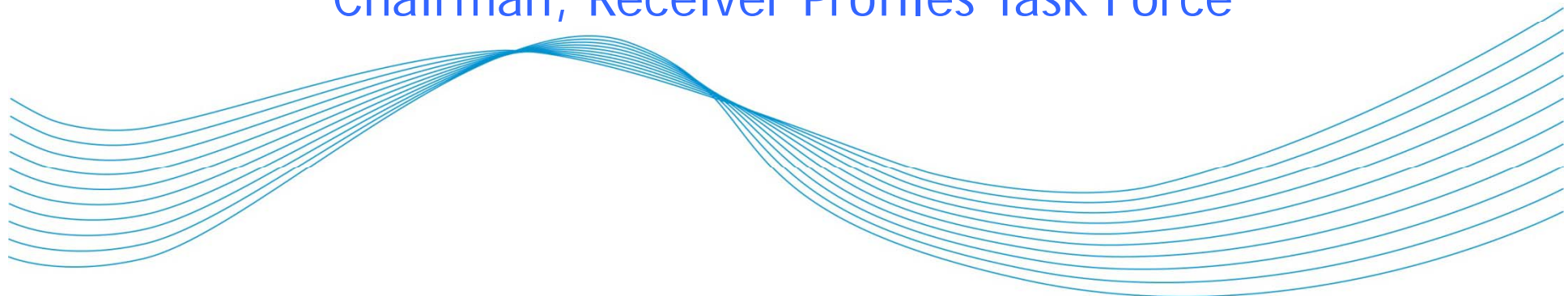


# World DMB EBU Geneva 2009

## Digital Radio Receiver Profiles

Quentin Howard

Chairman, Receiver Profiles Task Force



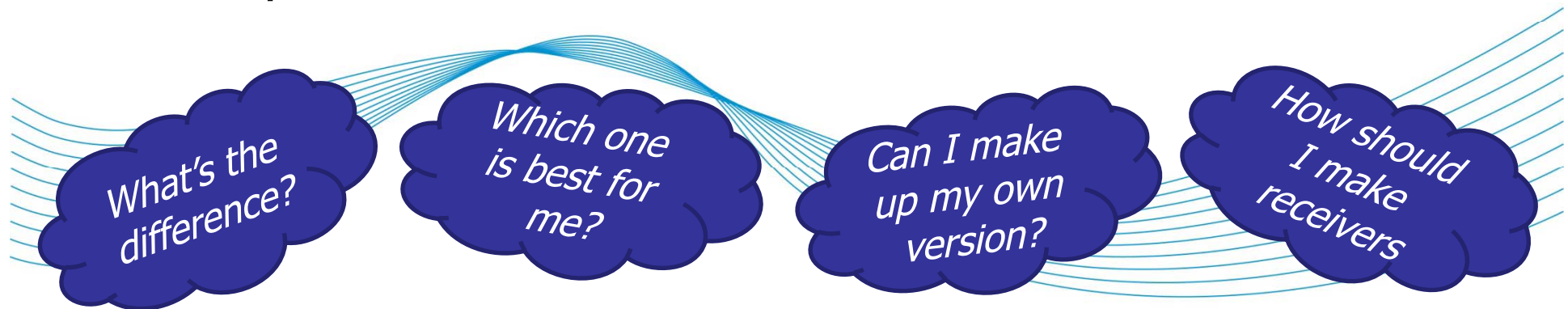
