Chapter IV

Incorporating Commercial Space Technology into Mobile Services: Developing Innovative Business Models

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Abstract

This chapter will describe how space technologies can be incorporated into terrestrial 3G/4G mobile telecommunication infrastructure to provide convergent innovative applications and services. The utilization of space applications for non-military use has the potential to generate significant economic, social and environmental benefits on a global scale. The satellite infrastructure will become a key enabling factor in a growing range of
mobile products such as: voice services, broadband Internet services, navigation, and observation systems. The chapter presents a framework derived from the literature to aid the development of viable business models expected from the amalgamation of mobile telecommunication and space infrastructure. The chapter also identifies the various actors involved in the delivery of these services which include: technology actors, service providers, network operators, consumers, and regulators.

Introduction

There are significant benefits that can be realized from incorporating space technology into the terrestrial communication technologies. Currently these benefits are not being realized due to a lack of technical and economical integration of the various network technologies. The current business models exhibited by the various telecommunication providers are focused on competition, ignoring the huge potential that can be achieved by convergence and cooperation. This problem is inherent in the business models that are created independently by various types of network providers. There is no consideration for convergence opportunities. Most of the satellite and mobile network providers that provide communication capabilities via Low earth Orbit (LEO) satellite providers and GSM technologies are often competing in the same space rather than concentrating on their core capabilities and cooperating to generate sustainable business models in the current harsh economic environment.

There are views from various organizations such as, (ESA-Homepage, 2003), (OECD, 2003; UN-Program, 2002; UNESCAP-Report, 2002) that space technology infrastructure will become a key enabling factor for a convergent global mobile telecommunication infrastructure. A growing range of mobile products and services currently in use today or under development will incorporate space technology such as: voice services, radio, broadband Internet services, navigation, and observation systems and gravitational research. The current trend of developing business models for applications and services does not go far enough to investigate generic business models for mobile applications and services that are network independent and which incorporate space technology.

The literature offers various explanations for deriving business models on mobile networks in an ineffective manner due to the evolution of the mobile value chain and market structure outpacing the research (Sabat, 2002). This chapter aims to address this confusion by providing an integrated view of the evolving mobile and satellite markets, and uses the business model framework, to identify market actors to encourage the business world to deliver on the full potential of space technologies in the global mobile arena.
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