

RESPONSE OF ZEE NETWORK TO TRAI'S CONSULTATION PAPER

ON

**ISSUES RELATED TO DIGITAL RADIO BROADCASTING IN INDIA
10TH JULY, 2017**



|| **VASUDHAIVA KUTUMBAKAM** ||
THE WORLD IS MY FAMILY

Contact Persons:

- (I) Amitabh Kumar
Amitabh.kumar@zee.esselgroup.com
- (II) Avnindra Mohan
Avnindra.mohan@zee.esselgroup.com

Response to Consultation Paper On Issues related to Digital Radio Broadcasting in India

Zee Network welcomes the consultation paper on the issues relating to Radio Broadcasting in India. We appreciate the information collated by the Authority in this regard.

1. Introductory Comments

However we would like to state that the consultation paper seems to give an impression that there is an overwhelming and compulsive need to move towards a Digital Radio ecosystem. The consultation paper also does not dwell in detail about the ecosystem of Analog AM and FM radio receivers present in India and the impact of Digitalization in terms of legacy devices.

We regret that in a consultation which is about strategy and policy for Radio in India prevalent for a number of years, there should also have been a mention of the ecosystem of devices by which services such as radio are being received. Most of over 600 million phones (Smartphones and feature phones) in India have FM receivers built in, which is a prime driver of their usage. Secondly, these phones via the 3G/4G connectivity have IP based radio stations available at virtually no cost. The need for AM receivers is on a constant decline, and the trend is unlikely to get accentuated. With any possible introduction of DRM or any digital technology NOT supported by smartphones, it is likely that the ecosystem will move towards increasing use of streaming radio services.

It is also a known fact that the DRM technology introduced by All India Radio/ Prasar Bharti have had virtually no subscribers and receivers for the same are not available.

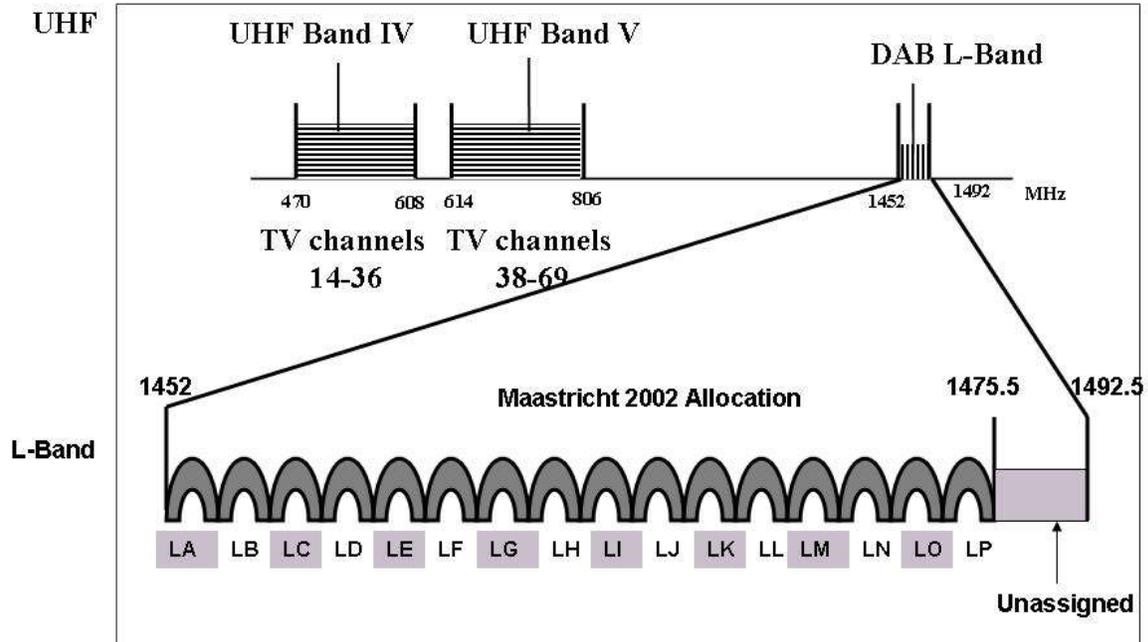
Hence the processes for such services cannot be solely technology driven, but also need be driven by user demand.

