

Spectrum war: Who stands where in battle of oligopolies

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The spectrum allocation game has got rather complicated and convoluted as the demand from the telecommunications sector far outstrips availability. This gap is growing by the day as more and more mobile subscribers enter the already-crowded marketplace.

The Telecom Regulatory Authority of India (Trai) has already told companies that won bids for providing third generation (3G) telecom services that it would not give them the right to have intra-circle roaming arrangements among themselves. The three bigwigs, Airtel, Vodafone and Idea, are upset that their pact to provide 3G services in circles in which each did not individually hold a licence has been deemed by the regulator to be in violation of licence conditions with serious negative financial implications for the government.

Sunil Mittal (Airtel), Kumar Mangalam Birla (Idea) and Vittorio Colao (Vodafone) have written to Prime Minister [Manmohan Singh](#) that they would rather quit the 3G space than subject themselves to the tyranny of the regulator and insisted on their right to have an intra-circle roaming pact claiming that there is nothing in the licence agreement saying that this is disallowed. (*Read part 1 of our spectrum story [here](#)*)

The angst is all the greater because only the public sector Bharat Sanchar Nigam Ltd (BSNL) has pan-India spectrum for 3G telecom services. There are segments of the mobile telecom industry that insist that the regulator is right in refusing intra-circle roaming, whereby service providers will be able to sell services in circles in which they have not been awarded spectrum. They believe the move would be patently illegal.



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The affected parties, on the other hand, insist that the government is being cussed. There has been considerable media support for the Mittal-Birla-Colao position and little analysis going into the legality or otherwise of literally sub-contracting a licence for profit. There is opposition to the government's position that what the Trai and DoT are suggesting will lead to "sub-optimal" spectrum use, which in turn could be anti-consumer. The dispute is currently being heard by the Telecom Disputes Settlement & Appellate Tribunal.

One way in which the winners of the 3G spectrum auction could have provided services across the country was if they had received additional spectrum. The problem is that even if one assumes that superior technology enables a telecom service provider to provide the same grade and quality of services using relatively less spectrum, there is just not enough spectrum around to satisfy everyone's requirements. It's as simple as that.

At one level, the government has not been able to provide funds to BSNL to build a dedicated optic fibre cable (OFC) network for the defence services – which would have helped release some more defence spectrum for telecom (*Read the details [here](#) and see the chart [here](#)*). The MoU between the Department of Telecommunications and the Ministry of Defence has not been executed. At the same time, the government cannot deny the armed forces spectrum for their own needs to secure the country's international borders.

It is against this backdrop that intense lobbying is under way with talk of the need to reform spectrum after years of allocating excess second generation (2G) spectrum to existing players and various forms of abuse in the allotment and pricing of spectrum (such as the first-come-first-served policy followed by disgraced former Telecom Minister Andimuthu [Raja](#)) that led to the cancellation of the 122 licences granted in January 2008 by the Supreme Court of India on 2 February. There are four important aspects of the scenario that needs elaboration.

1. The government is also now talking of auctioning 700 Mhz spectrum, which offers little possibility of deploying 3G services because the focus of the 700 Mhz band currently is 4G LTE (or fourth generation, long term evolution) technology and not 3G services. Also, the 700 Mhz band does not have global economies of scale as it is a completely new band with no

compatibility or synergies with big telecom markets such as those in the United States and Europe. China too has a different band structure for the 700 Mhz band, which is completely different from that of India. It will take a while for equipment to become affordable in the 700 Mhz band whereas in the case of 3G services in the 2.1 Ghz band, there are existing global economies of scale in terms of available equipment and India can, with a reasonable degree of ease and comfort, replicate the deployment of 2G services in the case of 3G spectrum as well.

#2. Meanwhile, the lobby of CDMA (code division multiple access) technology users (provided by US multinational Qualcomm) has been pushing for an extension band for itself, as in the case of GSM (Global System of Mobile communications) technology users, where the 1,800 Mhz band is such an extension band for the 900 Mhz spectrum band. There is no such extension band for CDMA technology users' 800 Mhz band. The GSM lobby had been opposing the CDMA demand on account of possible interference with 3G spectrum (2.1 Ghz) and also to contain the growth of the use of competing CDMA technology.

#3. The third aspect in this complicated telecom scenario comes courtesy the 25 Mhz of spectrum in the GSM 900 Mhz band and the 20 Mhz of spectrum in the CDMA 800 Mhz band. While GSM users got additional spectrum in the 1,800 Mhz band, CDMA players have no band to go to once the 800 Mhz band gets exhausted. The situation has changed drastically with the assignment of contractual spectrum of 6.2 Mhz for GSM users and 5 Mhz for CDMA users. However, no CDMA operator other than MTS will need to grow into the extension band as their requirements get fulfilled within the 800 Mhz spectrum. Only MTS might need to get one additional carrier of 1.25 Mhz for which it might need to go to the 1,900 Mhz band. But much depends on what happens in the future as the company's licences have been cancelled.

#4. The final question: Why is this extension band for CDMA being opened now? Who is asking for it? One possible explanation could be that the government needs parking slots for both GSM and CDMA operators for refarming of 900 Mhz and 800 Mhz spectrum. It is known that the Reliance group has been pushing hard for a refarming of 1 Ghz spectrum, which is extremely valuable. Clearly, the government cannot refarm spectrum for GSM operators only. It would have to do so in both the GSM and CDMA spaces. This could be one reason for creating this extension band of 1,900 Mhz at the cost of 3G spectrum.

The government is getting ready to auction two kinds of spectrum over the coming year or so. There are the 4G (fourth generation) licences that form a separate and so far uncomplicated issue for broadband services. The other coveted spectrum is for 2G services which all players want to secure. The older players will want to hold on to their advantage – free spectrum, unauthorised spectrum, legitimate spectrum – with spectrum in the 900 Mhz band considered especially valuable. Clearly, the new entrants will not want the older spectrum owners to get a chunk of the freed-up spectrum following the cancellation of licences.

In most parts of the world, controversies of the kind relating to allocation of spectrum currently being witnessed in the country are amicably sought to be resolved by the regulatory authority. Unfortunately, the past track record of Trai does not inspire too much confidence. This, to a great extent, explains the hectic lobbying going on.

Will lobbying power eventually win the day? Who will be the eventual winner in this race for the refarmed spectrum? Your guess could be as good as ours.

