructure solutions, enabling our customers to build a dependable infrastructure.

The capability we are adding into network and intelligent traffic control offers unmatched and affordable end-to-end coverage to manage any data application, in any land or coastline environment, no matter how inaccessible. We connect people, places, and machines. The technology landscape is evolving daily – and so are we.



### PRODUCTS & MARKETS

Wavesight product development strategy are driven 100% by the needs of our customers.

Wavesight customers are deploying the latest industry innovations via our products with the confidence that they will seamlessly integrate with tomorrow's solutions.

Our technologies provide a comprehensive product line for a wide variety of market segments including service providers, wireless internet carriers, governments and municipalities, and Government security organisations that need high performance, secure scalable solutions.



### MARKET STRATEGY

Wavesight serves customers through a global network of strategic in country partners. Our strong internal business development team also engages in direct-touch, consultation with major customers via our strategic partners.

Our experienced system engineering teams are available to provide professional service through our portal and locally via strategic partner network.



## WORKING WITH GOVERNMENTS

Due to increasing threats to our national security, government organisations are working harder than ever to ensure civilians and public assets are protected and secure. We are the pioneer in our field. We work with legislative bodies to provide wireless security solutions that reduce the risks of terrorism, extortion and theft.

Not that every challenge is caused by threats to security; communications continuity in both remote rural and busy urban environments, as well as during natural disasters, can equally be a challenge to government-controlled infrastructure. Wavesight's incisive network solutions can make all the difference between management and disorder.

Connecting the latest surveillance camera systems with cable or fibre is not always possible, or cost effective, so a wireless option is the only way.

Wavesight enables your fixed video system to function as though it were wired. Base stations with the world's high data throughput easily deliver enough capacity for today's network and tomorrow's expansion.

### VIDEO SURVEILLANCE

Security and safety, for both property and personnel, is vital in many industries. Video surveillance systems need to be dependable, and optimized to perform at the highest possible calibre.

### PUBLIC SAFETY

The need for integrated communication solutions combined with increasing data demands means that control rooms and first responders need communication capabilities they can depend on. In an emergency situation, every second count, reliable and robust in communications are imperative.

Backhauling voice and data traffic remote from several radios to strategically locate links the Command Centre when no cable exists.

### PUBLIC UTILITY

Easily integrated into your existing communications, Wavesight helps you protect utility assets with the ability to apply security applications on the network without sacrificing critical bandwidth and latency for the time sensitive applications that can be carried on the Wavesight network.

### PUBLIC SECTOR

Smart highways and smart cities integrate multiple information and communication technology solutions securely to manage a city's assets. Wavesight technologies enable the smart city concept. The aim of the smart city is to improve quality of life by using urban informatics and technology to deliver services efficiently.

Wirelessly transporting voice and data traffic from remote locations to an central location where no cable connection exists, has advantages: lower cost-to-deploy, ease of installation, little or no maintenance, and offers the same or better user experience, with no recurring monthly expenses.

### TRANSPORTATION

Transportation hubs such as airports, seaports and train stations are a high priority for security. In addition to anti-terrorism protection, authorities are concerned about many issues including smuggling, safety, anti-theft and management. Connectivity to wide coverage surveillance cameras is mission critical and must be reliable at all times.

Wavesight radios provide connectivity that is highly reliable. They can be used to provide connectivity beyond the reach of tradition wire-line. They are also perfect for backup. For roadways and railways undergoing construction Wavesight can provide temporary connectivity links that can be easily moved to a different stretch of roadway or railway when needed.





## ISP AND TELECOM

Communications Systems for Internet Service Providers and Telecommunications companies are at the technological heart of Wavesight.

We provide a complete portfolio of class leading licence free equipment and state-of-the-art COFDEM and ATEX certified radio links. Our technical partnerships and R&D focus is applied to deliver proactive in the development, customisation, and introduction of new products with the lowest time-to-market combined with the highest Quality Production Standards.