We note that a mention has been made on the use of DAB services in Europe in support of moving to Digital technologies in India. However the consultation paper fails to mention that the DAB services operate in the L-Band.

In India the Terrestrial and S-band as well as L-Band spectrum are virtually unused, and there has to be a well-defined future plan on the potential use of these bands before disturbing the present large ecosystem of devices operating in the FM bands.

We feel that the approach of TRAI is unrealistically holistic which ignores the realities in the global vis-à-vis Indian markets and the overall direction of the markets towards IP.

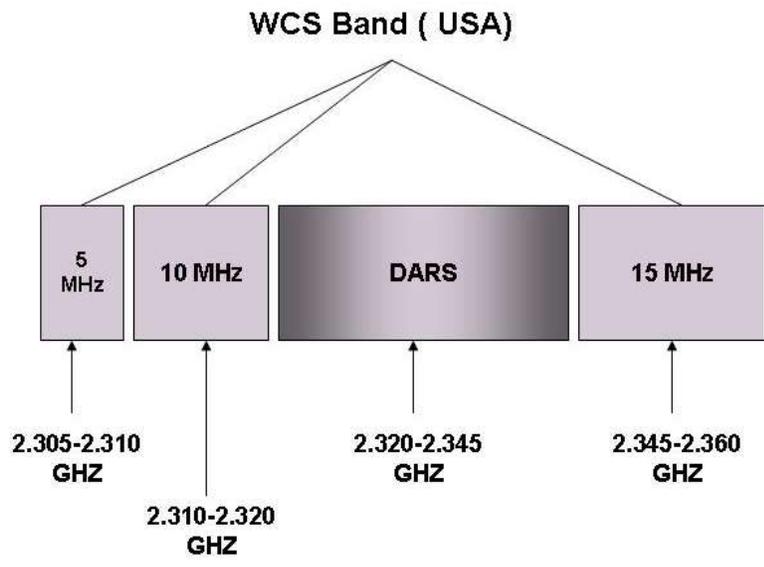
DAB-L Band Allocations(*)



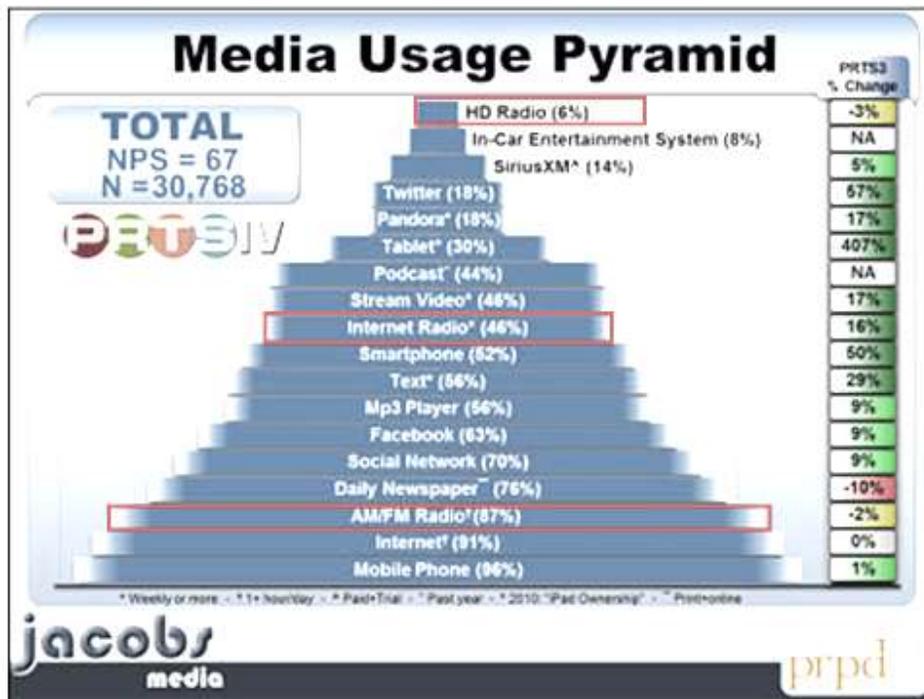
* DAB Allocations and assignments are country specific

DAB technically provides low audio quality in the UK due to 98% of stereo stations using a bit rate level of 128 kbit/s. with the MP2 audio codec, which provides poorer sound quality than FM-quality (assuming good reception on both DAB and FM).

