

# THE ROLE OF MOBILE TELEPHONY IN BROADBAND CONVERGENCE

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**4<sup>th</sup> International Conference on Broadband**

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Source for the Presentation Data

Study by the Athens University of Economics and Business (ΟΠΑ)  
& the ICAP Group

«Social-Economic Assessment of the Mobile Telephony Sector in  
Greece»

# ACHIEVEMENTS and CONTRIBUTION of MOBILE TELEPHONY in GREECE

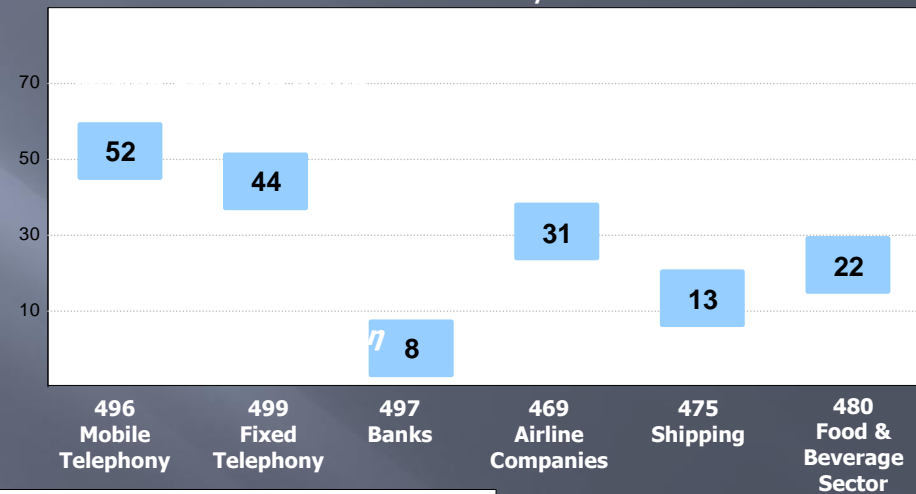
## Corporate Reputation of Mobile Telephony in Greece

**The Sector enjoys the highest Corporate Reputation Index among other sectors – quite a fair outcome**

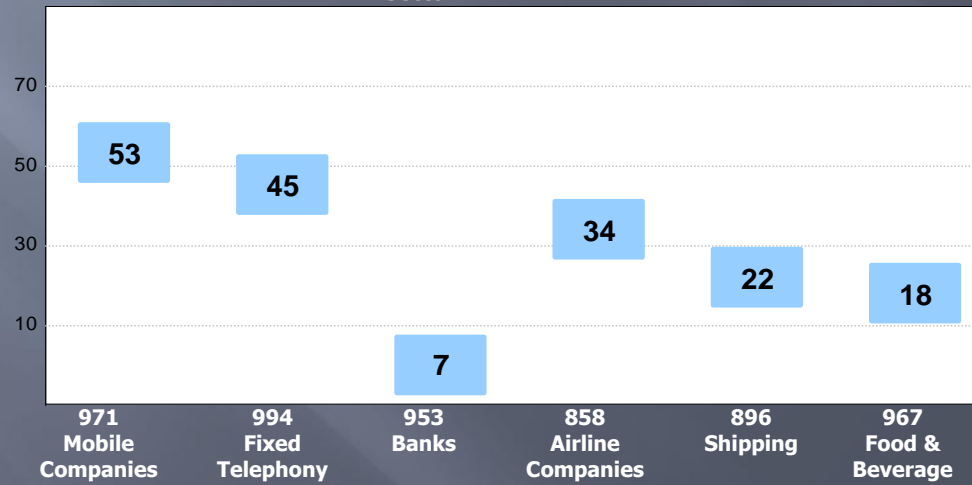
*Large Enterprises*



*Small Enterprises*



The Corporate Reputation Index (TRI\*M) is composed of 5 factors for the Sector: Overall Reputation, Favourable Opinion, Trust, Success, Quality of Products & Services - Source TNS ICAP



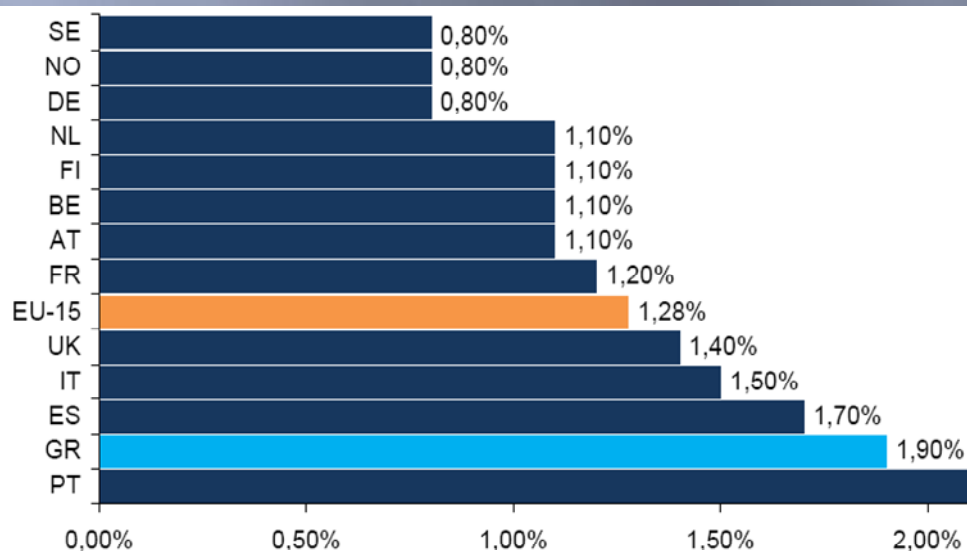
*General Public*

# Mobile Telephony – Contribution to the Economy

**The Sector's contribution to the economy is close to 2% of GDP, the second best percentage figure in the EU**

The Mobile Sector's Gross Value Added, produced within Greece, amounts to **€3.305 million**

The Gross Domestic Product of the Sector and its suppliers amounts to **€4.404 million**



Source: Merrill Lynch (2008) European Wireless Matrix Q3

## Mobile Telecoms Contribution in GDP 2007

(in thousand euros)

Gross value added (in Greece and the rest of the world)	4.572.141
minus: payments to foreign suppliers	1.266.472
Gross value added (Greece)	3.305.669
plus: VAT	868.707
plus: mobile telecoms sales taxes	229.600
<b>Mobile telecoms Gross Domestic Product (Greece)</b>	<b>4.403.975</b>
Total Gross Domestic Product of Greece (2007)	228.949.000
<b>Sector share in GDP (Greece, 2007)</b>	<b>1,92%</b>