### Broadband Service Providers

Expand your networks. Wavesight meets the connectivity requirements of a wide variety of applications and vertical market organisations. Our solutions bridge connectivity gaps, improving end-user broadband experiences.

### Connectivity for today and for the future

We are taking wireless technology forward, with cost effective products that will reliably extend the life of your network.

Our wireless solutions will help you solve complex communication challenges.

### Common applications for wireless service providers:

- Wireless Internet access for serving enterprise and residences
- Wireless backhaul with high-capacity microwave bridges
- High bandwidth connectivity for VoIP, Data and Video on Demand

### Backhaul

Impressively low latencies and high capacity, combined with data management ensure that your critical communications get transmitted in real time and remain uncompromised, regardless of distance and landscape.

Today, most fibre connectivity is used for backhauling requirements, but sometimes it is not a viable solution because of its high cost and the impracticality of laying fibre in busy cities or difficult terrain. In these circumstances, wireless backhaul is the best solution.

During emergencies or natural disasters, telecom infrastructure may be damaged or overloaded. Internet service providers, public safety agencies, local and state governments and industrial companies need Wavesight's cost effective and rapidly deployable product set to establish critical connections when it counts.

### Greenfield

Fixed wireless solutions from Wavesight deliver fast and reliable Internet access to residential and business subscribers in rural areas at one of the lowest cost-to-performance ratio in the industry, where customers have traditionally remained underserved by incumbent Internet service providers.

### The Suburbs

For too long, the exclusive domain of big incumbent cable and telecom providers. Despite this, many communities remain underserved by traditional broadband providers.

Wavesight enables a broadband network that is high in performance and reliability, low on cost and more flexible than traditional cable broadband delivery networks. As a provider you can deliver a service with infrastructure expansion and installation almost immediately.

### Whenever and wherever needed

Rapidly deployable networks are becoming imperative, which is why our rapidly deployable radios regularly provide short-term mobile services to field workers in remote oilfields and disaster areas.

### Fixed Wireless Access – The First and Last Mile

Fixed Wireless Access connects stationary or 'fixed' user equipment at the edge of the communications network via a wireless connection. Also referred to as "The First or Last Mile," it is the beginning or final connection between customer equipment and the network core.

Running fibre cables over wide areas for a small number of customers may not be feasible or economic.

The viable and proven alternative is wireless point-to-multipoint (PMP) radio system. Here, a sector base station (the point in PMP) is located above ground level and transmits over a line-of-sight path to multiple remote terminals (the multi-points) connected to users.

Locating three or four sector base stations can provide a 360-degree coverage area, serving dozens of remote terminals. In a telecom service application, base stations deliver high-speed broadband signals to remote terminals, located at businesses or residences. For industrial markets, the remote terminals can connect to sensors and CCTV and offer remote monitoring and control of critical field operations.



## SOLAR POWERED COMMS

Our Solar division was founded on the demand of our clients need for the delivery of managed power to meet their need for reliable deployment of their communication and mission critical security systems.

Our vertical solar hybrid system was built with a focus on the need for a secure energy solution that could be quickly and easily deployed on a typical pole and deliver reliable and dependable power. Our Solar solutions a cloud application and management service, delivering remote control, management, and proactive monitoring. It ensures unmatched reliability and long-lasting system performance, while reducing installation and on going maintenance costs.

### Solar – India , our foundation market

India has emerged as the fastest growing telecom market in the world. The successful growth of the industry has been a catalyst for India's growth in other sectors. Telecom operators are reporting approximately 15 million subscribers additional subscribers every month, resulting in a tele-density over 43%, with urban areas approaching 100%. The focus now is increasing penetration in rural areas to drive the next phase of growth. All stakeholders including the government, regulators, and private players are making significant initiatives to promote rural penetration.

### Tower and BTS Infrastructure

Underlying the growth of these subscriber's is the country's Telecom Tower and Base Transceiver System (BTS) infrastructure. India has more than 250,000 telecom towers, a population growing rapidly to keep up subscriber's growth and rural expansion.