Digital Radio services in USA also initially commenced using the WCS and DARS bands which were in the 2 GHz band with two operating companies(Sirius and XM radio), which were later allowed to merge to Sirius XM.



As per the media usage Pyramid, the usage of Digital HD radio was less than 8% while FM radio was over 80%.



With the above mentioned introductory comments, we give our response to various issues hereunder:

Issues for consultation

4.9 Is there a need to encourage or facilitate introduction of digital radio transmission at present? If so, what measures do you suggest and in which market?

There are many factors which agitate against the introduction of “Digital Radio Transmission Services” in the Indian markets. These are summarized as below:

(i) DRM has failed as an alternative Digital radio Technology

DRM was first rolled out in 2003, in Shortwave bands with a promise of FM like quality and fade free reception. However it has failed to live to its promise. The main problems were the high cost of receivers, low battery life, unavailability of receivers in commonly used devices such as mobile phones, feature phones or smart phones. The very processing technology that allows improved operations using the more complex DRM waveform costs more and consumes more power than the standard AM receiver. A quick look at standalone DRM receivers over the past decade shows almost a dozen companies entering the market, only to retreat when the promise didn't materialize.

A review of the rollout of the DRM radio stations indicates that the rise of the Internet has influenced many broadcasters to cease their shortwave transmissions in favor of broadcasting over the World Wide Web.

The rollout of DRM globally as indicated in figure below, shows that most of the rollout has been in Europe. In other continents DRM was stillborn. The Ecosystem of receivers has virtually died out as there are no willing buyers.

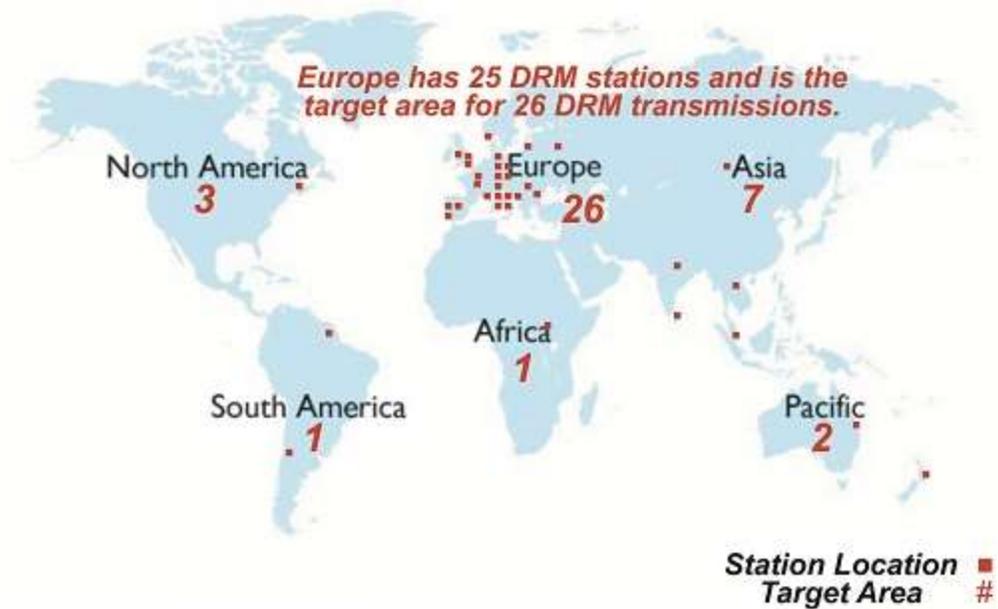
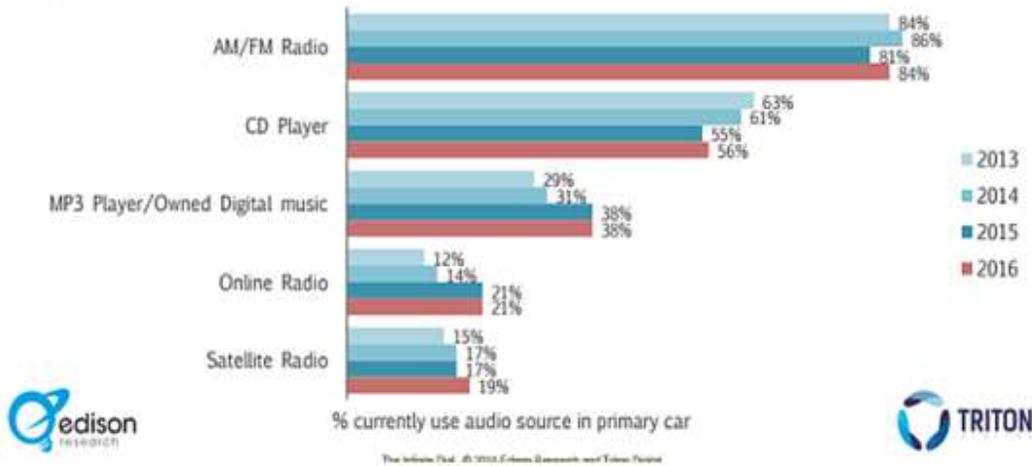


