

**VOV / WorldDMB Workshop  
on Digital Radio Technologies**  
*27-29 July 2013*  
*The Melia Hotel & VOV HQ Building,  
Hanoi, Vietnam*



Supported by



**Joan Warner**  
**Chair - WorldDMB Asia Pacific Committee**  
**DAB+ Business Case Study – Australia**

# Introduction



## Successful DAB+ Digital Radio Rollout

- All of Industry Approach – shared costs
- Government Regulation & Policy
- High Powered Indoor & Outdoor Coverage



## Launch & Marketing

- New Content - New Revenue
- Receivers & Retailers
- Awareness Campaign

# Radio Needs a Digital Broadcast Future



Media consumption remains high



Traditional media must build on its strengths – great content, live, local, mobile, intimate and social



Digital radio can stimulate new revenue streams and keep audiences listening longer



Radio broadcasters must use all devices and broadcast content across all delivery platforms.

# Why Go Digital?



Analogue Signal increasingly compromised



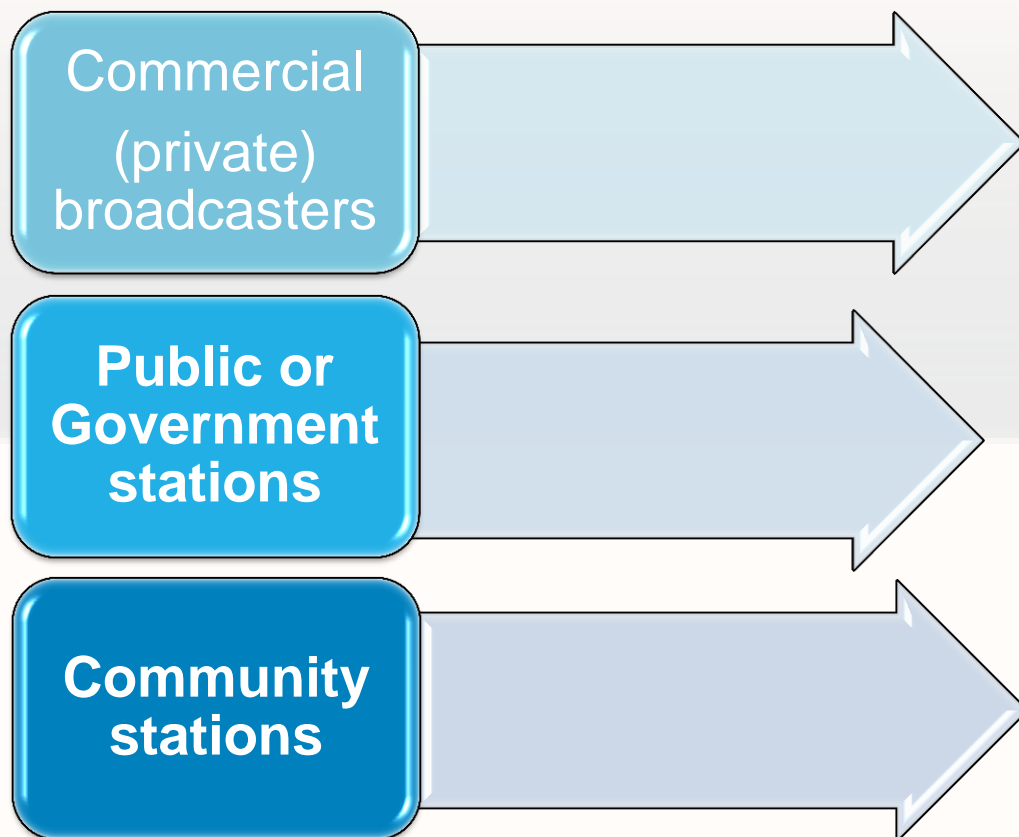
Digital Investment to defend radio and its future



Radio Industry – Go Digital or Someone Else Will Take Your Audience and Your Digital Spectrum

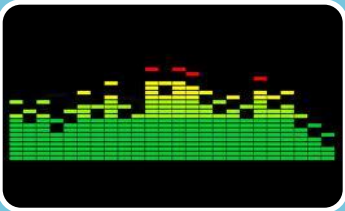
# All of Industry Approach

## Private and Public Working Together



# Government Regulation

## Incentives to Invest for Private Broadcasters



Free Spectrum for incumbent  
broadcasters 128 kbs per station  
– and keep analogue spectrum



