

EBU Digital Radio Summit

DRM – Digital Radio Mondiale

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DRM – Digital Radio Mondiale System

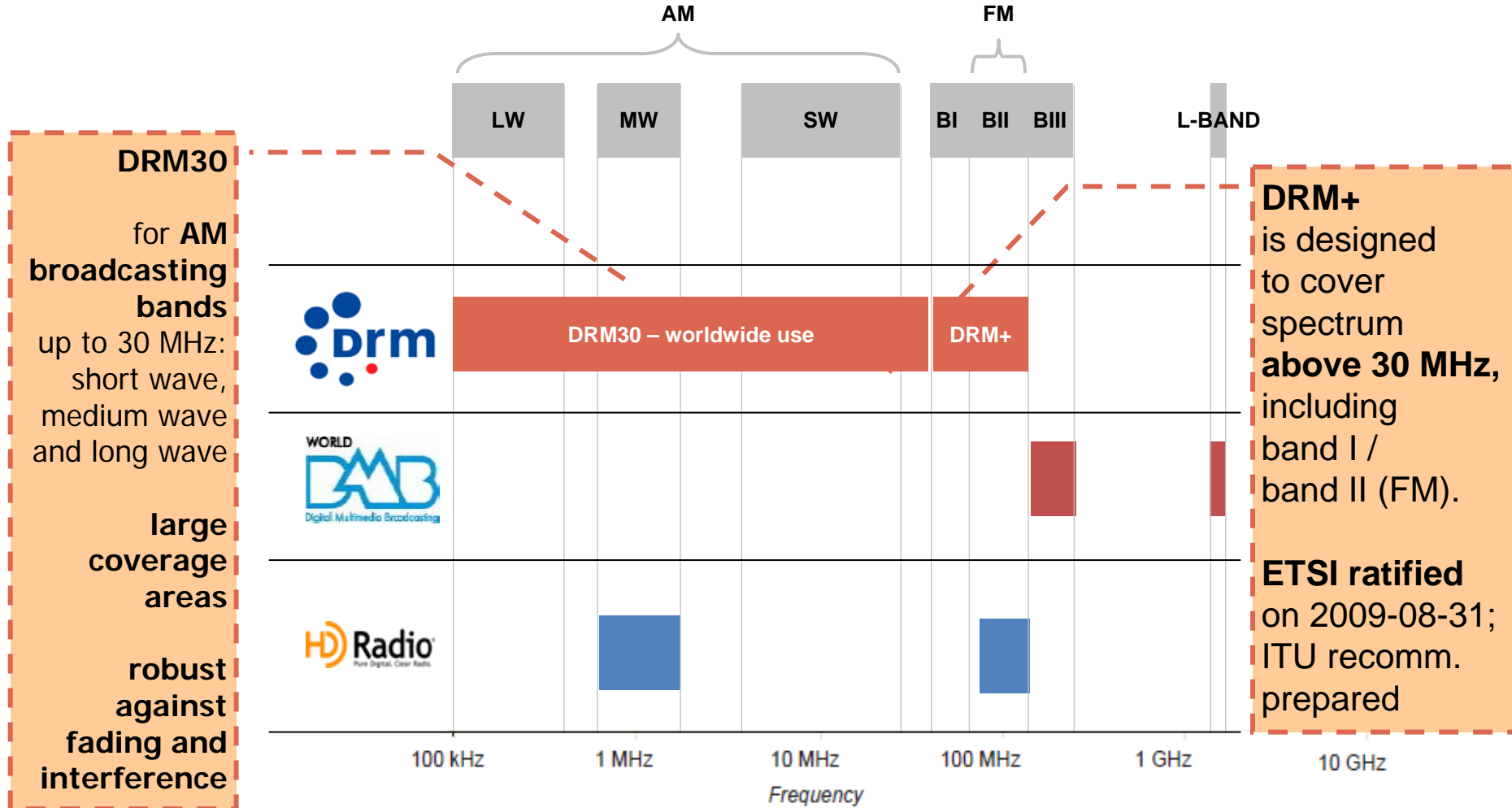
DRM System (DRM30 and DRM+):

Global open standard for digital radio

- Serving SW, MW, LW and band I/II (FM)
- Covering large areas/international broadcast (DRM30) and local/regional markets (DRM+)
- Modern radio:
Convenience Features (Labels, AFS, EPG),
Multimedia Services, Surround Sound
- Complements and works seamlessly with DAB and other standards

Where DRM fits – Introducing DRM+

Frequency bands & capability of different digital technologies



What can DRM offer?



