Mobile Broadband in Greece
Will "Artificial" Spectrum Shortages Hold Us Back?

Presentation to EETT Conference

"Advanced Communication Infrastructure as a Cornerstone for Europe's Digital Agenda"

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OTE GROUP

OTE - Strong Mobile Presence Across South East Europe through Cosmote Group

AMC

- 2.0 million customers (March 2011)
- 900MHz, 1800MHz spectrum

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- 7.6 million customers (March 2011)
- 900MHz, 1800MHz, 2.1GHz spectrum

COSMOTE / Zapp – THE NEXT GENERATION NETWORK

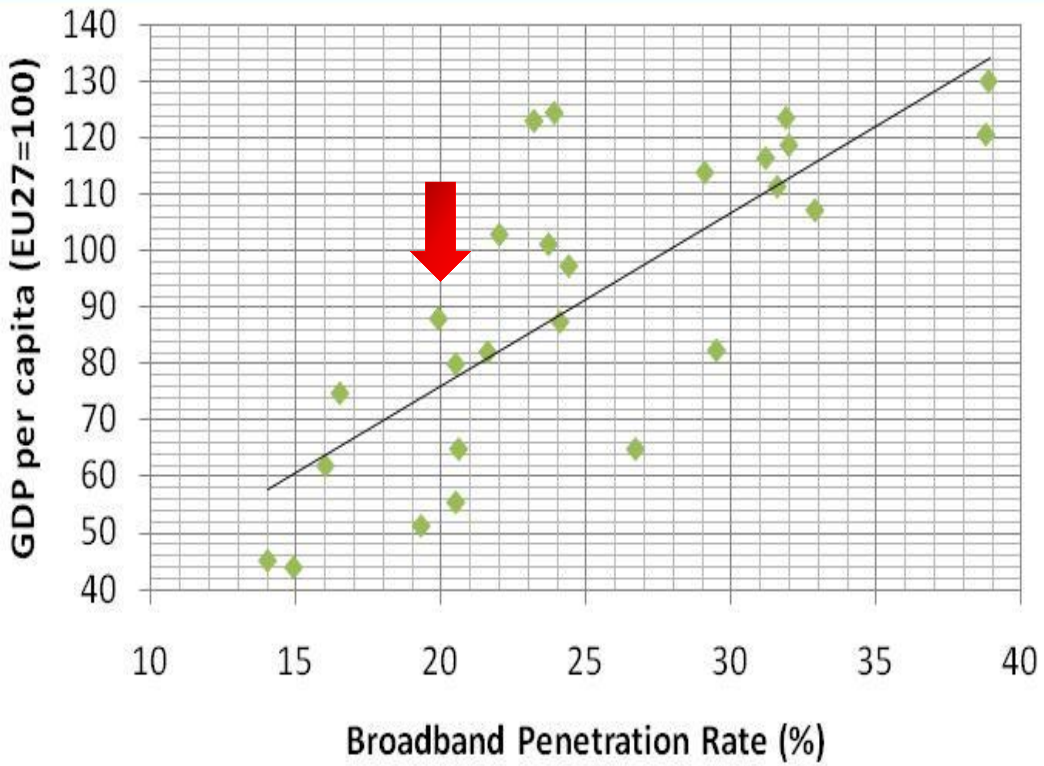
- 6.6 million customers (March 2011)
- 450MHz, 900MHz, 1800MHz, 2.1GHz spectrum

GLOBUL – COSMOTE GROUP

- 3.9 million customers (March 2011)
- 900MHz, 1800MHz, 2.1GHz spectrum

The Virtuous Circle of Broadband

GDP versus Broadband Penetration.



