

TECHNOLOGY OPTIONS FOR EVOLUTION FROM EXISTING MOBILE SYSTEMS TO IMT-2000 AGENDA ITEM 1.3.3 (Presenter B Fernandes)

Approaching 120 licenses have already been awarded to mobile operators worldwide, specifying WCDMA radio access technology for the deployment of Third Generation mobile services

As one of the five radio access methods specified in the ITU's IMT-2000 project, WCDMA builds on GSM to provide the most cost-efficient evolutionary path to 3G for more than 75% of the world's wireless market.

By selecting WCDMA technology, mobile operators can also offer significant benefits to end-users in terms of international roaming, service portability and a wider choice of low cost mobile terminals. In terms of initial capital expenditure as well as ongoing operational costs, WCDMA technology offers new and existing operators alike a more economical platform to cope with projected growth in demand for voice and data services.

This process of evolution towards UMTS is characterised by operators' deployment of:

- A common core network with links to other mobile networks, the Fixed Telephone Network, ISDN, the Internet/Intranets and external data networks;
- Dual Radio Access Networks, operating with ability to work in several frequency bands and using complementary radio technologies (GSM/GPRS/EDGE);
- Dual-mode terminals carrying a USIM (UMTS Subscriber Identity Module), allowing subscribers to enjoy services on 2/2.5G and 3G networks.

On the Radio Access Network (RAN) side in particular, the mobile industry has developed the essential specifications and continues to work in partnership, co-ordinated via The Third Generation Partnership Project (3GPP) at the global level, to further evolve the technology in order to support future market needs. This step-by-step approach reduces the risks that 3G is perceived to devalue old investments, and also provides significant improvements in the capability to deliver improved services at each step along the way. In all cases, each new release of the 3GPP standards provides backward compatibility, assuring an uninterrupted service capability for new and existing users alike.

The UMTS Forum continues to study the market, technology, regulatory and service issues faced by network operators and manufacturers as well as the developers of mobile applications as they prepare their own 3G customer offerings. In particular, it considers the benefits to industry and end users of a roadmap to and evolution of UMTS/WCDMA as part of the ITU/IMT-2000 standard. This presentation will explore in more detail the evolution path to IMT2000.