Nordic companies in a leading position
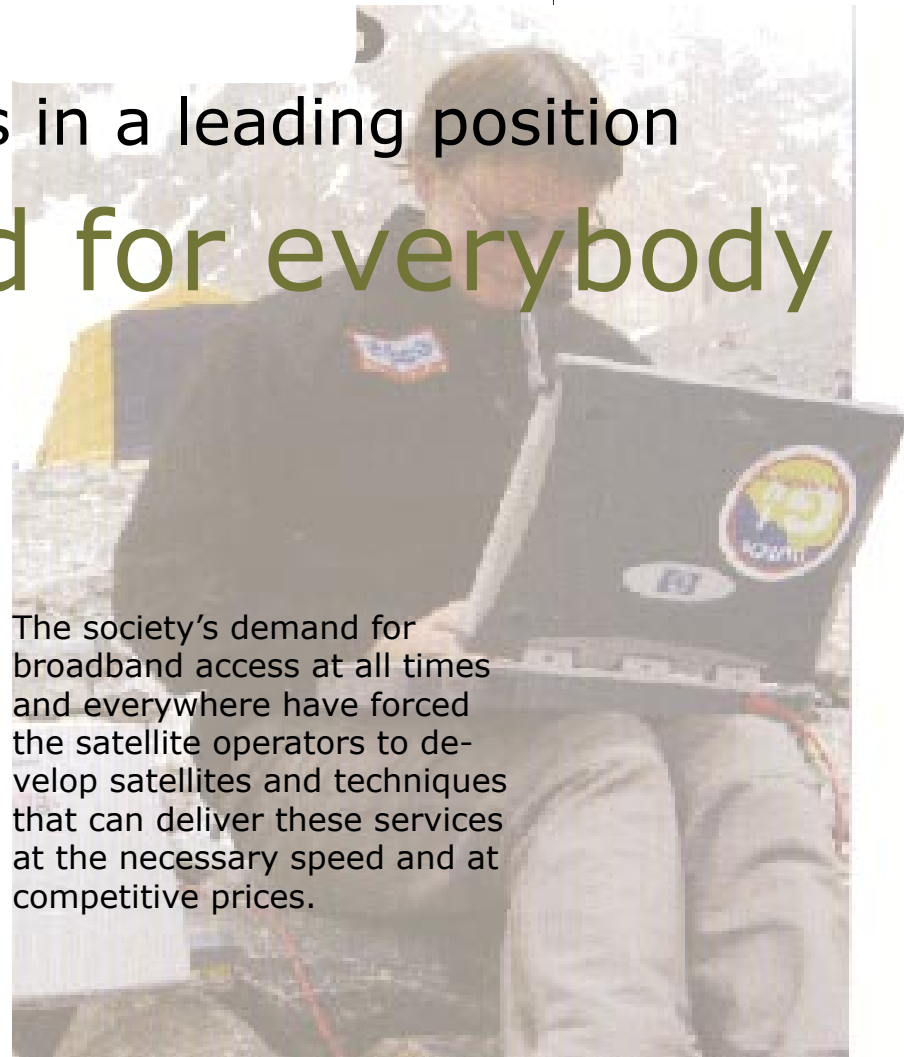
Broadband for everybody

Inmarsat, having launched the new Inmarsat-4 satellites, have taken the consequences of this, and we are happy to see that two of the leading suppliers for equipment for this service are Nordic companies; the Danish Thrane & Thrane and the Norwegian Nera SatCom, and a leading supplier of services is the Norwegian Telenor.

It was in December last year the first Inmarsat -4 satellite went into the operative phase and therefore provided possibilities to launch the Broadband Global Area Network (BGAN). That is a service based on the forth generation of Inmarsat satellites. Compared with the existing I-3 satellites the I-4 is 60 times more powerful, has 25 times the receiver sensitivity, 16 times higher capacity and 12 times greater radio spectrum efficiency, and the orbit test has also proven the I-4's ability to deliver unprecedented mobile broadband data speeds up to 492 kbps.

Preparing for launch of the new service has for several years been through the Regional BGAN system. These systems have used one of the Inmarsat-3 satellites to offer broadband services for most of Europe, the northern part of Africa, the Middle East, India and east to China. These users now can convert to the real BGAN through a simpler way.

