EUROPEAN COMMISSION

Brussels, 25.5.2010
SEC(2010) 630 final

PARTIE 2

**COMMISSION STAFF WORKING DOCUMENT**

*accompanying the*

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS**

**PROGRESS REPORT ON THE SINGLE EUROPEAN ELECTRONIC COMMUNICATIONS MARKET (15th REPORT)**

{COM(2010) 253}

# ANNEX 2

# MARKET OVERVIEW

## METHODOLOGICAL NOTE

The main sources for the data presented in this Annex are National Regulatory Authorities (NRAs), exceptions are noted. A validation meeting with representatives from NRAs took place in November 2009. Furthermore, draft versions of the charts in this annex (excluding data on tariffs) were distributed to the NRAs before this report was finalised for their comments.

The source for the population figures is Eurostat.

The source for the exchange rates is the European Central Bank. Prices are in Euros. Purchase power parity methodology is not used for the specific objective of this Report.

In each Report figures from previous years are revised, therefore the figure for a certain date may diverge from previous Reports.

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# 1. FINANCIAL INDICATORS

## 1.1 Revenues and Investment of the Telecom Sector.

Both retail and wholesale revenues are considered.

### TABLE 1: Revenues

2008 €, in millions

| | Telecom sector (a) | Fixed market (b) | Mobile market (c) |
|---|---|---|---|
| BE | 9.658 | 5.626 | 4.033 |
| BG | 1.813 | 370 | 1.139 |
| CZ | 5.684 | 1.890 | 3.427 |
| DK | 5.518 | 1.950 | 2.374 |
| DE | 62.300 | 36.800 | 25.500 |
| EE | 723 | 305 | 418 |
| EL | 8.167 | 3.669 | 4.498 |
| ES | 44.186 | 13.022 | 18.756 |
| FR | 49.112 | 25.196 | 23.916 |
| IE | 4.319 | 2.262 | 2.057 |
| IT | 42.989 | 20.808 | 22.181 |
| CY | 579 | 131 | 286 |
| LV | 747 | 132 | 285 |
| LT | 871 | 166 | 573 |
| LU | 506 | 251 | 255 |
| HU | 3.982 | 2.039 | 1.943 |
| MT | 261 | 83 | 132 |
| NL | 13.024 | 6.365 | 6.659 |
| AT | 5.541 | 2.103 | 3.438 |
| PL | 15.602 | 2.615 | 6.437 |
| PT | 7.706 | 2.761 | 3.653 |
| RO | 4.560 | 1.788 | 2.773 |
| SI | 1.232 | 484 | 653 |
| SK | 2.237 | 617 | 1.431 |
| FI | 4.262 | 1.609 | 2.027 |
| SE | 5.971 | 1.721 | 2.132 |
| UK | 49.719 | 26.590 | 23.129 |
| TOTAL | 351.271 | 161.353 | 164.104 |

2007

| | Telecom sector (a) | Fixed market (b) | Mobile market (c) |
|---|---|---|---|
| BE | 9.655 | 5.467 | 4.188 |
| BG | 1.715 | 370 | 1.047 |
| CZ | 5.720 | 1.851 | 3.319 |
| DK | 5.962 | 2.002 | 2.346 |
| DE | 63.900 | 38.100 | 25.800 |
| EE | 741 | 294 | 446 |
| EL | 8.440 | 3.846 | 4.594 |
| ES | 44.214 | 12.684 | 18.909 |
| FR | 47.732 | 24.523 | 23.209 |
| IE | 4.353 | 2.302 | 2.051 |
| IT | 43.931 | 21.206 | 22.725 |
| CY | 520 | 132 | 263 |
| LV | 726 | 132 | 295 |
| LT | 834 | 168 | 561 |
| LU | 493 | 242 | 251 |
| HU | 3.828 | 1.774 | 1.984 |
| MT | 247 | 83 | 126 |
| NL | 12.092 | 5.894 | 6.199 |
| AT | 5.915 | 2.253 | 3.662 |
| PL | 14.182 | 3.024 | 6.383 |
| PT | 7.257 | 2.846 | 3.566 |
| RO | 3.835 | 1.612 | 2.223 |
| SI | 1.101 | 389 | 579 |
| SK | 1.852 | 506 | 1.195 |
| FI | 4.476 | 1.379 | 2.247 |
| SE | 6.154 | 2.029 | 1.751 |
| UK | 48.727 | 25.996 | 22.731 |
| TOTAL | 348.601 | 161.103 | 162.649 |

| Growth | Telecom sector (a) | Fixed market (b) | Mobile market (c) |
|---|---|---|---|
| BE | 0,03% | 2,90% | -3,71% |
| BG | 5,69% | 0,09% | 8,84% |
| CZ | -0,63% | 2,11% | 3,23% |
| DK | -7,44% | -2,64% | 1,19% |
| DE | -2,50% | -3,41% | -1,16% |
| EE | -2,36% | 3,59% | -6,30% |
| EL | -3,23% | -4,59% | -2,09% |
| ES | -0,06% | 2,67% | -0,81% |
| FR | 2,89% | 2,74% | 3,05% |
| IE | -0,78% | -1,75% | 0,32% |
| IT | -2,14% | -1,88% | -2,39% |
| CY | 11,35% | -0,76% | 8,75% |
| LV | 2,87% | 0,63% | -3,49% |
| LT | 4,51% | -0,81% | 2,20% |
| LU | 2,64% | 3,72% | 1,59% |
| HU | 4,04% | 14,97% | -2,04% |
| MT | 5,53% | -0,93% | 5,37% |
| NL | 7,71% | 7,99% | 7,42% |
| AT | -6,32% | -6,66% | -6,12% |
| PL | 10,01% | -13,53% | 0,85% |
| PT | 6,19% | -2,99% | 2,44% |
| RO | 18,90% | 10,92% | 24,73% |
| SI | 11,90% | 24,42% | 12,78% |
| SK | 20,79% | 22,04% | 19,76% |
| FI | -4,78% | 16,68% | -9,79% |
| SE | -2,96% | -15,20% | 21,72% |
| UK | 2,04% | 2,29% | 1,75% |
| TOTAL | 0,77% | 0,15% | 0,89% |

### TABLE 2: Investment

2008

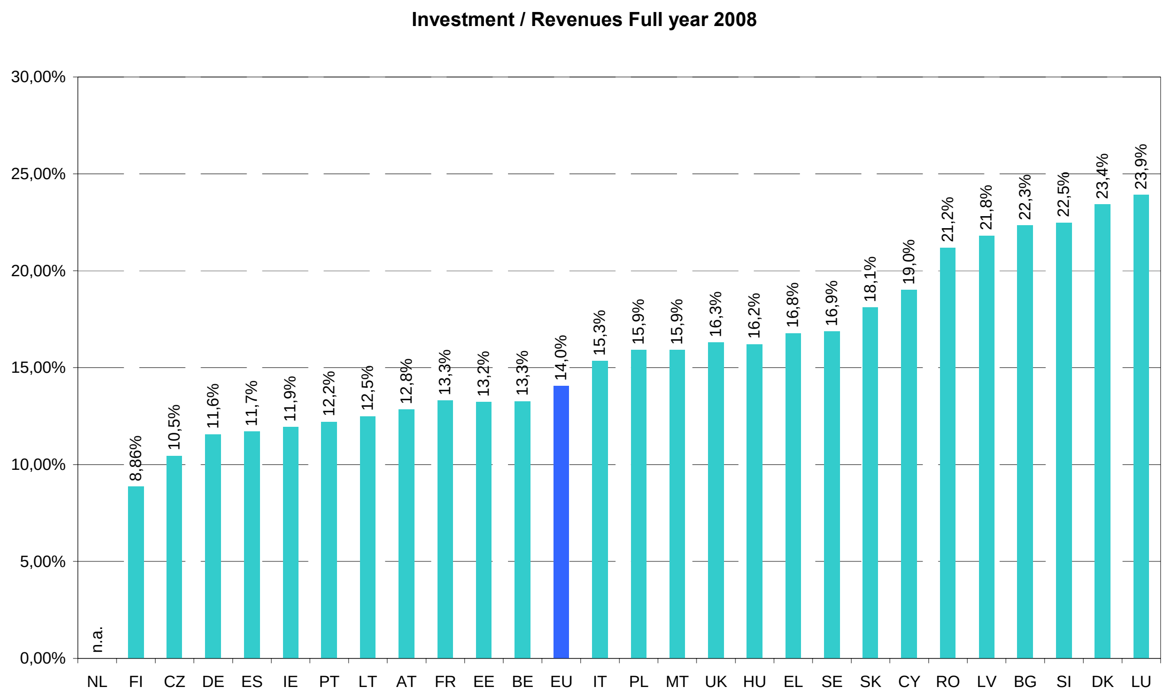
| | Telecom networks (d) | By incumbent in fixed telephony networks (e) | By alternative operators (f) | By mobile operators (g) |
|---|---|---|---|---|
| BE | 1.280 | 422 | 455 | 403 |
| BG | 405 | confidential | 11 | 238 |
| CZ | 594 | 109 | 138 | 191 |
| DK | 1.293 | 259 | 660 | 302 |
| DE | 7.200 | 5.000 | | 2.200 |
| EE | 96 | 27 | 14 | 54 |
| EL | 1.370 | 566 | 321 | 483 |
| ES | 5.172 | 1.461 | 1.818 | 1.892 |
| FR | 6.529 | n.a. | n.a. | 2.443 |
| IE | 516 | confidential | 29 | 240 |
| IT | 6.595 | 2.312 | 1.237 | 3.046 |
| CY | 110 | 53 | 35 | 27 |
| LV | 163 | 46 | 2 | 100 |
| LT | 109 | 37 | 23 | 49 |
| LU | 121 | 89 | 7 | 25 |
| HU | 646 | 166 | 242 | 238 |
| MT | 41 | 19 | 9 | 14 |
| NL | n.a. | n.a. | n.a. | n.a. |
| AT | 711 | 170 | confidential | 457 |
| PL | 2.483 | 519 | 713 | 1.137 |
| PT | 940 | 5 | 181 | 431 |
| RO | 966 | 96 | 210 | 660 |
| SI | 277 | 106 | 57 | 114 |
| SK | 405 | 56 | 42 | 181 |
| FI | 378 | n.a. | n.a. | 660 |
| SE | 1.008 | 354 | 165 | 347 |
| UK | 8.100 | 4.207 | 1.507 | 2.261 |
| EU | 47.507 | 16.390 | 7.961 | 18.192 |

2007

| | Telecom networks (d) | By incumbent in fixed telephony networks (e) | By alternative operators (f) | By mobile operators (g) |
|---|---|---|---|---|
| BE | 1.225 | 396 | 426 | 403 |
| BG | 538 | confidential | 22 | 313 |
| CZ | 612 | 126 | 113 | 200 |
| DK | 1.226 | n.a. | n.a. | n.a. |
| DE | 7.100 | 5.100 | | 2.000 |
| EE | 95 | 35 | 14 | 46 |
| EL | 1.294 | 295 | 514 | 486 |
| ES | 5.755 | 1.578 | 1.942 | 2.235 |
| FR | 6.140 | n.a. | n.a. | 2.295 |
| IE | 458 | confidential | 32 | 253 |
| IT | 7.163 | 2.604 | 1.291 | 3.268 |
| CY | 108 | 10 | 15 | 15 |
| LV | 108 | 47 | 3 | 70 |
| LT | 136 | 40 | 17 | 79 |
| LU | 96 | 70 | 5 | 21 |
| HU | 432 | 221 | 100 | 111 |
| MT | 41 | 11 | 9 | 20 |
| NL | n.a. | n.a. | n.a. | n.a. |
| AT | 879 | 219 | confidential | 559 |
| PL | 2.849 | 812 | 908 | 1.129 |
| PT | 1.193 | 8 | 224 | 736 |
| RO | 785 | 143 | 105 | 537 |
| SI | 245 | 116 | 50 | 79 |
| SK | 388 | 45 | 54 | 178 |
| FI | 376 | n.a. | n.a. | n.a. |
| SE | 1.113 | 318 | 129 | 336 |
| UK | 8.037 | 4.081 | 1.507 | 2.323 |
| EU | 48.392 | 16.556 | 7.582 | 17.692 |

| Growth | Telecom networks (d) | By incumbent in fixed telephony networks (e) | By alternative operators (f) | By mobile operators (g) |
|---|---|---|---|---|
| BE | 4,53% | 6,69% | 6,73% | 0,08% |
| BG | -24,79% | -38,65% | -48,84% | -24,07% |
| CZ | -2,90% | -13,26% | 22,47% | -4,68% |
| DK | 5,45% | n.a. | n.a. | n.a. |
| DE | 1,41% | -1,96% | | 10,00% |
| EE | 0,88% | -22,53% | -1,35% | 19,35% |
| EL | 5,86% | 91,86% | -37,49% | -0,54% |
| ES | -10,14% | -7,40% | -6,41% | -15,33% |
| FR | 6,34% | 0,00% | 0,00% | 6,45% |
| IE | 12,63% | 41,94% | -9,28% | -5,20% |
| IT | -7,93% | -11,21% | -4,16% | -6,81% |
| CY | 2,11% | 416,57% | 127,42% | 75,44% |
| LV | 50,62% | -2,90% | -19,19% | 43,26% |
| LT | -20,06% | -7,19% | 34,98% | -38,26% |
| LU | 26,04% | 27,14% | 40,00% | 19,05% |
| HU | 49,54% | -25,23% | 142,91% | 115,04% |
| MT | 1,69% | 70,41% | -6,62% | -31,27% |
| NL | n.a. | n.a. | n.a. | n.a. |
| AT | -19,11% | -22,37% | -16,83% | -18,25% |
| PL | -12,85% | -36,08% | -21,50% | 0,71% |
| PT | -21,15% | -37,50% | -19,20% | -41,40% |
| RO | 23,06% | -32,83% | 100,26% | 22,74% |
| SI | 13,06% | -8,62% | 14,00% | 44,30% |
| SK | 4,45% | 23,78% | -22,74% | 1,72% |
| FI | 0,40% | n.a. | n.a. | n.a. |
| SE | -9,43% | 11,23% | 28,00% | 3,38% |
| UK | 0,78% | 3,08% | 0,00% | -2,70% |
| EU | -1,83% | -1,00% | 5,01% | 2,83% |

### Figure 1: Investment / Revenues




### Figure 2: Total Revenue and Investment over GDP

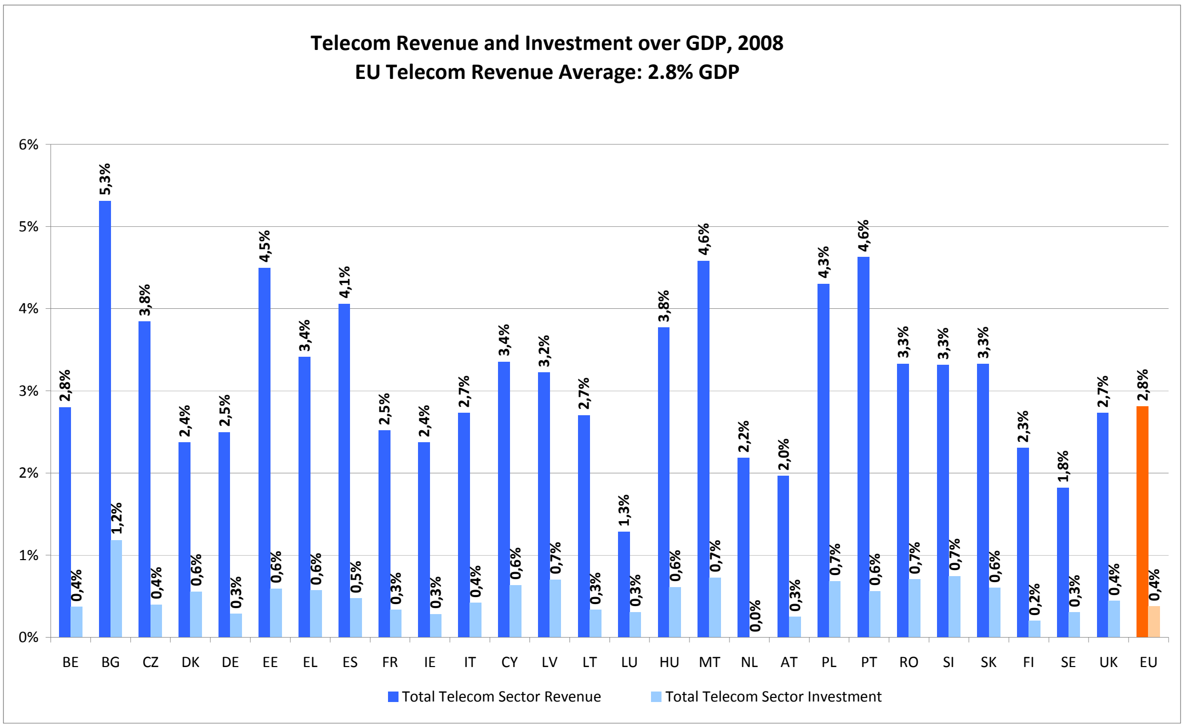


**Figure 3: Telecom Revenues growth 2007-2008**

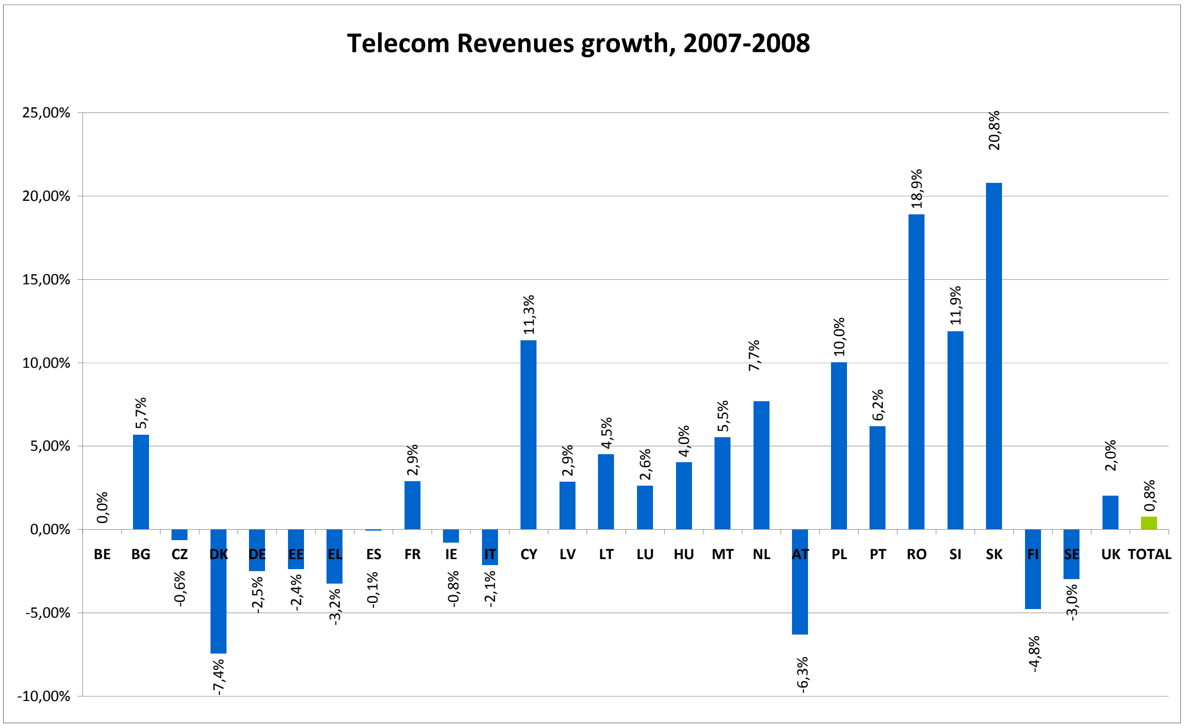
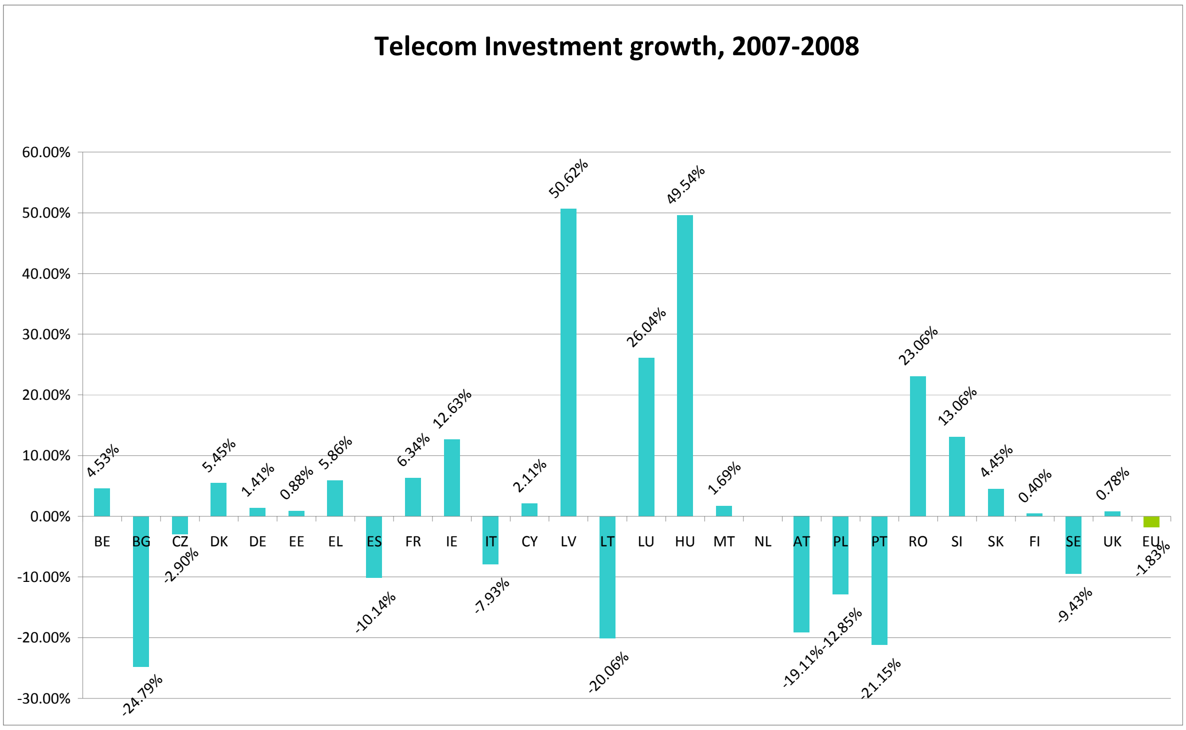



**Figure 4: Telecom Investment growth 2007-2008**




**Belgium:** Estimates based on the enterprises with a notification of an electronic communication network and/or of a fixed telephony service.

**Bulgaria:** 2008 fixed revenues include voice and DSL revenues. Revenues from 2007 include only voice. Investment by incumbent in fixed telephony networks is confidential. (e) and (f) include investments in payphones as well. In Fixed market variation indicator, if real value (without round off) was used, the variation rate would be 0.05%.

**Denmark:** The revenues for 2008 are not directly comparable with revenue from the previous year. This is due to a change in definitions. It is however estimated that if adjusted for the changes in definitions, the level in revenue for 2008 is roughly the same as it was for 2007 (d) Incumbent includes its subsidiaries.

**Germany**: The 5 000 m € investment applies both to the incumbent and the alternative operators. No differentiation between investment by incumbent in fixed telephony networks and alternative operators.

**Italy** : Consolidated turnover excluding revenues from "Terminals and devices".

**Ireland**: Investment is an estimate and does not represent total communications investment in 2008.

**Latvia**: Investment figures are not directly comparable as some companies do not break total investments down to specific categories.

