

Digital Dividend in France

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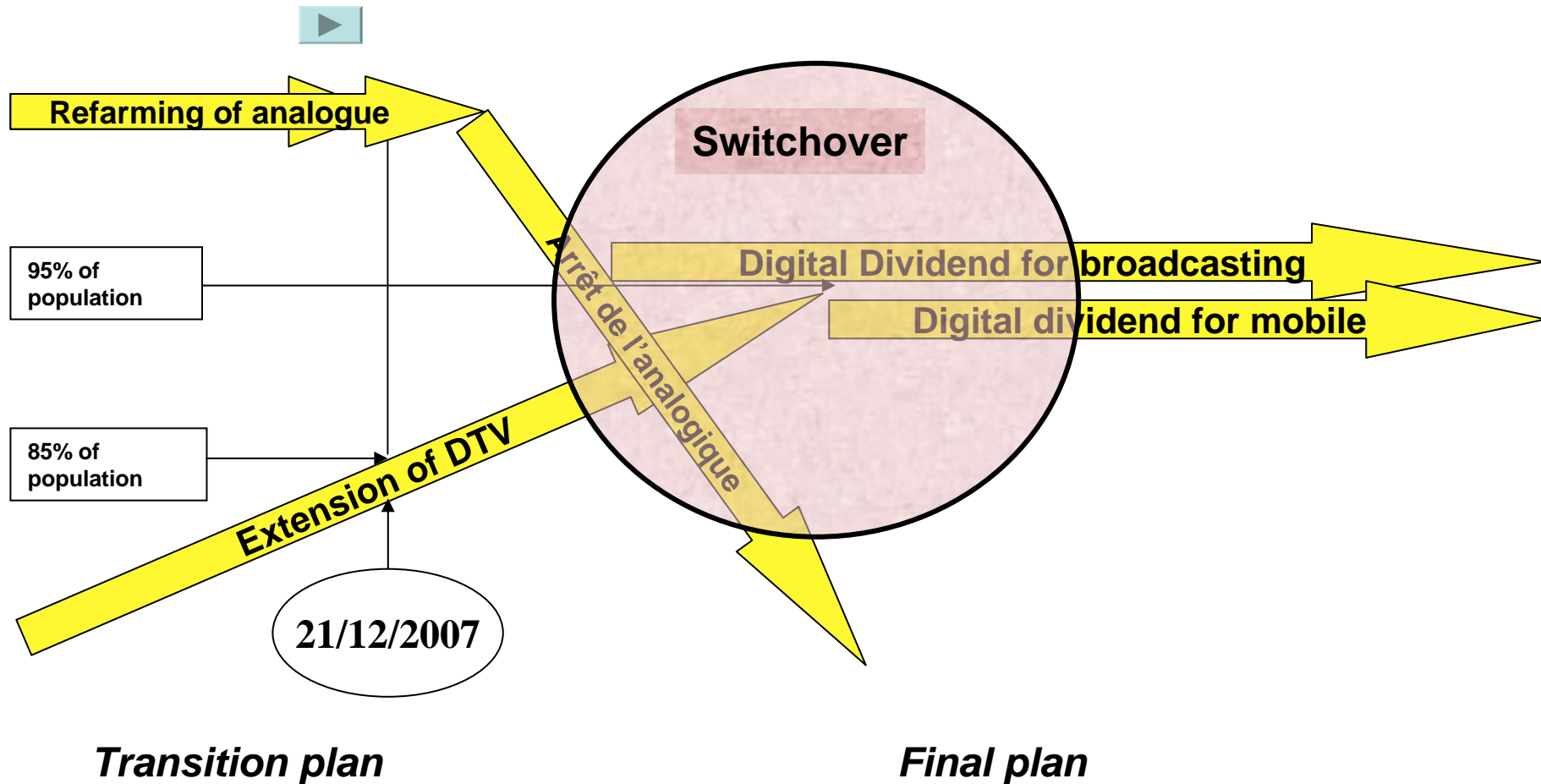
Law of 5th March 2007

« ... relative à la modernisation de la diffusion audiovisuelle et à la télévision du futur »

Three inter-related objectives :

