

0.1 UMTS for the user

The world of communications is evolving at an exciting pace, driven by European successes such as GSM, and global phenomena such as the Internet. Leading-edge technologies and pro-competitive policies are empowering citizens to an extent hitherto reserved to the realm of science-fiction.


Meeting complex and growing user demands as we enter into the 21st century is the major - and urgent - challenge for the European telecommunications industry. By harnessing excellence in cellular, terrestrial and satellite wideband technology, the Universal Mobile Telecommunications System (UMTS) will guarantee access, from simple voice telephony to high speed, high-quality multimedia services, regardless of physical location of the user.

UMTS will be a mobile communications system that can offer significant user benefits including high-quality wireless multimedia services to a convergent network of fixed, cellular and satellite components. It will deliver information directly to users and provide them with access to new and innovative services and applications. It will offer mobile personalised communications to the mass market regardless of location, network or terminal used.

The markets for mobility and for fixed multimedia are already large and growing rapidly. Customers will want to combine mobility with multimedia, resulting in higher demand for bandwidth and creating a significant shift towards new data services. For Europe alone, this new market is estimated to be as large in 2005 as the whole mobile market is today, given appropriate political and regulatory environment.

From a physical point of view, UMTS will comprise a new air interface and new radio components. The aim is to combine these in a modular way with new network components and components from pre-UMTS fixed and mobile networks, provided these have undergone the necessary evolutionary preparation. This approach will allow new entrants to establish UMTS networks and enable existing operators a smooth migration by re-using parts of their existing infrastructure to the maximum possible extent.

For the user UMTS will provide adaptive multi-mode/multi-band terminals or terminals with a flexible air interface to enable world-wide roaming across locations and with second generation systems. Software download to terminals may offer additional flexibility.



It is also a key enabler for convergence, and is considered an important building block in the construction of the Information Society. UMTS will play a key role by providing citizens with mobile access to advanced, higher quality, higher speed information and communication services than is possible from today's mobile systems. The true innovation of UMTS is that it will provide a federation of services, both those existing and their extension, to meet the ever-increasing demands and needs of users. Consequently, the business of UMTS represents a major investment opportunity for the telecommunications industry.

0.2 The UMTS Forum and the Forum report

The UMTS Forum was created in 1996 in order to accelerate the process of defining necessary standards, policy actions and industrial co-operation that are central to ensuring that UMTS will be ready for implementation and operation by the opening years of the 21st century.

The key purpose of this first report of the Forum is to encourage policy makers to act decisively and in timely fashion - i.e. from 1997 onwards - in order to secure frequency spectrum and provide an enabling regulatory environment for UMTS.

Governments and regulators have important roles with respect to UMTS. They must establish a regulatory framework and allocate frequencies, which will encourage innovation, liberalisation and competition in the provision of telecommunication and information technology services. They must also provide the leadership to make UMTS happen. Without political support it is a real risk that the European market will become fragmented and weak.

0.3 An enabling policy and regulatory environment

The Report examines those political and regulatory initiatives which the industry considers essential to the successful development of the UMTS market. Market and business studies show the need for an order of magnitude improvement in capacity and services, with service provision costs maintained similar to GSM today. Plans for the licensing of UMTS and for the provision of adequate frequency spectrum must be clear by the end of 1997 in order to reduce the risks and uncertainties for the telecommunications industry and thereby stimulate the required investment by manufacturers and potential operators. Common frequency bands

and standards in Europe and beyond will also benefit the user, due to economies of scale and a common basis for roaming across national borders.

Major milestones for UMTS

1 October 1997	ERC Decision on UMTS Core band.
31 December 1997	Regulatory framework for UMTS defined, including spectrum licences for Phase 1.
First quarter 1998	Operators identified; drafting of licences.
31 December 1999	ETSI UMTS Phase 1 standard.
Year 2002	Commercial UMTS operation.

A table of milestones for UMTS is shown in Annex I.

Licensing


The Forum Report examines the regulatory framework that will be required to allow UMTS to meet the necessary and demanding time-scales. The key recommendations are:

- that spectrum identified in the CEPT ERC Decision on UMTS shall be reserved for systems using UMTS as defined in ETSI standards;
- that existing European regulations, for example the Licensing Directive, the Interconnection Directive and existing EU competition law, provide the necessary framework for licensing UMTS;
- that the process for licensing of operators should begin in 1998, so as to enable the start of commercial UMTS services by early 2002.

