



Perspectives of Digital Dividend in Croatia

– Plans and Developments –



Ministry of the Sea, Transport and Infrastructure
Electronic Communications and Postal Service Directorate

Krešo Antonović
Director-General





National TV Broadcasting Switchover Strategy

- ❖ National TV Broadcasting Switchover Strategy – adopted by the Government of the Republic of Croatia on **31 July 2008**
- ❖ Stipulates fundamental strategic guidelines for the introduction of digital television in the Republic of Croatia
- ❖ The main strategic goal – **full digital television switchover by 31 December 2010** at the latest
- ❖ Another 2 documents also adopted:
 - Decision on the start of digital TV broadcast and the end of analogue TV broadcast in the Republic of Croatia
 - Decision on manner of distribution of subsidies and criteria and conditions of granting the subsidies to the TV subscribers (natural persons), in order to purchase TV adapters for the reception of DTV programmes (Set Top Boxes)



National TV Broadcasting Switchover Strategy

- ❖ Ministry of the Sea, Transport and Infrastructure, in cooperation with the **Croatian Post and Electronic Communications Agency (HAKOM)**, has been responsible for the preparation and adoption of the secondary legislation relevant for the introduction of DTV in Croatia
- ❖ **19 December 2008** – the *Ordinance on Analogue to Digital Radio and Television Broadcasting Switchover and Access to Multiplex Positions in Terrestrial Digital Broadcasting (OG 148/08)* adopted by the Ministry of the Sea, Transport and Infrastructure, on the proposal by HAKOM
- ❖ The Ordinance (together with other secondary legislation related to the radio frequency spectrum management) provides the legal basis for the introduction of DTV and digital terrestrial television switchover in Croatia