The new services that have been established are a natural development of communication services Inmarsat has offered from the start of the company. The difference from previous systems is the higher capacity, light and simple terminals, and as a consequence of that, the terminals can be used everywhere, not only on large ships as initially intended. The service and the terminals are therefore useful for all needs of communication with others, especially in areas without the necessary infrastructure.

Even before BGAN was made commercially available in December the supplier of the special SIMcard for the system was sold in a number of 7500 from its distribution partners and customers for BGAN SIM cards. This SIMcard is inserted in the BGAN terminal and holds all the unique data about the user, including their phone number and preferences. According to the distributor, the demand from its distribution channel is a leading indicator of their interest in selling the BGAN service and the demand they anticipate in the market

The society's demand for broadband access at all times and everywhere have forced the satellite operators to develop satellites and techniques that can deliver these services at the necessary speed and at competitive prices.

Gateway operator Telenor Satellite Services offers BGAN service

Baard Kringen,
Nordicspace

Photo: Inmarsat

Telenor Satellite Service, subsidiary of Telenor of Norway, has announced that its Broadband Globel Area Network Service is commercially available to customers in Europe, the middle East, Asia and Africa. This announcement coincides with Inmarsat's launch of the new global voice and broadband data service.

Telenor Satellite Services is the only BGAN Distribution Partner to offer TerralinkTM, a proprietary IP networking platform and Global Points of Presence (PoP) Network. That enables Telenor's BGAN users to take IP networking to higher levels of performance and capability. The Telenor BGAN PoP located in Norway is an integrated part of the Inmarsat BGAN Core Network and is connected to the Inmarsat Satellite Access Station through high capacity leased lines.

Telenor Satellite Services has been working with Inmarsat in preparing for commercial launch of BGAN service for more than five years and has been recognized by Inmarsat as both Day One Launch Partner as well as an Interconnected Partner for the service. Telenor and its subsidiaries are at the forefront in ordering terminals, testing the system, developing new easy-to-use business support tools, and training their personnel and Service Providers to ensure a successful launch of BGAN sales. Telenor will continue to offer termination of all Inmarsat Standards and services, including BGAN, in all ocean regions through its terrestrial network.

The fourth generation of Inmarsat satellites

With the slogan, Inmarsat-4 Gateway to broadband, Inmarsat set the first of three new satellites in commercial operation over the Indian Ocean Region late in 2005. The second satellite is launched, and will be operational in the summer of 2006 over the American continent. With

these two satellites operational, eighty percent of the Earth's land masses can access broadband communication.

The Inmarsat -4s are like the predecessors, equipped with a single global beam that covers up to one third of the Earth's surface, apart from the pole area. Each satellite also generates 19 wide spot beams that provide continues coverage across the same region for Inmarsat's existing high-end services. New to the I-4 are an additional 228 narrow spot beams, designed to form the backbone of Inmarsat's future broadband services, including the Broadband Global Area Network. Inmarsat can, through the new satellites, deliver Internet and Intranet content and solutions, video-on-demand, videoconferencing, fax, e-mail, phone and LAN access at speeds of up to 492 kbps. Together, the I-4 beams will service about 85 percent the world's landmass or 98 percent of the population.

The Inmarsat satellites are positioned in geostationary orbits and are controlled from the Satellite Control Centre (SCC) at Inmarsat Headquarter in London, which is responsible for keeping the satellites in position and for ensuring the onboard systems are fully functional at all times. Data on the status of the satellites is supplied to the SCC by four tracking, telemetry and control stations around the world, and one back-up station is situated in Eik, Norway.The Nera WorldPro 1000 uses an antenna
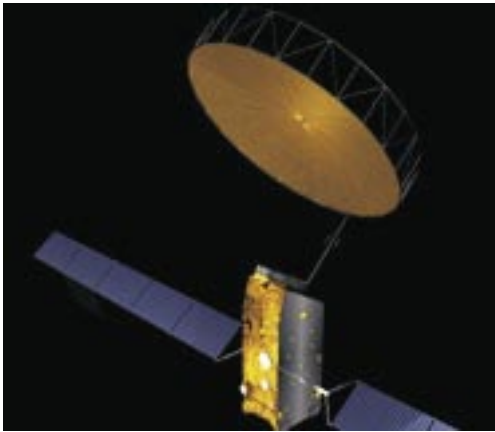
Simple steps to broadband service

Inmarsat has designed the LaunchPad software to be both simple to use and flexible so that customers can adapt it to their needs. BGAN allows advanced users to fine-tune the service, while enabling novices to get started in a couple of clicks, says Inmarsat's commercial director.

