

Consultation Paper by TRAI On Issues related to Digital Terrestrial Broadcasting in India:

Q.1 Do you perceive the need for introduction of Digital terrestrial transmission in multiple broadcasting distribution platforms? Please provide your comments with justification:

Ans. Developments over the past two decades have led to various technology platforms being able to provide digital television. DTH Cable and Terrestrial are three main modes of Digital TV transmission/reception. The terrestrial platform benefits from using an established, low end-user cost technology, it allows local content to be broadcast, has proven to be broadly robust and is reliable in all weather conditions. Mobile TV Transmission is another key advantage of DTT. The DTH platform, by comparison, is the only platform that enables wide coverage in most locations, and this can be provided by a single satellite but the DTH may not enable local content to be easily broadcast and a risk of catastrophic satellite failure exists. Also DTH lacks mobile transmission capability and may find difficulty in high rise buildings. Digital Addressable System (DAS) is being implemented in Cable which will bring greater transparency, actual reportage of viewers, increase in costs to viewer, compliance with tax laws, greater control or near monopoly by MSOs (expected), more compliance to regulation etc. As costs would go up, consumer movement across DTH/Cable will be watched closely by the Industry. Availability of linear and non linear audio and video content via internet and broad band including social media is fast catching up in mobile space. DTT would offer a competitive alternative and live Audio, Video reception on mobile devices without usage of internet or data costs would be feasible.

DTT would secure greater plurality in Platform ownership, ensuring that no single platform owner is so powerful that they can exert undue influence on public opinion or political agendas and hence is the need for every country.

Q.2 If yes, what should be the appropriate strategy for DTT implementation across the country? Please provide your comments with justification.

Ans. Viewers should have DTT signal availability everywhere in the entire country. The programmes in the bouquet should have proper mix of Regional and local channels. All genres should be available. In addition to TV, Radio channels may also be available. DTT Transmitters in coastal areas, earthquake prone areas, etc may have provision for Early Warning System (EWS).

Q.3 Should digital terrestrial television broadcasting be opened for participation by the private players? Please provide your comments with justification.

Ans. Besides DD Channels, Pvt Channels may also be available on DTT or DD may have time slots fixed for Pvt Channels on various channels of its DTT Platform this would enable attractive bouquet for DTT.

Q.4 Which model or a combination thereof for Digital terrestrial transmission will be most suitable in Indian context? Please furnish your comments with justification.

Ans. It should be a proper mix of contents with National, Regional and Local content of TV and Radio Channels. The Free to air model may be available for Mobile TV and Standard Definition TV in all the cities as DTT should be available to masses. In some cities pay TV model may also be there for some premium kind of channels so that the broadcaster may also have a revenue model.

Q.5 What should be the approach for implementing DTT network (MFN/SFN/Hybrid)? Please furnish your comments with justification.

Ans. India being a very large country and with diverse culture and languages, a national SFN is not possible. DTT in India has to be MFN. But within the range of one DTT Transmitter, Gap fillers in SFN may be planned. So it may be a mix of MFN and Local SFN.

Q.6 What should be the criteria for arriving at optimum size of DTT multiplex at any location? Please furnish your comments with justification.

Ans. From planning multiplexes at any location or say DTT Transmitters in a region, survey of viewers may help, like choice of viewers for 4K/HD (Pay TV), SD (FTA) and Mobile TV (FTA), channels of all kinds of genre, etc. Accordingly multiplex for DTT Location multiplexes for 4K/HD, SD and Mobile TV can be planned. One Mux can also be for Radio channels only (DVB-T2 radio can be the best Digital radio option in view of data capacity and robustness both at the same time).

Q.7 How many digital multiplex per DTT operator should be planned for metro, major cities, urban and rural areas and why? Please furnish your comments with justification.

Ans. As an example For Metros 4-5 multiplexes each, for Major cities and urban areas at least 3 Multiplex each should be planned (Pay TV + FTA). In rural areas 2 multiplexes may be planned (All FTA). This may enable a bouquet of all genres for fixed as well as mobile TV.

Q.8 What should be most appropriate frequency band as per National Frequency Allocation Plan 2011 for implementation of Digital terrestrial transmission including mobile TV? Give your comments with justification.

Ans. Worldwide DTT has been implemented in UHF band 470-860 MHz or part thereof. Receiver eco-system is available for DTT in UHF band. NFAP-2011 also specifies that frequency band 470-698 MHz is available for DTT service. However, practically only 470-646 MHz is available for terrestrial broadcasting purpose. After Analog switch off VHF Band III (174-230 MHz) may be re-utilized for 1.7 MHz Raster for Mobile Radio and TV services as being done/planned by many countries.

Q.9 Should spectrum be exclusively earmarked for roll out of DTT services? If so, what should be the quantum considering the broadcasting sector requirement in totality?

Ans: Till Analog switch off, it may not be possible. After Analog switch off Broadcast spectrum 470-646 MHz and 174-230 MHz may be earmarked for DTT Broadcast.

Q.10 What should be the roadmap for digitization of terrestrial TV network in the country? Please provide your comments with justification.

Ans. Efficient digital transmitters are available which would enable lesser expenditure for Power supply etc. and from one location multiple programme channels are possible with DTT Transmitters. Govt. may plan Analog Switch off in passed manner as done in case of Digital cable. Accordingly a target date may be set for complete digitalization, say upto 2025 - 2030. For completing digitalization at an early date, digitalization may be carried out on PPP basis.

Q.11 What should be the Analog Switch off date(s) for the terrestrial TV channels in context with the suggested roadmap for DTT implementation? Please provide your comments with justification.

Ans. ASO can be planned in phased manner. A period of simulcast may be decided during which viewers may be informed and educated about migration to DTT. Receivers are available in market.

Q.12 Stakeholders may also provide their comments on any other issue relevant to the present consultation paper?

To ensure availability of receiving devices at affordable prices in the country, Govt may take following steps:

1. Provide Subsidies on STBs and receivers.
2. Promote Manufacturing of STBs and integrated digital TV receivers in India
3. Mandate Digital tuners in TV sets
4. Encourage Handset manufacturers to embed DVB-T2 chipset in mobiles/tablets etc.