**Malta**: Data source is National Statistics Office News Release 102/2009 published on 9 June 2009. Data is provisional and subject to change.

**The Netherlands:** Data is not available.

**Portugal**: The turnover of the telecommunication sector is an estimate. (f) and (g) are also estimates.

**Austria:** (a) does not include revenue from international data roaming. (b) includes revenues from leased lines and interconnection services. (c) includes revenues from interconnection services and international roaming (voice), excludes international data roaming. Investments in acquiring property (land and building) are not included.

**Spain**: In b), when clicking on the cell, the first term refers to voice retail revenues, the second term refers to the internet retail revenues, the third term to fixed telephony wholesale revenues and the fourth term to internet wholesale revenues.

In c) when clicking on the cell, the first term refers to retail mobile revenues and the second term to the wholesale mobile market.

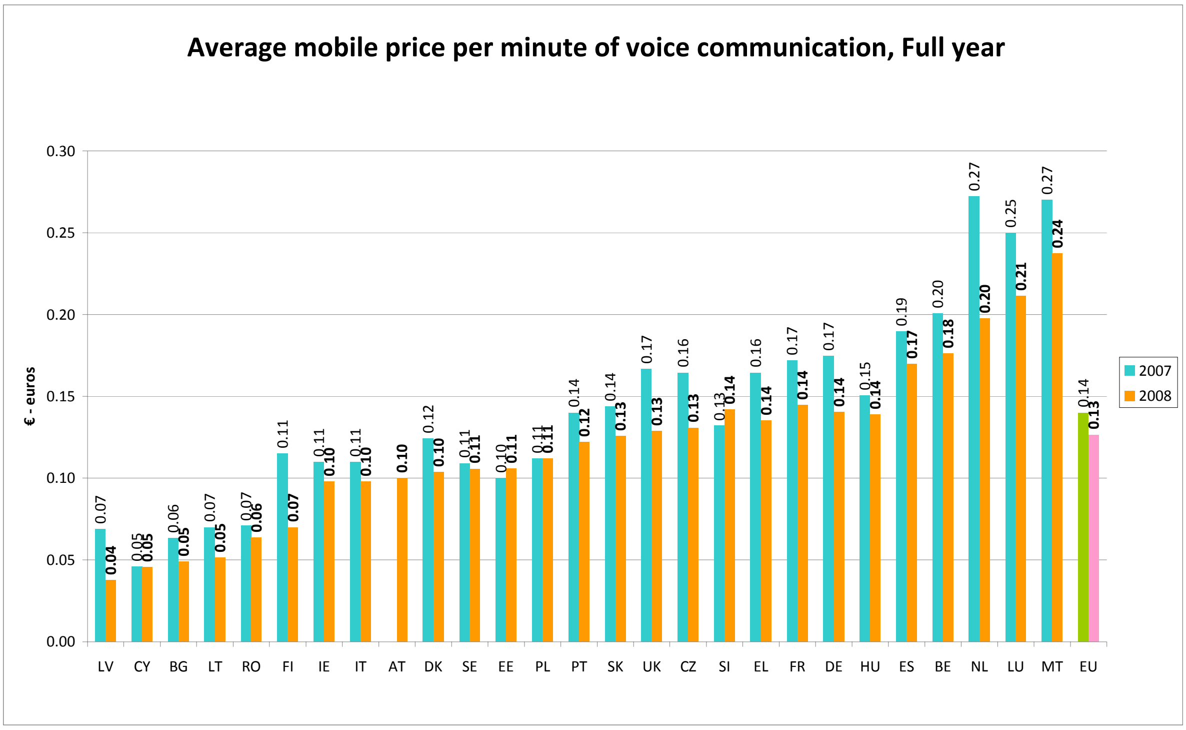
**Finland**: Revenues are based on statistics of Statistics Finland.

**United Kingdom:** Revenues from services for which Ofcom collects data - includes retail and wholesale revenues accounting for £39.7bn; the Office for National Statistics estimates telecoms revenue at £62.2bn. As for investments, figures have either been sourced from publicly available annual reports or have been estimated. Figures shown are for the 12 months to 31 December 2008 or to 31 March 2009**.** Figures are rounded to the nearest '000.

## 1.2 Average Price per Minute (APPM) in mobile communications

The Average Price per Minute is defined as the revenues from mobile voice communications divided by the total outgoing minutes of voice communication excluding VAT, but including access charges.

### Figure 5: Mobile Price per minute




**Germany:** Revenues are estimated and include service provider's revenues and revenues from basic charges. Value added services are not included (both minutes and revenues). Revenues include partially other services.

**Luxembourg:** Revenue includes all types of outgoing traffic (including international and in particular outgoing roaming) and revenues from basic/subscription charges.

**The Netherlands:** Revenues include other retail revenues like revenues for subscriptions, sim cards and registration.

**Austria:** The values without the inclusion of the flat rates revenues are:

2007: €0.07

2008: €0.06

Q2/2009: €0.06

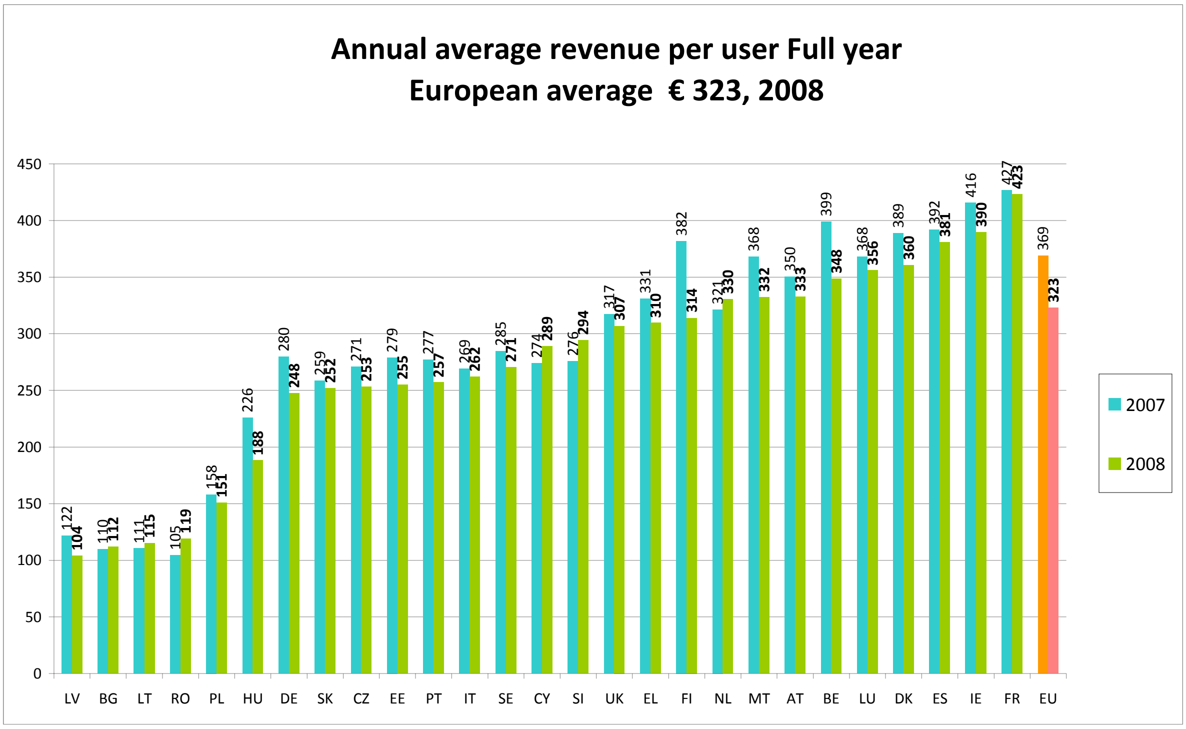
**<u>Slovenia</u>:** Revenues include access charges (i.e. monthly subscription fees not including connections fees). Monthly subscriptions for bundled services may in addition to free voice minutes include also free SMS, MMS, data services, etc. Retail roaming is also included.

**<u>United Kingdom</u>:** Revenues are estimated and include revenue from contract line rental fees and inclusive calls, texts and mobile data services.

## 1.3 Average Revenue per User (ARPU) in mobile communications

The ARPU is defined as the total revenues (including also retail roaming, interconnection as well as handset subsidies) divided by the average number of subscribers (number of subscribers at the beginning and end of the year divided by two). VAT is excluded.

**Figure 6: Average Revenue per user, Full year**




Handset subsidies are not included in France, Spain, Italy, Lithuania, Portugal, Slovakia and Sweden.

**<u>Denmark</u>**: Revenue for 2008 is not directly comparable with revenue from the previous year. This is due to a change in definitions. It is, however, estimated that if adjusted for the changes in definitions the level in revenue for 2008 is roughly the same as it was for 2008.

**<u>Germany</u>**: Revenues are estimated and include service provider's revenues and revenues from basic charges. Value added services are not included (both minutes and revenues). Revenues include partially other services. 2007: Revenues are estimated and include service provider's revenues.

**<u>Finland</u>**: Calculation is based on Statistics Finland's revenue information and FICORA's subscriptions information.

# 2. MOBILE MARKET

## 2.1 Mobile penetration and market share

## TABLE 3: Mobile Subscribers

| | Sub 2009 | Sub 2008 | Penetration 2009 | penetration 2008 | | prepaid | pay-monthly | Market share | Leading operator | Main competitor | Others competitors |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BE | 11.064.960 | 10.863.264 | 103% | 102% | BE | 58,6% | 41,4% | BE | 44,30% | 31,12% | 24,58% |
| BG | 10.567.831 | 10.499.323 | 139% | 137% | BG | 44,5% | 55,5% | BG | 49,39% | 37,53% | 13,08% |
| CZ | 14.030.802 | 13.556.165 | 134% | 131% | CZ | 50,9% | 49,1% | CZ | 38,90% | 38,38% | 22,72% |
| DK | 6.944.899 | 6.585.789 | 126% | 120% | DK | 14,5% | 85,5% | DK | 39,80% | 29,30% | 30,90% |
| DE | 108.215.000 | 105.996.000 | 132% | 129% | DE | 56,0% | 44,0% | DE | 36,61% | 32,13% | 31,26% |
| EE | 1.556.834 | 1.799.297 | 116% | 134% | EE | 32,9% | 67,1% | EE | 46,87% | 28,92% | 24,21% |
| EL | 14.090.504 | 13.708.972 | 125% | 122% | EL | 64,0% | 36,0% | EL | 47,69% | 26,08% | 26,24% |
| ES | 53.914.549 | 51.747.342 | 118% | 114% | ES | 39,0% | 61,0% | ES | 44,38% | 30,85% | 24,76% |
| FR | 58.045.197 | 55.071.300 | 90% | 86% | FR | 35,9% | 64,1% | FR | 40,97% | 33,39% | 25,64% |
| IE | 5.328.813 | 5.270.801 | 119% | 119% | IE | 68,8% | 31,2% | IE | 39,59% | 32,23% | 28,18% |
| IT | 87.660.560 | 90.261.460 | 146% | 151% | IT | 86,0% | 14,0% | IT | 36,41% | 33,25% | 30,34% |
| CY | 1.077.060 | 1.001.595 | 136% | 126% | CY | 60,0% | 40,0% | CY | 81,88% | 18,12% | 0,00% |
| LV | 2.316.257 | 2.170.928 | 102% | 96% | LV | 56,9% | 43,1% | LV | 46,26% | 39,16% | 14,58% |
| LT | 4.933.397 | 5.012.702 | 147% | 149% | LT | 62,1% | 37,9% | LT | 40,14% | 38,40% | 21,45% |
| LU | 701.087 | 687.571 | 142% | 142% | LU | 39,3% | 60,7% | LU | 53,23% | 35,49% | 11,28% |
| HU | 10.654.339 | 10.489.696 | 106% | 104% | HU | 58,1% | 35,8% | HU | 44,55% | 33,58% | 21,87% |
| MT | 417.699 | 388.179 | 101% | 95% | MT | 82,0% | 18,0% | MT | 49,70% | 43,90% | 6,80% |
| NL | 21.182.000 | 20.150.000 | 128% | 123% | NL | 46,4% | 53,6% | NL | 49,58% | 27,97% | 22,45% |
| AT | 11.150.597 | 10.422.132 | 133% | 125% | AT | 31,2% | 68,8% | AT | 42,88% | 31,52% | 27,98% |
| PL | 41.201.470 | 37.469.551 | 108% | 98% | PL | 49,0% | 51,0% | PL | 32,64% | 31,18% | 36,19% |
| PT | 15.535.758 | 14.530.442 | 146% | 137% | PT | 72,6% | 27,4% | PT | 46,69% | 34,94% | 18,37% |
| RO | 24.784.087 | 22.213.384 | 115% | 103% | RO | 59,0% | 41,0% | RO | 43,02% | 30,28% | 26,70% |
| SI | 2.076.751 | 2.019.983 | 102% | 100% | SI | 32,2% | 67,8% | SI | 57,20% | 27,90% | 14,80% |
| SK | 5.411.510 | 5.272.300 | 100% | 98% | SK | 36,4% | 63,6% | SK | 53,01% | 38,43% | 8,56% |
| FI | 7.280.000 | 6.830.000 | 137% | 129% | FI | 10,0% | 90,0% | FI | 38,00% | 36,00% | 26,00% |
| SE | 11.190.300 | 10.526.000 | 121% | 115% | SE | 40,1% | 59,9% | SE | 42,23% | 31,41% | 26,36% |
| UK | 77.797.554 | 74.152.468 | 126% | 121% | UK | 59,4% | 40,6% | UK | 20,57% | 20,38% | 59,05% |
| TOTAL | 609.129.815 | 588.696.644 | 122% | 118% | TOTAL | 55,3% | 44,7% | TOTAL | 37,86% | 30,78% | 31,41% |

Data on market shares for Estonia, Greece, Luxembourg, Hungary, Austria, the Netherlands, Poland, and Portugal come from Informa Telecoms and Media. For the Netherlands Q1 2009, for Hungary, Austria Poland and Portugal Q2 2009 and for Estonia, Greece and Luxembourg Q3 2009 data are used

**Czech Republic**: 13-months methodology was used for assessing the number of active pre-paid subscribers in order that the 2009 data are comparable with 2008.

## TABLE 4: Main mobile groups by Mobile Subscribers

| | Telefonica/O2 | Vodafone | T-Mobile | Orange |
|---|---|---|---|---|
| BE | | | | X |
| BG | | X | X | |
| CZ | X | X | X | |
| DK | | | | |
| DE | X | X | X | |
| EE | | X | | |
| EL | X | X | X | |
| ES | X | X | | X |
| FR | | X | | X |
| IE | X | X | | |
| IT | X | X | | |
| CY | | X | | |
| LV | | | | |
| LT | | X | | |
| LU | | | | X |
| HU | | X | X | |
| MT | | X | | |
| NL | | X | X | |
| AT | | | X | X |
| PL | | X | X | X |
| PT | X | X | | X |
| RO | | X | X | X |
| SI | | X | | |
| SK | X | | X | X |
| FI | | | | |
| SE | | | | |
| UK | X | X | X | X |

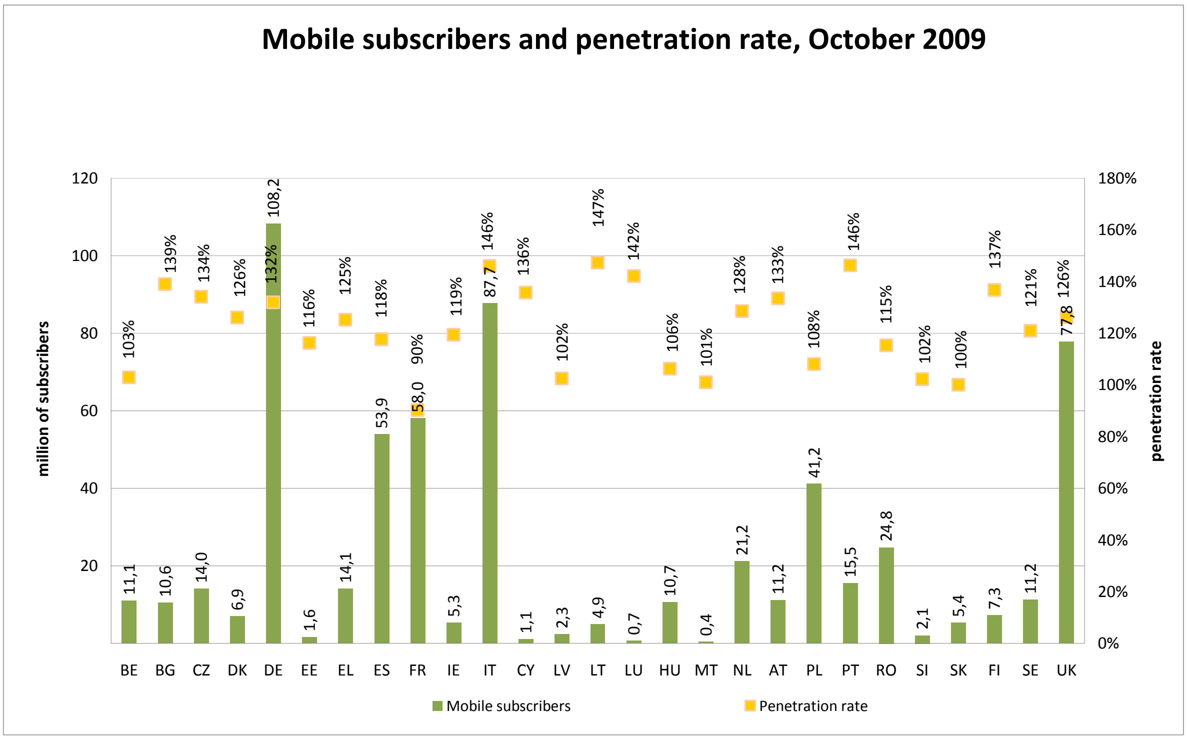
in red partially owned

in blue agreements

The National Regulatory Authorities have validated the list of the operatos taken into account for each group. It includes operators owned, partillay owned by the group or with whom the group has network and billing agreements.

| | Telefonica/O2 | Vodafone | T-Mobile | Orange | Others | Total four main groups |
|---|---|---|---|---|---|---|
| EU share by mobile subscribers | 19% | 28% | 17% | 14% | 22% | 78% |

**Figure 7: Mobile penetration rate**




**Belgium**: Situation as of 1 July 2009.

**Czech Republic**: 13-months methodology was used for assessing the number of active pre-paid subscribers in order that the 2009 data are comparable with 2008.

**Denmark**: Situation as of 1 July 2009.

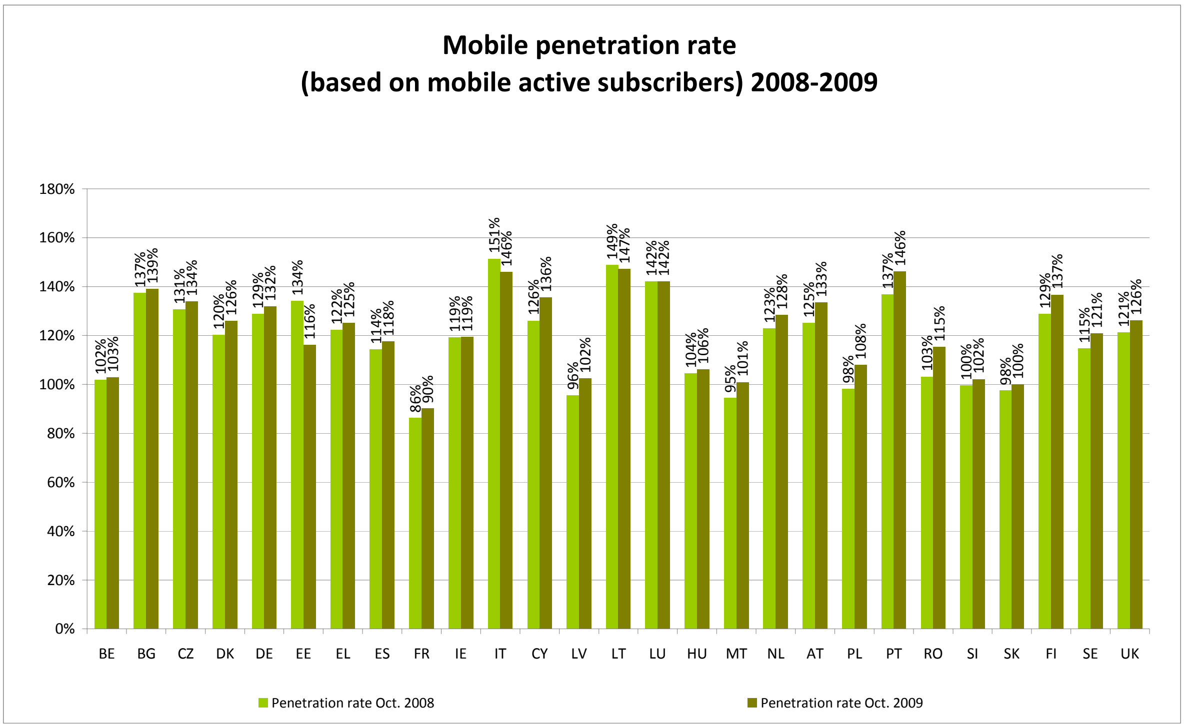
**Italy:** The reduction of mobile subscriptions compared with October 2008 is due to (1) the expiration of promotional and special offers linked with handset acquisition and (2) some database cleanup of inactive SIMs.

**The Netherlands**: 2009 data are as of July 2009, 2008 data are as of December 2008.

**Finland**: Data are as of July 2009.

**United Kingdom:** Data refers to March 2009. Penetration growth has slowed due to growing proportion of users switching to contract subscriptions (40% of total subscriptions in Q1 2009, compared to 36% at end 2007).

**Figure 8: Mobile penetration rate growth**




**<u>Czech Republic</u>**: 13-months methodology was used for assessing the number of active pre-paid subscribers in order that the 2009 data are comparable with 2008.

**<u>Estonia</u>**: The decrease in penetration is caused by exclusion of all SIMs of Top Connect this year, since it uses a different business model by selling prepaid cards abroad for cheap roaming services. By the end of Q3 2009 it had 1 100 000 SIMs, but most (if not all) of them are not used for calls in Estonia nor by Estonian end users, and it is not known how many are active. Therefore including Top Connect would distort market data.

**<u>Italy</u>:** The reduction of mobile subscriptions compared with October 2008 is due to (1) the expiration of promotional and special offers linked with handset acquisition and (2) some database cleanup of inactive SIMs.