# DAB

# DAB+

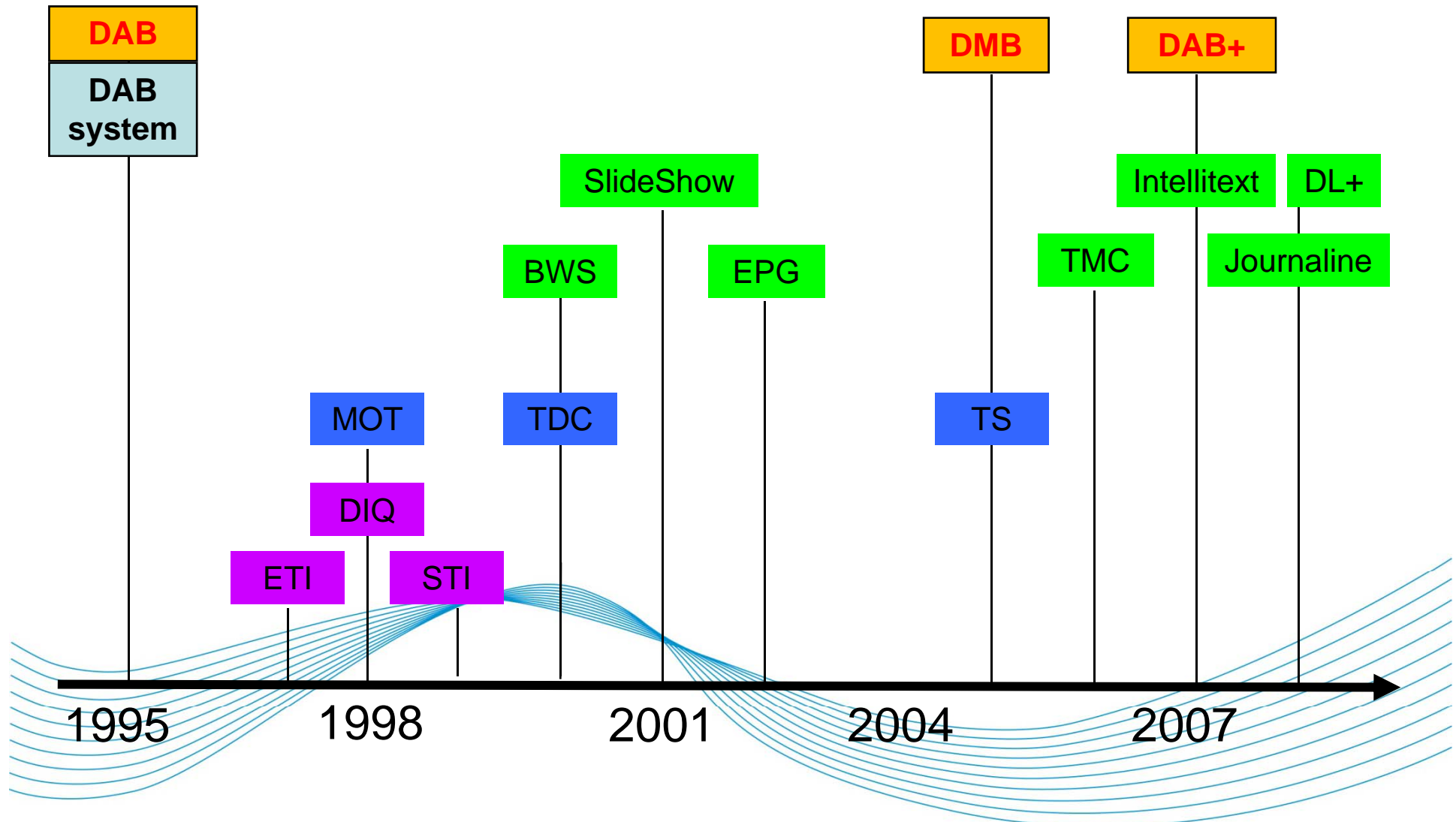
# DMB



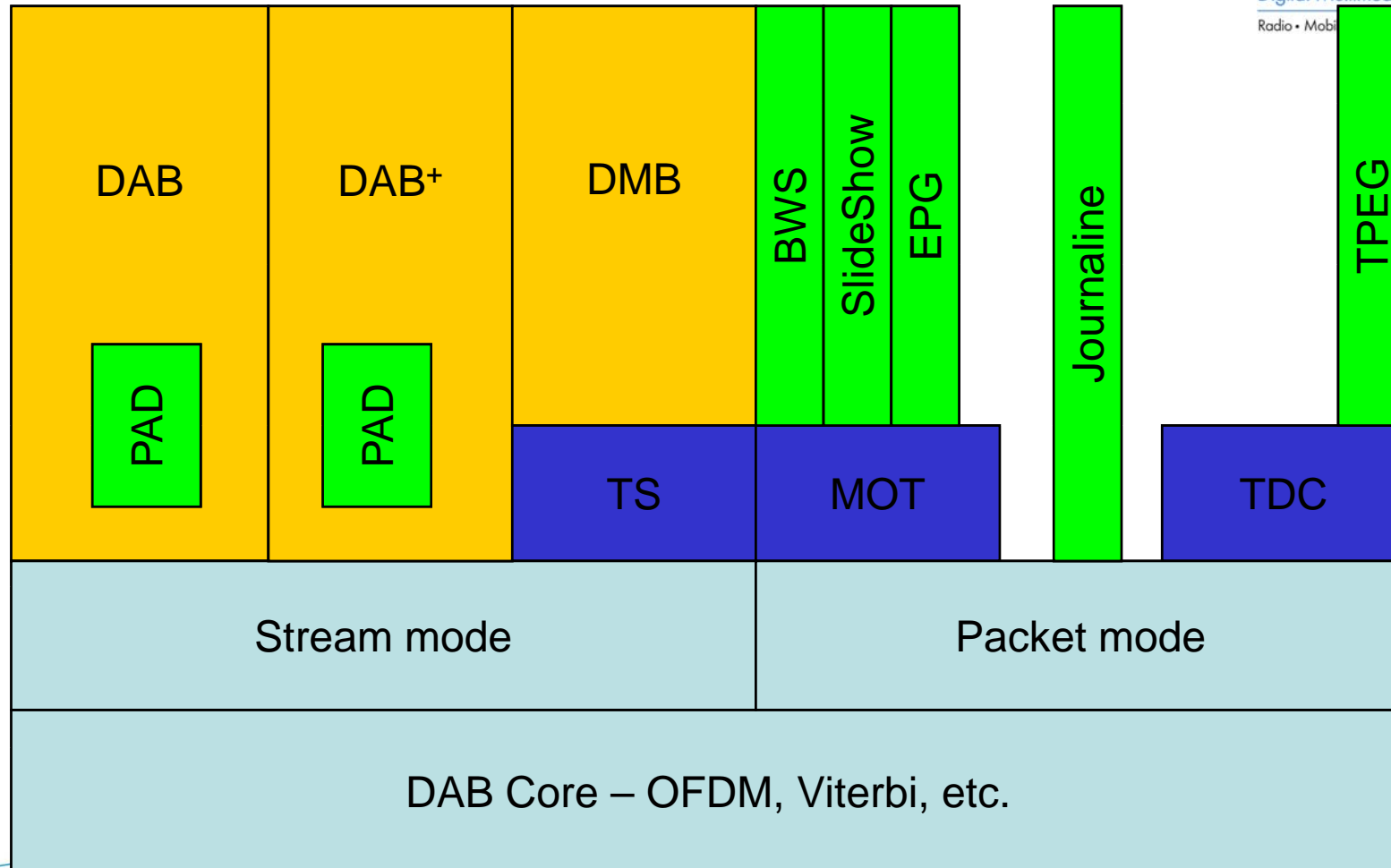
- World DMB developed a “Family of Standards” using common OFDM data transport system
  - Different service layers built on common base
- But many names
  - *DAB... DAB+... DMB ... also DAB-IP... DMB-A...*
  - *Services: PAD, X-PAD, BWS, SlideShow, DL+, BIFS....*
- People outside WorldDMB are confused



