

# Transition to DTT in Western Europe

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# DVB-T in Europe

## The main phases of development in Europe

- ❑ 1998 to 2002 - emergence and failure of pure pay TV platforms; delays and aborted launch plans; limited, then stagnant growth.
- ❑ 2002 to 2005 - introduction and success of primarily free-to-air platforms; important role of public broadcasters; emergence of funding controversies; high growth.
- ❑ 2005 to 2008 - last western European countries launch; mixed models develop; new technology adopted; funding controversies resolved; growth continues but slows
- ❑ 2008 to 2010 - mature platforms stabilize; HDTV trialed; eastern Europe launches; the approach to analogue switch-off (ASO) refined; several countries achieve ASO; growth dependent on stimulus
- ❑ 2010 to 2015 - all countries converted; HDTV becomes widespread; mobile TV and interactive applications grow

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# DTT Timetable In Europe

|                                 | Legislation   | Soft launch    | Full launch   | Switch-off date |
|---------------------------------|---------------|----------------|---------------|-----------------|
| <b>Fully Launched Platforms</b> |               |                |               |                 |
| UK                              | July 1996     | September 1998 | November 1998 | 2012            |
| Sweden                          | May 1997      | April 1999     | Sept. 1999    | 2008            |
| Spain                           | October 1998  | May 2000       | May 2000      | 2010            |
| Finland                         | May 1996      | August 2001    | October 2002  | 2007            |
| Netherlands                     | 1999          | April 2003     | April 2003    | 2007            |
| Germany                         | Spring 2002   | November 2002  | May 2004      | 2010            |
| Italy                           | November 2001 | December 2003  | January 2004  | 2008            |
| France                          | August 2000   | March 2005     | December 2005 | 2010            |
| <b>Limited Launches</b>         |               |                |               |                 |
| Switzerland                     | November 2002 | 2005           | 2006          | 2009            |
| Belgium                         | 2002          | 2004           | 2006          | 2010            |
| <b>Not yet launched</b>         |               |                |               |                 |
| Austria                         | 2001          | 2006           | 2007          | 2010            |
| Norway                          | March 2002    | 2006           | 2006          | 2009            |
| Denmark                         | December 2002 | April 2006     | 2007          | 2011            |
| Ireland                         | March 2001    | 2006           | 2007          | 2010            |
| Portugal                        | 2000          | 2007           | 2008          | 2012            |

sequence by full launch date



# ASO Strategies

- ❑ Dominant model is a free-to-air platform with some pay elements
- ❑ ASO date is determined arbitrarily in some cases
- ❑ All countries are using MPEG-2 (except France for pay channels)
- ❑ Marketing and coordination have been recognized as crucial
- ❑ Many countries have established economic incentives/support for consumers and broadcasters
- ❑ Contingency plans are not well developed (publicized?)
- ❑ Most countries are adopting a region-by-region approach
  - need to free up frequencies to extend coverage
  - limited rate of digital build/upgrade
  - decentralised regulatory structures
  - limit risk
  - learning from mistakes

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# ASO timeline in Europe

|                                 | Full launch    | ASO Type        | ASO Approach  | First ASO       | Last ASO       |
|---------------------------------|----------------|-----------------|---------------|-----------------|----------------|
| <b>Fully Launched Platforms</b> |                |                 |               |                 |                |
| UK                              | October 2002   | target          | regional      | 2008            | December, 2012 |
| Sweden                          | September 1999 | firm            | regional      | September, 2005 | February, 2008 |
| Spain                           | November 2005  | target          | regional      | December, 2007  | April, 2010    |
| Finland                         | October 2002   | firm            | national      | December, 2006  | December, 2006 |
| Netherlands                     | April 2003     | government fiat | national      | 2007            | 2007           |
| Germany                         | May 2004       | target          | regional      | August 2003     | 2010           |
| Italy                           | January 2004   | target          | regional      | January 2006    | December 2006  |
| France                          | December 2005  | target          | regional      | 2007            | March 2010+    |
| <b>Limited Launches</b>         |                |                 |               |                 |                |
| Switzerland                     | 2006           | government fiat | regional      | 2007            | 2009           |
| Belgium                         | 2006           | government fiat | regional      | 2010            | 2010           |
| <b>Not yet launched</b>         |                |                 |               |                 |                |
| Austria                         | 2007           | target          | regional      | mid-2007        | 2010           |
| Norway                          | 2006           | firm            | fast regional | 2007            | 2009           |
| Denmark                         | 2007           | firm            | national      | 2011            | 2011           |
| Ireland                         | 2007           |                 |               |                 | 2010           |
| Portugal                        | 2007           |                 |               |                 | 2012           |
| Greece                          | NA             |                 |               |                 | 2015           |