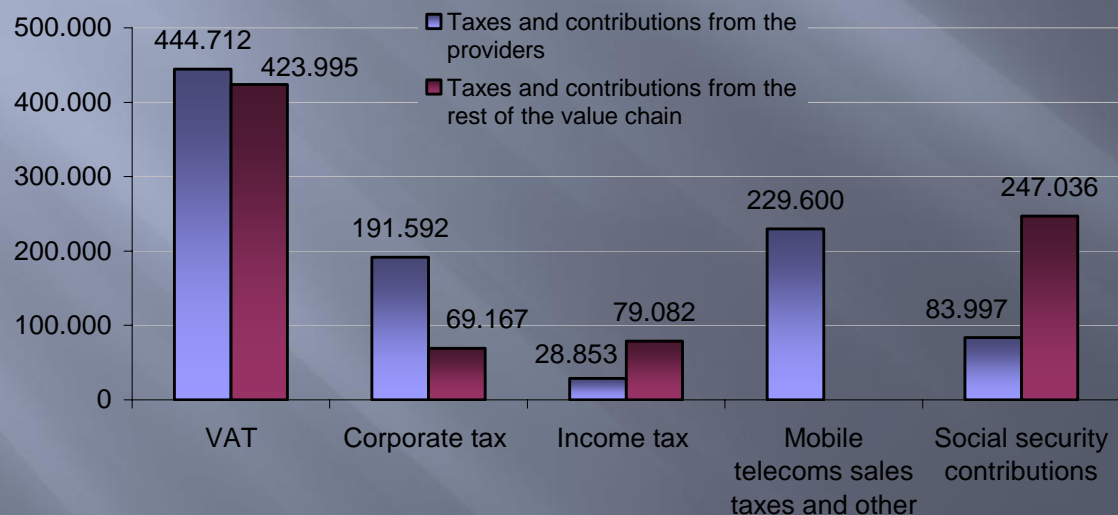
Sources: Analysis of providers' financial data by ICAP, Gfk Hellas, ICAP Databank, Bank of Greece

# Contribution of Mobile Telephony to State Revenues

**Based on the 2008 Budget figures, the Sector's contribution to State revenues corresponds to the sum of the investment budgets for Education and Industry**

## Government revenues

(in thousand euros)

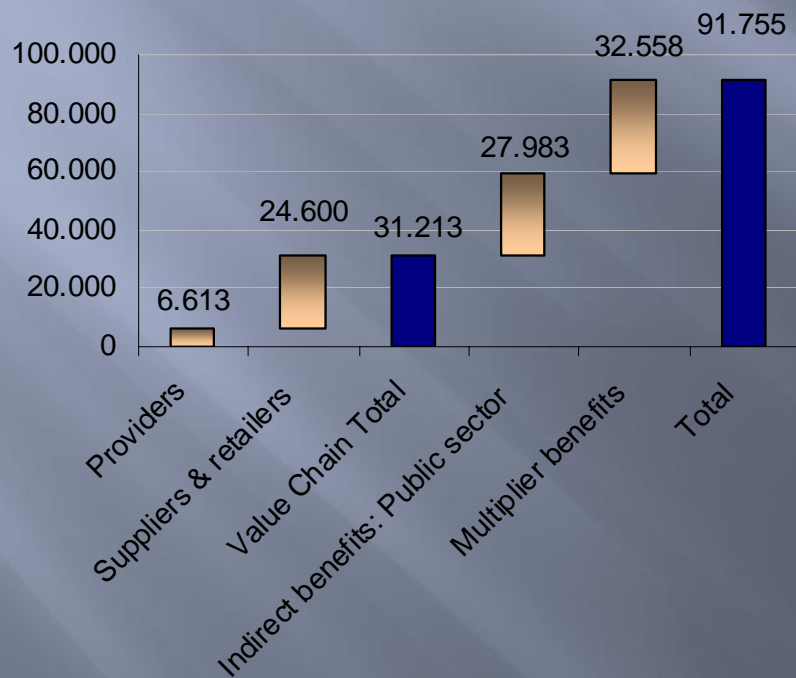


- The State and the Social Security Funds absorb **41% of the total turnover produced by the Sector in Greece**
- Contributions by the Sector to State revenues and social security funds amount to **€1,8 billion, or 0,8% of GDP**

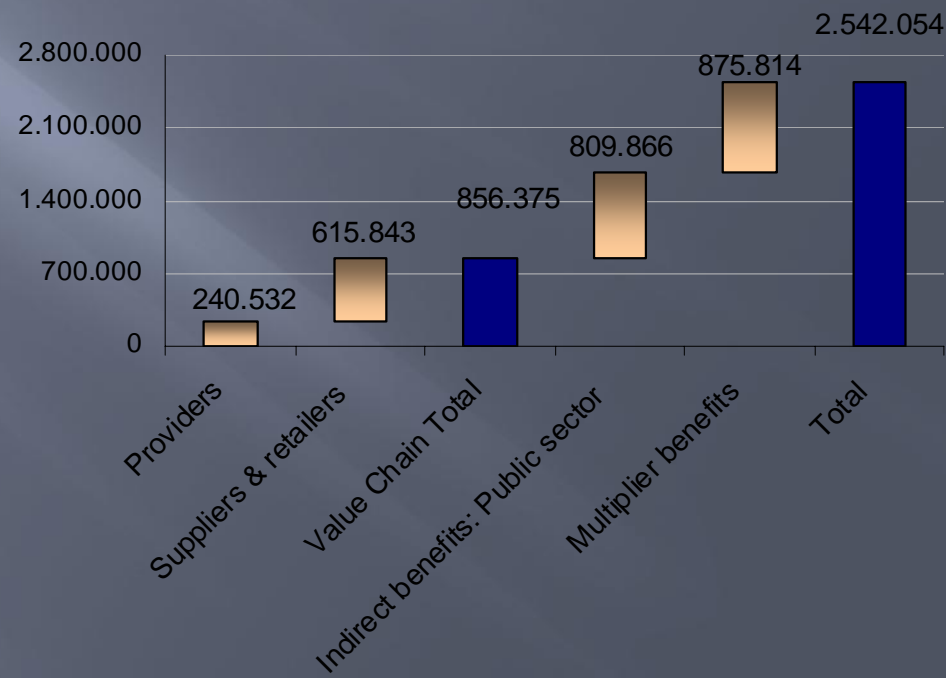
# Contribution of Mobile Telephony to the Labour Market