# Evolution of the DAB family

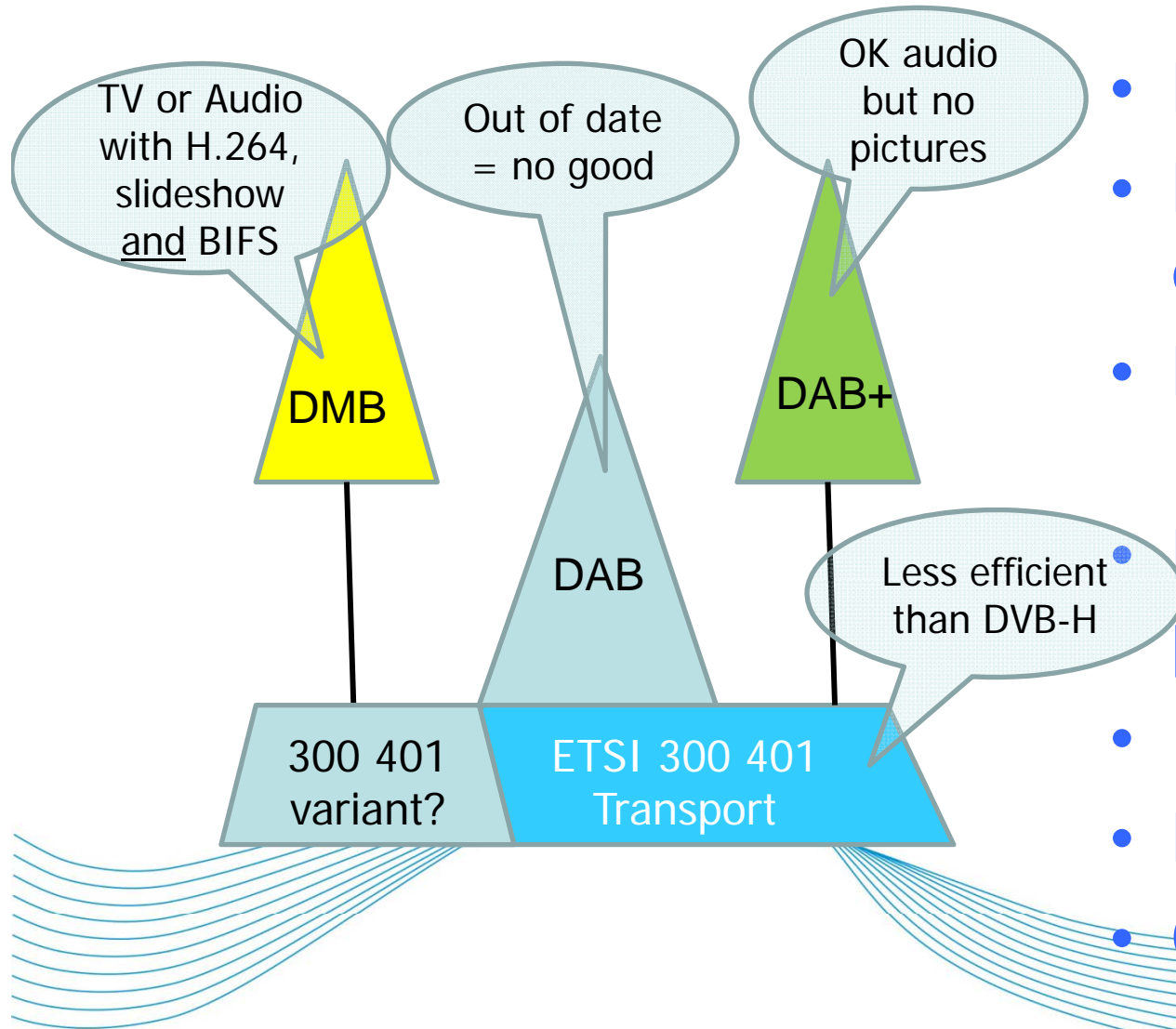


# Our view



**Logical, sensible, hierarchical, perfect for radio and TV**

# Their view



- DAB is old
- DAB+ not “sexy” enough
- DMB is TV, not European
- DMB necessary for pictures, graphics
- Incompatible
- Not elegant
- Confusing

# The DAB family of standards



- Designed for mobile and portable use
- One common transmission system
  - Same core technical system/standard
- Mature, proven system
  - Liked by consumers
  - Manufacturing is now well established
  - No technical surprises
- Meets any broadcaster's needs
  - Flexible, upgradeable, adaptable, scalable
- **>900 designs of receiver terminal**
  - All categories, all price ranges, exciting features

# The DAB family of standards



However....