*Note: Spain and UK based on re-launch dates*

Source: EBU



# Denmark

- There will a soft launch in April 2006 with one multiplex carrying DR, DR2, TV2,; the official ASO date is October 2009.
- Details on the status of the three additional multiplexes and other issues are still under discussion,
- The entire population could be covered in 18 months by 4 multiplexes. Just two regions (Copenhagen and North Jutland) represent 40% national coverage.
- A phased ASO will not be necessary and a national switch-over is likely. A few regional trials will probably be conducted first.

# Norway

- A consortium (NTV) backed by leading broadcasters and Telenor may launch DTT by the end of 2006 as a pay service.
- Eleven regions will launch and switch-off in rapid succession over a thirty month period ending in late 2009.
- Norway would become the first country in Europe to launch a DTT platform entirely based on advanced compression technology MPEG-4.
- All players agree that the biggest threat to success is the delay in availability of MPEG-4 set-top-boxes.
- With transmission costs the highest in Europe, Norway is relying on a short simulcast. ASO could be 2009.

# Finland

May be first country in Europe (the world?) to achieve national ASO

- ❑ Target date is August 31, 2007
- ❑ Household penetration nearing one third
- ❑ MUX A and B already at 100% coverage, MUX C since September
- ❑ Not implementing region-by-region approach
- ❑ Determined to convert cable households (must carry rules)



# Digital Television Transmissions in Finland

| MUX A<br>for public service | MUX B                          | MUX C                    |
|-----------------------------|--------------------------------|--------------------------|
| YLE TV1                     | MTV3                           | Sports Ch.               |
| YLE TV2                     | SubTV                          | Canal+<br>4 channels *   |
| YLE24                       | Nelonen                        | The Voice **             |
| YLE Teema                   | MTV3+ ****                     | Regional ***             |
| YLE FST                     | Nelonen Plus                   | 2 radio channels **      |
| 4 radio channels            | <b>Data/ MHP-<br/>services</b> | <b>Data/MHP-services</b> |
| <b>MHP-services</b>         |                                |                          |

A fourth multiplex will be used for mobile purposes. Pilot project started 8 March 2005.

\* Pay-tv, network coverage at least 70% and thus not must carry channels (operating licence held by C More Entertainment (former Canal+ Finland), as of Feb 2005 owned by SBS Broadcasting.

\*\* Owned by SBS Broadcasting

\*\*\* Over Turku, Lahti and Kuopio.