Figure 1: Number and target areas of DRM shortwave stations
 (http://www.drm.org/broadcast_schedule)

Due to the disadvantage of DRM as a digital radio technology, its use is restricted to some car radios which have no limitation of battery life.

Car Usage of Radio

Base: Age 18+ and has driven/ridden in car in last month



Despite the availability of Digital HD radio in the US, AT&T in 2015 directed its cellphone suppliers to activate FM radios in all mobile Android phones to gain approval for use on its network.

If DRM technologies are excluded then the focus moves to other technologies such as the DAB, DAB+ etc. As already pointed out these technologies are used in the bands which lie in L-Band or those above 2 GHz. In India there has been no allocation of such bands.

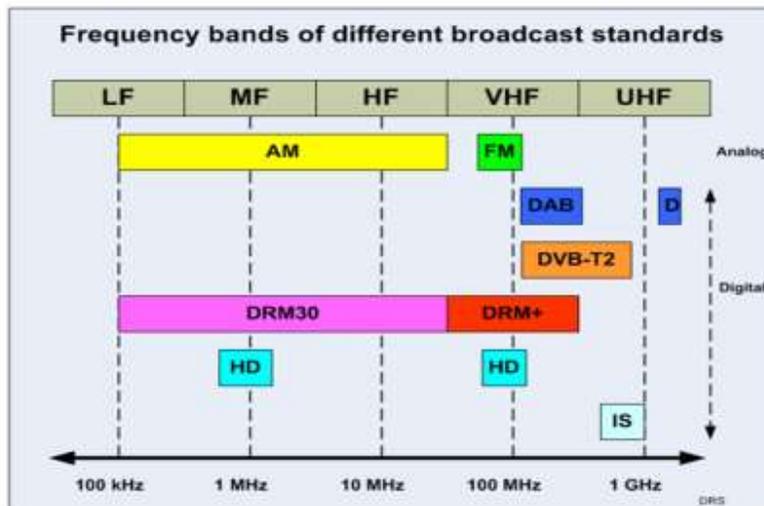
At present, we recommend that the normal bands for FM, which could be alternatively used for digital broadcasting should be left undisturbed.

4.10 Is there a need to frame a roadmap for migration to digital radio broadcasting for private FM broadcasters? If yes, which approach, mentioned in para 4.7, should be adopted? Please give your suggestions with justification.

We do not recommend that Digital Radio Broadcasting be imposed without considering additional bands, if at all. Digital Radio Broadcasting will come at the expense of the existing FM services which have shown good traction and growth and the number of receivers of FM including smartphones now exceeds 600 Million.

