

DIGITAL MIGRATION

WORLD-WIDE STATUS

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INTRODUCTION

- Many countries proudly announce the launching of their digital TV services
 - but they frequently have very vague plans about analogue switch-off (ASO)
- **ASO is the real goal**
- Digital TV networks are much cheaper to run than analogue networks
- But, if ASO is not achieved quickly, broadcasters have to pay for years of continued simulcasting (analogue and digital networks running in parallel)

WHAT IS DVB?

- **DVB is a not-for-profit organisation that develops technical standards for digital TV**
- **DVB's Members represent:**
 - **Broadcasters**
 - **Network operators**
 - **Manufacturers**
 - **Regulators**
- **DVB started in Europe in 1993, but about 40% of DVB Members are from non-European companies**

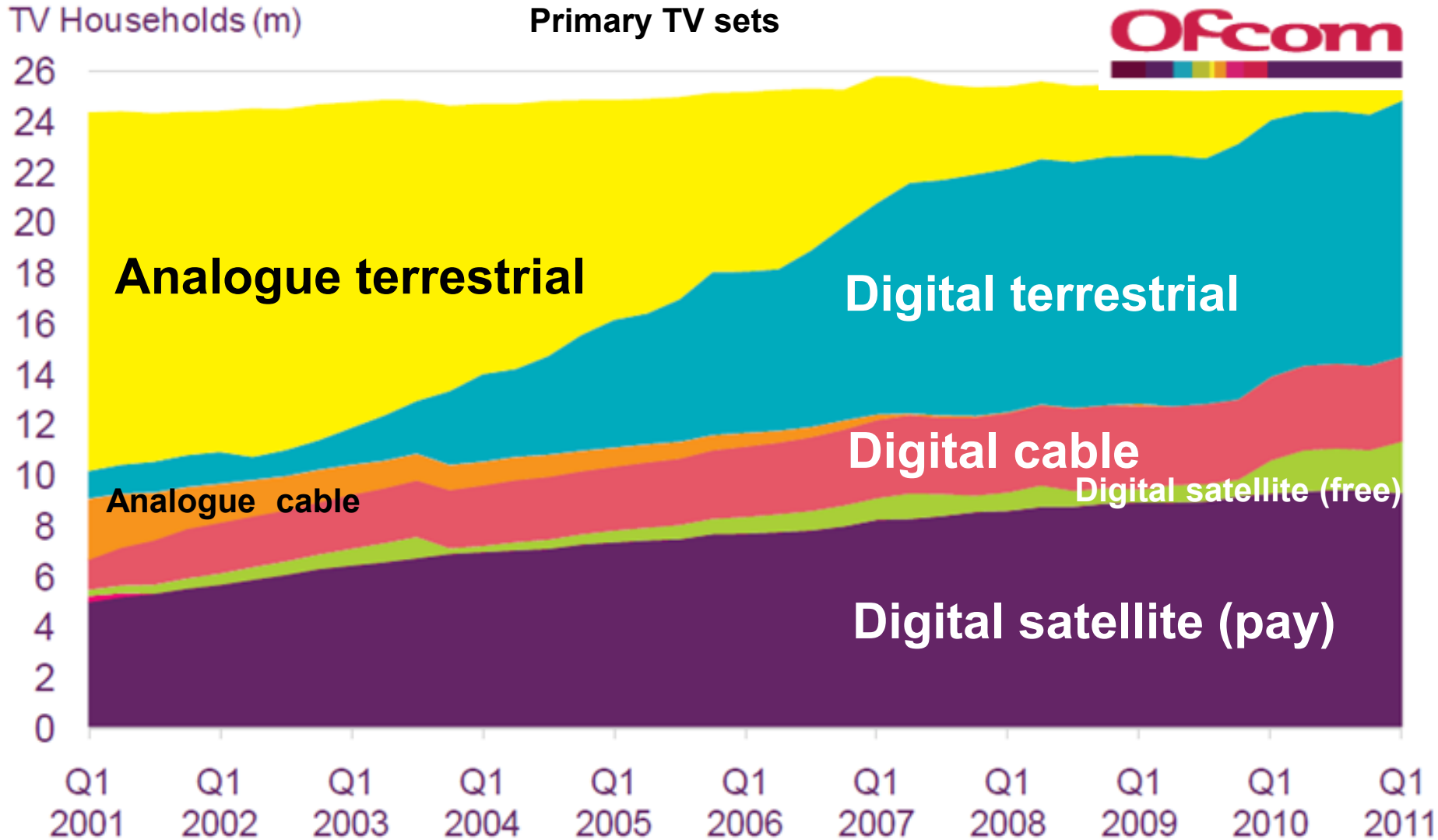
WHICH DELIVERY SYSTEMS?