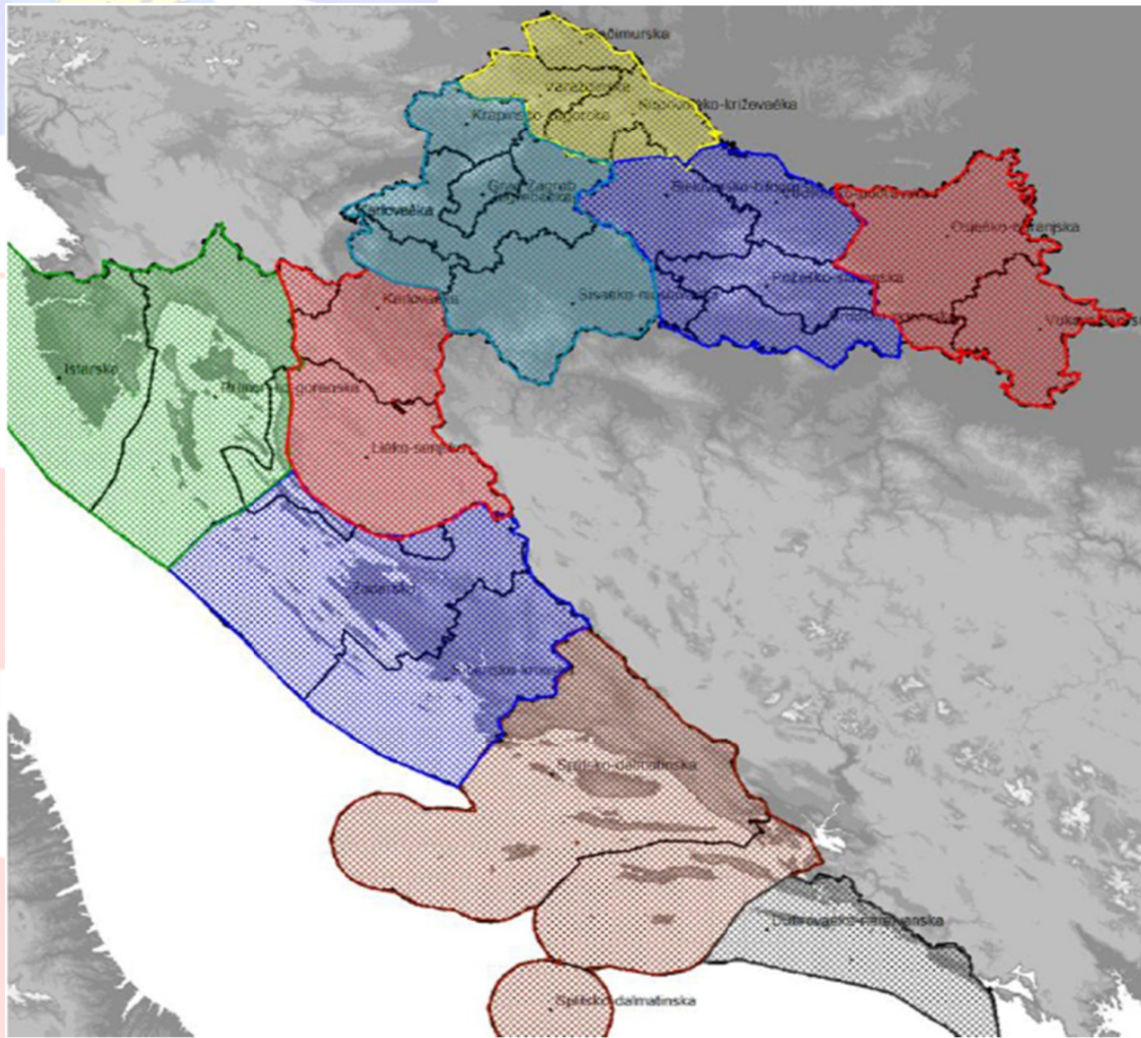


National State Aid Scheme for DTV

- ❖ **12 February 2009** – a Decision on manner of distribution of subsidies and criteria and conditions of granting the subsidies to the TV subscribers (natural persons), in order to purchase TV adapters for the reception of DTV programmes (Set Top Boxes), adopted by the Government:
 - each TV subscriber (natural person) is entitled to the subsidy in amount of **75,00 HRK (approx. 10 EUR)**, in the form of voucher, to purchase one digital receiver (Set Top Box)
 - vouchers shall be distributed to all TV subscribers by OiV company in cooperation with the Croatian Radiotelevision
 - vouchers shall be used before **31 December 2010** at the latest
- ❖ this Decision ensures the digital receivers subsidising in a **technologically neutral form**
- ❖ **the Central State Administrative Office for e-Croatia** – responsible for the daily management tasks related to the Strategy implementation



Overview of DTV activities in Croatia – I



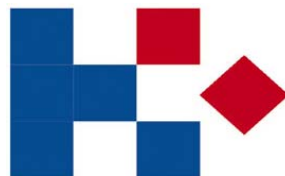
- ❖ 9 “digital regions” in the Republic of Croatia
- ❖ May 2002 – start-up of test broadcast (SDTV)
- ❖ 2007 – Pilot-project in the County of Istria – “Digital Istria” (>98% DTV coverage)





Overview of DTV activities in Croatia – II

- ❖ **September 2008** – DTV Call Centre of the Government of the Republic of Croatia, to support customers in the process of the analogue to digital switchover – freephone **0800-1-1-2011**
- ❖ **January 2009** – HAKOM launched a public tender procedure for granting the individual rights for the use of radio frequencies relating to DTV in two nationwide Multiplexes – **MUX A and MUX B**, with required population coverage of **95%**



- ❖ **24 April 2009** – the HAKOM Council's decision on granting the licence for 10 years duration to **TRANSMITTERS AND COMMUNICATIONS Ltd.** company in Zagreb