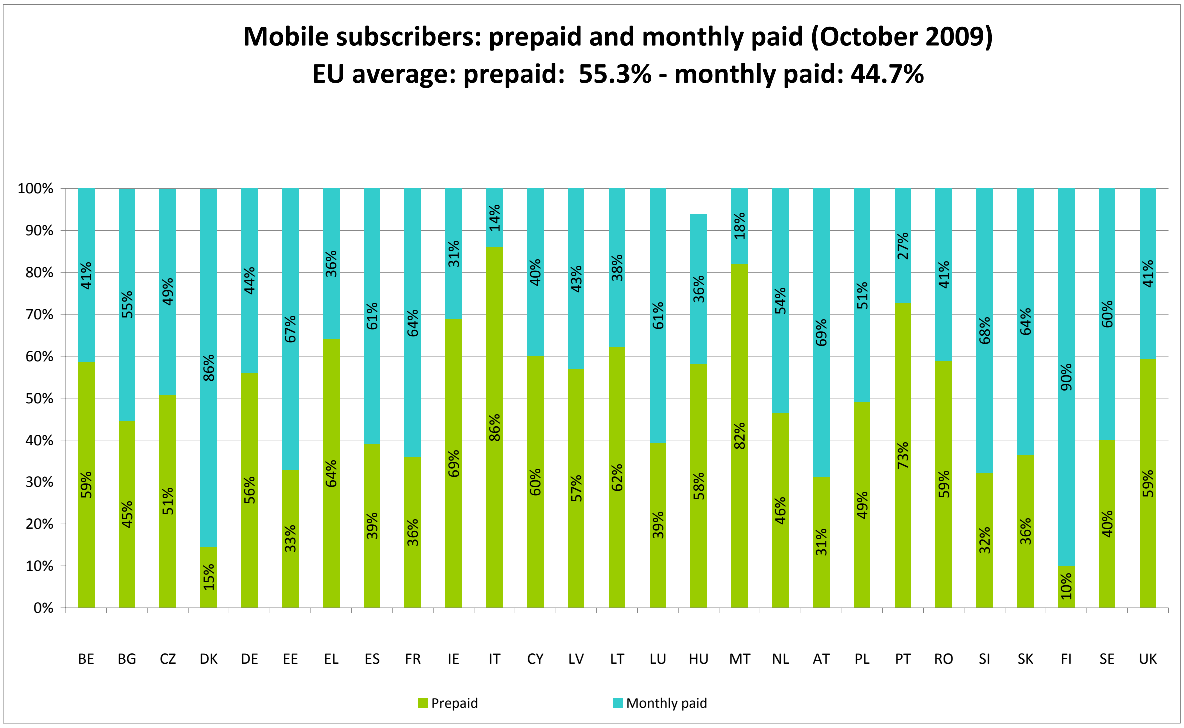
**<u>Lithuania</u>:** The number of SIM cards decreased due to database clean-ups of non-active users.

**<u>The Netherlands</u>**: 2009 data are as of July 2009, 2008 data are as of December 2008.

**<u>Finland</u>:** Data are as of July 2009.

**<u>United Kingdom:</u>** Data refers to March 2009. Penetration growth has slowed due to growing proportion of users switching to contract subscriptions (40% of total subscriptions in Q1 2009, compared to 36% at end 2007).

**Figure 9: Prepaid vs postpaid**

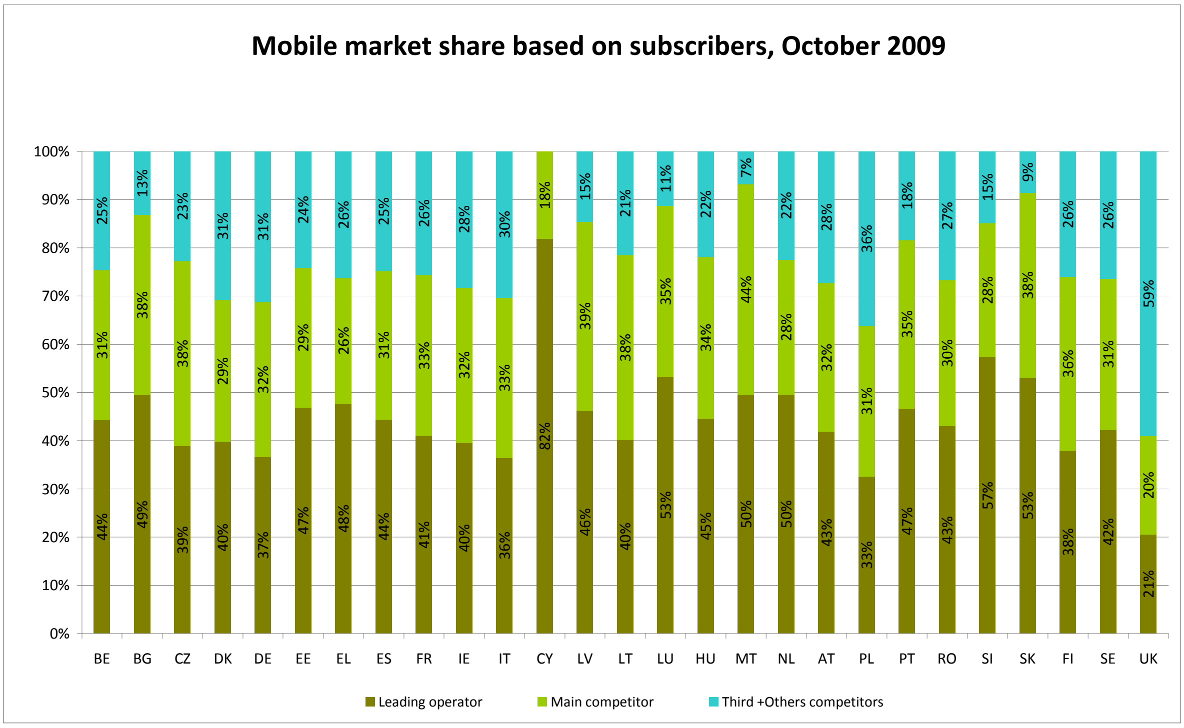



**Czech Republic**: 13-months methodology was used for assessing the number of active pre-paid subscribers in order that the 2009 data are comparable with 2008.

**The Netherlands**: 2009 data are as of July 2009, 2008 data are as of December 2008.

**Finland:** Data are as of July 2009.

**Figure 10: Mobile market share based on subscribers**




Data on market shares for Estonia, Greece, Luxembourg, Hungary, Austria, the Netherlands, Poland, and Portugal come from Informa Telecoms and Media. For the Netherlands Q1 2009, for Hungary, Austria Poland and Portugal Q2 2009 and for Estonia, Greece and Luxembourg Q3 2009 data are used

**Czech Republic**: 13-months methodology was used for assessing the number of active pre-paid subscribers in order that the 2009 data are comparable with 2008.

**Denmark:** The market shares include affiliated companies of the operators. Therefore, the market shares if affiliated companies are included are: Leading Operator (TDC, + Telmore, A+Telecom, Fullrate and Dansk Kabel TV), Main competitor (Telenor, + CBB and Bibob)

**Finland:** Data are as of July 2009.

## 2.2 Mobile number portability

Mobile number portability enables subscribers to retain their number when moving from one operator to another.

Figures are provided by NRAs and include the number of transactions calculated up to 1 October each year. Data also include the average number of days taken to port a number as well as the cost of porting a number. Inter-operator prices for number portability refer to the amount charged by the leading operator to the recipient operators for porting one telephone geographic number (excluding VAT). This price may vary depending on a number of factors. In some countries the price for a non - geographic number is different. Where available, information on price for non-geographic number portability is added in the footnote. In some countries there is no charge for the porting of numbers.

Two different measurements were used on number portability. `Transactions` refer to the total number of number portings between 1 January and 30 September each year. `Ported numbers` refer to the number of those numbers that are held by another operator than the range holder on 30 September each year.

**Figure 11: Mobile number portability - transactions**

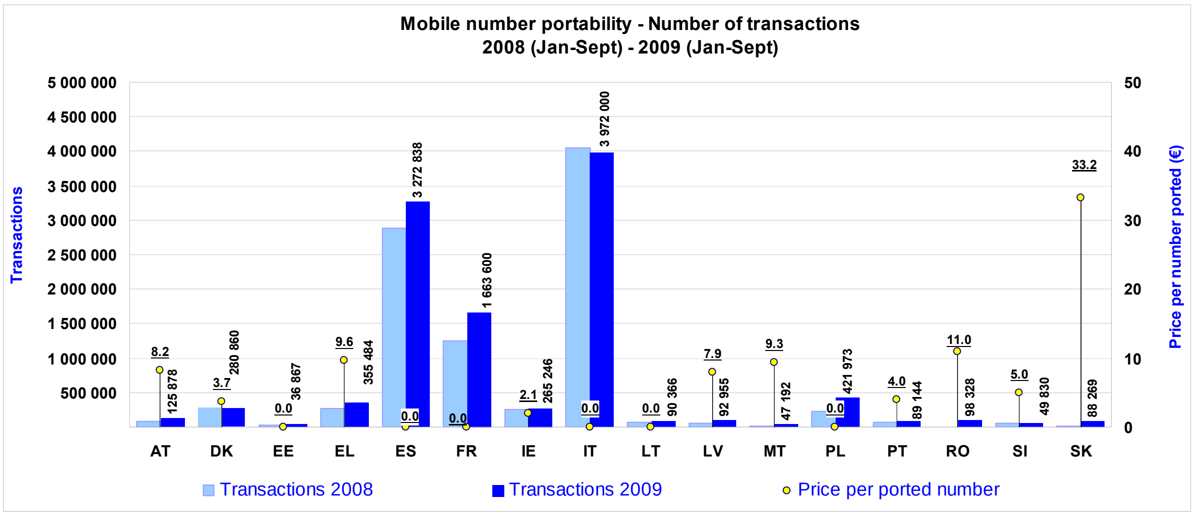
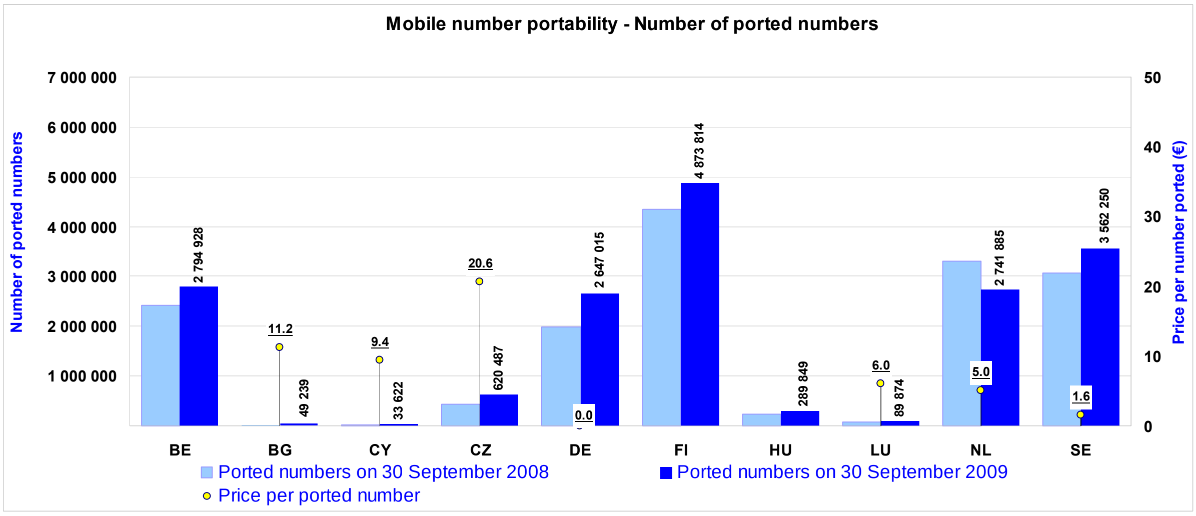



**Figure 12: Mobile number portability – number of ported numbers**




**Belgium**: 2009 data refers to 23 September. Wholesale prices of 2008 and 2009 are currently subject to legal action.

**Bulgaria**: Mobile portability was launched in April 2008.

**Czech Republic**: Price refers to the major mobile operator`s charge to other operators. 2009 (c): Price refers to Telefonica O2 (524). Prices charged by other operators vary between 519 (TMobile) and 418 (Vodafone).

**Denmark**: Data refers to transactions between January and June each year.

**Finland**: Data is not available on prices.

**France, Italy and Slovakia**: Data refers to 12 month intervals (1 October to 30 September).

**Hungary**: Prices are subject to commercial negotiations.

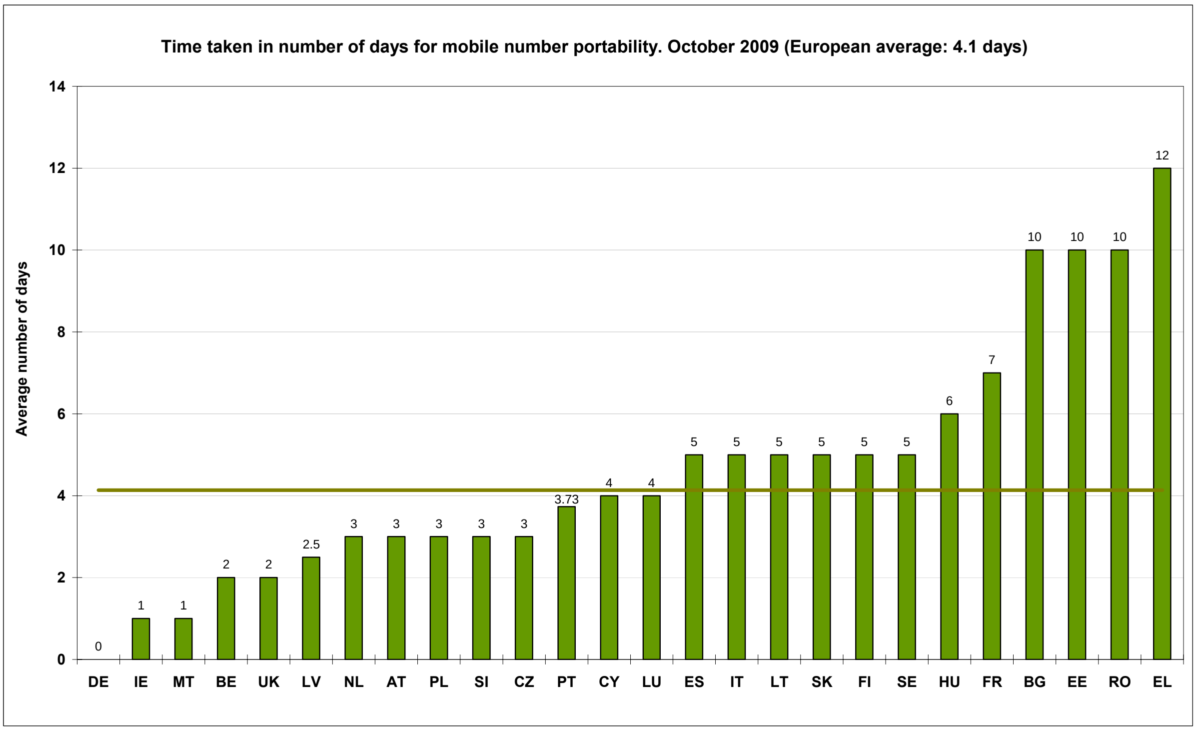
**The Netherlands**: Not all transactionas are included: numbers which are ported from another operator to the original number holder are not indicated in the table above. The total transactions between 1/10/2008 and 1/10/2009 (including the transactions from another operator to the original number holder) are 1 069.576. Maximum price is €5. Price varies between €0 and €5.

**Romania**: Number portability was not available in 2008

**Slovenia**: Maximum price is indicated.

**United Kingdom**: Data are not collected.

### Figure 13: Time taken in number of days for mobile number portability




**Belgium:** The maximum timescale for the donor operator to validate the request to port a number is for simple installations 2 working days, and for complex installations 3 working days.

**Czech Republic**: Time limit for making number available for porting is 5 hours (prepaid) or 3 days (postpaid). The day of porting is set by the customer (choice is possible between 1 and 10 days).

**Cyprus**: Data are provisional.

**Denmark:** Data are not available.

**Hungary**: Maximum time is eight days, average is six days.

**Netherlands**: Technical porting is 2 hours. For the end-user (from request to end of technical porting) the average is 3 days (max 10 days).

**Germany**: If requesting numbers can be ported immediately, otherwise it takes 5 days.

**Lithuania, Poland, Romania, Slovenia**, **Slovakia and Sweden**: Maximum time is reported..

**Latvia**: Maximum time according to law is 10 days. The average number of days is estimated at 2-3.

**Luxembourg**: Average time for end user (the transaction processing between operators) is less than 2 days.

**Austria**: The process is completed within 3 days at maximum. Typical cases are shorter, but no detailed information is available. Users are reachable at all times during the porting process for incoming calls without interruption - either at the old or the new SIM/mobile phone.

## 2.3 Mobile Interconnection

### Figure 14: IC charges for call termination on mobile networks

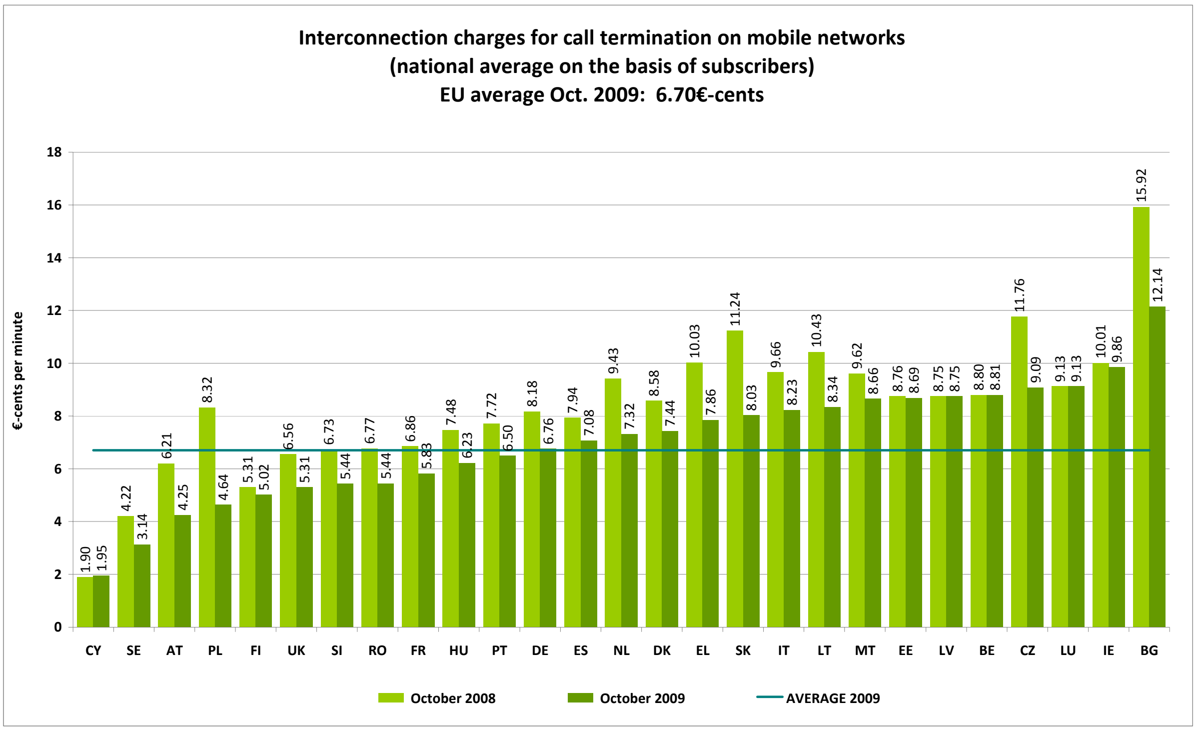
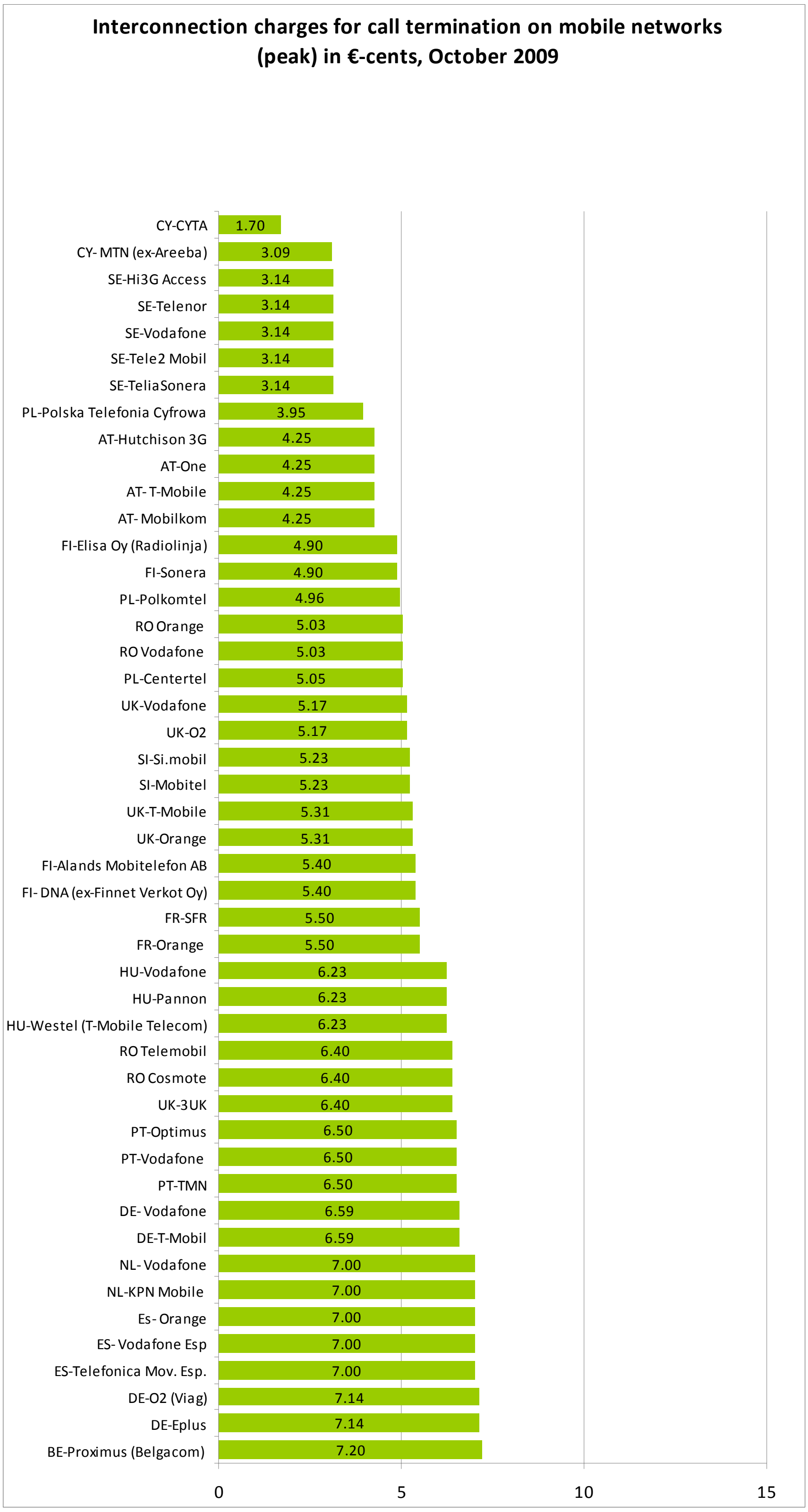
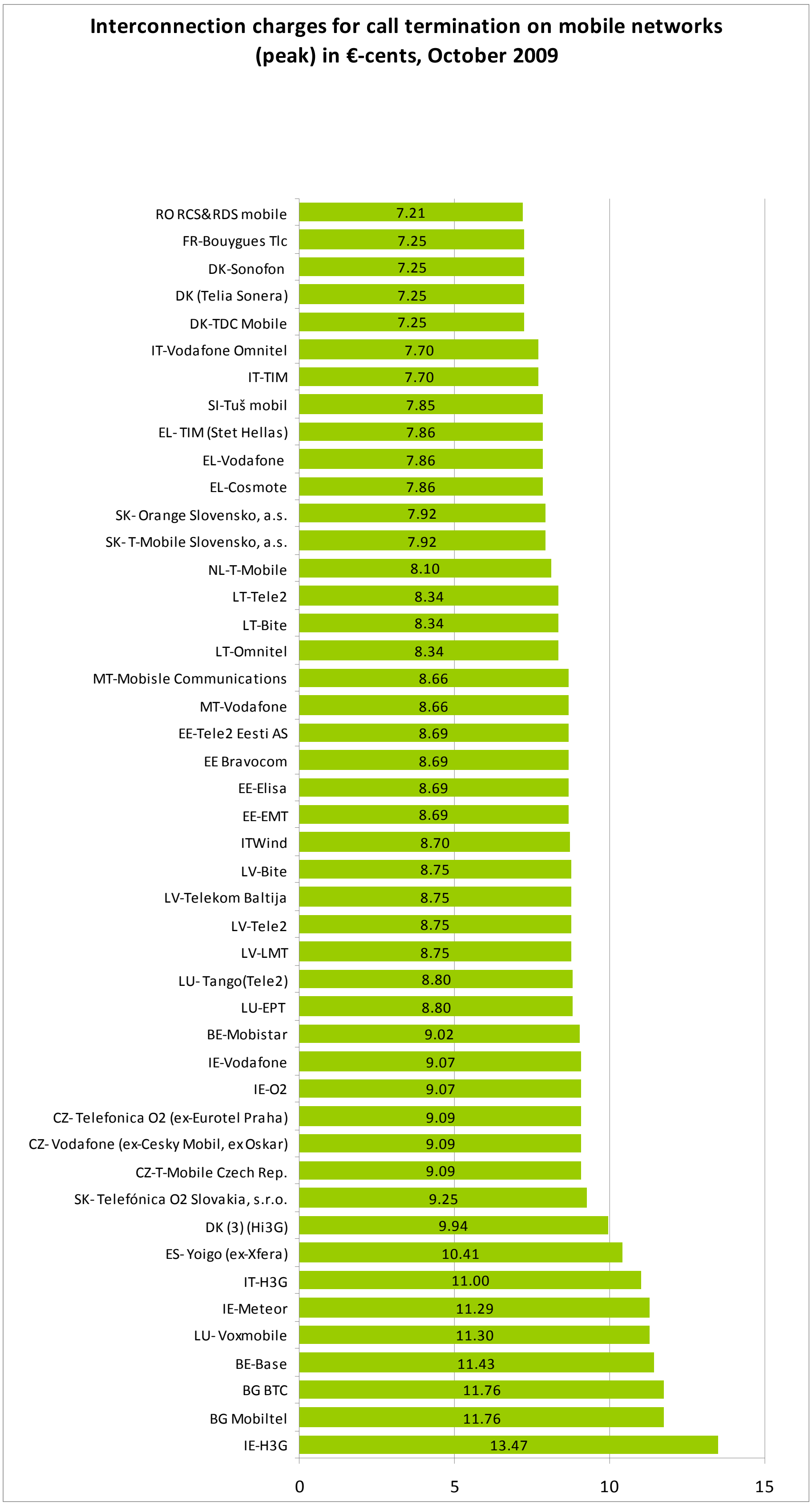


**Figure 15: IC charges for call termination per operators**






**Bulgaria**: IC rates of Cosmo Bulgaria Mobile are confidential.

**UK**: The data provided are the regulated average target charges for call termination on mobile networks which on average the mobile operators must not exceed (charge control years run from 1 April to 31 March). The actual average mobile interconnection rates are not in the public domain.

