



DG/COAI/2022/035
January 24, 2022

Shri Syed Tausif Abbas,
Advisor (Network, Spectrum & Licensing)
The Telecom Regulatory Authority of India
Mahanagar Door Sanchar Bhawan
Jawahar Lal Nehru Marg (Old Minto Road)
New Delhi-110002

Subject: COAI Counter Comments to the TRAI Consultation Paper on "Auction of Spectrum in frequency bands identified for IMT/5G"

Dear Sir,

1. This is with reference to the TRAI Consultation Paper dated November 30, 2021 on "Auction of Spectrum in frequency bands identified for IMT/5G".
2. In light of our submissions vide our letter no. DG/COAI/2022/013 dated January 10, 2022, please find enclosed our point of view on some of the submissions made by other respondents and stakeholders recommending spectrum set-aside or direct allocation of core 5G/IMT spectrum to verticals/enterprises for creation of captive private networks. The same have been attached as **Annexure**.

We hope that our views and submissions will merit the kind consideration and support of the Authority.

Regards,

Lt. Gen Dr. SP Kochhar
Director General

Email id: dg@coai.in
Mobile No.: +91 9871554400

CC :

1. Shri. V. Raghunandan, Secretary, TRAI, Mahanagar Door Sanchar Bhawan, New Delhi
2. Shri Rajiv Sinha, Pr. Advisor (NSL), TRAI, Mahanagar Doorsanchar Bhawan, New Delhi



COAI Counter Comments to the TRAI Consultation Paper on “Auction of Spectrum in frequency bands identified for IMT/5G”

In light of our submissions vide our letter no. DG/COAI/2022/013 dated January 10, 2022, we would like to submit our points of view on some of the submissions made by other respondents and stakeholders recommending spectrum set-aside or direct allocation of core 5G/IMT spectrum to verticals/ enterprises for creation of captive private networks. Our comments are as below:

1. Some stakeholders are of the view that there is a need to give spectrum for setting up private networks to private entities and they have stated that most of the IMT bands are suited for this purpose and the same needs to be done through light licensing.
2. To this, we submit that we are of the firm opinion that with advancement of technologies, there is no justification whatsoever for continuation of private captive networks. The licensed Access Service Providers are fully capable of providing all customised solutions including M2M / Industrial 4.0 services in the most competitive and economic manner and in fact providing such network configuration to private and public sector entity. Hence, there is no need to alienate spectrum directly to companies for private network.
3. It is important to highlight that any resources for such Captive Network will come from the resources of licensed service providers which include spectrum acquired through transparent auction process. The TSPs license already has provision for communication services direct to the consumers, whether individuals or enterprises; and auction based allocation of spectrum is sufficient for meeting the demands of private networks.
4. TSPs are duly licensed to access the customers – whether normal subscribers or enterprises – and for purpose of their connectivity, create networks. It means that TSPs have to commit substantial investments, and then operate efficiently and earn the return to fund these investments. Therefore, predictability and consistency of regulatory regime that avoids fragmentation and encourages network investments is critical.
5. Furthermore, the TRAI/DoT should avoid following an approach that may create inefficient spectrum usage. TSPs can make available same spectrum to every user's needs (public or private) within the same network, thereby making most efficient deployment of the resource.
6. The TSPs have been meeting these demands for over 20 years and there is no doubt that they will continue to meet the requirements with the advent of newer technologies. We do not see any evidence of market failure where TSPs have not been able to serve the needs of enterprises. In-fact, TSPs are more than capable for meeting all the customization requirements of enterprises with increased focus on M2M and Industrial 4.0 services. Indian telecom market is very competitive and TSPs will continue to meet the enterprise requirements at aggressive and competitive tariffs, under the current policy framework.