European Commission, Digital Agenda, August 2010"

- The ICT sector:
  - 5% of European GDP,
  - market of € 660 billion annually
  - contribution to overall productivity growth:
    - 20% directly from the ICT sector
    - 30% from ICT investments.
- "Wireless broadband ..... affecting €250 billion of activity annually"

- **Greece urgently needs to join the "virtuous circle" of broadband development.**

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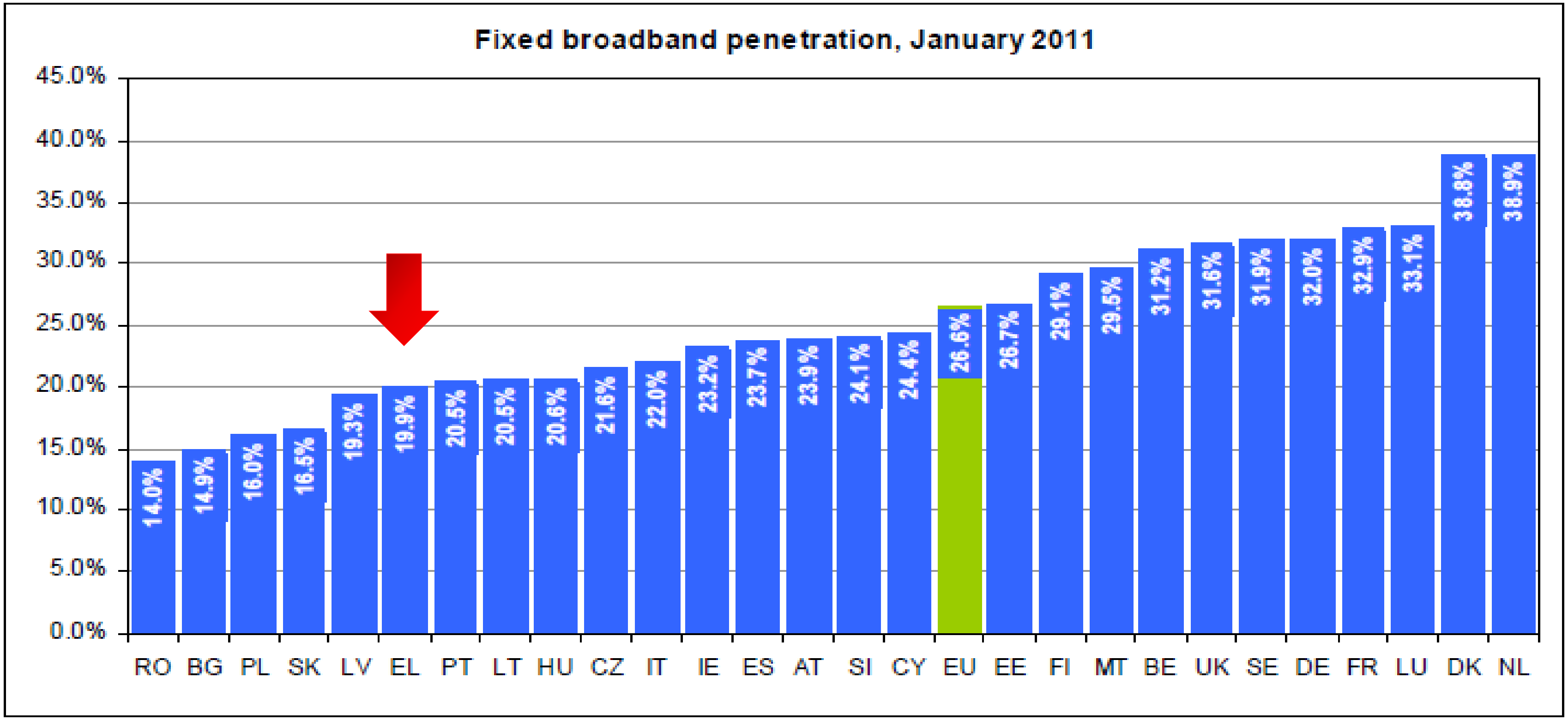
Fixed Broadband Penetration Rate, Jan 2011 from Digital Agenda Scorecard. GDP per capita, 2010, from Eurostat

Broadband - How does Greece compare (1)?

