



Innovation, Science and Economic Development Canada

Auction Best Practices to Sustain a Competitive
and Innovative Market

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INTERNACIONAL
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ANE
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Context



- Expansive geography with population concentrated along the U.S. border
- Mobile wireless market led by incumbent carriers – regional wireline providers and cable companies

Objectives and Policy Drivers

- Competition, investment, and timely availability of advanced services for all Canadians
- Getting spectrum into the hands of those who value it the most
- Fair return for a valuable public resource (not revenue maximization)

Each Canadian spectrum auction must advance the policy objectives and fit the current context

Enabling Competition and Innovation

- Timely access to spectrum
 - Plan future spectrum releases
- Transparent and effective regulations, policies and standards
 - Use of set asides and caps
- Long term licence periods and flexible use
 - Encourages companies to invest in infrastructure and jobs
 - Flexible approach that enables wireless evolution and adoption
- Engagement
 - Open dialogue with stakeholders and other regulators
 - Open and transparent consultations and decisions

Auction Formats Used in Canada

Sealed Bid

- Single round
- Multiple licences
- Second price
- Individual and limited package bids

When we use it?

- Limited number of licences

Simultaneous Multiple Round Ascending (SMRA)

- Multiple rounds
- Multiple licences
- First price
- Individual bids
- Open bidding

When we use it?

- Large number of licences
- Many bidders are expected

Combinatorial Clock Auction (CCA)

- Multiple rounds
- Multiple licences
- Second price
- Package bids
- Anonymous bidding

When we use it?

- Large number of licences
- Many bidders are expected
- Ability to bid for packages is important

Best Practices - Keys to Success

- Outsourced Consulting Services and Software for Internet-based Auctions
 - Allows for state-of-the-art auction format and approach
- Extensive training, including mock auctions
- Intensive software testing
- Result validation by independent third party
- Release of all bid data
- Security
 - Anonymous bidding
 - Auction room security
 - Secure tokens and encryption
- Post-mortem meetings with auction bidders
 - Lessons learned that can be applied to the next auction
- Share knowledge with other regulators

Canadian Spectrum Auctions

#	Spectrum Auctioned	Year	Format	Licences Sold	Total Winning Bids
1	Fixed use (Backhaul) at 24 & 3 GHz	1999	SMRA	260	\$171,838,520
2	Commercial Mobile PCS Spectrum at 2 GHz	2001	SMRA	52	\$1,481,920,000
3	High Speed Internet Spectrum (2300 MHz & 3500 MHz)	2004	SMRA	392	\$11,240,615
4	Residual Licences (2300 MHz & 3500 MHz)	2004/05	SMRA	450	\$57,527,465
5	Commercial Mobile Advanced Wireless Services (AWS-1)	2008	SMRA	282	\$4,254,710,327
6	Air-Ground Services (849-851 MHz/894-896 MHz)	2009	Sealed Bid	2	\$2,100,007
7	Residual Licences at 2300 MHz & 3500 MHz	2009	Sealed Bid	10	\$123,970
8	Mobile Broadband Service (700 MHz)	2014	CCA	97	\$5,270,636,002
9	Advanced Wired Services (AWS-3)	2015	Sealed Bid	39	\$2,109,147,421
10	Broadband Radio Services (2500 MHz)	2015	CCA	302	\$755,371,001
11	Residual Licences (700 MHz & AWS-3)	2015	Sealed Bid	15	\$58,509,286

What's next?

- 600 MHz will be the next big auction in Canada
 - Awaiting the results of the U.S. incentive auction to determine how much commercial mobile spectrum will be available
 - Will conduct public consultations on the auction policy and licensing framework – including the format
- Continued commitment to addressing surging spectrum demand
 - Spectrum / Technology / Infrastructure
 - Continued timely release – facilitating access
 - Committed to an innovative approach to spectrum management, including engaging in research to make the program more sustainable, effective, and efficient