The time spent on radio has been declining. It is now most common in cars and other transport, where too streaming and other players are gaining more than the use of FM.

DRM Spectrum will replace FM



4.11 Should the date for digital switch over for radio broadcasting in India need to be declared? If yes, please suggest the date with suitable justification. If no, please give reason to support your view.

While there have been many attempts for a complete digital switchover for analog radio, specially in Europe, the governments themselves have been wary of such a step. As reported in the Daily Mail in UK (2015):

“Analogue radio has been given a stay of execution after ministers admitted too few listeners were switching to digital.

Both FM and AM radio were due to be turned off in 2015, though the Government had already considered a delay as digital uptake was so slow.

But now ministers have decided to postpone the plan indefinitely after discovering that barely a third of radio is received from digital stations”.

Communications minister Ed Vaizey said more needed to be done to persuade listeners to switch.

Mr Vaizey said: ‘I regard my role as a supporter and enabler of digital radio but . . . I completely respect the people’s passion for radio and not being made to do something they don’t want to do.

<http://www.dailymail.co.uk/news/article-2524757/No-date-set-digital-radio-switchover-people-given-FM.html#ixzz4rPLKWHJF>

We need to take these remarks seriously specially after prosperous countries have not been able to force propagation of new technologies in the face of legacy base of receivers and changing landscape where alternative ways to receive/ listen to music is now available, for example via smartphones.

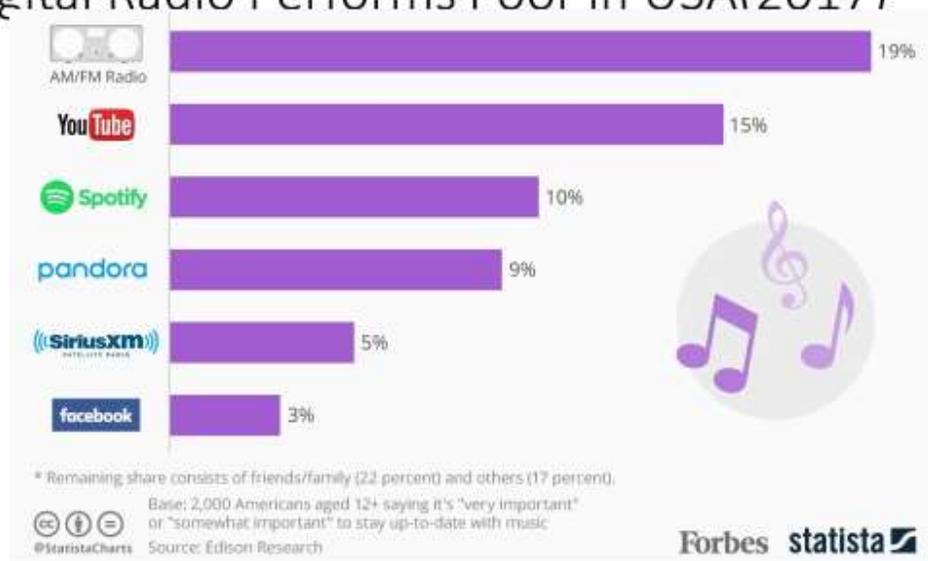
It is quite unlikely that even if the Government forced switch off of FM or AM, the listeners will throw away their smartphones currently used to receive FM. The digital technologies are not yet mature enough to be incorporated in smartphones as they drain too much power.

Globally in UK, Radio UK is driving the Digital Radio migration, by attracting listeners to its content. In 2016, 170 new local and national digital stations were launched, bringing the total number in the UK to 339. Despite its current success, digital radio will have to adapt to shifting listening habits as younger listeners replace older ones. Data suggests that just over half of people between the ages of 15 and 24 listen to live radio, compared with 88 per cent of people over the age of 55. BBC Radio 1, which is principally focused at a younger audience, lost 1 million listeners last year.

