THE TECHNOLOGY AND BUSINESS OF MOBILE COMMUNICATIONS

AN INTRODUCTION

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The Technology and Business of Mobile Communications

An Introduction

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To Dilshani, Kaveesha and Nethaya and to my parents Leela and Jayatissa

–*Mythri Hunukumbure*

To my mother, Jennifer Hill, and my father, Bob Coon

–*Justin P. Coon*

To Louisa, Nicholas and Bethany and my whole family, friends andcolleagues past and present

–*Ben Allen*

For Christopher, Marcus and Caitlin

–*Tony Vernon*

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Foreword

I am thrilled to have been invited to write the foreword to this text as the authors are former doctoral students of mine. This book expertly draws together the technology and business of mobile communications. Whilst both the technical and business elements are thought by many to be highly complex in their own right, and may only be grasped by ‘experts’, this text renders both as readily accessible to those with an understanding of the basic concepts and an interest in the subject matter. This text is further commendable since it is rare that a single volume seamlessly tackles both technical and business elements in such a way that the reader with a background in either is readily drawn to appreciate the other.

Cellular or mobile communication technologies and their capabilities have evolved rapidly over the last 40 years, with 5 generations (the’G’) of research, standardisation, product development, and roll-out now serving more than 14 billion devices. With each transition between the generations, users have benefited from an evolution in connectivity performance and new service offerings. This rapid growth is not solely driven by innovation, but, as a sound economic case is a key requirement given the level of investment required.

The authors of this book, with their doctoral research contributing to wireless communications and enriched by their industrial and academic contributions, have brought together this textbook as a one-stop reference of the journey through the 5 generations of cellular, as well as what is to follow. The breadth of knowledge and experience from the team provides a rich narrative on the mobile telecommunications ecosystem, including spectrum,