- Extension of digital TV :
 - Coverage of 95% of the population
 - Additional multiplex (HDTV, mobile TV, “bonus” channels) from the 5 used for introduction of DTV
- Analogue switch-off
 - Switch off before 30 November 2011
 - Final plan to be decided by the Prime Minister
 - Detailed plan for progressive switch off (area per area) should be published by the broadcasting authority (CSA) 9 month before its realization
- Digital dividend
 - National scheme for the reutilization of frequencies made free by the analogue switch off to be decided by the Prime minister after consultation of an ad-hoc parliamentary commission on the digital dividend
 - The majority of the digital dividend is to be attributed to broadcasting

Three inter-related objectives



Plan France-Numérique 2012

Plan published by the government in October 2008.

Prime Minister decisions published 23rd December 2008.

- Switch-over
 - First experience of switch-over in 2009 : Coulommiers, Kayzersberg, Cherbourg
 - General process for switch over (information, assistance ...)
 - Starting simultaneously from East (Alsace, Lorraine, Champagne, Franche-Comté...) and West (Basse-Normandie, Pays de la Loire, Bretagne ...)
- Digital dividend
 - 790-862 MHz allocated to mobile service from 30 november 2011 (830-862 previously used by Defence)
 - Objective of 11 multiplex for DTV and 2 multiplex for mobile TV in the band 470-790 MHz
 - Negotiation mandate to the ANFR for addressing the issue with neighbouring countries

Current TV reception

TV Access (<u>considering only</u> <u>primary TV set</u>)	% of households in 2008	Evolution over a year
DTT	30.1%	+14.3 points
Digital satellite	14.1%	+2.5 points
ADSL TV	10.5%	+5.1 points
Digital Cable (pay-TV)	5.5%	+0.8 point
Exclusively analogue terrestrial access	28.5%	-16.9 points
Analogue cable (free and pay TV)	8.5%	-0.7 point

