

# Distributing radio: Broadcast, IP or 5G?

Dr. Les Sabel

Principal consultant, S-Comm Technologies  
Chair, WorldDAB APAC Technical Group

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world **dab**

1. Radio distribution options

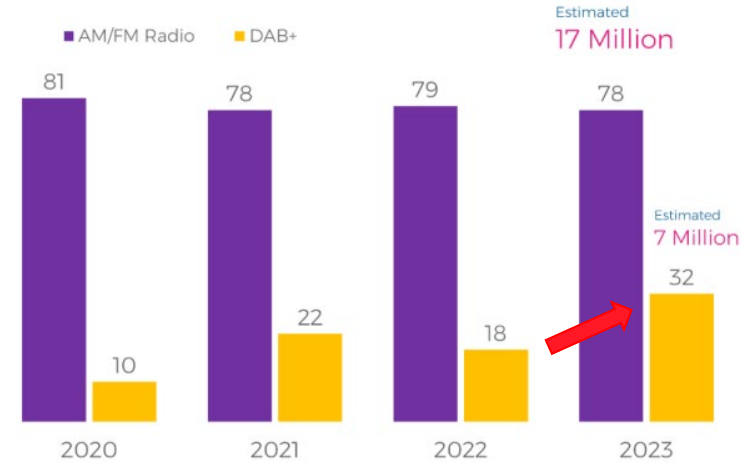
2. Comparison of methods

3. New applications

4. Conclusions

# Radio distribution options

- What platforms are used
  - FM
  - DAB+
  - DTV
  - IP streaming / Apps / Podcast
  - 5G Broadcast?
- Content providers want to get the content consumed
  - Radio broadcasters
  - Streaming services (spotify, apple..)
- Content types are adapting
  - Live / linear
  - Podcasts
  - Streaming specific content (album, artist, playlist, random)
  - Metadata is increasing in value
  - Listener consumption data is increasing in value



