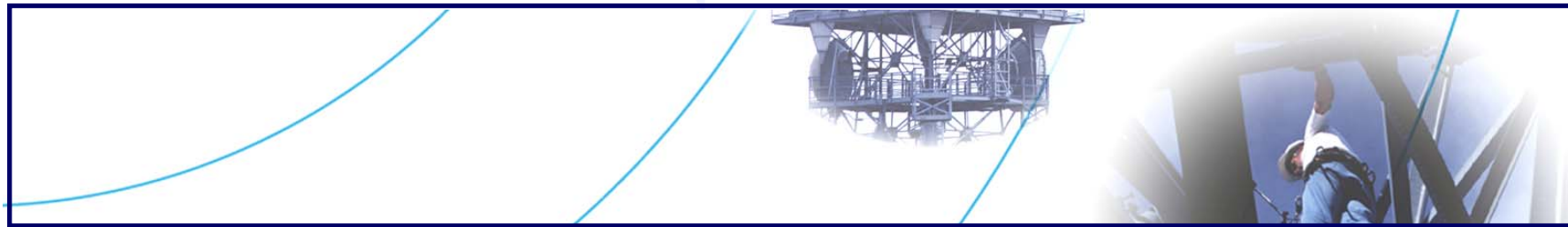


Digital Radio in Italy

Giuseppe Braccini

Director of Business Development and Planning - Rai Way



Rai Way's Highlights

Rai Way is a Rai Group's company

Rai Way owns signal transmission and broadcasting networks for the Public Broadcasting Service (PBS) in Italy

Extensive Broadcasting network inclusive of the **3 Television networks, 2 DTT MUX, 3 Radio MF networks** with a coverage in excess of **99% of the Italian population**

2,340 managed sites and 1,866 owned structures (1,015 transmitters and 7,875 repeaters)

Total Revenues: (year 2007) **€187,9 Mln** (€149,6 Mln from Rai and €38,3 Mln from Business clients) . Total **people: 652 units.**

First large scale operator for Broadcasters in Italy

Rai Way - Strategies

**Strategic guidelines for
digital radio**



**Develop, deploy and operate the
digital radio network for RAI (PBS)**

**Develop, deploy and operate the digital
radio network for Commercial
Broadcasters**

Opportunities

A good moment for Digital Radio in Italy

- **Evolution of technologies** (DAB+, DMB Visual Radio, DMB Radio, TPEG, etc.)
 - more efficient spectrum use
 - many attractive new services
- **Other countries are starting with new standards** DAB+ e DMB (DMB Radio in France, DAB+ in UK e Australia, DAB+ e DMB in Germany)
- **In Italy FM market is rich but the FM spectrum is a real mess:** FM broadcasters are interested in a “digital evolution” of radio (not in a switch-off of analog radio)
- **In Italy many initiatives started to encourage digital radio:** establishment of ARD the Italian association for digital radio, the Authority restarts the “works” to define the rules, some significant trials are running

FM commercial networks in Italy

- **12 radio national broadcasting networks (coverage > 50% pop.)**
- **3 radio national community broadcasting networks (coverage > 50% pop.)**
- **More than 800 local radio stations (max. coverage 50% pop.)**
- **Daily audience: 39,000,000 (69% pop)**
- **Revenues (for.2008): 623mio€ (+4.2%2007)**
- **10,000 sites, 13,000 kW**

What kind of future for digital radio in Italy?

Radio is simple

Anyone can tune a radio device

Radio is everywhere

At home, in office, by car, on the beach...

Radio is free-of-charge

No fees due to listen

Radio is free

No registration needed

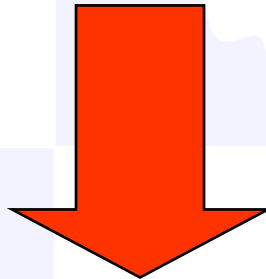
ARD's establishment

AERANTI-CORALLO
Le imprese radiotelevisive locali,
satellitari e via internet



Rai

Way



ARD  ASSOCIAZIONE
PER LA
RADIOFONIA DIGITALE
IN ITALIA

ARD's mission



This Association is committed to promote and develop digital radio technology in Italy in a pluralistic context. In this respect, the Association supports the works of the “technical board” on terrestrial digital radio broadcasting recently established by the Communications Regulatory Authority, securing a common position that is conducive to achieving a positive outcome.

