

# **Business case for broadband wireless access (BWA) technologies requires mobility to get beyond low-margin fixed Internet access, says Analysys**

Submitted by: Martin Brooke Associates

Tuesday, 14 December 2004

---

\* Broadband wireless technologies forced to compete in the same space as 3G to avoid being marginalised as niche fixed access solutions

\* Systems available now from Flarion, IPWireless and ArrayComm all offer mobility and will be joined by WiMAX (802.16) and MobileFi (802.20)

\* Vendors still face big challenges in selling to mobile operators as a result of unsubstantiated performance and costs, lack of integration with cellular base stations and limited availability of spectrum

\* Early commercial business models are delivering only one percent of the revenue per Mbyte of traditional cellular voice and messaging services

\* WiMAX and MobileFi must learn from early propositions to define winning service propositions and operator business models

\* Report assesses the true capabilities of, and prospects for, a range of alternative mobile wireless technologies

CAMBRIDGE, UK, 14 December 2004 - Alternative broadband wireless technologies are being forced to compete in the mobility market and could disrupt the evolution of 3G networks if potential showstoppers are addressed, according to a new report, *The Role and Impact of WiMAX and Proprietary BWA Technologies* published by Analysys Research, the global advisers on telecoms, IT and media (<http://research.analysys.com>).

The report shows that emerging broadband wireless technologies could blur the boundaries between cellular and fixed broadband wireless solutions. The rapid growth in DSL and cable availability in developed markets means that the emerging wireless technologies must offer mobility to avoid being marginalised as niche fixed broadband wireless solutions. "Offering fixed broadband Internet access using wireless technologies is a tough business case, with wafer-thin margins," according to Dr Mark Heath, co-author of the new report. "The breakthrough opportunity will only come by learning from the success of cellular, extracting significant price premiums for mobility and offering a more profitable service mix."

Broadband wireless systems from Flarion, IPWireless and ArrayComm, which all support wide-area mobility, are already deployed in a variety of commercial and trial networks around the world. Using an assortment

of proprietary and standards-based technologies, such as OFDM and W-CDMA TDD, they claim advantages over 3G, including faster throughput, lower cost and lower latency. They are to be joined by WiMAX (IEEE 802.16e) and MobileFi (IEEE 802.20), both of which are aiming to combine the benefits of mobility, standardisation and multivendor support, albeit with commercial launches unlikely prior to 2007.

“The battle is now on between the vendors to secure the necessary global economies of scale to be a serious alternative to mainstream 3G technologies,” according to Mark Heath. “Success will demand extensive deployment by mobile operators, who are generally accepted to be the key customer targets. They have valuable assets such as base-station sites, large existing customer bases and strong marketing capabilities that will be crucial to achieving commercial success.” He adds, “They could decide to deploy alternative technologies alongside, or instead of, 3G as a means of offering differentiated services and driving new revenues.”

While mobile operators represent a tantalising opportunity for vendors of these emerging technologies, there is still much to do to persuade mobile operators to invest in these rather than take up the options they have for 3G standard enhancements such as HSDPA. A number of critical points need to be addressed, such as identification of a compelling mix of service propositions, provision of clear evidence of performance and cost gains and blueprints for integration with existing base stations and confirmation of the availability of necessary spectrum. These challenges are underlined by the results of initial service deployments. “Early trials generally show a poor return compared to mainstream mobile operator voice and messaging services,” says co-author Dr Alastair Brydon. “Either services appear expensive to customers, which will mean adoption will remain low, or they are pitched in direct competition with fixed broadband services, when they deliver only around one percent of the revenue per Mbyte of traditional cellular services.”

“Mobile operators demand rigorous evidence of system performance in a loaded network,” says Brydon. “They also need to understand the implications and costs of integration with their existing networks, particularly given that the new technologies are not currently supported by mainstream cellular vendors such as Nokia, Ericsson and Motorola.” Brydon points out that spectrum will also be an important consideration. “With the exception of IPWireless’s W-CDMA TDD technology, none of these systems has a dedicated spectrum allocation. Mobile operators may need to acquire new spectrum or seek relaxation of the rules surrounding their existing spectrum allocations - something they don’t need to do with HSDPA.”