In Norway, the Analog Radio switch off has been accomplished in 2017. However as per Digital Radio Insider (May 2017), Public Service lost young audience after FM Switch-off. It was also reported that only one third of the Norwegians are positive about DAB radio. Week May 1-7 showed significant audience loss of both NRK P1 and NRK P3 as measured by Kantar TNS. For the first time this year, NRK P1 - the basic national public channel - has a daily presence of less than 30%, more specifically 29.5%. This is reported to be the worst measured results NRK P1 ever had in a "normal" week. - Meanwhile, opinion polls show continued strong resistance to the national FM switch-off. According to Radionytt newsblogg the conclusion is that the listeners who have left NRK P1 have moved to other NRK channels (on DAB), while young people simply have disappeared from the NRK sphere.

As per Forbes Statistica data (2017), in USA Sirius XM had only 5% share in the listener's market after so many years of struggle.

Digital Radio Performs Poor in USA(2017)



In view of this overwhelming evidence, we suggest that FM should be allowed to perform in the Indian markets and no date at present should be set for Digital switchover.

4.19 Is present licensing framework or regulatory framework is restrictive for migration to digital radio broadcasting? Please explain with justification.

Yes, especially when there is no demand from either broadcasters or from listeners to move away from FM radio.

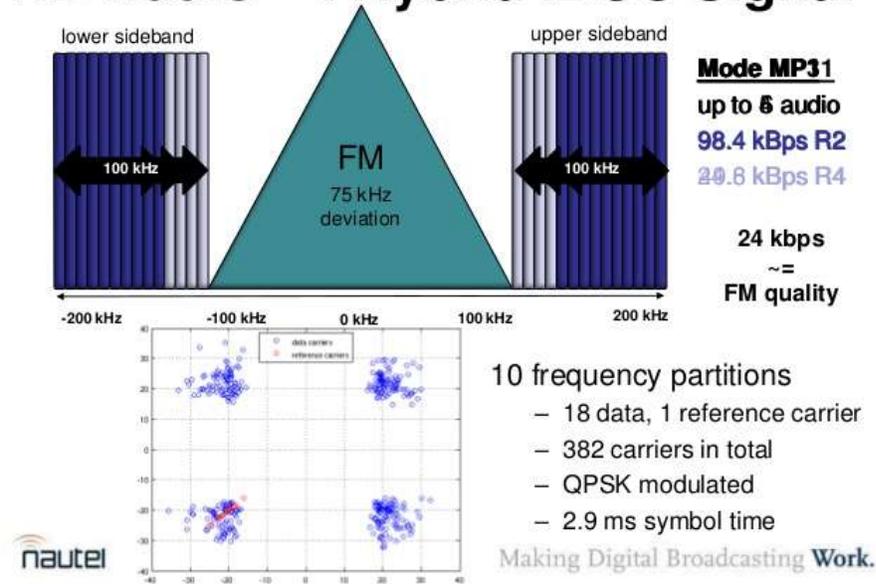
4.20 Should single digital radio technology be adopted for entire country or choice of technology should be left to radio broadcasters? Support your reply with Justification.

In case there is a decision that there should be a move to Digital audio broadcasting, there would need to be a uniformity in the use of technology for many reasons. These will include spectral compatibility, uniformity of receivers, a larger pool of receivers across service providers and lower cost for transmission and broadcast services.

4.21 In case a single digital radio broadcast technology is to be adopted for the entire country, which technology should be adopted for private FM radio broadcasting? Please give your suggestions with detailed justification.

While we are not in favor of a changeover to Digital Broadcasting, we believe that at present the HD Radio with Hybrid IBOC present the best case for India. Using the HD Radio, it is possible for FM radios to co-exist, which we believe is the best case for India in view of its demographics, legacy receivers, variations in audience capabilities in buying expensive receivers etc.

HD Radio™ : Hybrid IBOC Signal



4.22 How issues of interference and allocation of appropriate spectrum allocation can be settled in case the option to choose technology is left to radio broadcasters?

