

Digital Radio Mondiale

Global Country Update

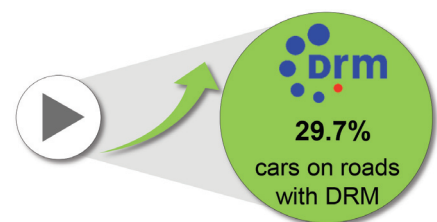
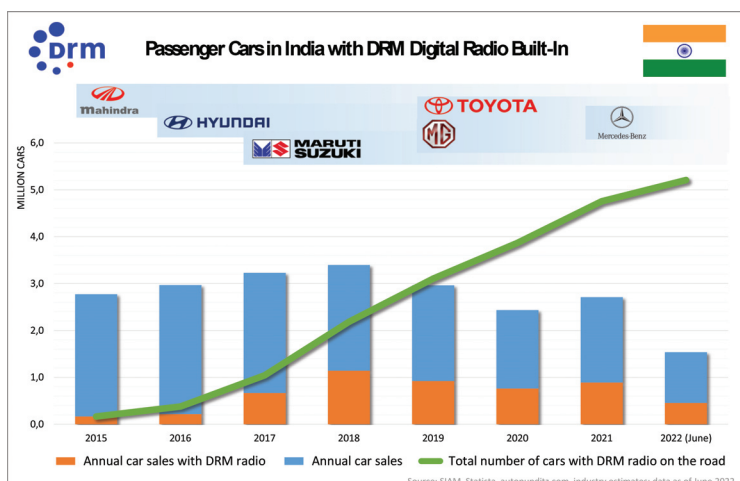
(June 2023)

Countries broadcasting and planning to roll out DRM

INDIA



- The rollout of DRM in the AM bands for regular domestic broadcasts by the Indian public broadcaster All India Radio (AIR) is ongoing. Currently 35 high power DRM medium wave and three DRM shortwave transmitters are installed throughout the country. Four transmitters (one each in four metro cities) are now carrying pure DRM transmissions round the clock. The remaining 31 transmitters are working in simulcast mode with one hour in pure DRM. www.prasarbharti.gov.in/drm-digital-radio-on-air
- Over 900 million people in India can receive DRM broadcasts over the 35 medium wave transmitters. Two MW transmitters are currently carrying pilot services in DRM and coming soon are four other transmitters.
- Almost 6 million new cars fitted with DRM receivers on the roads in India by May 2023. The graph below shows the statistics as of June last year. Major car brands using DRM for their infotainment systems are: Maruti Suzuki, Hyundai, Toyota, MG Motors and lately Mercedes Benz.



More than 5.2 million cars on the Indian roads (June 2022)

- On the request of the public broadcaster AIR, the DRM Consortium conducted a DRM for FM test in India in Delhi and Jaipur in March 2021. Full features of DRM in pure DRM (single DRM block with up to four services – three audio and one multimedia), also simulcast (analogue FM and up to four DRM blocks), multi-DRM (up to six DRM blocks, with 18 programmes) and DRM in white spaces (up to five DRM blocks in the white space of 600kHz between two analogue FM stations) were successfully demonstrated during those tests.

- In parallel to the measurements carried out by the public broadcaster, the DRM Consortium also took its own measurements, which showed excellent results. Based on these measurements, the Consortium has prepared a full demonstration available at: <https://s.drm.org/8wBg>



PAKISTAN

- The public broadcaster, Pakistan Broadcasting Corporation (PBC), has approved DRM as the radio standard for use in all frequency bands (AM and FM) in January 2020.
- PBC has a three-phase digitisation plan (with the required budget), which is now with the government for final approval.
- Approval was given for the acquisition of a 1000kW DRM medium wave transmitter. This is being considered for installation in Islamabad.
- After successfully testing DRM for FM from the PBC HQs some years back, the broadcaster acquired a 5kW DRM FM transmitter (GatesAir) to be installed in Lahore. Another 5kW DRM FM transmitter is planned for Islamabad.
- All new transmitters will broadcast in analogue first and, once final Government approval has been granted, they will start transmitting in DRM, too.



INDONESIA

- The public broadcaster, Radio Republik Indonesia (RRI), has carried out several successful demonstrations with DRM in both the AM and FM bands over the last few years and they are now ITU reference documents.
- RRI have purchased and installed five DRM FM transmitters installed in strategic locations. The transmitters are capable of broadcasting emergency alerts by using DRM's Emergency Warning Functionality (EWF), integrated in the national disaster warning infrastructure. Transmissions started in 2020.
- RRI is also planning to install five DRM mediumwave and one shortwave transmitter in key locations (ring of fire) in the country. RRI proposes the procurement of transmitters for 52 disaster-prone locations in 2024 as a national priority.