- **Receiver market was fragmented**
  - Manufacturers making DAB (and DAB+) receivers or DMB (different markets)
- **Countries fragmenting**
  - Europe and Asia use DAB, DAB+ and DMB in various combinations, depends on the country and their 'visions' for digital broadcasting
- **Need ONE standard of receiver for ALL formats**

# Digital Radio Receiver Profiles



- **Joint WorldDMB, EBU, EICTA\* initiative**
- **Universal receiver specifications created**
  - One receiver - interoperable in all countries
  - Wider market for manufacturers
  - Flexibility for broadcasters and regulators
- **Digital Radio Receiver Profiles**
  - Announced at IBC 12<sup>th</sup> September
- **Support from leading digital radio manufacturers**

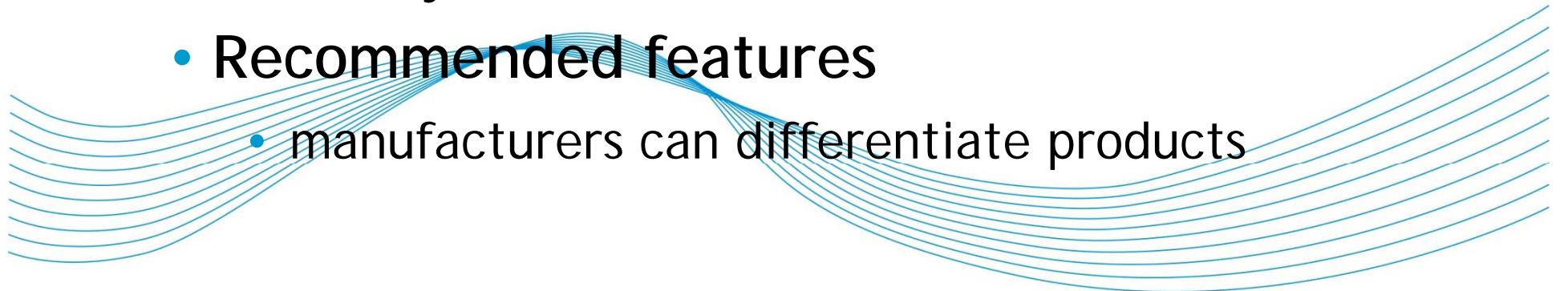
\*EICTA now called DIGITALEUROPE



# Digital Radio Receiver Profiles



- **3 Profiles**
  - From simple to complex devices
- **Hierarchical**
  - Each successive profile includes all features from previous profile, and adds new features
- **Mandatory features**
  - readily included without undue cost add-on
- **Recommended features**
  - manufacturers can differentiate products



# Digital Radio Receiver Profiles

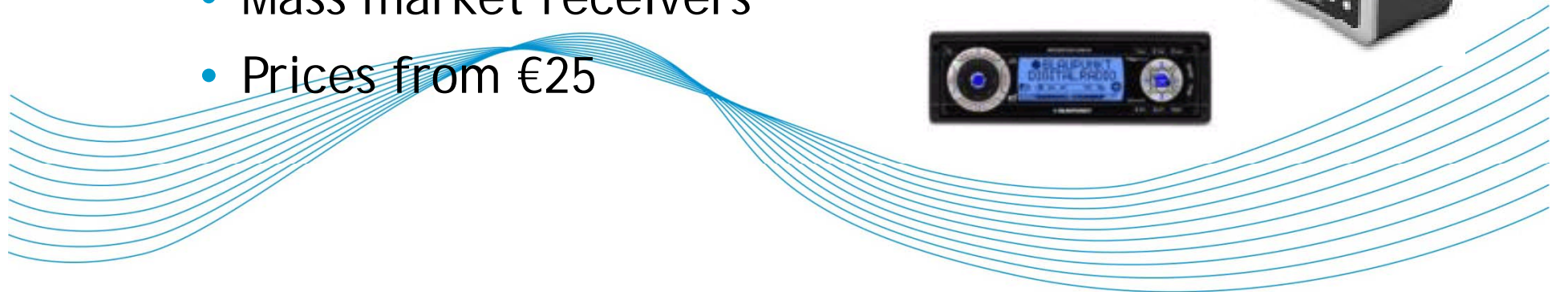
## Profile 1

### Standard Radio Receiver

Table-top/bedside/pocket/in-car

Simple text screen

- Receives all DAB, DAB+ and DMB audio
- Displays scrolling text
- Mass market receivers
- Prices from €25