**The Sector contributes to employment creating 92,000 jobs with a total gross income of €2,5 billion**

**Employment**



**Gross labour income (in thousand euros)**

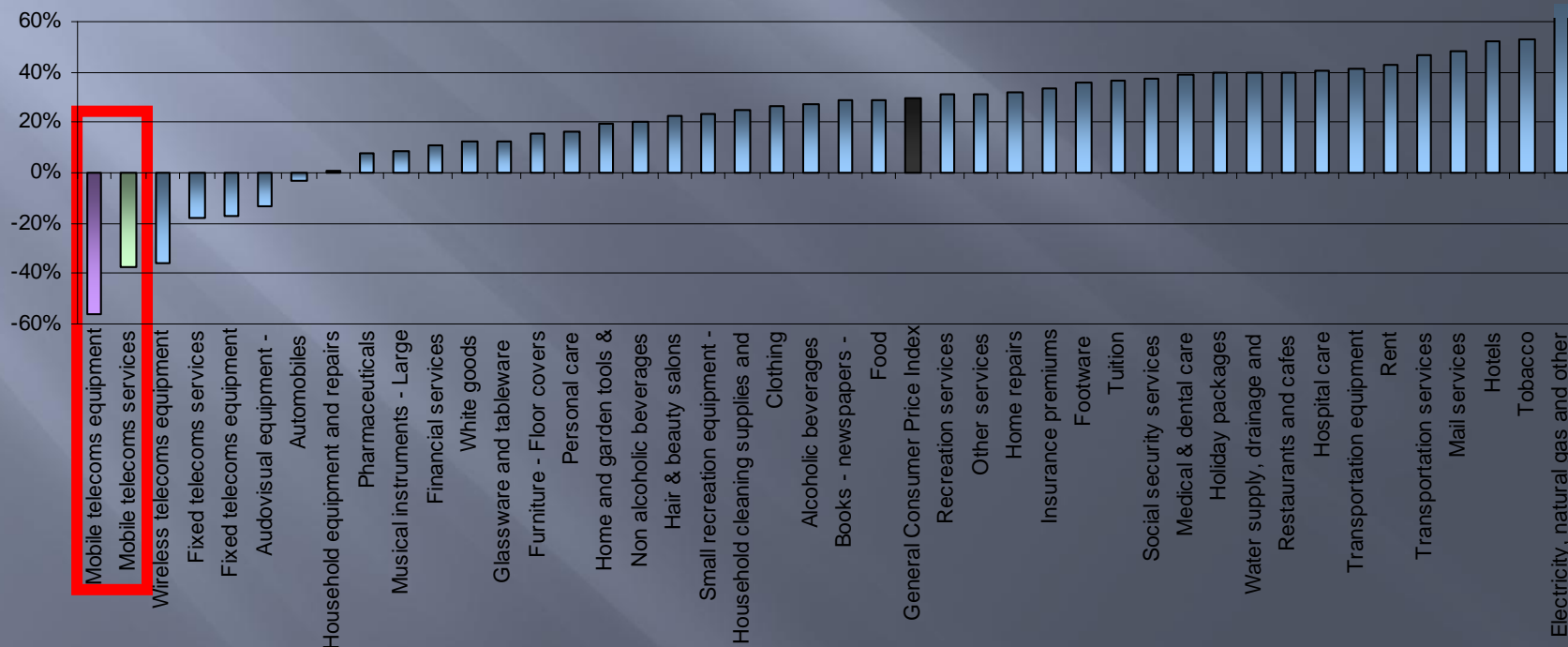


Productivity per employee employed by the Sector's enterprises amounts to **€246.000** and the average annual gross salary to **€36.000** (relatively to €26.900 on average for the Greek economy)

# Prices of Mobile Telephony Services

**Contribution in holding back the CPI (cumulative effect of -2,34% for the period 2000-2007). More and more affordable prices to everyone**

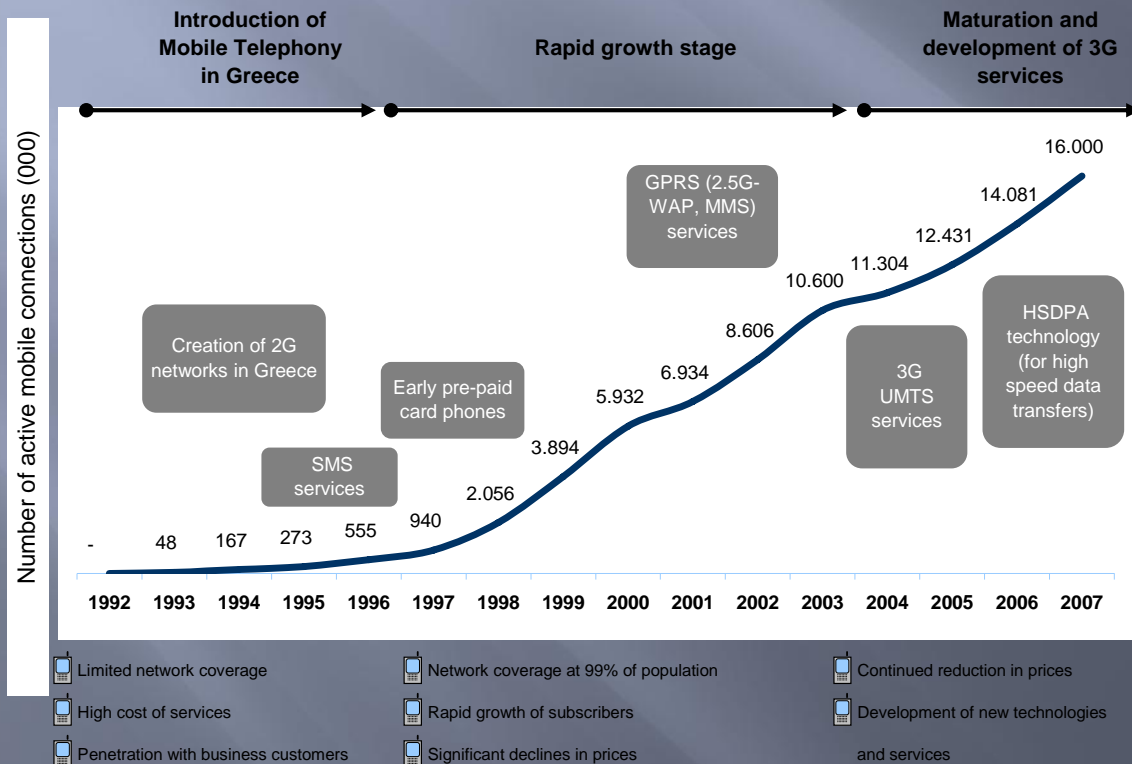
Mobile telephony **appliances** and **services** show the greatest cumulative decrease in prices (56,4% and 37,5%, respectively) relatively to all other 652 goods and services that made up the Consumer Price Index basket between the years 1999 and 2007



# Global use of Mobile Telephony Services in Greece

**To date, no other sector in the Greek economy has achieved such high market depth and accelerated penetration**

## Evolution of Mobile Telephony in Greece



## Penetration

- Depth: 168% (in 2008), starting from zero basis 16 years ago
- Geographic coverage: 100%
- Users within the population: 82%

## Economic Assessment

- Turnover: €4,6 billion (2007)
- Job creation: 92.000 positions
- GDP Contribution: €4,4 billion (≈ 2%)
- Contribution to state revenues: €1,8 billion (as much as the 2008 Gov. Budget for education and industry together!)

