

**ITU-BDT Regional Seminar for Africa on Fixed Mobile Convergence and Guidelines on the smooth transition of existing mobile networks to IMT-2000 for Developing Countries  
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**TITLE: IMT-2000 vs. Fixed Wireless Access (FWA) systems**

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**ABSTRACT:** In the wake of the award of IMT-2000 licenses at the cost of several billion Euros each for operators in some Western European countries, there has been much speculation about the potential role of other wireless access technologies in tomorrow's communications landscape.

Operating in license exempt radio spectrum, some of them – notably those in the IEEE 802.11 and 802.16 families – are regarded in some quarters as 'disruptive' technologies that undermine the business case for IMT-2000. Other observers, however, see them as complementary parts of a much bigger picture. Offering high user data rates over relatively short distances, Fixed Wireless Access (FWA) systems provide operators with the opportunity to offer their customers 'unwired' access at true broadband speeds in situations of restricted or no mobility.

While systems such as WiMAX offer broadband wireless access for metropolitan area networks, it is important to acknowledge that even solutions of this type are optimised for data rather than voice communications, and lack several of the key attributes of mobile/cellular systems that provide full mobility.

Offering true wide area coverage with all the familiar benefits offered by cellular systems – from automatic international roaming to integral security and billing/charging functions – IMT-2000 family systems such as 3G/UMTS/W-CDMA provide the most effective route for operators to reach large population segments at affordable deployment cost. There is little doubt that W-CDMA – together with its enhancements offering greater up- and down-link speeds via HSUPA and HSDPA respectively – will remain a key element in future 'heterogeneous' networks.

Some operators are actively pursuing 'integrated' strategies to reach consumers and business users alike. Here, FWA systems enable operators to add greater capacity for high speed access to the Internet and corporate networks in dense urban areas. Some of these integrated strategies also assess the role of systems such as DVB-H as a conduit for multimedia content such as television broadcasts that has been optimised for 'one to many' delivery to handheld devices.

As operators actively evaluate these and other technologies, including possible systems beyond 3G based on multi-carrier/OFDM systems, the driver remains the brand-based relationship between network operators and their subscribers. Customers of the future may neither know nor care what air interface technology and underlying transport mechanism they are using. Their only prerequisite is affordable access to personal communications, information and entertainment services... wherever and whenever they want them.

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