

WORLD



Defining the future of digital radio

WorldDAB

“Radio on TV” proposition

Per G Borgå

NorDig ExCom, January 28th, 2014

WORLD



Digital Multimedia Broadcasting
Radio • Mobile TV • Multimedia • Traffic Data

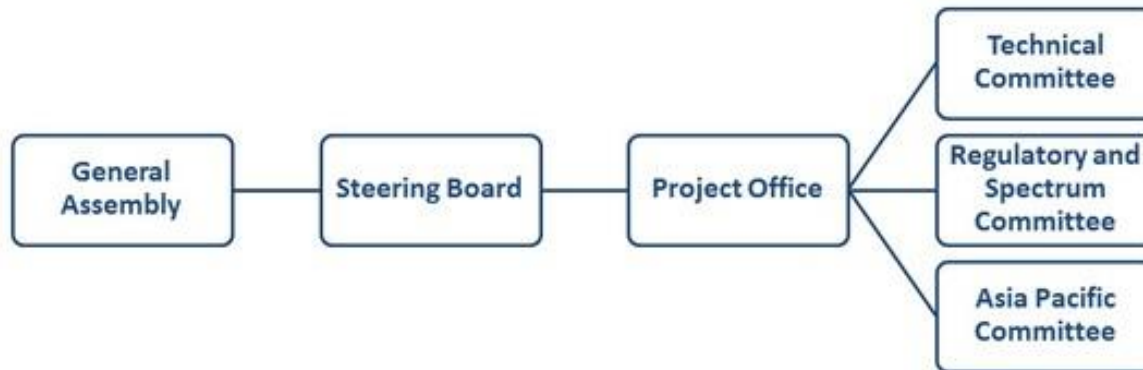
www.worlddab.org

Agenda, 30 minutes

- About WorldDMB
- Worldwide status of DAB/DAB+
- WorldDMB & NorDIG?

About WorldDMB

- Our mission is
 - defining and maintaining **digital radio standards** based on the Eureka 147 family
 - positively influencing **policymakers and regulators**
 - **promoting digital radio** to stakeholders in key territories



Why digital radio?

FM spectrum full



No new entrants
Poor reception / interference

EBU recommendation R-138

- **Need of a broadcast backbone**
 - free to air / cost effective
- **DAB/DAB+ meets consumer needs**
 - new content, good reception, EWS
- **Need to set a timetable for DSO**
 - digital switchover/analogue switch-off