\*\*\*\* Partly pay-tv

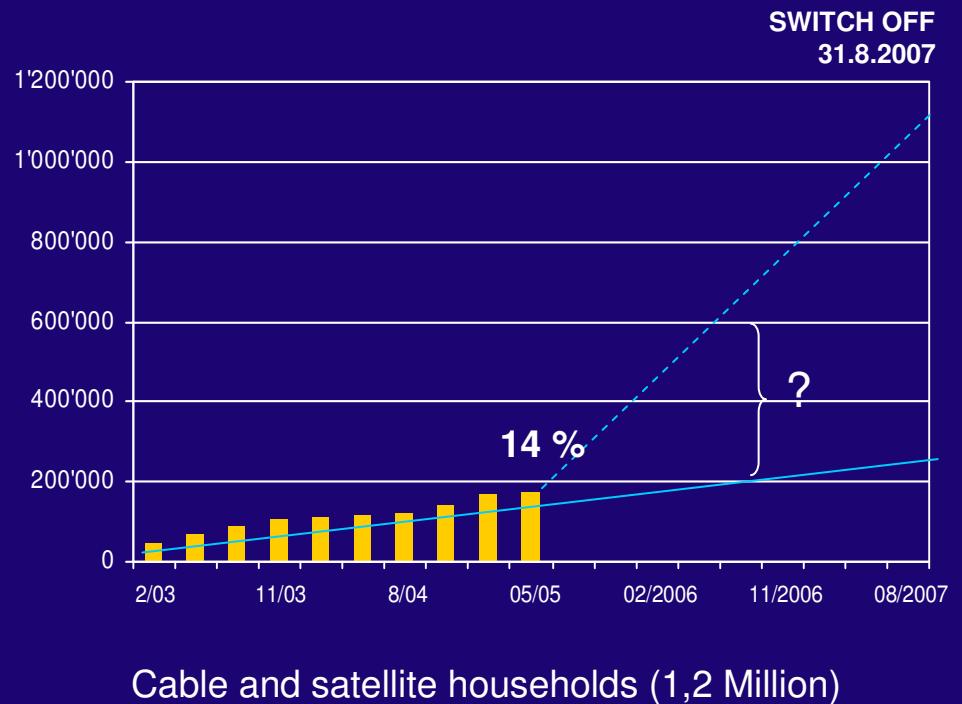
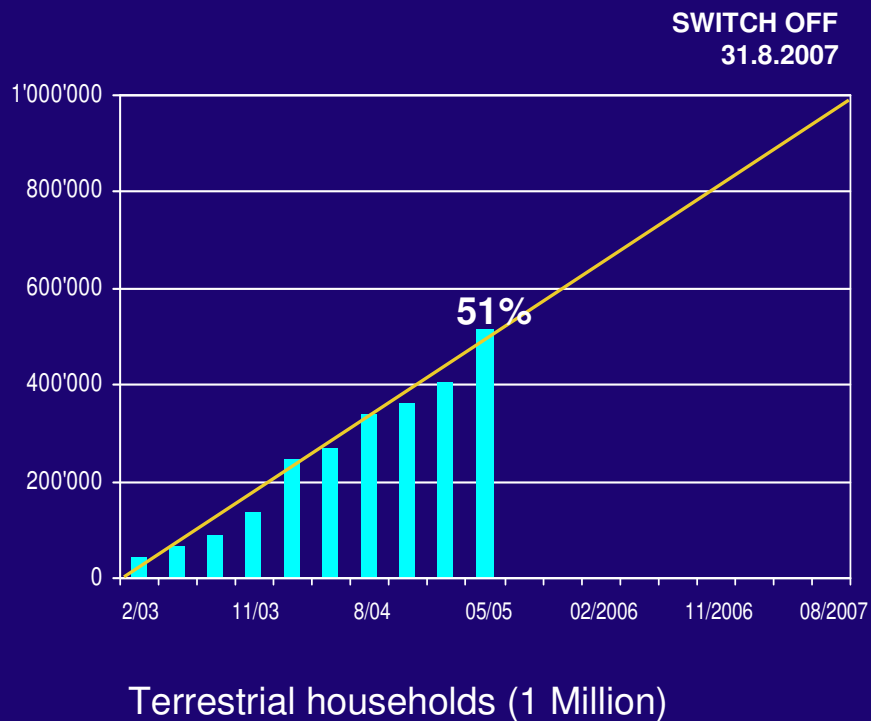
"Estradi" for short-term broadcasts using leftover capacity. SexTV.fi max 4 hours/week

## Transmission network

(Coverage 2001: 72%=>A & B: 94% June 2004, 99% 2005)



# Digital reception in terrestrial and cable households



Source: Finnpanel 2002...2005

The key elements are in place – success will depend on effective marketing and resolution of the cable issue.



# France

- France's target for the beginning of the process of digital switchover is 31 March 2010, a date implied by statute.
- DTT launched on 31 March 2005 after the CSA licensed 14 FTA channels (now 18), to broadcast using the MPEG-2 compression.
- Initial DTT take-up has been strong, with over 600,000 STBs sold by the end of Q3 2005; more than 1 million by year-end.
- Pay TV launch window ends March 2006. There are delays in production of MPEG-4 STBs, but Canal+, TPS are to launch pay DTT offers soon.
- 85% coverage is targeted in 2007, but many believe further expansion would require financial support; possible delay in ASO.

# Germany

- The German government took the decision to switch from analogue to terrestrial broadcasts in August 1998, setting a deadline for nationwide conversion to digital of 2010. Actual ASO may be earlier.
- The federal government has set national digital switchover policy in co-operation with the governments of the 16 regional Länder.
- Adoption of an “island by island” switchover policy with a short simulcast period between the launch of DTT services and complete analogue switch-off.
- The Berlin-Brandenburg ASO success set precedent. Included controversial transmission subsidies.
- The EC judgment is unlikely to alter the progress of switchover.

