

Comments on TRAI Digital Radio Consultation Paper

By: Sharad Sadhu, Former Director Technology, Asia-Pacific Broadcasting Union, Kuala Lumpur; Former Director Engineering, DDI; Former General Manager TCIL, India; Digital Radio Professional

CHAPTER IV

Summary of Issues for Consultation

Q1. Do you agree that single digital radio technology adoption is preferable for entire country? If not, support your reply with justification.

Yes, adopting a single digital radio technology for the entire country would be imperative. The technology adopted should be resource-efficient (spectrum, power, coverage); should work on affordable-cost receivers, both car radios and personal usage; should provide powerful indoor reception and mobile reception; should be receivable in mobile phones in direct broadcast reception mode; and should meet most of the requirements of the citizen consumers.

Q2. In case a single digital radio broadcast technology is to be adopted for the entire country, which technology should be adopted for digital radio broadcasting? Please give your suggestions with detailed justification.

The attributes of the single technology to be adopted are:

- Meeting service coverage requirements with minimum power
- Using minimum spectrum space for a given package of services. This is most relevant to digital radio in the FM band, the most powerful band for radio services
- Be replicable over multiple frequency spectrum slots, that is be able to provide multiple sets of services where the demand for services is high, such as in large cities. This aspect is also most relevant to digital radio in the FM band.
- Be open standard technology with easy access, fitting in existing spectrum allocation in India, be compatible with established receiver infrastructure,
- Technology selected should offer easy upgrade path for transmission equipment with no disturbance of ongoing analogue FM signals and CTIs.

Q3. In case multiple digital broadcasting technologies are to be adopted, please specify whether it should be left to the market forces to decide the appropriate technologies and what could be the potential problems due to adoption of multiple technologies? Please suggest probable solutions to the problems, with detailed justification.

While advocating use of a single and efficient digital radio technology, it is essential that this technology be mandated by the authorities for many important reasons, including catalysing high-volumes of affordable digital radio receivers for consumers and of cost-efficient professional equipment for broadcasters.

Q4. What should be the approach for migration of existing FM radio broadcasters to digital radio broadcasting?

The approach should have the following elements:

- **Introducing digital radio services in a seamless manner, without impacting functioning of the ongoing analogue services. This is most essential in the FM band where all the existing analogue services are operating.**
- **The above can be accomplished by using a digital radio technology which can be easily contained in the allocated spectrum channel, without impinging on the functioning of the analogue radio in any way.**
- **As the digital radio gets established (gathering citizen consumers, revenues, attractive content etc), the digital radio technology selected should facilitate smooth and disruption free phasing out of the corresponding analogue service and carrying on the digital service.**
- **The technology selected should enable all these transitions to be done in a practicable manner and without any disturbance to the radio broadcasting ecosphere.**
- **In all scenarios, the content for digital radio should be entire new and based on new genres. This may be partially mandated in the first few years with gradually enhancing the percentage of new content required.**
- **The migration approach should be such so as to leave CTI for ongoing analogue FM services as-is, needing no modifications.**
- **The migration process should be accomplished by adding completely separate digital radio transmission chain.**
- **No spectrum fees for digital broadcasters during introductory phase of digital radio**
- **Clear policies and clear guidance for receiver industry, mandating digital radio reception in cars / phones / receivers.**
- **Adopt tax incentives and other similar measures.**

Q5. What should be the timeframe for various activities related to the migration of existing FM radio broadcasters to digital radio broadcasting?

Assuming that a decision on technology and going ahead is taken in 2025, the following time frames are possible with the right technology:

- **2025: Licensing of existing radio broadcasters**
- **2026: Launch of digital radio transmitters in FM Band**
- **2028: Full migration of existing broadcasters to digital services**
- **2026: Licensing of new digital radio broadcasters**
- **2028: Launch of digital radio services by first-time broadcasters**
- **No phasing-out of current analogue FM radio transmissions**

Q6. Please suggest measures that should be taken to encourage existing FM radio broadcasters to adopt digital radio broadcasting.

