

At A Glance

Global Expertise in Spectrum Management and Spectrum Awards

Our Practice

NERA's Radio Spectrum team has unmatched expertise in the application of economics to the use and management of spectrum. We assist clients with the pricing and valuation of spectrum, allocation of bands for new uses, design of auction and trading mechanisms, and bidding strategies. We apply our in-depth knowledge of comparative regulatory regimes, and the role of radio spectrum as an input into competition in downstream markets to support clients in consultation and litigation on spectrum matters.

Our global spectrum and communications team is based in London, Madrid, New York, Tokyo, and Washington DC, and has advised regulators, companies, and industry bodies in more than 50 countries worldwide, including 28 of the 34 OECD countries. NERA's international breadth also allows us to leverage expertise from the firm's Competition and Financial Economics Practices.

Key Areas of Expertise

Usable frequencies are a finite public resource and governments often intervene to manage allocation and pricing. Our broad expertise spans areas of spectrum management, including:

- Changes to spectrum policy
- Design and bid strategy in spectrum auctions
- Impact of trading and liberalizing spectrum use
- Incentive pricing, valuation, and licence renewal
- Analysis of downstream competition
- Promoting development of next-generation wireless services

NERA provides expert guidance on the pricing and valuation of spectrum in the context of auctions and administrative assignments. Our team advises regulators and operators on economic and strategic issues associated with renewing spectrum licences, including the reconfiguring and re-farming of bands for next-generation technologies. We provide input into

negotiation processes around setting license fees, and provide expert reports for litigation when negotiations break down. NERA advises clients on the value of spectrum bands for new uses, based on factors such as the frequency level and bandwidth, incumbent uses and interference environment, and equipment ecosystems. We help clients identify how much spectrum they need for deployment of 5G wireless technology and how they will use it, including trade-offs between alternative access mechanisms, such as unlicensed, shared, and exclusive use.

Our experts have worked with all types of spectrum auction format, including SMRA, sealed bid, ascending and descending clock, and combinatorial clock (CCA), based on both design work for government clients and bid strategy advice to spectrum users. We provide expert guidance through every phase of the auction process, including detailed auction rules, lobbying on auction design, software implementation, and the auction itself.

We employ the most advanced software and algorithms for simulating auctions, tracking bids, and solving complex winner and price determination problems.

Client Experience

Auction Design

NERA's auction design and implementation work for regulators and government agencies includes: Mexico AWS (2016); Belgium 800 MHz (2013); and Singapore 4G (2013).

Bidder Support

NERA advised mobile operators around the world on bid strategy in 4G auctions, including Orange (Poland and Romania); Rogers (Canada); Telefonica (Germany, Spain and UK); and Telstra (Australia).

We developed a model of the FCC Incentive Auction used by multiple US broadcasters to forecast price and UHF repacking outcomes for the Reverse Auction.

Pricing, Valuation, and Licence Renewal

NERA's experts supported Telefonica O2 throughout the consultations on UK annual licence fees for spectrum, helping them secure a 40% reduction in proposed fees. We advised the European Defence Agency in developing a new model to value radio spectrum used for military purposes by European states.

Spectrum Policy for 5G

NERA advised a global communications operator on the potential value in multiple countries of a spectrum band suitable for integration into the 5G mobile ecosystem

Regulation and Competition

NERA provided expert witness testimony on behalf of TELUS, an incumbent operator, in a CRTC proceeding on regulation of Canada's mobile wireless sector.

About NERA

NERA Economic Consulting (www.nera.com) is a global firm of experts dedicated to applying economic, finance, and quantitative principles to complex business and legal challenges. For over half a century, NERA's economists have been creating strategies, studies, reports, expert testimony, and policy recommendations for government authorities and the world's leading law firms and corporations. We bring academic rigor, objectivity, and real world industry experience to bear on issues arising from competition, regulation, public policy, strategy, finance, and litigation.

NERA's clients value our ability to apply and communicate state-of-the-art approaches clearly and convincingly, our commitment to deliver unbiased findings, and our reputation for quality and independence. Our clients rely on the integrity and skills of our unparalleled team of economists and other experts backed by the resources and reliability of one of the world's largest economic consultancies. With its main office in New York City, NERA serves clients from more than 25 offices across North America, Europe, and Asia Pacific.

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