


STAR WAVES
YOUR DIGITAL WORLD

To: TRAI

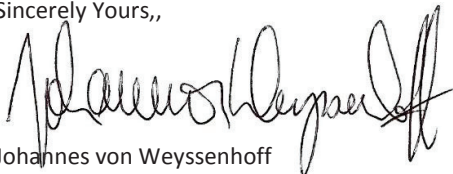
From: STARWAVES GmbH

In response to Consultation Paper No 14/2024 dated 30th September 2024 on
'formulating a Digital Radio Broadcast Policy for private Radio broadcasters.

28.102024

STARWAVES is a consulting company and receiver manufacturer. We have undertaken excessive work in South Africa and consulted ICASA and the Department of Communication with a very similar exercise. We have also undertaken a DRM trial in the FM Band in cooperation with a community radio station. With this experience we have somehow become an advocate for community radio stations and would like to address our view also from this perspective.

Sincerely Yours,,


Johannes von Weyssenhoff

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

- a) A single standard is generally preferable as it means less implementation effort for the industry. The only exception would be if there would be two standards complementing each other with both having specific benefits which together would exceed the benefits of each of the two standards as single standards.
- b) Any multi-standard receiver will be more costly than a single standard receiver. Specifically if the envisaged combination does not exist anywhere else in the world, the benefit of an economy of scale would be extremely limited. High costs for such multi-standard receivers will remain for a long time, it cannot be avoided that single-standard receivers will somehow enter the market. So broadcasters whose content will not be available on one of the other device will be extremely disappointed and in the end blame the regulator for allowing this to happen. Especially community broadcasters would suffer in such a situation as well.

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.

We can answer this question from different perspectives, but all will get to the same conclusion: DRM is clearly the right choice.

From a technical perspective in our opinion DRM has the best performance. One of the reasons for this is that DRM is the only digital radio standard using the world's most enhanced audio codec "xHE-AAC" which allows for good audio quality even at low bitrates.



STAR WAVES

YOUR DIGITAL WORLD

This has an impact e.g. in spectrum efficiency: In pure digital mode, DRM can provide up to 16 audio services within a frequency allocation of 400 kHz (12 plus data services are recommended).

When migrating from analogue to digital radio, DRM is the most aflexible standard as it can fit even the smallest white spaces starting at 100 kHz bandwidth with digital radio signals. Specifically, as an advocate for community radio we want to point out that DRM is the only standard that allows real independence with individual coverage provisions for community radio which we have tested successfully with a community radio station in Johannesburg, South Africa.

With regards to the international deployment scenario and the maturity of the system – with specific attention to the Indian market – we can also say that DRM has great potentials to become the lowest-priced solution - ideal for India. Even today – available in India – any Android-based mobile phone or tablet can be converted into a DRM receiver for the FM Band simply by adding a dongle and a software app – all together for less than 20 US\$. As an open standard, any local Indian company will be able to produce their own low-cost DRM radio suitable for the Indian market without the dependence on a commercial entity on another continent. Also, DRM is part of most automotive solutions – and whilst it requires only one chipset (e.g. NXP Mercury) to receive DRM In both AM and FM Bands, it would require a second of these chips to add another standard and so double the costs of the solution.

As a receiver manufacturer we have participated in many trials and studied the different standards a lot. In the end we will be able to produce any product that the market desires. We are open to any technology but as we have the opportunity to assist in this advisory exercise, we would be glad to do our contribution towards the right thing to do.

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.

As mentioned before, we would absolutely dissuade from a multi-standard scenario, specifically if the already deployed standard already exists in the desired band and was demonstrated successfully.

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

If this question refers to the various scenarios mentioned above (e.g. Simulcast operation vs. Interleaving of digital transmission etc.) we suggest elaborating the details of the exact approach together with all relevant stakeholders, including representatives from the public, commercial and community broadcasters, the regulator, receiver manufacturers, the automotive industry etc., in a joint workgroup with regular meetings and workshops until an agreed strategy has been developed. The outcome should include a clear timeline for the migration with all important milestones that will be communicated in public.