# Italy

- The DTT platform launched in December 2003 had achieved approximately 14% household penetration by the end of Q3 2005. There may be close to 3 million DTT homes by the end of 2005.
- In late 2005, Italaly extended ASO date from 2006 to 2008
- Sardegna and Valle d'Aosta are the first of Italy's 20 regions to switchover, with target dates of July 2006. However, some controversy has developed concerning promised government support for local broadcasters.
- A set-top-box subsidy program since 2003 to support the purchase of interactive set-top boxes may be extended in 2006.

# Spain

- After a 3-year hiatus, Government plans on a new free-to-air DTT platform were adopted in mid-2005. Platform launched end November 2005 and the ASO date has been moved to 2010.
- Challenges include the cost and delays of aerial upgrades. Multiplex operators will also have to incur significant costs to digitalise networks to meet coverage targets at switchover.
- After switchover, eight national multiplexes are to be allocated as follows: RTVE will be granted two multiplexes; one multiplex will be made available to each of the six national TV operators expected.

## DTT Households in Europe (000s)

| Country      | 1998       | 1999       | 2000       | 2001         | 2002         | 2003         | 2004         | mid-2005      |
|--------------|------------|------------|------------|--------------|--------------|--------------|--------------|---------------|
| UK           | 247        | 552        | 774        | 1'240        | 1'260        | 2'997        | 4'593        | 5'178         |
| Sweden       |            | 15         | 35         | 85           | 100          | 200          | 375          | 533           |
| Spain        |            |            |            | 200          | 150          | 100          | 80           | 170           |
| Finland      |            |            |            | 10           | 40           | 200          | 395          | 564           |
| Netherlands  |            |            |            |              |              | 15           | 60           | 100           |
| Germany      |            |            |            |              |              | 170          | 1'700        | 1'806         |
| Italy        |            |            |            |              |              | 25           | 1'000        | 2'700         |
| France       |            |            |            |              |              |              |              | 582           |
| <b>TOTAL</b> | <b>247</b> | <b>567</b> | <b>809</b> | <b>1'535</b> | <b>1'550</b> | <b>3'707</b> | <b>8'203</b> | <b>11'633</b> |