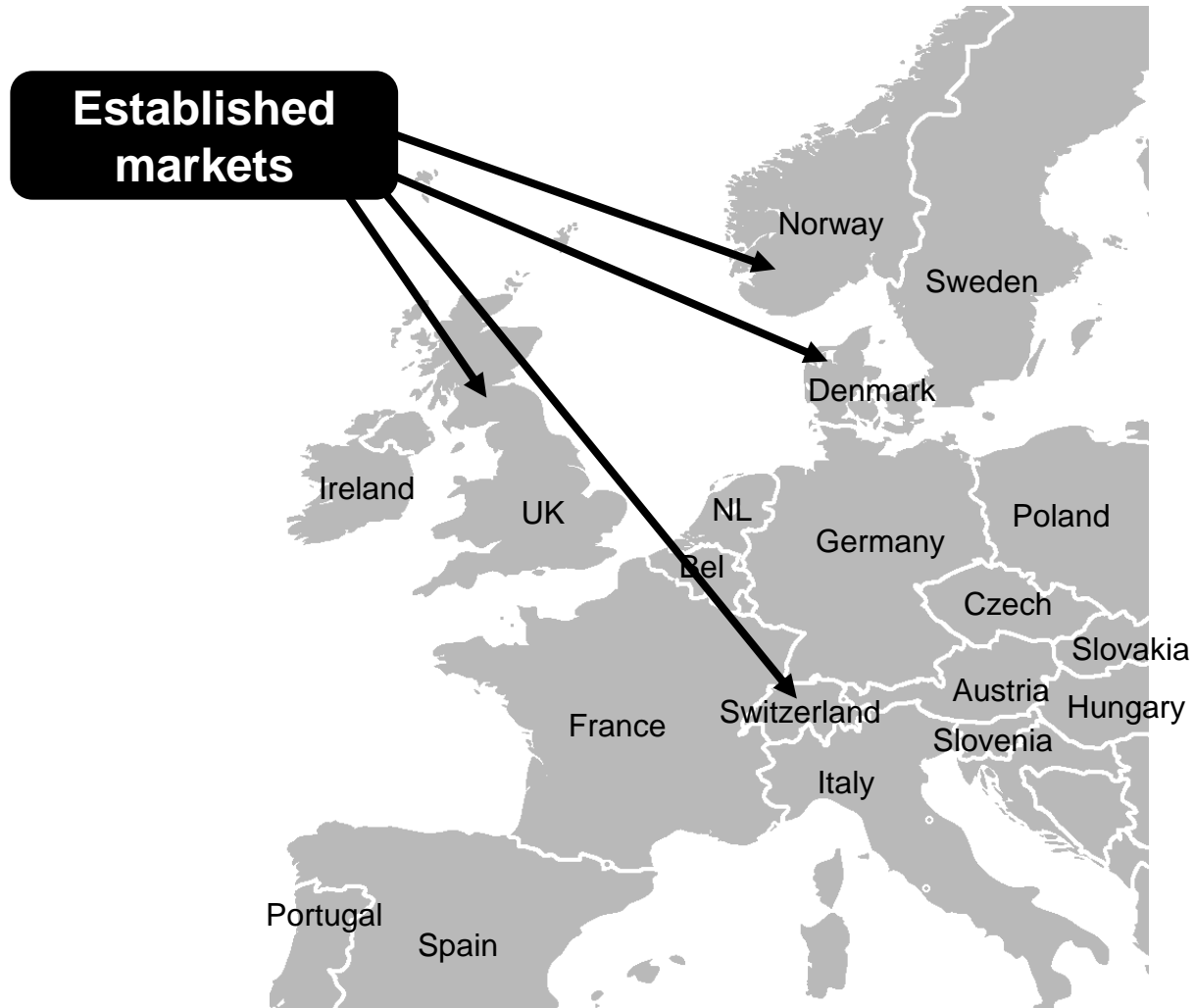
EBU Euro-chip initiative

- **FM/DAB/DAB+ in all radio devices**
 - backed by 16 major European broadcasters, incl. commercial radio