7. As the Authority is already aware that the TSPs have years of experience in deploying spectrum efficiently and offering multiple services integrating a multitude of technologies. The TSPs are able to offer a wide range of managed solutions to industrial customers including 5G capabilities like 5G virtual networking for point-to-point connections, 5G private networks that cover a certain area, 5G+cloud, where vertical industry applications are deployed on the public cloud and connected through the 5G network and 5G edge computing for ultra-low latency processing.
8. TSPs will be able to deliver 5G services using low, mid-band and high-band frequency ranges to support the full range of industrial use cases across local and wide area deployments. This can be done through:
 - a. **Network slicing** – which TSPs will be able to offer for differentiated QoS to enterprise needs.
 - b. **Spectrum leasing:** A carefully planned spectrum leasing approach can be a viable option for supporting verticals who want to build private networks
 - c. **Higher bandwidth use-cases** or device densities with access to wider spectrum. Use cases that may require **network access outside of the confines** of the industrial campus with service continuing onto the public network
9. The aim of the Government is to cater to industrial needs of various industry verticals by ensuring they get the connectivity they need to support their use cases. This can easily be provided by the TSPs as per their existing licensing conditions. Setting aside dedicated spectrum for private networks poses significant risks to wider mobile services, most notably slower 5G networks and reduced coverage.
10. Setting spectrum aside leads to insufficient spectrum to operators, preventing the delivery of all 5G requirements and capabilities. If the needs of the industry verticals are met by collaborating with the TSPs in an efficient manner then the intent of the Government cannot be to set aside spectrum and disadvantage other customers by preventing delivery of real capabilities of 5G services.
11. Setting aside spectrum poses risks to 5G's success. The Telecom operators who buy it through auction, will have to afford a higher investment burden as set-aside will decrease spectrum availability for 5G.
12. In fact, when a private network is part of a commercial network, it takes care of various regulatory requirements. When a captive private network is part of a commercial network it addresses the following issues for orderly growth of the sector:
 - a. Neither the legitimate revenue of licensed service provider is truncated nor there is any revenue loss in terms of upfront payment for acquiring spectrum or under a separate methodology for license fee and Spectrum Usage Charge (SUC). Thus, it is respectfully submitted that in today's scenario there is no need for private captive networks and the same should have been dispensed with the availability of state-of-art telecommunication network.
 - b. This also adheres to the principle of "Same Service Same Rule". Any move such as setting aside/ allocation of 5G spectrum (via delicensed/ administrative basis) for



catering to the connectivity needs of Industry 4.0 / M2M communication services by way of Private Captive Networks, not only truncate the revenues of the licensed service providers but also affect the revenue of the Government. This also creates a non-level playing field pointing to arbitrariness in basic policies scaring away the investors leading to disorderly growth of the sector by back door entry with undue advantage to private commercial entities at the cost government exchequer.

- c. A Captive Network within the commercial network fulfil the requirement of “Law Enforcement Agencies” as necessary lawful interception and monitoring is provided by the service provider while no such facility is available to LEAs in private captive networks. The anti-social elements may exploit this facility to bypass interception and monitoring of message in the interest of security. Thus, Private Captive Networks are detrimental to national security and should not be permitted.
 - d. It is pertinent to note that spectrum is a key finite resource with high economic value. The spectrum allocation in any spectrum band that can be used to deploy and provide communication services, irrespective of the entity desiring to use the spectrum or the technology deployed or type of services offered, should be allocated only through a transparent and open auction process. Therefore, we do not support delicensing/ reserving any Spectrum bands for Private Captive Networks or any other services like M2M services in the guise of Industry 4.0.
13. We would also like to bring to your notice the GSMA Report on ‘Mobile Networks for Industry Verticals: Spectrum Best Practice’ vide which they have stated that great care needs to be taken to ensure verticals are fully supported without harming other wireless users – especially consumers and businesses who rely on 4G and 5G. Verticals can benefit from telco’s more extensive networks, more substantial spectrum assets, expertise and, typically, operators’ lower cost base. Use of dedicated set-asides for verticals poses significant risks to wider mobile services, most notably slower 5G networks and reduced coverage. The main highlights of the report are given below:
- a. **Commercial mobile operators support needs of a wide variety of vertical sectors and will have added capabilities with 5G**
 - b. **Spectrum leasing** when carefully planned, **can be viable options** for supporting verticals who want to build private networks
 - c. **Spectrum that is set-aside** exclusively for verticals in core mobile bands **risks being underused and can undermine fair spectrum awards**
 - d. **Spectrum set-aside** in core mobile bands **can also threaten wider success of 5G** – including slower rollouts, worse performance and reduced coverage
 - e. **Policymakers should consider coexistence challenges** when different use cases need to be supported in the same mobile band
 - f. **Policymakers should carefully consider their options and consult stakeholders** to ensure they most efficiently support the needs of verticals without undermining other spectrum users
14. It is also pertinent to note that countries like UK have considered reserving spectrum for the use of private networks and analysed opportunity cost of reserving such spectrum for isolated private networks v/s national mobile operators serving millions of consumers. It