More choice for listeners

- up to 4 programs on 1 frequency
- simulcast analog / digital

Excellent audio quality

- no distortion
- stereo and 5.1 surround sound

Hybrid Multimedia Applications

- Rich information sent along with DRM
- Links to enhanced, individual online content

Multimedia Applications



DRM TextMessages

programme accompanying labels (Unicode)

EPG – Electronic Program Guide

What's up now & next;
Search for programs and
schedule recording



Journaline

text based information service (Unicode),
supporting all classes of receivers,
triggers interactivity and geo-awareness

MOT Slideshow

programme accompanying images + animation

TPEG / TMC Traffic Information

→ Great commercial potential !



What can DRM offer?



Automatic tuning

- by station name, no longer by frequency
- re-tunes when leaving coverage area

Good coverage area and robust signal

- supporting SFN (single frequency networks)

Per-device IPR cost:

One-time license fees paid by manufacturer,
part of device cost

- **No running royalties**
for broadcasters!

Updates on DRM – DRM+ & DRM Global Receiver Profiles

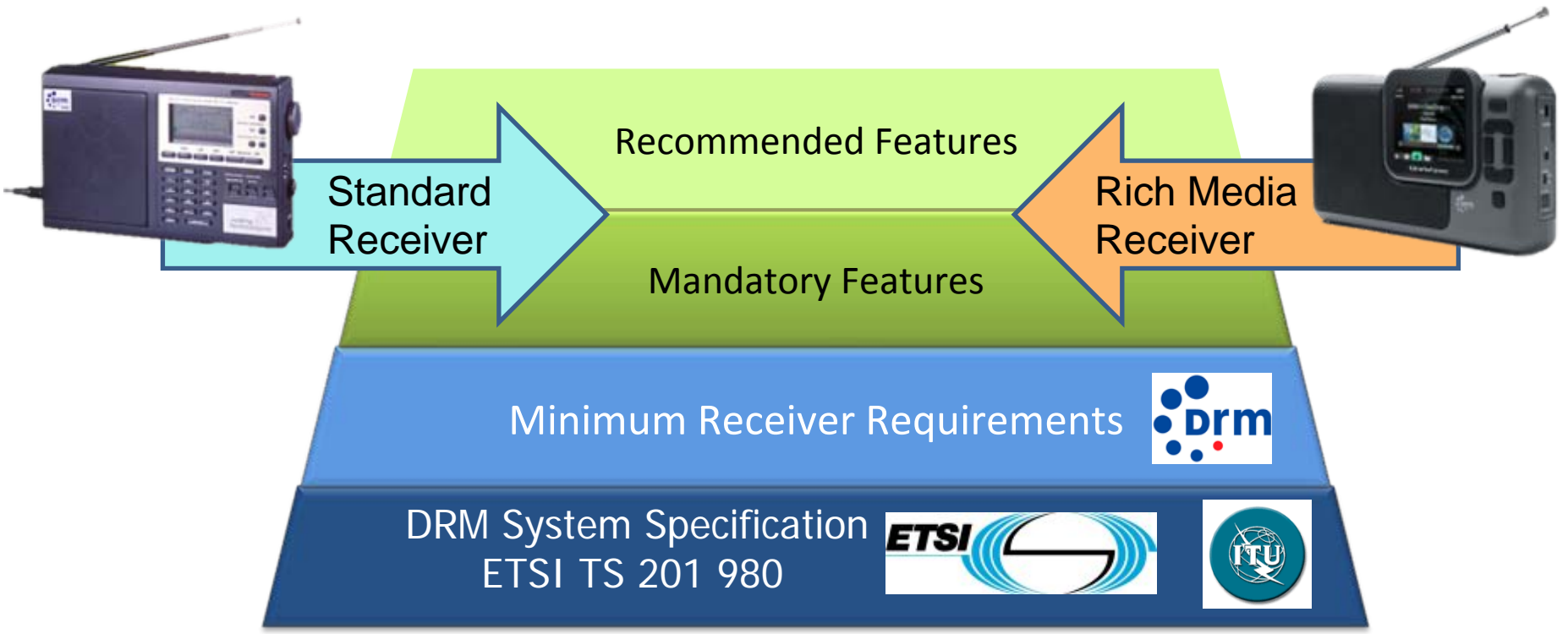
DRM+ extension (DRM above 30 MHz) and
Surround Sound

