
Preface

Roughly, 1 decade has passed since so-called 3G became established in a significant number of countries, and it is now available in virtually every country in the world—the case studies in the book illustrate where, and why, this is not the case. Hence, it is time to move on to consider the next generation of mobile technology, known universally as 4G—although, as the book notes, this term is incorrectly applied to what is currently available. The intervening technologies such as 3.5G are also covered, but our main concern here is to look to the future.

Technological advance is all about the speed at which data can be transmitted to mobile devices, primarily handsets. Unfortunately, as most readers will be aware, what is promised is very unlikely to be what you get due to the understandable tendency for operators to advertise meaningless maximum speeds. 3G can be a very disappointing experience even though it is much faster than what could be delivered by previous technologies and in general suffices for most purposes. The problem is that almost as soon as it becomes possible to do certain tasks that require a considerably faster downlink, the demand arises to complete more complex tasks that require that downlink to be significantly improved. Whereas email and fast access to websites were the ambitions a decade ago, the ambition today is to download huge video files, for example films, within a matter of seconds—or, to put it another way, to expect everything to be accessible almost instantly.

In general, transfer speeds via fixed wire are much faster than those available to mobile devices, and this of itself tends to promote a desire to do everything via a mobile link that can be done via a fixed-wire link. This ambition has yet to be fully realised, but (possibly well) before this decade is out the 500 kilobits per second (500 kbps) downlink commonly available in 2000 will have become 100 million bits per second (100 Mbps). Eventually, much learned analysis of the phenomenon of 4G will doubtless become available, but as yet there is nothing to hand for the interested reader by way of an interim assessment. This book sets out to fill that gap.

In essence, this book can be described as concerned primarily with the business of mobile communication and only in a subsidiary way with the technology in use. Budding mobile engineers already have access to highly technical texts, but these are largely incomprehensible to the typical business person, even if employed in the

mobile industry, let alone the general public. What has not existed, prior to the publication of this book, is a review of the technology that can be readily understood by the general reader—and anyone who doubts that confusion is rife should simply bear in mind that the widely advertised 4G is in practice an inferior technology to that approved as 4G by bodies responsible for setting standards. Equally, what has not previously existed is a unified text that not merely lists all of the countries and operators that either have launched, or currently intend to launch, 4G but also examines the licensing processes involved and the financial implications.

Originally, because it was tracking events on an ongoing basis, this book developed as a continuous narrative with a single reference list. However, once the decision had been made to produce the text in book form, it became necessary to split it up into a sensible set of chapters. Unfortunately, the most obvious division of the case studies, namely into a set of regions, would have produced chapters of wildly different lengths, and hence an alternative needed to be devised.

After hiving off the discussion of technological matters into an introductory chapter, the first obvious decision was to produce the summary table of all 4G developments, listed alphabetically by country, as a second introductory chapter preceding all of the case studies. It then became apparent that the USA case study was sufficiently long to stand alone as Chap. 3. Three further case studies proved to be significantly longer than all of the others—relating to India, Russia, and the UK—and hence they were assembled together as Chap. 4. This is admittedly a slightly awkward arrangement, but it does permit readers who are interested in exploring why the introduction of 4G can become mired in controversy to obtain three contrasting views in different parts of the world.

The intervening chapters, covering Europe (Chap. 5) and the Asia-Pacific region (Chap. 6), are relatively straightforward, but Chap. 7 necessarily contains case studies covering all of the rest of the world which have been divided up into Africa, the Middle East, and the Americas. The Middle East has been treated in a somewhat flexible manner to include various CIS countries hived off from the USSR which did not sit particularly comfortably with the case studies in Chap. 5, but it is always the case that the region lying to the east of what is conventionally known as Western Europe is problematic to classify now that the European Union has encroached so far into what was formerly known as Eastern Europe. This chapter is useful in that it covers a significant number of countries that are emerging rather than fully developed economically.

We now come to the thorny issue of references. This book is based on events that are either current or very recent. As a result, there is a very limited academic/technical literature that has been published in books and journals in the public domain, and the great bulk of the information in this book has necessarily been acquired via research on the Internet. The full list of references comfortably exceeds 1,000 entries, and that does not allow for the large number of cross-references that were accessed (but are not listed) in order to verify the information contained in the references that are listed.

Clearly, to include that many references in the body of the text would both have broken up the flow of the text and used up too much space, so the somewhat arbitrary decision has been made to restrict the number of references per chapter to a maximum of roughly 100 with the exception of the relatively long chapter on Europe. This may still seem excessive to those readers who have no interest in checking the content of the websites, but the authors remain aware that an absence of references would leave them open to the accusation that they have not been either thorough or careful in determining what should or should not be included in the text. The authors have been at pains to discard those references that patently contain incorrect or ambiguous information, although some things are simply impossible to verify with certainty. The full set of references is available on the Springer website or can be obtained from the authors.

The main claim that can be made about this book is that it is entirely original in the way that a massive quantum of data has been handled. It is also unique in terms of the audience at which it is directed for whom no alternative exists. Finally, it may be asked why the decision has been made to publish at this point in time. The answer is that a sufficiently large number of what are referred to as 4G networks have now been launched to provide a satisfactory review of the state of play of what, 10 years ago, would have seemed like a futuristic era of superfast mobile connectivity. And to think that few people originally believed that mobile communication had a future of any kind.

Glasgow, UK

Peter Curwen
Jason Whalley



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Curwen, P.; Whalley, J.

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