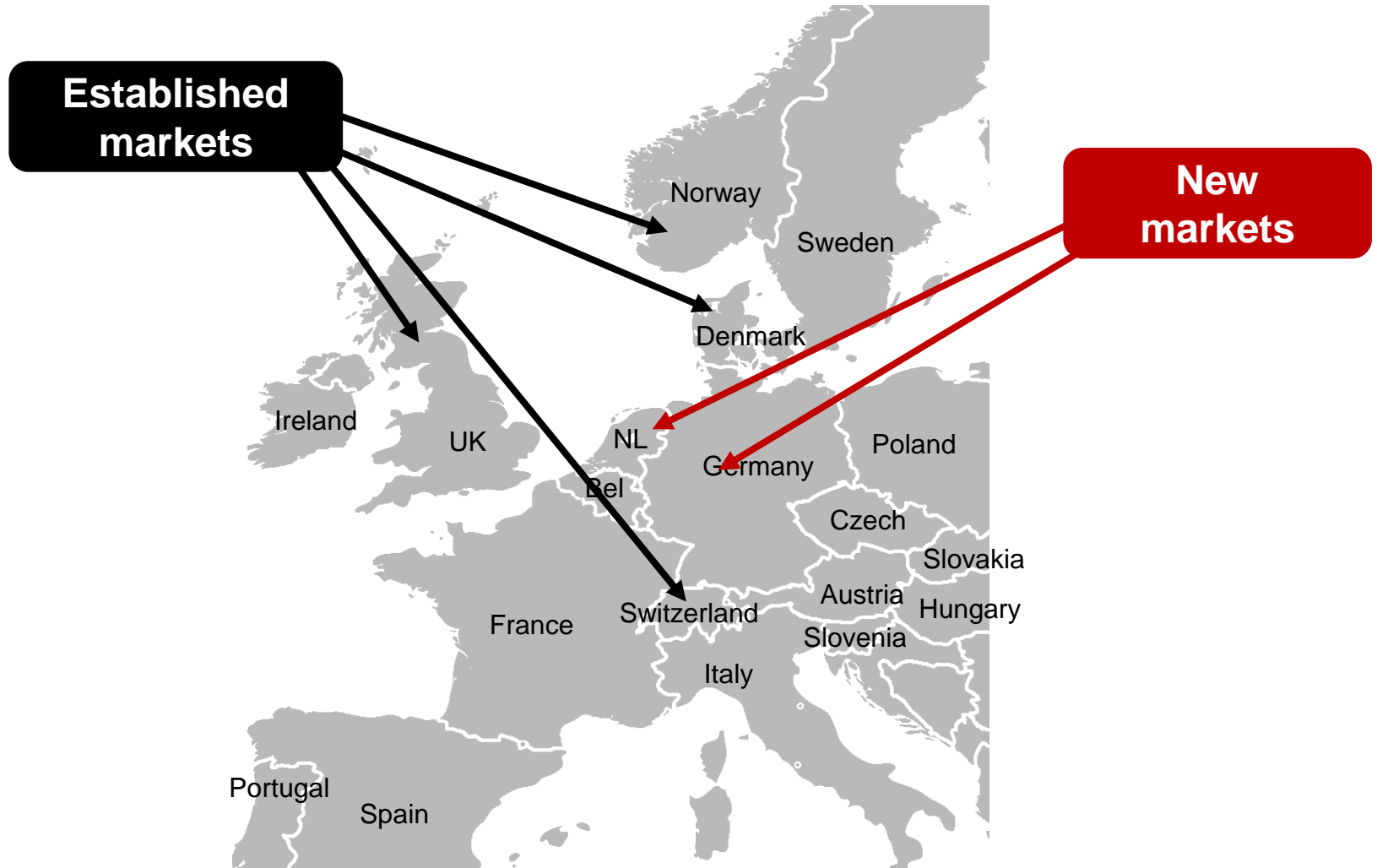
Digital radio in Europe



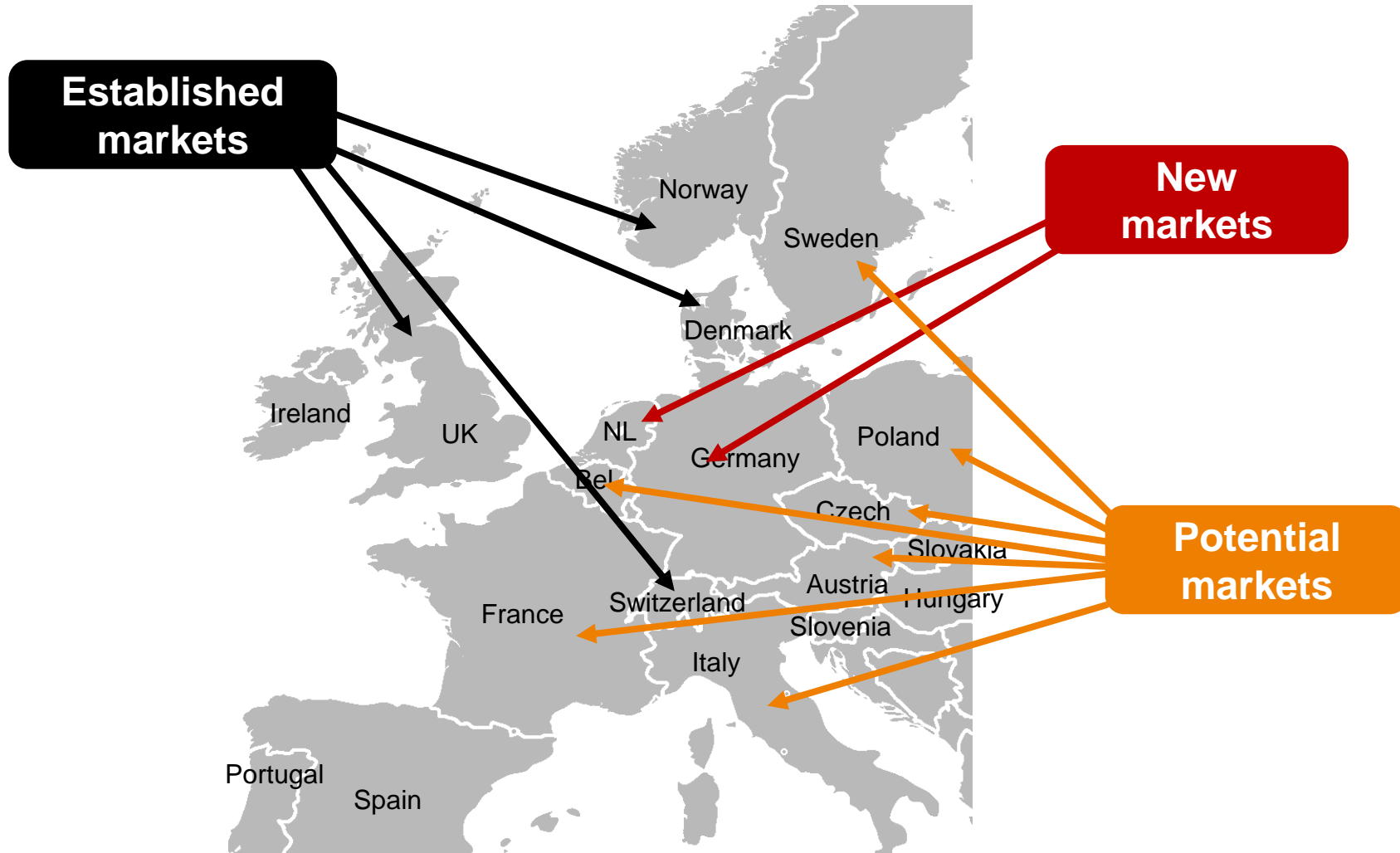
Four core markets: UK, Norway, Denmark and Switzerland



Followed by Germany (2011) and Netherlands (2013)

