



Cover Story

## The 3G search for higher data ARPU

*Broadband maybe going mobile but data ARPU remains stubbornly static*

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The number of 3G subscribers in developed markets is slowly, but surely, picking up pace. Unfortunately, the same can't be said about mobile operators' ARPU (average revenue per user).

If we look at Vodafone's key performance indicators as a crude barometer of 3G take-up rates as a whole, we see that for the three months ended 30 June 2006 it attracted 1.21 million net additions for '3G devices' — which includes phones and PC data cards — in its European markets. This took Vodafone's total number of 3G devices in the region to 8.65 million. It's still a comparatively small figure, however, as Vodafone's proportionate subscriber base in Europe stood at just over 94 million at that time.

In the following quarter ended 30 September 2006, Vodafone managed to increase the number of 3G devices in Europe by 1.72 million — around a 50 percent increase in 3G net additions from the previous quarter — to take the total number to 10.4 million out of a total proportionate customer base of around 95 million. The introduction of HSDPA data cards earlier in the year, capable of download speeds of up to 1.8Mbps, was no doubt an important contributory factor to its increased 3G momentum. (Vodafone doesn't break out its HSDPA data card subscriber figures.)

The problem for Vodafone — and many other 3G operators — is that the steady rise in 3G subscribers is not yet making a dramatic impact on monthly ARPU levels. True, Vodafone can report that data revenue (which excludes messaging revenue) rose by a healthy 29.1 per cent in Europe to £603 m in the six months ended 30 September 2006 compared to the same period the year before — helped along by increased rate of 3G adoption — but that £603 m figure still represents only around five per cent of the operator's total service revenue for the region. The rest of Vodafone's service revenue in Europe is made up of voice (81 per cent) and messaging (14 percent).

Meanwhile, primarily due to regulatory and competitive pressures on voice call pricing, average monthly ARPU in each of Vodafone's major European markets — Germany, Italy, Spain and the UK — was lower in 2006 than it was in 2005.

Of course, operators can point out that the lower cost base to deliver voice calls that comes with higher-capacity HSDPA networks gives them some scope to lower prices and, perhaps, even improve margins.

"3G is not just about data," says a Vodafone spokesperson. Even so, it is difficult to argue that a lack of real movement on data adoption is anything other than a drag on financial performance. And worryingly for mobile operators, higher-speed cellular networks don't necessarily translate into a markedly higher data revenue performance — at least not yet. In the US, Verizon Wireless — which is rolling out the Revision A standard of CDMA2000 and is capable of delivering 3.1Mbps on the downlink — reported that data revenue (including messaging) was 14.1 percent of overall revenue during 3Q 2006.

Cingular, which is rolling out a nationwide HSDPA network (capable of 1.8Mbps on the downlink), was close behind with data revenue accounting for 13 percent of overall revenue during the same quarter.

Significantly, T-Mobile USA — which won't be rolling out UMTS until mid-2007 and is relying on EDGE for 'high-speed' data (384Kbps on the downlink) — managed to chalk up a comparatively respectable 11 percent of its revenue through data services during 3Q 2006.

One obvious interpretation of these financial results is that there are still no compelling high-speed applications to persuade customers to pay higher monthly bills. "We're not there yet in terms of data applications," concedes Chris Pearson, president of 3G Americas — an organisation that champions the GSM family of technologies in North and Latin America — "but in the meantime we have to be careful as an industry [both CDMA and GSM camps] that the early customer experience of data services is not a negative one. Once customers realise what they can do with faster download speeds, the more they will use it."

Pearson expects that a variety of applications — based on such things as music downloads, video, e-mail, messaging, location-based services and internet surfing — will eventually drive higher data revenue. "Customers first need to be made aware of the possibilities," he says. "Education and ease-of-use will be key."

Time for mobile video?

Given the higher capacity of next-generation mobile networks over 2.5G and 2G, Mitch Lewis — VP of marketing & product management at US-headquartered Dilithium Networks — believes that one of the biggest revenue-generating opportunities for 3G operators resides in video-based applications.

"In large parts of the 3G network, many of the radio and core networks are under-utilised, which is not surprising since they weren't exclusively designed for voice and text," he says. "The business case is very, very strong for mobile video."

Dilithium, as a supplier of multimedia gateways that facilitate multimedia applications over 3G networks, does of course have a vested interest in talking up the mobile video market. But if the company's forecasts are anywhere near correct, then mobile operators can expect an attractive 3G dividend. During 2006, Dilithium calculates that the mobile broadband multimedia market was worth US\$1.1 bn — that goes up to an annual revenue figure of US\$23.3 bn by 2010 (**Figure 1**). "Cheaper video calling prices, increasing customer awareness of applications and ease of use will all help stimulate demand," says Lewis.

