



Photo courtesy of HNS.

# Broadband....anywhere

The most unique and outstanding feature of satellite is the fact that it is ubiquitous. The services it provides may be enjoyed anywhere and at any time. The same goes for broadband delivered over satellite. Helen Jameson looks at the benefits of receiving broadband via satellite.

**Let us begin with one very simple fact.** That is that satellite is the only means of delivering broadband connectivity to anywhere in the world. The position of satellites high above the earth means that they may cover huge swaths of the earth – continents, countries and oceans. The only stipulation is that the user must have a clear line of sight to the satellite and that's it. There is no dependency on cable or telephone lines. All that is required is a terminal, whether that be BGAN or VSAT and modem. In this day and age broadband is extremely important both o our lives at home and at work. Corporations use it for a plethora of reasons, so do homes and SoHos, hospitals, local government, businesses all use broadband. It is fast and helps us to stay connected in various different ways. It also offers speedy access to the Internet and an endless list of applications. In fact, today it is difficult to imagine life without it. The thought of going back to dial up would probably make broadband users feel queasy.

The fact that accessing broadband via satellite is available anywhere in the world means that there is no need for anyone or any community to miss out on the benefits of broadband. Where there is no terrestrial infrastructure or it is too expensive to install, such as in remote rural areas, satellite can deliver broadband regardless of terrain and location so the huge benefits of having a broadband connection to the outside world can help communities compete in the same environment as those in the cities. Businesses can be built up

and marketed, children can have access to learning tools that they otherwise would not have, communities can have access to e-health services for example. The whole community benefits from broadband and it means that they are no longer excluded and can enjoy the tools and services that those with a terrestrial infrastructure can.

### Applications supported by broadband via satellite

There are many. In fact, too many to list here, but some prime examples are:

- Internet access;
- Email;
- Videoconferencing;
- Telemedicine / e-Health;
- Distance learning;
- VoIP;
- Data;
- Video; and
- Digital signage.

### Satellite broadband in business

Broadband has become an essential part of any business. In this day and age, a company worth it's salt will always have a well-con-



## Gilat chosen by Mexico's Grupo Elektra to provide a 1,964-site broadband satellite network

Israel-based Gilat Satellite Networks have been selected by Mexico's Grupo Elektra to provide a SkyEdge satellite hub station and 1,964 VSATs for use in several Latin American countries including Mexico, Guatemala, Honduras, Peru, El Salvador, Panama and Argentina. Grupo Elektra is one of Latin America's leading specialty retailers and financial service companies. This agreement represents an expansion of Gilat's business relationship with Grupo Elektra, which began more than a decade ago with the deployment of Gilat's SkyStar Advantage VSAT network and later with a SkyBlaster 360e network.

The network, based on Gilat's SkyEdge IP VSATs, will enable cost-effective and reliable broadband communications for point-of-sale data management, fast credit card processing, software downloads, high-speed Internet access, corporate communications and terrestrial backup connectivity. SkyEdge is customized for highly efficient transaction communications, such as those required by credit card applications.

Jose Aronovich, Gilat Network Systems' regional vice president, Latin America, said, "We are proud of our long and successful relationship with Grupo Elektra and having been chosen again to provide a VSAT solution to meet their growing networking requirements. With our well-established local presence, we are able to provide the dedicated customer support that enterprise customers such as Grupo Elektra demand from their technology partners."

Gilat's SkyEdge is a satellite communications system that delivers high-quality voice, transaction-oriented applications, broadband data and video over a unified system. SkyEdge represents Gilat's extensive knowledge base and field-proven product offering, acquired through two decades of experience. SkyEdge's flexible architecture and efficient space segment utilization make it an ideal platform for operators and service providers.

structed website and will often sell its products online with 24 hour access, 352 days a year.

The changes that a broadband connection makes to a small or medium sized business, for example, are phenomenal and having or not having a broadband connection may well be the make or break of a potential enterprise.

