

# CONTENTS

INTRODUCTION .....	3
ALBANIA .....	4
BOSNIA AND HERZEGOVINA .....	5
BELARUS .....	6
BULGARIA .....	7
CROATIA .....	8
CZECH REPUBLIC .....	9
ESTONIA .....	11
HUNGARY .....	12
LATVIA .....	13
LITHUANIA .....	14
MACEDONIA .....	16
MOLDOVA .....	17
MONTENEGRO .....	18
POLAND .....	19
ROMANIA .....	21
RUSSIA .....	22
SERBIA .....	23
SLOVAKIA .....	24
SLOVENIA .....	25
UKRAINE .....	26
<b>CEE DIGITALISATION TIMELINE</b> .....	<b>27</b>

## CROATIA

### Croatia – At a Glance

Population:	4.5m (2007)
TV homes:	1.4m
DTT status:	Trial, extensive coverage
Muxes:	2 (currently); up to 8 national (eventually)
Mux operator/s:	Undecided
Transmission company:	OiV
ASO:	December 31, 2010 (target)
Regulators:	HAT, AEM

Croatia has made steady progress in its transition from analogue to digital broadcasting.

The country's first DTT trial got under way in 2002, with the public broadcaster HRT employing two transmitters in Zagreb and surrounding area. In 2005, it was extended to Rijeka on the Adriatic Coast, and by June 2008 there were a total of 31 digital transmitters, 15 of which were located in the Istria region, in operation.

HRT initially worked solely with the state owned national transmission company OiV. However, in April 2007 another party – Croatel, a state owned satellite service provider – also entered the frame.

Croatel began an MPEG-4 based trial in Zagreb, entirely separate to OiV and offering five standard definition channels – HTV1, HTV2, HRT Plus, RTL and Nova – and Discovery HD. It subsequently extended its activities to Split and Rijeka.

Yet surprisingly, and in a move widely

interpreted as a setback for DTT in Croatia, Croatel stopped its transmissions in April 2008. It did so, and at the request of the Croatian Agency for Telecommunications (HAT) in order to comply with the length of its temporary licence, as set out in existing telecom legislation.

Croatel nevertheless almost immediately submitted a new application to operate an experimental DTT platform in Zagreb, Split and Rijeka, employing MPEG-4 compression and Tandberg stat mux system, which would include a total of three HD channels.

While there are still many question marks as to how a future DTT platform will look like in Croatia, it can be argued that digital broadcasting, albeit in an extensive trial mode, is already a reality. Indeed, as of mid-2008 some 80% of TV homes were able to receive DTT signals, with the figure in the Istria peninsular – chosen to become the first all-digital part of Croatia – closer to 100%, from two multiplexes.

In Istria, the two multiplexes each carried the four main channels (HTV1, HTV2, RTL and Nova), with the second also offering the local service NIT. Interestingly, the government was providing a €30 set-top box subsidy to each household that paid a licence fee to receive HRT's services.

These subsidies are understood to being made available nationally, with the government having allocated HRK15 million (€2.08 million) for the process in 2007.

### Technical Parameters – OiV

Bandwidth/channel	8MHz (8 carriers)
Guard interval	1/8 (Zagreb); 1/4 (elsewhere)
Code rate	2/3
Constellation	64QAM
Polarisation	H
Bitrate	22.12Mbps

May 2008

Source: OiV

# Digital Terrestrial Television in Central and East Europe

## INTRODUCTION

DTT services have yet to make the same impact in Central and Eastern Europe (CEE) as in western parts of the continent. Still relatively few in number, they operate in markets where the transition from analogue to digital broadcasting has in most instances barely got off the ground.

However, things are starting to change rapidly across the region. In the Czech Republic, for instance, a DTT operation was launched in Prague in October 2005 and now consists of two multiplexes serving most of its leading population centres. The country also has an area – Domazlice, near the German border – where only digital terrestrial signals are available.

Meanwhile in Estonia, a DTT platform backed by Starman, the country's largest cable operator, made its debut in December 2006 and now reaches 97% of the population. In Lithuania, the incumbent telco TEO LT launched a full platform in March 2008, and in Slovenia a single multiplex, operated by the public broadcaster RTV Slo, has been in operation since 2007.

Even Albania, a country off most people's radar screens, has a DTT platform. Ironically the longest established such service in CEE, it also finds itself in the unusual position of operating in a market that has yet to start implementing the transition from analogue to digital broadcasting.

Perhaps surprisingly, Russia and Poland, two of the region's largest markets, are lagging somewhat behind their smaller neighbours. Russia finally approved a digital strategy in late 2007 and does not anticipate analogue switch off (ASO) before 2015. Poland, on the other hand, has been hotly debating the structure of its first two DTT multiplexes, which just may finally make their debuts in 2009.

Elsewhere, exceptional progress is being made in a number of countries including Hungary, which is due to announce the results of a tender in late summer 2008, and Croatia, which has been undertaking extensive trials.

Although CEE still has some way to go before catching up with Western Europe, most countries in the region are likely to complete ASO in, or even slightly before, the 2012 deadline favoured by the EU. Moreover, many have stolen a march by opting for MPEG-4 rather than MPEG-2 compression, thereby paving the way for the launch of HD channels in the future.

This report details the state of play in 20 CEE countries, providing the most up-to-date information available as of mid-2008 in what is a fast-changing sector. It should provide a valuable reference tool for anyone interested in DTT services in the region and how they may develop in the years to come.