CHINA



- The country has installed and uses seven DRM shortwave transmitters domestic coverage (aimed for the large populous region of eastern China primarily, but also for the rest of the country). They can also be used for overseas transmissions by China Radio International (CRI).

RUSSIA



- **Due to the current political circumstances, the DRM activity in the FM band has been suspended there.**

(DRM was endorsed for the AM bands some years ago. Successful demonstrations took place in Siberia for the AM bands previously and in St. Petersburg – for DRM in FM – in the period 2019 – 2021).

BRAZIL



- Brazil has carried out successful DRM high-power and low-power demonstrations in both AM and FM bands over the last few years.
- EBC, the public broadcaster, has tendered for a 100kW shortwave transmitter, as the broadcaster wishes to transmit in both analogue and DRM (simulcast) towards the large Amazonian basin in the north of the country.

SOUTH AFRICA



- DRM was demonstrated in both the AM as well as in the FM bands over several years, proving that the standard works well and without interferences to analogue FM broadcasts in a very crowded spectrum like that of Johannesburg. These reports are now ITU reference documents.
- The SA government has recommended officially both DRM and DAB+ as solutions for the radio digitisation of the country. The double-headed solution is called Digital Sound Broadcasting (DSB). DSB Services Regulations were issued by the South African Regulator (ICASA) in April 2021.
- A DSB technical advisory group (DTAG) will be created to advise the regulator on technical matters relating to the roll out of DSB services with a two-phase timeline (first the established broadcasters and then the newcomers). The DRM South Africa Group (local DRM Platform) has requested representation on DTAG.

GERMANY



- The country has demonstrated extensively the features and benefits of DRM in all frequency bands. Currently DRM is being used by the German Navy for distribution of data to ships navigating around the world.
- DRM in shortwave is currently on air.

“Funklust”, a campus broadcaster at Friedrich-Alexander-Universität Erlangen-Nürnberg, has revamped its entire DRM shortwave infrastructure by broadcasting with brand new equipment since October 2021. Now it allows audio content and attractive data services, such as Journaline, TextMessages, and even Emergency Warning Functionality (EWF), to be put on air with ease. Reception reports received so far confirm that the programmes can be received not only in Germany but also in Russia, the USA, Norway, Finland and New Zealand.

- Funklust has been broadcasting also in DRM for FM since 2013.

ROMANIA



- Radio Romania International (RRI) is one of the most active international broadcasters using DRM in shortwave with an extensive DRM schedule in several languages, being often listened to and commented on in countries as far apart as India, United States and Brazil.

KUWAIT



- Radio Kuwait has regular DRM broadcasts in shortwave with target area the Middle East and Europe.

NEW ZEALAND



- The country uses DRM in shortwave for rebroadcasting to the Pacific Islands. Radio New Zealand has just announced (October 2022) the acquisition of a new Ampegon shortwave transmitter: <https://s.drm.org/mU2R>



Countries considering the adoption of DRM

SOUTHERN AFRICA

- The Southern African Development Community (SADC), representing 16 African countries, in conjunction with the Communications Regulators' Association of Southern Africa (CRASA), representing their 13 states, have also recommended DRM and DAB+ for their 16 member countries.
- The African Telecommunications Union (ATU) is considering making the same recommendation.

NORTH AND CENTRAL AFRICA

- In North Africa, Algeria could make progress with the DRM roll-out.
- Nigeria – Voice of Nigeria (VoN) has shortwave DRM capability and is known to broadcast towards Europe with reception even in North America.
- Central African countries like Chad, Mauritania, Congo etc. have also shown interest in adopting DRM for their domestic and international broadcasts and intend to upgrade their infrastructure to achieve this.

USA



- DRM was used during a successful test by the US Coast Guard for data transmissions in the Arctic region.
- DRM in shortwave was used by Radio Marti for broadcasts to Latin America from North Carolina.
- TransWorld (TWR) have regular shortwave transmissions from Guam towards India, Japan, China and other Asian countries.

AUSTRALIA



- Stakeholders in Australia have tested successfully. DRM in mediumwave (Wangaratta) and FM (Baranduda) between 2019-2022. The demonstrations were carried out using a variety of desktop and professional receivers as well as in cars and on Android devices. A report on the tests is to be published after being shared with the Regulator.