# Digital Radio Receiver Profiles

## Profile 2

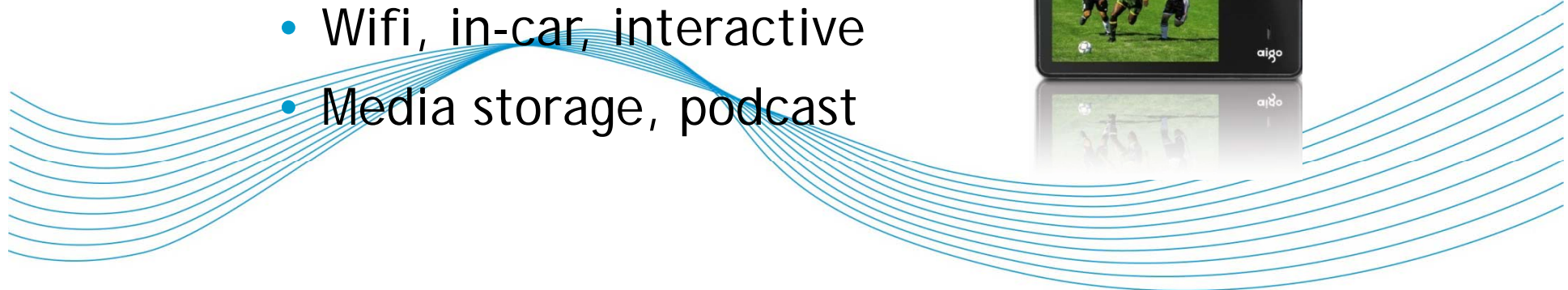
### Rich Media Radio Receiver

#### Colour screen

- Slideshow, BIFS,
- advanced text
- EPG , TPEG

#### Creates new kinds of radio

- Wifi, in-car, interactive
- Media storage, podcast



# Digital Radio Receiver Profiles

## Profile 3

### Advanced Multimedia Receiver

Decodes all DAB, DAB+ and DMB services

- DMB Video
- BIFS, EPG, TPEG

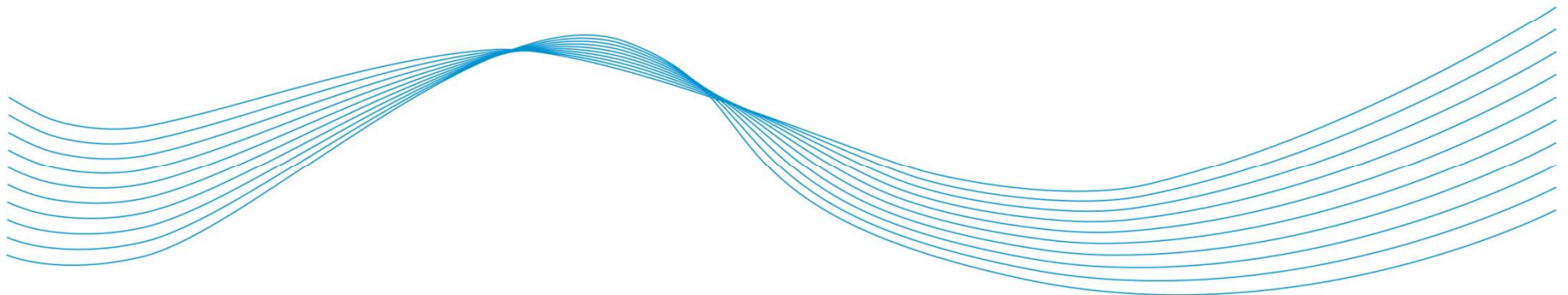


Digital radio is likely to be just one of several multimedia components included inside these types of devices