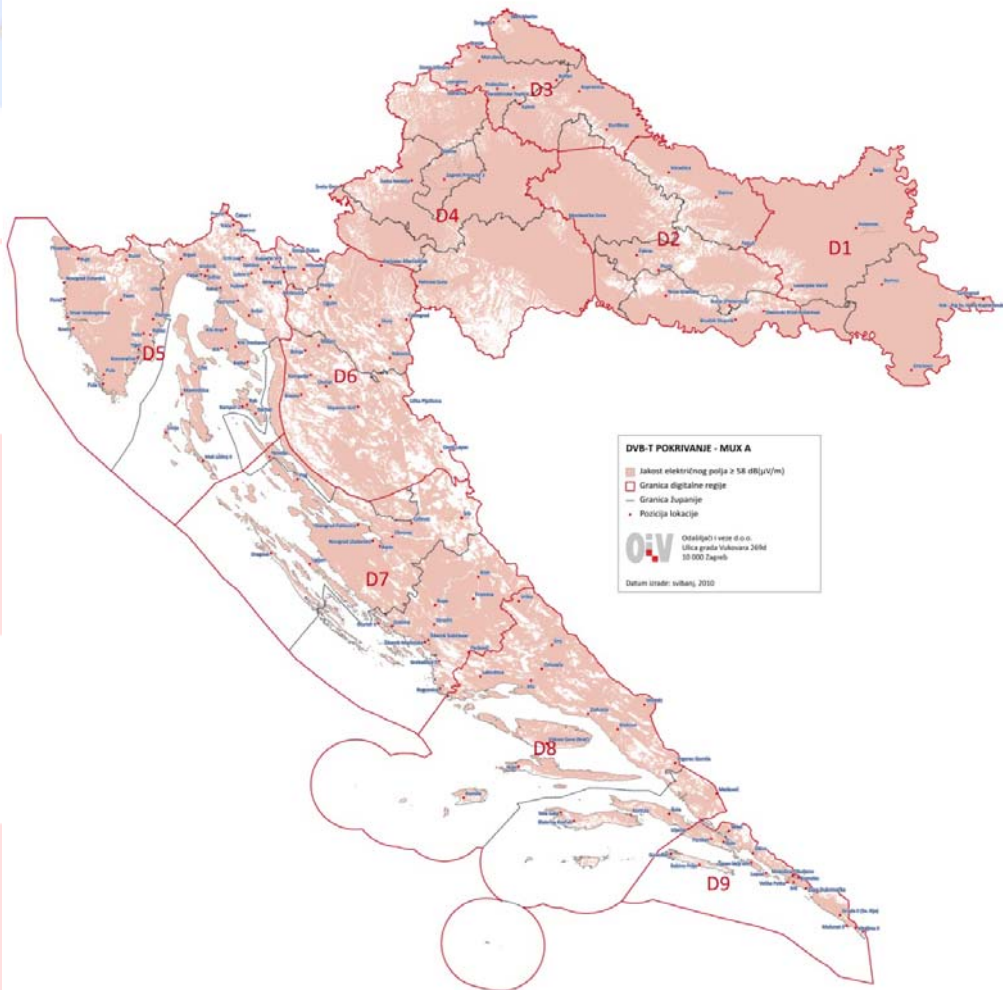
Overview of DTV activities in Croatia – III

- ❖ **As of May 2009** – OiV deploys digital TV broadcast network and installs DVB-T equipment (transmitters, SFN gap fillers, antennas, audio/video processing equipment, microwave links, etc.)
- ❖ The OiV total investment in MUX A and MUX B networks ⇒ approx. **205 million HRK (28 MEUR)**



- ❖ **HDTV broadcast activities**
- ❖ **March 2007** – HDTV broadcast started in Zagreb, in cooperation with the Croatian Radiotelevision (HRT)
- ❖ **June 2008** – HDTV broadcasts in other major cities in Croatia (Osijek, Rijeka, Split)