The report ranks each broadband wireless technology against six key mobile operator requirements. While each has its own specific strengths and weaknesses, no single technology currently comes close to meeting all needs, making HSDPA appear a safer deployment option, at least in the short-term.

Apart from mobile operators, the wildcards in the future of alternative broadband wireless technologies will be the various other types of player that are not currently active in the mobility market. “Fixed

operators, ISPs, WLAN hotspot providers and major consumer and business-to-business brands could deploy the technologies to offer a mix of voice and data services in direct competition with mobile operators," says Mark Heath. "But they are going to need a really strong business case and wireless voice over IP will be critical to boosting revenues and profitability." He warns, however, that in the absence of mass deployment by mobile operators and the reductions in equipment prices resulting from economies of scale, some or all of these new BWA technologies may be relegated to become niche last-mile access solutions.

Time may not be on the side of proprietary technologies, potentially leaving forthcoming IEEE 802.16 and 802.20 standards to resolve the outstanding issues. IEEE 802.16, in particular, benefits from strong backing from the WiMAX Forum and Intel, although much about the standard, particularly its mobile variant IEEE 802.16e, is still undefined. "The WiMAX Forum needs to move from building awareness to clarifying the capability and role of the technology," says Alastair Brydon.

The Role and Impact of WiMAX and Proprietary BWA Technologies presents the real facts of what these technologies will (and will not) do, including assessments of early commercial launches and market trials. The report identifies potential showstoppers for each of the new technologies and considers the most likely evolution paths for Flarion, IPWireless, ArrayComm and WiMAX.

The report is available to purchase online at <http://research.analysys.com/store>, priced at GBP1900. For more information, telephone Analysys on +44 (0) 1223 460600 or email [research@analysys.com](mailto:research@analysys.com).

About Analysys ([www.analysys.com](http://www.analysys.com))

Analysys provides strategy and management consultancy, information services and start-up support throughout the telecommunications, IT and media sector. Its grasp of market dynamics, coupled with creativity, rigour and renowned objectivity, enables Analysys to consistently exceed the high levels of quality and innovation that its clients expect. The company has over 130 staff in offices in Cambridge, London, Glasgow, Madrid, Milan, Paris, San Francisco and Washington DC, and works with associates in Auckland, Melbourne and Vancouver.

Recent reports include:

- \* Retaining Customers and Minimising Churn: strategies for mobile markets (December 2004)
- \* The Role and Impact of WiMAX and Proprietary BWA (November 2004)
- \* Making a Success of the Mobile Content Value Chain (November 2004)
- \* Viable Business Models Point to Big Opportunities for Public WLAN (October 2004)
- \* Voice Communications: from public service to private application (September 2004)
- \* TV and Video Services on a Mobile Phone: the killer application for 3G? (September 2004)

- \* Delivering High-speed Mobile Internet/Intranet Services: the role for 3G and public WLAN (August 2004)
- \* The Business Case for Broadband Entertainment (July 2004)
- \* Western European Fixed Telecoms Markets: forecasts 2004-2009 (July 2004)
- \* Spectrum Trading and Liberalisation: new threats and opportunities for telecoms business models (June 2004)
- \* 3G Launch Strategies: critical decisions on technology and services (June 2004)
- \* The Road to Fixed-Mobile Substitution Starts with 3G (April 2004)
- \* Business Data Services: growth opportunities and forecasts 2003-2008 (March 2004)
- \* Western European Mobile Forecasts and Analysis 2004-2009 (March 2004)
- \* VoIP in the US Market: business models and regulation (March 2004)
- \* The Impact of Voice over Broadband: forecasts for Western Europe (February 2004)
- \* Strategic Options for Fixed and Mobile Operators in CEE: scenarios and forecasts (February 2004)
- \* Vodafone live! versus i-mode - lessons and prospects for the rise of global wireless services (February 2004)
- \* Delivering the Broadband Home. New fixed and mobile services and devices: forecasts 2003-2008 (January 2004)

Media contact (for author photography, executive summaries and interviews)

Louise Nunn  
Analysys Ltd  
Tel: +44 (0)1223 460600  
Email: [louise.nunn@analysys.com](mailto:louise.nunn@analysys.com)