

Eastern Europe and the digital dividend

by Marius Catalin Marinescu, President, ANCOM, Romania

In Romania, as in much of Eastern Europe, there is a great need for the benefits that broadband, especially mobile, can bring. Mobile broadband, as in most developing regions is the best option. The move to digital TV frees frequencies that are ideal for LTE broadband, but the allocation of these frequencies and the coordination of the policies with neighbouring countries raises complex issues. Romania has been at the forefront of regional efforts to resolve these issues and bring broadband to its people.



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The battle for lower frequencies

Digital dividend for the digital divide - Bidders in the 2010 German spectrum auction were especially interested in the so called digital dividend spectrum. €3.576 billion or 81.6 per cent of the total outcome derived from the auctioning of 60MHz of spectrum in the 790-862MHz band, while 298.8MHz in other various bands (1,800, 2,100 and 2,600MHz) attracted only €809 million!

Why is there such huge interest in this newly freed band; is it because of their good propagation in difficult rural areas? The digital dividend band is also attractive for mobile communications; it could increase Internet penetration and significantly impact the economy by driving innovation, job creation, productivity and competitiveness, especially in regions like Eastern Europe.

Re-farming GSM spectrum - Last year, the European Commission amended the GSM

Directive so the 900MHz band can now be used for any technology, including 3G/4G. Many regulatory bodies started to allow cellcos to use this band for 2G and 3G networks, leading to problems with spectrum limitations. Now, in Romania, 3G incumbents want spectrum in lower bands as well, to compete with new 3G cellcos on an equal footing, but the spectrum is not available.

CDMA 450 operators and LTE - In September 2010, six mobile operators from Russia, Latvia, Belarus, the Czech Republic, Mongolia and Romania that run CDMA networks in the 450MHz band asked the ITU and their respective regulators for permission to deploy LTE networks in the band.

EU - broadband for all - The EU 'Internet for all EU citizens' programme also increased demand for this spectrum. To improve the economy, the programme aims, by 2013, to provide all EU citizens with basic broadband coverage and, by 2020, with fast broadband

coverage at 30 Mb/s. The EU hopes to have at least half of Europe's households subscribing to 100 Mb/s broadband access by then.

The LTE advantage - Currently, the best technology for EU broadband coverage is LTE using the lower frequency bands to reduce capital expense. Cellcos in Europe are already using LTE in field trials and Germany is the first country that auctioned the digital dividend spectrum - one of the biggest bidding contests since the 3G contests in 2000.

Nevertheless, despite several commercial launches, LTE is still not a mature technology and few handset models are available - but the market is pushing hard...

Digital dividend - a regional approach

Harmonisation of spectrum usage on a regional basis is needed for economies of scale, to drive down handset and network

equipment costs, make broadband access affordable and to reduce the region's digital divide. Coordination, however, is more complex because our region is on the border of the EU.

First regional summit on the digital dividend - On March 30, 2010, Bucharest hosted the first regional summit on the Digital Dividend in Central and Eastern Europe. The summit organized by ANCOM, assembled representatives from Bulgaria, Croatia, Greece, Hungary, FYR of Macedonia, Republic of Moldova, Montenegro, Republic of Serbia, Slovenia and Romania. The summit sought to identify the challenges of the digital switchover and of the allocation and usage of the freed band and aimed to facilitate regional coordination, and covered regulatory and strategic matters related to digital dividend and business- and technology-related topics.

It was the starting point for future cross-border coordination and a regional calendar. The participants also analysed other hot topics: spectrum harmonisation, frequency problems at borders, how to regulate, the importance of bilateral/multilateral meetings for a regional approach, etc.

The second regional summit on the Digital Dividend - Belgrade hosted the second regional summit on the Digital Dividend in Central and Eastern Europe (June 15-16, 2010). The event organised by the Ministry of Telecommunications and Information Society brought together representatives of 13 countries to develop a unified approach to the allocation of the digital dividend.

The summit proposed a website dedicated to regional synchronization of digital dividend band usage and to accelerate common decisions on the auctions and timing, technology to be used, etc.