Getting started with BGAN is easy. Users simply insert a CD-ROM into their computer and load the software. The package is compatible with systems based on Windows, Apple Mac and Linux operating systems. The interface itself is an intuitive and clearly labelled dashboard that can be accessed both via a desktop icon and the application system menu. Once loaded, BGAN LaunchPad guides the user to position their antenna to receive the best signal from the Inmarsat -4 simply by clicking on a world map. BGAN LaunchPad built-in wizard then delivers the correct co-ordinates (antenna angle and compass direction) required to set up the antenna. When the antenna is operational, users can keep abreast of the strength of their signal via a chart in the corner of the interface screen. The next task is to log on to the BGAN mobile broadband service, which again is a simple one-click process that, on average, takes about ten seconds.

Equipment for connection to the broadband services

Two Nordic companies are among the few companies that deliver portable equipment for connections to the broadband satellites, the Danish Thrane & Thrane and the Norwegian Nera SatCom. Both have developed lightweight terminals at a weight of about one kilogram and at a size like a notebook. Both are very easy and simple to operate and have capacity to transmit signals at high rates. Utilising the Inmarsat BGAN services, users of the terminals can have broadband capability, as well as voice telecommunications, from remote locations around the world.

Thrane & Thrane Explorer 700

Thrane & Thrane used the 2005 SatCom show in New York last October to unveil its Explorer 700 BGAN terminal. It is the company's second BGAN product – completing the small, lightweight Explorer 500 that was announced the spring of 2005. The Explorer 700 will offer up to 492 kbps on a shared basis, as well a streaming IP with an bandwidth of 32, 64 126 or 256 kbps. Other features include access points for fax, phone and Ethernet interfaces that support the most common systems. In another recent development, T&T has partnered with wireless communications provider TeleCommunication Systems (TCS) to integrate Explorer BGAN terminals into TCS's proven SwiftLink family of secure deployable communications solutions for the military markets.

Via the satellite the users can have access to phone and fax service, E-mail servers, large file transfers, Internet browsing, videoconferencing and streaming and corporate servers via VPN.

Nera SatCom's WorldPro 1000

The Nera WorldPro 1000 uses an antenna unit that homes in on the new Inmarsat I-4 satellite. This gives the Nera WorldPro 1000 capacity to receive at 384 kbps and transmitting at 240 kpbs. These rates are similar to terrestrial broadband and five to six times better than the existing mobile satellite services.

The Nera WorldPro 1000 is designed as two units, with the antenna unit detachable from the interface unit. This enables the user to work indoors, while the antenna unit is placed outdoors, in line of sight to the satellite. The two units can also be joined as one to keep the terminal compact for travel.
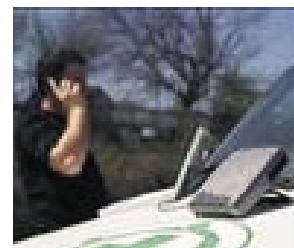
How it work!

A call from an Inmarsat mobile terminal goes directly to the satellite overhead, which routes it back down to the gateway on the ground called a Land Earth Station (LES). From there the call is passed onto the public phone network.

Established in 1979, Inmarsat was the World's first global mobile satellite communications operator. It still is the only one to offer a mature range of modern communications services to maritime, land-mobile, aeronautical and other users. Nera SatCom's WorldPro 1000 weighs less than a kilogram, measuring 15 by 20 cm and has a broad range of applications. Its high portability and light weight make it versatile and an ideal tool for professionals who have to work at different sites - including remote areas without communications infrastructure - and who rely on compact, lightweight equipment to carry out their tasks. The largest segments are expected to be defence and military, aid and rescue, construction and mining, media and printed press, civil government, oil and gas.