# Mobile Telephony compared to other Sectors

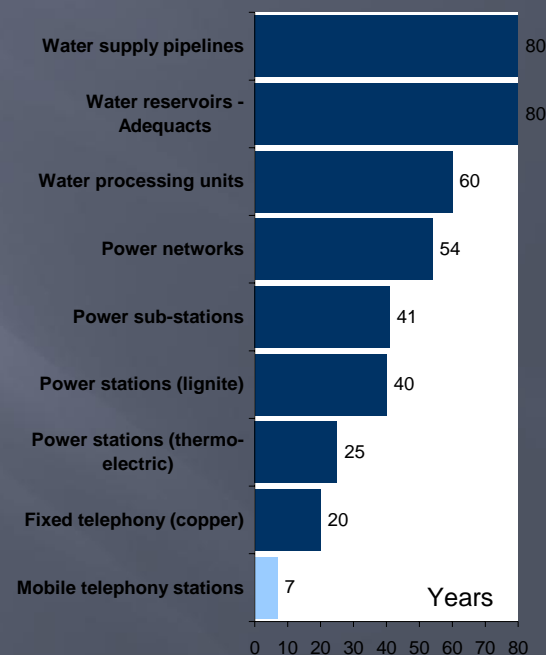
## Return on Capital Employed

**The Sector's return on capital employed is average although net income is high, due to high capital expenditures with very small useful life**

### Return on Capital Employed - Greece 2007

Industry	Profits before tax € mil.	No of Companies	ROCE %
Trade in pharmaceuticals, cosmetics & cleaning	448	295	26,3
Trade in chemicals, gases, colours and explosives	185	186	25,8
Tobacco manufacturing	106	5	25,5
Trade in medical and lab supplies	193	230	24,6
Trade in various goods	304	433	21,7
Oil and coal products	603	18	17,8
Trade in electrical and electronic goods	150	272	17,5
Trade in clothes, footwear and leather goods	215	495	14,4
Retail trade (Supermarkets)	261	233	14,1
Business services	141	647	14,0
IT	148	310	13,6
Investment companies	140	13	13,6
<b>Mobile telephony</b>	<b>883</b>	<b>3</b>	<b>13,2</b>
Non metallic mineral products	464	477	10,9
Pharmaceuticals, cosmetics & cleaning supplies	365	97	10,8
Health care	216	258	10,0
Holding	1.175	154	9,0
Trade in fuel, lubricants and gases	118	117	8,9
Beverages	323	143	8,7
Transportation services	418	289	8,6
Transportation equipment dealers	193	726	7,5
Metal products	238	436	7,0
Food	325	772	5,1
Real estate	521	847	4,9
Metallurgy	110	29	4,2
Technical - Construction	383	1625	2,4
Energy - Water	329	99	2,0
Leasing	113	12	1,8

### Useful life of capital expenditures in different sectors



Source: AT Kearney - Mobile Industry Observatory 2008

Sources: ICAP Data Bank, ICAP Analysis; Industries with profits greater than €100 mil.- gaming and banks have been excluded

# Contribution of Mobile Telephony to the Public

**People acknowledge the sense of freedom and security as the most basic benefit of using the mobile phone**

*Perceived benefits / advantages from using the mobile phone - Spontaneous*

## Freedom of immediate communication

According to the general public (66%), the main advantage of mobile telephony is the sense of freedom gained from using the mobile phone

## Security

The sense of security is also a significant advantage because communication is possible from any place as well as in emergency situations



## OPPORTUNITIES and PROSPECTS – “THE BROADBAND CHALLENGE”

# Mobile telephony and Broadband

## The mobile phone as a broadband appliance

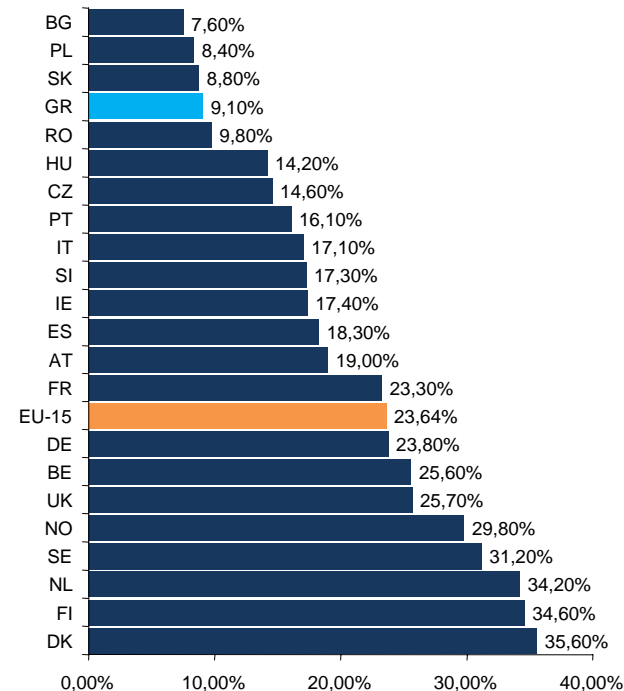
**There is enormous potential to eliminate the digital divide by means of mobile telephony**

There are inherent variations in Greece regarding access to the internet via computers:

- **Geographically:** possession of a computer and access to the internet is far higher in Attica than any other area in the country
- **Educationally:** possession of a computer and access to the internet is far higher among population groups that have secondary and university education than groups with basic or primary education

On the contrary, the possession and use of the mobile phone does not show any geographical or educational dependency, **which makes the mobile phone an ideal “vehicle” to attract towards broadband applications and services the population groups which are presently cut off or are inferior**

**Broadband penetration per country (EU 2007)**



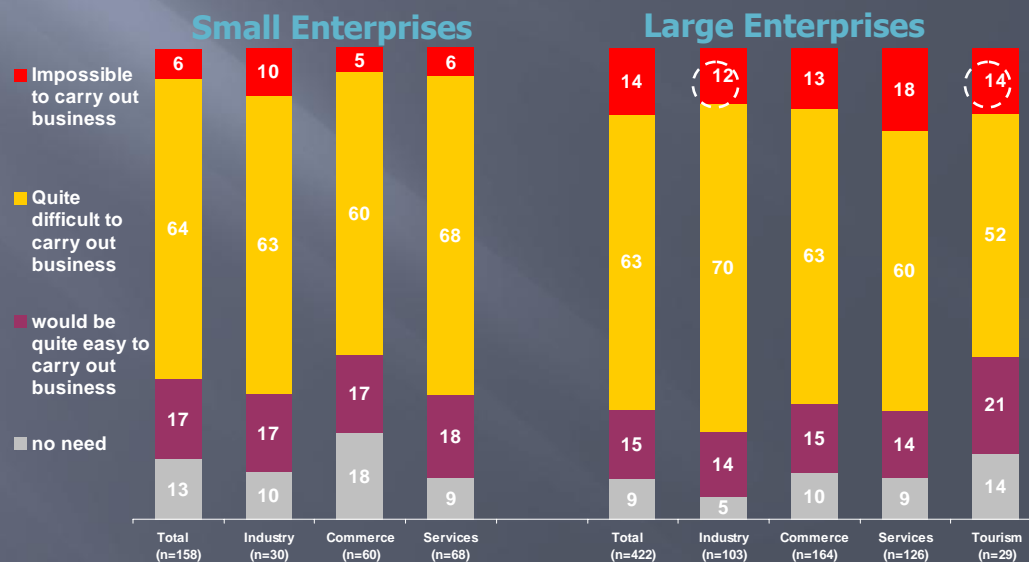
Source: 13th progress report on communications in the EU (January 2008)