ARD- How to promote digital radio



The Association intends to:

- **Draw up regulatory proposals** aimed at fostering the transition to the normal system for digital audio and multimedia broadcasting;
- **Set common rules for signal broadcasting** which network operators would have to comply with;
- **Forward proposals for the set-up of minimal technical standards for receivers;**
- **Make testing methodologies** available to broadcasters to test and verify equipment and applications;
- **Divulge** among its members all relevant **information about the highest level of development of the industry's technology;**
- **Promote communication campaigns and events** targeted to the industry's operators (broadcasters, network operators, content and service providers, equipment manufacturers, etc.) – as well as consumers and listeners.

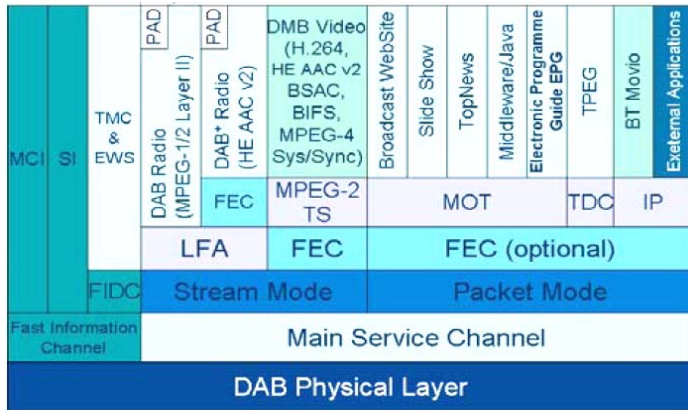
ARD - Near future promotional program

The RaiWay's proposal

	Nov 2009	Feb 2009	Giu 2009	Oct 2009
Communication	Web site set-up			
Receivers	Dialogues and agreements with manufacturers and brands/importers Tuning of ARD Certification's methodology		Start of ARD Certification	
Services development		Coverage and services certification (EPG, data programs, TPEG, etc.)	Services promotion with public events	

Why DAB+ in Italy ?

DAB+ is *mandatory* for spectrum efficiency



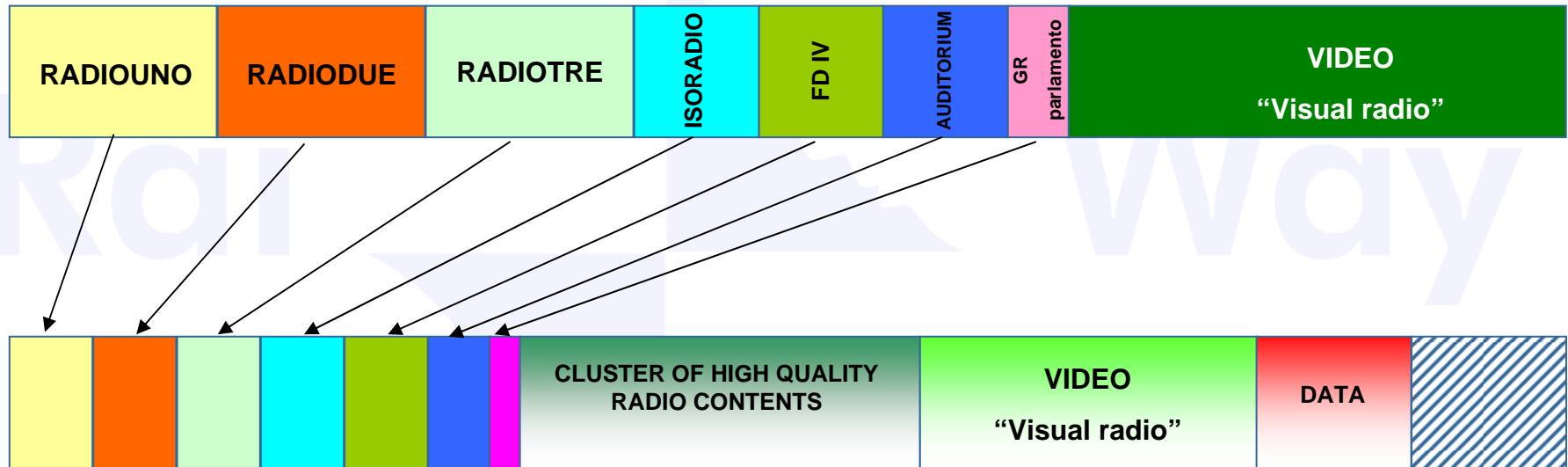
- **64 kb/s** sub-channel for DAB+ broadcasting stations;
- **80 kb/s** sub-channel for DMB VR broadcasting stations;
- **Equal 4A** protection to extend the experimentation to a higher number of broadcasting stations.

