

TRAI Consultation Paper on Digital Transformation through 5G Ecosystem

TRAI released a Consultation Paper on suo-moto basis, to identify the policy challenges and suggest the right policy framework for faster adoption and effective utilisation of new technologies for the holistic and sustainable development of the economy driven by 5G ecosystem.

It has been pointed out by TRAI that India is undergoing a rapid digital transformation and after launch of 5G network in India on 01-10-2022, India is poised to unlock new opportunities due to the growth and innovation of latest 5G technologies, Internet of Things (IoT), Artificial Intelligence (AI), Augmented/Virtual Reality (AR/VR) and Metaverse etc. So, an updated innovative policy and regulatory framework is required to address the challenges and issues involved in development and deployment of use cases based on these new technologies.

Last date of submission was 30-10-2023 and extended till 27-11-2023.

ISSUES FOR CONSULTATION-

Q.1. Is there a need for additional measures to further strengthen the cross-sector collaboration for development and adoption of 5G use cases in India? If answer is yes, please submit your suggestions with reasons and justifications.

Please also provide the best practices and lessons learnt from other countries and India to support your comments.

Response DECT Forum:

DECT Forum would like to draw TRAI's attention to the non-cellular IMT-2020/5G technology DECT NR+ (standard developed by ETSI under the name DECT-2020 NR).

DECT NR+ can be deployed by any organisation, independent from any operator or service provider. Initially focussing on applications in IoT and Professional Audio, DECT NR+ is expected to also support a host of other professional applications in future. Introducing DECT NR+ in India is fully in line with the "faster adoption and effective utilisation of new technologies for the holistic and sustainable development of the economy driven by 5G ecosystem" that TRAI has as a vision.

DECT NR+ will be deployed in the 1880-1900 MHz band (the 'DECT band') in Europe and discussions are under way to also introduce it to dedicated DECT bands in countries outside Europe. Please note that DECT has access to frequency spectrum in the majority of countries globally.

In terms of lessons learnt from other countries it is relevant to mention the decision that regulator ACMA in Australia has taken recently w.r.t. the 1880-1920 MHz band. They have recognized the importance of allowing 'future DECT' (their name for DECT-2020 NR) in the entire 1880-1920 MHz band. Quoting the following text from their 'replanning of the 1880-1920 MHz band _Outcomes paper:

Key planning decisions identified for the 1880–1920 MHz band are consistent with a variation of arrangements proposed under Option 3 of the options paper. This involves:

- > Maintaining SR WBB use under Australia-wide class-licensing arrangements across the 1880–1900 MHz frequency range. Also updating these arrangements to ensure support for ‘future DECT’ (indoor and outdoor applications).*
- > Introducing Australia-wide apparatus-licensed arrangements for SR WBB (‘future DECT’) indoor only applications in the 1900–1920 MHz frequency range.*

For additional information about DECT NR+, please refer to the separate document “DECT Forum response to TRAI - supporting information DECT NR+”.

In view of the above, DECT Forum asks TRAI to consider making frequencies available for DECT NR+ in India.

Q.2. Do you anticipate any barriers in development of ecosystem for 5G use cases, which need to be addressed? If yes, please identify those barriers and suggest the possible policy and regulatory interventions including incentives to overcome such barriers.

Please also provide the details of the measures taken by other countries to remove such barriers.

Response DECT Forum:

DECT NR+ and cellular 5G are different 5G technologies which will each be able to address different (sets of) use cases. In this sense the two technologies are complementary.

The barrier that obviously exists in India is that there are not yet frequencies allocated to DECT NR+. In Europe the 1880-1900 MHz licence-free band will be used as mentioned above. Additionally, DECT Forum is involved in European CEPT projects aimed to get DECT NR+ approved in the 3.8-4.2 GHz band in Europe as well.

Q.3. What are the policy measures required to create awareness and promote use of 5G technology and its infrastructure so that the citizens including those residing in rural and remote areas may benefit from the 5G use cases and services to create new economic activities and increase employment opportunities and thereby promote economic growth of the country?

Response DECT Forum:

DECT Forum recommends that TRAI actively works to promote the benefits of 5G technologies for professional as well as consumer use. In terms of creating awareness some European regulators have created websites providing information on different aspects of 5G, such as general information on its performance, the application areas, planned coverage etc. This is something TRAI could also consider.

A concern about mobile/cellular IoT solutions is the high cost, especially when many nodes are needed but only for very limited bandwidths (e.g. for smart metering, smart cities, agriculture and similar monitoring applications). TRAI should strive to limit this cost hurdle as much as possible.

Q.4. What are the policy measures required to promote use of IoT technology and its infrastructure so that the citizens including those residing in rural and remote areas may benefit from these 5G

enabled IoT smart applications and services to create new economic activities and increase employment opportunities and thereby promote economic growth of the country?

Q.5. What initiatives are required to be taken by the Government to spread awareness among the citizens about IoT enabled smart applications? Should the private companies / startups developing these applications need to be engaged in this exercise through some incentivization schemes?

Q.6. Industry 4.0 encompasses Artificial intelligence, Robotics, Big data, and the Internet of things and set to change the nature of jobs.