# Contribution of Mobile Telephony to the Enterprises

**The mobile phone has become an irreplaceable work tool – a fundamental condition for the professional success of Greek users**

*Necessity of the mobile phone for the operation of an enterprise*

**7/10 small enterprises and 8/10 large enterprises claim that it is impossible/ considerably difficult to carry out their business activities without the use of a mobile phone**



# Mobile Telephony, Enterprising and Technology

**Mobile telephony has brought the Greek enterprise closer to technological developments and will continue to do so**

## Mobile Telephony and new technologies

9/10 enterprises agree that mobile telephony brings the enterprise closer to technology and development

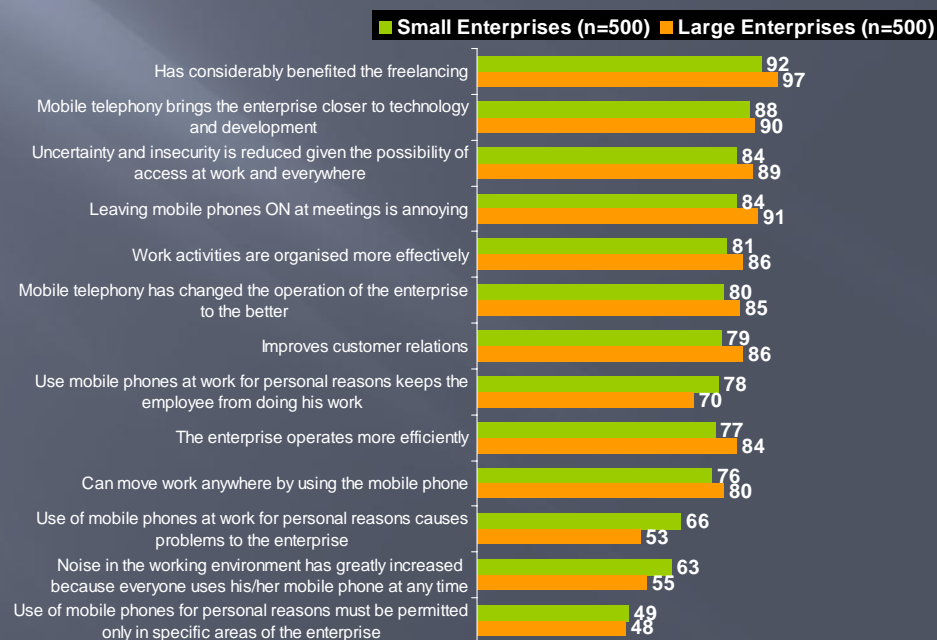
## Sense of security and efficient management

The majority of enterprises also acknowledges the reduction in the insecurity and uncertainty of communication as well as the more efficient management / organisation of business matters

*Assessment of mobile telephony's influence on enterprises*

The two highest scales

(4=agree and 3=probably agree)



# The Public's familiarization with technological developments

**Mobile telephony has a very positive influence on society. The familiarization with technology that it offers makes the mobile phone ideal for broadband applications**

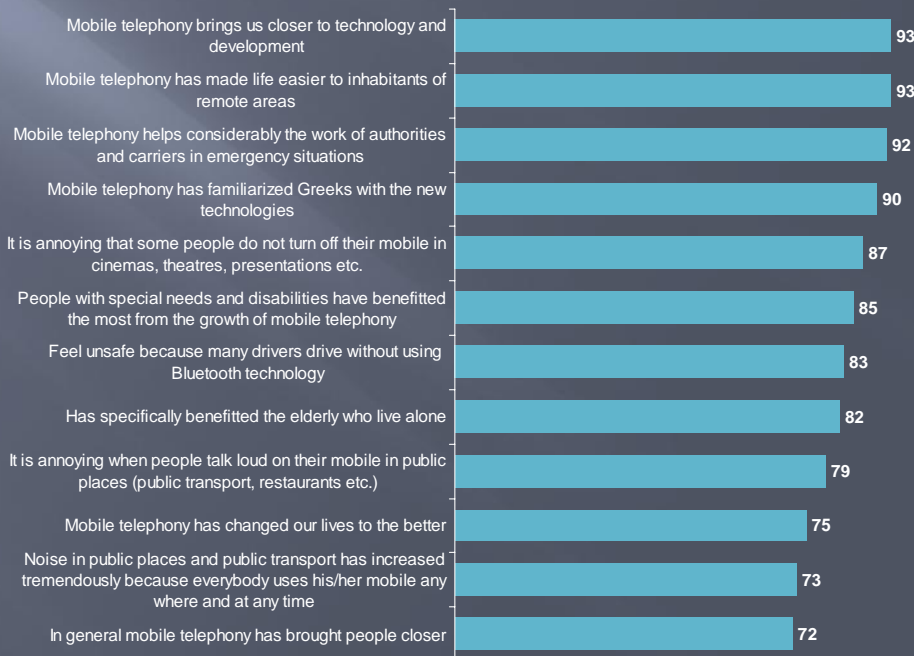
*Assessment of mobile telephony's influence on society*

**The two highest scales**

(4=agree and 3=probably agree)

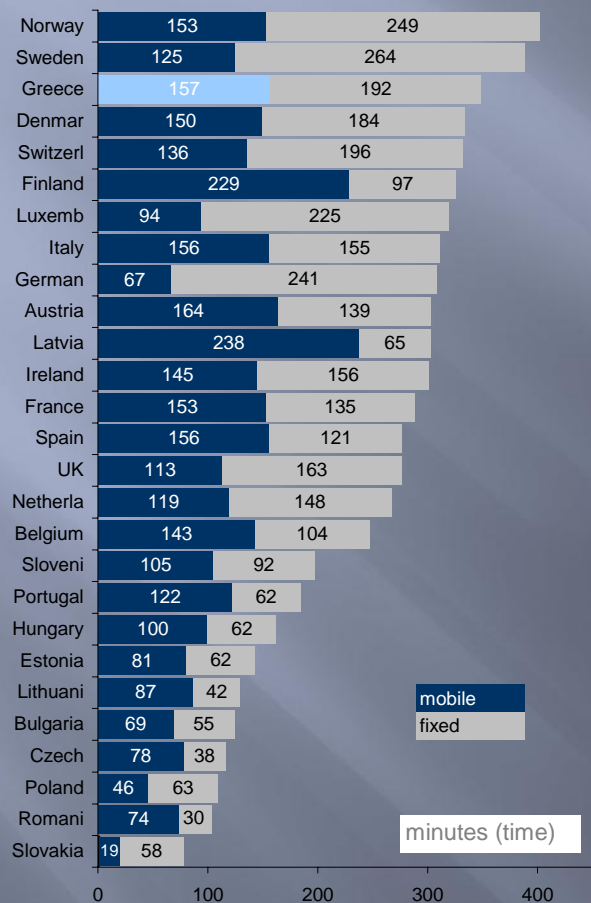
## **New technologies and developments**