- Greece lagging behind in Fixed broadband penetration …..



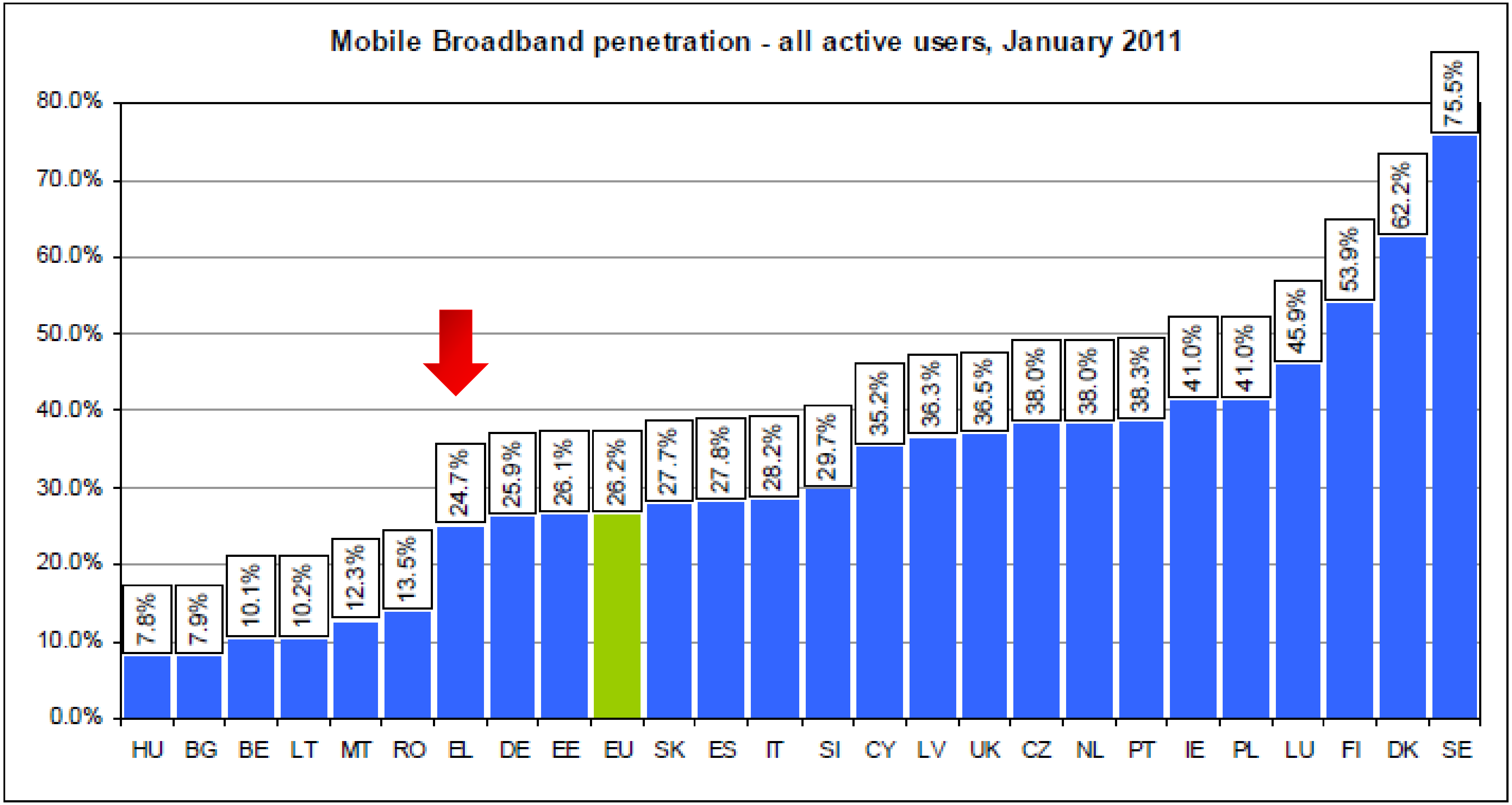
- OTE is the only operator in Greece with know-how and financial capacity to implement nationwide NGA without subsidy.

