This course explains the fundamentals of television broadcast systems and explores the advantages of digital TV, both for production and transmission. The course highlights the value of a national digital transition plan that has to involve all stakeholders in any successful transition from analogue to digital TV before going on to illustrate analogue to digital switch over with a couple of specific case studies. The course concludes with a review of second generation digital TV standards exploring their advantages over the older first generation standards.
OBJECTIVES

- Gain a better understanding of TV broadcasting as a one to many communication systems.
- Obtain a better insight of digital and analogue transmission technologies and indicate their advantages.
- Enhance your knowledge of first and second generation DTTV systems, and become aware of TV broadcast regulatory issues.
- Indicate the benefits of a national digital broadcast plan that incorporates analogue to digital TV switch over (ASO).
- Case studies assessment.

TARGET AUDIENCE

This course is designed for system planners, broadcast systems engineers, telecommunications engineers, as well as communication policymakers and regulators.

COURSE OUTLINE

Fundamentals of analogue and digital communications

The Analogue TV signal

Analogue Terrestrial TV broadcast system: “From lens to screen”
- Studio production and production equipment
- Distribution network
- Broadcast network

Digital TV Fundamentals

- Analogue to digital conversion review
- Digital video: MPEG2, MPEG4/AVC, SVC, HEVC etc
- Digital sound: MPEG, AC3, AAC etc
- Need for meta-data
- MPEG transport stream multiplexing

Digital Terrestrial (DTTV) Broadcast Systems: “From lens to screen”
- Digital production
- Digital distribution networks
- DTTV broadcast and reception issue
- DTTV first generation broadcast standards
- DTTV broadcast network topology
- DTTV reception issues
- Anatomy of a DTV receiver
- Domestic aerials, down lead, aerial connector
- DTV reception equipment
- Provision of EPG
- Pay TV enablers
- Mobile TV
- Interactive TV

Analogue to Digital Switch over (ASO)

- DTTV value chain: content provider service provider (broadcaster) multiplex operator
- Setting a national ‘Digital Broadcasting Policy’
- Provision of HDTV or large multiplex of SDTV services
- Pay TV versus free to air models
- Public interest needs
- Cost-benefit analysis of ASO
- Regulatory issues
  - Technical issues
  - Take up issues
- ASO examples
  - ASO in Europe
  - ASO in Japan and America
  - Case study: UK
  - Case study: Tanzania

Other DTV Transmission Standards

- Cable: DVB-C
- Satellite: DVB-S
- Second generation standards: S2, C2, T2
- Future

COURSE TRAINER

Dr Sam Atungsiri

Dr Atungsiri holds a BSc in Computer Systems Engineering from University of Wales, Cardiff in 1987, an MSc in Digital Communications in 1988 and a PhD in Mobile Communications from University of Surrey in 1988 and 1991, respectively. Dr Atungsiri has taught postgraduate Communications courses at University of Surrey and at The Open University Faculty of Technology. He is a Chartered Engineer of the UK Engineering Council, a Member of the Institution of Engineering and Technology and also a member of the College of Peers of the UK Engineering and Physical Sciences Research Council (EPSRC). Dr Atungsiri is one of the world’s foremost DVB-T2 technologists. He has played a central role in the DVB technical committees that developed the DVB-T2 specification and holds several patents on essential technologies within DVB-T2. He works as a Broadcast Technologist for a major multi-national consumer electronics company where his team developed the world’s first commercial DVB-T2 receiver chipsets.
**Registration Form**

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- Mr/Mrs/Ms/Other
- Job Title
- Organisation
- Address
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- Postcode
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1. Select Delegate Rate (please refer to the list of CTO members/PDT Partners provided overleaf)

   - **Standard Rate**
     - CTO Members: £750
     - Others: £1,150
   - **Early Registration by: 09 October 2015**
     - CTO Members: £700
     - Others: £1,100

2. Payment Mode (choose from either Invoice, Bank Transfer, Cheque, or Credit Card)

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     - Reference: GBZC0UT180003637507
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To help us improve our services to you and your organisation, please tell us more about you and your organisation.

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  - Planning
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  - Operational

- **Your organisation type**
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  - Operator
  - Manufacturer

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  - Customer service and care
  - Engineering and technical management
  - Financial, purchasing and investor relations
  - IT/IT management

- **Your organisation’s service areas**
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  - Mobile/wireless network/services
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  - Internet
  - Broadcasting
  - Value-added services
  - Support
  - Other services

**Summary of Terms and Conditions**

- The CTO will endeavour, as can be reasonably expected, to ensure that the course is delivered to meet delegates’ expectations. Registration is subject to availability and payment received by the deadline where specified, or else before the course start date, whichever applies. Dates may be subject to changes. Travelling, accommodation, daily transportation to venue, subsistence and other costs are the sole responsibility of the delegate and are not included in the above fees. Applicants are responsible for their visa arrangements and other formalities wherever required. Course bookings may be cancelled at the discretion of the CTO or its partners. Applicants paying by bank transfer are responsible for bank charges and any other such costs and should ensure the exact amount in GBP Sterling is credited into the CTO bank account. Applicants requiring additional information prior to their booking should ensure they provide sufficient time before the booking deadline. Cancellation rules apply, as summarised below. For a full version of our Ethical Framework or our Terms and Conditions, please visit our website at www.cto.int

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    - - 31 days or more prior to event: the full amount less a handling charge of 10% or a minimum of £55, whichever applies
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Fax it back to +44 20 8600 3819, or return to the CTO at programmes@cto.int.

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- 13 November 2015

3 SIMPLE WAYS TO REGISTER!

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- 23 – 27 November 2015 Johannesburg, South Africa

- Analogue to Digital Broadcasting Switchover