

Spectrum Roadmap

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Perspective on Spectrum

- **Crowding of Spectrum**
 - Efficient, multi use
 - Service assurance and Network security
- **Alternatives to Physical Connectivity**
 - Diverse use
 - Technology agnostic
- **Expensive Resource**
 - Rol to be factored in
 - Rollout Obligation targets
- **Licensing Framework**
 - Eligibility
 - Allocation mechanism
 - Use of spectrum
 - Sharing



CNPN - A Case Study

- CNPN is a terrestrial wireless network established for a captive use within a specified geographical area.
- In India, deployment of CNPN is not even at nascent stage despite of strong demand from Enterprises.
- **Present arrangements** - TSPs can set up CNPN for Enterprises or Enterprises can set up its CNPN with direct spectrum allocation from Government or take spectrum on lease from TSPs.
- **Future Possibilities:** CNPN Licensee should be allowed to either acquire spectrum from other TSPs or direct administrative spectrum may be assigned to deploy CNPNs for Enterprises in line with global practices.
- Recommended spectrum bands having equipment ecosystem either available or evolving:

Category	Spectrum Band	Remarks
Lower Band	700MHz	Allocated to Access Service Providers and Indian Railways
	850MHz	Allocated to Access Service Providers
	900MHz	Allocated to Access Service Providers
Lower Mid Band	1800MHz	Allocated to Access Service Providers
	2100MHz	Allocated to Access Service Providers
	2300MHz	Allocated to Access Service Providers
	2500MHz	Allocated to Access Service Providers
	2600MHz	Allocated to Access Service Providers
	2700-2900 MHz	Allocated to AAI and can also be used for CNPN
Mid Band	3300-3700MHz	Allocated to Access Service Providers and can also be used for CNPN
	3700-4200MHz	Other incumbents and can be used for CNPN
	4400-4990MHz	Other incumbents and can be used for CNPN
	5925-7125MHz	Can be used for CNPN services

Conclusion

- Tech Evolution - more spectrum hungry
- OEM Support
- Light touch licensing / unlicensed approach for new bands
(E & V Band, 6 GHz)

THANK YOU

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