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CHAPTER 1

Prologue

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After many false starts it would finally appear that third-generation technology (3G) is going to reach Europe. This coming Christmas the consumer will be able to choose from a broad range of equally fascinating products, as well as from services either new or improved.

What sort of impact will we see in the long run? Are we witnessing a technological revolution or simply the enhancement of services already offered in mobile telephony? The Future Trends Forum has sought to throw light on these questions, and some of its thinking is summed up in the present publication.

3G technology appears to be considered one of the greatest technological initiatives in the history of the modern economy. At the high point of the "new economy", exaggerated by the success at world level, and without competition, of GSM technology in the late 1990s, European policymakers smoothed the path toward the next stage in the conquest of mobile telephony: 3G spectrum licences. The mobile telephony operators didn't have to think much about it before seizing this opportunity. Further, mobile telephony was a gold mine where the collection of taxes was concerned.

So what point are we at, now that the technology has attained to legal age?

33G/UMTS is a fully standardized, broadband mobile technology, i.e. it is not a proprietary one. It operates on a spectrum with licence and offers an omnipresent service, as well as absolute mobility. 3G networks offer more capacity than GSM networks and provide video support of an acceptable quality. Thanks to the overall backing of the industry, the costs in using it will diminish. This will sooner or later lead to extensive coverage in the developed markets. With the early success of 3G technology, and with the insatiable demand for broadband having been met, the 3G extension devices such as HSDPA, which provide connection to 2 Mbps, will be used from 2005 onward.

3G technology has sufficient potential to affect at least four types of service offering:

1. Accelerate the replacement of fixed voice
2. Lend support to new types of data service for consumer mobiles.
3. Facilitate wireless access to broadband.
4. Mobilize the principal applications for businesses and firms.

Current mobile telephony services entail high premiums for mobility, at least in European markets. Although in principle mobile telephony is perceived as something that cannot be improved on, the high prices and the doubtful, lower quality of voice conveyance have in the past slowed down the transition from stationary to mobile. The 3G networks will help to overcome both barriers: networks of the future will be virtually unrestricted in capacity where voice is concerned and will provide sound of high quality, matching that offered by the fixed networks. Their use in markets with low premiums for mobility, such as the US, suggests that the replacement of fixed

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voice is not only possible but also economically viable. Ultimately there is no reason to believe that the use of fixed telephony can survive.

However, what about data? Where are the *killer applications*?

We believe that data applications are inherently heterogenous. In the consumer market, a small percentage of the user base becomes a big user of specialized applications (e.g. games via mobile). The individual preferences are highly fragmented, as may be seen in easily observed use patterns. However, several long-term trends in consumer behaviour will smooth the way toward the use of data via mobile. Replacing traditional social models, the consumer will demand a higher level of interaction over a distance. Our firms, which are attaining to adulthood and thinking about health and safety, will add to the demand for new services. People will look for new ways of dealing with the complexities of day-to-day life. Finally the workplace concept will be transformed in the information economies and in the services of tomorrow.

The trend would seem to be toward the following:

1. Good communications: for example, on the basis of video, to share expe riences with those communities with which there are strong links.
2. Information available at any point: for example, personalized training and an environment that is intelligent and aware of the context.
3.Entertainment ("without a moment of boredom"), including virtual experiences in highly animated 3D environments.
4. Commerce and transactions: for example, medical and financial services, and trips without unpleasant surprises, based on intelligent systems and personal preference parameters.
5. Storage and personalization: for example, terminal personalization according to personal taste and access to own digital rights and personal data libraries.

Notes

The 3G mobile networks with sufficient broadband and capacity, which in addition facilitate things like localization, payment, and presence, will provide the platform for this new world.

3G technology also will make possible access anywhere to broadband data. Twenty years after telephony begins to function without cables, businesses and consumers will have the option of connecting to the Internet with a mobile phone no matter where they may be.

Businesses speak about security and integrity, speed, and reliability as their three principal needs in relation to mobility, and 3G technology will contribute to their being achieved. It is predicted that the applications market for mobile telephony will triple between 2003 and 2008. Also we expect that the first wave of applications for mobile telephony where businesses are concerned will be centred around basic functional/horizontal needs. It is highly probable that the second wave will meet more

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complex requirements and in addition guarantee deep integration with business procedures. Many of the applications will require a real-time connection that is reliable. They will include direct access to ERP and other back-end computing systems, and will be much more data-intensive.

Only one convincing vertical computing application will be possible for mobiles if the ISVs, the systems integrators, and the OEM products seek the way to enter the field and meet the client's needs from start to finish. Within the consumers' domain, the suppliers of media contents and other industries directed at the consumer will have to learn the way mobiles are used and collaborate with the operators in order to reach the users of mobiles and promote the mobile as a new channel. The combination of the operator's capacities and those of the firms supplying content, integration, and functionality of the terminal can lead to rich economic ecosystems in the world of "info-entertainment" and of productivity based on wireless technology.

With an increase in the economic possibilities and a radical redirecting of costs away from the physical and back to the experiential (leisure, discoveries, tourism, entertaintment), the prior conditions for commercial success are there. The magnitude of the change that we see now will depend on the ability of the industry to launch innovative, easy-to-use services, as well as to develop commercial models that make sense from the client's point of view

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