Source: EBU

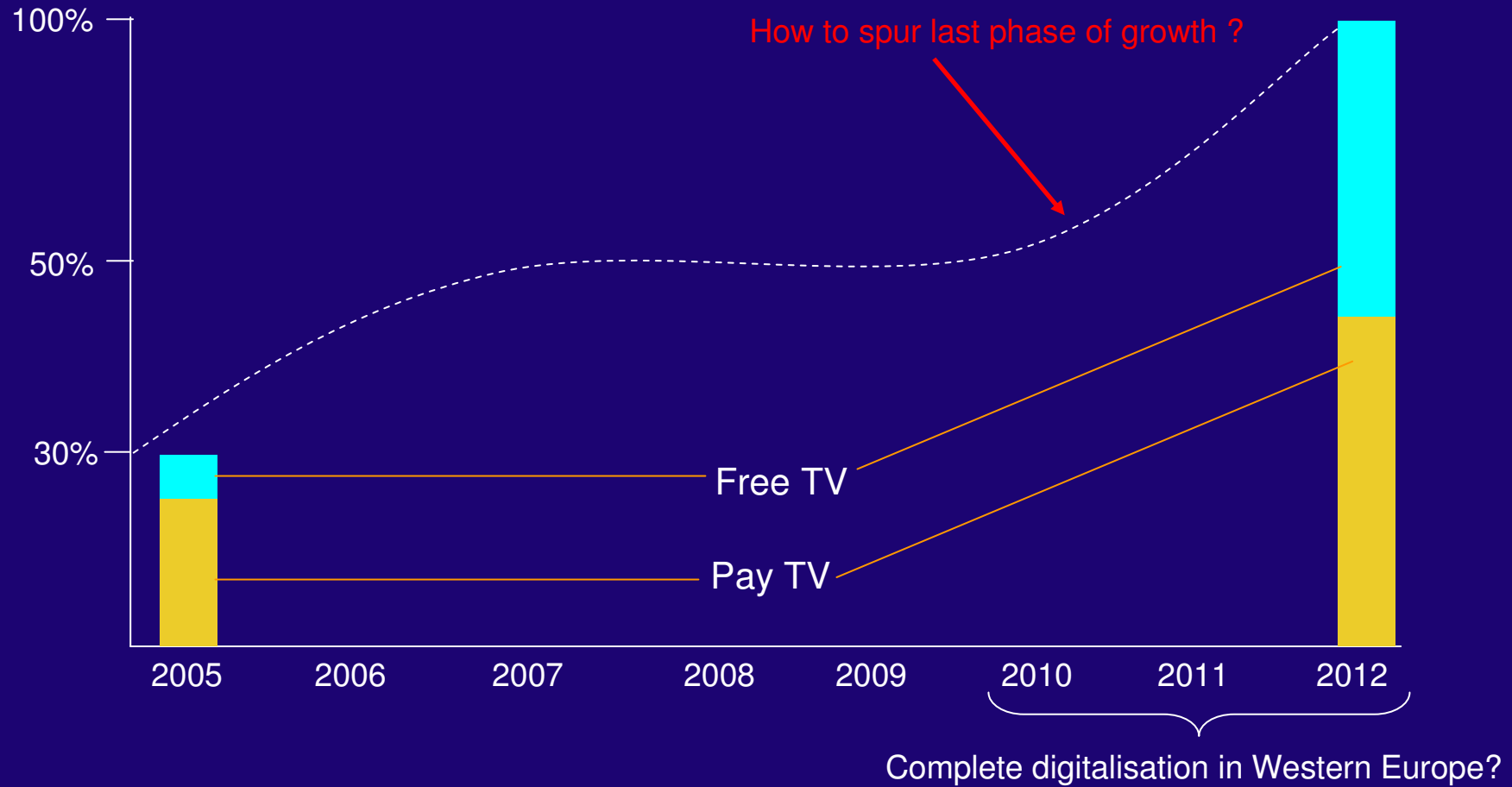
## Household penetration

| Country     | Penetration 2005 | Years after full launch |
|-------------|------------------|-------------------------|
| UK          | 22%              | 7                       |
| Sweden      | 13%              | 6                       |
| Spain       | 1%               | 4                       |
| Finland     | 25%              | 4                       |
| Netherlands | 1%               | 2                       |
| Germany     | 5%               | 2                       |
| Italy       | 13%              | 2                       |
| France      | 3%               | <1                      |

Source: EBU



# Digital TV Penetration Scenario in Europe



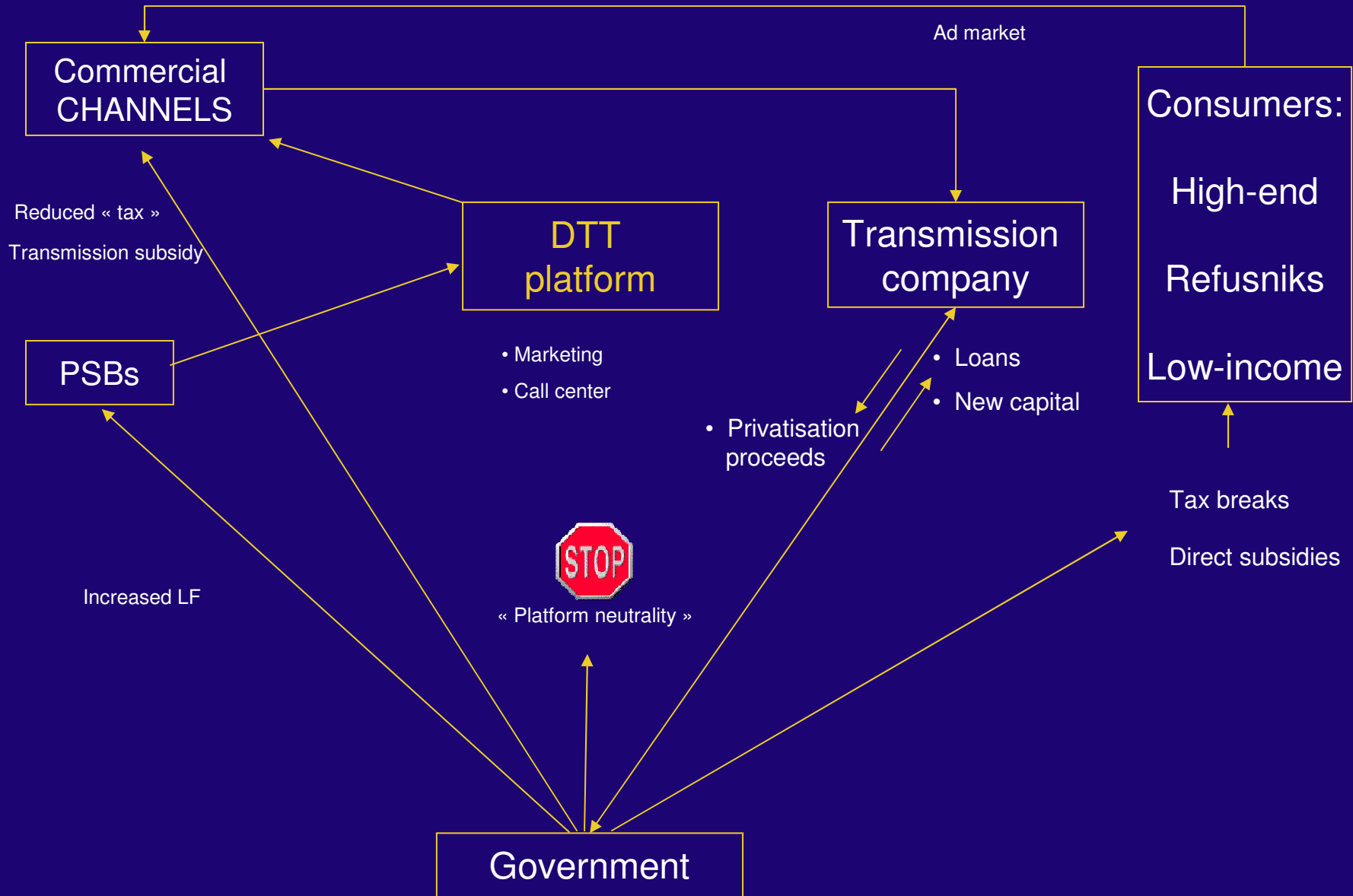
Market driven growth may hit a natural ceiling.

