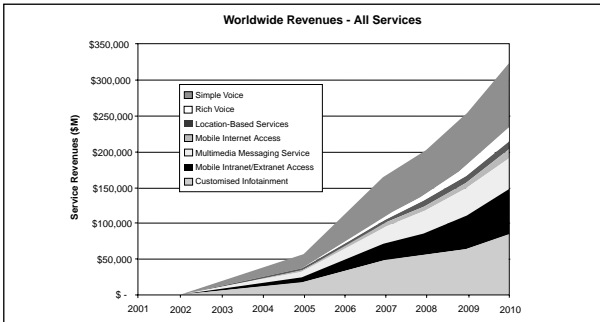


1. Executive Summary

Total operator-retained revenue of over *300 billion* dollars for 3G services in 2010 is identified in this report as shown below. By 2010, 66% of these revenues will be coming from 3G-enabled data services.

Figure 1. 3G services total revenue – 2001 – 2010.



Source: Telecompetition, Inc., February 2001.

By 2010, this represents a cumulative revenue stream of one *trillion* dollars. The forecasts in this report are the result of thorough analysis, using rigorous quantitative methodology with a conservative approach, to isolate the revenue that services providers can realistically retain on a service-by-service basis.

Speculation about revenue from unknown new services has been avoided. The revenue forecasts in this study represent a readily achievable goal, based on today's experiences. Unlike previous forecasts, they represent a floor rather than a ceiling.

Examining the entire cellular subscriber base, it is clear that 3G services can compensate for the loss of income resulting from the downward pressure on voice revenues. Co-ordinating the deployment of 3G networks to support roaming will accelerate this compensating effect.

By examining the 3G market from a user perspective, in Report No. 9 the UMTS Forum defined a service framework that includes six comprehensive service categories. This service framework encompasses services and service concepts identified in other 3G reports and provides a useful way for the industry to structure dialogue about next generation mobile services. It also allows detailed market demand forecasts to be made for 3G service revenues without double counting, which would otherwise distort the revenue picture. The service categories are Mobile Internet Access, Mobile Intranet/Extranet Access, Customised Infotainment, Multimedia Messaging, Location-Based Services and Rich Voice.

Using these service categories, a comprehensive picture of the operators' 3G service revenue opportunity is presented and analysed. It demonstrates significant potential for 3G services over the forecast period, even after consideration of competitive market pressures and service alternatives offered by 2.5G networks. Sixty-eight per cent of the revenues will come from Asia Pacific and Europe in 2010. Business services represent approximately 36% of this market with the remainder coming from consumer sectors.

Consistent with UMTS Report No. 9, the revenue forecasts in this report are for 3G mobile services provider-retained revenues only. They do not include the market revenue that will be attributed to other players such as wireless application service providers (W-ASPs), content providers, device manufacturers and mobile e-commerce (m-commerce) partners.

Key findings from the different sections of this report are:

- By 2010, total 3G services provider-retained world-wide revenues from all 3G services are forecast to reach \$322 billion. This represents cumulative revenues of over one *trillion* dollars from now to 2010. (See Section 6.1.)
- By 2010, the average 3G subscriber will spend around \$30 per month on 3G data services. (See Section 6.1.)
- By 2010, with only 28% penetration into the world-wide mobile base, the additional revenue from 3G data services will add \$9 per month to total world-wide cellular average revenue per user (ARPU). (See Section 6.1.)
- Revenue streams to 3G services providers are highly dependent upon the business models adopted by themselves and their partners. The industry structure is still evolving, so no clear business models are yet established. It is clear, however, that the role of the 3G services providers will change from a Simple Voice-only, direct relationship with the user to one that involves multiple partners and revenue sharing with third parties also targeting the end user. (See Section 3.2.)
- The Access Focused Approach and the Portal Focused Approach business models adopted in this report correspond to different positions on the value chain and provide a distinct way to model service revenues. Specialised Mobile Services can be offered by 3G services providers using either approach and can be positioned at any point on the value chain. (See Section 3.2.)
- The Portal Focused and Access Focused Approaches provide roughly equivalent annual revenues in 2010 (\$140 – \$160 billion). The optimal strategy to target the consumer market is to adopt a Portal Focused Approach. An Access Focused Approach might be an appropriate strategy for addressing the corporate market. (See Section 6.1.)
- Asia Pacific represents the single largest total revenue opportunity (\$120 billion in 2010), while Europe and North America provide the highest annual revenue per POP (\$150 – \$200 per year). (See Sections 6.1 and 6.2.)
- Individual service market opportunities vary by region. Europe and Asia Pacific provide the largest market opportunity for Multimedia Messaging Service (MMS) and Customised Infotainment. North America provides the greatest revenue opportunity for Mobile Internet Access, Location-Based Services and Rich Voice. (See Section 5.)