- **DVB is technology-neutral because it has developed standards for delivery of digital TV via:**
 - **satellite (DVB-S and DVB-S2)**
 - **cable (DVB-C and DVB-C2)**
 - **terrestrial (DVB-T and DVB-T2)**
 - **IPTV (DVB-IP)**

CONSUMER CHOICE

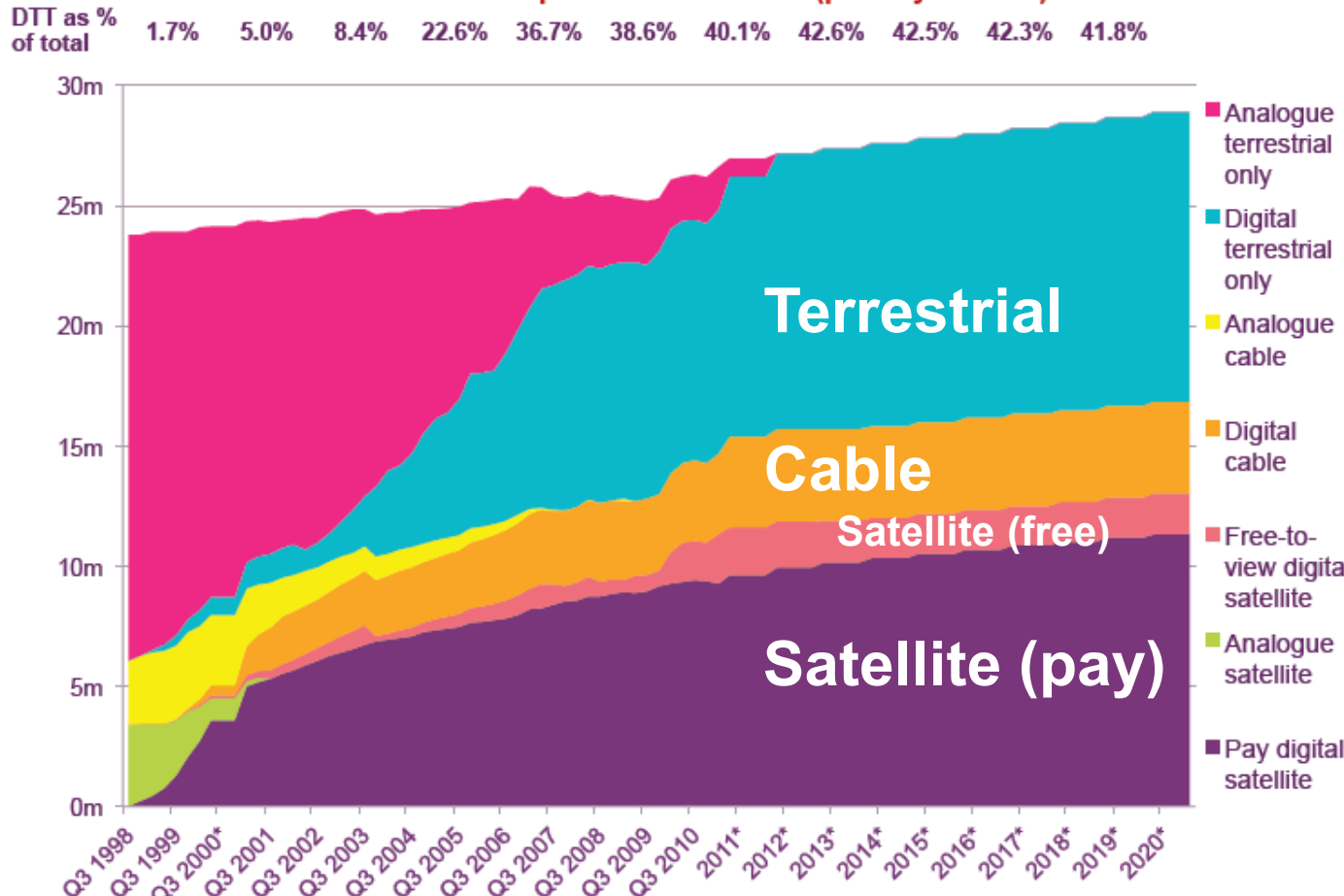
- **The importance of various delivery mechanisms varies dramatically from country to country:**
 - **in some countries (e.g. Germany, Netherlands, Belgium) < 10% of homes use terrestrial TV**
 - **in other countries (e.g. Spain, Italy, France, UK) terrestrial TV is much more important**
- **But, within each country, the statistics are changing with time – and we need to understand what will happen in the future**
 - **consistent statistics are not available for many countries**