Other countries with interest in DRM

EUROPE

HUNGARY



- Antenna Hungaria, the local network provider, has installed one DRM capable medium wave transmitter with a power of two megawatt.
- DRM in shortwave with very low power transmissions was demonstrated in Hungary in 2021 being able to cover the capital Budapest and be picked up even in the Netherlands.

DENMARK



- The country has been testing successfully the use of DRM in the FM band in Greater Copenhagen (reaching even southern Sweden). A multi-channel demonstration is now in preparation following the extension of the license in 2022.

CZECH REPUBLIC



- DRM is now on air on a medium wave channel that used to carry a powerful AM signal. It is broadcast on 954kHz (power reported as 3kW) from the České Budějovice transmitter site, located in the South Bohemian region and re-using the old AM antenna with a modulator connected to the existing 30 kW AM transmitter.

This is a trial of DRM scheduled to come to an end possibly in the second half of 2023.

MIDDLE EAST

- Some countries in the region have shown interest in the standard with no formal decision yet and contacts with the Arab States Broadcasting Union (ASBU) are continuing.
- Radio Kuwait have regular transmissions in shortwave towards Europe.
- In Saudi Arabia the Saudi Broadcasting Corporation has acquired DRM digital capable transmitters for MW and SW.

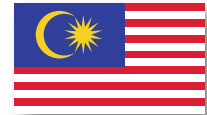
ASIA

SRI LANKA



- The international service of the Sri Lankan Sri Lanka Broadcasting Corporation (SLBC) recently doubled its Tamil Service airtime to two hours, on 873 kHz AM (medium wave) from their Puttalam transmitter. Colombo International Radio also announced that shortly they are going to use DRM on 1548 kHz! This will be done by using the old transmitter of Deutsche Welle located in the north of Sri Lanka, at Trincomalee.

MALAYSIA



- The country has been showing interest in DRM, as some stakeholders have found it possibly the most suitable radio digital standard for future country-wide deployment.

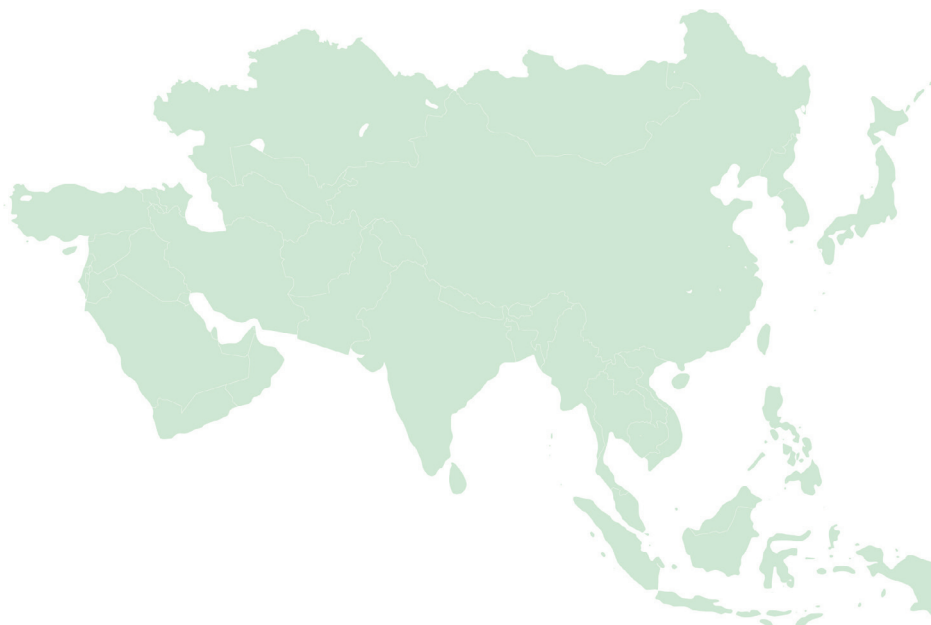
NEPAL



- Radio Nepal has just announced the start of a DRM test in the FM band.

BANGLADESH, VIETNAM, THAILAND

- These countries have shown interest in adopting DRM. However, there is no formal decision towards its roll-out, even though some have equipment either ready for DRM or ready to be upgraded to DRM broadcasting.