# Facilitating ASO

- ❑ ASO dates should remain flexible and contingent on market conditions, but be fixed at soon as possible.
- ❑ communications and marketing budgets are inadequate, and lack sufficient coordination.
- ❑ Financial incentives and other supports promoting ASO may be necessary.
- ❑ The European Commission may consider creating an environment where Member States are permitted maximum flexibility to implement measures promoting ASO.
- ❑ Ensure that obligations placed on Public Broadcasters concerning ASO are commensurate with adequate funding

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# Financial incentives promoting ASO



# The political dimension

## Benefits for policy makers, regulators, competition authorities

- ❑ Promotes competition in the electronic communications area;
- ❑ Contributes to Information Society objectives;
- ❑ Stimulates content industry;
- ❑ Gives prominence to public service broadcasters;
- ❑ Improves enforcement regulation of broadcasting content;
- ❑ Diversity and access for a wider range of the population;
- ❑ “Digital Dividend”, the economic value of released prime spectrum

# European Commission's Push for Digital Switch-over

- The European Commission has urged EU Member States to accelerate switchover from analogue to digital broadcasting. The Commission expects transition to digital to be well advanced by 2010 and proposes a deadline of early 2012 for phasing out traditional analogue terrestrial broadcasting.  
(24 May 2005)

Strong political signal from Brussels.



## Main Obstacles identified by EC

- ❑ Absence of necessary political decisions
- ❑ Lack of European approach
- ❑ Need for consumer incentives
- ❑ Reluctance from operators to make necessary investments

At the same time complaints are being raised throughout Europe (mainly from cable and satellite TV operators) concerning incentives and indirect support for the development of DTT and accelerating progress towards ASO

