

## Bridging the Digital Divide – Using IMT-2000 to Provide Universal Access to Telecom Services

Providing access to communication services, traditionally for voice but increasingly also for data, is a key priority for governments and regulators around the world, especially in developing countries. Although much progress has been made, over two billion people around the world have never made a phone call. However, the goal of universal access remains achievable, and thanks to advancements in wireless technologies, wireline is no longer the only way to provide it. Next-generation wireless (IMT-2000, or 3G) technologies, which significantly enhance efficiencies and enable operators to provide voice as well as access to the Internet at lower costs, offer a tremendous opportunity for increasing global access to telecommunications.

CDMA450, which represents the CDMA2000<sup>®</sup> family of standards deployed in the 450 MHz band, offers an economical and rapid solution for fulfillment of universal service obligations, especially in rural and low population areas. It combines the high spectral efficiency and high-speed data capabilities of CDMA2000 and the expanded coverage afforded by a lower frequency band. It allows for the provision of high-quality voice and advanced data applications such as broadband access to the Internet, mobile messaging, push-to-talk, public safety, tele-medicine and mobile commerce. CDMA450 systems can be used to deliver voice and/or data for consumers, businesses and public institutions such as schools, police and hospitals. CDMA450 networks can be complementary to other cellular-based networks and can be employed in fixed, portable or fully mobile settings depending on the application.

Due to the favorable propagation characteristics of lower frequency bands, wireless systems deployed in 450 MHz cover a greater distance than those in higher frequencies. As a result, less infrastructure is required to deploy and maintain a 450 MHz network than ones at higher frequency bands; this translates into substantial savings in capital and operating expenses. Some estimates indicate that the total cost of building and operating a network to serve one million users at 450 MHz is 31-38 percent less than the cost for the same network at 1900 MHz.

Today, there are 7 infrastructure and 12 handset manufacturers of CDMA equipment. More than 20 countries worldwide have launched, or are planning to launch, commercial CDMA450 networks and a number of these networks were deployed to provide universal access.