

## Chapter 13

# Rwanda Leapfrogs into Digital Broadcasting Migration: Challenges and Opportunities

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### ABSTRACT

*This chapter interrogates the migration process from Analog to Digital Terrestrial Television occurring in Rwanda, which has, since May 2013, entered its final stages. Following the commitment of the East African Community (EAC) inspired by the 2006 recommendations of the International Telecommunications Union (ITU), Rwanda switched to digital terrestrial broadcasting in December 2013. In the meantime, the government sought to increase television penetration from 7% in December 2012 to 30% when the switch off process came to its end. This chapter focuses on the challenges and constraints of this transition in a country where 80% of the population belongs to the primary sector, and where only 10.6% of Rwandans have access to electricity as a main source of lighting. Based on the author's experience as the Project Leader and Managing Director of TV10, the first private television channel in Rwanda, this chapter discusses and analyzes salient aspects of this migration, which is part of a very ambitious technological catch-up policy. It also highlights the different initiatives put together by the private and the public sector to develop innovative solutions that could mobilize the population and improve their access to television. These initiatives sometimes seem to focus on technical considerations to the detriment of local content development, an undeniable and crucial source of employment in the creative industries. Finally, this chapter points out the opportunities and significant growth potential that digital broadcasting could bring to all the stakeholders involved.*

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## **INTRODUCTION**

Rwanda is moving faster than many others on the development path. Strengthening the private sector, improving her infrastructure as well as developing Information and communication technologies (ICT) are some of those priorities that make Rwanda the vibrant, dynamic and promising country it is today. However, the broadcasting and mass media sector, especially television, has not yet reflected the economic boom and rapidly changing society. Indeed, Rwanda has experienced twenty one years of monopoly, from Rwanda Television (RTV), the state-owned TV channel, which contrasts with the paradoxical liberalization of radio broadcasting (over 30 stations) and on-line publishing.

Rwandans have been expecting a more affordable alternative to the several Pay-TV bouquets available on the market, as well as TV content to complement the State owned TV station. In February 2013, 9 years after the launch of the first private radio station, Rwanda has seen the birth of the first private TV station. So far 6 licenses have been granted to other prospective TV station projects, signaling a tremendous change in the monotonous media landscape of Rwanda hitherto dominated by radio broadcasting.

## **DIGITAL TERESTRIAL BROADCASTING, A NEW TECHNOLOGICAL MILESTONE FOR RWANDA**

*Digital terrestrial television (DTT) is the technological evolution of broadcast television and an advancement of analog television. The purposes of digital terrestrial television - versus analog - aim to optimize use of spectrum (more channels on a single frequency), to provide more capacity than analog, provide better quality picture and sound, and to lower operating costs for broadcast and transmission (after the initial migration costs).*

*A terrestrial implementation of digital television technology uses a conventional television antenna (or aerial) instead of a satellite dish or cable television connections to receive the digital signal (Wikipedia).*

Competing variants of broadcast television systems are being used around the world. Digital Video Broadcasting - Terrestrial (DVB-T) being the most common land-based digital broadcast technology.

Like any major innovation, the new technology, digital television broadcasting through DVB-T comes with some significant advantages. First of all, DVB-T dramatically improves image and sound quality and notably reduces the artifacts affecting analog broadcasting. Indeed, unlike analog signals, digital broadcasting is not subject to fade and interferences. Another crucial advantage is the greatly wider and better coverage offered by DVB-T, due to a better optimization of spectrum resources, and a most efficient transmission process.

On the side of the broadcaster and producer, the complete digital workflow (from the camera output, the editing software and hardware, to the encoding and broadcasting process) means better reliability and flexibility. On account of the digitalization of the workflow and the content, the cost of entry in TV production or TV broadcasting is considerably lower than what you could experience during the analog era.

Last but not least, DVB-T allows several different TV programs (or channels) and services (VOD, Video On Demand) to be transmitted over the air through one single frequency. Meaning that if with analog broadcasting you could only broadcast one channel per frequency, with digital broadcasting you can go from 8 channels (in DVB-T) up to 32 channels (in DVB-T2).

In the digital broadcasting process, a multiplex operator combines different TV programs (TV station signal) tagged with identifiers in a multiplexer. Then, the combined signals can be

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