

# TC update

Lindsay Cornell, Principal Systems Architect, BBC DAB+ Workshop, 4 March 2019

### **Technical Committee**

- Meets 3 times a year
- Discusses issues affecting the take-up and operation of DAB ensembles
- Maintains the DAB standards to ensure they are accurate and useful
- Develops new rules and guidance about the use of DAB features
- Designs new specifications for features that will help DAB adoption



## **Interoperability Workshops**

- We have held 5 hands-on workshops
  - Hosted each November by IRT (German broadcasters R&D organisation) in Munich
  - A chance for members to test their new implementations
  - Attended by broadcasters, equipment makers, car manufacturers, etc
  - Last year's topics included
    - DABv2 ensembles
    - Non-Latin text
    - Service following, dynamic hard and soft links, dead links
    - Ensemble reconfigurations and regionalisation
    - Service list management and service component information
    - Announcements and alarms
    - SPI programme information and station logos



## **Open Mobile Radio Interface**

- A specification to allow developers to design attractive apps using DAB in smart devices
- Example code available for dongles and the LG Stylus smartphone
- Wraps up the DAB specifics so that the developer just has to concentrate on a great app





#### Solution for all text labels

- Defines the framework for using non-Latin text
- Additional signalling field to provide key complexity indicators
- Regional profiles concept to define scope and limits for particular markets
  - New profiles are straightforward to define, but need to be created by the broadcasters, regulators and receiver makers based in the markets themselves





## Additional signalling for each label

Text control field

text control field			
1 bit	1 bit	1 bit	1 bit
Bidi flag	Base direction	b <sub>1</sub> Contextual flag	Combining flag

- Provides key information
  - base direction: tells the receiver to display the text LTR or RTL
  - "complexity" flags to indicate the rendering capabilities needed for each label
    - Bidirectional text (i.e. both LTR and RTL in the same label)
    - Contextual characters (i.e. glyph changes with position)
    - Combining characters (i.e. glyph is composed of different parts)



## Regional profiles

- Define what will be transmitted complexity, character ranges
- Define what capabilities receivers require
  - Renderers, glyph sets
  - May be used for market requirements regulations
- Three profiles so far defined

Latin abcdef...

Full Europe (Latin, Greek, Cyrillic)
abcdef... αβγδεζ... ЖЩЍЯЮ...

– ASBU (Arabic, Latin) abcdef...

Further profiles for additional markets are easy to add once agreed



## **ETI Library**

- World DAB has offered an ETI Library to its members for several years
- Upgrading this facility is underway
  - Making it easier and quicker to upload files
  - Providing standard analysis to generate more metadata
- Helps manufacturers try out new products and services without having to travel the globe



## **Automotive applications**

- The Carison Task Force has developed the framework for a car-maker communication application
  - Allows manufacturers to send important information to their cars via DAB, thus reaching harder-to-find customers
- The TC has discussed service following from one DAB ensemble to another and from DAB to FM
  - Timing issues for seamless audio implementations
  - Cross-border issues