DVB-T Coverage in Croatia Today – I



MUX A coverage

on **20 May 2010**

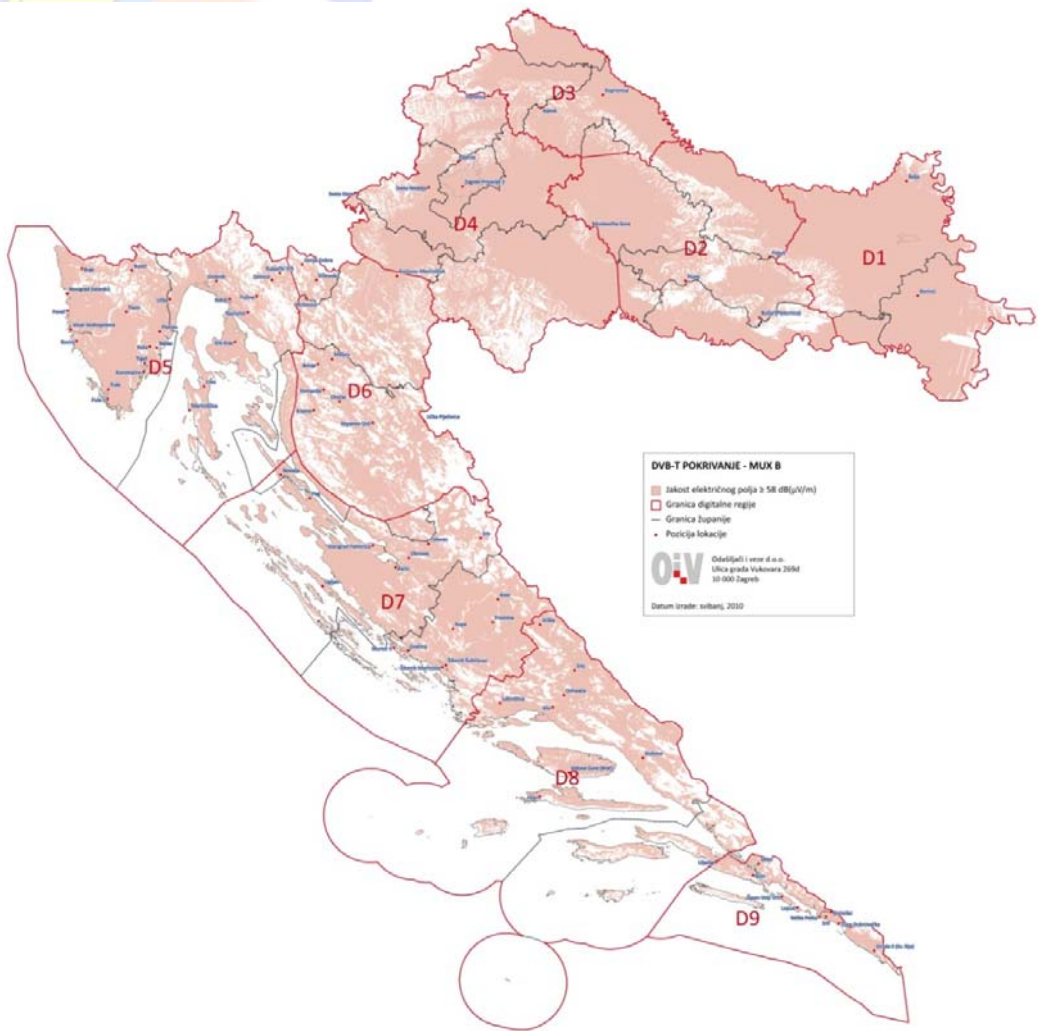
152 active sites

(out of 210 planned)

Population coverage in
each digital region \Rightarrow
>95%

Average population
coverage in Croatia \Rightarrow
~97%

DVB-T Coverage in Croatia Today – II



MUX B coverage

on 20 May 2010

81 active sites

(out of 107 planned)

