



**Islander January 2014**

## **Technology Update**

### **Connecting to Your Future**

Throughout 2013 we ran a series of seminars entitled **Connecting to Your Future**. The first of these seminars was held in May at the Automobile Club de Monaco, and we hosted the last one of 2013 in Barcelona in early December. These were all warmly received and we aim to continue this series with regional events during 2014.

Because there is so much growth occurring in the mobile communications industry in order to handle the insatiable demand for data, we began the seminar series as an educational exercise rather than a sales exercise by focusing on the new technologies and the new features of the different services.

Whenever possible, we introduced an interesting key-note speaker who is a technology leader in a particular area. For example, we invited Dr. Waguih Ishak, Division Vice President and Director Corning West Technology Center, Palo Alto, California who wowed the audience with Corning's vision of how our lives will shortly be transformed and governed by interactive glass, as per their view of the future in their video "A Day Made of Glass 2" on YouTube.

In the world of Mobile Data your future will arrive sooner than expected, and in 2014 we can look forward to some new and really interesting developments becoming available.

### **What is Mobile Data?**

Mobile Data was initially based around email, Internet browsing, voice over IP and work-related activities. This has since grown, as social networking has become a dominant application, with video calling and video media, such as live streaming and downloading movies and TV, growing inexorably.

Basically, as soon as faster internet access becomes available on land it is immediately used to the maximum capacity.

Once new, faster internet access is available at home or in the office, the same experience is expected afloat. Maritime VSAT is typically slow, expensive and inconsistent. But this is set to improve and when combined with other new services will get a lot better. However, more of this later.

### **Mobile Data Usage Trends**

There has been a sea change in the way information is accessed.

#### **HEAD OFFICE**

Palma de Mallorca, Spain

TEL +34 971 404 208

[www.e3s.com](http://www.e3s.com)

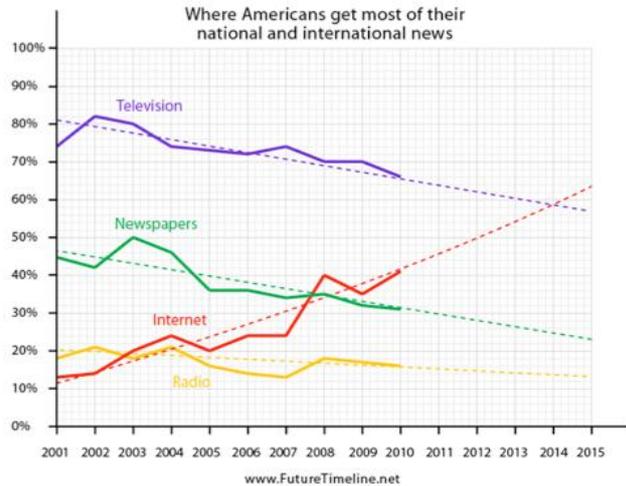
FAX +34 971 404 431

[info@e3s.com](mailto:info@e3s.com)



The use of smartphones and tablets now starts with toddlers, continues with “screenagers”, and carries on all the way through to the Silver Surfers. Today’s young adults are technology natives, unlike us older folk who are technology immigrants. We do our best and certainly use and enjoy the technology, but in all honesty we are not quite so intuitive.

In the period from 2001 to 2010, using the TV to access the news has fallen from 74% to 65%, using the newspaper has fallen from 45% to 31%, and the radio from 18% to 16%. However, the use of the Internet to access the news has grown from 14% to 41%. The TV was still the largest medium for accessing the news but in 2014 the Internet will exceed that!



Everyone who is using the Internet is using video, whether Skype with video, or downloading movies, or watching YouTube videos. Cisco predicted in 2012 that mobile video would be the biggest driver of all and increase year by year to be the same as the total internet usage the year before. This is actually happening. Netflix and YouTube accounted for 28% & 17% respectively of all Internet traffic in North America at the end of 2013.

### Mobile Data Costs

This has to be a challenge for yacht owners. An owner’s kids might complain to him that their Internet experience on board is “so slow!” and they can’t keep in touch with their friends or watch the movies they want to. But when faced with the fact that downloading an HD movie on board via Fleet Broadband will currently cost \$35, as opposed to the \$0.02 at home, it makes sense to keep the bandwidth plan modest.

### The Ideal Data Solution will be with you sooner than expected

Clearly we need more speed to keep up with our new demand for video. We have new, bigger and faster data satellites being launched all the way through 2014 and onwards. The satellites currently in build and due for launching will provide ten times more than the total capacity of bandwidth available at the end of 2013 in the next two years. 4G LTE services currently offering 25Mbps speed are being launched in all the main areas of





population ashore. Since Vodafone sold their interest in Verizon USA they have put aside \$6 billion to fund Project Spring, which aims to deliver 4G LTE to 90% of the population in their 5 main European networks by the end of 2015. By 2018 we will see 5G with speeds in the range of 1.3Gbps! In addition to this, we will see a growth in long range wi-fi and wi-max services along the coasts of the Mediterranean and around the islands of the Caribbean with forecast speeds from 100Mbps to 1Gbps.



As mentioned earlier, the future will arrive sooner than we expected!

### **The cost will also be lower for many new reasons**

Due the economic principle of **supply and demand** the increase in the number of services, whether satellite, 4G or long range wi-fi will generate price competition.

**Hybrid services** will also keep the costs of running the communications service to a minimum. Hybrid means having a data communications service that is made up of different connections, each with a different performance that automatically switches in when they become available. A typical example is to supplement the VSAT bandwidth with 4G and long range wi-fi services offering 20-100 Mbps when in range. By keeping the VSAT bandwidth low, thus the cost down and switching to much cheaper but much higher bandwidth connections the “heavy lifting” such as downloading movies and uploading video and photos can be done when using those connections.

**Dynamic Bandwidth Allocation** is a new and rather amazing new feature of the new Global Xpress VSAT service from Inmarsat that will save a lot of unnecessary cost. It means that bandwidth will be allocated automatically when it is needed and switched off when it is not required. So, take for example, the owner wanting to watch his home IPTV in HD that requires a protected 2Mbps connection. Rather than buying this 2Mbps bandwidth ahead of when he needs it, whether he uses it or not, and possibly for a minimum period of one month, with Global Xpress when he is on-board and wants to watch it he switches the TV on and the bandwidth is automatically raised by the 2Mb until he switches it off and he will only be charged for the period it was being used by the minute. This means the base VSAT bandwidth required would be a lot lower and a fixed fee can be paid for the number of minutes of TV needed over a period of time.



**Bandwidth Management and Monitoring** will also keep costs lower. A device such as our market leading e3.ARMMS system has to be installed as a matter of course.



### When is this all happening?

It's all happening right now! 4G LTE services are being launched worldwide. The first Global Xpress satellite was launched in December, and we will be conducting beta tests in the first half of the year with the opportunity of providing a regional Med and Indian Ocean GX service from half way through the year. The next two satellites will be launched during the year with global coverage by the end of the 2014. Long range wi-fi trials are taking place now. The glue that helps it all work together on-board the yacht, our e3.ARMMS Data Management system, is available now.

So that is why we are saying it is “sooner than we all expected!”

Roger Horner of e3 Systems

For further information on any of the above, please contact us.

email on [info@e3s.com](mailto:info@e3s.com) and website [www.e3s.com](http://www.e3s.com)

Tel: +34 971 404 208

#### HEAD OFFICE

Palma de Mallorca, Spain

TEL +34 971 404 208

[www.e3s.com](http://www.e3s.com)

FAX +34 971 404 431

[info@e3s.com](mailto:info@e3s.com)