



Mobile Matters.

Insights on telecoms, media and technology

Issue 2

September 2010

EUROPE'S DIGITAL DIVIDEND

'We would like NRAs to take a holistic approach towards the availability of spectrum. The worst thing for us is when spectrum is made available on a piecemeal basis, which makes it difficult to place a value on it.'

Robert Mourik

Head of European regulation at Telefónica

The EU is making progress in harmonising digital dividend spectrum for mobile broadband usage, but operators may have to wait longer than they would like to get their hands on it.

Mobile operators invariably want more frequency airwaves (spectrum) to deliver voice and data services. That is because they do not feel they have enough existing capacity to serve customers adequately today – thanks to expanding smartphone adoption and burgeoning use of bandwidth-hungry data applications – or they anticipate customer demand will grow to such an extent they will need extra spectrum in the near future.

As spectrum is a finite resource, however, and various industry sectors have claims on it, governments and national regulatory authorities (NRAs) face tough decisions about who gets what and when. Regulators can rarely please everyone, and the mobile industry is no exception. In a recent survey of 391 mobile industry executives conducted by the Economist Intelligence Unit, more than a quarter of respondents said that shortage of available spectrum was one of the greatest risks facing mobile operators in mature markets over the next three years. The spectrum shortage looks even more severe elsewhere, with more than a third of survey respondents saying the same for operators in developing markets.

26%

of respondents see spectrum shortages as one of the greatest risks facing mobile operators in mature markets...

... compared with...

36%

for mobile operators in developing markets

‘The role of the regulators, in setting the framework for an efficient, technology-neutral 4G roll-out, is now more important than ever in helping rural areas gain equal access to broadband services.’

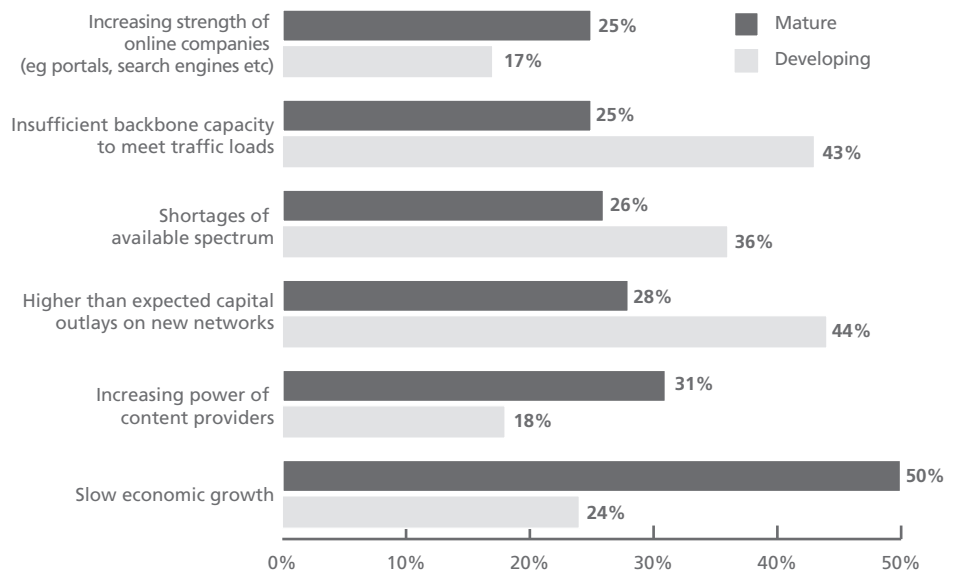
Thomas Tschentscher
Partner, Freshfields

The so-called digital dividend, however, offers mobile operators the prospect of some spectrum relief. As broadcasters move from analogue to digital terrestrial TV, they free up spectrum (the digital dividend) that can potentially be used for purposes other than broadcasting.

The freed-up spectrum is particularly attractive in that it belongs to the sub-1GHz frequency range. This means not only better in-building coverage for wireless networks, but also that radio signals travel much farther than on mobile operators' current 3G networks (which typically run in the higher 2.1GHz frequency band). For operators it would therefore be much cheaper – up to 70 per cent according to some analyst estimates – to achieve a specific level of wireless broadband coverage using digital dividend spectrum than it would using the 2.1GHz band. For regulators and governments aiming to extend access to broadband services nationwide, the digital dividend makes that goal much more achievable.

But how much digital dividend spectrum should be allocated to mobile broadband (or, in NRA parlance, electronic communications services)? And can a region as diverse as the EU, with 27 member states and 27 NRAs, successfully co-ordinate the management of the digital dividend so as to reap its full benefits? Without spectrum harmonisation, ensuring that the same frequency bands are available for the same purpose in different countries, services from the EU's mobile operators will fall foul of cross-border interference and roaming difficulties, which will dampen revenue. Equipment costs will also be higher through lack of scale.