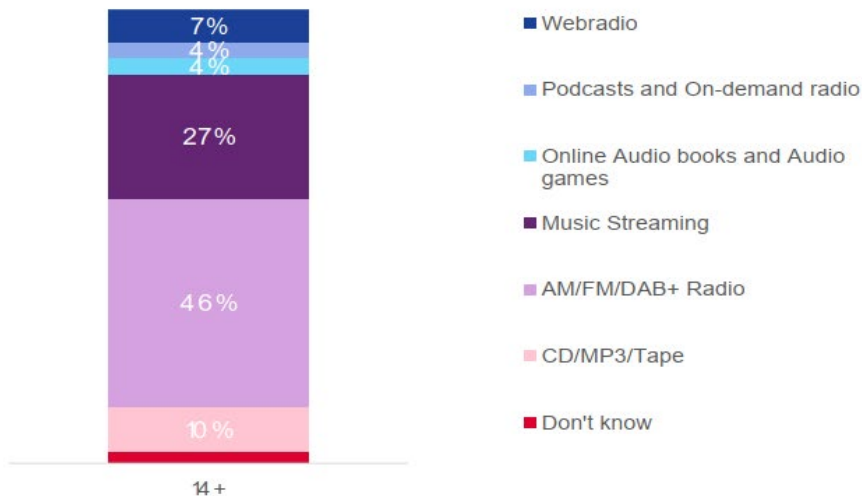
Source: CRA, Infinite dial survey, 2023

# Radio distribution options

## EVEN AMONG IN-CAR ONLINE AUDIO USERS, RADIO DOMINATES, BUT MUSIC STREAMING IS ALSO IMPORTANT



Most used content in the car  
Among in-car online audio users, Germany, 2021



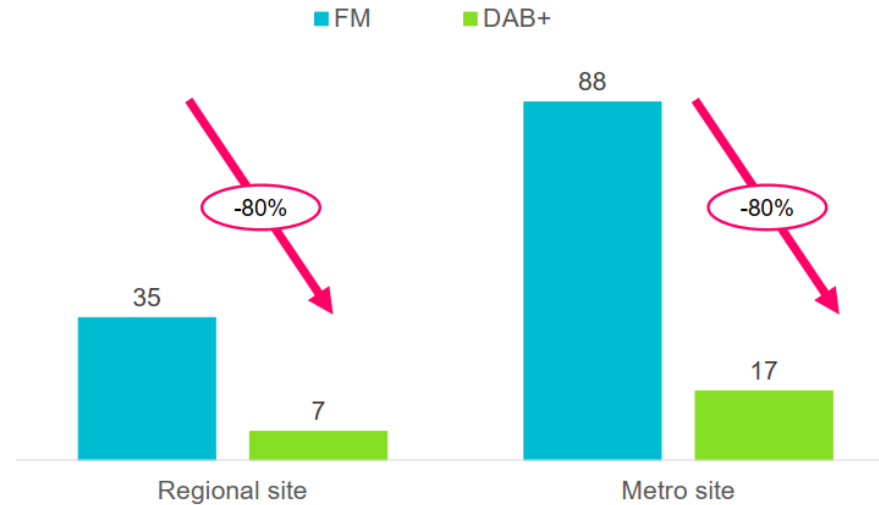
Source: Matthieu Rawolle, Media Intelligence, WorldDAB Automotive workshop 2023

# Radio distribution options

- What platforms are used
  - FM => legacy, analogue, basic, expensive, being phased out
  - DAB+ => green, expanding, developing
  - DTV => small consumption, ubiquitous reception in homes but in limited locations
  - IP streaming => Apps / websites, includes Podcast => increasing content types and offers
  - 5G Broadcast => is it viable?
- What is the best approach for radio broadcasters?
- Depends on what the broadcaster wants to achieve
  - Increased revenue
  - Grow audience
  - Changing business model – monetisation of IP services
  - Increased services, quality and features
  - Decreased costs

# Comparison of methods

- DAB+ has been shown to be 1/5<sup>th</sup> of FM

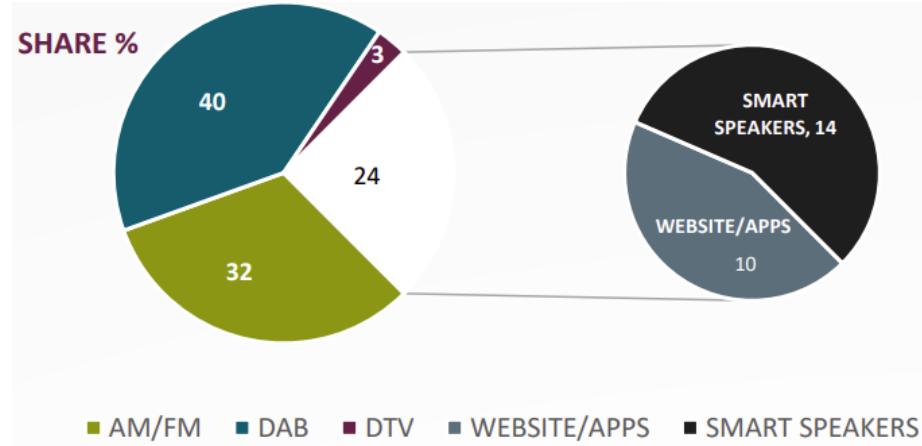


Source: WorldDAB

- Streaming costs have 2 parts
  - Consumer mobile budget
    - In many countries this has largely become irrelevant as mobile data costs reduce
    - Still applies in developing nations
  - Data centre/CDN costs for streaming

# Comparison of methods

- DTV is used in many countries but listening is a small proportion
- IP streaming is increasing in both domestic and mobile situations
  - Simplicity
  - Costly



Source: Rajar 2023

*IEEE TRANSACTIONS ON BROADCASTING, Ahn et. al., 2023, "Evaluation of ATSC 3.0 and 3GPP Rel-17 5G Broadcasting Systems for Mobile Handheld Applications"*