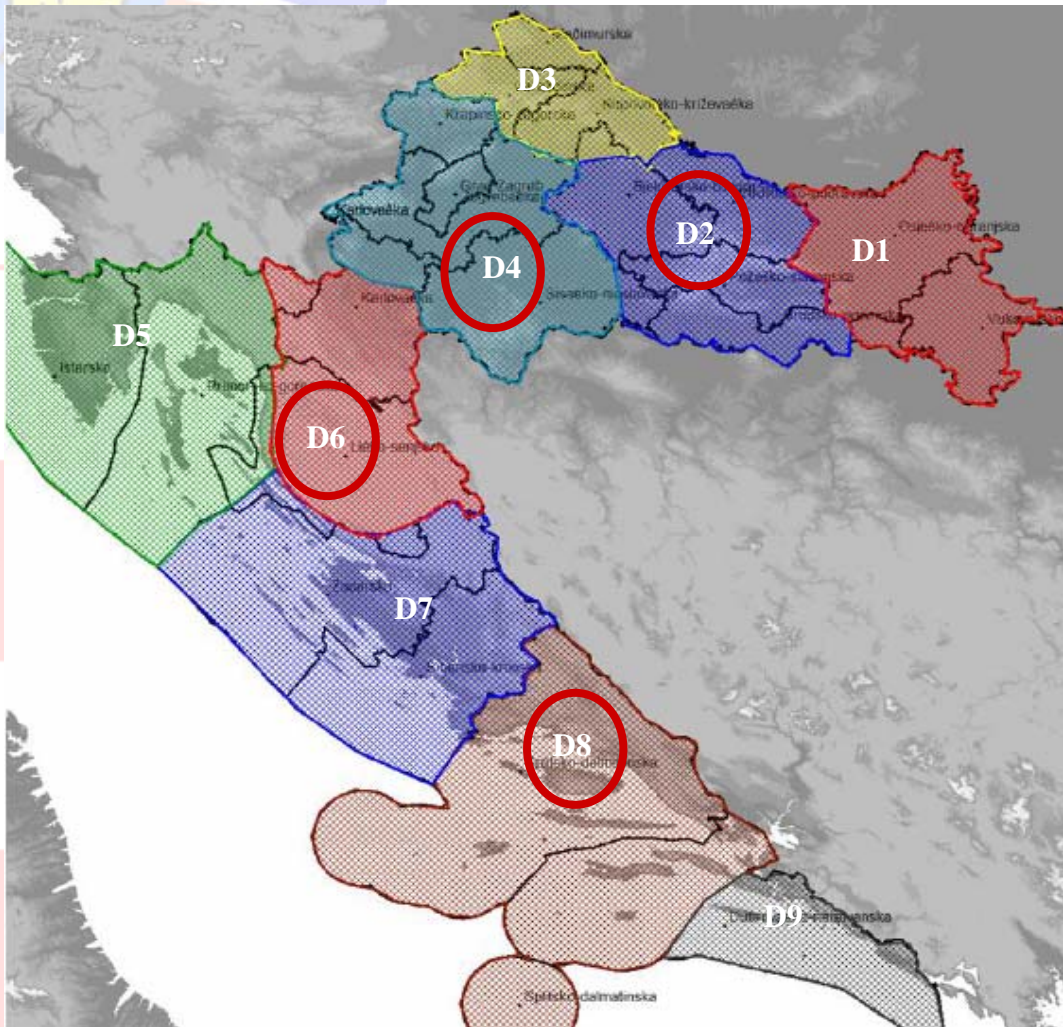
Population coverage in each digital region ⇒

>80%

Average population coverage in Croatia ⇒

~93%

DVB-T Switch-over Schedule in Croatia



5 out of 9 digital regions already completed analogue switch-off

Counties:

- Primorsko-goranska*
- Istarska*
- Međimurska*
- Varaždinska*
- Koprivničko-križevačka*
- Zadarska*
- Šibensko-kninska*
- Dubrovačko-neretvanska*
- Osječko-baranjska*
- Vukovarsko-srijemska*



Digital Dividend in Croatia – New Opportunities I

❖ The Strategy enables the introduction and provision of new services or business models, due to the releasing of the radio frequency spectrum for new allocations and applications upon digital switchover – **DIGITAL DIVIDEND:**

- additional nationwide digital terrestrial television programmes in either standard definition (SDTV) or high definition (HDTV)
- digital terrestrial television programmes at regional and local level
- television services for mobile phones (DVB-H) and other types of mobile video and multimedia
- mobile communications, such as voice calls or information data
- wireless broadband communications services
- wireless microphones for theatres, television and radio production and live music events
- short range wireless applications, such as fixed wireless access at home
- public safety services, such as wireless communications for the emergency services



Digital Dividend in Croatia – New Opportunities II

Digital dividend – UHF frequency bands IV and V – allocated to multiplexes at national and regional level and associated broadcasting services, as well as to other electronic communications services (revised on **23 December 2009**)

Kanal	21	55	56	60	61	69	70
Radijska frekvencija	470MHz		750MHz		790MHz		860MHz
Vrsta usluge	DVB-T/-H		DVB-T		IMT		
MUX A – državni	5×SDTV*						
MUX B – državni	5×SDTV**						
MUX C – državni	raspoloživo: 5×SDTV						
MUX D – regionalni/ državni	1 – 3×SDTV*** + raspoloživo: 2 – 4 SDTV (regionalni/državni)						
MUX E – državni	DVB-H: raspoloživo oko 30 TV programa ili oko 60 radijskih programa						
MUX F – državni/ regionalni	raspoloživo: DVB-T ili DVB-H						
MUX G – regionalni/ državni	raspoloživo: DVB-T ili DVB-H						
MUX H – regionalni	raspoloživo: DVB-T ili DVB-H						



