The 700 MHz Opportunity

History shows that winning a spectrum auction isn't the same as winning market share.

By Iain Gillott

The wireless and mobile industry has been an amazing global success story: In just 25 years, cell phones have gone from analog models the size of a small briefcase to today's multimedia, music-and-TV player, e-mail-spouting smartphones. Yet despite the technical developments and advances in handsets and services, one constant remains — the need for spectrum.

The laws of physics dictate that many aspects of wireless technology are determined by the spectrum used to provide the service. Although the details are complex, the basic rule is that the lower the spectrum used, the stronger the signal, which then is better able to penetrate buildings. Conversely, higher spectrum bands allow the use of lower power (and thus more cells in a given area), thereby increasing capacity. Historically, most cellular systems have operated in the 850–900 MHz band, with PCS services using 1800–1900 MHz. A few years ago, additional spectrum was licensed in various regions in the higher 2.3 GHz band.

Without spectrum, a mobile service provider cannot operate. Competition for spectrum is intense and the license-holder can determine many aspects of the service. RF spectrum has a tangible value and can be traded easily. Although some service providers have tried to use unlicensed bands, such attempts typically fail because it is very difficult to control the quality of service and provide a positive and differentiated customer experience.

Today, several countries — including the United States, Chile and India — are licensing spectrum in the 700 MHz band. Although the ultimate winners are currently unknown and the rules vary depending on the license available — some dictate the type of service that must be offered, for example — there are some things we do know:

- Given the price tag associated with spectrum acquisition, only the largest companies will thrive. The days when entrepreneurs could build sizeable operations from scratch are over. This doesn't mean that smaller operators can't succeed in emerging markets, but rather that the mature markets will continue to be dominated by incumbents and larger newcomers.
- Network technology is no longer a deciding factor. For example, a CDMA2000 1xEV-DO operator has as much chance of prospering as a service provider using UMTS/HSDPA. What is needed is a strong ecosystem of network infrastructure, devices, support services and applications, something the WiMAX community is in the process of building.
- Brand, market differentiation, service, support and distribution channels are key drivers in today's mobile market. Consider that one of the major MVNOs has consistently been rated higher for network quality than its parent operator, even though both use the same network and the same handset vendors. Network technologies have reached such advanced states of development that consumers can no longer differentiate based on quality of service alone — but they can quickly identify poor customer service and high pricing.
- Incumbent operators will get larger. As markets mature, consolidation is likely to gain the required economies of scale required.
- Building a new network — or expanding current services into a new license — takes time. A general rule to follow is that after a license is awarded, it takes approximately 18 months to introduce service and another five quarters after that before the operator will see an impact from the new network on their bottom line.

So although the 700 MHz spectrum is important to the industry, air alone will not separate the winners from the losers. There is no doubt that an operator needs licensed spectrum in order to succeed, but a license by itself is not a guarantee of victory in the marketplace. Wireless history is littered with operators that owned valuable spectrum but were unable to launch a profitable business

Iain Gillott is founder and president of iGR, an independent analyst firm specializing in the wireless industry. For more information, visit *www.igr-inc.com*.

Spectrum up for grabs

U.S.: 700 MHz band

Latin America

BRAZIL: Auctioned off 3G spectrum in 1900 MHz band; WiMAX spectrum in the 3.5 GHz band slated for later this year.

MEXICO: Regulators plan to sell spectrum at 1900 MHz, 2100 MHz and 1700 MHz. WiMAX spectrum in the 3.5 GHz band is slated for later this year.

COLOMBIA: 1700 MHz AWS band slated for this spring.

VENEZUELA: 60 MHz in the 1900 MHz band was auctioned in December.

CHILE: 700 MHz to be auctioned in 2009 for 3G. WiMAX spectrum in the 2.5 GHz band is slated for the second half of this year.

Europe

UNITED KINGDOM: Ofcom plans to auction spectrum in the 2010–2025 MHz and 2500–2690 MHz bands this summer.

NORWAY: Regulators auctioned 2.6 GHz spectrum in November.

SWEDEN: Two auctions are scheduled: One for 1900–1905 MHz and the other for 2.6 GHz.

Asia

JAPAN: Granted two 2.5 GHz licenses in December.

Analysts expect licenses in India, Japan and Thailand to release spectrum over the next year.

Acronym

AWS Advanced Wireless Services
CDMA Code Division Multiple Access
EV-DO Evolution — Data Optimized
HSDPA High-Speed Downlink Packet Access
MVNO Mobile Virtual Network Operator
PCS Personal Communications Service
UMTS Universal Mobile Telecommunications System
WiMAX Worldwide Interoperability for Microwave Access

North America

Tellabs
One Tellabs Center
1415 West Diehl Road
Naperville, IL 60563
U.S.A.
+1 630 798 8800
Fax: +1 630 798 2000

Asia Pacific

Tellabs
3 Anson Road
#14–01 Springleaf Tower
Singapore 079909
Republic of Singapore
+65 6215 6411
Fax: +65 6215 6422

Europe, Middle East & Africa

Tellabs
Abbey Place
24–28 Easton Street
High Wycombe, Bucks
HP11 1NT
United Kingdom
+44 870 238 4700
Fax: +44 870 238 4851

Latin America & Caribbean

Tellabs
1401 N.W. 136th Avenue
Suite 202
Sunrise, FL 33323
U.S.A.
+1 954 839 2800
Fax: +1 954 839 2828

74.1935E Rev. A 3/2008