The radio spectrum is a scarce resource and regulators across the globe have continuously adopted efficient methods of allocating this resource in a way that provides the maximum benefit for the socio-economic growth of their countries. Auctions are increasingly employed as one of the most efficient and transparent ways of granting spectrum licences.

This course will enable participants to analyse the various issues that come into play in pricing and designing an auction system and will facilitate the sharing of experiences of experts who have participated in spectrum auctions from their countries.

Overview

The radio spectrum is a scarce resource and regulators across the globe have continuously adopted efficient methods of allocating this resource in a way that provides the maximum benefit for the socio-economic growth of their countries. Auctions are increasingly employed as one of the most efficient and transparent ways of granting spectrum licences.

This course will enable participants to analyse the various issues that come into play in pricing and designing an auction system and will facilitate the sharing of experiences of experts who have participated in spectrum auctions from their countries.

For more information: about this course, or to register, contact Hilda Muchando
Tel: +44 20 8600 3819
e-mail: h.muchando@cto.int
Objectives

The Course Objectives are:

• Develop a thorough understanding of the theory and practice of spectrum allocation
• Discuss the different types of spectrum allocation
• Identify the critical success factors for successful spectrum auctions
• Discuss the process of valuing spectrum and allocating a “Reserve Price”
• Discuss the various administrative processes required
• Examine a number of spectrum auction case studies from different regions of the world
• Enable participants to be adequately prepared for a spectrum auction

Learning Outcomes

On completion of this course, the participants will be able to:

• Participate effectively in a single band or multi-band spectrum auction process
• Identify new opportunities for spectrum auctions following World Radiocommunications Conference 2015 (WRC-15)
• Explain the major types of Spectrum Auctions
• Describe the key success factors for spectrum auctions
• Identify the various factors that need to be considered when valuing spectrum and specifying a reserve price
• Describe the administrative process and instruments for organising a spectrum auction
• Describe the regulation and role of regulatory organisations
• Explain the key lessons learnt from the case studies on Spectrum Auction

Target Audience

This course is designed for:

• Staff of telecom operators and broadcasters
• Staff engaged in spectrum management at public sector users of spectrum e.g. defence, law enforcement, aviation, maritime, emergency services

Course Outline

DAY ONE

08:00  Registration

09:00  Setting the stage
• Introduction to spectrum allocation methods
• Brief on spectrum pricing options
WRC-15 and implications for spectrum allocations

10:30  Morning Refreshments

11:00  Fundamentals of auction theory
Evolution of spectrum action systems
Auction formats

12:30  Lunch Break

13:30  English and Dutch auctions
Sealed bid auctions
Incentive auctions

15:00  Afternoon Break
First price auction
Second price auctions

DAY TWO

08:00  Registration

09:00  Simultaneous Multiple Round Auction (SMRA)
Ascending Clock Auction (ACA)

10:30  Morning Refreshments

11:00  Combinatorial Clock Auction (CCA)
Hybrid auction formats
Package auctions
Auction software

12:30  Lunch Break

13:30  Setting the reserve price – key considerations in valuing spectrum
Practical exercises

15:00  Afternoon Break

15:30  Policy, regulatory and legal considerations to support auction systems

DAY THREE

08:00  Registration

09:00  Preparing for Auctions (I)
• Auction objectives
• Choice of auction format
• Information memorandum
• Spectrum caps
• Package bidding
• Competition issues
• Bid shading
Who we are

The CTO is the oldest and largest Commonwealth organisation engaged in multilateral collaboration in the field of ICTs. Using in-house and partner experience, it supports members in integrating ICTs to deliver effective development interventions that emancipate, enrich, equalise and empower people within the Commonwealth and beyond.

What we do

The work of the CTO goes back to the Organisation’s creation in 1901 as the Pacific Cable Board. Since then, the CTO has been at the centre of continuous and extensive international communications development funding, cooperation and assistance programmes. Since 1985, the Organisation has delivered to its members in Europe, the Caribbean, the Americas, Africa and Asia-Pacific over 3,760 bilateral and multilateral telecommunications and ICT capacity building projects in the form of policy, operational and regulatory training, and expert assistance. Moreover, the CTO has been at the forefront of generating cutting-edge knowledge through its research and consultancy services, as well as sharing ideas through its conferences and workshops held around the world. This long history as a development facilitator provides the Organisation with a unique and growing delivery capacity for ICT4D programmes and services.