## 2.4 Mobile Operators

**Figure 16: 2G Mobile operators**

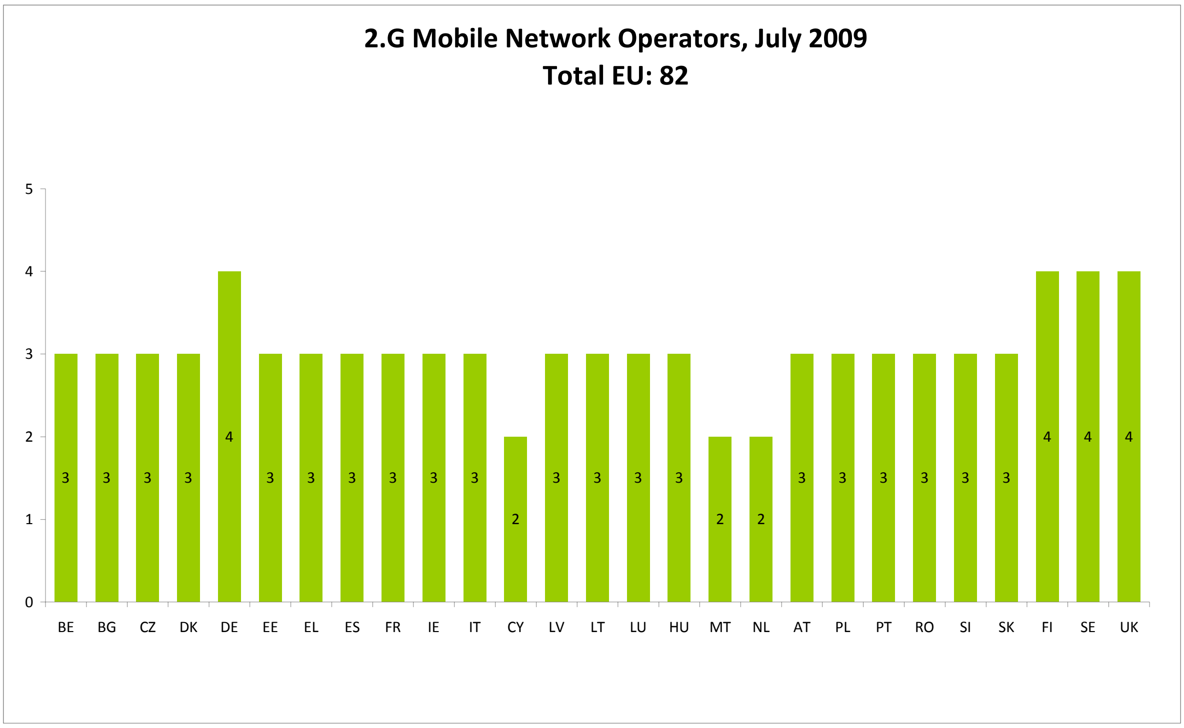



**Figure 17: Mobile network operators**

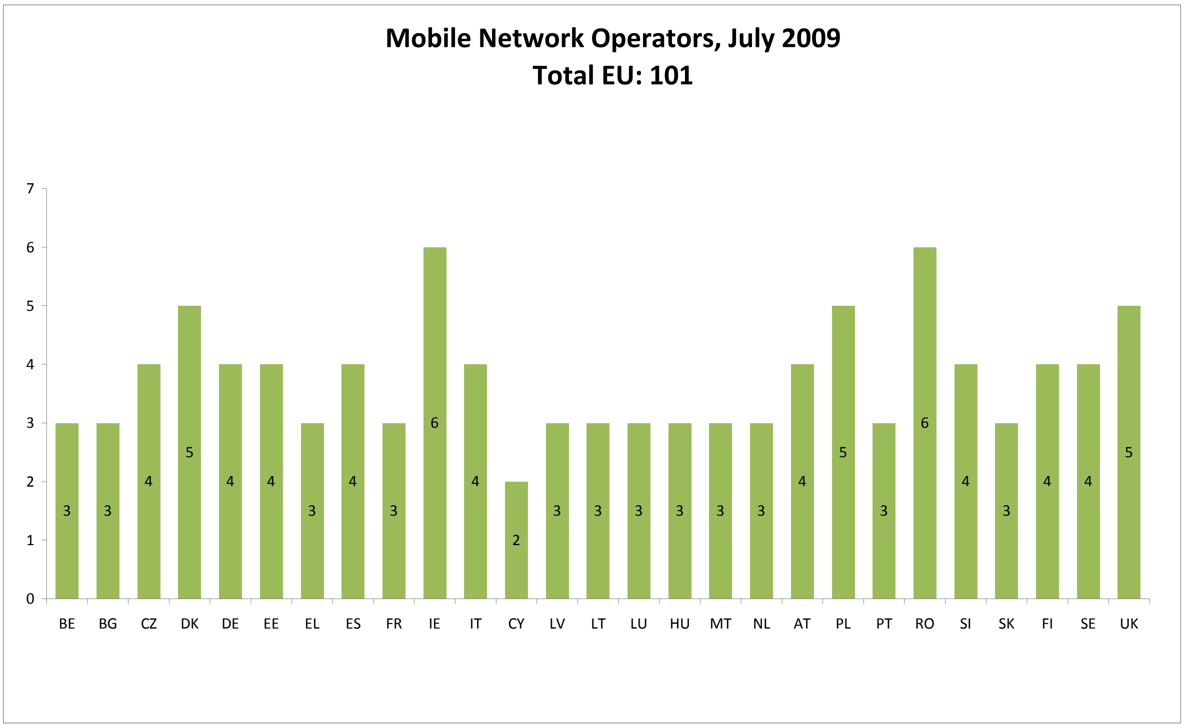
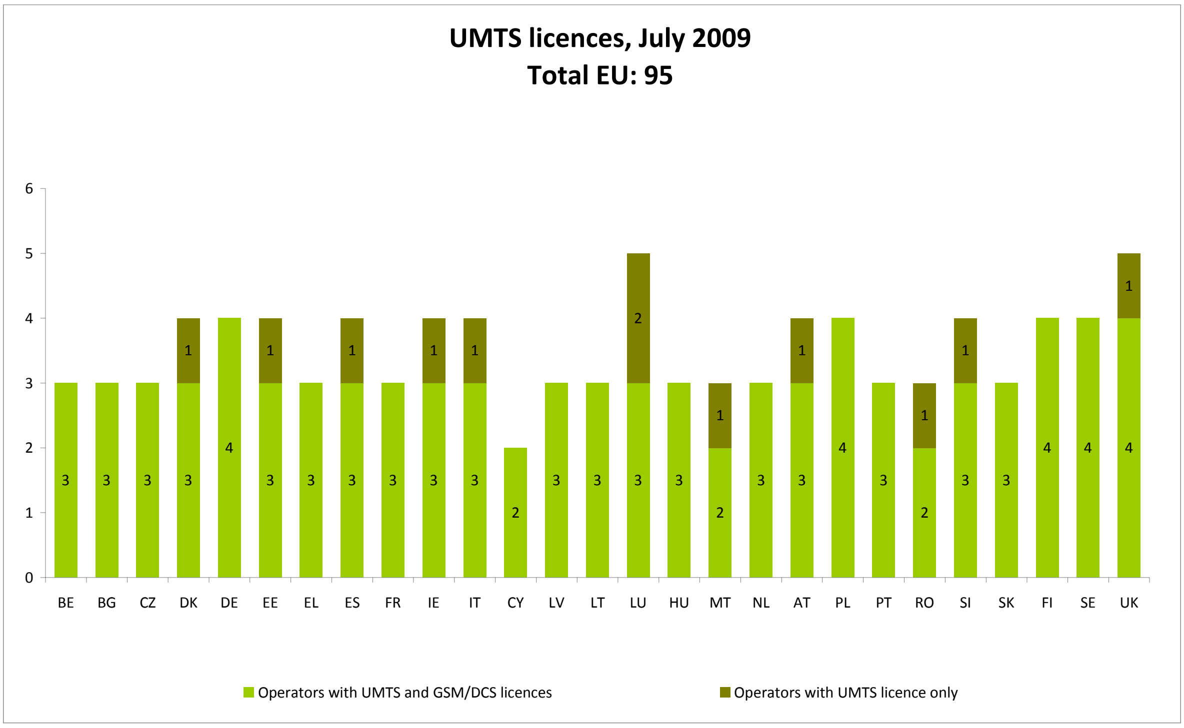
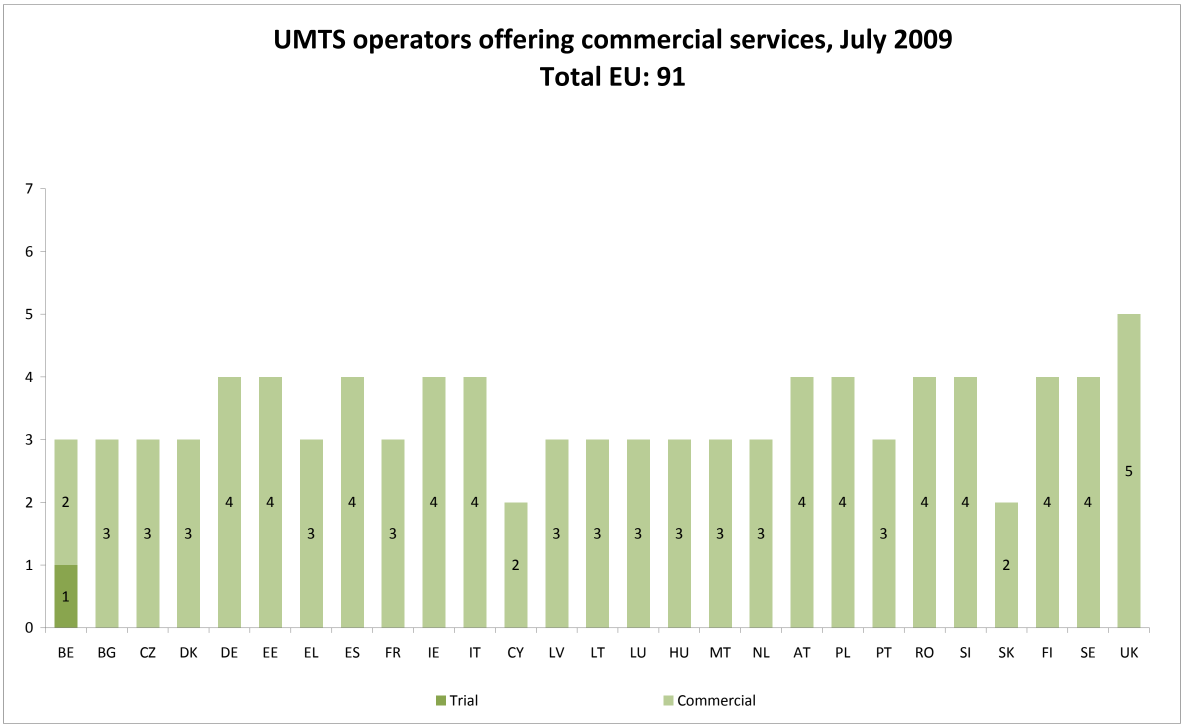


**Figure 18: UMTS licences**




**<u>Romania</u>:** One of the operators considered as having UMTS licence only also has a CDMA450 licence; beside these 4 operators, there is another operator with CDMA410 licence only.

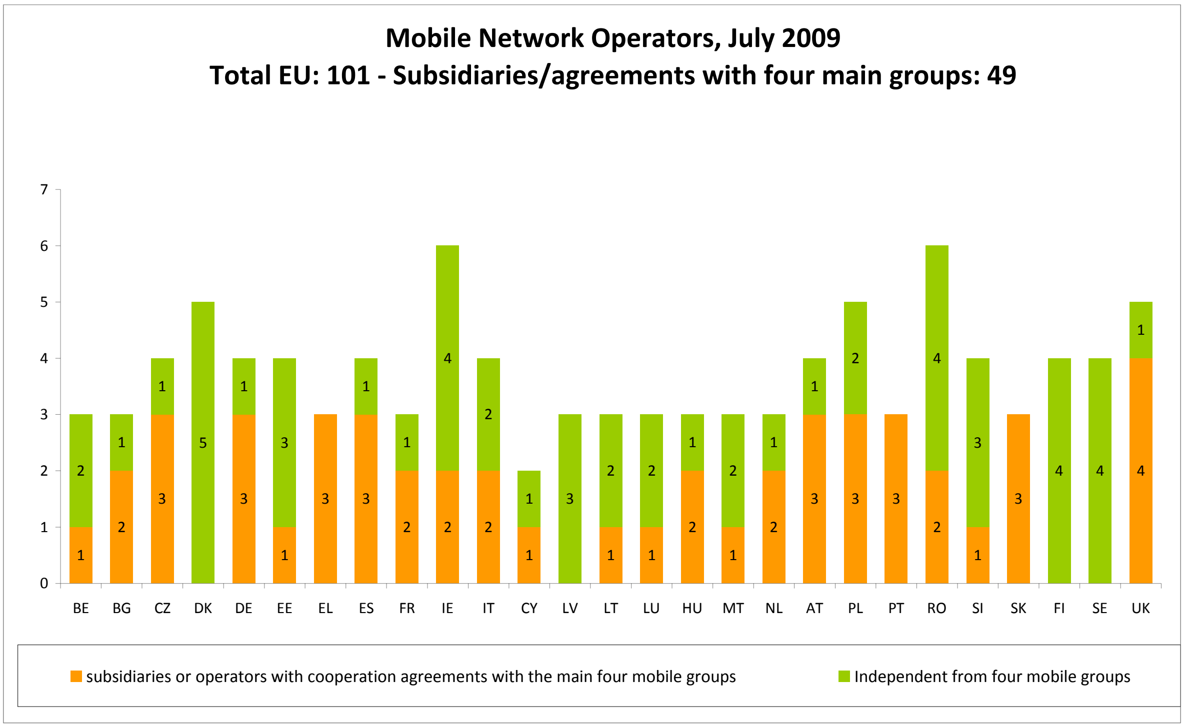
**Figure 19: UMTS operators offering commercial services**




<u>Latvia</u>: There is a CDMA operator.

**<u>Romania:</u>** Besides these four operators, there is another CDMA410 operator offering commercial services. MVNOs are not included..

**Figure 20: Mobile network operators (main groups)**




**Lithuania**: One of the operators (Bite Lietuva) has an agreement with Vodafone.

## 2.5 Traffic

**Figure 21: EU total voice calls by network (1-share)**

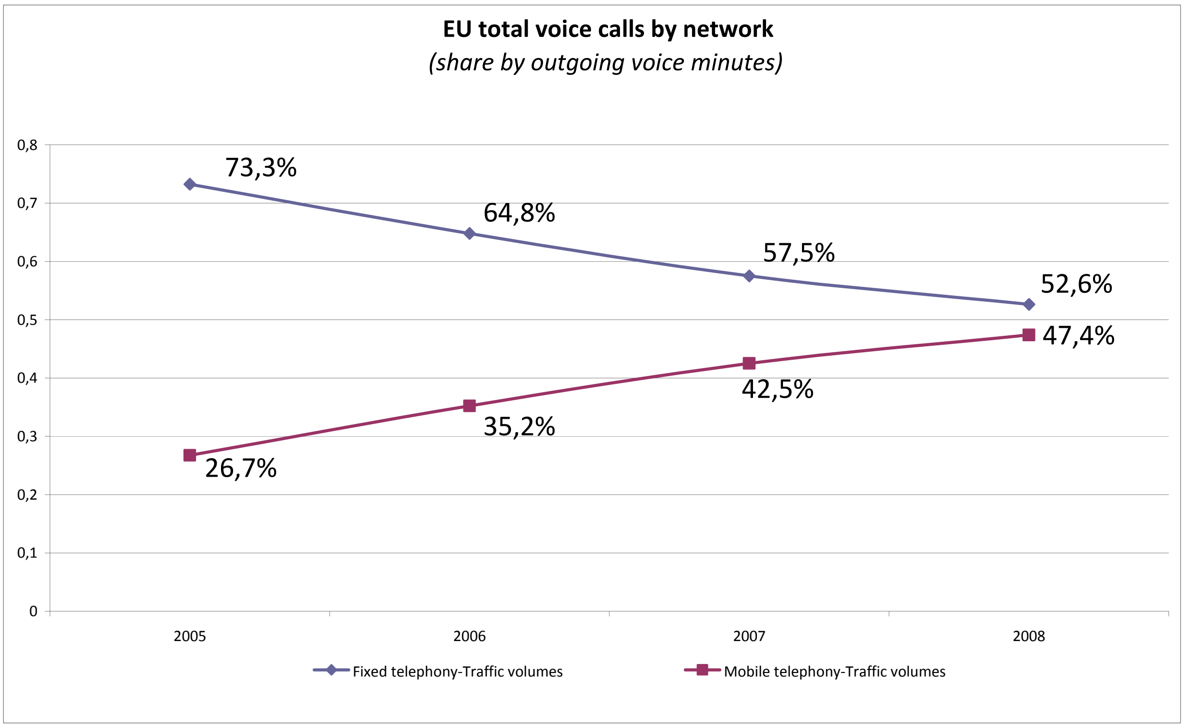


**Figure 22: EU total voice calls by network (2- in millions of voice minutes)**

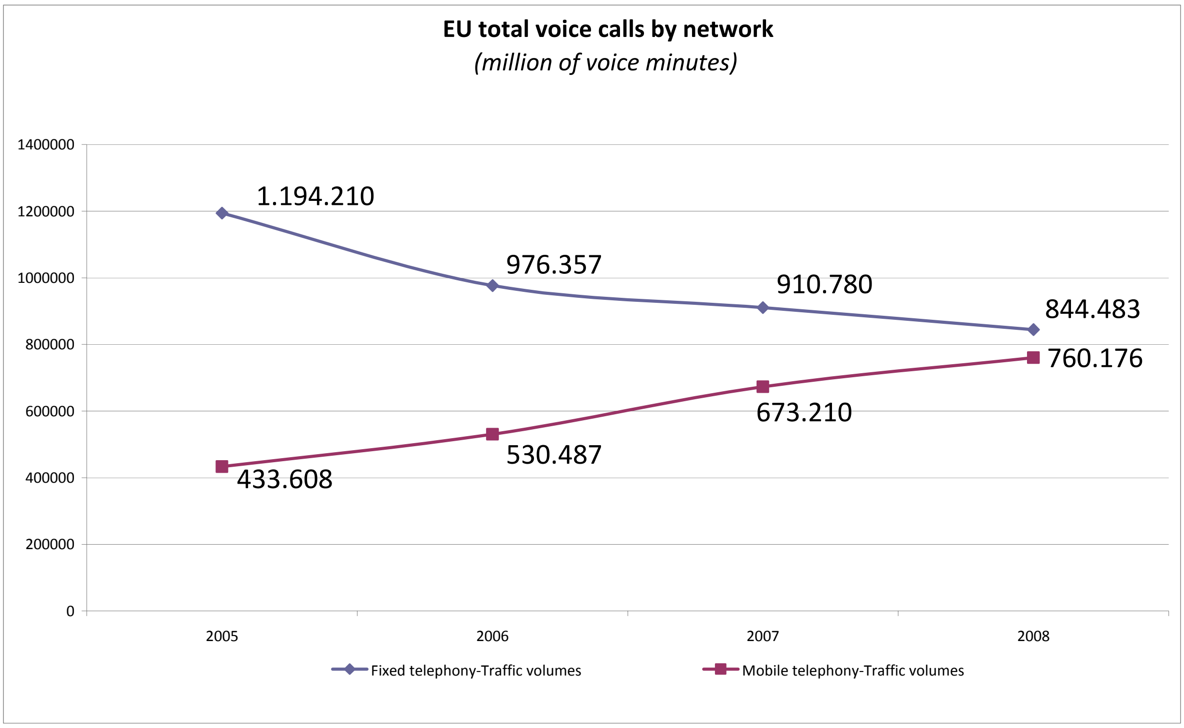
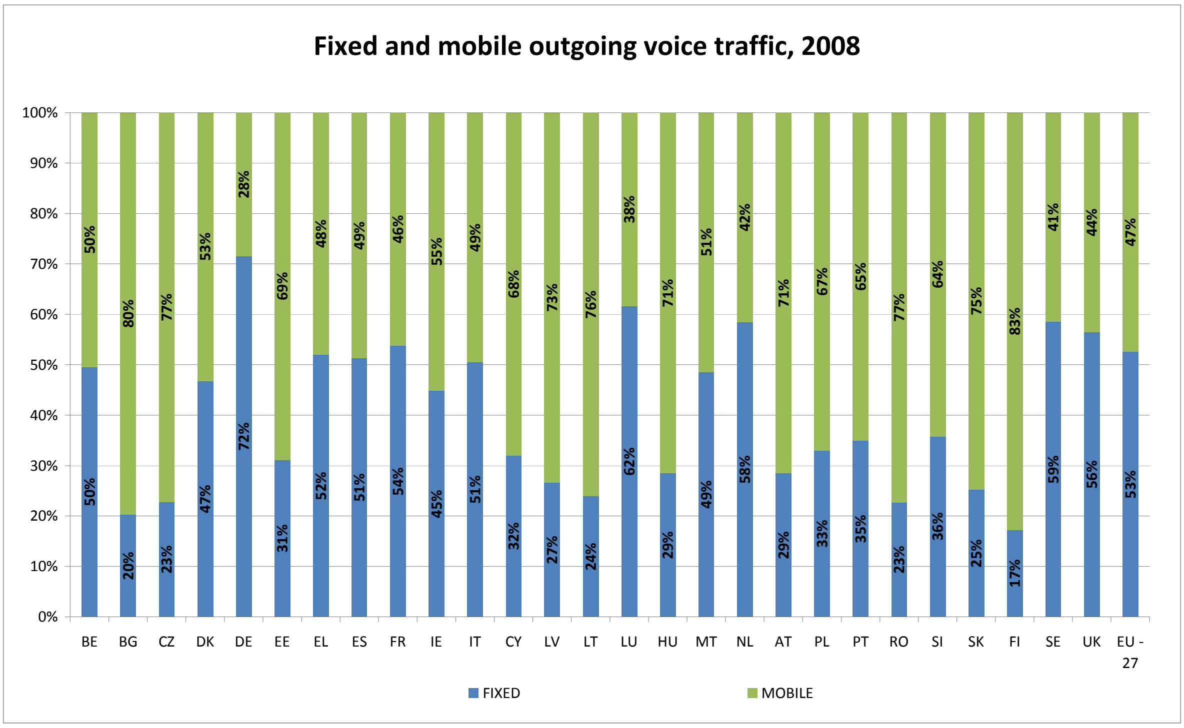



**Figure 23: Fixed and mobile outgoing voice traffic 2008**




## 2.6 Mobile voice telephony tariffs

The analysis of national (as opposed to roaming) mobile services is based on the OECD baskets for digital mobile services. OECD baskets have undergone a revision that resulted in a new set of baskets at the beginning of 2006, as opossed to old 2002 OECD baskets. Mobile baskets have been updated with current traffic weights and volumes. The changes are significant enough to prohibit the use of the new baskets with old data.

