

Spectrum Pricing and the Future of Spectrum Auctions

Session 5: 5:30 PM - 7:00 PM

speaker:

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JOINT WIRELESS ADVISER, WPC WING

Many services claiming same spectrum

Region 1	Region 2	Region 3	INDIA
495-505 (Globally harmonized) MARITIME MOBILE			495-505 MARITIME MOBILE
505-526.5 MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION	505-510 MARITIME MOBILE 5.79 510-525 MARITIME MOBILE 5.79A 5.84 AERONAUTICAL RADIONAVIGATION	505-526.5 MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION Aeronautical mobile Land mobile	505-526.5 MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION IND 1 Aeronautical mobile Land mobile
• EVERY RANGE OF SPECTRUM HAS SPECIFIC PROPERTIES (SUITED TO PARTICULAR PURPOSE; <i>utilisation/ demand</i> depends upon technological development) • RR/NFAP EARMARK SAME RANGE FOR MORE THAN ONE SERVICE • IT IS THE JOB OF THE REGULATOR/ LICENSOR TO CHOOSE (Generally) ONE SERVICE IN PARTICULAR FREQUENCY RANGE			

ROLE OF SPECTRUM REGULATOR-satiate the hunger (give me more)

- TECHNO-REGULATORY

- Needs of all Radio-communication services (**40**) are met
- Ensure interference free co-existence of services
- Ensure efficient utilisation (max. possible no. of **bits/Hz**)

- FINANCIAL

Ensure maximum socio-economic gain:

- ❑ Affordability to masses (sub- serve the *common good*) + *economic progress* of the country in the long term-

- Government may be required to focus less on direct revenue from spectrum
(revenue maximisation need not be the primary objective of distribution of resource)
- In case of demand exceeding supply, fair and transparent means of allocation must be ensured
(However, *Auction* is the DEFAULT mode in ITA 2023 (**Except *Schedule-I***)
- **?Schedule-I** : Sovereign Functions or auction is not technically feasible

Experience of previous Spectrum Auctions

Year of Auction	Total Quantum put to Auction (in MHz)	Quantum Sold (in MHz) and %age	Value of spectrum put to Auction (in Crores of Rs.)	Value of Spectrum bought (in Crores of Rs.) and %age
2010	1785	1785 (100%)	14,330	1,06,262 (741%)
2012	390	127.5 (32%)	49043.13	9,407 (19%)
2013	195	30 (15%)	52923.12	3,639 (7%)
2014	431.2	353.2 (82%)	47933.4	60,677 (127%)
2015	470.75	418.05 (89%)	80277.5	1,09,227 (136%)
2016	2354.75	964.8 (41%)	567387.25	65,789 (12%)
2021	2308.8	855.6 (37%)	400396.2	77,821 (20%)
2022	72,098	51,236.20 (71%)	431605	1,50,173 (35%)
2024	10522.35	141.4 (1.3%)	96238.45	11,341 (11.78%)