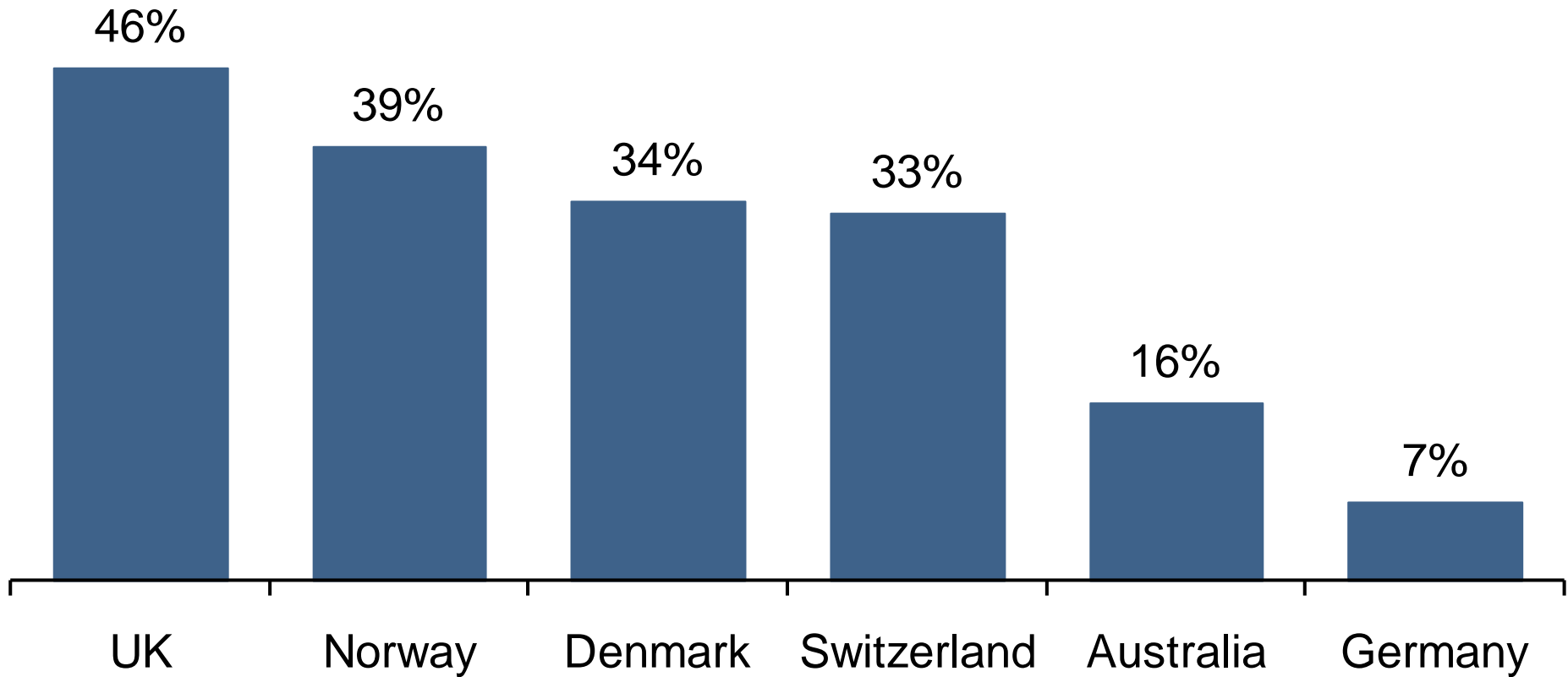


Several potential markets



DAB penetration in key markets

Household penetration of DAB / DAB+



Status DSO – digital switchover from FM to DAB/DAB+

- **Norway**

- If 50% of listening (reach) is digital by 1st januari 2015 – **DSO 1 st January 2017**
- If not – DSO 1 st January 2019

- **UK**

- When 50% of listening (share) is digital – Government will set a date for DSO
- Expects to reach target in 2016/17 - **DSO in 2020 ***

- **Denmark**

- If 50% of listening is digital by mid of 2018 - **DSO 1 st January 2020 ***

- **Netherlands**

- If 50% ownership (DAB receiver) by end of 2016 - **DSO 1 st January 2018 ***
- If not - **DSO 1 st January 2024**

WorldDMB offer support to countries looking at DSO

DSO Group

- Representatives from **Norway, Denmark, Switzerland, UK, Sweden, Netherlands and Germany**
- Others welcome to participate

What we will do

- A** Share best practice
 - switchover criteria
 - coverage / funding
 - market preparation
 - automotive
- B** Within Europe, develop network to build case for EU harmonisation