Overall recognition regarding the influence of mobile telephony on society with respect to parameters involving issues of **familiarization with new technologies and developments**, issues of **improvement of the standard of living** (as for people who live in remote areas or people with special needs and the elder) and even issues of **crisis management** (since mobile telephony can significantly help the work of authorities and carriers in emergency situations)



# Mobile vs Fixed Telephony

**Minutes of use per person per month in fixed and mobile telephony (EU -2007)**



**Mobile Telephony is becoming the main mode of communication as its usage has already surpassed the usage of Fixed telephony in most European Countries**

## Usage level

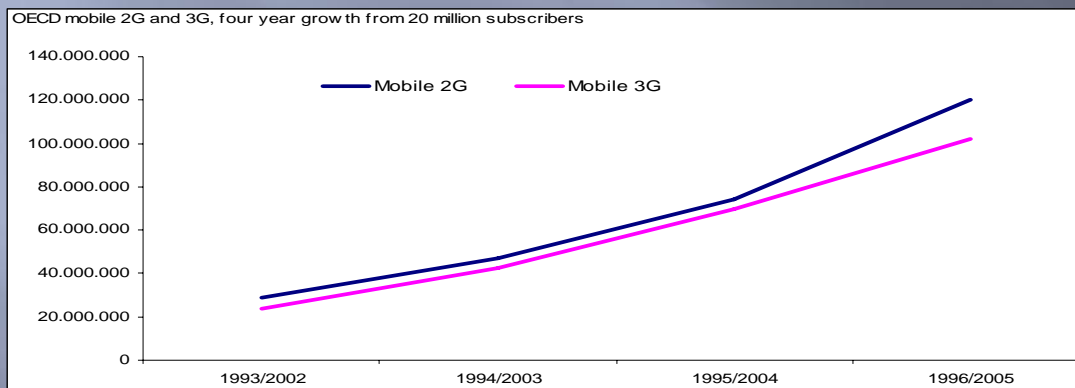
- Greece has the 3rd highest usage of total telecom services (fixed plus mobile) in Europe

Sources: OMS/IC, IDC, Wireless Intelligence; A.T. Kearney analysis; ICAP analysis

# Growth of Data Services

**Use of data services through mobile appliances will make the economic and social convergence a reality**

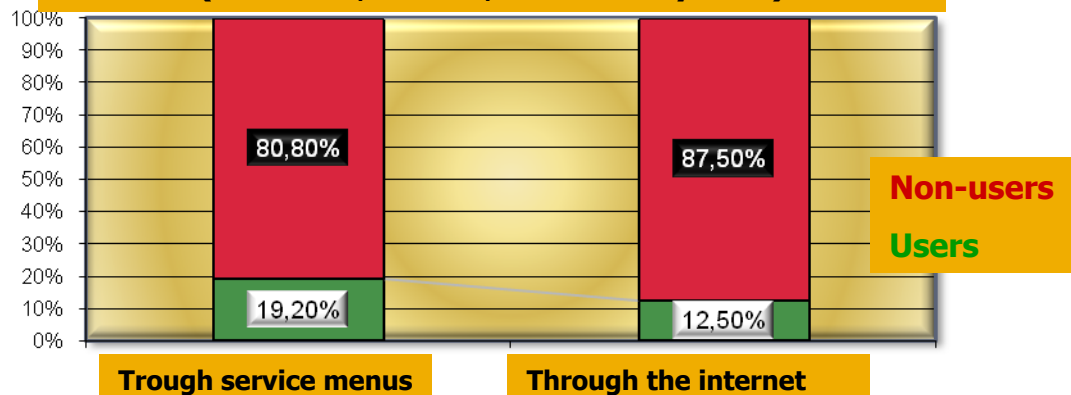
## Growth of 2G and 3G subscriptions within 4 years, starting from 20 million subscribers



## World-wide Growth of 3G

- World-wide the adoption of 3G networks follows the initial growth of the 2G networks with a time lag of approximately nine years

## Use of mobile data services in Greece (Jan 2009, n=928, research by ΟΠΑ)



## 3G usage in Greece

- One in five (5) Greeks has used data services through the mobile phone
- One in eight (8) Greeks has experience in using the mobile Internet (through mobile phones or other portable wireless access appliances)

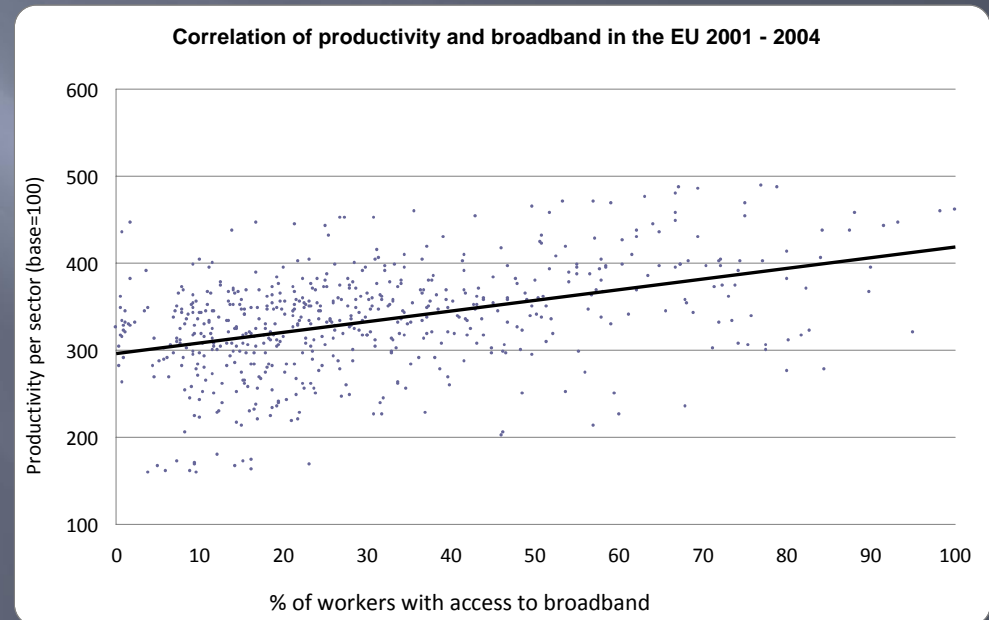
# Mobile Telephony and Broadband

## Importance and Broadband Penetration

**The spread of Broadband is a precondition for the technological development of Greece**

**Greece lags considerably in Broadband penetration contrary to its successful course in mobile telephony**

- Fixed broadband access lines: 9,1% in Greece relative to 20% in the E.U. (beginning of 2008)
- DSL Coverage: 10% relative to 89,3% in the E.U. (end of 2007)
- Percent of Population with internet access: 22% in Greece relative to 58% in the OECD countries (2008)



