

Spectrum Auction Training

For Regulators

Training Focus

Spectrum auctions are used around the world to assign licenses for commercial spectrum. Beginning in the late 80's countries began to transition away from using licensing processes based on comparative technical criteria and moved to auctions to award spectrum to the entities that value the licenses most highly (and will therefore put it to its highest use).

With the Internet, spectrum auctions can be simple and straightforward for regulators to conduct and just as easy for bidders to participate in. However, getting the auction design just right to avoid issues such as collusion and strategic gaming can be difficult, and providing bidders with simple and straightforward rules to follow can be equally problematic.

Course Objectives

After the training, participants will understand the trade-offs associated with various auction rules. Participants will get hands-on experience participating in a set of simulated auctions, both from a regulator's and a bidder's perspective. Participants will get experience in setting minimum opening bid amounts, bid increments, round schedules, and stage transitions from the regulators perspective and experience what it's like to be a bidder: managing eligibility, forecasting demand in future rounds, setting and implementing bidding strategies, and gracefully exiting the auction.

Suitable for

The course is designed for spectrum regulators wanting to learn first-hand how to select an appropriate auction design and conduct a spectrum auction.

Prerequisites

General knowledge of radio spectrum.

Contents

- History of spectrum assignment methods and where spectrum auctions fit in
- Why auction?
- Auction design choices
- Auction Activity rules
- Anti collusion rules
- Auction results from around the world
- Auction Best Practices
- Set up for auction simulation (sealed bids, multiple round ascending -- SMRA and Clock)
- Group simulations
- Results review
- Wrap up question and answer period

Course Fee 1,790€ (excl. VAT)

The course takes place from March 22nd until 24th, 2010 at our Headquarters in Lichtenau/Germany.



How KBE/LS telcom can help your company effectively participate in a spectrum auction

Why do I need help; the rules seem simple enough?

Participating in a simultaneous multiple round auction is easy; winning at the lowest cost is difficult. How you participate in a spectrum auction can mean paying 10 to 50% less or conversely 10 to 50% more than your competitors. You won't find the answers in the official rules. Effective participation in a simultaneous multiple round auction takes practice. Consider the following recent examples in US spectrum auctions where bidders used KBE advisors and software tools to fully win in the auctions.

1. KBE founder, Karen Wrege advised a consortium of cable companies (known as SpectrumCo) in the Advanced Wireless Services (AWS) auction in the US, who saved nearly \$1.2 billion on their spectrum license purchases (based on the prices paid by other bidders in the auction) by leveraging the auction rules to their advantage.
2. In the US digital dividend (700 MHz) auction, KBE advised Verizon Wireless and provided both simulation and bid tracking software, that allowed them to win the coveted 20 MHz nationwide C Block for a fraction of the cost of other comparable spectrum in other blocks. Verizon was able to win this spectrum by using a strategy that we tested using simulation software whereby they bid on small licenses early in the auction to maintain their eligibility and moved to regional licenses later in the auction when the competition had exited those areas. They bid up the price of the smallest region to block other entrants from following them into the larger licenses and ended up winning the licenses for US\$0.75 per MHz-pop, a considerable discount over the comparable nationwide licenses in the A and B blocks which sold for US\$1.15 and US\$2.67 per MHz pop, respectively.

Don't recreate the wheel; proven software is available already to help you effectively plan and participate in a spectrum auction.

KBE created auction simulation tools and scenarios that were sold to multiple Fortune 500 companies including Comcast Cable, Verizon Wireless, Telephone and Data Systems, Inc. (TDS), and Itron, Inc. to help bidders participate more effectively in FCC spectrum auctions of advanced wireless services at 1.9 and 2.1 GHz and 700 MHz spectrum freed up by the digital transition.

Prepare to win by using KBE Global Spectrum Auction Software (GSAP):

KBE's auction software and technical platform, the Global Spectrum Auction Platform („GSAP“) can be used off-the-shelf for auction simulations. The tool can help your bidding team develop a bidding strategy to address the following strategic decision points:

1. How to manage your eligibility early in the auction (including where to bid and to what final price);
2. When to move to your „must have“ target markets;
3. When to start bidding on your second tier markets;
4. How to manage your eligibility during the stage transition;
5. How to gracefully exit specific auctions.



Develop simulation cases and conduct simulations:

KBE will develop simulation cases based on your business objectives, competitive analyses and auction rules. Once developed, KBE will use its Global Spectrum Auction System (GSAP) to simulate the auction and allow the auction team to participate in live auctions and test the scenarios and simulation cases along with testing operational procedures. The bidding team members will take on the roles of different bidders in the auction and will use the Bid Explorer bid tracking tool to formulate bids in each round. The simulations will allow the bid team to experience first hand and practice their bid strategies before the actual auction. The simulations will include mid- and high- demand scenarios and will allow the bid teams to experience eligibility and activity rules, stage transitions, demand and price tracking using the KBE Bid Explorer tool, and exiting the auction.

KBE Experience:

KB Enterprises LLC (KBE) is a consultancy providing telecommunications policy consulting as well as auction design, software implementation and bidding analysis services. KBE's founding partners Karen Wrege and Brett Tarnutzer together have over 36 years of experience in telecommunications policy and auctioning government assets.

Since 1991 KBE members have designed and implemented high stakes auctions of various commodities including financial instruments, telecommunications spectrum, and energy. They have developed and implemented eight auction software platforms using various auction rules including simultaneous multiple round, ascending and descending clocks, and complex combinatorial auctions. At last count, the auction programs they have developed and implemented have encompassed 79 high stakes auctions with proceeds of nearly US\$78 billion.

KBE has vast experience in providing software tools and advising bidders in spectrum auctions. Clients include Verizon Wireless, Comcast Cable, Time Warner Cable, Advance Newhouse, Cox Cable, Bresnan Cable, US Cellular (a division of TDS), and Cavalier Wireless.

KBE members also have a long and distinguished background in wireless telecommunications policy beginning with work on the creation of the rules for the FCC's Personal Communications Service (PCS) in 1994. KBE recently completed a study of technical and policy issues relating to spectrum liberalization in seven countries around the world for the GSM Association and conducted a study on the application of spectrum auctions in the developing world for the Soros Foundation. Most recently, KBE developed recommendations for assigning 2.6 GHz spectrum in South Africa for the Shuttleworth Foundation.



Brett Tarnutzer and Karen Wrege