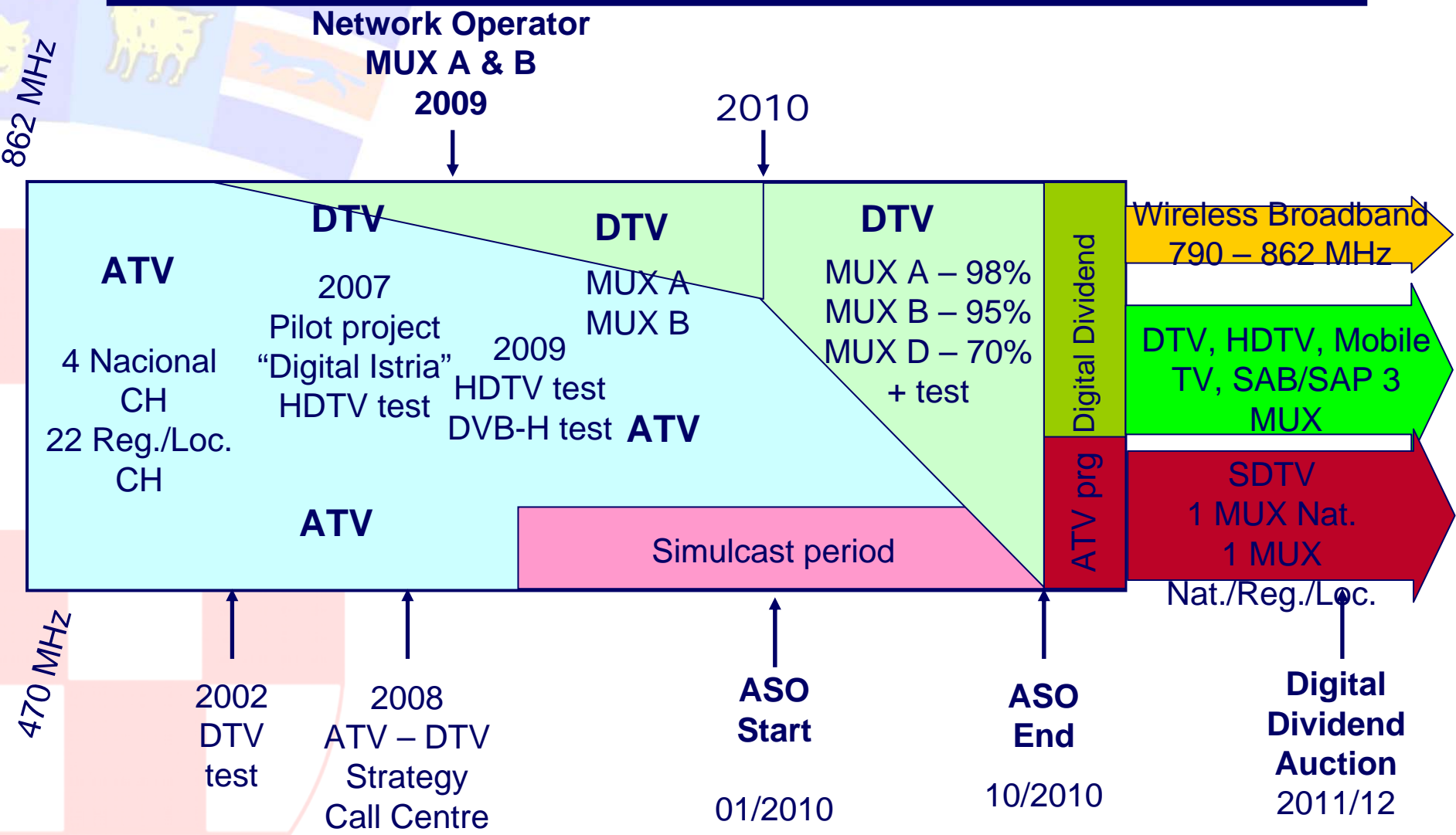
Digital Dividend in Croatia – New Opportunities III