The baskets contain an SMS element, they include calls to several mobile networks, and they do not cover international calls. In addition, MMS element is included in the basket, while both MMS and SMS are separated for peak and off-peak times, and on-net and off-net destinations. In addition, voicemail is included in the baskets, whereas off-net calls can be directed to several networks. There are 3 different baskets, based on low, medium and high usage levels. Both Post-Paid and Pre-Paid packages are analysed in this section. Some of the main feautures of the "2006 OECD" baskets are as follows:

Low usage basket:
30 outgoing calls per month + 33 SMS messages
22% of calls are to fixed line phones, 70% to mobile phones, 8% to voicemail;

Medium usage basket:
65 outgoing calls per month + 50 SMS messages
21% of calls are to fixed line phones, 72% to mobile phones, 7% to voicemail;

- High usage basket:
  140 outgoing calls per month + 55 SMS messages
  20% of calls are to fixed line phones, 73% to mobile phones, 7% to voicemail.

Each basket has also a unique definition of time of day distribution and call duration, and includes the monthly rental, and any registration charges distributed over 3 years.

The two most prominent operators in each country are covered, based on available subscriber numbers. All relevant packages from each operator are considered, but the final results presented here only show the cheapest package for each basket.

The asterisk (*) behind the package name means that the package name and/or its structure have changed between 2008 and 2009. The package chosen at any time is the cheapest package from that provider for the usage profile in question. This may give rise to significant price changes over time.

The balance of fixed and usage charges in the mobile baskets varies considerably between countries, as the preferred packages in some countries contain a lot of calling time included in the fixed charge.

A full description of the methodology can be found at the end of this report.

In order to show a price trend as well, the "2006 OECD" baskets have been used. Mobile services from 2006 till 2009 are used. The graphs present the average price developments for the EU countries, using a simple average across all member countries per year. The averages cover the cheapest package from the same mobile operators.

From 2007, Bulgaria and Romania are also included.

**Figure 24: Average 2006-2009 Low usage basket postpaid**

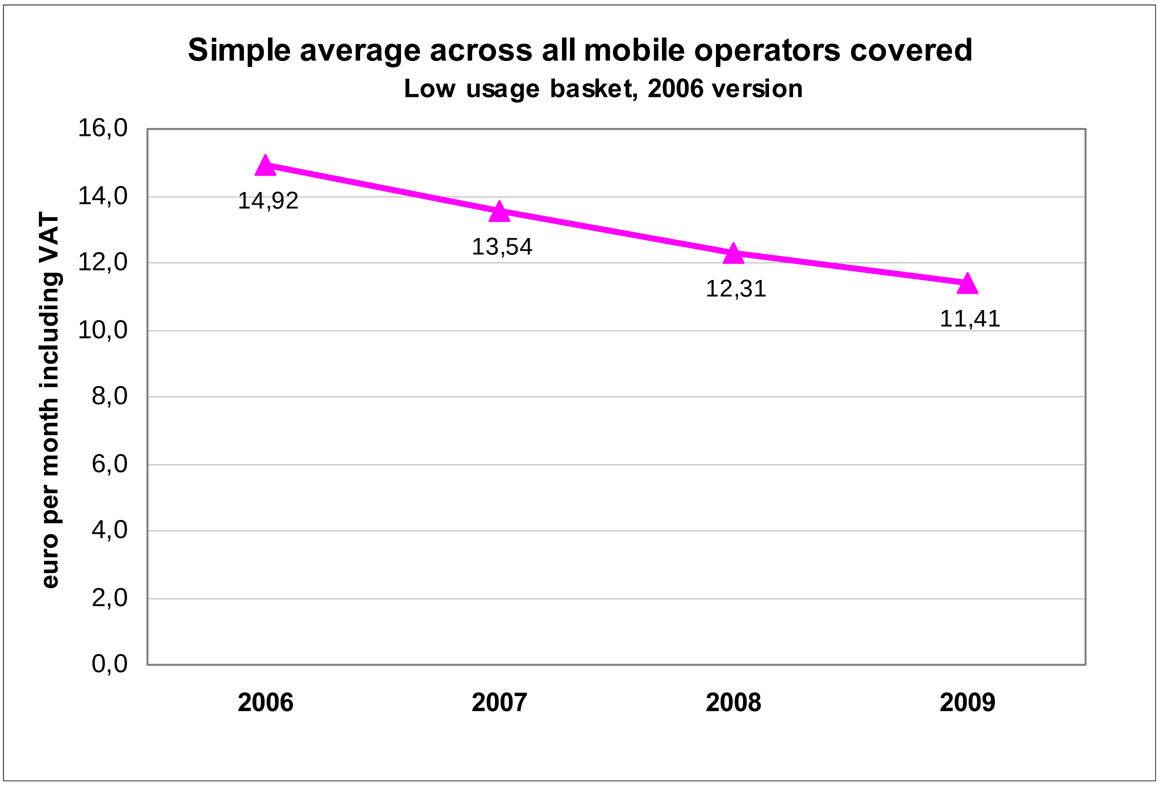



**Figure 25: Average 2006-2009 Low usage basket pre & postpaid**

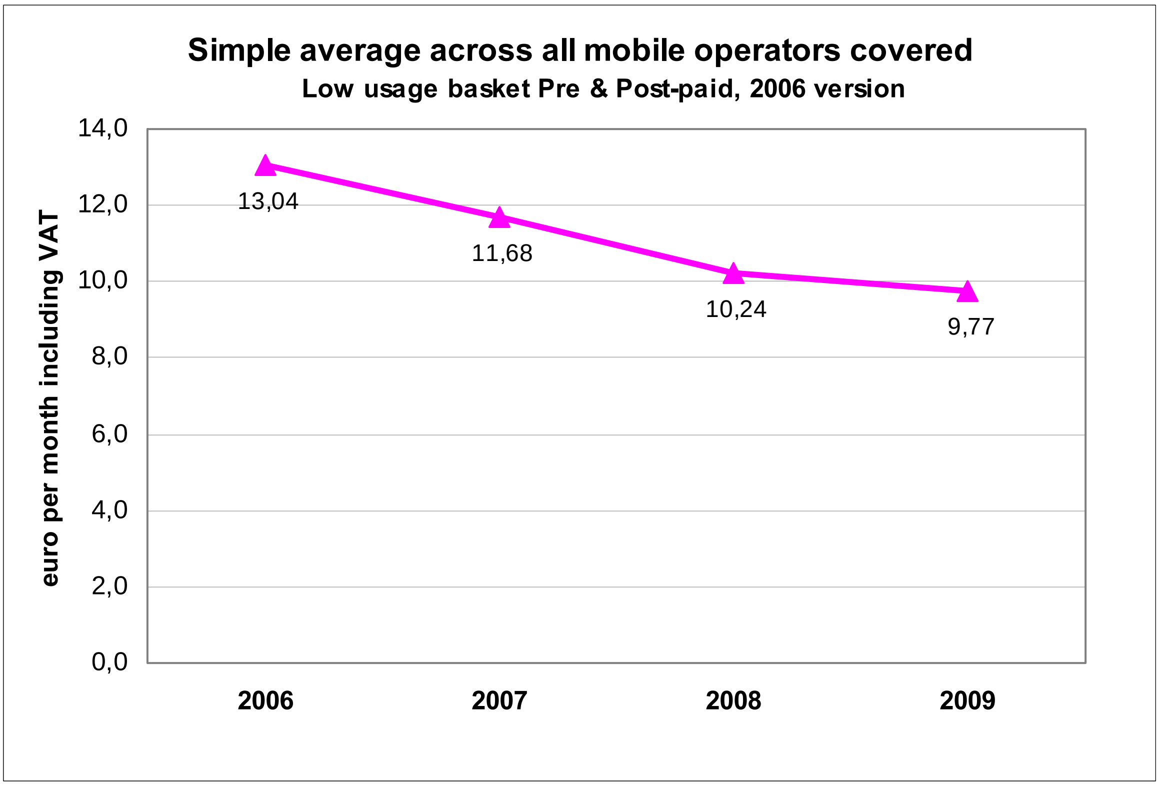


**Figure 26: Average 2006-2009 Medium usage basket postpaid**

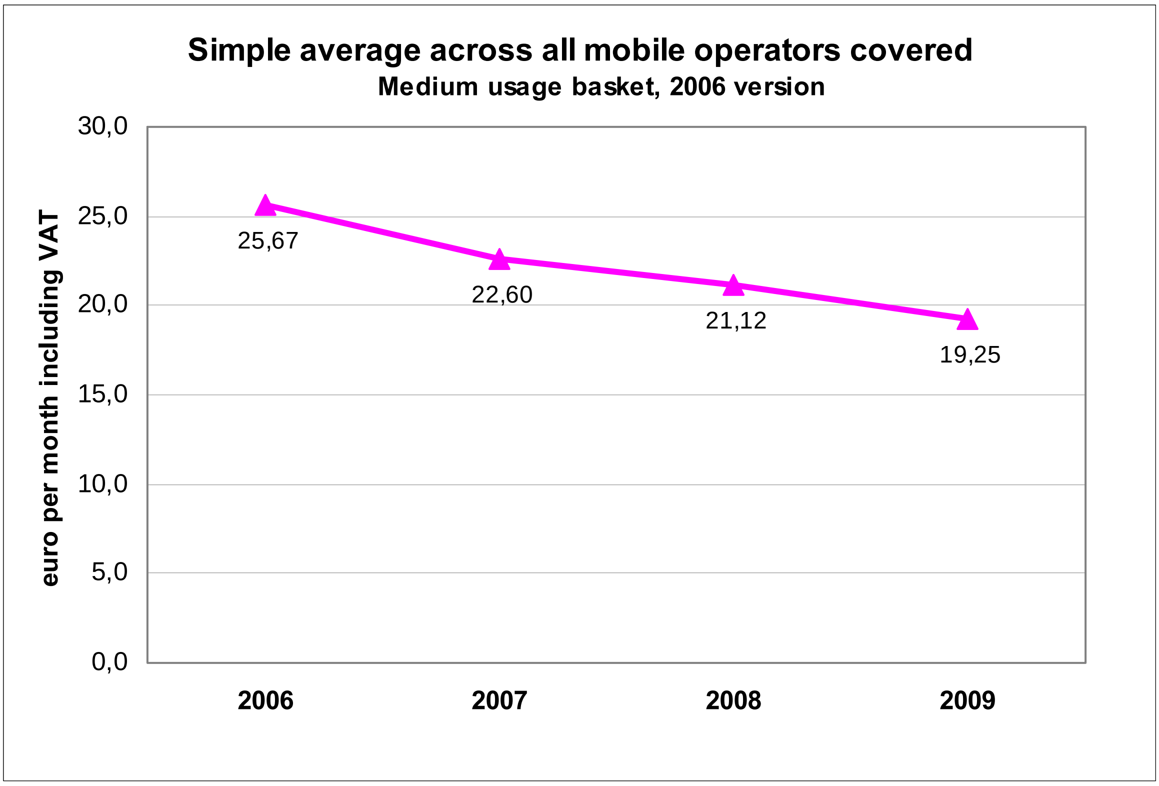



**Figure 27: Average 2006-2009 Medium usage basket pre & postpaid**

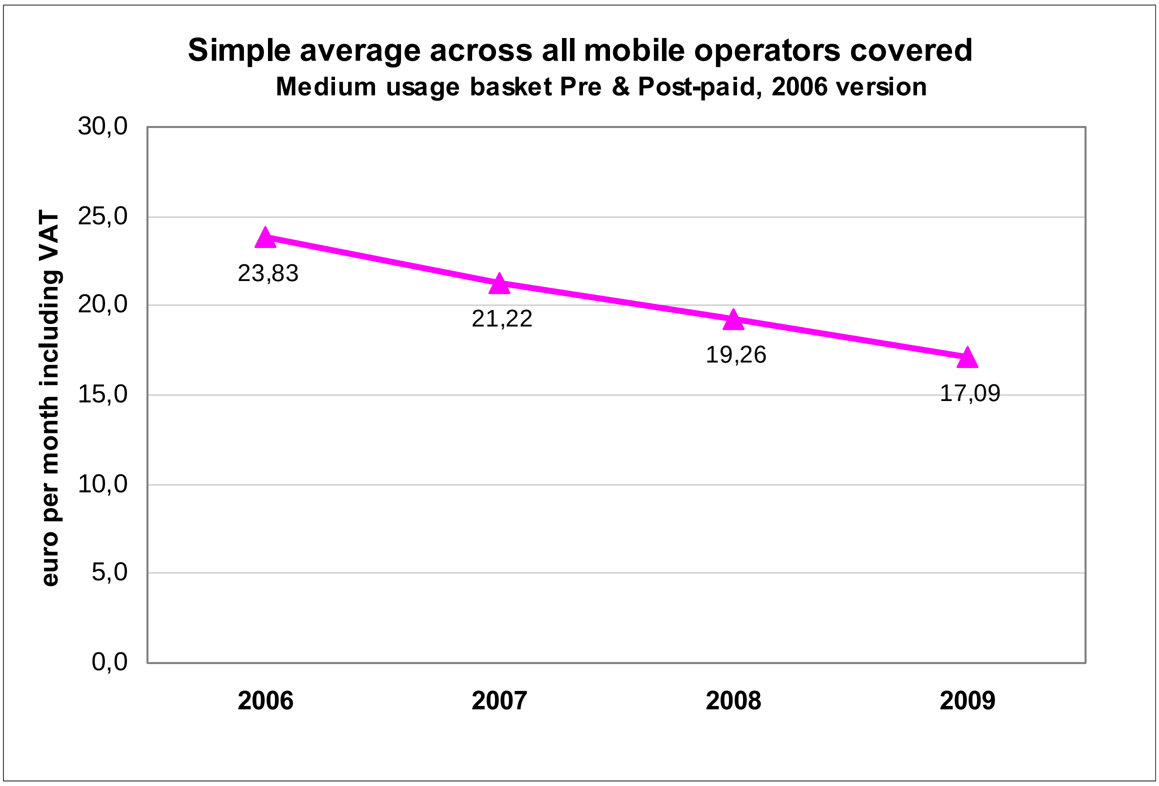


**Figure 28: Average 2006-2009 High usage basket postpaid**

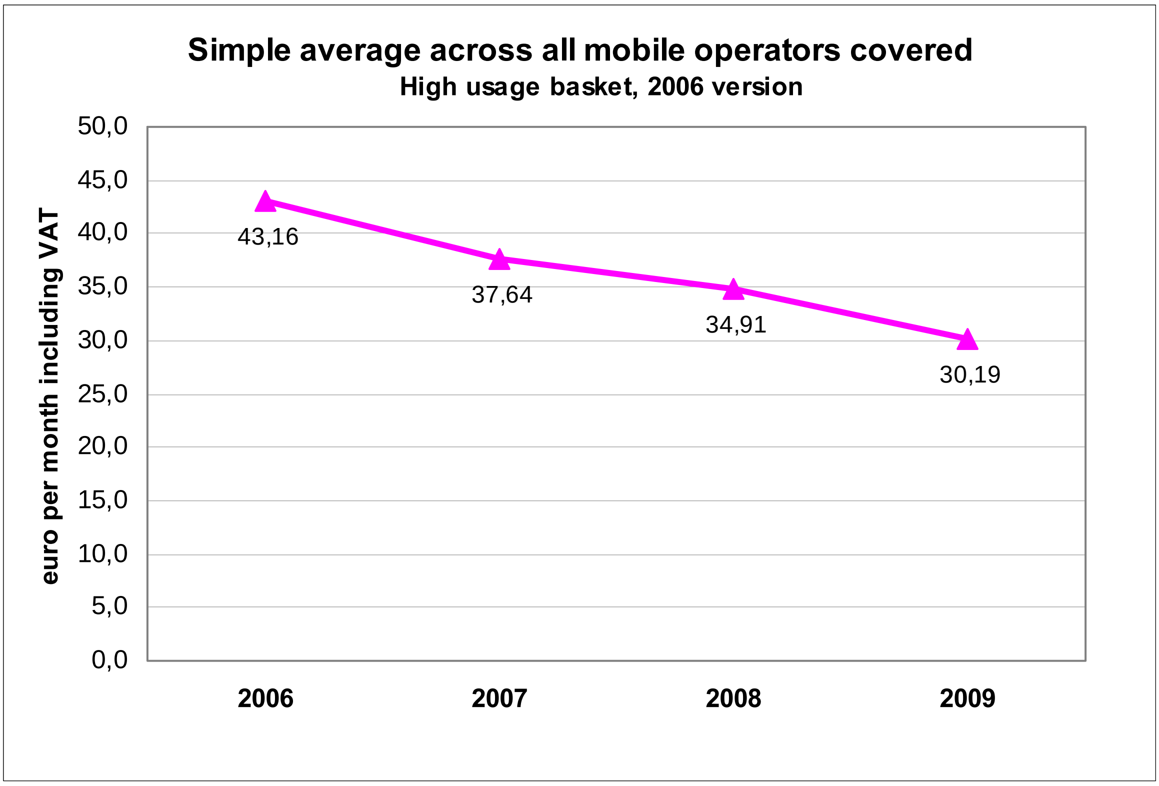
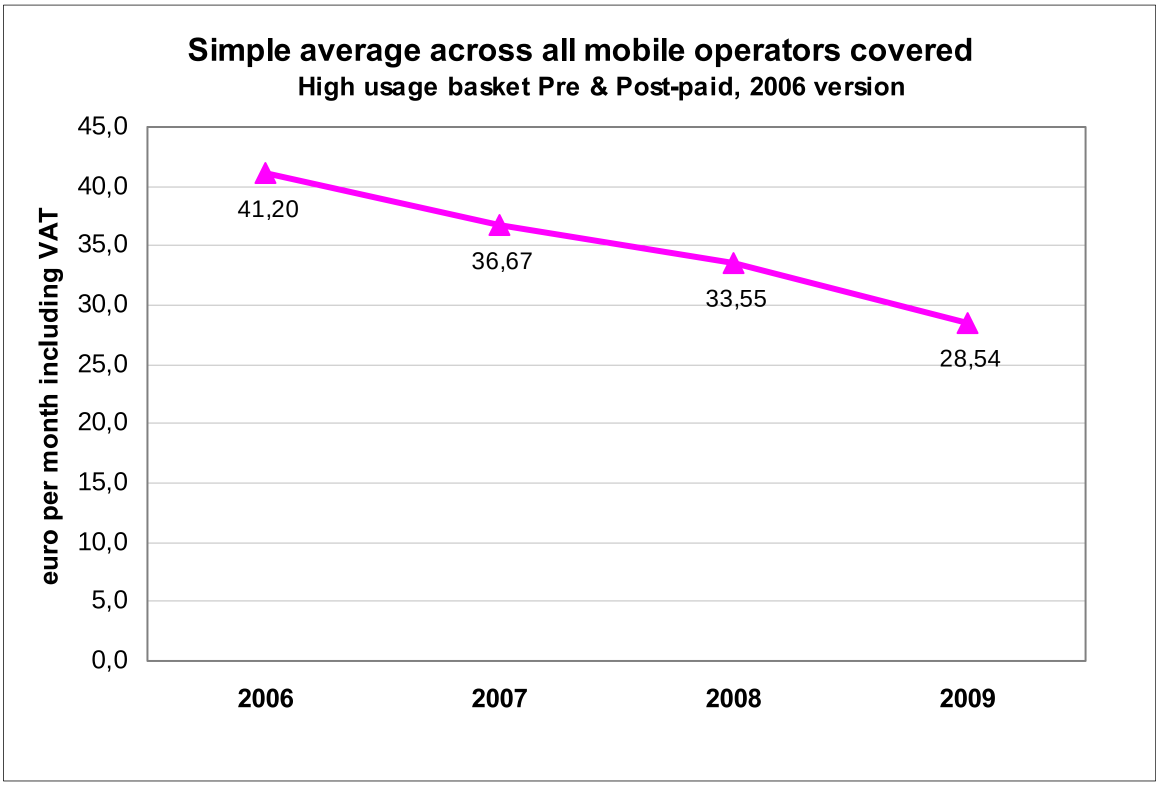



**Figure 29: Average 2006-2009 High usage basket pre & postpaid**



# 3. FIXED MARKET

## 3.1 Fixed market share

This section shows the incumbents' market share in the fixed voice telephony markets.

Apart from the overall fixed voice telephony market, submarkets for fixed calls to mobile networks, national fixed calls (including phone local calls, local calls to internet, long-distance calls and fixed calls to mobile networks) and international fixed calls are also shown.

Figures for market shares are calculated on retail revenues and outgoing minutes of traffic. Market shares based on retail revenues exclusively refer to revenues from call markets and do not include any access revenue.