- OTE's NGA investments would have direct impact on Greek economic growth.

Source: European Commission

Broadband - How does Greece compare (2)?

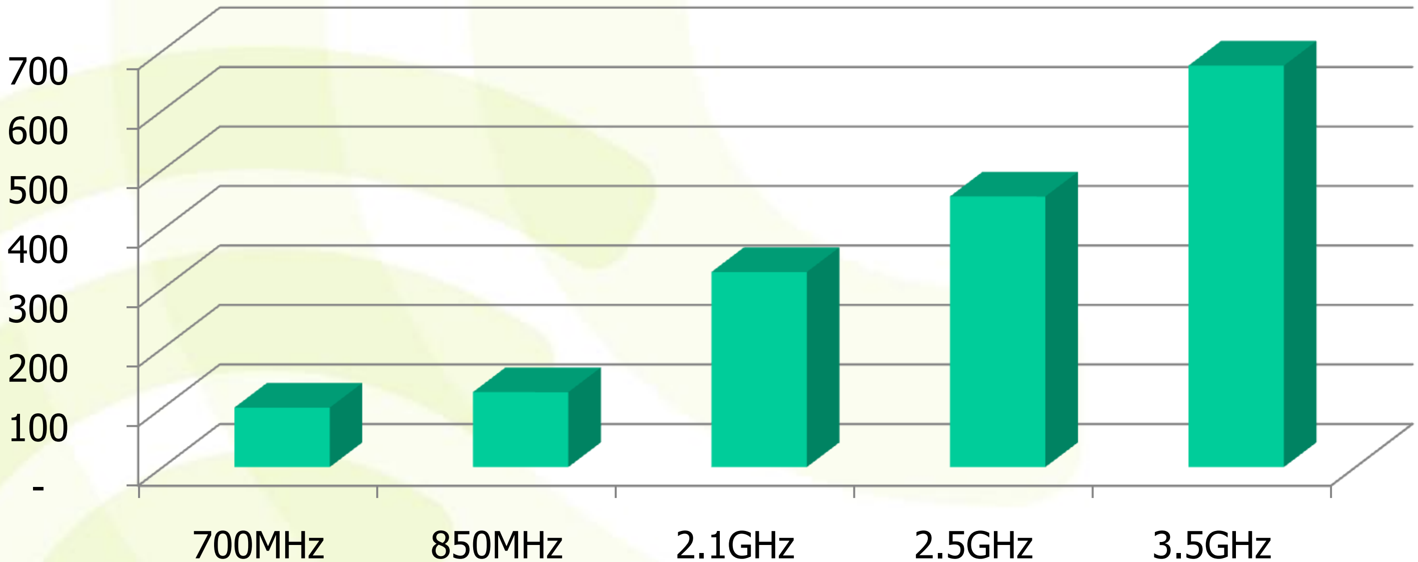
- and in mobile broadband, though the “gap” has reduced in the past year …….



Spectrum's Importance to MBB Development

- Need for faster, more transparent strategy for releasing spectrum to operators.
- Spectrum below 1000MHz particularly important, for coverage purposes.