What do you see as the greatest risks facing mobile operators over the next three years in mature and developing markets? Select up to three in each group of markets.



Source: Economist Intelligence Unit survey, June 2010.

Sounds of harmony

Despite the formidable logistics of creating an EU-wide digital dividend, mobile operators have grounds for optimism it can be achieved. The European Commission has been pushing hard, and with some success, for all member states to complete the process of switching from analogue to digital broadcasting by the end of 2012, which will free up spectrum. (Eight EU members have already completed the switch-over, as have individual regions in four others.) Much of this spectrum falls in the so-called 800MHz band and a growing number of Europe's NRAs and governments, also with Commission encouragement, are committing to make it available for mobile broadband services.

In May 2010, the Commission announced a set of technical rules for each member state to follow if they choose to make the 800MHz band available for this purpose. The guidelines should minimise the potential for interference with broadcasting services in adjacent frequencies, as well as laying the technical foundations for harmonisation at 800MHz. Mobile infrastructure equipment and handsets, using the same radio specifications in this band, should now perform just as well in each EU country.

'We are quite happy with the way things are going on 800MHz harmonisation, as it takes care of economies of scale and lowers equipment costs,' says Robert Mourik, head of European regulation at Telefónica, whose European mobile operations include Germany, the Czech Republic, Slovakia, Ireland, the UK and its home market of Spain. 'The question now is when the spectrum is made available and how it is made available. I would like to see the EU set a mandatory deadline of no later than 2015 for all member states to allocate 800MHz for mobile broadband services.'

Encouragingly for operators keen to get their hands on digital dividend spectrum, the allocation process has already started. In May, Germany was the first country in Europe to complete the auction of 800MHz spectrum. And operators in other parts of Europe may take heart from its organisation: a limited number of bidders, multiple frequency bands auctioned at the same time and no restrictions placed on use of the spectrum aside from those meant to preclude interference.

The new wisdom of auctions

A decade ago, spectrum auctions in Europe looked an easy way for governments to make lots of money – a windfall tax. As mobile operators and new entrants got excited about acquiring frequency airwaves that would enable them to offer faster mobile data services using so-called 3G networks, bidding often became frenzied. In the UK, successful bidders ended up paying a total of £22.5bn (€27m at today's exchange rates) for 3G spectrum. In Germany, the auction process swelled government coffers by an enormous €50bn.

Ten years on, the mobile industry is – if not sadder – wiser. Germany's new round of spectrum auctions completed in May, which will allow successful bidders to roll out even more advanced mobile broadband networks, raised a comparatively modest sum of just under €4bn. True, there were only four bidders in the German auction, which helps explain why prices did not spiral out of control, but mobile operators have also become much more conservative in their valuations of spectrum. Many have learned the hard way, through the 3G experience, that paying excessive amounts for spectrum can wreak havoc on the mobile broadband business case.

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Europe's digital dividend was written in association with the Economist Intelligence Unit.

Discordant notes

There are still forces that may blow Europe's digital dividend off course. One is operator resistance to 800MHz auctions taking place if there is no clarity from NRAs and governments about what they intend to do with other frequency bands. 'We would like NRAs to take a holistic approach towards the availability of spectrum,' says Mr Mourik. 'The worst thing for us is when spectrum is made available on a piecemeal basis, which makes it difficult to place a value on it.' In Ireland, Telefónica's 900MHz GSM licence is due to expire next year, but Mr Mourik reports that the regulator has still to provide clarity regarding what will happen at this time. 'It is important to know whether the existing licence period will be extended, or even whether Telefónica will be able to re-farm 900MHz for 3G services,' he says. The answers to these questions will have a bearing on how Telefónica values 800MHz spectrum in Ireland, because they will largely determine how urgently the operator needs to access digital dividend spectrum.

There are also fears among Europe's mobile operators (implicit in Mr Mourik's call for a mandatory deadline) that some NRAs will drag their feet on clearing and awarding the 800MHz band for mobile services. NRAs may also find it difficult to implement an effective spectrum-clearing plan in a timely manner, as Mr Mourik concedes, if they are not responsible for both broadcasting and telecoms regulation.

Technical difficulties need to be overcome, too, explains Graham Louth, spectrum policy director at Ofcom, the UK regulator (whose brief does include both telecoms and broadcasting). 'There needs to be co-ordination with neighbouring non-EU countries, some of whom use the 800MHz band for purposes other than TV broadcasting, and which could cause interference with mobile broadband services using digital dividend spectrum within the EU,' he says.

But even if all the regulatory and technical problems are solved, the digital dividend may not be enough to sate mobile operators' appetite for spectrum. 'This allocation is very welcome but it is still a fairly small amount of spectrum, which will be used up fairly quickly if current mobile data trends continue,' says Mr Mourik. 'We may want to start a discussion in the next four to six years about making more spectrum available.'

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