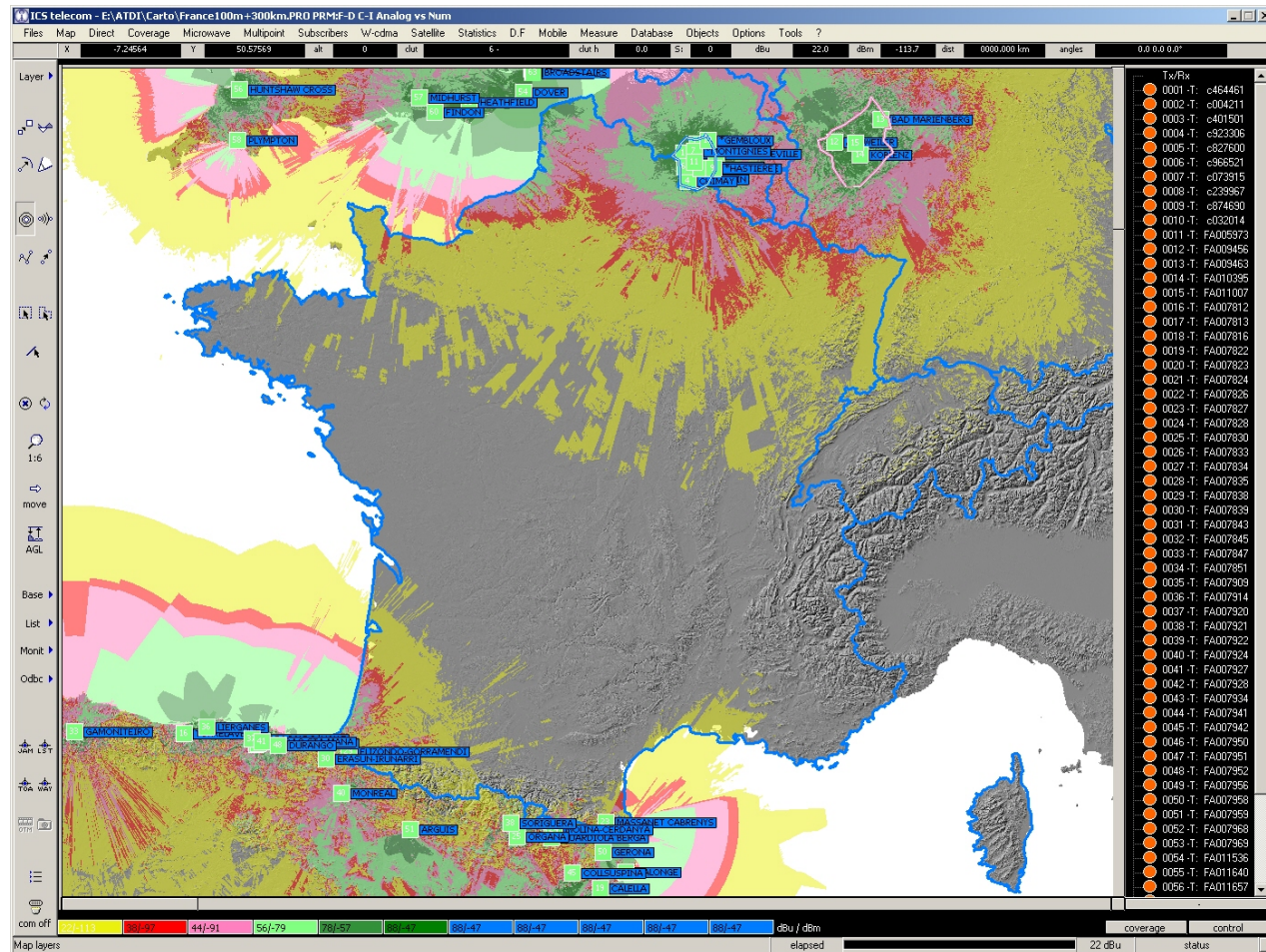
Authorization process

- The last part of the UMTS core band (3 blocs of 2x5 MHz) will be allocated soon (beauty contest starting next month)
- Public consultation in the next month covering both Authorization process for :
 - 2500-2690 MHz
 - 790-862 MHz
- Auction envisaged
- Refarming necessary for both bands :
 - Defence Point to Point links at 2.6 GHz (>700 links)
 - New programme for tactical defence communication system in the band 830-862 MHz

Cross-border negotiation

- Three objectives :
 - Reconstituting broadcasting networks below 790 MHz
 - Adding new multiplex (today situation is 6/7 DTV multiplex + 5 analogue in simulcast)
 - Protecting the sub-band 790-862 MHz (in particular 832-862 MHz)
- The result of this negotiation will be the basis for the final plan
- General principle is equitable access of spectrum
- Each neighbour has different objectives (use of the sub-band, broadcasting usage, timing)

Interference risk at the border



European harmonisation

- After WRC-07, CEPT has confirmed that the band 790-862 MHz was THE sub-band
- For economies of scale, it is essential to agree on technical conditions applicable to this frequency band :
 - Channelling arrangement
 - Block edge mask
- Second EC mandate to CEPT on digital dividend
- ECC Decisions in 2009 would trigger the development of equipment for availability in 2012
- Widespread use of the sub-band in the long term would be useful ...

Channelling arrangement

61	62	63	64	65	66	67	68	69
790-798	798-806	806-814	814-822	822-830	830-838	838-846	846-854	854-862
Downlink				Duplex gap	Uplink			
30 MHz (6 blocks of 5 MHz)				12 MHz	30 MHz (6 blocks of 5 MHz)			

- Duplex gap may be reduced in order to introduce a guard band at 790 MHz facilitating filtering of base station emission below 790 MHz
- TDD channelling arrangement also envisaged, but as an alternative to the FDD plan

BEM technical conditions

- Technical conditions necessary for :
 - Coexistence between different operators
 - Coexistence with broadcasting below 790 MHz
 - Coexistence with systems which will be used in the centre gap (radiomicrophones ?)
- Consisting in block edge mask and eirp limitations

Protection of TV below 790 MHz

- Risk of interference to TV reception around base stations
- The risk is dependent on installation quality and TV receiver performance
- Both adjacent channel protection (channel 60) and overloading effect
- Measures to ensure compatibility (additional filtering, antenna pointing ...) can only be taken at local level
- Discussions in France :
 - Extent of responsibility for mobile operators
 - Procedure to ensure that interference will be treated
 - Technical guidance to assess risk of interference and to mitigate interference