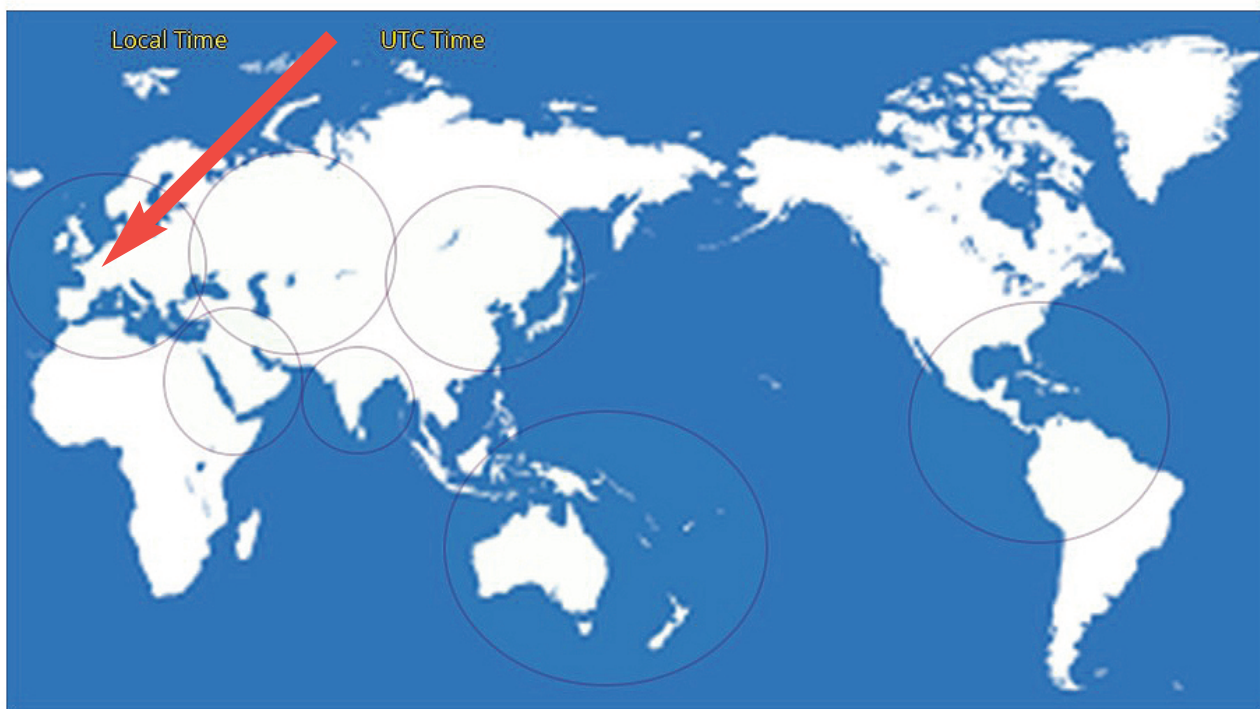


Additional information

I. Countries using the DRM standard for shortwave broadcasts

Broadcasters around the world (such as the BBC in the UK) using the DRM standard in shortwave are listed on the DRM website under the heading **‘Broadcast Schedules’**: <https://schedule.drm.org/>

The DRM Consortium has developed an online tool to quickly find DRM shortwave broadcasters, their transmission times and target areas. This tool is accessible for both DRM members and non-members and is illustrated in the following picture.



To use the map and the broadcast information, simply click on the circles which cover world regions where transmissions occur and where broadcasts are received.

After clicking those circles, the details of shortwave broadcasts to that region will appear in a list below the map, highlighted in **green**.

There is no similar comprehensive list for mediumwave transmissions.

NOTE: The DRM Consortium is grateful for all the information received from broadcasters around the world which use our standard for their regular broadcasts, be they domestic or international. We can only mention and list those DRM transmissions if we are made aware of them by their broadcasters around the world.

We therefore urge any broadcaster (member or non-member) using the DRM standard to let our Project Office know that they transmit in DRM. Please contact us at projectoffice@drm.org

2. DRM field trials and demonstrations

Extensive DRM tests have been conducted throughout the world over many years.

The results confirm that the DRM standard (both in the AM and VHF/FM bands), enjoying the same features and benefits across all broadcast bands, performs according to the specifications and that it can be rolled out to meet a wide range of broadcasters' requirements, coverage needs and in all types of environments.

Please visit our DRM website where all these trials and demonstrations are listed:
<https://s.drm.org/drm-field-trials>

For keeping up to date with DRM developments go to www.drm.org, subscribe to our monthly newsletter (newsletter.drm.org), follow us on social media and become a Consortium member.

You can follow us on



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