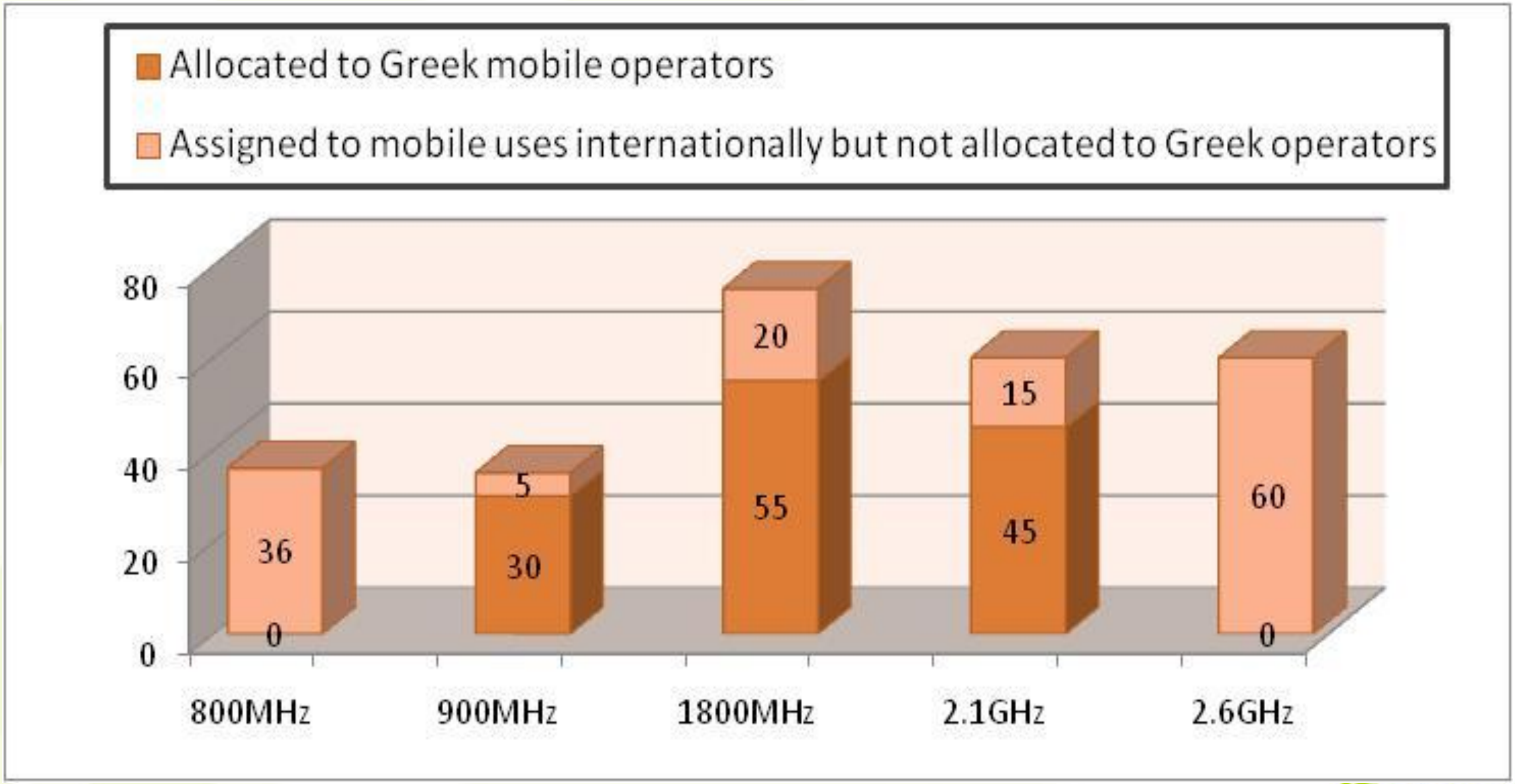
Relative Capex for Network Investment (Index, 700MHz = 100)



Source: "The Mobile Provide", Study by SCF consultants

Spectrum allocated in Greece
The vicious cycle of artificial spectrum shortage

- **In Greece, only half of the spectrum assigned to mobile has actually been allocated to operators:**



FDD spectrum only

900MHz Re-Licensing - Process

- EETT January 2011 consultation document: how it proposes to liberalise 900/1800 licences and to re-licence the 2x20MHz 900MHz spectrum for which licences are expiring in 2012.