Experience of auctions

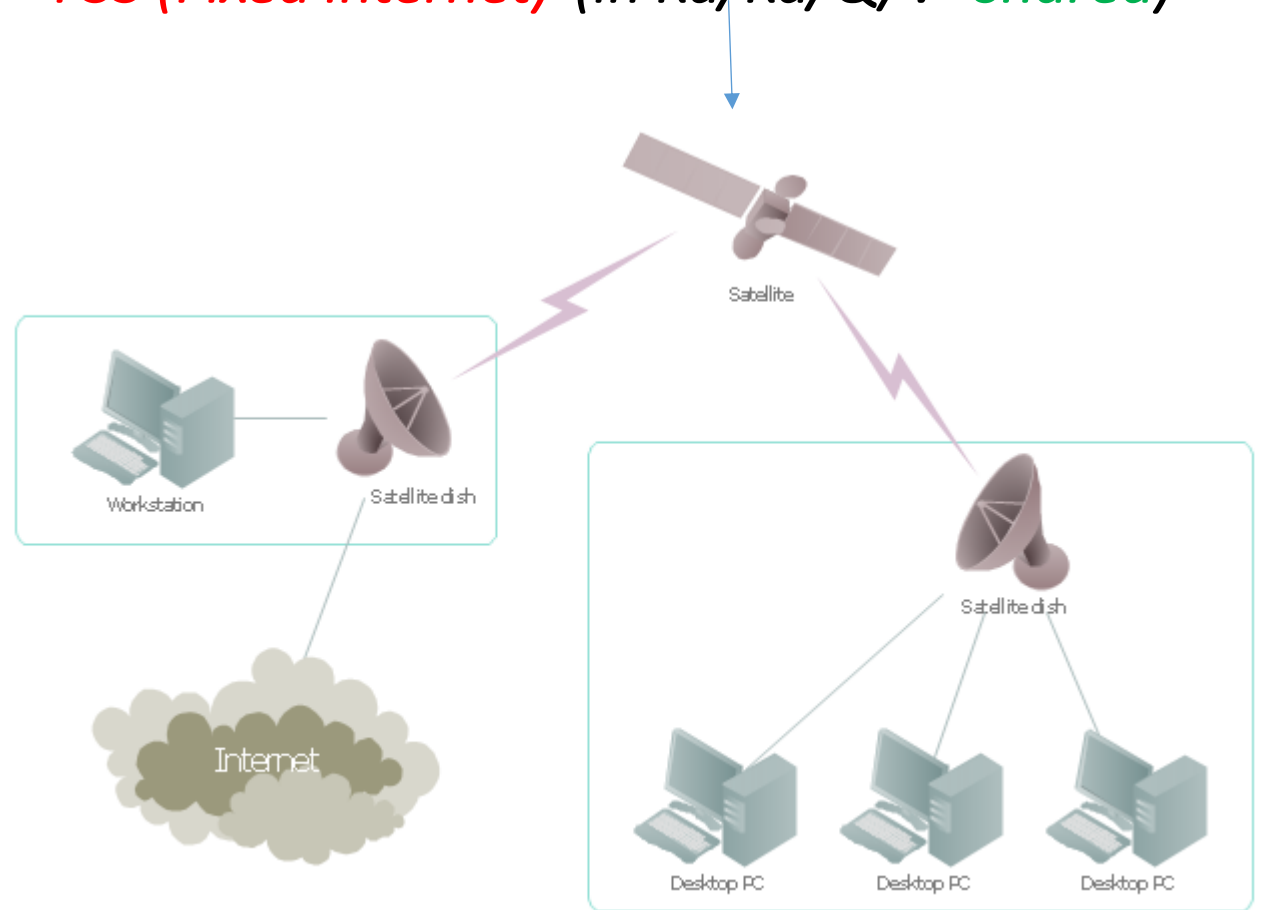
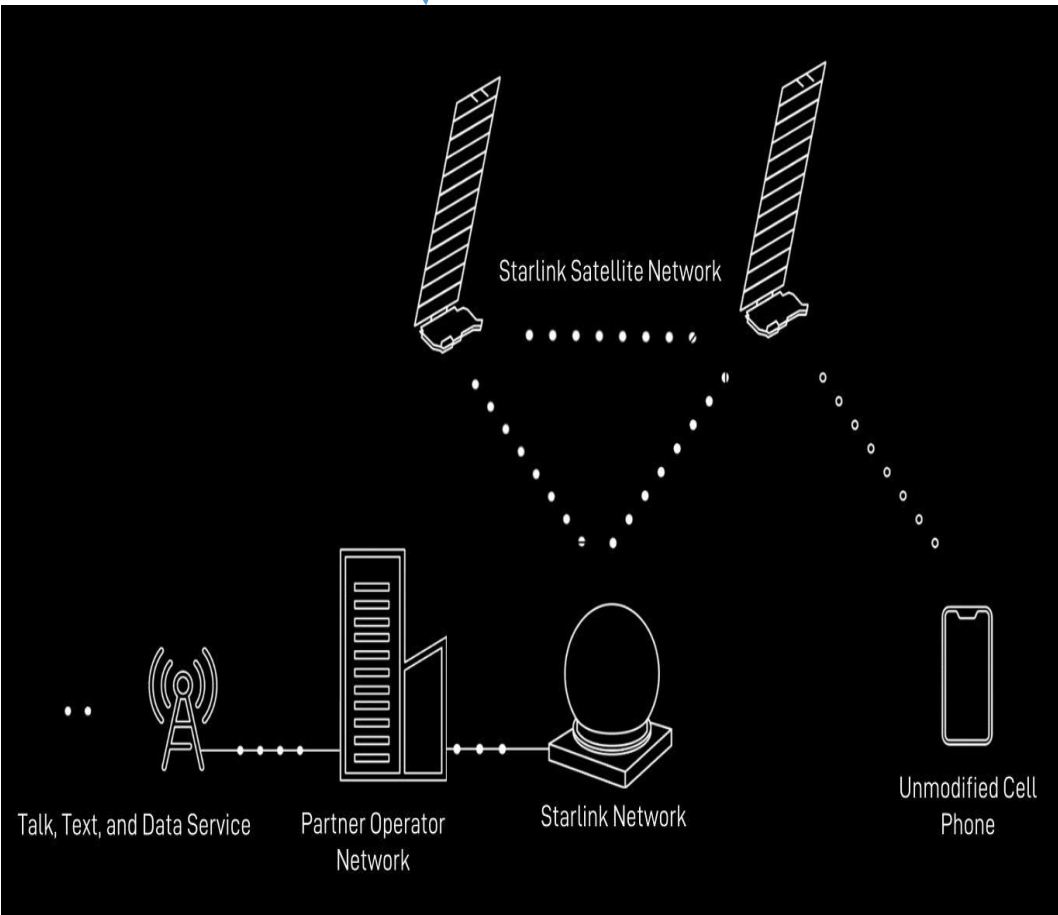
Except at few occasions (2010, 2014 and 2015) auctions, the bids one won at R.P.

- Meaning –well designed R.P is the key
- Legally it is an auction- practically allotted at administrative price

Auction of Satellite spectrum?

MSS(D2C)(below 2.6 GHz-exclusive)

FSS (Fixed internet) (in Ku/Ka/Q/V-shared)



Auction of Satellite spectrum?

- Part of *Schedule-I* (*..can not be auctioned*)
- *Schedule-I can be modified? (Yes)*
 - ? *Whether spectrum auction is feasible? (No)*
 - ? *Solution (Well designed **administrative allocation price** or **Auction** the RIGHTS to provide **Service**)*

Factors affecting the pricing and allocation of IMT-MSS spectrum (New paradigm).....

- Same spectrum used by Terrestrial Operator and D2C Satellite over the same geography
 - ✓ Its already happening (for emergency messages; voice available in 2025)

(Starlink D2C service with the T-Mobile terrestrial operations in the 1910-1915 MHz/ 1990-1995 MHz-both operating in same channel; handover taking place at “Cell” edge)

..... Factors affecting the pricing and allocation of IMT-MSS spectrum (New paradigm)

- Terrestrial spectrum **ownership** is with **MNO** (auctioned spectrum)
- The ITA gives power to the Government to allow **Secondary use** (without causing interference to Primary User)
- **Who should have rights** to allow MSS operator to use spectrum
(? **Government** itself or it gave a blanket authorisation to **MNO** to allow or disallow the MSS operator?)

[illegible]

THANK YOU!