There are many measures that the authorities could take encourage existing FM radio broadcasters to adopt digital radio broadcasting and catalyse the digitisation process.

1. Technical:

- Provide a digital broadcasting slot for every existing analogue FM licensee, in addition to their ongoing analogue allotments.
- Provide digital broadcasting slots to new intending radio broadcasters.
- Most importantly, devise the systems in such a way to effectively reduce broadcasters' investments on new transmission equipment (noting that in some cases such broadcasters can even use the existing transmitters).
- . A multi-channel approach could be one such solution.

2. Costs and Incentives:

- Provide the digital FM frequency slot (s) on a nominal license fee, considering the broadcasters would have to invest considerable amounts in Capex costs.
- Waive-off the payments due to the Govt for the first five years of operation of digital radio services, using a gradually declining scale.
- Provide monetary incentives to early-implementers to promote digital radio implementation.

Q7. What measures should be taken to facilitate the availability of affordable digital radio receivers?

1. Easy access of citizens to digital radio receivers

- Digital radio broadcasting activity is all about citizen consumers and the latter are directly concerned with digital radio receivers.

- As citizens are connected with broadcasters through digital radio receivers, the success of digital radio broadcasting industry is in making sure easy availability of radio receivers to general public.

- And at affordable prices

2. Digital radio prices

- Radio prices are primarily dependent on projected requirements and volumes. The volumes are directly related to services the citizens receive.

- Digital radio services to citizens will determine radio receiver volumes and their shop prices.

- Features of digital radio greatly help to make that possible; to entice citizen viewers and listeners.

3. Types of digital Radio Receivers are required.

- Car-fitted digital radios, potentially the most used

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- **Home digital radios; Portable, Table models, 'kitchen' radios**

- **Outdoor and pocket digital radios**

- **Digital radios on the move in mobile phones**

- **Simple-feature Community and School radio receivers**

4. Developing digital radio receiver ecosphere

- **Digital radios will not be on shop shelves unless broadcasters actually start digital radio services**

- **To create a viable radio receiver ecosphere, local manufacture of digital radio receivers is a must.**

- **All digital radios should be manufactured in India.**

- **To make that happen, policy regulations required.**

- **Also required is a clear industry commitment and timelines**

- **Only exclusive and feature- rich digital radio content should be broadcast**

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Additional input to TRAI

Q25. Is there a need to prescribe the guidelines for genres of programmes that a broadcaster can provide on multiple channels available on a single frequency allocated to it for digital radio broadcasting? If yes, what should be the genres of channels permitted in digital broadcasting? Please give your suggestions with detailed justifications.

For the new digital radio content genres, there is a crying need to go away from the current genres of content and their presentation in the analogue FM radio channels. The current FM radio channels, almost uniformly, focus on a bulk of advertisements interspersed by 50 year old and / or remixed Bollywood songs. No attempt is made to offer content genres such as family programmes, children's programmes, radio drama, radio stories, newly created music programmes, radio-schooling content and similar varied types of content, many of which, for example, Akashvani provides.

Digital radio should serve as an effective tool for information and entertainment dissemination, capacity building and national development.

Hence there is a crying need for prescribing a general outline of the new genres of content digital radio operators should be asked to provide. These should include the following:

- ❖ **Attractive content genres for music, family, children, radio drama and stories, youth, city and countryside audiences**
- ❖ **Content for multiple services to car, truck users along city roads, highways, national trunk roads; help ensure safety, security of highway users through timely information**
- ❖ **Radio-schooling content**
- ❖ **Delivery of Emergency Warning to audiences; information, advisories by digital radio broadcasts**
- ❖ **Enrich user experience with text-based information services on digital radio screen**
- ❖ **Display of colour graphics, photos, maps**

At the same time, while there is a need for guidelines for a more diverse content offering, still the additional programs enabled by digital radio in a single block should be left to the broadcaster as the 'digital-incentive'. In addition, the freedom on whether to use the FM digital block for one or more services.

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Without this freedom for broadcasters to utilize the additional capacity, the whole digitization effort in FM band may become a non-starter.

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