In Asia Pacific, a similar process is under way



Hong Kong: DAB+ launch 2011

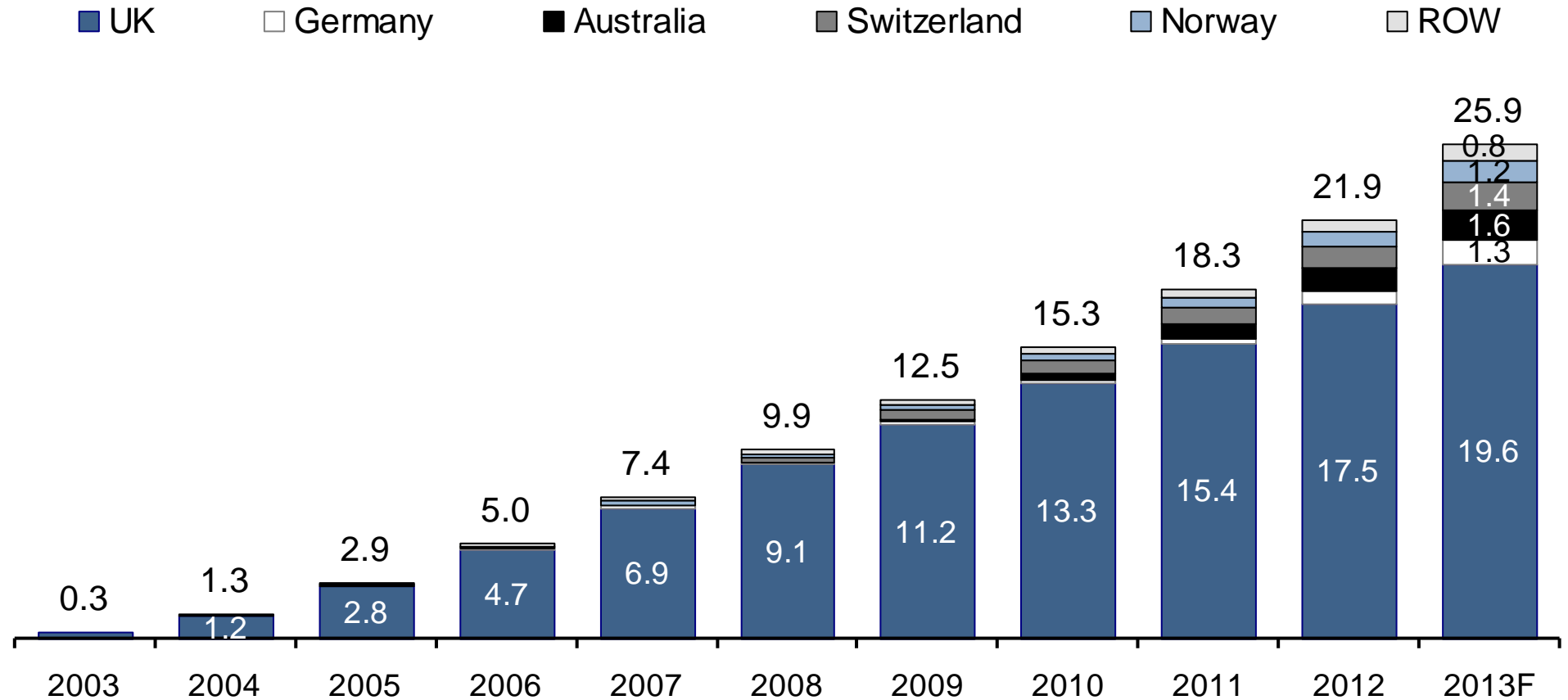
Australia: DAB+ launched Jul 2009

In Asia Pacific, a similar process is under way



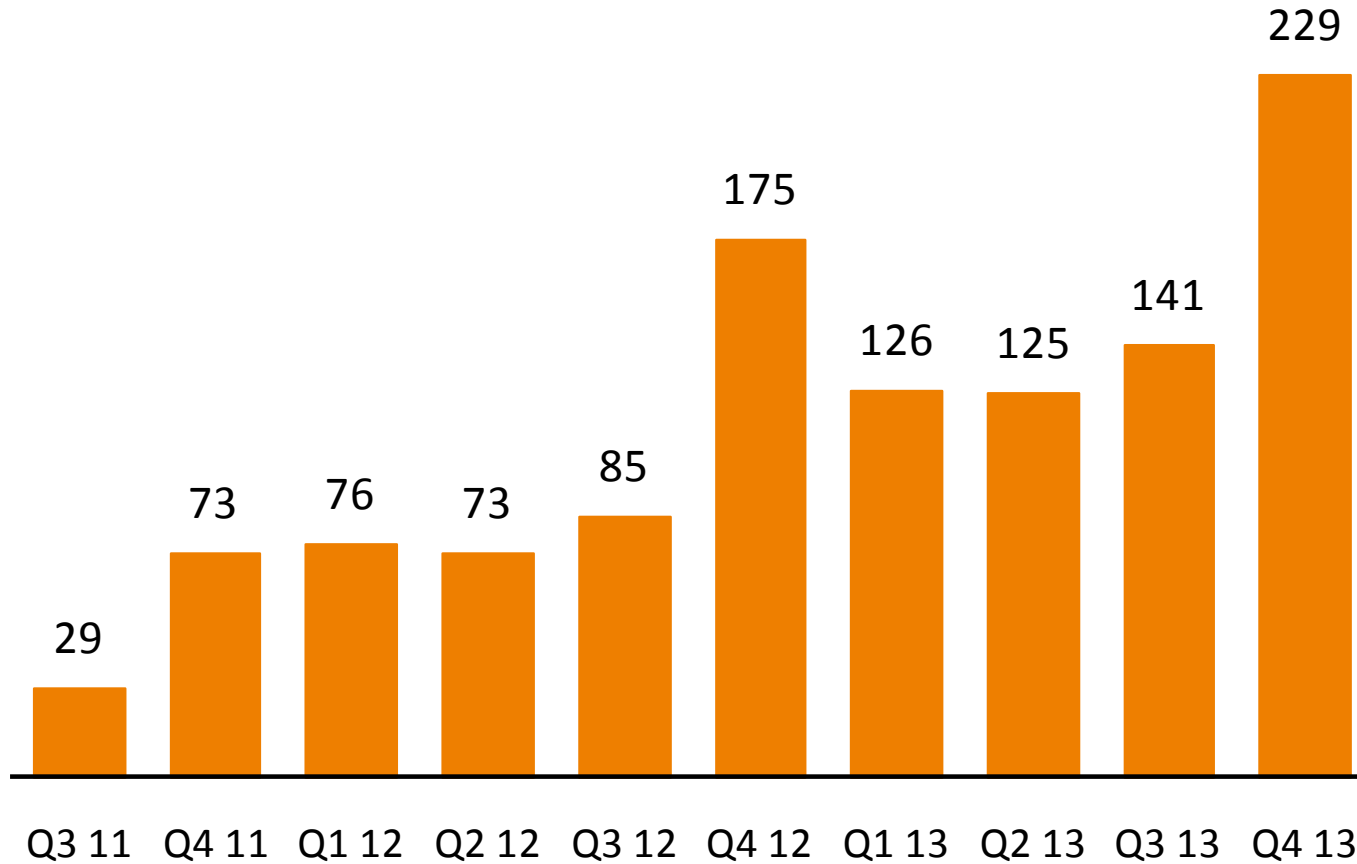
Over 25m DAB / DAB+ consumer sets sold

DAB consumer sales, cumulative, worldwide, millions



Over 1m digital radios sold in Germany

Digital radio sales, Germany, units (k)

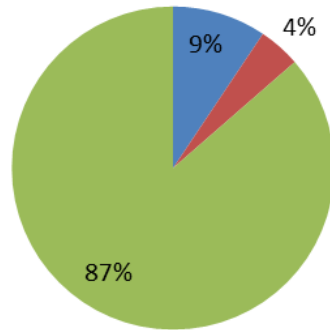


- 1.1m sold since launch
 - 100k in 2011
 - 410k in 2012
 - 620k in 2013
- 2013 up 52% on 2012

Share of DAB/DAB+ listening vs. AM/FM, IP, DTV,..