No restriction on use of spectrum  
or formats



No new licences for 6 years or  
more but “use it or lose it”

# Benefits

## Incentives for Private Broadcasters



First option to own and operate multiplex



DAB+ shared multiplex costs



No new competition while bedding down DAB+



# DAB+ Transmission Set Up

## Many stations in one multiplex





# Transmission Comparison

## DAB+ and other technology

Feature	DAB+	DRM+	DRM	HD	FM	AM
Total stream bitrate (kbps)	576 – 1728 R=1/2: 1152kbps	4QAM: 37 - 74 16QAM : 99 – 186 R=1/2: 149	Mode B, 20kHz Chan 64QAM = 36 to 56kbps	Up to 300kbps	n/a	n/a
Max Number of services	63 Typical 18	1-4, typical 1 or 2	1-4, typically 1	1 – 7 Typically 4	1	1
Service channel rate (kbps)	Up to 192 Typical 32 – 80	Up to 186 Typical 32 – 70	Up to 192 Typical 36 - 56	Typically 16 – 96	n/a	n/a
Channel BW (kHz)	1712	100	9/10/18/20	200	200	9/10
Modulation / FEC coding	DQPSK Convolutional / Reed-Solomon	4/16 QAM Convolutional / Reed-Solomon	4 /16/64 QAM Convolutional / Reed- Solomon	QPSK Convolutional / Reed-Solomon	FM	AM
Typical operation	DQPSK / R=1/2	16QAM / R=1/2	16QAM / R=1/2	QPSK / R=1/2	FM stereo	AM Mono
Robustness	Excellent	4QAM similar 16QAM lower	16QAM lower 64QAM much lower	Similar	Excellent	Good but poor interference rejection
Standardisation	ETSI Open standard	ETSI Open Standard	ETSI Open Standard	Proprietary Requires licensing	Various Open Standard	Various Open Standard

