

# Digital Broadcasting

26 - 30 October 2009  
Sandton, South Africa



COMMONWEALTH  
TELECOMMUNICATIONS  
ORGANISATION

[www.cto.int](http://www.cto.int)

Register by  
26th September 2009  
for a 10% discount!

## Overview

This one-week long course is aimed at preparing regulators, broadcast and telecommunications service providers for digital multimedia migration.

The course will provide an understanding of the underlying technology, the most important drivers and the challenges of digital migration in the broadcasting sector; demonstrate how the broadcasting value chain is changing; analyse the societal impact of digitalisation and examine policy and regulatory aspects that are essential to successful digital migration.

Key highlights are:

- Broadcast in an international context
- Digital broadcasting technology as compared to legacy analog, drivers and challenges
- Convergence between digital broadcasting and ICT and the broadcasting value chain
- Spectrum management in a digital broadcasting domain
- Licensing globally and nationally, ITU Recommendations
- Digital migration: policy, practices and regulatory considerations



For more programmes and courses run by the PDT contact us at:  
**Tel:** +44 (0) 208 600 3800 **Fax:** +44 (0) 870 0345 626 **Email:** [programmes@cto.int](mailto:programmes@cto.int)

Course programme may change due to unforeseen circumstances

## Learning outcomes

- Understand technical evolution leading to digital broadcasting
- Determine regulation of the ICT sector with a specific focus on convergence issues between digital broadcasting and ICT
- Explain effective interconnection regulation in a liberalised telecommunications sector to accommodate digital broadcasting requirements
- Describe migration of existing broadcasters from analogue to digital facilities
- Investigate the allocation of frequencies
- Describe procedures for assignment of digital terrestrial television (DTT) multiplexes
- Investigate technical standards and conditions for DTT and mobile services
- Explain efficient use of frequency spectrum allocation and its pricing
- Identify best practices for digital licensing

## Key objectives

- Describe the evolution of the broadcasting sector and the imperatives that have led to digital broadcasting
- Review supporting technologies for digital migration of broadcasting services
- Analyse best practices for frequency spectrum allocation and pricing
- Compare procedures for assignment of DTT multiplexes and mobile services
- Develop best practices for digital broadcast licensing

## Who should attend

Officials with different levels of educational background from the following business divisions:

- Legal
- Licensing
- Policy
- Engineering
- Consumer, Markets & Competition
- including external participants and participants new to the topic

## Learning environment

Traditional classroom including collaborative learning. Use of presentations, group learning, class exercises, case studies and problem solving.

## Pre-requisites

There are no pre-requisites for this course.

## Course content

The course will cover the following topics in detail:

- **Multimedia in technical terms**
  - MPEG and MPEG-2 Video Coding
  - Digital Video Standards ITU Recommendation ITU-BT.R.601 and other global Standards
  - Fourier Frequency Domain
  - HDTV, Audio Compression and Dolby Digital
  - Digital Video Broadcasting (DVB)
- **DVB via terrestrial facilities**
- **DVB via Satellite**
- **DVB via Cable**
- **DVB on mobile handheld user units**
  - Comparison of Digital Video Standards
  - Digital Modulation
  - Digital Multi-carrier Multiplex
  - Digital Audio Broadcasting (DAB)
  - Digital Media Broadcasting (DMB)

## Course Content (cont'd)

- **Global development of Digital Broadcasting**
  - Digital Terrestrial Broadcasting (DVB) in North America
  - Digital Terrestrial Television (DTT) and digital convergence in Europe
  - Digital Broadcasting in the UK, Italy and in Japan
  - Digital Broadcasting in Emerging Markets: Latin America
- **Content Rights consideration in Digital Broadcasting**
- **Legal and Economic Issues**
- **Digital Broadcasting Regulation and Platform Competition**
  - Regulation in the EU and Japan
- **Convergence and interconnection issues between Digital Broadcasting and DTT Multiplexes versus ICT network platforms**
- **Spectrum Management and Frequency Allocation within the Digital Broadcasting domain, compliance and enforcement issues, frequency refarming and pricing**
- **Regulation of Interconnection issues and Rate Setting**

## Course leader



**Karl Hentschel: M.A.; B. Eng.**

Karl Hentschel, a senior Associate at Alliances Consulting Inc., is a highly experienced Telecoms Specialist with over 30 years of experience in the telecommunications sector. He is extremely well-rounded in technology and management issues related to telecommunications including regulation, next generation networks, wireless and cellular networks, and broadband networks.

Among other past positions, Karl was Director Regulatory Projects at AT&T Canada. He has worked extensively on national, regional, rural, and enterprise in North America and globally and, as such, has extensive knowledge of wire line and wireless networks, global regulation, tariffs, rates, and competition. Karl has worked closely with regulatory staff at the Canadian Radio-television and Telecommunications Commission (CRTC) during the application process.

He was responsible for the operations and costing models supporting the applicant's business plan. Karl worked with the regulatory team at AT&T supporting the CRTC's Rate Cap and Phase III Costing Proceedings which formed the basis for cost based tariffs and rates applicable to the dominant telecommunications service providers while still allowing preferred treatment of new entrants and thereby supporting the start-up of competition in Canada. In this position, Karl also worked closely with staff at the Federal Communications Commission (FCC) in Washington on matters pertaining to cross-border services and facilities.

Hosted by:

**ICASA**

In partnership with:

**Alliances Consulting Group Inc.**

## About the CTO

The Commonwealth Telecommunications Organisation (CTO) is an international development partnership between Commonwealth and non-Commonwealth governments, business and civil society organisations.

It provides the international community with effective means to help bridge the digital divide and achieve social and economic development through the use of Information and Communication Technologies (ICT) in the specific areas of Telecommunications, IT, Broadcasting and the Internet.

## About the programme for development and training (PDT)

Managed by the CTO, the PDT is a unique low-cost membership programme providing needs-based professional training and capacity building courses on telecommunications policy, regulation, technologies and telecoms business management.

The PDT has delivered over 3600 bilateral training and consultancy projects, covering every aspect of the telecommunications industry, training over 35,000 professionals in 33 countries of the Commonwealth.

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