The Forum believes that in light of the nature of telecommunications service provision and the huge investment required to build networks and interconnect with third-party infrastructure, there is no apparent justification for excluding specific categories of entities from licensing procedures. A healthy and competitive telecommunications market depends upon getting the right mix between the experience of the existing industry players and competition from new entrants.

Spectrum allocation

The spectrum requirements for UMTS, within the context of the frequency spectrum identified by the ITU for IMT-2000 (FPLMTS) purposes, are clearly presented in the Forum report. The Forum has concluded that the full 155 MHz for terrestrial UMTS should be made available by the year 2005, on the basis of underlying market forecasts of the Forum. It has further concluded that an extra 185 MHz is required for terrestrial services by the year 2010. It is



recognised that careful consideration should be given to the possible transition from second generation systems to UMTS.

For the satellite component of IMT-2000, the ITU has identified 60 MHz. To meet the forecast market demand for satellite applications in UMTS an additional 30 MHz is required by the year 2010.

The Forum recommends that national administrations urgently release a minimum of 2x40 MHz of spectrum so as to ensure the launch of competing UMTS services by the year 2002, since each operator is expected to require in the order of a 2x20 MHz initial allocation. At the same time a band of 20 MHz will be needed for non-public in-building low mobility systems.

The Forum recognises the importance of CEPT countries adopting the draft ERC decision on UMTS in making spectrum available to UMTS in a fair and transparent manner. The Forum calls upon all the relevant authorities in Europe for a timely and co-ordinated approach to identifying, liberating and allocating UMTS spectrum in the EU Member States, through a fair, proportionate, non-discriminatory and transparent mechanism.

Standardisation

Standardisation is, and will remain, a key factor in providing quality services at an affordable cost and enable roaming between systems, and its success depends upon the flexibility of interfaces and the capacity to evolve in parallel with technology. Continued close co-operation between operators, manufacturers and regulators in the standardisation of UMTS is crucial for UMTS to be as successful as GSM.

ETSI, the European Telecommunications Standards Institute, should also in the future be entrusted with the task of UMTS standardisation, to ensure efficient use of the UMTS frequency bands. Only UMTS standards approved by ETSI should be used in those bands. A close co-operation between ITU, ETSI, and other regional standardisation bodies is essential to establish a framework for global compatibility. The Forum also places a great deal of importance in identifying UMTS as a part of the IMT-2000 family

Competition policy

The process of liberalisation and de-regulation in Europe has resulted in a solid basis for fair competition on every level, which is in the interest of consumers and the market in general. By encouraging competition in local and national markets the right conditions has been brought about for innovation in services and networks to flourish.

The Forum considers that, given the scarcity of frequency spectrum, there are likely to be constraints placed on the number of operators who can implement UMTS systems in a given country. However, these UMTS providers will for a large part of their service be competing with operators of technologically enhanced existing systems. Increased competition will also come from the commercial development of the market roles in various organisations, such as value added service provision and content brokering.

The Forum therefore considers that the application of the existing regulatory framework, together with the existing competition law, is sufficient to create an open and dynamic market for UMTS. The Forum believes that creating this dynamic home market in the early years of UMTS will create an important opportunity to promote the competitiveness of European industry on the world market.

0.4 Conclusions

This report highlights the enabling factors - political leadership, spectrum availability, fair licensing arrangements, availability of standards - that will make UMTS possible. The UMTS Forum considers these factors crucial to the success of the next generation mobile mass market services which will provide value for customers, industry players and governments alike. The Forum is convinced that the total commitments required will not be forthcoming unless the issues in this report are addressed by European governments.

In chapter 9 Recommendations, the UMTS Forum proposes its conclusions formulated into 27 recommendations, each of which are drawn from the conclusions of the foregoing chapters.

The Forum confirms its commitment to UMTS, and its willingness to work closely with EU Member States and the European Commission in order to achieve this worthy goal upon which depends the future of the Information Society in Europe. It is also willing to support the globalisation or extension of this initiative to other regions of the World on the basis of reciprocal commitment.

It is the responsibility of governments and regulators to provide the optimal regulatory and political conditions for UMTS, to bring users within reach of those services which will lie at the heart of Europe's social and economic progress in the next century. It is up to industry to show that the technology is well within the reach of innovative enterprises.