Digital dividend – VHF frequency band III – allocated to multiplex at national/regional level and associated broadcasting services, as well as to other electronic communications services

channel	5	12	13
frequency	174MHz		230MHz
service	DVB-T/DVB-H/T-DAB/DMB		
MUX VHF - national /regional	additionally available: DVB-T, DVB-H, T-DAB, DMB		



Digital Dividend in Croatia – New Opportunities IV



Overview of DTV Switch-over in Europe



4 group of countries

1. Completed switch-over:

- full DTV (DVB-T)
- ASO completed

2. Ongoing switch-over:

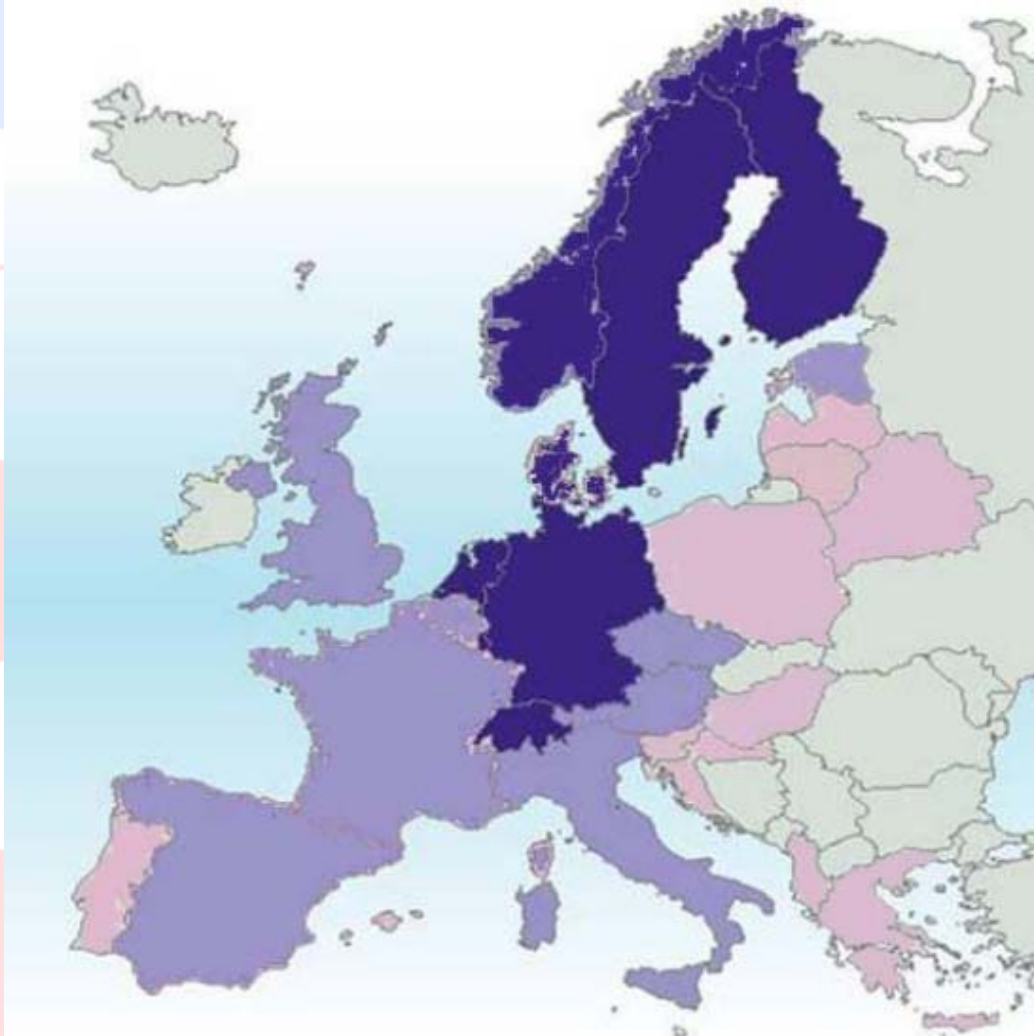
- ATV & DTV
- ASO in process

3. Simulcast:

- ATV & DTV
- ASO has not started

4. Without commercial DTV:

- ATV in place
- DTV in test phase



Source: DigiTAG



Thank you for your attention

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