# Benefits of Receiver Profiles

## Manufacturers

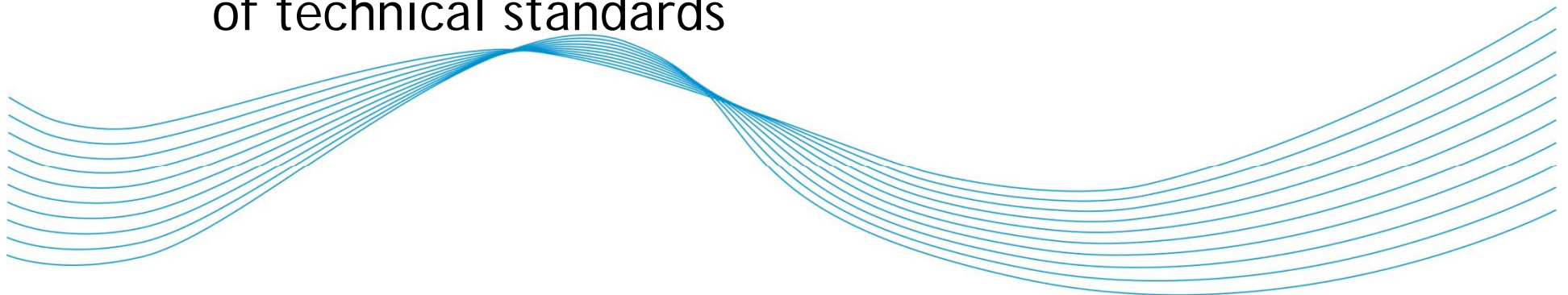
- a common understanding of broadcasters' content and the necessary supporting receiver features
- able to make universal receivers - one receiver for any market
- larger market sizes
- economies of scale and lower prices
- stimulates competition



# Benefits of Receiver Profiles

## Regulators

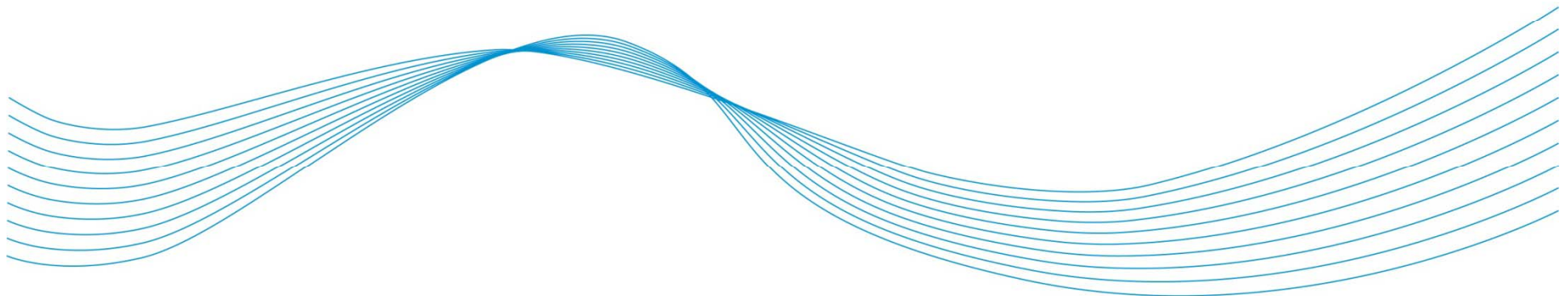
- able to plan digital radio in harmony with neighbouring countries
- flexible approach possible to future needs of broadcasters as radio evolves
- no need to restrict broadcasters by having to choose either DAB, DAB+ or DMB
- Creates a single market within a common framework of technical standards