Leaving choice of technology to radio broadcasters is not recommended. This would be like allowing TV broadcasters to select one of technologies of DVB-T2, ATSC3 or ISDB-T. Clearly these are not easily compatible in the use of spectrum, creation of SFNs and for interference free operation aside from the fact that receiver bases will become split and receivers will be expensive.

Viewers will be locked to one or more providers and migration will pose challenges.

Should the permission for operating FM channel be delinked from technology used for radio broadcasting? If yes, please provide a detailed framework with justification.

At present the FM channels are operating in a shared environment. The infrastructure, towers, transmitters, exciters are all shared to lower costs. It is not practical for an FM broadcaster to move to a different technology without isolating its operations from other players.

4.29 Should the existing operational FM radio channels be permitted to migrate to digital broadcasting within assigned radio frequency? If yes, should there be any additional charges as number of available channels in digital broadcasting will increase? Please provide a detailed framework for migration with justification.

At present the allocation of frequency is synonymous with the broadcaster, as there is one channel possible per FM frequency. However, in case of Digital Radio, a multiplex of channels can be operated on the same carrier. In such a scenario it is desirable to bring in the concept of a service provider which will be multiplex operator.

The service provider should be able to get license for such activity, and be further permitted to offer the multiplex slots to individual radio broadcasters.

In such a case a separate category of radio broadcasters can be licensed who will not own frequency and infrastructure, but will be allowed to broadcast using the services of a Multiplex operator. The infrastructure of broadcasting can be the responsibility of a multiplex operator, while providing content will be sole job of the radio channel operator.

This is similar in approach to the concept of a television channel broadcaster who has an uplink license, but uses the services of an authorized teleport operator who operates satellite multiplexes and uplink hardware. The same concept can be applied to Digital radio.

4.30 Should the future auction of remaining FM channels of Phase-III be done delinking it from technology adopted for radio broadcasting? Please give your suggestions with detailed justification.

The time may not be opportune for such a step, as there is yet no decision on the technology for radio broadcasting, nor an ecosystem of Digital receivers. As such we do not recommend that at this time, the Govt should auction only slots on Mux and not frequency slots in the FM spectrum as FM slots to be used for FM.

It is always possible to retain clauses that such an action can be taken at a future date when in the view of the Govt the Digital radio ecosystem would be ready for use.

In case future auction of remaining FM channels of Phase-III is done delinking it from technology, should the present auction process be continued? If no, what should be the alternate auction process? Please give your suggestions with detailed justification.

Kindly see our comments above. We suggest that for the moment, the auctions should proceed on the lines of Phase I and Phase II auctions.

4.32 What modifications need to be done in FM radio policy to use allocated FM radio channels in technology neutral manner for Radio broadcasting?

As suggested by us, the Government needs to separate the role of the Multiplex operator cum broadcast Infrastructure provider and the licensed channel operator.

At present the allocation of frequency is synonymous with the broadcaster, as there is one channel possible per FM frequency. However, in case of Digital Radio, a multiplex of channels can be operated on the same carrier. In such a scenario it is desirable to bring in the concept of a service provider which will be multiplex operator.

The service provider should be able to get license for such activity, and be further permitted to offer the multiplex slots to individual radio broadcasters.

In such a case a separate category of radio broadcasters can be licensed who will not own frequency and infrastructure, but will be allowed to broadcast using the services of a Multiplex operator. The infrastructure of broadcasting can be the responsibility of a multiplex operator, while providing content will be sole job of the radio channel operator.

This is similar in approach to the concept of a television channel broadcaster who has an uplink license, but uses the services of an authorized teleport operator who operates satellite multiplexes and uplink hardware. The same concept can be applied to Digital radio.

4.38 What measures should be taken to reduce the prices of digital radio receivers and develop ecosystem for migration to digital radio broadcasting?

There cannot be any artificial measures. The reduction on cost can happen only with volumes as in the case of feature phones and smartphones.

India with its large base has a high potential for a larger volumes if Digital radio receivers are incorporated in Smartphones. This in turn will be possible only with the development of technologies to reduce power consumption and preserve battery life.

At the same time digital Radio cannot gain merely because it is Digital. It needs to bring in better programming, quality and feature such as rights management protected music store.