# DAB+ space, energy & cost saving

FM – 1 program or DAB+ 1 Mux – up to 32 programs

9 metres

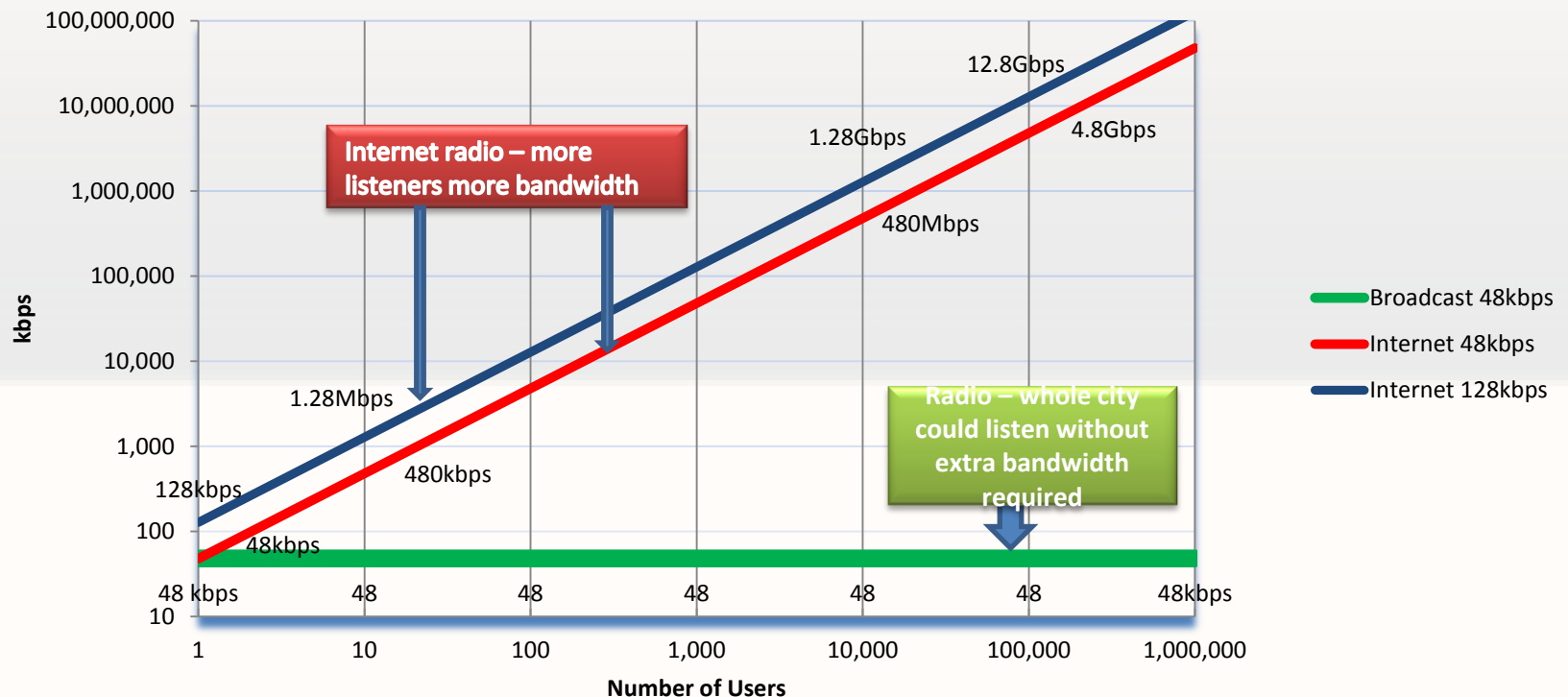


Occupied floor space for 15 Radio programs

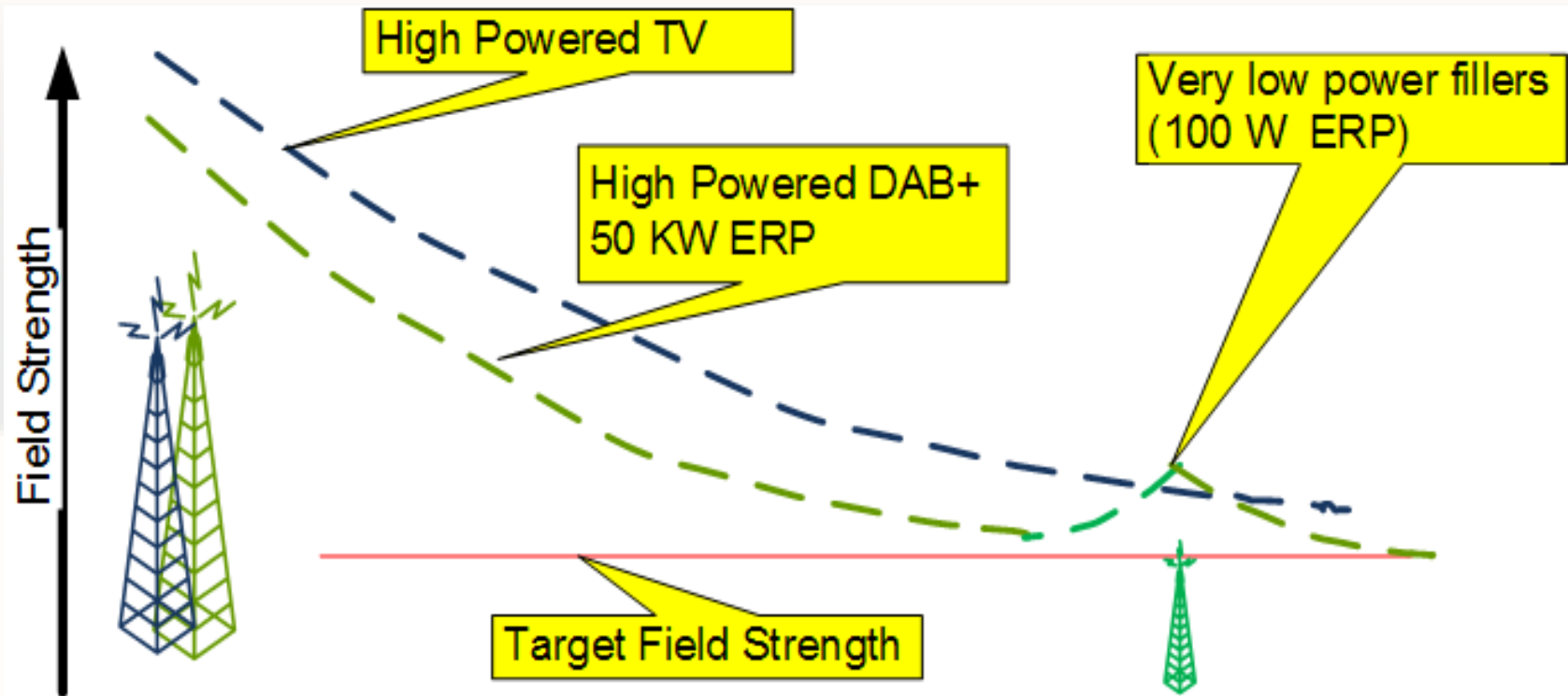
Source: Harris Technology

# DAB+ vs Internet

Internet cannot duplicate 1 to millions at the same time



# DAB+ Goals For Coverage



# DAB+ Coverage



Single High Powered site (typically 50 KW ERP) to cover each city.

2



Low powered on channel repeaters (10 W – 1000 W ERP) to provide enhanced coverage where needed.

# Free Spectrum – what do you do?

38 new DAB+ stations – chillout, dance, country, sport, jazz

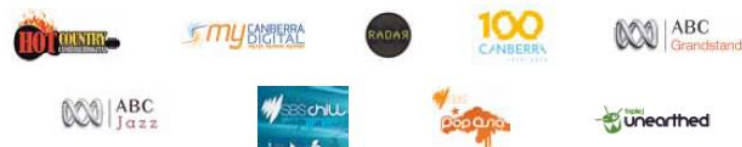
## Sydney



## Melbourne



## Canberra Trial Broadcast



## Perth



## Brisbane



## Adelaide



## Darwin Trial Broadcast







koffee  
time to chill

New Koffee iPhone App  
Download for free



latest videos



**Angus Stone Performs 'Wooden Chair' On Sunrise**

Posted 1 day ago



latest articles



**Key Koffee Acts: Goldfrapp**

Posted 1 day ago

kogan





# Alternative Language Music and Talk



# DAB+ Slide Show & Scrolling Text Enhance Station Image Engage with listeners



**Now Playing On 2DayFM**

**Now Playing**  
**S&M**  
Rihanna

**Next Song**  
What Goes Around Comes Around  
Justin Timberlake

[2dayfm.com.au](http://2dayfm.com.au)

**2day 104.1**

**Latest Weather THE EDGE**

**Today's Forecast**  
Wed, 1st Jan  
Sunny.

**13°**  
H: 19°

THU	FRI	SAT	SUN	MON
19°	17°	15°	15°	13°

**+** It's radio as you know it, plus...

**RADAR**

Select RADAR on your  
**Digital Radio**  
to hear the best new music now.