Australia

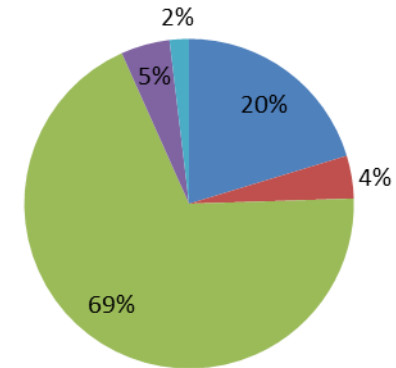
■ DAB ■ IP ■ AM/FM



Q1-2013

United Kingdom

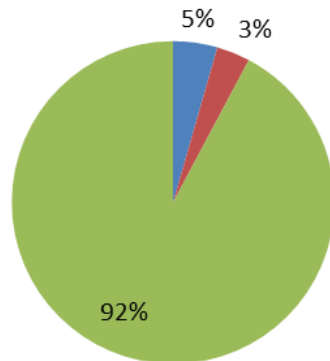
■ DAB ■ IP ■ AM/FM ■ DTV ■ Dont know



Q1-2013

Germany

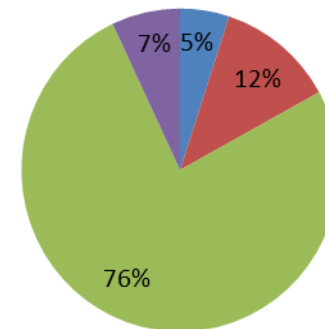
■ DAB ■ IP ■ AM/FM



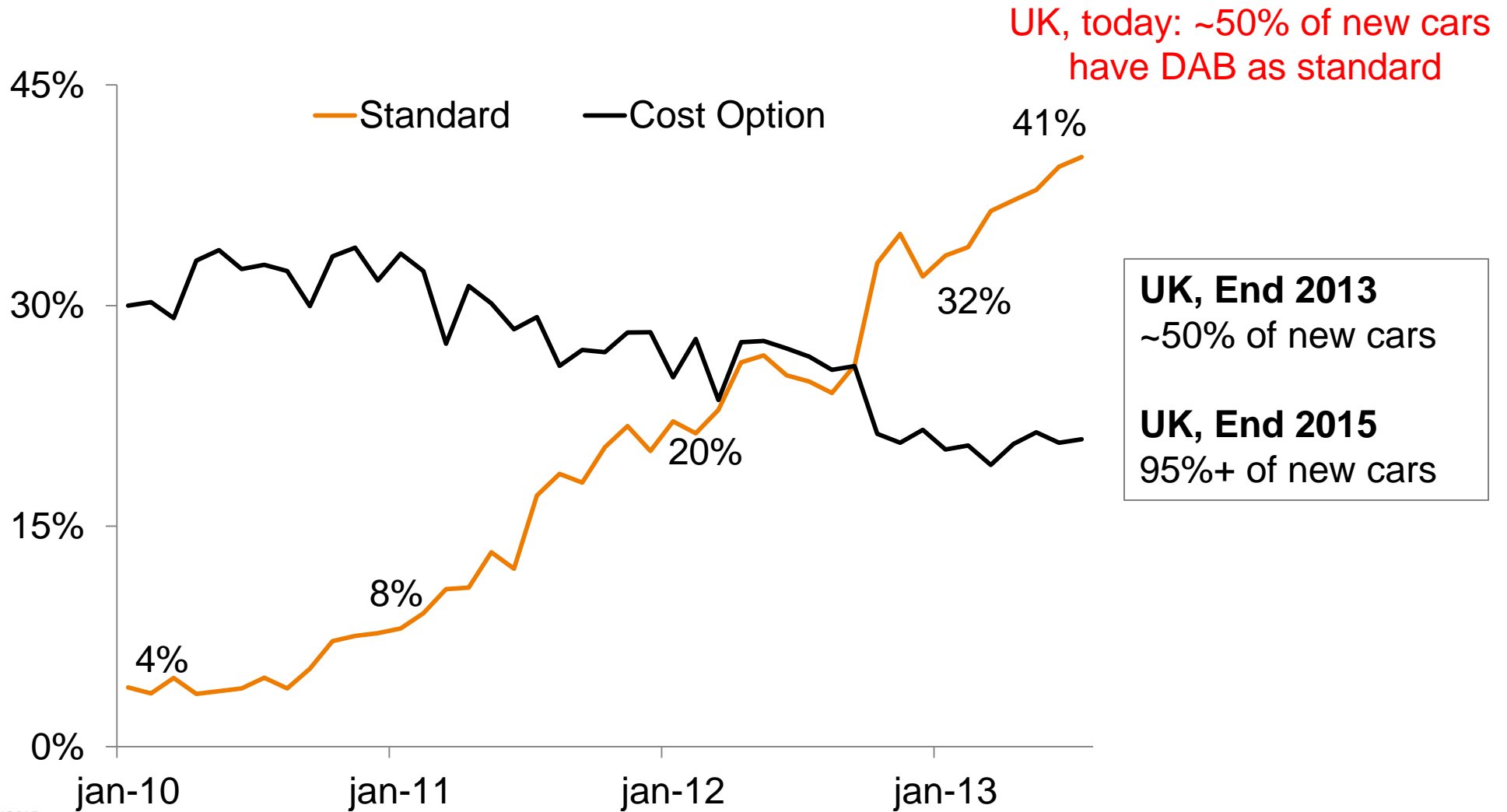
Q4-2013

Denmark

■ IP ■ DAB ■ FM ■ Cable



DAB in Cars?

