Spectrum assignment for connected vehicles: local licensing versus coopetition

A. Basaure, B. Finley, and H. Hämmäinen (2021) *Computer Communications*, manuscript # COMCOM-D-20-00196

Parameter	Local Licensing	Monopoly	Coopetition	Competition
Frequency	operators transmit over the entire allocated band in their areas	one operator transmits over the entire band	operators transmit over the entire allocated band on their horizontal streets and over own band on vertical streets	each operator transmits over own band regardless of area
Interference	non-coordinated between areas	full coordination	non-coordinated between operators regardless of area	non-coordinated between areas
Type of Competition	ex-ante (price competition)	price regulation	ex-post (quantity competition)	ex-post (quantity competition)

How to assign urban 5G spectrum for connected vehicles?

- this paper uses agent based modeling for comparing the above scenarios
- both alternatives lower implementation costs while promoting competition
- local licensing of spectrum scenario may achieve better performance than alternative scenarios with traditional spectrum assignment

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