Supporting ICT4D in the Commonwealth

The CTO seeks to work collaboratively with other Commonwealth bodies to build mutually beneficial synergies in the interests of its members. The CTO has a key role to play in leading ICT4D initiatives across the Commonwealth, and it is committed to working together with other Commonwealth entities to reduce overlap and replication of activities. The CTO welcomes the opportunity to offer secretariat support to any Commonwealth ICT initiatives that reflect the needs and interests of its members.

Course trainers

The workshop will be facilitated by leading experts from:

- The Commonwealth Telecommunications Organisation, UK
- Telecom Regulatory Authority of India
- MTN Nigeria
- National Communications Authority of Ghana
- The Universal Service and Access Agency of South Africa

Who we are

The CTO is the oldest and largest Commonwealth organisation engaged in multilateral collaboration in the field of ICTs. Using in-house and partner experience, it supports members in integrating ICTs to deliver effective development interventions that emancipate, enrich, equalise and empower people within the Commonwealth and beyond.

What we do

The work of the CTO goes back to the Organisation’s creation in 1901 as the Pacific Cable Board. Since then, the CTO has been at the centre of continuous and extensive international communications development funding, cooperation and assistance programmes. Since 1985, the Organisation has delivered to its members in Europe, the Caribbean, the Americas, Africa and Asia-Pacific over 3,760 bilateral and multilateral telecommunications and ICT capacity building projects in the form of policy, operational and regulatory training, and expert assistance. Moreover, the CTO has been at the forefront of generating cutting-edge knowledge through its research and consultancy services, as well as sharing ideas through its conferences and workshops held around the world. This long history as a development facilitator provides the Organisation with a unique and growing delivery capacity for ICT4D programmes and services.

Supporting ICT4D in the Commonwealth

The CTO seeks to work collaboratively with other Commonwealth bodies to build mutually beneficial synergies in the interests of its members. The CTO has a key role to play in leading ICT4D initiatives across the Commonwealth, and it is committed to working together with other Commonwealth entities to reduce overlap and replication of activities. The CTO welcomes the opportunity to offer secretariat support to any Commonwealth ICT initiatives that reflect the needs and interests of its members.

For more information:
about this course, or to register,
contact Hilda Muchando
Tel: +44 20 8600 3819
email: h.muchando@cto.int
Registration Form

Personal Details

Mr/Mrs/Ms/Oth: ___________________ First Name ___________________________________ Last Name _______________________
Job Title ___________________________________________________________
Organisation __________________________________________________________
Address _______________________________________________________________
City ___________________________ Postcode __________________ Country _____________
Tel. ___________________________ Mobile __________________ Gap __________________
E-mail ________________________________________________________________
Authorising Line Manager's Name _________________________________________
Authorising Line Manager’s E-mail _________________________________________

Payment Options

1. Select Delegate Rate (please refer to the list of CTO members/PDT Partners provided overleaf)

<table>
<thead>
<tr>
<th>Category</th>
<th>Standard Rate</th>
<th>Early Registration by 15 July 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTO Members</td>
<td>£1,250</td>
<td>£875</td>
</tr>
<tr>
<td>Others</td>
<td>£1,625</td>
<td>£1,138</td>
</tr>
</tbody>
</table>

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

- Invoice: Invoice me at the above address (Discounts do not apply, payment must be received by us prior to the above event's start date)
- Bank Transfer: To: Coutts & Co., 440 Strand, London WC2R 0QS, UK
  A/C Name: CTO, A/C Number: 83675071
  Reference: GB22COU1800028367507
  Sort Code: 18-00-02; Swift Code: COUT GB22
- Cheque: Cheque enclosed, payable to “CTO HQ”

- Credit Card: Visa / Mastercard (circle as appropriate)

Card Holder’s Name _______________________________________________________
Card Holder’s Billing Address (if different from abo) __________________________
Card Number: ___________________________ 3-digit security code on back of car ______
Valid From ___________________________ Expiry Date ___________________________

Signature
Date ___________________________ Name ___________________________ Signature ___________________________

Additional Information

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

Your role in the organisation
- Strategic/executive
- Planning
- Control
- Operations

Your organisation type
- Government
- Regulator
- Operator
- Manufacturing
- Other

Your area of work in the organisation
- Business development
- Corporate affairs
- Customer service and communication
- Engineering and technical management
- Financial, purchasing, and investor relations
- IT/IP management
- Your organisation’s service areas
- Fixed network/services
- Mobile/wireless network/services
- Satellite network/services
- Internet

- Marketing and sales
- Public relations and corporate communication
- Regulatory and legal affairs
- Telecoms network management
- Human resources
- Other

- Broadcasting
- Value-added service
- Support
- Other services

Fax it back to +44 20 8600 3819, or return to the CTO at programmes@cto.int.