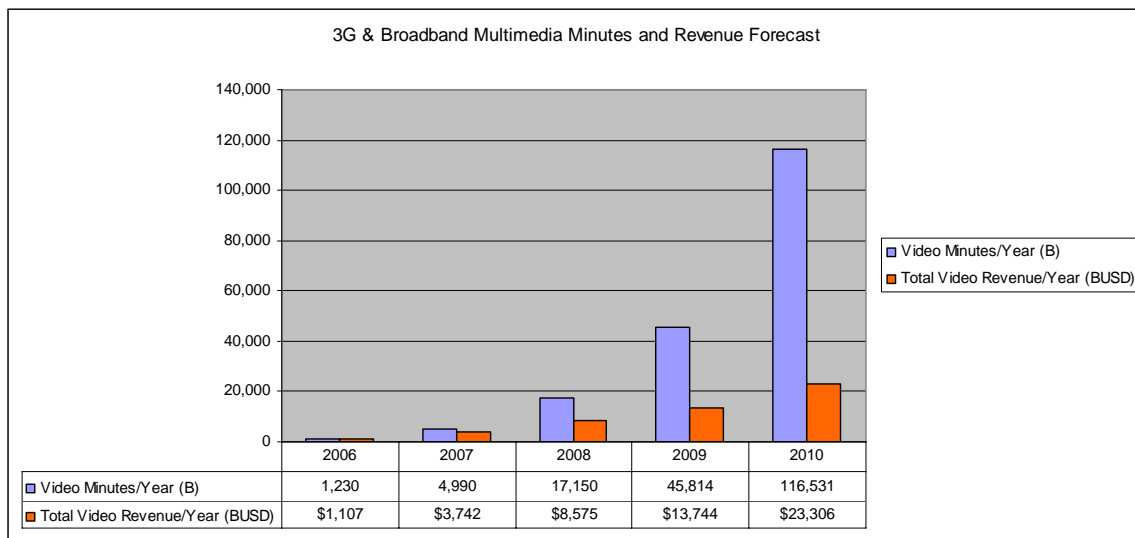


Fig. 1 Forecast for 3G and broadband multimedia minutes and revenue

Ease-of-use goes to the heart of the Dilithium proposition. One function of its multimedia gateway is AnswerFast Plus, which allows video calls to be set up in less than one second. A big improvement on the lengthy 5-8 seconds that video-calling customers had to put up with before and which, says Lewis, hampered take-up.

Many of Dilithium's patents related to AnswerFast Plus were incorporated by the ITU-T in August 2006 to create an industry standard — known as Media Orientated Negotiation Acceleration (MONA) — for call set-up acceleration. "We expect that each of the major handset manufacturers will begin shipping MONA-compliant handsets this quarter [1Q 2007]," says Lewis.

Although Lewis expects video streaming and messaging to be among the most popular of the mobile video applications, he is also confident that video MRBT (media ring back tones) will prove a hit. Instead of the video caller hearing a ringtone when waiting to get through, he or she can see a video. "Video ringback tones will generate less minutes than other video applications but operators can also make money from the video downloads in much the same way as they have made money from music ringtones," says Lewis.

SK C&C, the systems integrator arm of SK Telecom — South Korea's most popular mobile operator — is Dilithium's first customer for MRBT. "The southeastern Asia markets of Indonesia, Malaysia and Singapore will follow but we've also had interest from European operators in the service," says Lewis.

#### Bringing broadband to mobile

In November 2006, Hutchison Whampoa — the Hong Kong-based conglomerate — announced what it called 'a new of doing business for mobile network operators' with the launch of the X-Series. Made available first in Hutchison's UK operations just before last Christmas, '3' can offer 'unlimited' messaging and Skype calls, the ability to access PC files and even mobile TV.

"The whole strategy revolves around bringing the fixed-line broadband experience to mobile," says a spokesperson for the 3 Group (which represents 3G operations in Italy, UK,

Ireland, Sweden, Denmark, Austria and Australia). By the time of the 3GSM Congress held in Barcelona this month, the same spokesperson says that the X-series will be available in Sweden, Denmark and Hong Kong.

The pricing of the X-Series is a flat monthly rate (£5 or £10 in the UK depending on the package) and a bolt-on to the voice and text bundles that '3's customers already have. It's a strategic approach that could well be the ARPU boost that mobile operators are looking for, provided they can execute well. This will require, at the very least, faster-speed mobile networks. "The X-Series anticipates the arrival of HSDPA and HSUPA [theoretical downlink speeds of up to 7.2Mbps and uplink speeds of up to 5.6Mbps]," says the 3 Group spokesperson

At the chipset level, work on HSUPA appears to be advanced. "We should have a single chipset solution, commercially available, by March 2007," says Enrico Salvatori, VP and general manager of Qualcomm (Europe). "HSUPA cards would then be available almost immediately after that with handsets perhaps ready before Christmas this year." The question remains, of course, how far mobile operators can leverage the technological advances to boost data ARPU.