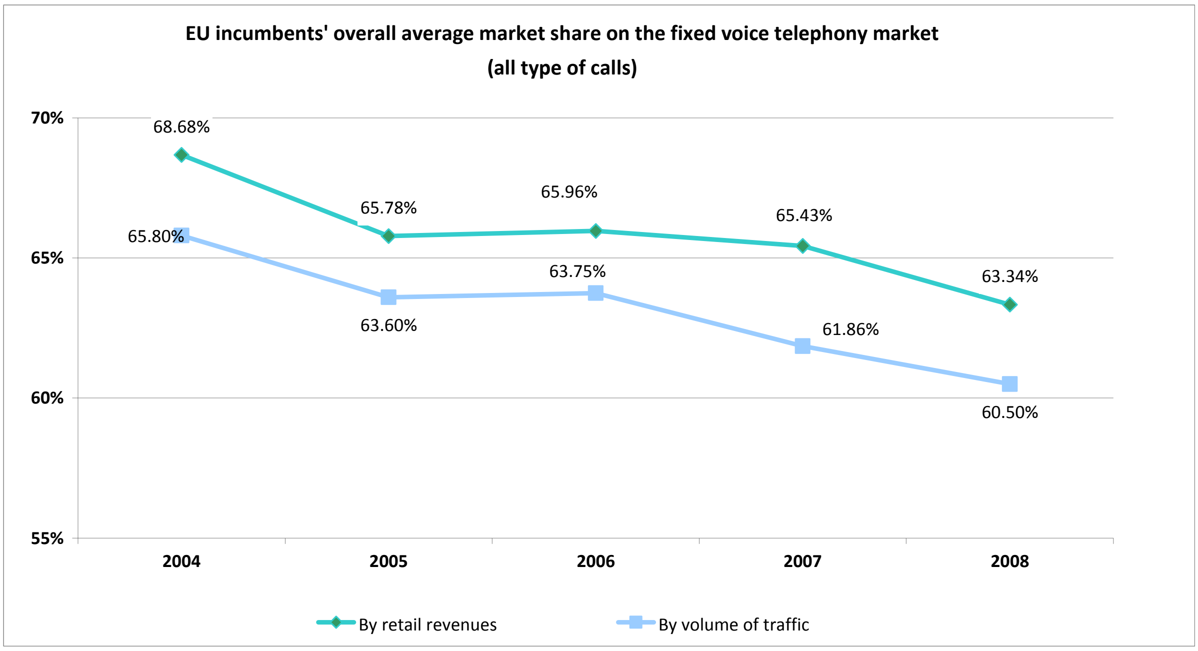
The EU averages are weighted according to the population of each Member State.

The market shares are based on traffic/revenues from publicly available telephone services and include managed Voice over IP services (VoIP) and calls made from public payphones. Traffic/revenues from peer-to-peer VoIP, simple reselling and calling cards are excluded. However, the above criteria are not followed by all Member States. For this reason the figures are not strictly comparable between countries.

Figures have been provided by NRAs and unless otherwise indicated refer to 31 December 2008 (data for the United Kingdom are for the calendar year). Data for some countries are estimated by NRAs, as indicated in the footnotes.

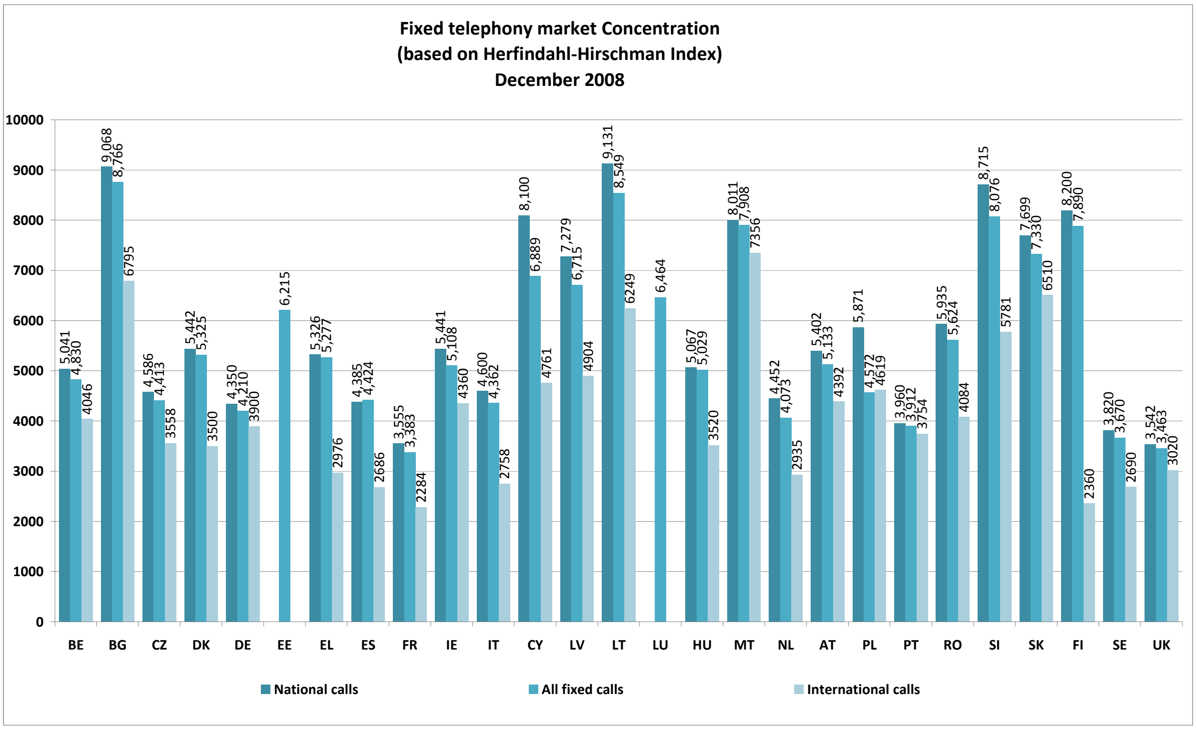
The following chart shows the trend for the EU weighted average of the incumbents' market share in the fixed voice telephony market since 2004.

**Figure 30: EU incumbents' overall average market share on the fixed voice telephony market (all types of calls)**




The following chart shows the indexes of concentration for the fixed telephony market in the Member States on 31 December 2008 based on the Herfindhal-Hirschman index. This is a market concentration index defined as the sum of the squares of the market shares of the competitors in the relevant markets. The index can take the value of 10 000 when the market is entirely controlled by a single firm, and it decreases as concentration reduces. Comparisons between the other Member States should be considered as indicative, since the reference markets are not completely homogeneous.

## Figure 31: Herfindhal-Hirschman Index




**<u>Bulgaria</u>**: Including calls made from public payphones.

**<u>Cyprus</u>**: Figures are estimates.

**<u>Denmark</u>**: Figures are based on outgoing minutes.

**<u>Germany</u>**: Figures are based on outgoing call minutes via direct access, excluding Carrier Selection (CS) and Carrier Pre-Selection (CPS).

**<u>Greece</u>**: Market shares are based on traffic.

**<u>France</u>**: Based on traffic.

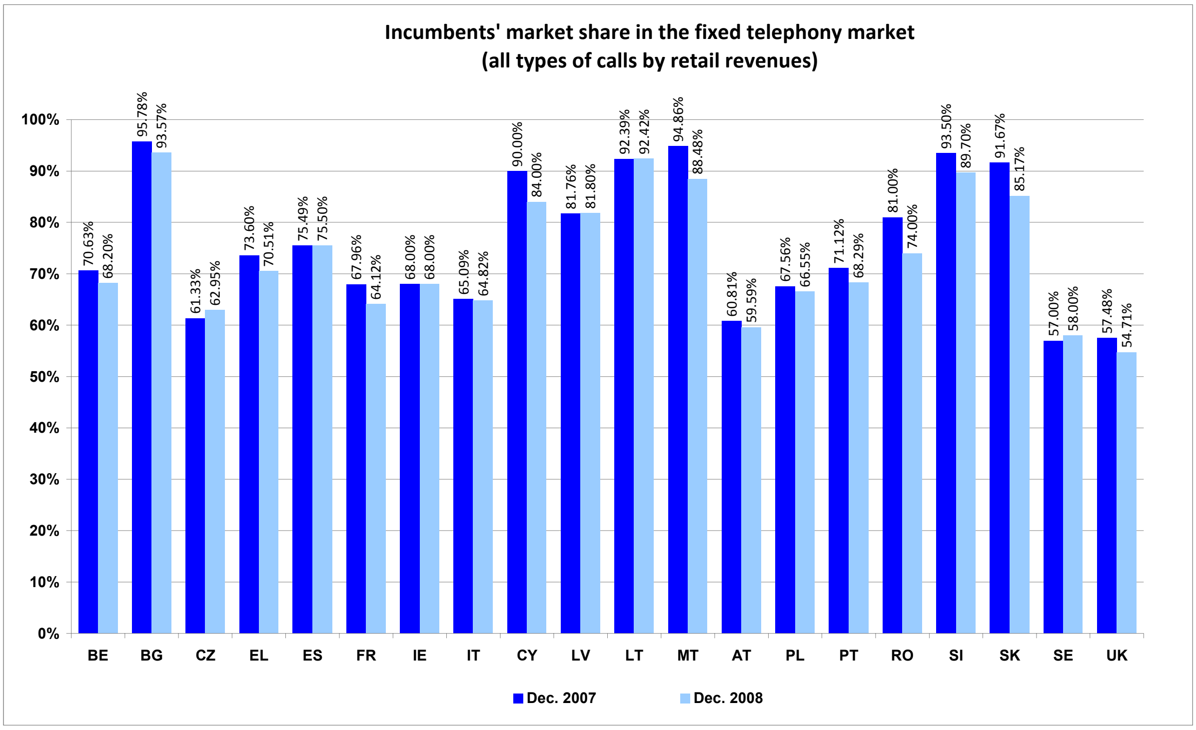
**<u>Austria</u>**: Figures are estimates.

**<u>Finland</u>**: Market shares are based on traffic volumes (National calls: estimated average in each operating area, international calls: based on SMP analysis conducted in 2005, fixed calls: estimated average in each operating area).

**<u>United Kingdom</u>**: Figures are based on call revenues for Q4 2008.

The following charts shows the incumbents' market share in the overall fixed voice telephony market by retail revenues and by minutes of outgoing traffic. All types of calls are included: local phone calls, local calls to internet, long-distance calls, international calls and fixed calls to mobile networks. Market shares based on retail revenues do not include any access revenue. Figures are not available for some Member States.

**Figure 32: Incumbent's market share – all types of calls by retail revenues**




**Cyprus**: 2008 figures are estimates.

**Denmark**: Data on market shares by revenues are either not available for publication or confidential.

**Germany**: Data on market shares by revenues are not available.

**Estonia**: Data are confidential.

**France**: 2008 figures are estimates. 2007 figures have been revised.

**Hungary**: Data on market shares by revenues are not available.

**Italy**: National fixed calls include local, national long distance, internet dial up and public telephone calls as well as calls to non geographic numbers. Data are not based on the definitions of the 14th Progress Report and Agcom Annual Report 2009 (table 1.25 and 1.26). "International traffic" includes phone centre and prepaid cards.

**Luxembourg**: Data are confidential.

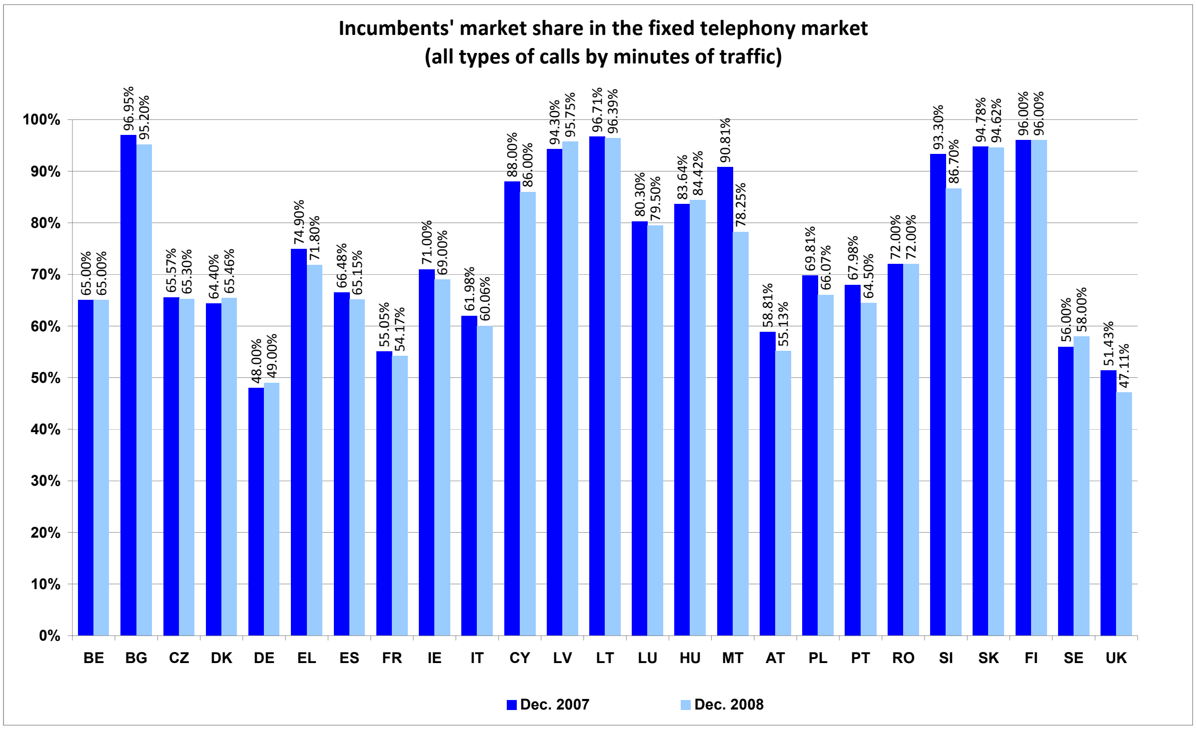
**The Netherlands**: The exact market shares are confidential. The regulator provides an approximation of 65% for 2007 and 60% for 2008.

**Austria**: Due to some data corrections, there may be differences to the data published in the 14th Progress Report.

**Finland**: Data are not available.

**United Kingdom**: Figures are for full calendar years, and include FRIACO calls as it is not possible to split these out.

**Figure 33: Incumbent's market share – all types of calls by volume**




**Cyprus**: 2008 figures are estimates.

**Estonia**: Data are confidential.

**France**: 2008 figures are estimates. 2007 figures have been revised.

**The Netherlands**: The exact market shares are confidential. The regulator provides an approximation of 75% in 2007 and 65% in 2008.

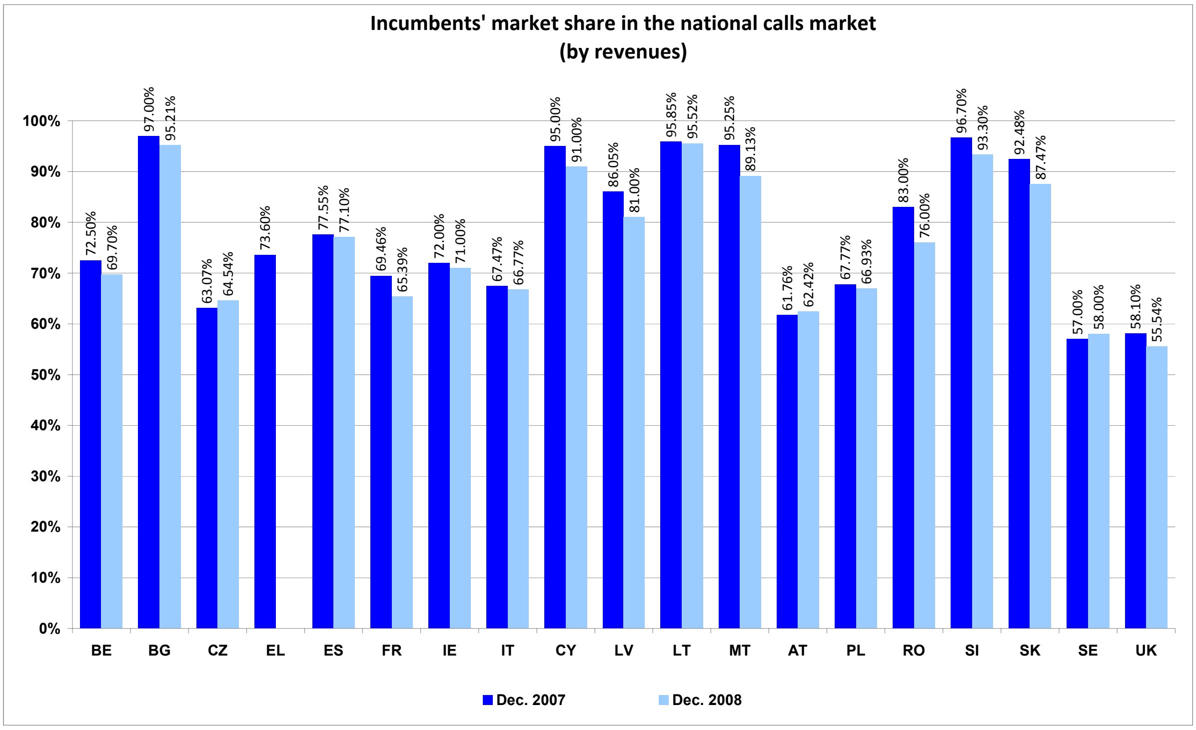
**Austria**: Due to some data corrections, there may be differences with the data published in the 14th Progress Report.

**United Kingdom**: Figures are for full calendar years, and include FRIACO calls as it is not possible to split these out.

### *Incumbent's market share in the different segments of the market*

The following charts show the incumbents' market share in the national, international and fixed to mobile calls markets by retail revenues and by minutes of outgoing traffic. The national calls market includes local phone calls, local calls to internet, long-distance calls and fixed calls to mobile networks. Figures are not available for some Member States.

**Figure 34: Incumbent's market share – national calls by revenues**




**Cyprus**: 2008 figures are estimates.

**Germany**: Data on market shares by revenues are not available.

**Denmark**: Data on market shares by revenues are either not available for publication or confidential.

**Greece**: For 2008 it was not possible to split revenues by type of call, as several operators offered bundled packages and could not distinguish the revenues by type of call.

**Estonia and Luxembourg**: Data are confidential.

**France**: 2008 figures are estimates. 2007 figures have been revised.

**Hungary**: Data on market shares by revenues are not available.

**Italy**: National fixed calls include local, national long distance, internet dial up and public telephone calls as well as calls to non geographic numbers. Data are not based on the definitions of the 14th Progress Report and Agcom Annual Report 2009 (table 1.25 and 1.26). "International traffic" includes phone centre and prepaid cards.

**The Netherlands**: The exact market shares are confidential. The regulator provides an approximation of 65% in 2007 in 2008.

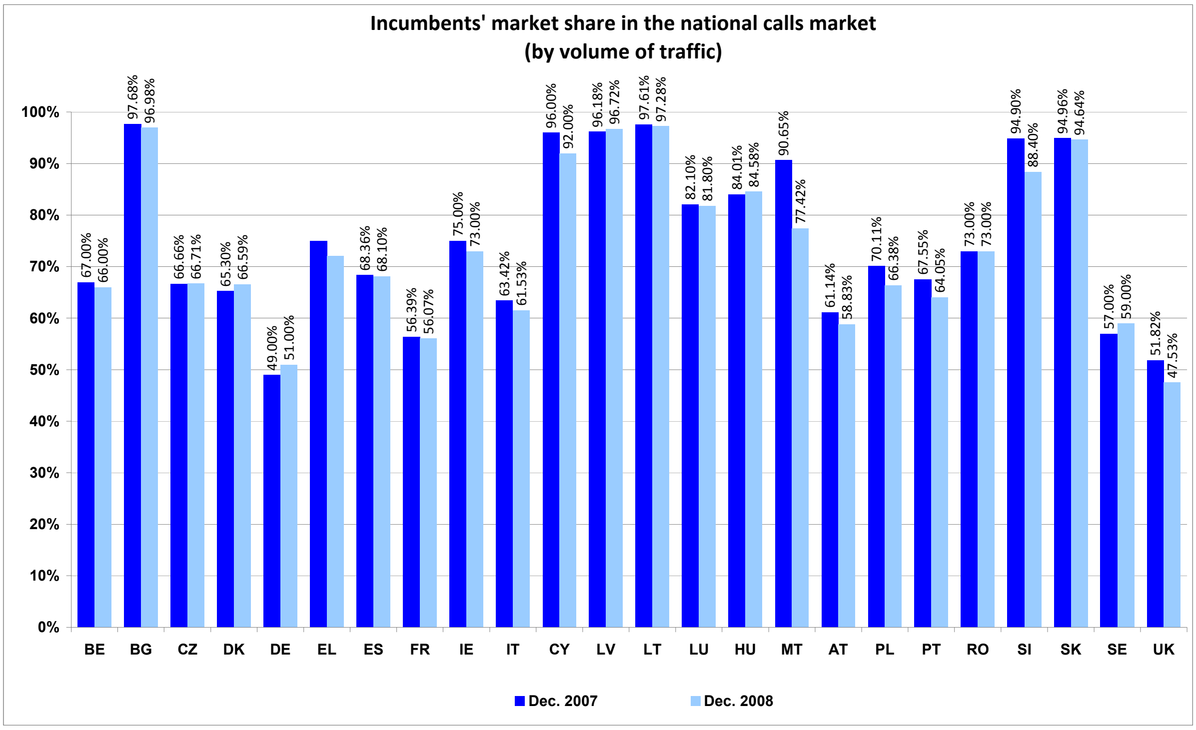
**Austria**: Due to some data corrections, there may be differences to the data published in the 14th Progress Report.

**Portugal**: Data on revenues are not available as one of the largest operators cannot split revenue data by type of call.

**Finland**: Data are not available.

**United Kingdom**: Figures are for full calendar years, and include FRIACO calls as it is not possible to split these out.

**Figure 35: Incumbent's market share – national calls by volume**




**Cyprus**: 2008 figures are estimates.

**Estonia**: Data are confidential.

**France**: 2008 figures are estimates. 2007 figures have been revised.

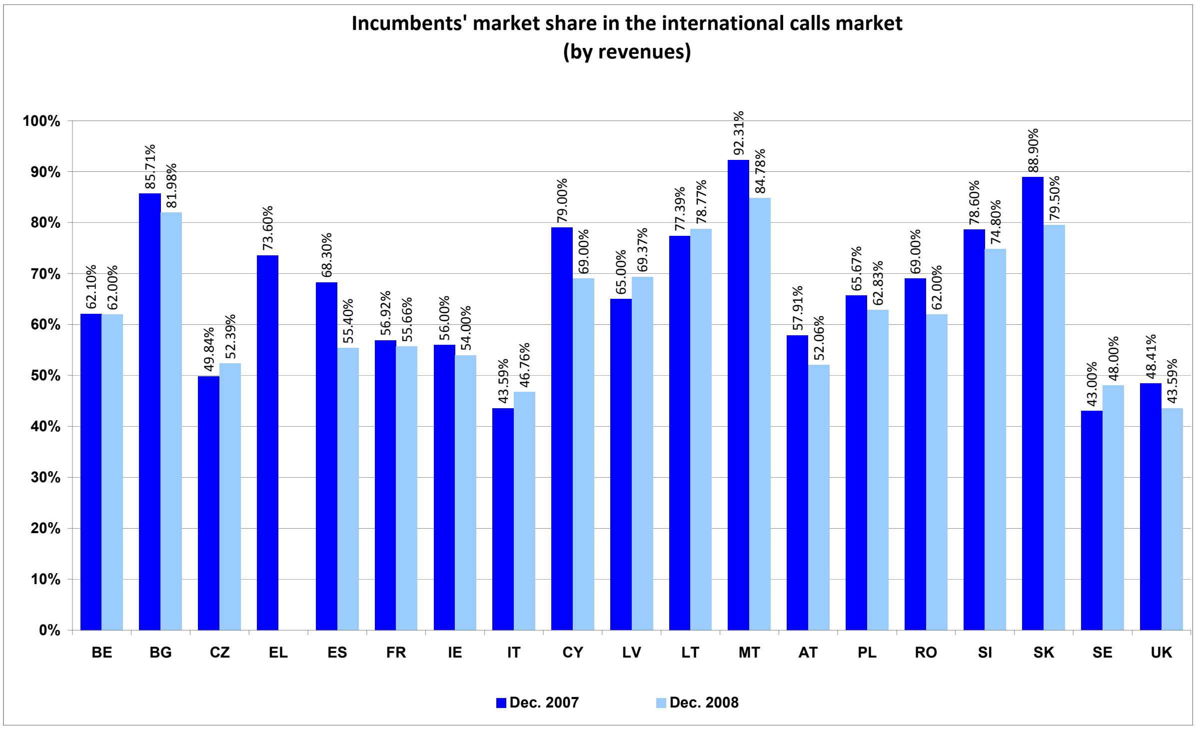
**The Netherlands**: The exact market shares are confidential. The regulator provides an approximation of 65% in 2007 and 2008.