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



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Once key decisions have been made such as the standard to be used for digitizing the FM Band the workgroup has to work around the critical path which e.g. includes the readiness of the automotive industry to get fully equipped cars on the road. On the other hand, the momentum gained by the outcome of this process should be used to initiate the implementation process within a reasonable timeframe. Thereby it will be crucial forcing the automotive industry to provide digital radio in all cars for India from the earliest possible moment (as it was done in Europe as well).

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

Digital licenses should be significantly cheaper than analogue licenses – perhaps for an initial period even waived completely. Other financial benefits such as subsidies, loans or grants may encourage broadcasters to engage. Community broadcasting should be granted subsidies for migrating or newly roll-out their digital broadcast equipment.

Encourage cooperation between broadcasters and receiver manufacturers. Co-branding of receivers and content can open new business opportunities on both sides.

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

The answer to this question is quite simple. Once the existence of Digital Radio in India has been officially announced, clarity about the standard (as mentioned earlier: it should be DRM in AM and FM Band) is given and compelling exclusive content is on air, a demand is created that will automatically push the industry to provide affordable receivers. At present there are quite a few solutions, such as modules or software apps already available to enable manufacturers producing low-cost receivers. But unfortunately, until today even the very attractive offering from AIR with News etc. was never communicated to the public so most of 6 million car drivers are not even aware what jewel they have in their cars. With a coordinated rollout including an attractive awareness campaign, we will see magic happen. And if a government incentive could even kickstart the industry with subsidy it could even accelerate the progress – e.g. to migrate at least all listeners currently still depending on analogue AM and vacate this spectrum for more digital content.

Q8. Should private radio broadcasters be permitted to simulcast their live terrestrial channels on Internet? If yes, what should be the terms and conditions for such simulcast? Please provide your comments with detailed justification.

It is probably not advisable to restrict broadcasters from providing their content also on the internet. However, certain subsidies such as waiving license fees, could be linked to an obligation to keep certain content exclusive for digital terrestrial broadcasting in order to stimulate the demand for digital radio receivers.

Q9. (i) Should the provisions relating to eligibility criteria prescribed in FM Phase-III Policy guidelines be adopted for Digital Radio Broadcast Policy? (ii) If yes, is there any need to add or remove any criteria? (iii) If not, please suggest the plausible eligibility criteria for granting authorisation for digital radio broadcasting.

Generally, the current legislation probably exists for good reasons, and many of the limitations are also necessary to maintain a high level of quality, credibility and trustworthiness associated with radio broadcasting in India. However, to offer a remarkably larger number of channels to stimulate the uptake of receiver sales, certain measures could be relaxed which would limit media companies to expand their programme portfolio too



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YOUR DIGITAL WORLD

heavily. Also, it should be allowed for incumbent broadcasters to authorize additional channels with low restrictions.

Q10. Should the financial eligibility criteria provided in existing policy guidelines be adopted for digital radio broadcasting policy? If not, what should be the financial eligibility criteria for different categories of cities for digital radio broadcasting? Provide your suggestions with detailed justification.

Without going into details, we would generally recommend a lower entry barrier for digital radio than for analogue radio to stimulate the market.

Q11. Should the provisions regarding the period of permission as per existing Policy Guidelines be adopted for the Digital Radio Broadcast Policy? If not, what should be the validity of the period of permission for Digital Radio Broadcasting? Provide your suggestions with detailed justification.

To allow more flexible business models, an additional “short term license” of perhaps 5 years could be introduced with lower entry barriers and with an option to extend the license period if certain criteria are met within a specific timeline. These could be specifically offered to broadcasters with special content such as e.g. education or sports channels.

Q12. Should the provisions regarding the Earnest Money Deposit provided in existing policy guidelines be adopted for the Digital Radio Broadcast policy? If not, what should be the Earnest Money Deposit for digital radio broadcasting services?

Without going into details, we would generally recommend a lower entry barrier for digital radio than for analogue radio to stimulate the market. This also applies for Earnest Money Deposit specifically if this is identified as a high entry barrier. Such specific items like this one should perhaps be subject to common elaboration of a digital radio workgroup as indicated above.

Q13. What should be the amount of application processing fee for Digital Radio Broadcast services? Please provide your suggestions with justification.

