EETT conference: Challenges and Opportunities in the New Digital Era

Understanding the European dimension of the Digital Dividend

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The switchover to digital television could release a significant amount of spectrum: the digital dividend

- Analogue switch-off is expected to occur in 2012 in throughout Europe creating a ‘digital dividend’ of surplus spectrum:
  - Greece’s existing national analogue TV channels could theoretically be carried in two digital TV multiplexes, which could (in theory) release several hundred MHz of spectrum
- This is an unprecedented opportunity regarding spectrum availability, in view of:
  - the superior propagation characteristics of UHF frequencies
  - the amount of spectrum that is potentially available
  - the wide range of potential uses of the spectrum
  - the potential role this spectrum could play in creating economic growth and new employment opportunities
    - In France, ARCEP’s study indicated that optimal use of the Digital Dividend could increase GDP by up to EUR5bn and create 80 000 jobs
    - In Ireland, ComReg estimated that in 2006 the use of the radio spectrum contributed EUR3 billion to GDP and supported 30 000 jobs

There is a wide range of potential uses of this digital dividend

Examples of alternative uses of digital dividend

 More digital terrestrial TV (DTT)	For more standard definition channels and/or for high-definition TV (HDTV)
 Mobile TV broadcast networks	Main band proposed for use in most European markets
 Cellular (3G/4G)	Spectrum is good for covering rural areas at lower cost (fewer base stations)
 Broadband wireless access (WiMAX)	Spectrum is good for covering rural areas at lower cost (fewer base stations)
 Low-power use (e.g. radio microphones)	Could be used for cognitive devices in ‘white spaces’
 Public safety	Good for rural propagation and could be used for pan-European public safety systems

Several technical, commercial/economic and regulatory/ socio-political issues need to be considered

Technical considerations	Commercial/economic considerations	Regulatory/socio-political considerations
• Interference obligations in international agreements (e.g. GE-06) • Protection of DTT and other existing uses • Existing rooftop television antennas • Preferred frequencies for individual uses • Interference between new uses in adjacent channels	• Availability of alternatives (spectrum bands/platforms) • Scope for economies of scale • Cost of redeploying existing services • Content and transmission rights	• Definition of property rights, including scope for trading/ liberalisation • Licence obligations • Protection of social value • Regional provision

Economic benefits could be diminished if Member States adopt different approaches to the use of freed spectrum

Importance from a European perspective

- High-power use of spectrum resulting in need for cross-border co-ordination
- Nature of spectrum (e.g. propagation characteristics) means this is possibly the band where the scope for innovation will be greatest over the long-run
- Economies of scale are key for many potential uses of this band (e.g. mobile handsets, DTT receivers)
- Use of services across Member States e.g. facilitation of roaming on mobile phones
- Unique opportunity to co-ordinate availability of spectrum in this band across Europe as a result of switching off analogue signals

The nature of this spectrum means that the actions of one or more Member States could adversely affect the interests of all

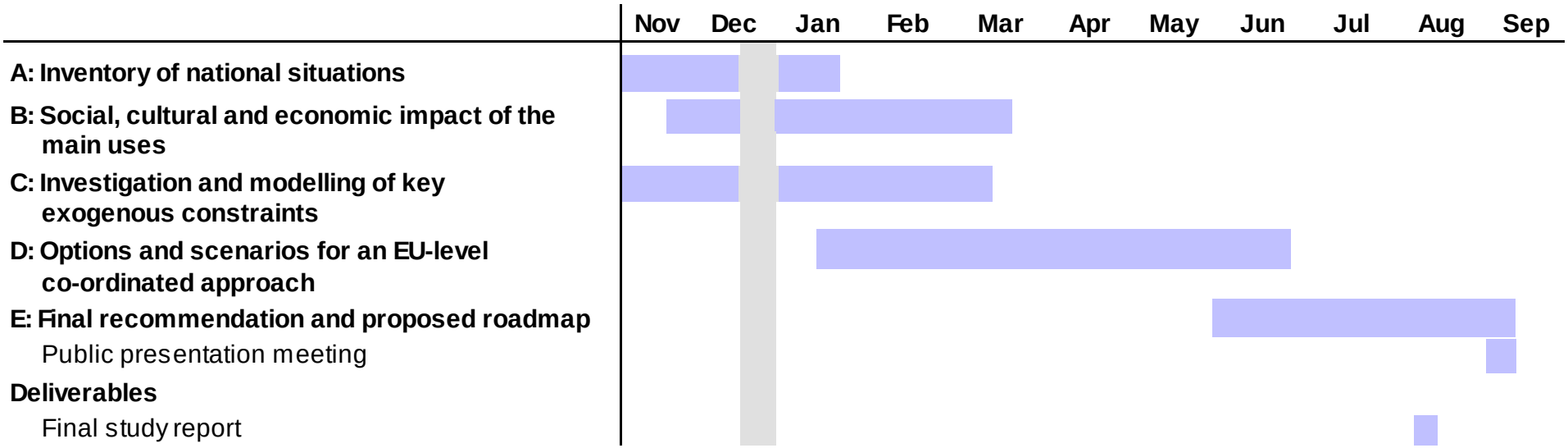
The EC has appointed Analysys Mason to undertake a study to assess the merits of a co-ordinated approach

Objective	*Summary of key activities*
A Inventory of national situations	• Desk-based research • Questionnaire and telephone interview programme • Research on international markets
B Socio-economic analysis	• Review of existing economic studies • Stakeholders' hearings/Member States' workshop • Demand for spectrum for alternative uses • Quantitative and qualitative assessment of alternate uses
C Key constraints modelled	• Technology trends • Interference management constraints and constraints linked to treaties • Constraints linked to content
D Scenarios for an EU co-ordinated approach	• Identification of alternative approaches, considering national situations • Cost/benefit and impact assessment of approaches • Review and refinement of proposed options with Member States
E Final recommendation and proposed roadmap	• Detailed impact assessment • Identification of key legal instruments • Implementation plan including timeline • Recommendations for any additional technical work

Based on input from stakeholders, the study will identify and evaluate options for EU action

Areas for co-ordination	Options for EU action (examples)	Market/technology evolution
• The amount/location of co-ordinated spectrum • Type of uses allowed • Approach taken to the award of digital dividend spectrum • Timing of any primary awards • Scope for secondary market activity • Licence terms e.g. obligations, renewal rights	• No action (Member States continue to develop their own approaches with co-ordination limited to existing international measures) • Guidance only (EU provides guidance on key policy areas, such as availability of spectrum, but Member States not obliged to follow) • Mixed approach (EU mandates states to follow certain key policies but Member States have flexibility in other areas) • Mandated approach (EU mandates states to follow very similar policies across a number of areas)	• The development of terrestrial TV (does this remain the dominant use of UHF spectrum or could it be gradually phased out in favour of IP, cable and satellite alternatives) • The evolution to HD services may lead to additional bandwidth requirements • The development of wireless broadband (will the UHF band emerge as a favoured band for such services)

The study is due to completed by September 2009



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