**Austria**: Due to some data corrections, there may be differences to the data published in the 14th Progress Report.

**Finland**: Data are not available.

**United Kingdom**: Figures are for full calendar years, and include FRIACO calls as it is not possible to split these out.

**Figure 36: Incumbent's market share – international calls by revenues**




**Cyprus**: 2008 figures are estimates.

**Denmark**: Data on market shares by revenues are either not available for publication or confidential.

**Germany**: Data on market shares by revenues not available.

**Estonia**: Data are confidential.

**Greece**: For 2008 it was not possible to split revenues by type of call, as several operators offered bundled packages and could not distinguish the revenues by type of call.

**France**: 2008 figures are estimates. 2007 figures have been revised.

**Hungary**: Data on market shares by revenues are not available.

**Italy**: National fixed calls include local, national long distance, internet dial up and public telephone calls as well as calls to non geographic numbers. Data are not based on the definitions of the 14th Progress Report and Agcom Annual Report 2009 (table 1.25 and 1.26). "International traffic" includes phone centre and prepaid cards.

**Luxembourg**: Data are confidential.

**The Netherlands**: The exact market shares are confidential. The regulator provides an approximation of 70% in 2007 and 50% in 2008.

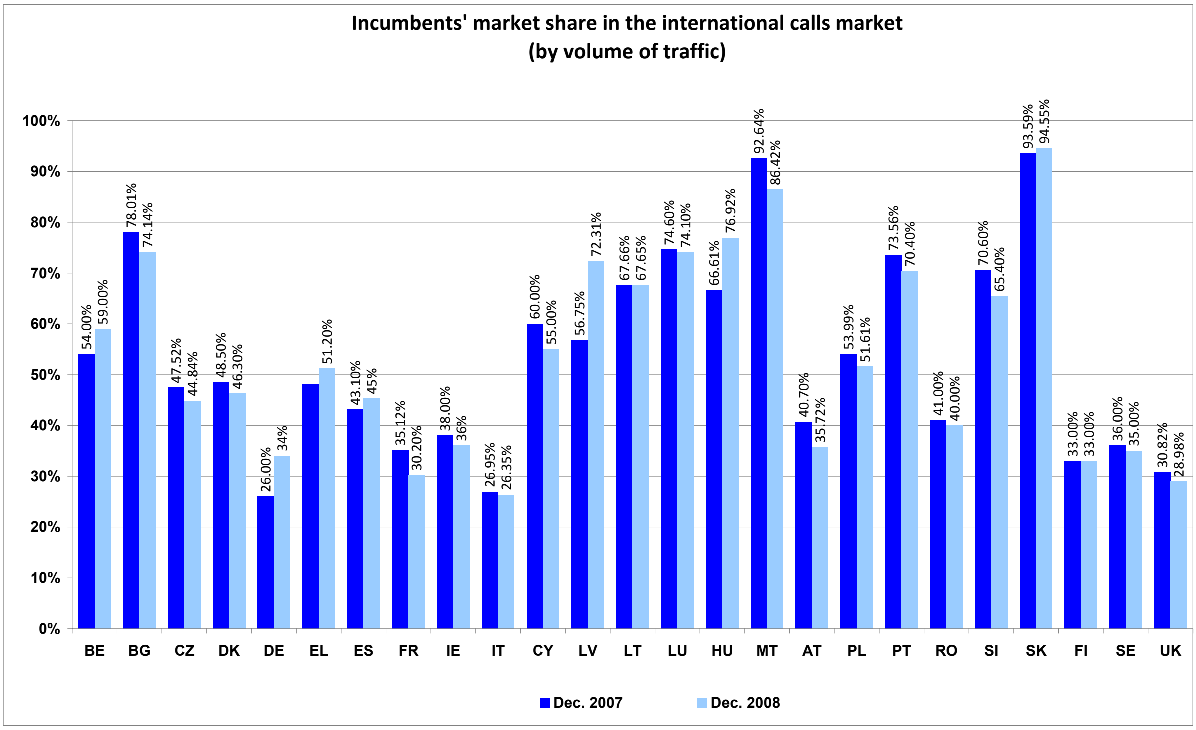
**Austria**: Due to some data corrections, there may be differences to the data published in the 14th Progress Report.

**Portugal**: Data on revenues are not available as one of the largest operators cannot split revenue data by type of call.

**Finland**: Data are not available.

**United Kingdom**: Figures are for full calendar years.

**Figure 37: Incumbent's market share – international calls by volume**




**Cyprus**: 2008 figures are estimates.

**Estonia**: Data are confidential.

**France**: 2008 figures are estimates. 2007 figures have been revised.

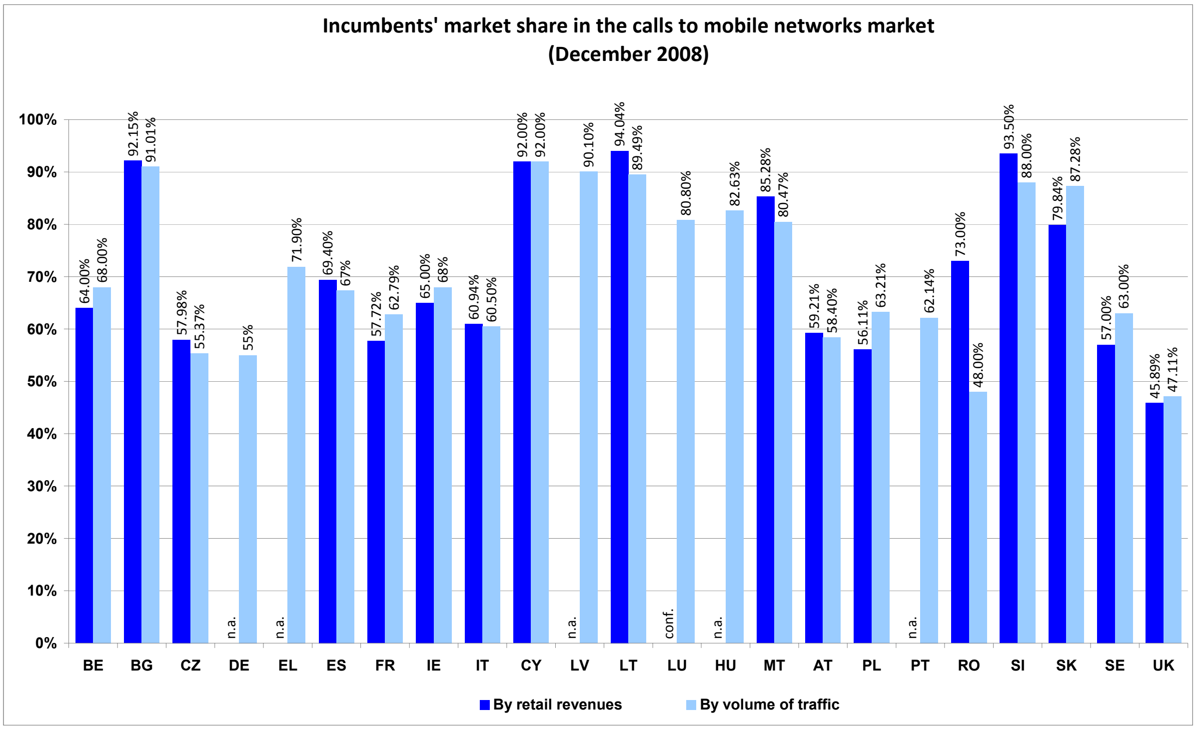
**Italy**: Phone centre and prepaid cards are also included.

**The Netherlands**: The exact market shares are confidential. The regulator provides an approximation of 55% in 2007 and 45% in 2008.

**Austria**: Due to some data corrections, there may be differences to the data published in the 14th Progress Report.

**United Kingdom**: Figures are for full calendar years.

**Figure 38: Incumbent's market share – calls to mobile**




**Denmark**: Data not available for publication.

**Germany**: Data on market shares by revenues not available.

**Estonia**: Data are confidential.

**Greece**: For 2008 it was not possible to split revenues by type of call, as several operators offered call packages and could not distinguish the revenues by type of call.

**France**: 2008 figures are estimates. 2007 figures have been revised.

**Hungary**: Data on market shares by revenues are not available.

**Latvia**: Data on revenues are not available.

**Luxembourg**: Data on revenues are confidential.

**The Netherlands**: The exact market shares are confidential. The regulator provides an approximation of 65% in 2007 and 2008.

**Portugal**: Data on revenues are not available as one of the largest operators cannot split revenue data by type of call.

**Finland**: Data are not available.

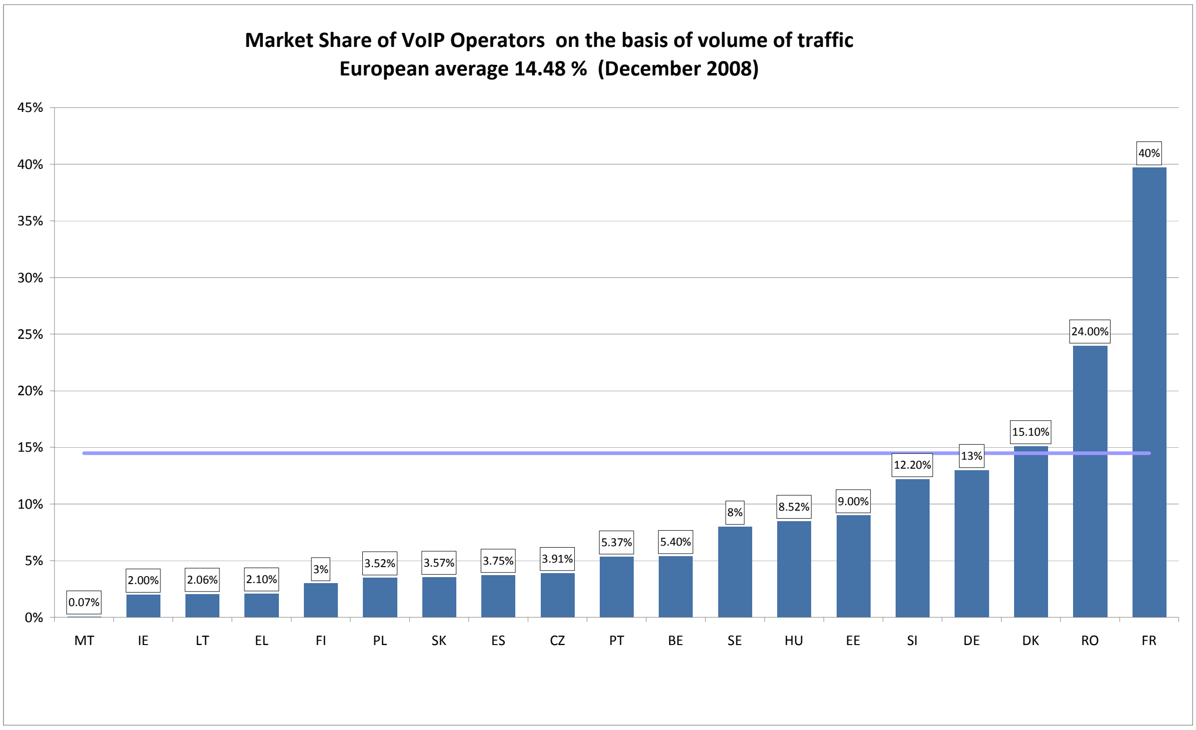
**UK**: Figures are for full calendar years.

**Cyprus**: 2008 figures are estimates.

## *VoIP market share*

The following chart shows the available data for operators' market share on the voice over internet market. The market shares have been calculated on the basis of outgoing minutes of traffic for all fixed calls as of 31 December 2008. The figures consider only managed VoIP services meaning Publicly Available Telephone Services (PATS) using Voice over Internet Protocol technology), whereby the operator controls the quality of service provided through an IP network, at a speed over 128 Kbit/sec. Unmanaged Voice over IP and peer-to-peer services are not included. However, the above criteria are not followed by all Member States and the figures are not strictly comparable between countries.

**Figure 39: Market share of the VoIP operators by volume**




**Belgium**: Data are underestimated as cable operator Telenet does not provide a split between VoIP calls and other calls. Data is, therefore, based on the figures of KPN Belgium, Numéricable (Coditel Brabant), Tecteo, Belgacom and Scarlet.

**Bulgaria**: Data are not available. No distinction is made between PSTN and VoIP operators and traffic.

**Czech Republic**: Data are based on interconnection traffic.

**Latvia**: Pursuant to national legislation there is no distinction between PSTN and VoIP operators and traffic.

**Ireland**: Data are an estimate.

**Luxembourg**: No large operator offered managed VoIP services to residential customers in 2008.

**Malta**: All networks are IP based. The figure given however includes only connections requiring a speed of 128 Kbit/sec and over (broadband).

**The Netherlands**: Data are not available for minutes. Based on subscriptions, the market share of VoIP within all fixed telephony is 40% (Q4 2008).

**Italy**, **Cyprus**, **United Kingdom**: Data are not available.

**Austria**: Data are not available for minutes. Approx. 56% of alternative operators´ lines are managed VoIP (including the incumbent, approx. 7% of all fixed lines are managed VoIP)

## 3.2 Direct Access

Direct access means that customers buy services from an alternative operator using the incumbents` or another operator's network via Local Loop Unbundling. The table below shows what percentage of national and international calls were made through direct access in 2008 and 2009. It is also presented, what percentage of direct access customers used the incumbents` networks.

## TABLE Direct Access

| | National calls 2008 | National calls 2009 | International calls 2008 | International calls 2009 | Incumbents direct access 2008 | Incumbents direct access 2009 |
|---|---|---|---|---|---|---|
| BE | 33.0% | 36.3% | 33.0% | 36.3% | 85.0% | 81.9% |
| BG | 4.0% | 6.0% | 3.8% | 6.3% | 96.0% | 94.0% |
| CZ | 19.5% | 17.8% | 13.9% | 9.9% | 95.6% | 93.1% |
| DK | n.a. | n.a. | n.a. | n.a. | 83.3% | 83.6% |
| DE | 37.0% | 40.0% | 39.0% | 42.0% | 72.0% | 67.0% |
| EE | 30.0% | 30.0% | 29.0% | 27.0% | 78.0% | 76.0% |
| EL | 19.0% | 21.0% | 21.0% | 22.0% | 92.2% | 85.3% |
| ES | 26.5% | 32.8% | 26.5% | 32.8% | 78.1% | 72.6% |
| FR | 28.0% | 30.7% | 29.3% | 31.2% | 83.6% | 79.1% |
| IE | 22.0% | 21.0% | 22.0% | 21.0% | n.a. | n.a. |
| IT | 27.8% | 28.7% | 28.8% | 29.4% | 81.7% | 78.0% |
| CY | 5.0% | 9.0% | 5.0% | 9.0% | 95.0% | 91.0% |
| LV | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| LT | 4.9% | 6.1% | 6.1% | 6.8% | 98.1% | 97.4% |
| LU | 17.7% | 20.3% | 17.7% | 20.3% | 93.1% | 90.9% |
| HU | 13.9% | 17.0% | 21.1% | 23.1% | 91.9% | 87.5% |
| MT | 18.5% | 22.0% | 18.5% | 22.0% | 82.6% | 78.4% |
| NL | 35.0% | 35.0% | 45.0% | 50.0% | 75.0% | 70.0% |
| AT | 40.0% | 38.0% | 44.0% | 43.0% | 84.0% | 83.0% |
| PL | 22.0% | 26.0% | n.a. | n.a. | 78.0% | 74.0% |
| PT | 43.1% | 42.4% | 43.5% | 44.4% | 63.1% | 58.7% |
| RO | 32.0% | 36.0% | 33.0% | 37.0% | 68.0% | 64.0% |
| SI | 11.3% | 19.6% | 11.6% | 19.8% | 89.3% | 81.1% |
| SK | 4.7% | 5.6% | 5.3% | 6.1% | 95.3% | 94.4% |
| FI | 25.0% | 25.0% | 45.0% | 45.0% | 99.0% | 99.0% |
| SE | 32.0% | 33.0% | n.a. | n.a. | 100.0% | 0.0% |
| UK | 35.4% | 39.3% | 35.4% | 39.3% | 79.3% | 77.9% |
| EU | 29.3% | 32.0% | 31.3% | 34.0% | 80.4% | 75.9% |

**Luxembourg**: 2007/2008 figures were revised and presented as of the end of each year.

**Poland**: Operators cannot separate data between different types of calls (National and Internationl). Only cumulative data are available.

**Figure 40: EU subscribers using an alternative provider**

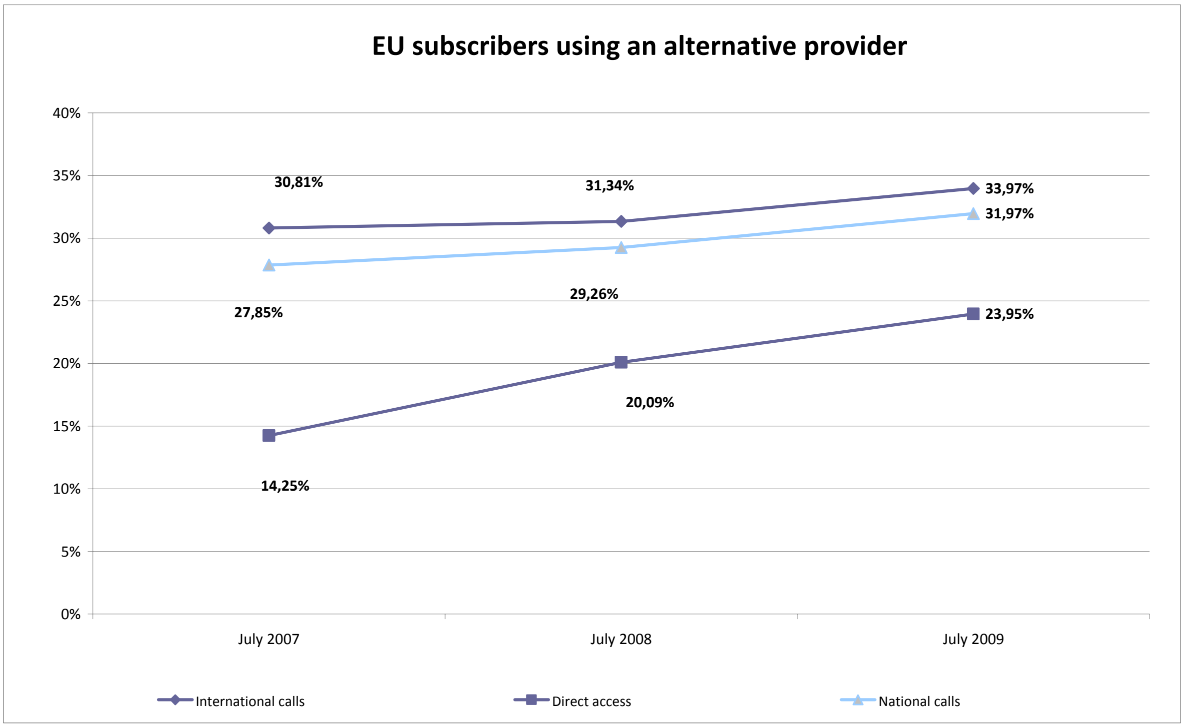
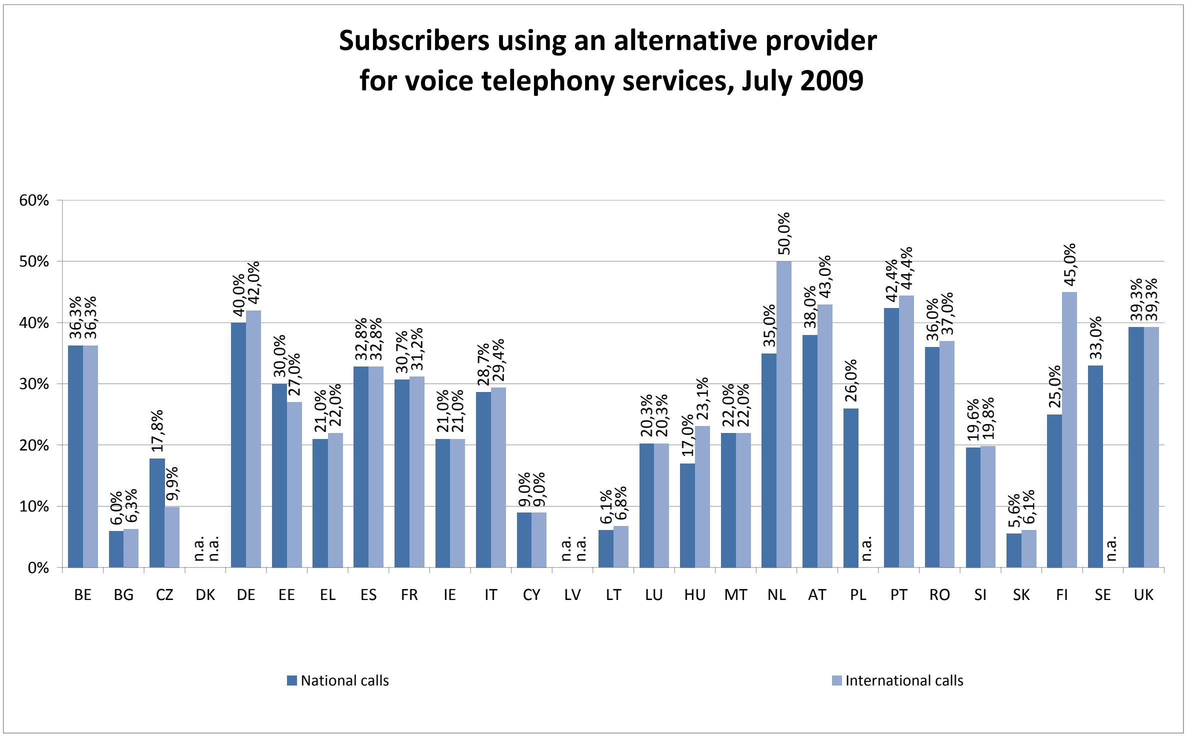



**Figure 41: EU subscribers using an alternative provider**




**Bulgaria:** Most operators can not separate data for type of calls. Therefore, the figures on national calls and international calls should be considered as indicative.

**Greece**: In case of national and international calls, figures refer to 31 December of the previous year. Direct Access refers to 1 July of the respective year.