**NOW PLAYING**  
Beautiful In My Eyes  
By: Joshua Kadison

**koffee**  
time to chill

**NEXT UP**  
Madworld  
By: Michael Andrews Feat. Gary Jules

**GOLD'S GONE MOBILE.**  
GET THE FREE APP FOR IPHONE,  
ANDROID & NOKIA.

**Classic Hits GOLD 104.3**

# Event, Pop Up or Branded Stations

## Specific, focussed and/or short term programming



Station & programming for a specific client – creating new revenue



Elf Radio Christmas & New Year festive focus for two months



WS4KIDS  
A children's radio station to raise money for hospital



4TABHELP  
Flood  
24/7 emergency information station

# Sports Coverage

DAB+ spectrum efficiency – more stations, more sport



Maximise  
coverage of  
national  
football  
games



Multiple  
stations with  
DAB+ allows  
more  
coverage of  
Asian Cup



Olympic  
Games  
coverage  
DAB+  
Badminton,  
Taekwondo,  
weightlifting



Radio  
rights  
holder can  
maximise  
coverage

# 18<sup>th</sup> Asian Games Hanoi 2019

DAB+ would enable extensive coverage of all 36 sports



18<sup>th</sup> ASIAN GAMES  
**HANOI 2019**



# DAB+ Can Offer More than a Traffic Update

TPEG information sent via DAB+ - maps, parking, weather



# Education and Cultural Stations

Effective one to many communication to city & provinces





# DAB+ Marketing & Promotion

## All of Industry Website & Logo



The screenshot displays the homepage of the digitalradioplus.com.au website. The header features the 'Digital Radio' logo and the tagline 'It's radio as you know it, plus...'. Navigation links include 'NEWS', 'World DMB Sep eNewsletter', 'Digital Sound Quality', and 'More Stations'. A blue banner contains the main navigation menu: 'CAN I GET DIGITAL?', 'DIGITAL RADIO STATIONS', 'DIGITAL RADIOS', and 'FIND RETAILERS'. The main content area includes a 'FIND US ON FACEBOOK!' section, a 'LISTEN LIVE NOW!' section, and a 'WHAT IS DIGITAL RADIO?' section. A large section titled 'The stations you know and love!' features logos for various radio stations like Gold 103.3, MTR, Magic 1278, and 3AW. Below this, 'Plus new stations...' lists 'The Edge', 'Classic Hits Live', 'Uzo Radio', and 'Aussie'. A city selector bar shows 'SYDNEY', 'MELBOURNE', 'BRISBANE', 'ADELAIDE', and 'PERTH'. The footer contains a 'LATEST NEWS' section with articles about the September eNewsletter, Father's Day ad campaign, a trial in Darwin, and a year of digital radio. There is also an 'E-NEWSLETTER' sign-up form and a 'FEATURED RADIO' section highlighting a Bush DAB+ CD Micro System with a dock for iPod.

[www.digitalradioplus.com.au](http://www.digitalradioplus.com.au)

# More than 460 DAB+/DAB/DMB devices available worldwide

From AUD\$29 or 565,000 VND



A World of Listening



sense and simplicity







**LG**  
Life's Good



**YAMAHA**  
www.yamahamusic.com.au









made for you





make.believe



















# Ongoing Marketing

Demonstration Kiosks, Press, Taxi Backs, Discount Offers, Brand Ambassadors, all of industry outside broadcast



Buy a **Digital Radio** at these participating retailers and get...

**10% off!\*** It's radio as you know it, plus...

Just collect a flyer from our staff and present the coupon in-store!

**clicksmith** **Harvey Norman**

**THE GOOD GUYS** **MYER** ismystore

**Target.**

\* Offer valid on DAB+ digital radio purchases on selected dates and specified stores only - please refer to coupon for full terms and conditions.

1 million people agree...

It's a **million** times better

Digital Radio is free. Listen to your favourite AM and FM commercial stations plus ABC, SBS and so much more! DAB+ Digital Radio is available in Sydney, Melbourne, Brisbane, Adelaide and Perth.

[digitalradioplus.com.au](http://digitalradioplus.com.au) Ask your local retailer





# Future of Radio is here DAB+ digital radio

19 leading automotive brands now include digital radio globally



**1.6 million DAB+ listeners each week in Australia**  
**Almost 1.3 million digital radios sold**

**Make sure your next vehicle  
has a DAB+ digital Radio.**

Available as standard



TOYOTA



LEXUS



HINO  
A BETTER CLASS OF TRUCK

ISUZU  
TRUCKS



Available as options



Audi



Mercedes-Benz

JAGUAR



LAND  
ROVER

Check [www.digitalradioplus.com.au](http://www.digitalradioplus.com.au) for aftermarket solutions.



[digitalradioplus.com.au](http://digitalradioplus.com.au)

# All of Industry Launch & 3 Year Celebration

## All of Industry broadcasting side by side



# Summary

## Steps to Success

1. Choose most powerful spectrum efficient technology – DAB+
2. Keep analogue spectrum
3. All of industry working together – shared costs
4. Free spectrum & broadcasters to hold the key
5. No new entrants until market established
6. High Powered robust DAB+ signal
7. New Content
8. Range of Affordable receivers
9. Variety of retail outlets
10. Marketing & Communication Strategy

# Radio as You Know It...Plus Further Information



- **WorldDMB – [www.worlddab.org/](http://www.worlddab.org/)**
- **DAB+ Fact Sheets**  
[http://www.digitalradioplus.com.au/index.cfm?page\\_id=1042](http://www.digitalradioplus.com.au/index.cfm?page_id=1042)
- **Digital Radio Industry Report**  
[http://www.digitalradioplus.com.au/index.cfm?page\\_id=1055](http://www.digitalradioplus.com.au/index.cfm?page_id=1055)