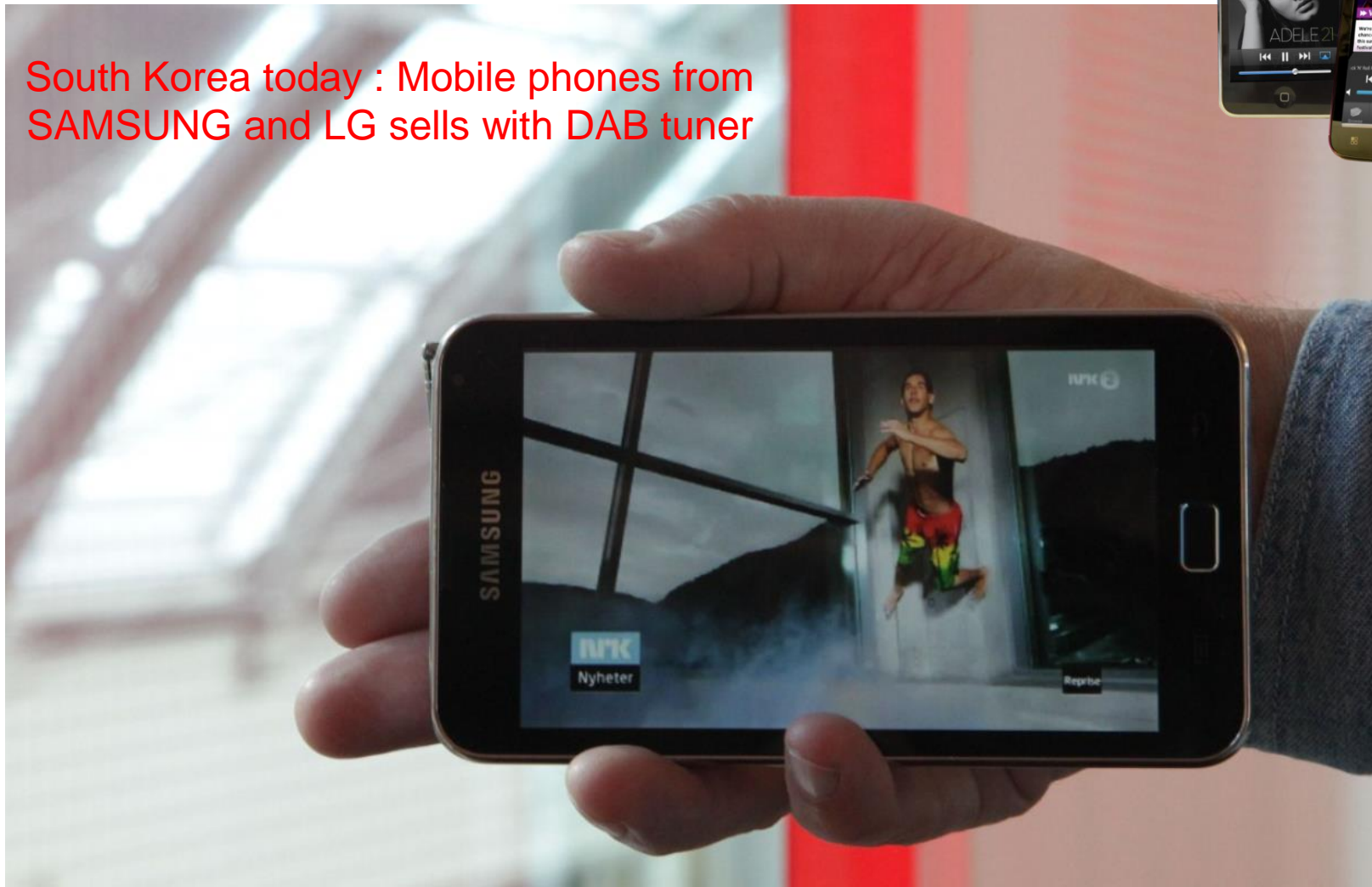


Automotive brands offering DAB – increasingly as standard



DAB in Mobiles?

South Korea today : Mobile phones from SAMSUNG and LG sells with DAB tuner



DAB in Mobile: Can the cellular networks cope with linear radio broadcasting?

193,000
TERABYTE

The total radio listening over one year corresponds to 193,000 Terabytes. That is more than all the incoming and outgoing data that was transferred in all the cellular networks in Sweden in 2012.

EUR 860 million
Annual cost of broadcasting
via cellular networks.



EUR 10-20 million
Annual cost of
broadcasting via the
terrestrial network.



Download the whitepaper:

<https://www.mynewsdesk.com/se/teracom/documents/teracom-white-paper-31336>

Digital radio in TV / STB:s?



Digital radio in TV / STB:s?