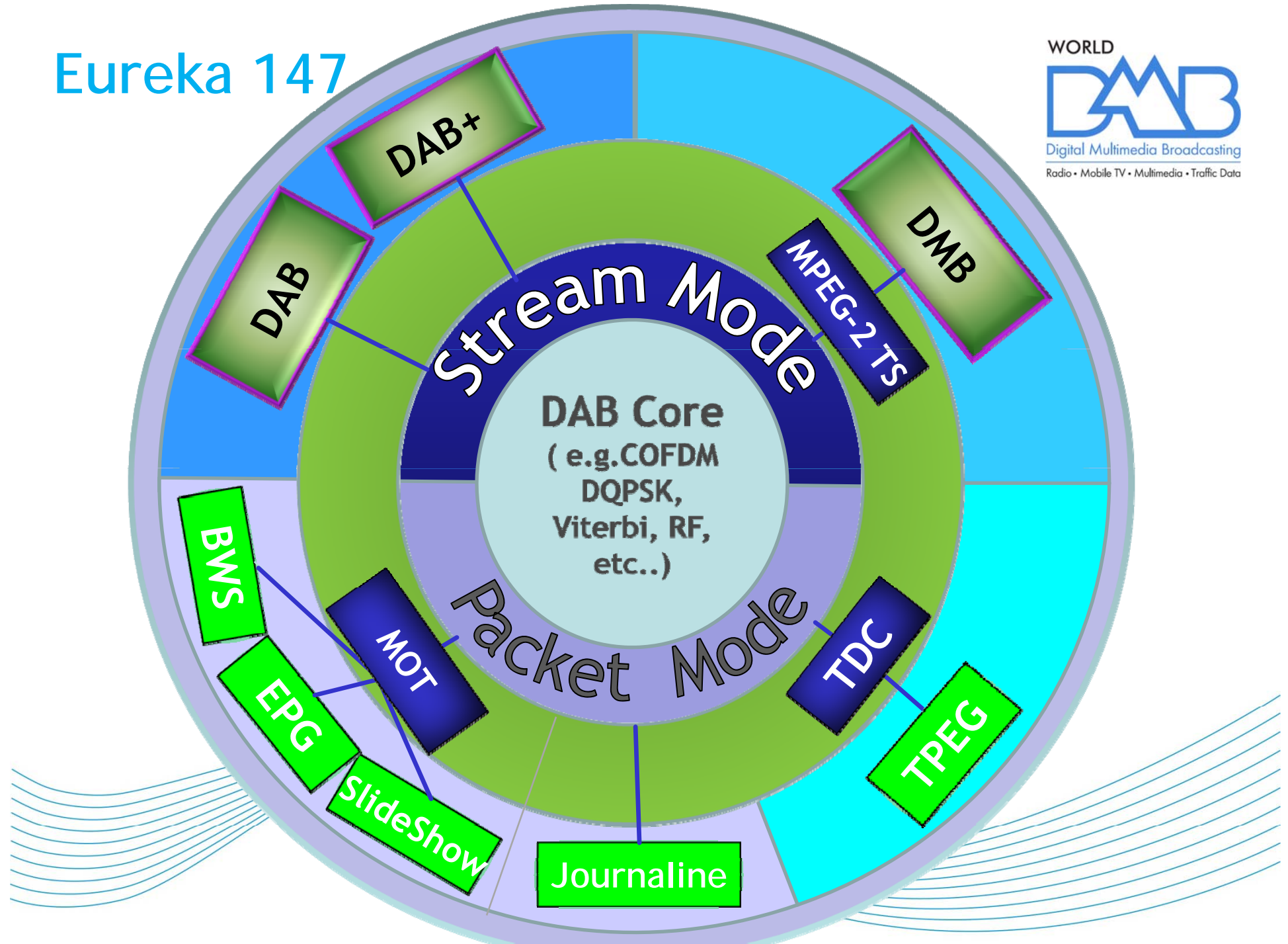
# Benefits of Receiver Profiles

## Broadcasters

- achieve a clear understanding of what content can be received and by whom
- can adapt or add new types of content in future
- can interchange within the DAB/DAB+/DMB family of standards without disenfranchising listeners
- one radio system for local, regional, national and trans-national listeners



# Eureka 147





# Developments

- DMB Radio services defined in ETSI
  - Signalling, Vectoring, use case clarifications, etc.
  - PAD services added to mirror DAB & DAB+
  - BIFS Task Force created to mirror BIFS services in DAB & DAB+
    - Result should be same metadata and radio services available in DAB, DAB+ and DMB
- Transparent to the 'listener'



# Developments

- **Auto Manufacturers**
  - TPEG services (+ coverage)
  - Regulation re. in-car information
  - Frequency bands
- **Other Digital Radio Standards in the Profiles**
  - DRM was considered by RPTF
  - Invitation to discuss
  - no undue burden / subsidy principle
- **Logo for Digital Radios -**
  - EICTA (DigitalEurope)

# Summary

- DAB, DAB+ and DMB radio is a proven solution
- Successful in UK, Denmark, Switzerland, Norway, Korea, etc...
- Confirmed for France, Malta, Italy, Czech Rep, Hungary, Ireland, Australia etc....
- Coming again to Germany, Sweden, etc.
- Receiver Profiles simplify digital radio for everyone
- Many receivers in 2009 production expected to be Profile compliant

Thank you

For more information please visit

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

[www.worlddab.org/public\\_documents/WorldDMB\\_Digital\\_Radio\\_Receiver\\_Profiles.pdf](http://www.worlddab.org/public_documents/WorldDMB_Digital_Radio_Receiver_Profiles.pdf)

