



# International Symposium on Advanced Radio Technologies

June 13 – 16, 2022 • Fully Virtual

[Evolving Spectrum-Sharing Regulation through Data-, Science-, and Technology-Driven Analysis and Decision-Making](#)

## Exploring the Theme of ISART 2022



**ITS: The Nation's Spectrum and Communications Lab**

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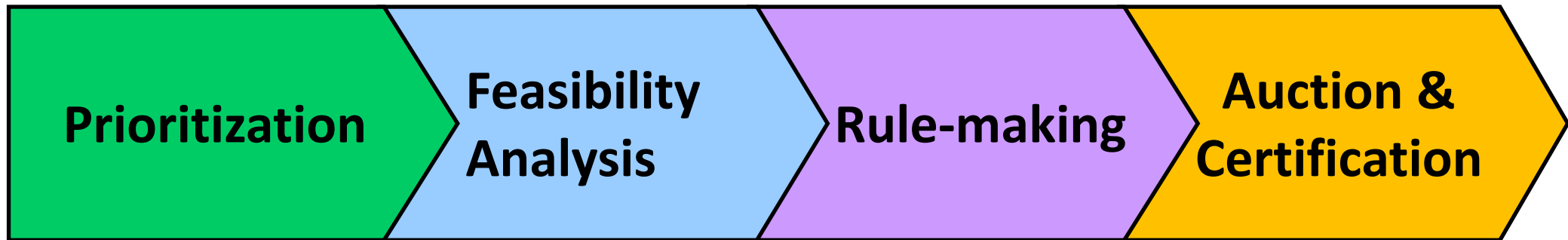
**ITS** Institute for Telecommunication Sciences

# Exploring the Theme of ISART 2022

- ▶ Background and Motivation
- ▶ Perspectives on the Theme
  - Federal Lab
  - Federal Spectrum User
  - Researcher
- ▶ Critical Questions
- ▶ Attendee/Participant Questions



# Current Process



*Broadly generalized graphic depiction of the current linear spectrum sharing regulatory process*



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# Applying Lessons Learned

Lessons Learned	Potential Solutions
▶ Feasibility studies include incomplete technical data on system parameters, and assumptions on deployments	• Better data could reduce margins/worst case analyses, longitudinal data spur reassessments
▶ Engineering studies done late in the process may identify obstacles omitted in the sharing parameters	• Begin engineering studies early and repeat as the technology matures, to refine parameters
▶ Innovation in hardware and software outpaces the regulatory process	• An iterative process could potentially keep better pace with innovation
▶ Funds do not exist to incent Federal-unlicensed sharing	• Alternative funding could be developed
▶ Information asymmetries exist	• Transparency, open data, and data sharing incentives could be developed
▶ Coexistence is not always considered in standards processes	• Standards that engineer for co-existence could expedite sharing



# Evolving the Process



*Broadly generalized potential continuous regulatory improvement model*



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The Goal of ISART 2022 is to chart a roadmap and gain consensus for specific data-, science-, and technology-driven means to evolve, and expedite, spectrum sharing analyses and decision making, and identify opportunities for continuous improvements and developments beyond the current linear spectrum sharing process.



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