High Definition DAB Digital Set Top Box

DFTA52DAB



**DVB-T2
&
DAB+
tuner**



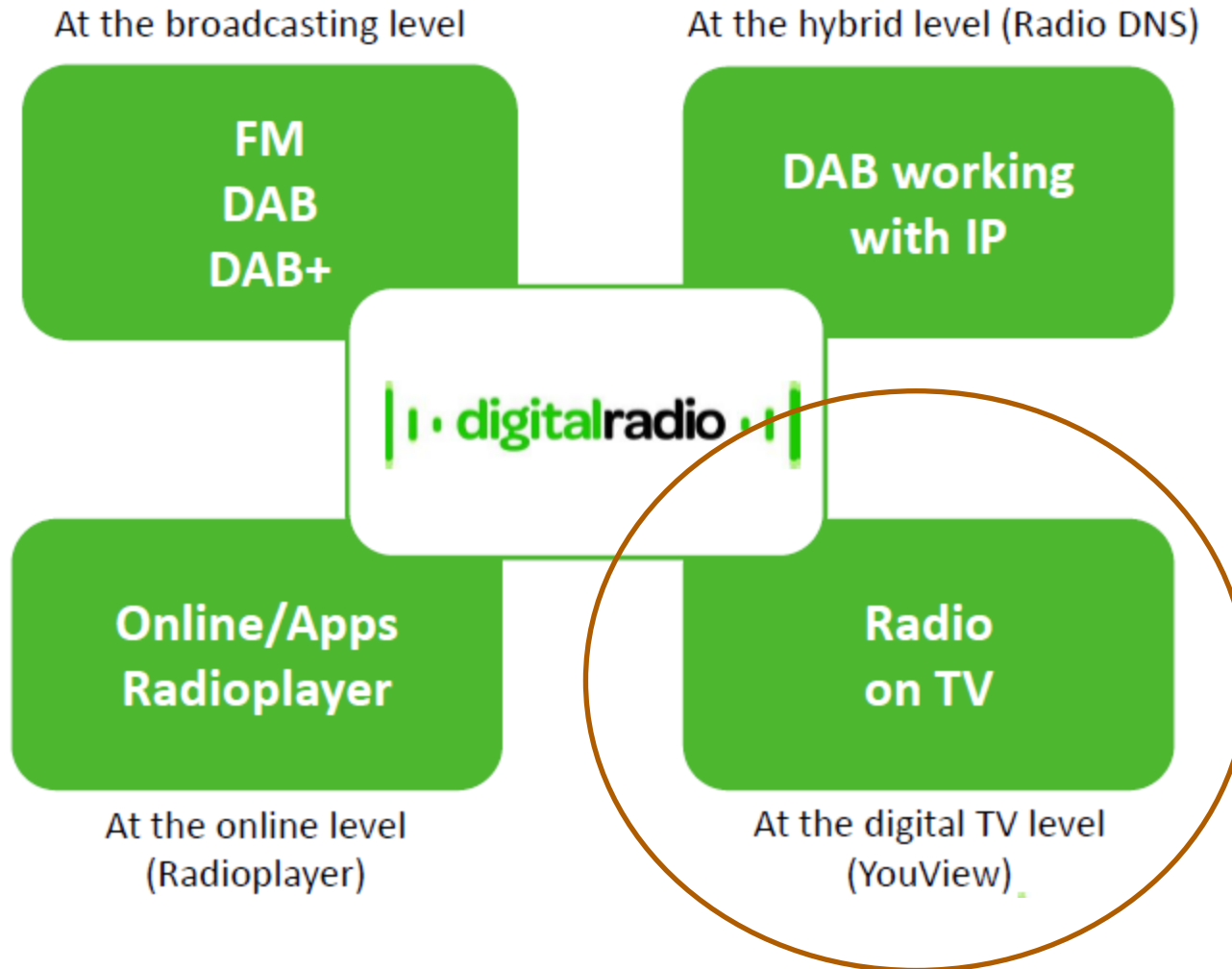
Digital radio in TV / STB:s?

Receiver specifications/guidelines needed for “radio on TV”?

Can NorDIG play a role?

- a) Case with radio via DVB/IP
- b) Case with combined DAB+/DVB tuner

Cross platform vision



Target criterias for DSO are the combined listening on all platforms

Summary

- The Eureka-147 family of standards (DAB/DAB+/DMB) has worldwide spread
- EBU recommends immediate deployment of DAB/DAB+
- Digital Switchover now in the planning phase for countries such as UK, Germany, Denmark, Switzerland, Sweden and Netherlands
- Analogue switch-off in Norway on 1st January 2017, if 50% target is reached
- Target criterias are the combined listening on all platforms, including TV
- Problem? Lack of receiver specifications or guidelines for “radio on TV” ...
- **Could NorDIG play a role.....?**

Thanks!

Per G Borgå

per.g.borga@teracom.se

@pgborga

Minimum specification for digital radios

Criteria – Domestic and In-vehicle	Description
FM, DAB, DAB+	All these criteria relate to the receiver's ability to receive and play out FM, DAB and DAB+ services
Channel decoding	
Full Band 3 reception – 5A to 12D	
MPEG layer 2 and MPEG-4 HE AACv2 decoding	
Service label display / Dynamic Labelling	Display station name / scrolling data
FM RDS	FM data services e.g. Traffic data
Re-tuning	One button or one layer down in menu
Receiver sensitivity	Performance related criteria which help deliver expected DAB coverage
Adjacent Channel Interference	
Service following (In-vehicle)	Linking to services between regions
Traffic announcements (In-vehicle)	Driver requested announcements

<https://www.gov.uk/government/publications/digital-radio-action-plan-reports-2013>