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Chapter 1

Introduction

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1. INTRODUCTION

Billions of dollars (and euros, yen, and other currencies) have been spent by wireless services providers to acquire the radio frequency spectrum needed to offer so-called "Third Generation" (3G) mobile services. These services include high-speed data, mobile Internet access and entertainment such as games, music and video programs. Equal or greater amounts will be spent to actually deploy the 3G networks. What is the difference between 3G and 2G or 2.5G? When will 3G handsets be available in quantity? Will businesses and individual consumers really want mobile services that only 3G can support? Will there be a "killer app"? Will the killer app vary in different businesses or regions or among different age groups? Will enough users be willing to pay enough and use the services enough so that wireless service operators will be able to make a profit? And if 3G takes off, will there be enough spectrum to satisfy demand? In other words, what are the key drivers and obstacles for wireless 3G?

The Columbia Institute for Tele-Information (CITI) has been exploring these fundamental questions in its Mobile Internet Project. In addition to ongoing research, this program included a conference on October 25, 2001 with a wide research consortium, including experts from wireless service