Max number of CU = 864

	CU DAB+ (64 Kb/s)	CU DMB (80 kb/s)	14 prog. DAB+ 5 prog. DMB VR
Equal 3A	48,0	60,0	972
Equal 4A	32,0	40,0	648

Rai's multiplex configuration

Current Multiplex DAB/DAB+/DMB configuration



Future DAB+/DMBVV multiplex configuration

ENCRYPTED DATA

Radio digital options

No advantages can be found in the Italian scenario choosing and privileging only one system.

*Contrarily, it needs that **all technologies** can survive, provided that all are receivable by **cheap multistandard receivers**, in order to create the maximum number of **opportunity**, from classic FM programs to advanced T-DMB transmissions*

We need receivers!

ARD: receiver's minimum features for the Italian market

- reception of digital services in Band III-VHF and L-band;
- reception of analogue FM services;
- reception of DAB services and DAB+ services;
- reception of DMB-Audio services;
- reception of the audio component of DMB-VisualRadio services;
- alphanumeric display showing the “programme name” (and DLS in case display has at least 16 characters);
- DMB-Audio, DMB-Audio+BIFS and DMB-VisualRadio services should be listed as radio programmes;
- mobile (automotive) receivers should have “service following” functionality (FM from/to DAB/DAB+/DMB-A and DMB-VR).

We need receivers!

Receiver's more features if present an advance colour screen:

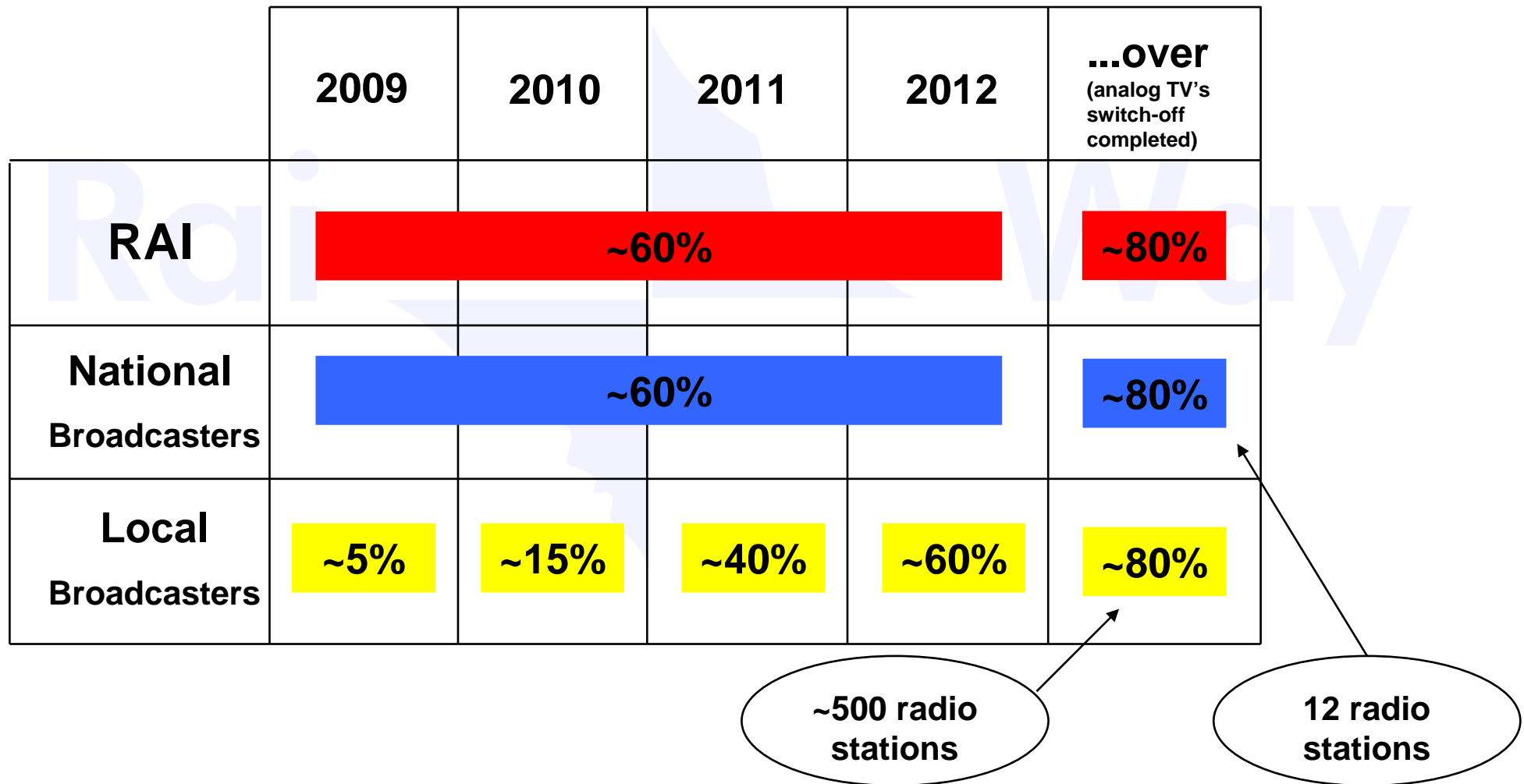
- **DMB-Audio+BIFS and DMB-VisualRadio or DMB-Video services reception;**
- **Local interactivity with BIFS services ;**