The BTS and tower infrastructure has gone through a transition – from operator-owned to spun off, independent companies using tower-sharing models (with both passive and active tower sharing) in an effort to reduce costs in this highly competitive market.

### The Power Problem

A quick analysis of telecom network operating costs indicates power and fuel are the primary operating costs, comprising over 30% of total operating cost. This dynamic exists because grid power (Electricity Board or EB power) is highly unreliable and, in a

lot of cases, not available in rural areas. BTS sites require constant and uninterrupted power for the safe operation of the network. As a result, BTS sites have utilized onsite diesel generators to either provide backup or primary power in the absence of EB power. Uninterrupted operation is achieved through a battery bank.

India, with its excellent irradiance, has the opportunity to exploit Photovoltaic (PV) solar power to meet this challenge of onsite power generation. Coupled with a battery backup, PV systems are a viable and exciting alternative to reduce the correlation between power cost and total operating expenditure (OPEX), thereby providing a sustainable and reliable strategic solution to the fuel problem.

### Government Policies

The Indian governments new policy direction provides incentives to use renewable energy, while at the same time decreasing subsidies on petroleum fuels and a move towards market pricing.

The Ministry of Renewable Energy has issued Guidelines for Off-Grid and Decentralized Solar Applications under the Jawaharlal Nehru Solar Mission. This provides capital subsidy of up to 30% of capital cost for such projects implemented in the current fiscal year, to a maximum subsidy of INR 90 per watt peak (EUR 1.5) for systems using battery backup and INR 70 per watt peak (EUR 1.1) for systems without battery backup. Alternatively, there is an offer of soft loans at 5% interest rate subsidized by IREDA for these projects.

There are other benefits such as accelerated depreciation on the balance of the project in the first year.





## FIXED WIRELESS

Our Wireless heritage goes back more than twenty years. Our humble beginnings were focused on building radios to get CCTV signals from the street back to control rooms using radio WAVE technology to give police operators SIGHT of the street - WAVESIGHT. Today we continue to supply tens of thousands of our products to many Police and Defence clients each year.

**BACKHAUL**– Our unlicensed backhaul products offer Incredible performance at long distance for demanding consumer, business and public safety applications.

**ACCESS**– Our scalable, unlicensed multipoint solution for deploying ultra high data capacity services in virtually any rural, suburban or urban environment.

### Key Features

- ✓ Data rates up to 310 Mbps
- ✓ High quality video
- ✓ Extremely low latency
- ✓ Cost effective alternative to cable or leased line fibre
- ✓ Encrypted data communications
- ✓ Rapid deployment and easy installation
- ✓ Up to IP 67 Environmental Features
- ✓ 2 years Warranty as standard

## FireFly

Firefly is our high value enterprise and campus range. It marries features, performance and build quality unmatched at this price point.

- 80,000 PPS
- 170 Mbps
- Up to IP67
- HTML 5 GUI



## SCORPION

**Time Division Multiple Access (TDMA) protocol based.** Scorpion is our “Time Division Multiple Access (TDMA)” Flagship product range. It features advanced carrier grade features, unmatched spectral efficiency, coupled with one of the highest PPS in the industry at a truly affordable price.

- 310 Mbps
- 1ms Latency
- IP67
- Automatic Interference Switching



## Wasp

**Listen Before Transmit (LBT) protocol based.** Wasp is our “Listen Before Transmit” (LBT) Flagship product range. It features advanced carrier grade features, unmatched spectral efficiency, coupled with one of the highest PPS in the industry at a truly affordable price.

- 300 Mbps
- 1ms Latency
- IP67
- Automatic Interference Switching





## EXPLOSION PROOF HIGH SPEED RADIO TERMINALS

### Stay Safe and Connected

The oil and gas industry which fuels our global economy necessitates the highest level of engineering, productivity and safety. Every aspect of exploration, extraction and refinement must be carefully orchestrated to operate continuously and maximize profits. Achieving this high level of operational excellence is not possible without advanced data, voice and video communications. Wireless Ethernet is fast becoming the preferred communication delivery system due to its excellent reliability, adaptability and affordability. However, your communication systems should be ATEX and HAZLOC certified to assure safe operations in your potentially hazardous environments.