DRM Profiles –
on the way to a global receiver

- Aimed at creating vibrant digital radio market **worldwide**
- Defining minimum **functionality** for receivers that use DRM system
- Give **broadcasters** confidence to plan services that will be received
- Give **manufacturers** confidence that their investment will be supported by services
- Give **consumers** confidence in a product providing them with consistent quality of experience



Updates on DRM – DRM Global Receiver Profiles



International big developments 1/2

India: State broadcaster **All India Radio (AIR)** decided that DRM is the best technology for converting its vast public service broadcasting network to digital. AIR is converting **4 shortwave** transmitters (250 kW) to DRM mode and there are plans to introduce DRM transmissions in **42 new medium wave, 36 existing medium wave** and **5 new short wave** transmitters.

During **BES 2010-01** in New Delhi, the **purchase of 2 Megawatt MW DRM transmitters** was announced, covering very large areas in the Indian sub-continent as well West, North, East and Southeast Asia.

International big developments 2/2

Russia: The Russian Radio Frequency Centre decided to **introduce DRM in the MW and SW** (decision no N 09-01-05 on 2009-01-20). During IBC 2009 Alexander Zharov, Deputy Minister of Telecommunications and Mass Communications of Russia, announced that **DRM is their chosen radio technology** for digital change-over in a phased manner from **2009-2015**.

Brazil: Included **DRM as a platform under consideration** for a 180-day public consultation period in establishing national digital radio standards. The announcement came during ABERT Congress in Brasilia in June 2009. DRM joined iBiquity's HD Radio and Eureka 147 DAB/DAB+ as candidates in providing standards for the country's future digital radio infrastructure. **Currently DRM trials are on.**

More DRM Broadcasts 1/2

- **BBC and Deutsche Welle (DW) launch DRM channel for Europe** (Dec 2008)

An 18-hour daily broadcast of the best international programmes in English, the channel covers much of western Europe – France, Germany, Belgium, Netherlands, Luxemburg and other adjacent countries. It is available from early morning (06:00 CET) till late at night (24:00 CET) on SW and on 1296 MW.

- **Rádio e Televisão de Portugal (RTP) with DW started DRM shortwave tx to Central Europe** (31st January 2009)

The RTP International channel is available on Saturdays and Sundays from 09:30 UTC to 11:00 UTC on the frequency 9815 kHz.

More DRM Broadcasts 2/2

- **AIR started regular DRM SW transmissions daily from New Delhi** (January 2009)

Approx five hours of transmission are beamed towards listeners in the UK and Europe between 2315 to 0400 IST on 9950 KHz, with an additional three hours of local tx within India from 1430 to 1730 IST on 6100 kHz.

- **TDPradio, Belgium-based dance music station, started its DRM channel for Asia** (July 2009)

The station will broadcast from 0700-0800 UTC on 17755 kHz everyday across Asia. The transmission originates from Darwin, Australia via CVC Network Ltd.

- **The Disco Palace – out of Miami covering Europe and North America** (Feb 2010)

Europe on 6015 kHz, North America on 17755 kHz

DRM – Digital Radio Mondiale Consortium

DRM Consortium founded in 1998

- **non-commercial**,
promotes the adoption of the DRM standard
 - **around 100 members**
incl. broadcasters, manufacturers, network operators,
regulators, research institutes, etc.
- www.drm.org

In conclusion:

- DRM Digital Radio Mondiale is 21st century technology
- DRM is an open international standard for everybody to use
- DRM is non-proprietary:
All information publicly available,
Everybody can implement the full specification
→ Equipment available from a multitude of manufacturers
- DRM fits with existing channel assignments
- DRM is fully interoperable with DAB networks:
AFS, Data Applications, Audio Codec, Receiver Profiles, ...

**DRM is the logical system for Digital Radio in Europe,
perfectly complementing DAB for local broadcasts,
linking with individualized online service offerings!**

Thank you

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