<https://www.progira.com/product/building-5g-broadcast-sfn-t-dab-broadcast-infrastructure/>

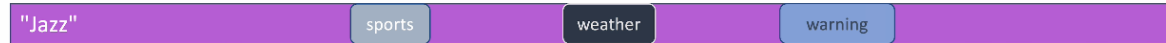
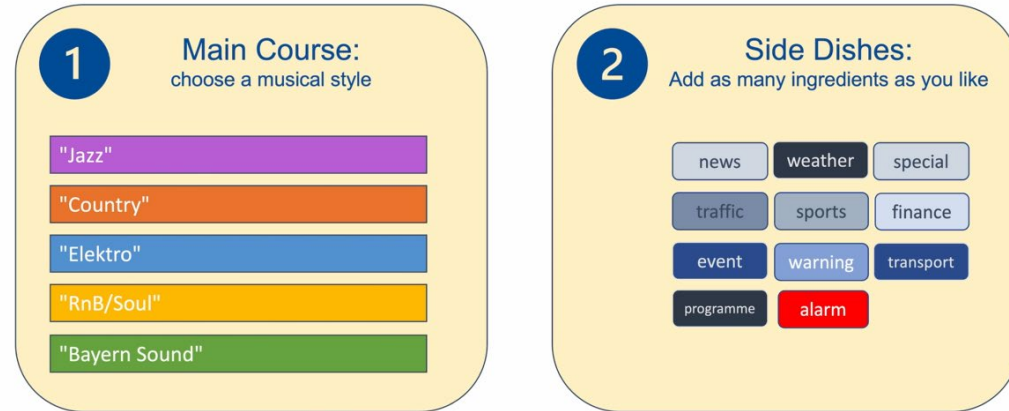
- 5G Broadcast
  - Reception performance is significantly worse than DAB+ due to the lack of time interleaving
  - Not being pursued as an alternative broadcast method for radio content

# New applications

- New Applications are continuing to be developed
- For consumers
  - Announcement radio
  - Enhanced multimedia delivery
  - Expansion of companion Apps for domestic receivers

## Idea: Individualisation of the radio experience

Programme of your choice



Source: Rainer Biehn, WorldDAB Automotive Workshop, 2023



Sangean DPR-76BT prototype

Source: Les Sabel, DAB+ Announcements for domestic receivers: New opportunities for broadcasters, ABU DBS 2023



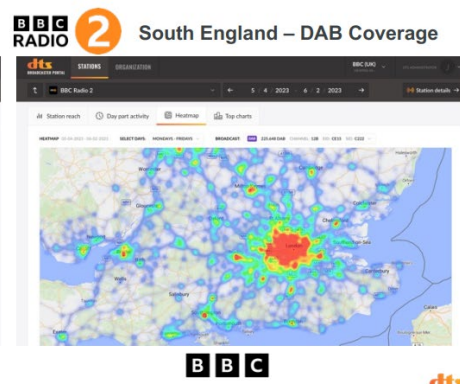
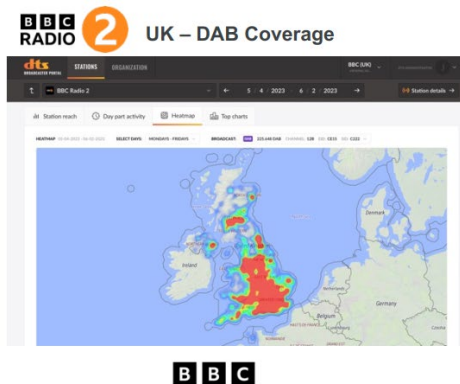
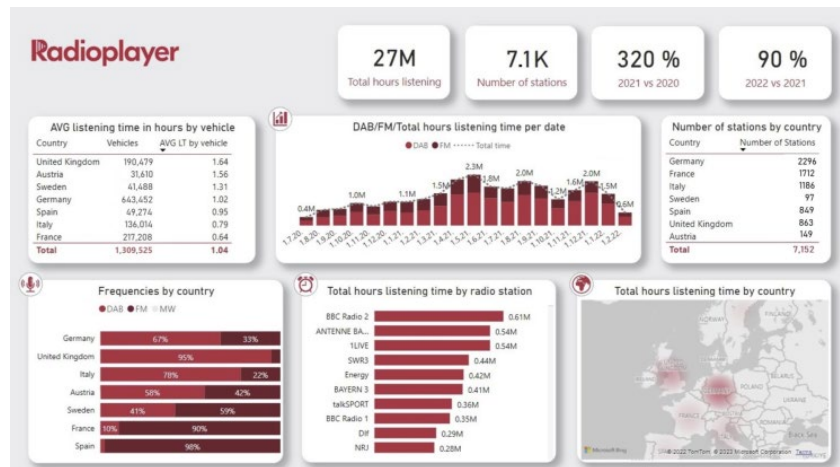
# New applications