So, what features can broadband offer to a SME or large corporation? Let's take a look at the benefits:

- **Broadband saves both time and money** - Virtual meetings may be held via a broadband connection eliminating the need to travel to a central location. These meetings may even be done face-to-face through videoconferencing solutions or via webcams. The ability of broadband to allow voice and data communication simultaneously also means that amendments to documents etc may be done on the spot whilst speaking to the relevant person with no need for travel or courier costs.
- **Overheads** - such as office costs may be reduced or eliminated altogether. Broadband allows remote working so employees may work at home or the need for branch offices may be reduced as location is no longer an issue if the worker has a broadband connection.
- **Global presence** - Even with only a few staff members a global presence may be achieved with a website that is constantly accessible. International working hours will be satisfied and the website will continue to sell goods even when the company employees sleep.
- **Marketing** - Broadband enables all kinds of marketing techniques to be utilised whether it be through graphics, video, mailings or even digital signage.
- **Functionality** - Small and medium businesses may outsource to an application service provider who will run solutions for them or may rent services such as shopping carts and secure servers backed by bank authorisation.
- **Security** - SMEs especially cannot afford for their company's computer systems to go down with a virus or bug and broadband offers all-day everyday extensive security and diagnostic tools to prevent systems being infected.
- **VoIP** - A broadband connection assures access to VoIP meaning very cheap or even free international calls and thus cutting phone bills considerably.
- **Remote Access** - Employees can access their email and other important applications when they are not at home or in the office meaning that time away may be used effectively to keep in touch with what is going on.

## Satellite broadband in remote communities

The gift of satellite broadband for remote and rural communities cannot be underestimated. Connecting a community to the rest of the world will transform it, bringing education, wealth, medical assistance and business opportunities with it.

## HughesNet

HughesNet by Hughes Network Systems provides broadband services via satellite to homes and businesses across Europe, the Middle East and Africa.

Hughes' leadership spans all aspects of broadband technology and product development, standards, and network solutions and services. From managing far-flung networks of multinational corporations and government agencies, to delivering broadband Internet access to small offices and consumers, Hughes offers reliable and affordable solutions to meet every communications challenge.

Headquartered outside Washington, D.C., in Germantown, Maryland, USA, Hughes maintains sales and support offices worldwide. HughesNet branded services and solutions are marketed directly by Hughes throughout North America, Brazil, Europe, and India, where it owns and operates the network infrastructure. In other regions of the world, Hughes products and services are available from a growing family of authorised service providers and resellers.

The HughesNet suite of broadband services and solutions encompasses an ever-growing menu of innovative ways to unlock the benefits of broadband.

**For Enterprises and Governments** - HughesNet Managed Network Services frees enterprises and government agencies to focus on running their operations while Hughes manages their networks. As reported by the Yankee Group, Hughes is one of North America's largest providers of managed network services.<sup>iv</sup> Bridging the best of satellite and terrestrial technologies, the Hughes team brings a comprehensive range of network design, program management, implementation, and operational capabilities to meet the most complex and demanding communications requirements.

**For Consumers and Small Businesses** - HughesNet brings high-speed, reliable satellite Internet access to consumers and small businesses throughout North America. With over 325,000<sup>v</sup> subscribers, and new customers joining at a rate of over 11,000 per month, Hughes is by far the largest provider in this sector. Utilising geostationary satellites, HughesNet service coverage is continent-wide, reaching an estimated 10 million or more households and over 3 million small businesses in the U.S. that are unserved by terrestrial broadband technologies.

**Ensuring Continuity of Operations** - Government organisa-



tions must remain functioning at all times. In the face of a disaster or during a routine day, citizens depend on their governments to provide continuous communications and vital information. Robust, secure and scalable, HughesNet Continuity of Operations (COOP) solutions are designed to stay operational 24/7, even when terrestrial systems fail.

**Connecting Remote Communities** - Hughes provides world-class telecommunications for the global marketplace—whether in urban or rural and other hard-to-serve areas. Hughes satellite products enable voice, fax, and data services countrywide, keeping people and governments connected anywhere in the world.

**Learning Goes the Distance** - Satellite is the ideal platform to deliver multimedia content to many locations simultaneously. Governments around the world are leveraging the benefits of Hughes broadband satellite technology to cost-effectively deliver distance education virtually anywhere, enabling a better educated citizenry to compete in the global marketplace.

**Rapid Connectivity Anywhere** - Hughes mobile and transportable satellite solutions can travel to remote areas where terrestrial connectivity doesn't exist, enabling workers to share critical information and stay connected when on the road. These flexible solutions support both government and commercial applications such as emergency response, maritime, and oil and gas exploration.

The following is just a sampling of government organisations around the world that have chosen Hughes solutions to better serve their constituents.

- US - National Park Service
- US - Florida Emergency Management Agency (FLEMA)
- Mexico - eMexico Project
- Ethiopia - SchoolNet Project
- Brazil - University of North Parana State (UNOPAR)
- Russia - Tomsk State University Distance Learning Network
- Switzerland - The Comprehensive Nuclear Test Ban
- Treaty Organization (CTBTO)

Hughes latest offerings—the advanced HN and HX broadband satellite systems, are fully compliant with IPoS and DVB-S2 standards, enabling the entire breadth of HughesNet services and solutions. Hughes is the first company to implement DVB-S2 with ACM (Adaptive Coding Modulation), the most efficient implementation available, which yields up to 50 percent greater throughput over the original standard. Both HN and HX platforms are designed to support a wide range of bandwidth-intensive services, including VoIP, high-speed Internet access, interactive distance learning, video conferencing, and multimedia streaming.