TV IN THE UK



The demand for UK DTT services is likely to continue

Multichannel take-up in UK households (primary TV sets)



- DTT is projected to hold around two fifths of the primary set market for the next 10 years or so.
- This share is even higher when households' secondary sets are also taken into account

Source: Ofcom data (Q3 1998-Q4 2010; 3 Reasons projections 2011-2020)

A MIXED ECONOMY

- **For historical reasons, terrestrial transmission has been the dominant form of delivery for analogue TV services**
- **Broadcasters need to choose the most appropriate mix of digital delivery mechanisms for their country**
 - **there will be no universal solution for digital broadcasting**
- **Even in countries where satellite broadcasting is the most popular delivery system, digital terrestrial TV is the key to analogue switch-off**

GETTING TO ASO

- The goal is **ASO** – not introduction of digital TV
- In many countries, digital TV has increased the number of standard-definition TV services
- As an extreme example, the UK had 4-5 analogue TV services, but now has 70 digital terrestrial TV services and 700 digital satellite TV services
- Consumers are attracted by the prospect of more services – even if they only watch a few of the available channels!
- Consumers will not adopt digital TV if it simply replicates the analogue TV services

CHALLENGES AHEAD

- **Challenge #1 is to get people to adopt digital TV**
 - consumers need to buy new equipment (set-top boxes or new integrated digital TV sets)
- **Challenge #2 is to persuade everybody to stop using analogue TV**
 - the analogue TV services cannot be switched off until ~99% of consumers have changed over to digital TV
 - it is easy to convert 50% of homes to digital, but the last 5% are much more difficult
 - this process can take years

ASO IN EUROPE

- **In 2005, the European Commission proposed the beginning of 2012 as the deadline for analogue TV switch-off (ASO) throughout the European Union**
- **22 of the 27 EU Member States achieved ASO by the end of 2012**
- **2 EU countries have still not yet achieved ASO:**
 - **Hungary (2015)**
 - **Romania (2015)**

Country	Start of DTT	ASO	No. of years
United Kingdom	1998	2012	14
Sweden	1999	2007	8
Spain	2000	2010	10
Finland	2001	2007	6
Switzerland	2001	2007	6
Germany	2002	2008	6
Belgium	2002	2010	8
The Netherlands	2003	2006	3
Italy	2003	2012	9
France	2005	2011	6
Denmark	2006	2009	3
Austria	2006	2010	4
Norway	2007	2009	2
Portugal	2008	2012	4

ASO WORLDWIDE

- **Analogue switch-off has been achieved in Europe, USA & Canada, Japan and South Korea**
 - **most people were happy with the process because digital TV gave them better quality and more content**
 - **the transition was often slower than expected**
- **Many countries have schemes providing free or subsidised digital converters for poor people**
 - **it is difficult to ensure that such schemes do not benefit people who are not poor**

17 JUNE 2015 ...

- **Although ASO has been achieved in some countries, other countries seem to be struggling**
- **The ITU Geneva Plan (2006) covering Europe, Africa, parts of the Middle East and Russia set a deadline of 17 June 2015**
 - **analogue services will no longer be protected after this date**
- **Although many countries in Africa have started digital TV transmissions, there seems to be little prospect that ASO will be achieved by 2015**

CONCLUSIONS

- **Digital TV offers many benefits for broadcasters, network operators, spectrum regulators and consumers**
- **Introducing digital TV is easy – but switching off analogue TV can be much more difficult**
- **Experience around the world shows that analogue switch-off needs to be carefully planned**
- **Consumers need to understand what ASO will mean to them – and what they need to do**
 - **a comprehensive publicity campaign must involve broadcasters, network operators, governments, manufacturers and retailers**