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Submission to TRAI re: Digital Radio Broadcast Standard

From: Space Line LTD Bulgaria (www.spaceline.bg)

Dear Sirs,

Our company is a licensed shortwave transmitter operator in Bulgaria, who provides HF and MW broadcasting services with worldwide coverage for international broadcasters. We were been providing shortwave transmissions to BBC, Radio Taiwan International, Korean Broadcasting system and other world famous media broadcasting organizations to whom we provide DRM transmissions on shortwave too.

Our response is related to your second question and some of the responses. Herewith we would like to explain why we support DRM to be the favorite digital standard for all Bands including the FM Band in India.

As transmissions services provider, who is fully DRM capable, we are now getting a lot of requests for DRM, we know that there are great projects in the pipe, in Africa, some subsidized by international NGO's, e.g. for distributing e-learning content via DRM into rural areas that are not served by internet. This will help empowering the most vulnerable communities and bridging the digital divide.

On this note we know that DRM is going to experience a great economy of scale, as it is also a rising standard in Indonesia, Pakistan, Southern Africa as well as the leading (and only) standard for digital international short wave broadcasting. Since the world is more and more challenged with natural disasters but also human-made conflicts, the importance of this medium increases by the day.

Opposite, we see a notable decline in manufacturers for HD Radio sets. HD Radio saw its largest range of receiver manufacturers and models in the mid-to-late 2000s. By 2009, approximately 30 brands were showcasing HD Radio models, including prominent names like Sony, Pioneer, Kenwood, and Yamaha. This period marked the peak in HD Radio device variety, particularly in car audio systems, as more carmakers began incorporating HD Radio into dashboards. However, the growth primarily concentrated in the automotive sector, driven by deals with automakers rather than consumer home and portable radios.

By the 2010s, as streaming services and smartphones grew in popularity specifically in the USA and Canada, the demand for standalone HD Radio devices declined. Manufacturers like Boston Acoustics, Polk Audio, and others began discontinuing their HD Radio lines. Portable and tabletop HD Radio options were gradually phased out as consumer interest shifted to more versatile digital and streaming options. Today, Sangean remains one of the few companies producing standalone HD Radios, along with VQ offering a single HD-compatible model, indicating a significant contraction in the HD Radio market.

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This trend reflects HD Radio's shift to niche usage, mainly in cars, while general consumer demand for dedicated HD Radio devices in the USA and Canada has dropped sharply. However, we do not believe that this trend only results from competition from streaming and on-demand content sources, such as Spotify and podcasts, as FM radio or e.g. DAB in Europe still remains popular. At least two other aspects resulting from HD Radio being a proprietary standard, are:

- The business model behind HD Radio. As a proprietary standard, and to be beneficial for the owners, HD Radio technology has remained expensive whilst prices for open standard devices have dropped.
- Whilst manufacturers working with open standards have the ability to apply technical evolution to their products, proprietary standard based products remain static and offer no innovation to consumers which is frustrating to both consumers and manufacturers.

The negative result of the resulting declining economy of scale manifests in retail prices even more. Although few years back the 50\$ barrier was cracked, with the decline of suppliers and a reduction in the variety of available standalone HD Radio models, the pricing and availability of standalone HD Radios have become more limited. Consequently prices have increased again due to limited competition and low production volumes. Current HD Radio tabletop models can range from approximately \$80 to over \$200, depending on features and design.

Because of this we would like to oppose to the widely propagated argument HD Radio was a stable and well introduced technology. This might have been the case some years back but unfortunately HD Radio was unable to keep the pace and adapt to recent requirements which are low cost products in emerging markets which are not so heavily compromised by competing technologies such as streaming services.

Specifically in India, a successful digital radio migration in our opinion can only be reached with the approach of an open system such as DRM (or DAB), and as DRM is already operating in the AM Band and Band III is not intended to be utilized, DRM is the correct choice. Only without the barrier and significant additional costs of licensing and dependency on integration efforts with a foreign commercial entity, local development is possible with all its benefits of job creation, skills development and economic growth in the own region.

Therefore we would like to express our support for DRM to be chosen for digitizing now also the FM Band in India.

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