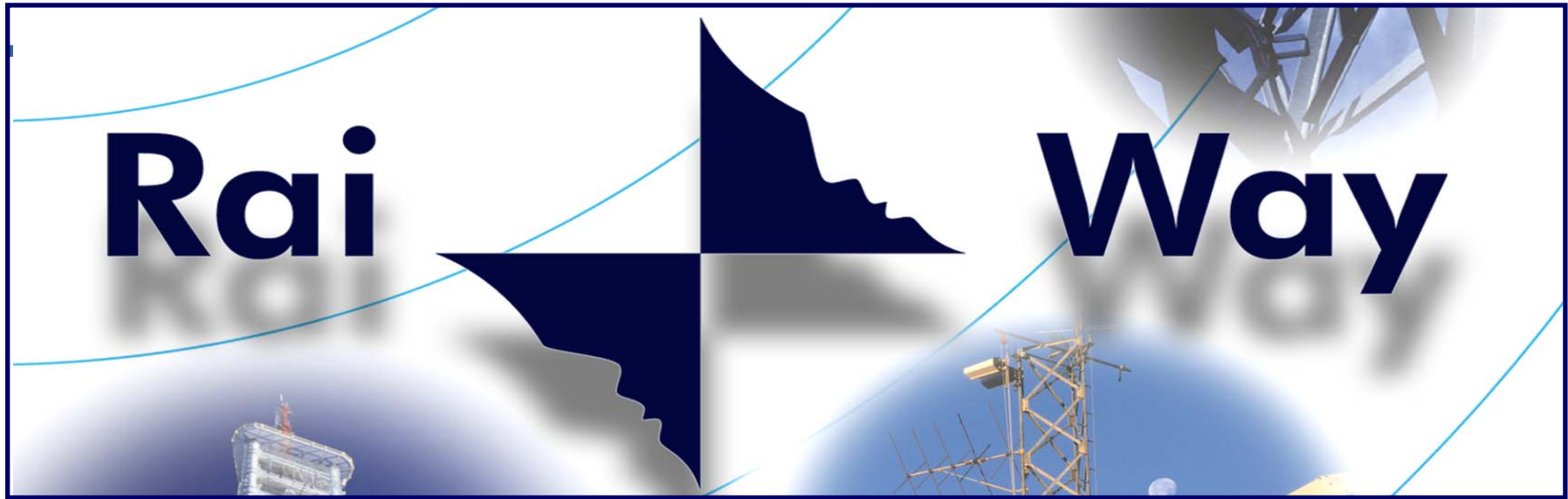
Receiver's features if integrated in a navigation system (handheld systems and on board automotive systems):

- **all the expected features in a receiver with advance colour screen;**
- **TPEG services;**

Roll-out schedule and coverage (% of population)

The RaiWay's expectation





Thank you!