Source: Radioplayer, WorldDAB Automotive Workshop, 2023

- For broadcasters
  - Improved audience engagement
  - Expansion of consumer behaviour monitoring and analytics
    - Who, what, when, where, how?

Multiple solutions exist for the Automotive sector

These are Hybrid Radio solutions

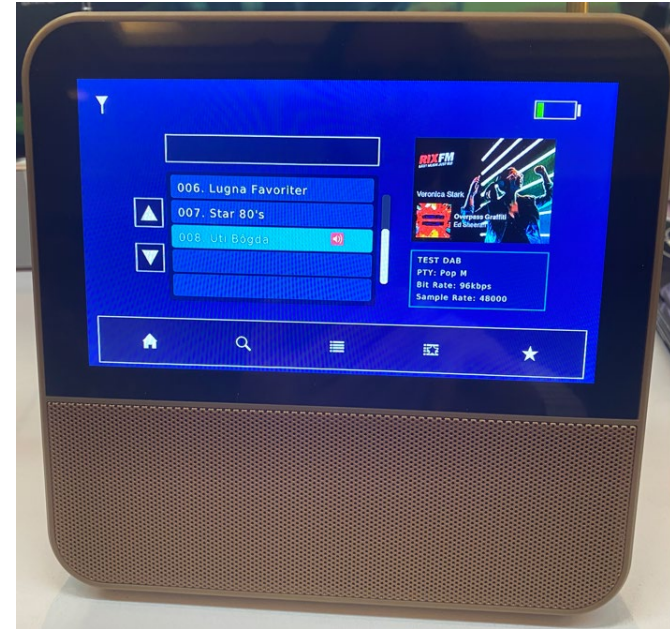


What about domestic receivers?

Source: Xperi/DTS, WorldDAB Automotive Workshop, 2023

## Use of hybrid for domestic receivers

- What is needed to have a hybrid domestic receiver?
  - IP connection
  - Colour graphic screen
  - Software.....
- All the benefits of automotive hybrid radio are built around the availability of a (large) colour screen
  - Some new products are focusing on this
- Future DAB+ receivers could also work with voice control just like cars and smart speakers
- The multimedia capable domestic receiver will provide:
  - Broadcasters with all the benefits they get for car reception
  - Consumers get a rich media experience with interactivity



## Conclusion

- Broadcasters use the delivery media that provides the best return for their business
- So the answer to the original question “Distributing radio: Broadcast, IP or 5G?” is:

**Broadcasters use the best delivery method to reach their target audience including DAB+, IP and mobile 5G**

But we note that there is no current viable business case for 5G Broadcast technology for radio delivery

## Conclusion

- Hybrid DAB+ can deliver a rich media experience to BOTH cars and domestic receivers
- Embracing a hybrid radio future will provide
  - improved and more targeted services for consumers
  - the ability of radio businesses to provide services to attract, engage and retain consumers by understanding their needs and trends

It's a multimedia world,  
Its time for hybrid radio for all receivers



Thank You

[www.worlddab.org](http://www.worlddab.org)

[les.sabel@scommtech.com.au](mailto:les.sabel@scommtech.com.au)