- Cosmote's response:

  - **Agrees with the analysis of competitive distortions** that would arise if existing 900 licences were extended and liberalised to allow use of UMTS, without allowing the possibility of spectrum reallocation.

  - **Auctions not always desirable**, depends on circumstances. But inevitable in this case given serious competition issues.

  - **Technology Neutrality**: EETT should make clear that all technologies will be allowed, not limited to UMTS e.g. recent EU Decision to authorise use of LTE in the 900 band.

900MHz Re-Licensing - Spectrum Fees

- Based on a benchmarking study, EETT proposes setting the minimum bid price as high as €61- €90m per 2x5 MHz block of spectrum.

- High fees → less available for investment → delayed availability of next generation networks → loss of economic development → tax revenues to Government.

- Cosmote believes proposed fees are unrealistically high:

  - benchmarking study based on past spectrum allocations in other countries - does not take any account of impact on likely values of Greek economic crisis and severe price competition in mobile market.

  - also other demands on Greek mobile sector – the highest rate of taxation in Europe, high EETT admin fees being used as a large "back door" way of collecting more tax.

EETT must be more realistic about the fees mobile operators are able to pay in the current economic climate. High fees short-sighted if they choke off investment, economic development and future tax revenues.

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E-GSM - part of the 900MHz band

- E-GSM band: 2x10MHz (880-890 and 925-935MHz)
- Across Europe: all allocated to mobile uses.
- In Greece: half is currently allocated to the Greek Armed Forces.
- E-GSM is particularly valuable for mobile broadband.
- Mobile industry has made specific proposals on re-allocation to mobile.

- The following steps are now urgently required:
  - the Government should reassign the Armed Forces to another spectrum band, so releasing all the E-GSM spectrum for mobile uses.
  - EETT should urgently begin the process for allocating this 2x5MHz spectrum to the mobile sector.

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Digital Dividend

- Most EU countries have either already completed the Analogue Switch-Off and either already allocated the DD to mobile - or have a firm timetable for the allocation process.

- Greece is lagging far behind:

  - Transition to Digital TV – Digital signals now available to around 60% of the population.

  - Analogue switch-off possibly in 2013, but no firm date yet.

  - Digital Dividend: part of 790-862 MHz band still occupied by Armed Forces. ΕΣΡ has also licensed TV companies in the band.

- The Government and Regulators' priority now should be:
  - Set firm early date for Analogue Switch Off.
  - Urgently clear 790-862 MHz band of non-mobile uses.
  - Begin, as soon as possible, the procedure for allocating the Digital Dividend to mobile operators.

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Digital Dividend – the Value for Mobile Uses

- Comparison of Economic Benefits in the EU of Mobile versus Broadcast TV:

	Mobile	Broadcast TV
Economic Output per 1MHz of spectrum	€168 million	€28 million
Direct Economic Effects in the EU	€208 billion	€43 billion
Sales by Suppliers	€87 billion	€30 billion
Indirect Economic Effects	€165 billion	€95 billion
Jobs Generated by Sector Spending	2.3 million	1.8 million

- Study for EU by **Analysys Mason, DotEcon and Hogan & Hartson (9.9.2009):** "We estimate the economic and social value of the DD across the EU to be in the range of €150-700 billion"

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Source: "The Mobile Provide", Study by SCF Consultants

Conclusions

- **Greece at risk of being left behind in the development of next-generation mobile data services.**

- **Cosmote ready to invest, but urgently needs support from Government and Regulators, to avoid danger of artificial spectrum shortages:**

  - Completion of EETT process for transparent, fair re-licensing of 900MHz spectrum.

  - All E-GSM spectrum to be allocated to mobile

  - Clear timetable for clearing Digital Dividend (780-862MHz) band of no-mobile uses and for allocating it to mobile.

  - Realism about amount mobile sector can afford to pay for spectrum, in the current economic crisis.

  - Measures to reduce other obstacles to mobile investment – very high mobile taxes, EETT admin fees, continuing critical problems with base station licensing.

Thank you

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