

Response to issues for consultation on DTT

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: The potential of available distribution systems is required to be critically analysed to fulfil their requirements such as coverage, capacity, reception mode & type of service.

The key parameters for the terrestrial platform are as under:

- regulatory and political climate,
- sufficient amount of spectrum,
- support from stakeholders such as broadcasters and equipment manufacturers.

Even in countries where cable, satellite or broadband has a dominant role, terrestrial broadcasting is considered as an essential and reliable mode of delivering broadcast content.

DTT offers has inherent benefits such as free-to-air services; ability to provide for fixed, portable and mobile reception; ability to provide regional and local content; flexibility in adopting content format; technical and cost efficiency; efficient use of spectrum; Ruggedness and sabotage resistant; has strategic importance etc.

This powerful combination would be difficult to replicate by any single alternative technology.

Consultation paper also indicates that there are 247 million households in India as per the 2011 census and a large number of these households (approx. 70 million) particularly in rural and remote areas depend completely on the FTA terrestrial broadcasting TV services being provided by the public broadcaster.

In view of the above discussion, a digital terrestrial TV service having suitable bouquet of TV channels and nationwide coverage is very essential.

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

Ans: The digital terrestrial TV service should have nationwide coverage and should have suitable bouquet of TV channels. Worldwide trend is to have 4-6 DTT multiplex to meet consumers demand.

In the Indian context, there can be four multiplex at each location to meet the present and future requirement of accommodating SD/HD/mobile/UHD & linear/non-linear services.

DTT implementation can be started with two multiplexes at each locations and can be enhanced to three/four in due course of time. Nation-wide coverage may be planned in phased manner but should be time-bound.

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

Ans: Yes. This is required to make attractive and competitive bouquet besides faster roll-out.

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: A suggestive model for Integrated DTT Broadcasting network could be as mentioned below:

- i) DTT implementation can be started with two multiplexes at each locations and can be enhanced to three/four in due course of time.
- ii) Wherever Public broadcaster (Doordarshan) has sufficient requisite infrastructure, that may be used by all broadcasters under certain revenue sharing agreement.
- iii) A new Common Transmission Infrastructure (CTI) may be established at all other places. These CTIs may be established by an experienced separate entity (e.g., BECIL) as was done in case of FM implementation.

This is similar to the licensing of Teleports which are being used for up-linking many channels.

Ministry of I&B may provide service license to the private broadcasters who has successfully bid for sharing Doordarshan's infrastructure.

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

Ans: It would be appropriate to have hybrid MFN, with main transmitters in MFN and associated gap fillers in SFN with main transmitter. It is to mention that gap fillers would be required to provide coverage in the shadow areas. This has also been practised by most of the countries.

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: Please refer ans of Q.2.

Besides, There is an immediate requirement of two DTT multiplex at each of the locations to provide a reasonable bouquet of channels. Further requirement may be re-ascertained after completion of two multiplex at each locations.

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: Please refer ans of Q.2.

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: A fully developed eco-system is available for DTT in UHF band as worldwide DTT has been implemented in UHF band 470-860 MHz. NFAP-2011 also specifies that frequency band 470-698 MHz is available for DTT service. This band 470-698 MHz may be utilized for DTT implementation.

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: It will be difficult to get exclusive spectrum for DTT due to its existing usages by Doordarshan for analog & digital TV service. For the simulcast period, additional spectrum is required for the parallel transmission of TV services in analog and digital mode. ITU-R studies has concluded that 224 MHz spectrum would be required in UHF band for implementation of 4-5 DTT Multiplex at each locations. So the band 470-698 would be needed.

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

Ans: Please refer answer to Q4.

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.

It is important that necessary eco system for DTT such as TV receivers, STBs etc to be put in place well in advance so that consumers requirements are not affected. Many countries adopted various steps to boost transition to digital. Some are listed below::

- a) Subsidy to consumers on purchase STBs
- b) Mandatory DTT tuner in all TV receivers after certain date
- c) Awareness campaign regarding digital transmission and ASO
- d) support to broadcasters in terms of spectrum charges during simulcast period
- e) support to manufacturer/importer of DTT receiving equipment

With all the concentrated efforts mentioned above, India may think of a simulcast period of at least 12-18 months before switching of analog transmitters. However, the situation may be reviewed before actually switching off the analog transmitters.

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