- With the exception of some Latin American countries, most countries in the Rest of World region will still be in the first few years of service penetration by 2010. Therefore, revenues from all services for this region are small, contributing only 10% (\$33 billion) of world-wide 3G revenues in 2010, with significant potential beyond the forecast period. (See Section 6.2.)
- Advertising and transaction revenues are a new source of income for the 3G operator, representing almost 20% of revenue (\$60 billion). In addition, these new revenue sources provide an opportunity to strengthen relationships with users, which could decrease churn. (See Section 6.1.)
- Both business and consumer market segments are forecast to have significant revenue potential, with the consumer segment contributing about 65% of the revenue on a world-wide basis. (See Section 6.1.)
- Throughout the forecast period, Customised Infotainment is the earliest and single largest revenue opportunity among the forecast services, contributing \$86 billion annually in 2010. (See Section 6.1.)
- While revenue from Location-Based Services, retained by the 3G services provider, may appear modest at only \$10 billion by 2010, Location-Based Services also represent an exciting opportunity to forge strategic partnerships with content providers, W-ASPs and other third parties. Such partnerships may open up entirely new revenue opportunities not yet envisioned by the market. (See Sections 5.4 and 4.3.)
- Non-voice service revenues will overtake voice revenues in the 3G environment by 2004 and comprise 66% of 3G service revenues in 2010. (See Section 6.1.)
- Simple Voice services will remain a vital component of an operator's service portfolio, contributing 34% of annual 3G revenue in 2010. (See Sections 5.1, 5.5 and 6.1.)
- Rich Voice services, such as consumer videophone and multimedia conferencing, contribute around 7% (\$21 billion) of total annual 3G revenue in 2010, but are expected to increase significantly in the years beyond the forecast period. (See Section 6.1.)
- Many services and applications such as email, Web browsing, unified messaging and location information are treated as having little or no direct revenue potential in this study as users will expect them to be included as part of their service package at no additional charge. Much of the additional revenue generated by such services and applications will come through increased usage rather than through new sources of revenue. (See Section 3.2.)

Implications of the forecast analysis can also be found in this report.

- Clearly, higher data rates will be achieved in the long term over 3G networks. Over time, user expectations for the superior connection speeds will be even higher than they are today. (See Section 6.)
- Ultimately, only 3G can deliver the all-important global roaming capability and economies of scale necessary to satisfy the expectations of users. (See Section 6.)
- 3G services present a very significant revenue opportunity for new players such as W-ASPs and content providers. (See Section 4.3.)
- Establishing and maintaining customer profiles will be an important activity for 3G operators. (See Section 4.3.)

- 3G will be a powerful driver for the development of terminals capable of full Web browsing. (See Section 4.1.)
- MMS will allow relevant content to be broadcast to distribution lists with specific profiles. Use of such a feature in a "push" mode should be treated with caution. In general, it is advisable to ensure subscribers opt in to push services. (See Section 4.2.)
- Service portability between operators will be necessary for Location-Based Services to be offered in a location-independent fashion. (See Section 4.3.2.)
- Implementation of the multimedia call model will be a major enabler for Rich Voice services. (See Section 4.4.)