The HN System is a robust and flexible platform that takes broadband satellite to a new level, meeting a wide range of needs for enterprise, government and medium-sized businesses. Advanced management features enable operators to allocate satellite bandwidth as a virtual pool—so bandwidth is efficiently allocated among active users while assuring availability when and where it's needed.

The HX System is a compact, broadband IP platform optimised for smaller networks with high quality of service (QoS) requirements. Building on the features and capabilities of the powerful HN platform, the HX System employs advanced bandwidth management technology, enabling operators to provide a high quality of service while maximising satellite efficiency. The HX System is ideal for the provision of bandwidth-intensive applications such as cellular backhaul, maritime and oil/gas exploration.

### Skylogic

Skylogic supplies broadband IP (internet protocol) and TV satellite communication services for small and medium-sized businesses, great industrial conglomerates and the Public Administration. The company, based in Turin, is a subsidiary of Eutelsat, a leading worldwide satellite operator marketing capacity on 23 satellites, supplying

coverage to over 150 countries, from the Americas to the Pacific, and reaching 90% of world population. The Skylogic teleport, SkyPark, in Turin is the home of one of the largest platforms for bi-directional IP services in the world and is supported by a highly specialised team that controls the whole network, assigning band and ensuring service quality 24 hours a day. Skylogic satellite networks are interconnected with the fibre optics of the major operators in the sector and spread over Europe, the Mediterranean basin, the Middle East, North Africa and the Americas.

Skylogic, the broadband affiliate of Eutelsat Communications has been awarded a contract by the Diputacion Provincial de Zaragoza to bring full broadband amenities to 120 communities in the region of Saragossa in northern Spain. Following a public competitive tender Skylogic's D-STAR service was selected as the satellite component of an extensive regional broadband programme called Zaragoza Internet Provincial (ZIP).

The Zaragoza Internet Provincial programme was initiated to facilitate access to new technologies for all municipalities in the province and to provide citizens in all communities with free broadband access to public service amenities and on-line documentation.

Saragossa is the first region in Spain to initiate a universal broadband programme mobilising multiple access technologies including satellite.

Each Town Hall is equipped with Skylogic's D-STAR two-way broadband system that comprises a 96cm antenna and an indoor unit the size of DVD player. The terminals communicate through a satellite connection on Eutelsat's ATLANTIC BIRD™ 1 satellite to Skylogic's teleport in Turin, which has direct access to the Internet backbone.

The D-STAR terminals are also connected to Wi-Fi hot spots in a number of villages in order to extend Internet connectivity. As part of a far-reaching information and education campaign, a demonstration bus equipped with a D-STAR antenna, 16 PCs and trained staff also toured the province to teach basic e-mail, Internet and other ICT skills to the local population.

Juan Antonio Sanchez Quero, Manager of New Technologies at the Diputacion Provincial de Zaragoza commented: "A communication link is now available to thousands of people who can benefit from Internet access for e-mails, web-surfing and government applications. Satellite connectivity and Skylogic's D-STAR product have enabled us to complete a universal broadband programme without discriminating citizens located in rural environments."

"We are very pleased to have won the confidence of the Diputacion Provincial de Zaragoza," commented Arduino Patacchini, Chairman of Skylogic. "By deploying satellite and terrestrial broadband technologies adapted to the location of each community, the Saragossa region is demonstrating the most efficient and cost-effective route for developing ICT skills for all citizens throughout the region."

### We need broadband

We live in a broadband society. Broadband via satellite is imperative to communications in this day and age and facilitates applications for a vast range of purposes – at home, for education, for health, retail, defence...the list goes on and on. The fast-paced society that we live in means that access to broadband is an absolute must - it's not really a choice anymore. In fact, everyone benefits from a broadband connection, no matter where they are. Quite simply, it changes lives. For those who are in remote locations, we think of broadband as being out of reach, but with the help of satellite, broadband can literally reach anywhere and can deliver these benefits to all.

Nobody should be missing out on a career, education or healthcare that can be provided by broadband services and businesses can boom through its use. Satellite is the *only* way to provide broadband to every corner of the globe. We should be using it at every opportunity. ●