Without going into details, we would generally recommend a lower entry barrier for digital radio than for analogue radio to stimulate the market. This also applies for the application processing fee specifically if this is identified as a high entry barrier. Such specific items like this one should perhaps be subject to common elaboration of a digital radio workgroup as indicated above.

Q14. Should the provisions regarding the Performance Bank Guarantee provided in existing policy guidelines be adopted for the Digital Radio Broadcasting services? If not, what should be the amount of Performance Bank Guarantee for digital radio broadcasting services?

Without going into details, we would generally recommend a lower entry barrier for digital radio than for analogue radio to stimulate the market. This also applies for Performance Bank Guarantee specifically if this is identified as a high entry barrier. Such specific items like this one should perhaps be subject to common elaboration of a digital radio workgroup as indicated above.

Q15. Should the provisions regarding the time schedule for signing of authorisation and operationalisation of radio channel as prescribed in existing policy guidelines be adopted for Digital Radio Broadcasting services? If not, please suggest with justification the changes required in the time schedule for signing of authorisation and operationalisation for channels for Digital Radio Broadcasting services.

Without going into details, we would generally recommend a lower entry barrier for digital radio than for analogue radio to stimulate the market. Provisions regarding time schedules



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could be such a barrier, specifically if the understanding and sourcing of the new technologies require more attention and effort. Also, the policies should rather be inviting for new applicants than deterring. We would leave it to the discretion of the authority to find the right balance or discuss these items as well with the workgroup.

Q16. What should be the provisions relating to annual fee including payment methodology be adopted for digital radio broadcasting services? Provide your suggestions with detailed justification.

Without going into details, we would generally recommend a lower entry barrier for digital radio than for analogue radio to stimulate the market. This also applies for the annual fees specifically if this is identified as a high entry barrier. Such specific items like this one should perhaps be subject to common elaboration of a digital radio workgroup as indicated above.

Q17. Should there be a minimum amount of annual fee for digital radio broadcasting services? What should be the criteria for deciding such minimum annual fee? Provide your suggestions with detailed justification.

See above.

Q18. Do you agree that the amended provisions of calculating annual fee as 4% of GR only and de-linking it from Non-Refundable One Time Entry Fee (NOTEF), be made applicable to existing operational FM radio channels, who migrate to digital radio broadcasting?

See above.

Q19. What should be the definition of Gross Revenue (GR) to be adopted for digital radio broadcasting services? Provide your suggestions with detailed justification.

See above. In any case additional costs for equipment hire or purchase, training etc. should be considered.

Q20. Should the provisions regarding the restrictions on multiple permissions in a city be adopted for Digital Radio Broadcasting services? Please provide your suggestions with detailed justification.

- a) As stated before, to offer a remarkably larger number of channels to stimulate the uptake of receiver sales, certain measures could be relaxed which would limit media companies to expand their programme portfolio.

Q21. Should the frequency be considered, or multiple channels operated on single frequency be considered for the purpose of putting restriction on multiple channels in a city? Please provide your suggestions with detailed justification.

This depends on the individual use case. In one situation, a community broadcaster would like to add a second programme with a different language and rent out his third capacity to a sub-community within the same area (e.g. "Young Women of Xyz"). The newly obtained opportunity to introduce new concepts of programming should not be per se restricted by regulations that may not even cater for new ways resulting from the new platform. Certain regulations should perhaps be defined as temporary and be reviewed after some time and fine-tuned thereafter depending on their proven practicality within the context of digital radio.

Q22. Do you agree that the maximum number of channels that has been identified by MIB in category A+ and A cities as given in Table 3 should be put up for auction for digital radio broadcasting? If not, please give your suggestions with detailed justification and criteria for deciding the maximum number of channels in each of the cities mentioned in Table 3 above.



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Although the fast introduction of many channels will have a higher potential to create more attractive content for listeners, it should be noted that some broadcasters with more sophisticated ambitions, constitutional delays or funding issues may need more time to get ready with perhaps some great concepts. Therefore, it might be advisable to hold a specific number of frequencies back for a second round of auction. This also depends on how much time will pass from the first public discourse of digital radio opportunities until the issuing of the spectrum auctions. Restricting access only to well-organized and largely capitalized (but maybe less innovative) participants should be avoided.

