1. EXECUTIVE SUMMARY

1.1 SERVICE CONCEPTS AND APPLICATIONS

In the near future, any content will be able to reach cellular, Internet or broadcasting users regardless of the transport path and delivery mechanism. This will create a single, seamless mass medium that will combine the reach, quality and emotion of information with the needs of the network user. Increased agility for multimedia services including those offered on the Internet and other third party sources is what people are looking for. The challenge is driving multiple data streams over complementary networks to different types of devices.

Much of the emphasis in this Report is on the convergence of technologies and the impact on Services, Applications, Content, Devices and Charging. A single killer application has not yet been identified but it is probable that there are a large number of them in the market. It is up to the network operator to find the unique one – if at all. There are two different aspects to future media convergence:

- New, enhanced services and applications that may be enabled not only by the joint use of telecommunications and broadcasting networks but also by seamless and overlapping environments (remote office and virtual homes);
- Co-operation of broadcasting and telecommunications networks including its impact on technical, economic, commercial and regulatory aspects.

The same applies to convergence technologies in the access area. Content of services must appeal to price-insensitive users, but the price must also make them affordable and attractive to a significant number of price-sensitive consumers. Current business models for value capture have assumed traditional services that flow linearly from the network to the user and revenues that flow in the opposite direction. Pricing (the price the “end customer” pays), charging (the consolidated overall cost of the product or service to be billed for) and rating (the application and location of product or service charges, varied by parameters derived independently from both user and service-specific variables) are going to develop in new and perhaps unexpected ways.

Young people who have grown up surrounded by digital information think about and seek information differently than their parents. They expect interfaces to be intuitive. They are accustomed to pointing and clicking, not typing. They want the answers in packets that are concise, intelligent, and readable from their devices. So information needs to be smart, concise and loaded with value!

The trend of re-purposing information also means that copyright, as we know it, is going to get stretched and pulled far beyond its current shape. How do we deal with a generation of information consumers that is accustomed to freely sharing audio files, open-source code, and shareware? Do we insert a digital watermark on all data and then hope to surface it later, when material has been incorporated into an entirely unanticipated application? Do we try to limit access to copyrighted material? Some of these issues have been addressed in this Report but a number of questions remain to be answered.

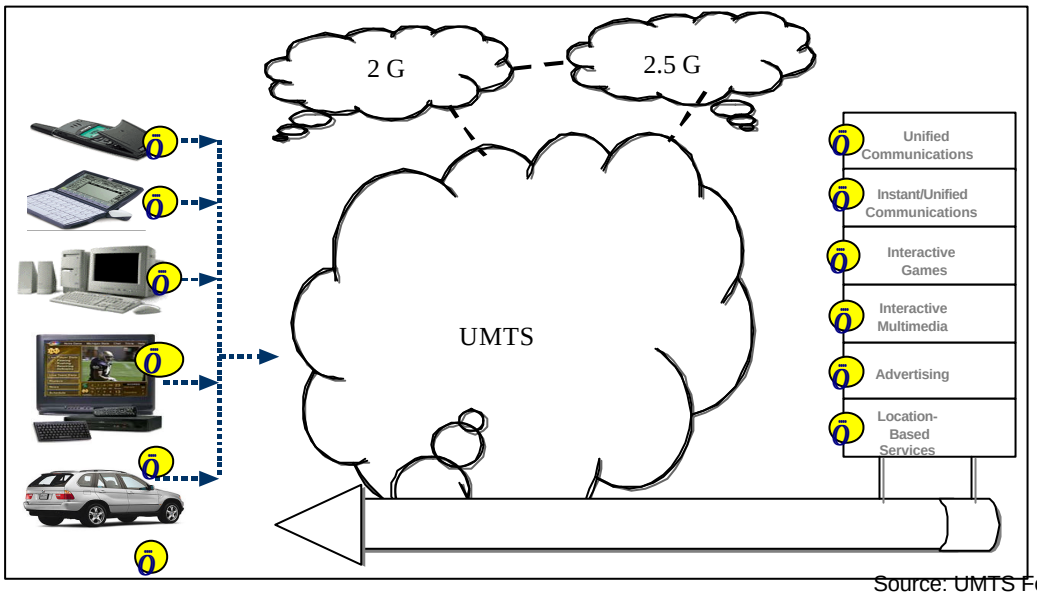
Compelling services and applications will add value, embed many useful features, and

be easy to use. All this should be immediately apparent to any consumer. Services and applications also need to be seamless, intuitive, universal and intelligent. Again, over-expectation should be avoided.

UMTS should not be an embarrassing over-estimation of both technical capabilities and consumer appetite.

With the help of a few examples the feasibility of services is described in this Report. The aim is to stimulate discussion and raise issues in all areas in order to be well prepared for the mass deployment of UMTS services and the future co-operation between networks.

The UMTS Forum recently published a new Market Study (UMTS Forum Report 13) which indicates that there are revenue opportunities of up to US$1 trillion to be made in UMTS/3G over the next decade. This cannot happen overnight and will have to be well planned for a graceful ramp-up, starting with a few common services and gradually moving to the ultimate offerings.



Source: UMTS Forum

Figure 1.1: Service Scenarios

The current delivery speeds and tariff rates of GPRS services might not be appropriate for many future applications. The mobile operator must be able to deliver an appropriate package of services that will work in a roaming environment, both nationally and across borders. It's about being first to develop an end-to-end system, ultimately targeting mobile devices, which allows provisioning of previously unavailable services and content to an extraordinary growth market. Most market studies are based on today's knowledge combined with a forecast of future opportunities. It is therefore, important to analyse services, applications and content to ensure that network capabilities and resources can cope with the delivery of the predicted services.

It is very important that the evolution from 2G/2.5G to 3G (Figure 1.1) incorporates:

- A minimum set of services that will work;

- Revision levels of software across different networks to guarantee interoperability;
- A sound understanding of rating and charging challenges with appropriate systems installed.

The UMTS Forum Market Study results show that service offerings will depend on country specifics and cultural differences. It is important to understand not only how each market embraces technology but also its approach towards work and lifestyle. The main service categories identified in the market study are presented in Table 1.1.

Service Category	Segmentation	Data in:
Rich Voice Simple	Business + Consumer	UMTS Forum Report 13
Rich Voice Enhanced	B + C	UMTS Forum Report 13
Location-Based Services	B + C	UMTS Forum Report 9
Multimedia Messaging Service (Business)	B	UMTS Forum Report 13
Multimedia Messaging Service (Consumer)	C	UMTS Forum Report 9
Mobile Internet Access	C	UMTS Forum Report 13
Mobile Internet / Extranet Access	B	UMTS Forum Report 9
Customised Infotainment	C	UMTS Forum Report 9

Source: UMTS Forum

Table 1.1: UMTS/3G Service Categories

This report covers four important categories of service offerings and looks at a framework from which service capabilities could derive. It is not meant to predict the benefits of any one service or application over another. The intention is to allow for space to further develop these areas until a better understanding of the market has been achieved. Two services have been used as examples: 1) Location-based services, and 2) Broadcasting content. These two give a comprehensive overview that is relevant to other service offerings as well.