(a) What measures would you suggest for upskilling the top management and owners of industries?

(b) What measures would you suggest for upskilling the workforce of industries?

(c) What kind of public private partnership models can be adopted for this upskilling task?

Please reply with proper justification and reasons and also by referring to the global best practices in this regard.

Q.7. What are the policy, regulatory and other challenges faced by MSMEs in India in adoption of Industry 4.0. Kindly suggest measures to address these challenges. Provide detailed justification with reasons along with the best practices in other countries.

Response DECT Forum:

Industry 4.0 user are asking for local private networks, which is supported by DECT NR+. A proper sharing regime might have to be discussed for effective spectrum use.

Q.8. What additional measures are required to strengthen the National Trust Centre (NTC) framework for complete security testing and certification of IoT devices (hardware as well as software) under DoT / TEC. What modifications in roles and responsibilities are required to make NTC more effective?

Kindly provide your comments with justification in line with the global best practices

Q.9. IoT security challenges and requirements vary significantly across different industry verticals. Is there a need to develop sector-specific IoT security and privacy guidelines?

Q.10. If answer to Q.9 is yes, is there a need for a common framework and methodology for developing such sector-specific guidelines.

Q.11. Please suggest regulatory and policy interventions required to ensure privacy of the massive amount of sensitive user data generated by IoT applications specifically in light of the Digital Personal Data Protection Act, 2023.

Kindly provide justifications along with the global best practices.

Q.12. What additional policy and regulatory measures are required to encourage research and development of IoT use cases in various sectors? Is there a need to incentivize startups for research and development of IoT enabled use cases in various industry verticals?

If yes, kindly suggest measures for the same.

Q.13. What measures should be taken to encourage centres of excellence to handhold startups working in the development of use cases and applications in 5G and beyond technologies? How can the domestic and foreign investors be encouraged to invest for funding the startups for these kinds of development activities?

Q.14. Whether there is a need to make changes in relevant laws to handle various issues, including liability regime and effective mechanism for redressal and compensation in case of accidents, damages, or malfunctions involving IoT, drones, or robotic systems. If yes, give detailed suggestions.

Q.15. Is there a need to have a separate security mechanism for Multiaccess Edge Computing (MEC)? If yes, please give your inputs and suggestions with regard to policies, rules, regulations and guidelines.

Q.16. What are the policy measures required to create awareness and promote use of Metaverse, so that the citizens including those residing in rural and remote areas may benefit from the Metaverse use cases and services to create new economic activities and increase employment opportunities and thereby promote economic growth of the country?

Q.17. Whether there is a need to develop a regulatory framework for the responsible development and use of Metaverse? If yes, kindly suggest how this framework will address the following issues:

i. How can users control their personal information and identity in the metaverse?

ii. How can users protect themselves from cyberattacks, harassment and manipulation in the metaverse?

iii. How can users trust the content and services they access in the metaverse?

iv. How can data privacy and security be ensured in the metaverse, especially when users may have multiple digital identities and avatars across different platforms and jurisdictions?

Q.18. Whether there is a need to establish experimental campuses where startups, innovators, and researchers can collaborate and develop or demonstrate technological capabilities, innovative use

cases, and operational models for Metaverse? How can the present CoEs be strengthened for this purpose? Justify your response with rationale and suitable best practices, if any.

Q.19. How can India play a leading role in metaverse standardization work being done by ITU? What mechanism should be evolved in India for making effective and significant contribution in Metaverse standardisation? Kindly provide elaborate justifications in support of your response.

Q.20. (i) What should be the appropriate governance mechanism for the metaverse for balancing innovation, competition, diversity, and public interest?

Kindly give your response with reasons along with global best practices. (ii) Whether there is a need of a national level mechanism to coordinate development of Metaverse standards and guidelines? Kindly give your response with reasons along with global best practices.

Q.21. Whether there is a need to establish a regulatory framework for content moderation in the metaverse, given the diversity of cultural norms and values, as well as the potential for harmful or illegal content such as hate speech, misinformation, cyberbullying, and child exploitation?

Q.22. If answer to Q.21 is yes, please elaborate on the following:

- i. What are the current policies and practices for content moderation on Metaverse platforms?
- ii. What are the main challenges and gaps in content moderation in the Metaverse?
- iii. What are the best practices and examples of effective content moderation in the Metaverse or other similar spaces?
- iv. What are the key principles and values that should guide content moderation in the Metaverse?
- v. How can stakeholders collaborate and coordinate on content moderation in the Metaverse?

Q.23. Please suggest the modifications required in the existing legal framework with regard to:

- i. Establishing mechanisms for identifying and registering IPRs in the metaverse.
- ii. Creating a harmonized and balanced approach for protecting and enforcing IPRs in the metaverse, taking into account the interests of both creators and users of virtual goods and services.
- iii. Ensuring interoperability and compatibility of IPRs across different virtual environments.

Kindly give your response with reasons along with global best practices.

Q.24. Please comment on any other related issue in promotion of the development, deployment and adoption of 5G use cases, 5G enabled IoT use cases and Metaverse use cases in India.

Please support your answer with suitable examples and best practices in India and abroad in this regard.