### ATEX Certified Housing and Antenna Connectors

Our range of GUB explosion proof enclosures and antenna connectors / isolators are intended for use in areas made potentially hazardous by the presence of flammable liquids, gases, vapours and dust ( Zone 1, 2, 21 and 22 ).

### Flexibility and Product Support

The Scorpion Ex houses a suitable radio system for deployment in multi-mode scenarios using a variety of approved antennas. The NMS network management application provides full element and provisioning management and software upgrades.

# SCORPION EX





## V BAND BACKHAUL RADIO SERIES

The best-in-class next generation millimeterwave radio operating in V-Band. Frequencies 57GHz – 66GHz. WaveSTREAM V-Band is an ideal solution for high capacity, millimetre wave links operating in a dense urban environment. Suitable for most fixed, mobile and enterprise class applications, the Wave STREAM is the most advanced wireless solution in the market.

WaveSTREAM V-Band BTS radios offers a cost effective, high capacity wireless solution ensuring a high level of performance with minimal interference in dense areas. The added advantage of being license-free in most countries, ensures quick and easy deployment. Whether operating in a mobile, fixed or private network, millimeterwave radio plays a key role in backhauling, becoming the predominant technology in use. WaveSTREAM radios provides a fundamental bridge between fibre high capacity systems anflexible cost-effective wireless transmission solutions. Unprecedented performance up to 1Gbps full-duplex high capacity, deployment flexibility and homogeneous operational behaviour, allows operators to leverage on existing knowledge and skills, minimizing introduction costs, while modernizing the network.

WaveSTREAM BTS support up to 8 CPE's and operating distances can be up to 700 Meters depending on the CPE gain, link frequency and rain intensity. Planning for millimeter wave spectrum use must consider the propagation characteristics of radio signals at this frequency range. While signals at lower frequency bands can propagate for many miles and penetrate more easily through buildings, millimeter wave signals can travel only a few miles or less. However, these characteristics of millimeter wave propagation are not necessarily disadvantageous. Millimeter waves can permit more densely packed communications links, thus providing very efficient spectrum utilization, and they can increase security of communication.

### Main Features

- ✓ Capacity up to 1 Gbps
- ✓ Operates in V-Band 57 to 66 GHz bands
- ✓ Base Station up to 700 Meter (CPE gain dependent)
- ✓ Rugged outdoor grade waterproof enclosure
- ✓ Beam forming technology. Active beamforming reduces beam width to 15 - 20 degrees
- ✓ AES 128bit Encryption
- ✓ SNMP Monitoring
- ✓ Management VLAN support and VLAN pass-through

# WaveSTREAM



## MIL STANDARD 810 G RUGGEDIZED TABLETS

Any Environment, any Weather, you're always connected.

Our ruggedized Tablet PC's are used in industry and mission critical application for Industry, law enforcement and Military. They allow command and control on the move. This technology has revolutionized policing. It allows officers access to entire police station database information while on the move.

This technology allows officers to access everything from command and control and all normal desktop applications. It allows officers to be mobile in the community and enables real time delivery of exacting information that delivers capabilities never before possible.

### Key Features

- ✓ IP65, MIL-STD-810G, 6 feet drop resistance
- ✓ Sunlight readable function
- ✓ Seamless communication, optional 3 /4G
- ✓ Up to 12 hours of battery life
- ✓ HD cameras with auto focus and LED flash
- ✓ A number of 2-in-1 modules for data capture
- ✓ Wide coverage accessories
- ✓ Compact vehicle dock
- ✓ Wide range voltage power





# Wavesight

World leaders in wireless infrastructure

## Wavesight Limited (HQ)

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