has been arrived upon that opportunity cost is far higher than the value such private network creates in the society.

15. Some of the stakeholders in their response have also quoted the example of Germany, where some spectrum was reserved for private networks. It is to be noted that there has not been encouraging output or utilization for the same. Further, it lead to inadequate spectrum with less than 300 MHz of spectrum to be allocated to four MNOs.
16. We would also like to give details of the **assessment of economic impact done by Compass Lexicon on the specific example of Germany keeping aside commercial spectrum for local private networks. The assessment mentions that that the costs of set-aside to German society are significant, while any benefits are likely to be marginal. Specifically, it finds that:**
 - a. **No evidence that spectrum set-aside justifiable from spectrum policy perspective.**
 - b. **Insufficient evidence of market failures** to justify departure from market-based awards
 - c. There are **less costly policy alternatives** that would deliver most if not all of any identified benefits;
 - d. **Set-aside of 100 MHz** in Germany **could cause consumers welfare loss around €6.2 - €15.6 billion** also consumers may suffer from a significant degradation in QOS;
 - e. **Public network operators paid €2.2 billion extra in the German auction** - Money that could have been used for faster and more extensive deployment of 5G; and
 - f. Decrease in capability of public mobile networks will **have ripple effect on wider economy.**
17. With the digital transformation of Industry and increased automation, a large number of players would be willing to offer connectivity in terms of Private Captive Networks or any other services like M2M services. Such networks are part of their commercial operations and therefore, all resources should be procured in transparent commercial manner only. In a competitive market, the true value of resources can only be realized through a commercial process which ensures efficient allocation and best use of the resources.
18. We urge the Authority not to recommend to reserve or de-license any spectrum which has been identified or likely to be identified for use of IMT/ commercial services for Private Captive Networks.
19. Any de-licensing/reservation of spectrum for Industrial use/establishment of private networks, as demanded by few companies, would not only cause huge loss to the exchequer but will also lead to sub-optimal utilization of this scarce resource. Hence, such a move is technically also uncalled for. Sufficient unlicensed spectrum bands are available to cater these private network requirements.
20. It is not out of context that in our country, Hon'ble Supreme Court of India has pronounced a judgment in CWP 423 of 2010 mandating the Government for the alienation of resources like spectrum through a transparent auction process only. Therefore, in our humble submission delicensing/ administrative allocation of spectrum for Captive Networks/ M2M services/ Industry 4.0 is legally untenable in our country.



21. Keeping in view the above, we submit that:

- a. **In today's scenario there is no need for separate private captive networks and same should be dispensed with the availability of state-of-art telecommunication network. No IMT spectrum should be set-aside for this purpose.**
- b. **Private Captive Networks are detrimental to national security.**
- c. **The licensed Access Service Providers are fully capable of providing these services in most competitive and economic manner compared to private companies looking for such solutions.**
- d. **Request the Authority not to recommend to reserve or de-license any spectrum which has been identified or likely to be identified for use of IMT/ commercial services for Private Captive Networks. It amounts to undue advantage to private commercial entities at the cost of government exchequer.**
- e. **Any de-licensing/reservation of spectrum for Industrial use/establishment of private Captive networks, as demanded by few companies, would not only cause huge loss to the exchequer but will also lead to sub-optimal utilization of this scarce resource. Hence, such move is not only technically uncalled for but also legally untenable.**