Broadband penetration is so important that this specific index is one of the 13 indices used to assess the degree of innovation within the economy of a country (the sole index with relevance to telecommunications)

# Estimated Future Contribution of Mobile Telephony

**Growth of broadband services → Growth of the Sector → Contribution to the economy**

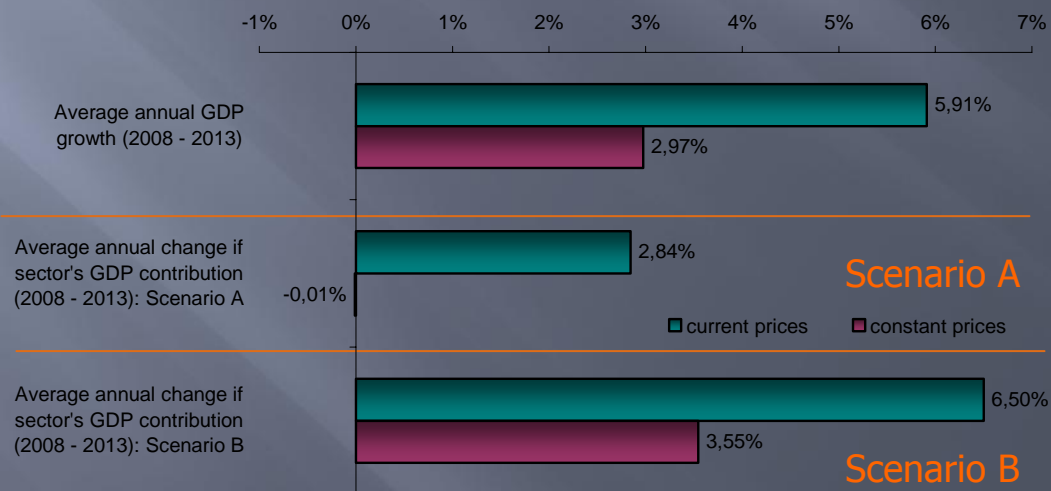
## Scenario A: Without revenue growth from new services:

- Contribution to GDP: **16% Reduction** (1,61% in 2013 relative to 1,92% in 2007)
- Contribution to employment: **12% Reduction** (81.000 jobs relative to 92.000)
- Contribution to State revenues: **18% Increase** (€2.152 million relative to €1.819 million)

## Scenario B: With revenue growth from new services:

- Contribution to GDP: **3,6% Increase** (1,99% in 2013 relative to 1,92% in 2007)
- Contribution to employment : **9% Increase** (100.000 jobs relative to 92.000)
- Contribution to State revenues : **46% Increase** (€2.654 million relative to €1.819 million)

**Estimate of sector's contribution to national GDP in 2013**



# OPPORTUNITIES and PROSPECTS – “THE BROADBAND CHALLENGE”

## CONCLUSIONS

- The ease of immediate access to unlimited sources of information through mobile broadband , at any place, establishes broadband mobile telephony as the technology of the future. The **State** should not remain inert to this challenge.
- The continued growth in mobile communications, particularly in the next generation of mobile broadband services, has a fundamental role to play in helping the Greek economy to overcome the present global challenges. Access to advanced communications throughout a challenging geography is a critical **national objective** for Greece and the Mobile Network Operators in Greece are committed to making this happen.

# ELEMENTS OF DELAY and OBSTACLES

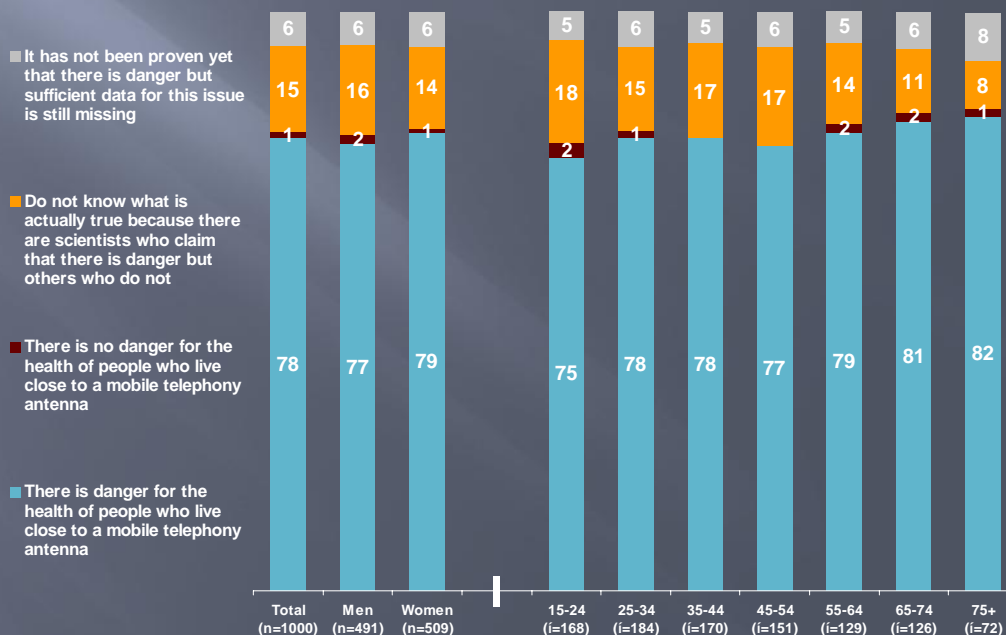
## Public Concerns

**Despite the recognition of the mobile telephony's positive influences, users state that there is danger for the health of people who live close to mobile telephony antennae**

### Sensitivity regarding issues of health and mobile telephony antennae

The majority of people claim that there is a connection between danger to the health and mobile telephony antennae. However, 1/5 state that they can not know what is actually true, specifically due to the contradicting scientific studies or the insufficiency of scientific data.