Romania organises a new international event - ANCOM is continuing its mobile communication regional harmonisation efforts; it organised a new event in Bucharest (May 12, 2011) dedicated to regional radio spectrum strategies. Auction design and timing in our region are among the topics on the agenda.

Auction design - going for a regional approach

Beauty contest or auction? - Another hot topic is how to design the contest to best award the digital dividend band. According to the economists, 'a well-designed auction is the method most likely

to allocate resources to those who can use them most valuably'.

Auctions are not new in telecommunications - USA and FCC pioneered spectrum auctions in 1994. Auctions came later to Europe, such as in UK, in 2000 - the biggest auction ever - or in Germany, and 3G licences were awarded at huge prices. The results of auctions are much higher than with beauty contests. The money became available for governments to use for national broadband development or, in the worst case, they could go to the state treasury. The 3G auction in the UK in 2000 raised US\$34 billion (£22.5 billion), equivalent to 2.5 per cent of the country's GDP, enough to build 400 hospitals. The beauty contest for 2G licences attracted only £40,000.

Rather than relying on regulatory bodies and governments to assess the merits of competitors' business plans, an auction 'forces them to put their "money where their mouths are" when they make their bids,' according to Professor Paul Klemperer.

Economists and cellcos could argue that the auction high prices could increase cellcos indebtedness and harm their investment capacity. Do large auction fees slow investment because of capital market constraints? Theoretically yes, but it seems unlikely. For instance, Telefonica paid over US\$7 billion for a German 3G licence and almost nothing on its Spanish licence, but this seemingly had little impact upon Telefonica's investments in Germany and Spain.

One could argue that high licence costs are transferred to end-users as tariffs. Like any company, cellcos charge prices that maximise their profits, independently of past spectrum costs. Even if governments decide to refund licence fees, the tariffs would remain unchanged, because it would be irrational for a company to lower its price below the level the market can support.

A big problem with beauty contests is that they may expose the regulators to hidden costs: comparative selection criteria are typically time consuming to define and analyse and this process can take longer than expected. Moreover, decisions are vulnerable to legal challenge, leading to unpredictable costs. By contrast, the costs associated with running an auction are fairly predictable once the auction format is defined. Furthermore, one can expect to recoup these costs through revenues from the award, while some countries, like Denmark, require winning

bidders to share the regulator's costs, in addition to paying the fees.

Digital dividend, 2.6GHz and CapEx - Because of its better propagation, the 790-862MHz low-frequency digital dividend band is ideally suited for mobile broadband in rural regions where population density is typically low and scattered over large areas, while the higher network capacity 2.6 GHz high-frequency band is ideal for higher density urban areas. When bundling 800MHz and 2.6GHz bands in the same auction, the investments for developing LTE networks are minimised - a very important issue for a developing region facing an economic downturn.

CEE and LTE based services

The March 2010 Bucharest summit in launched a debate - Are the Central and Eastern European markets ready for the services based on the digital dividend? - to determine when a business case based on the new band and technologies could appear in our region.

Our region is still developing and 3G networks and services are not yet mature here. The networks do not cover the whole population or country (except for UMTS 900MHz networks which have a better coverage in Romania, despite their late arrival), while the speed, even if increasing, is still far from adequate. Accordingly, the usage of mobile data does not yet need the capacity potential LTE can bring. Nevertheless, the usage of portable PCs and smart-phones is increasing steeply and driving demand for mobile data. This will put pressure on network capacity within the next few years. Also, given today's low fixed-access Internet penetration, the potential market for mobile access seems huge.

The demand for mobile access is strongly related to the region's economics. Low GDP, low average wages, low purchasing power and the present economic downturn in much of our region are hindering the demand for mobile access. However, time is working in our favour.

The region will have to wait until after 2013 for the first commercial launches of LTE and the digital dividend band, although licences could be awarded sooner - in 2012, for instance. This will give time for the technology to mature and for the cellcos to prepare the commercial launch. By 2012, it seems the economic recovery is also likely to arrive. LTE is going eastward! ●