Q23. Should the provisions regarding the Programme Content provided in the existing policy guidelines be adopted for Digital Radio Broadcasting?

Generally, there should not be more restrictions on digital radio than analogue.

Q24. Should digital radio broadcasters be allowed to broadcast self-curated news and current affairs programs as recommended by TRAI in its recommendations dated 5th September 2023? If yes, what should be the duration of such programs. Please give your suggestions with detailed justifications.

Preference to new compelling content should be given to digital radio as **the coincidence of opening news bulletins to commercial broadcasters and the introduction of digital radio is a golden opportunity to encourage listeners to invest in a digital radio set** as long as such content is exclusive on digital radio.

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.

Generally, restrictions should be limited as far as possible. However, an over-supply on certain genres on the account of under-represented but also desired content should be regulated on a first-come first-served basis.

Q26. Should the provisions regarding penalties prescribed in extant guidelines be adopted for digital radio broadcasting? If not, what are your suggestions for modifications? Please give your suggestions with detailed justification for each.

Without going into details, we would generally recommend a lower entry barrier for digital radio than for analogue radio to stimulate the market. Threatened penalties could be such a barrier, specifically if the understanding and sourcing of the new technologies require more attention and effort. Also, the policies should rather be inviting for new applicants than deterring. We would leave it to the discretion of the authority to find the right balance or discuss these items as well with the workgroup.

Q27. What should be the methodology for examination and creation of new Common Transmission Infrastructure (CTI) setups required for new channels including their upkeep, given that existing CTI setups and towers may not have vacant space and apertures, respectively, for accommodating additional new channels in category A+ and A cities?

In order to make best use of many of the advantages of Digital Radio some extra effort for network planning of digital radio should be applied compared to ~~a lot more complex~~ analogue FM, and skills in this field still need to be developed. If applied in a smart manner, the results will be far more efficient than if following static rules that are just set once to be followed. It should also be considered that the capability of digital radio to be operated in



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SFN's provides new opportunities towards infrastructure design and sometimes eliminates the requirement of expensive or unavailable tower space. This should be elaborated on a case-by case basis with the consultation of the digital radio workgroup mentioned earlier.

Q28. What should be the methodology for examination and modifications to existing CTI setups or creation of new CTI setups required for transmission of digital components/ simulcast operation by existing broadcasters including its upkeep given that existing CTI setups, including towers, may not support the addition of digital components without modifications?

See above.

Q29. Are there any changes required in the format prescribed for reporting of Financial Accounting by radio broadcasters for the Digital Radio Broadcast Policy? If yes, please suggest changes with justification.

If a broadcaster becomes a signal distributor of another broadcaster, such income should be accounted separately.

Q30. Whether any other provision of the existing policy guidelines that may require review for their adoption in Digital Radio Broadcast Policy? If yes, please provide your comments with reasons thereof for amendments (including any addition(s)) required in the existing policy guidelines for FM Radio, that the stakeholder considers necessary. The stakeholders may provide their comments in the format specified in Table 4 explicitly indicating the existing clause, suggested amendment and the reason/ full justification for the amendment in the existing policy guidelines for FM Radio for inclusion in Digital Radio Broadcast Policy.

No comment.

Q31. Do you agree that the methodology used in TRAI's recommendations dated 10th April 2020 for determining reserve prices of FM Radio channels should be used for determining reserve prices of digital Radio channels? a. If yes, please provide detailed justification for your views. b. If not, please suggest an alternative approach/ methodology with details and justifications.

No comment.

Q32. Do you agree that due to non-availability of updated radio listenership estimates data and Market Intensity Index, whether the same data, as used in 2020 recommendation, can be used in the present exercise as well? In case the answer is no, which alternative data/methodology can be used for the same purpose?

No comment.

Q33. Do you agree that a multiplication factor of 0.7 be used for estimating the reserve price from average valuation of FM Radio channels or otherwise? Please provide your suggestions with detailed justification.

No comment.

Q34. Stakeholders may also provide their comments/ suggestions along with detailed justification on any other issue that may be relevant to the present consultation.

We appreciate the invitation for comments. Further discussions could be interesting on content rights and fees.