*Opinions regarding the dangers related to mobile telephony antennae*

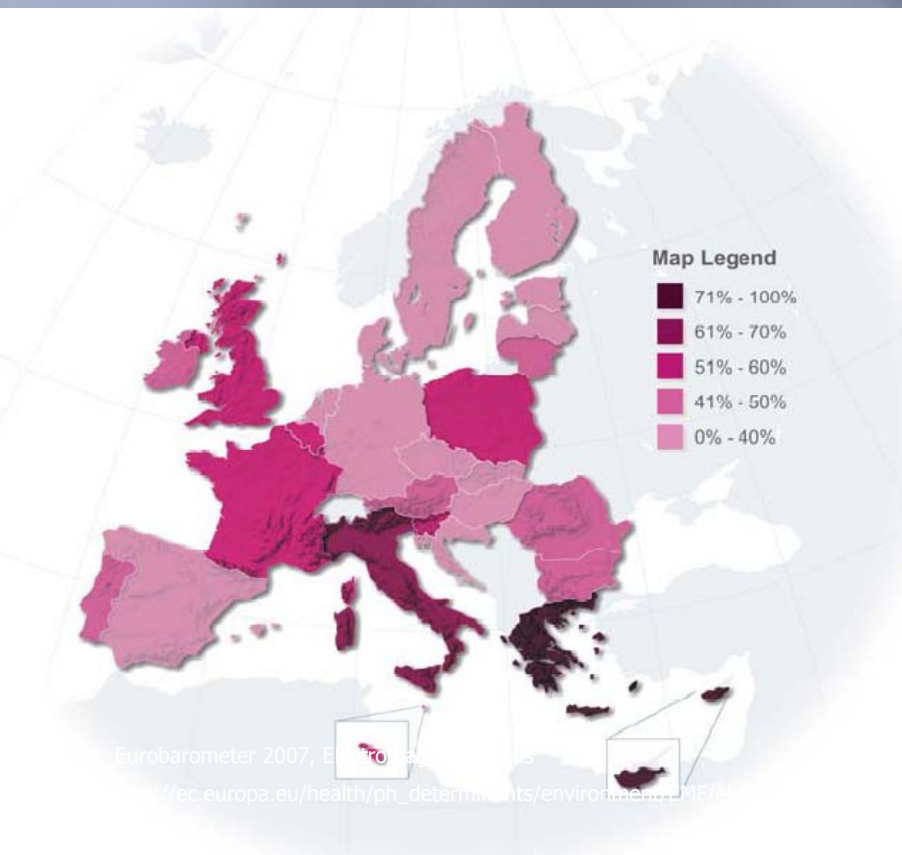


# There is more concern in Greece than in Europe

**86% of Greeks are concerned about possible damage to health from radiation, while the European average is at 48%**

**Are you concerned of possible consequences to health from radiation ? (very much/quite so)**

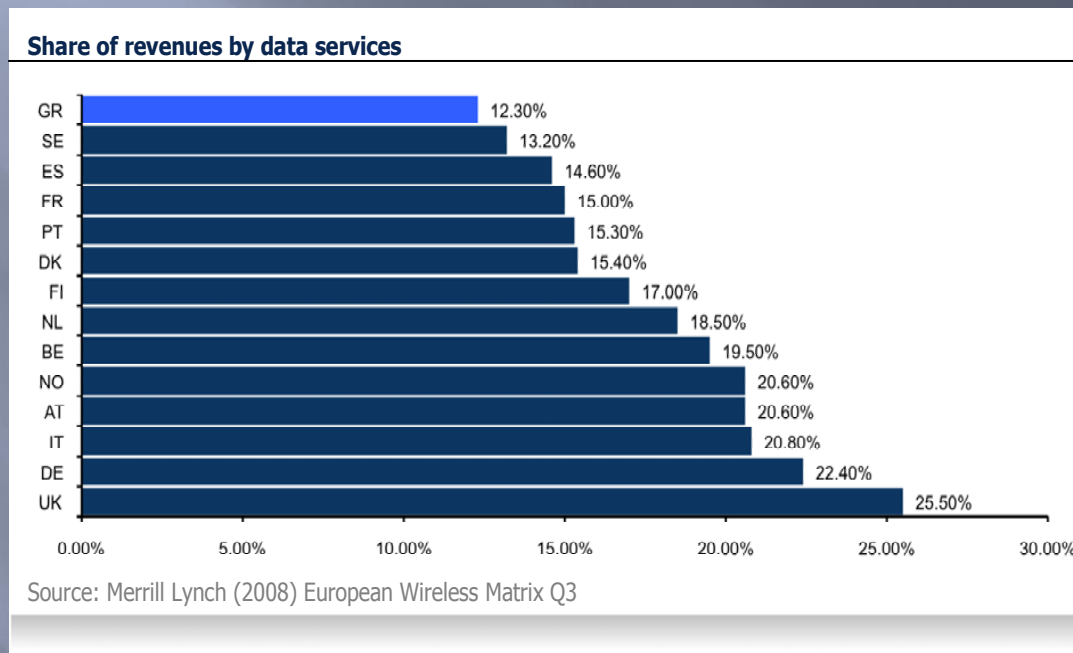
(source: Eurobarometer)



EL	86%	ES	38%
CY	82%	SK	38%
IT	69%	DE	35%
LU	60%	NL	31%
SI	59%	CZ	31%
PL	58%	EE	31%
MT	57%	HU	31%
BE	52%	DK	30%
FR	52%	FI	28%
UK	51%	SE	27%
PT	49%		
EU25	48%		
IE	47%		
AT	41%		
LT	41%		
LV	39%		

As well, 87% of Greeks state that they are «not satisfied» with the information that is provided regarding any possible consequences to health from radiation, while the European average is at 42%

# Greece is last regarding broadband and turnover from related services



## Degree of Usage

Greece still lags Europe 15 with respect to the portion of turnover produced by data services

## **ELEMENTS OF DELAY and OBSTACLES**

### **CONCLUSIONS**

- **Consumers** must be informed of the safety and potentials of the technology they use on a daily basis for their communication and briefing (i.e. their mobile phones/computers) and the **Investors** as well as the **Employees** of the Sector should enjoy the support of the State towards the development and viability of their Sector.

# CONDITIONS for GROWTH and FUTURE CONTRIBUTIONS

- ▣ **Reduction of bureaucracy and creation of an attractive environment for investment towards the development of 3G networks**
  - Improvement and simplification of the legal framework respecting the development of networks and the licensing of Base Stations
  - Political and social consensus based on the reports of the scientific community
  - Targeted campaigns for informing the public
  - Fair tax treatment of the mobile communications services and reduction of the tax divide with the rest of Europe (annulment of the “special mobile tax”)
  
- ▣ **National targets for mobile communications**
  - Targeted growth of applications within the Public Administration and promotion of electronic governance with emphasis on wireless and mobile services
  - Full exploitation of the digital dividend towards the attainment of real convergence of mobile communications, fixed communications and content services
  - Development of synergies with European policies and actions

# CONCLUSIONS

## **Mobile Telephony is an important and dynamic Sector with a lot of prospects**

- For years it has been the fastest growing sector of the economy
- It has contributed in essence towards the development of technological enterprising, specifically of Mass Media and of new businesses
- It has contributed in essence towards the development of suburbia and the familiarization of Greeks with the new technologies

## **Mobile Telephony may be the catalyst for broadband convergence if combined with the appropriate national policies**

- The digital divide of Greece from the rest of Europe may be bridged through the development of a "broadband culture", specifically in remote areas of the country and for population groups with special sensitivities
- Today, the mobile phone is the only broadband appliance with global acceptance and use in Greece

**Mobile Telephony must become a "priority sector" in the drawing up and the implementation of national policies regarding broadband**

# THE ROLE OF MOBILE TELEPHONY IN BROADBAND CONVERGENCE

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