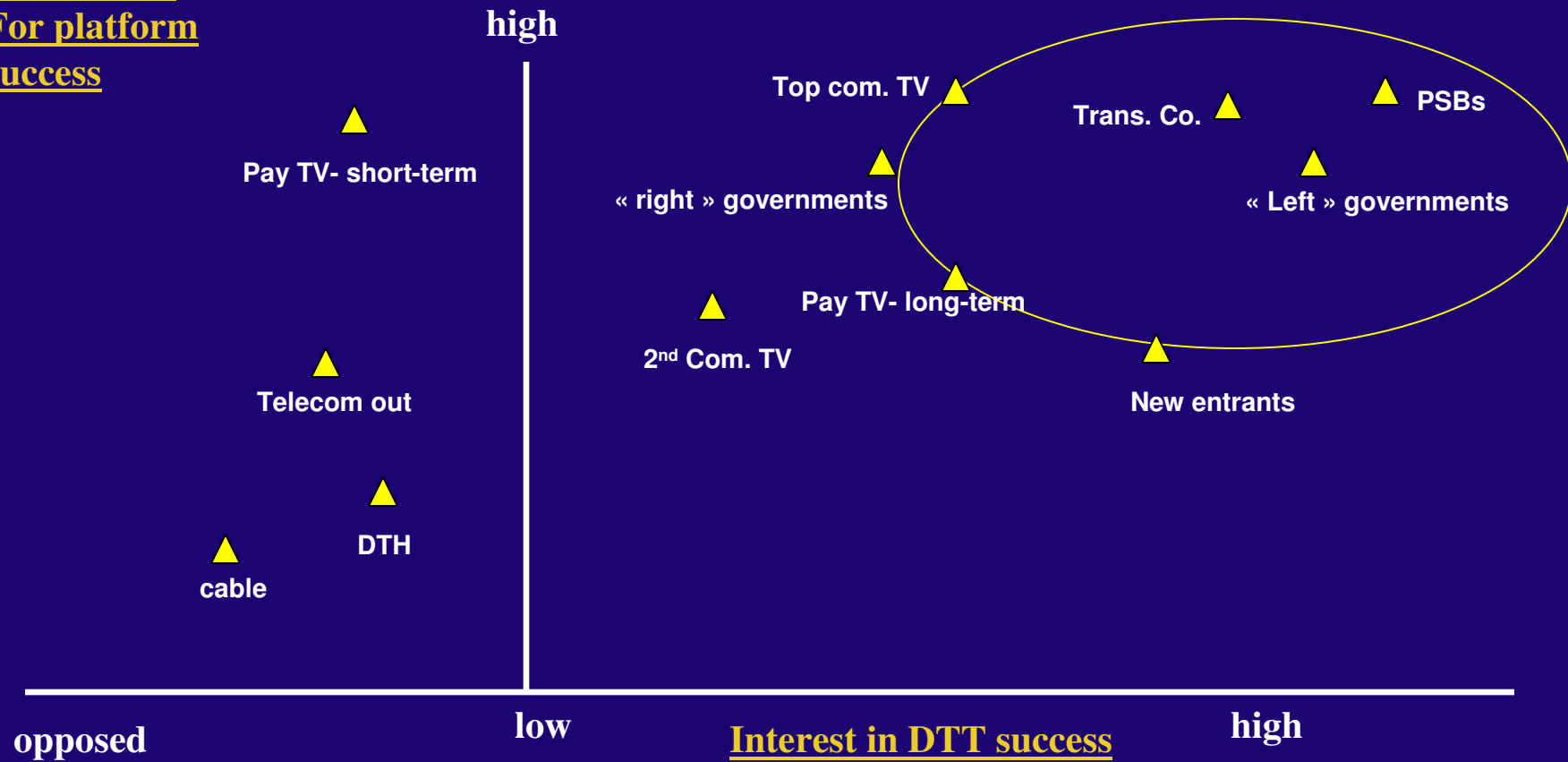
May, 2005 « Switchover Process in Member States »

The Berlin decision unlikely to affect development in Germany, but may inhibit other countries.



## Motivation of Main Players for Switch-off

Importance  
For platform  
success



General model of main players interest and importance to the success of ASO.

## ASO timeline in Europe: Will the targets be met?

|                    | ASO Date (official or estimated) | Expected range |
|--------------------|----------------------------------|----------------|
| <b>Fast Track</b>  |                                  |                |
| Finland            | 2007                             | 2006 to 2008   |
| Sweden             | 2008                             |                |
| Netherlands        | 2007                             |                |
| Germany            | 2010                             |                |
| <b>Middle Term</b> |                                  |                |
| Belgium            | 2010                             | 2009 to 2012   |
| Norway             | 2009                             |                |
| Denmark            | 2011                             |                |
| Switzerland        | 2009                             |                |
| Austria            | 2010                             |                |
| Ireland            | 2012                             |                |
| <b>Last</b>        |                                  |                |
| Italy              | 2008                             | 2012 to 2015   |
| UK                 | 2012                             |                |
| France             | 2010                             |                |
| Spain              | 2010                             |                |
| Portugal           | 2012                             |                |
| Greece             | 2015                             |                |

Source: EBU