**Germany:** IP access lines are included. Figures for international calls are NRA's estimates.

**Austria:** Data are estimates

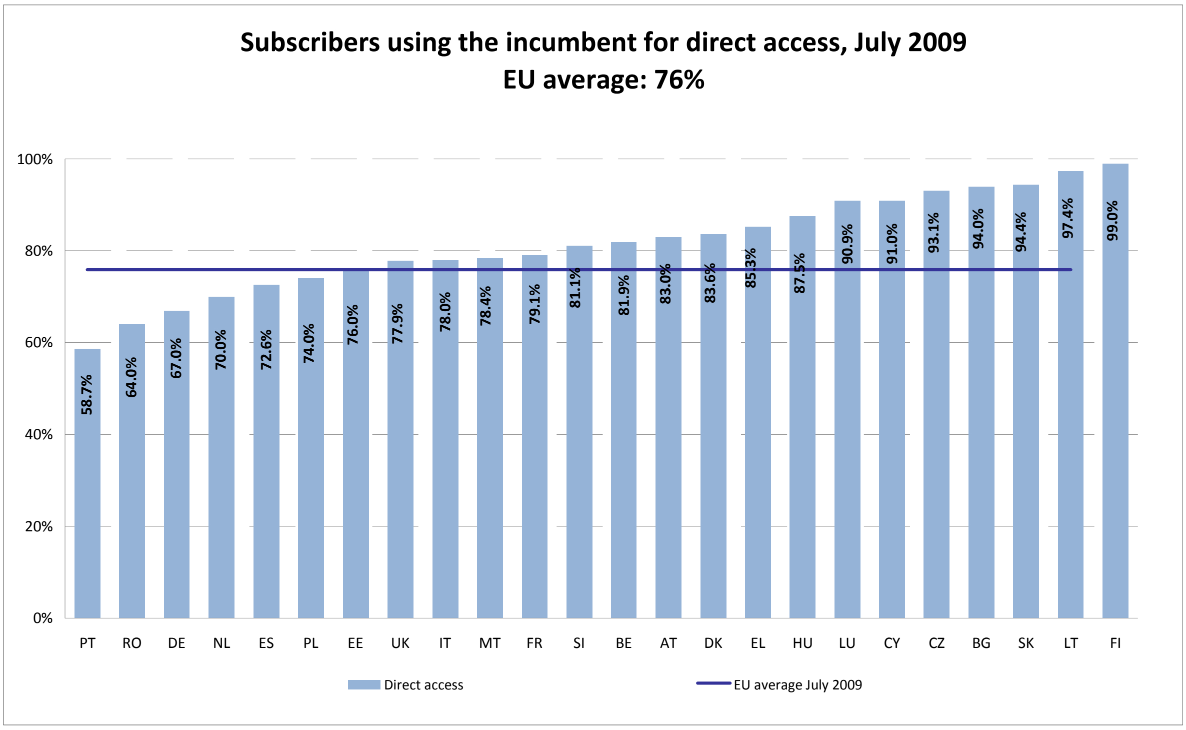
**Poland**: Operators can not separate data for type of calls. Only cumulative data are available.

**Slovenia:** Data are based on access lines.

**Sweden:** Data for international calls are not available.

**United Kingdom:** Figures refer to number of lines taking voice services from providers other than the incumbent. Split between national and international calls is not available.

### Figure 42: EU subscribers using the incumbent for direct access, July 2009

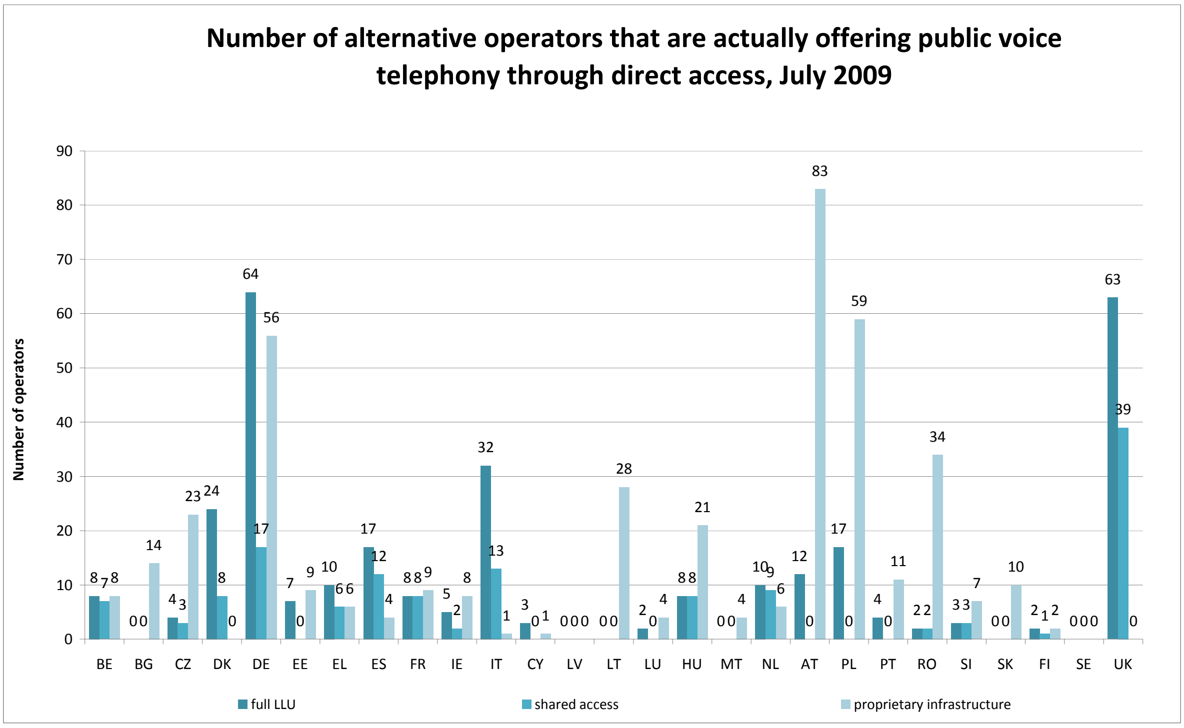



**Ireland, Latvia and Sweden:** Data are not available.

**Austria:** Data are estimates.

**Slovenia:** Data are based on access lines.

**Figure 43: Number of alternative operators, direct access July 2009**




**Czech Republic:** Only VoIP similar to PATS is included.

**Denmark**: Data refers to the number of agreements between the incumbent and alternative operators. Information about whether these operators are actually offering public voice telephony through the LLU is not available.

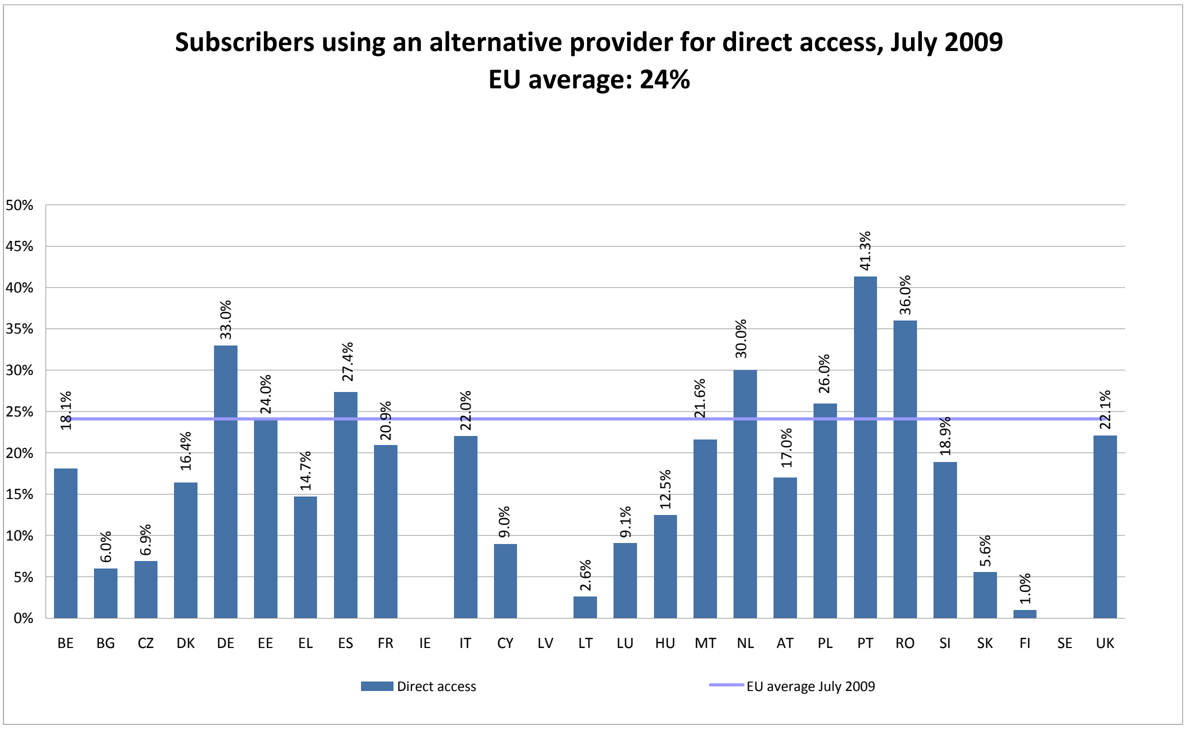
**Lithuania**: Proprietary infrastructure includes cable TV operators that provide fixed telephony

**The Netherlands**: Data for full LLU and shared access are as of 31 December 2008. Proprietary access includes small local cable and FttH operators, many using VoIP. Besides KPN, the 4 largest cable operators and the largest FttH operator Reggefiber, there are approximately 50 small cable and FttH operators with proprietary infrastructure.

**Austria:** Estimates are based on national data request for 2007.

**Slovenia**: Number of alternative VoIP operators is eight.

**Figure 44: Number of subscribers to alternative operators, direct access July 2009**

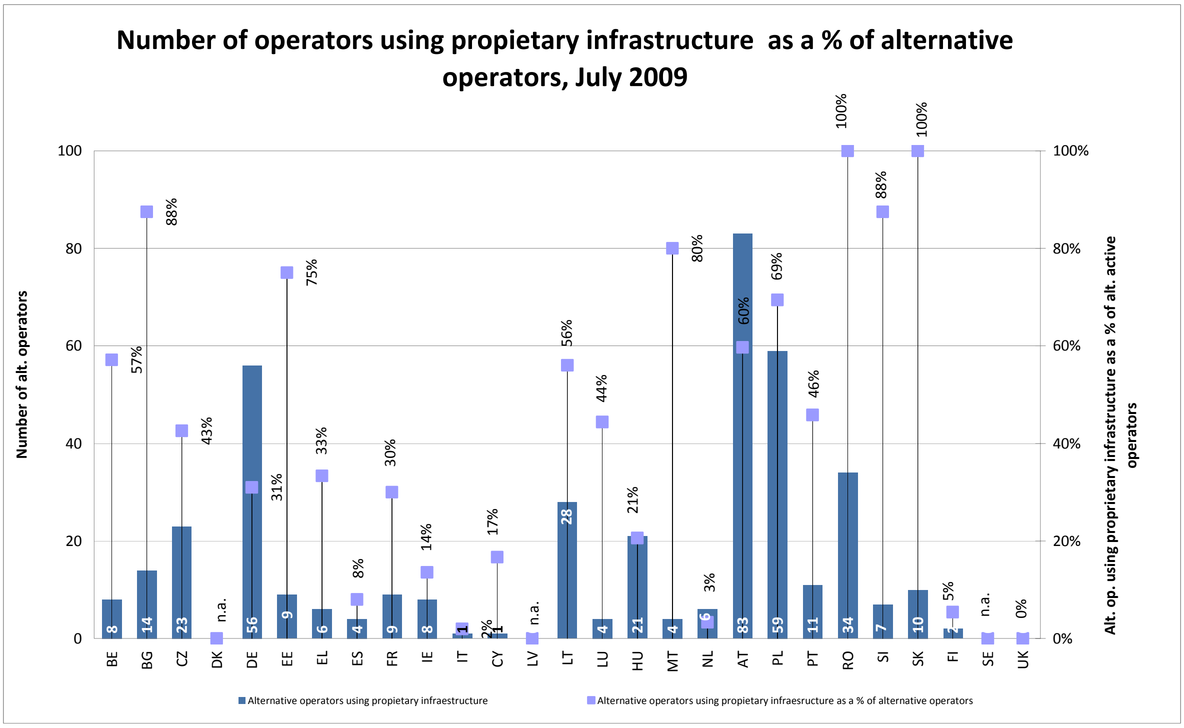



**Austria:** Data are estimates.

**Poland:** Data are not available.

**Slovenia**: Data are based on access lines.

**Figure 45: Number of operators using proprietary infrastructure as a % of alternative operators**




**Denmark:** The indicated figures comprise only direct access via PSTN or ISDN. Figures for alternative operators owned by incumbent have been counted as part of the incumbent's figures.

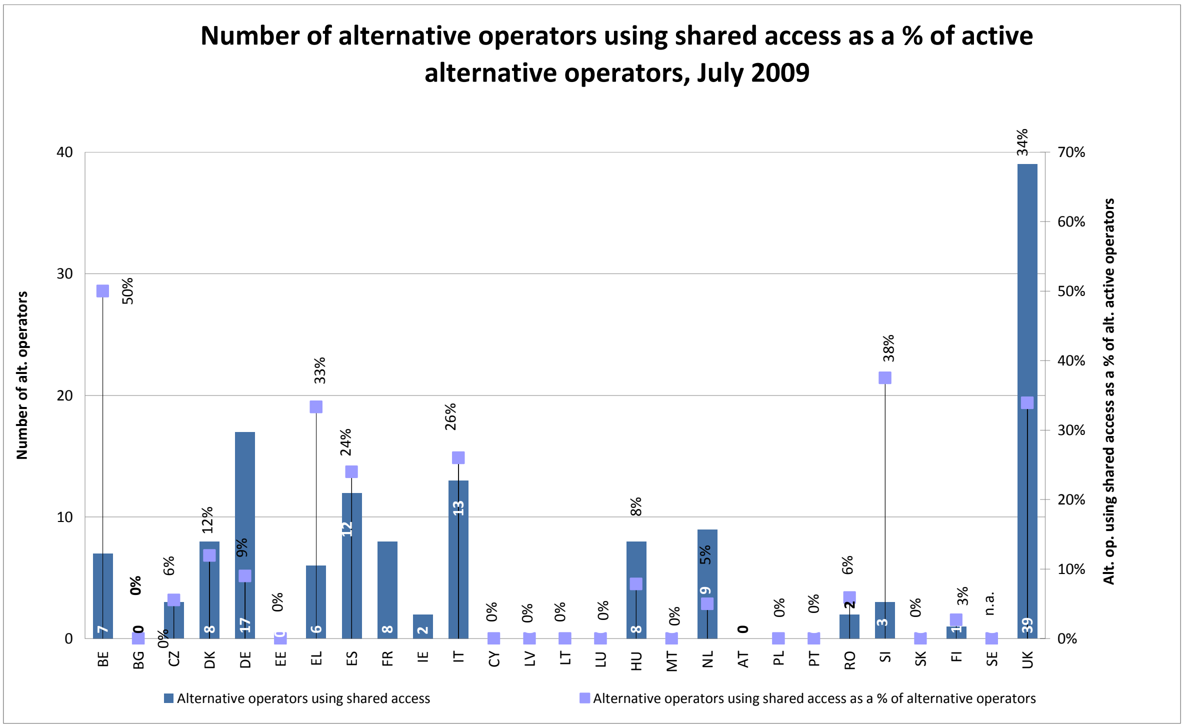
**Latvia:** Data on proprietary infrastructure are not available.

**The Netherlands**: Only an approximation is given due to confidential data.

**Austria:** Data are estimates based on national data request for 2007.

**Sweden**: Data are not available.

### Figure 46: Number of alternative operators using shared access as a % of active alternative operators



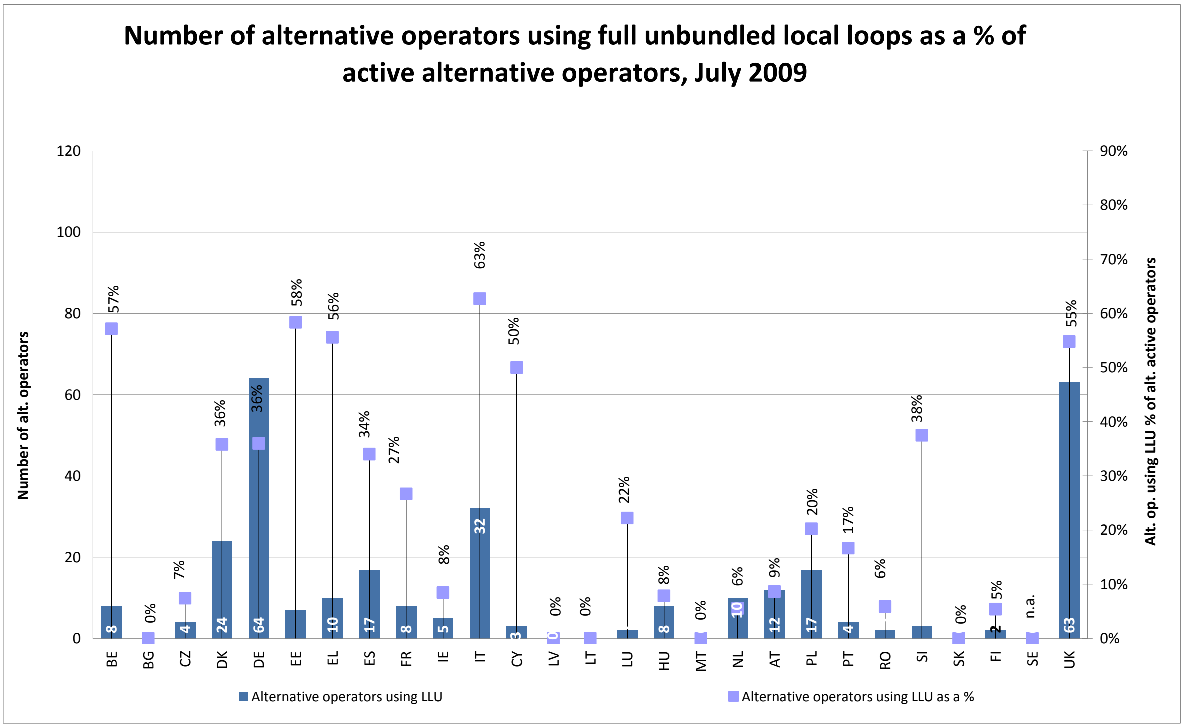

**Denmark:** The indicated figures comprise only direct access via PSTN or ISDN. Figures for alternative operators owned by incumbent have been counted as part of the incumbent's figures.

**The Netherlands**: Only an approximation is given due to confidential data.

**Austria:** Data are estimates based on national data request for 2007.

**Sweden:** Data are not available.

**Figure 47: Number of alternative operators using full unbundled local loops as a % of active alternative operators**




**<u>Denmark</u>:** The indicated figures comprise only direct access via PSTN or ISDN. Figures for alternative operators owned by incumbent have been counted as part of the incumbent's figures.

**<u>Lithuania</u>**: Two agreements on the provision of unbundled access to the local loop service were signed, but incumbents' full LLU lines were used in retail level by new entrants for the provision of data transmission services (e.g. VPN).

**<u>The Netherlands</u>**: Only an approximation is given due to confidential data.

**<u>Austria:</u>** Data are estimates based on national data request for 2007.

**<u>Sweden:</u>** Data are not available.

## 3.3 Fixed number portability

Fixed number portability enables fixed subscribers to retain their number when they move from one operator to another.

Figures are provided by NRAs, and include the number of transactions calculated up to 1 October each year. Data also include the the average number of days taken to port a number as well as the cost of porting a number. Inter-operator prices for fixed number portability refer to the amount charged by the incumbent to the recipient operators for porting a geographic telephone number (excluding VAT). This price may vary depending on a number of factors. In some countries the price for a non - geographic number is different. Where available, information on price for non-geographic number portability is added in the footnote. In some countries there is no charge for the porting of fixed numbers.

Two different measurements were used on number portability. `Transactions` refer to the total number of number portings between 1 January and 30 September each year. `Ported numbers` refer to the number of those numbers that are held by another operator than the range holder on 30 September each year.

**Figure 48: Fixed number portability - transactions**

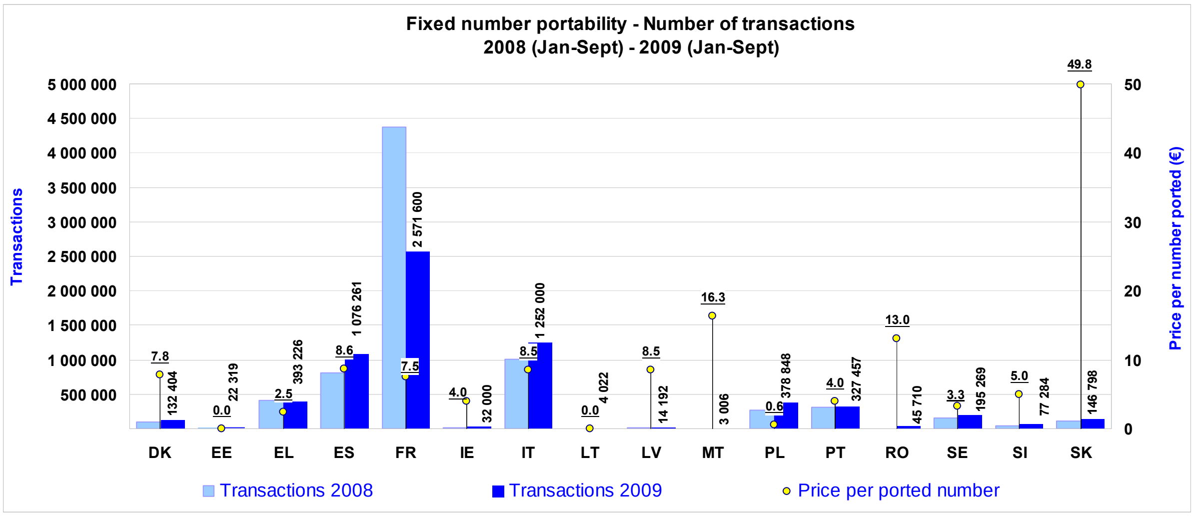
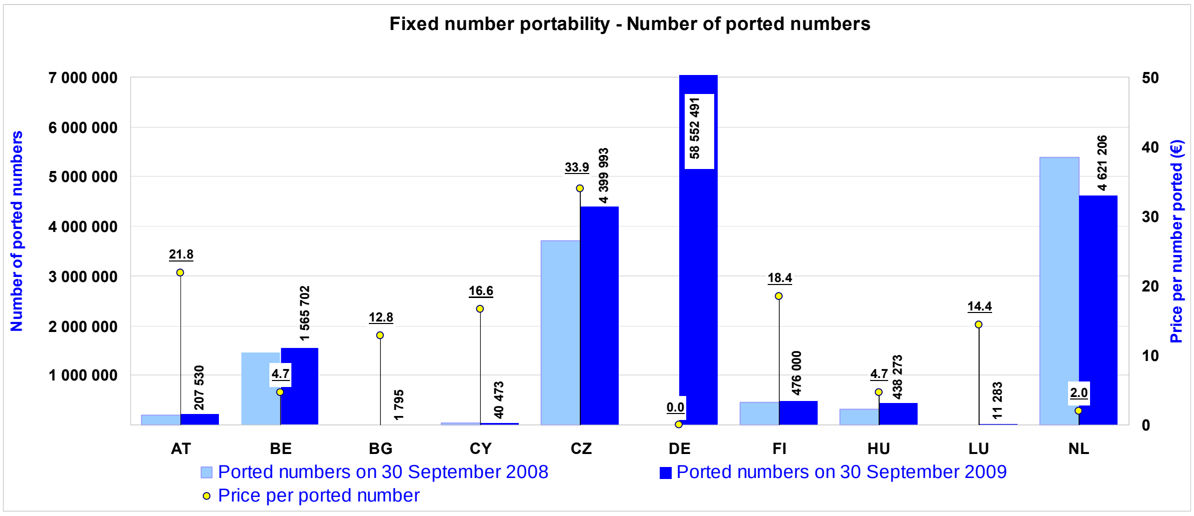



**Figure 49: Fixed number portability – number of ported numbers**




**Belgium**: 2009 data refers to 23 September. Non-geographic numbers are included. Data refer to the price for simple installations (€4.692). Price for a complex installation is €71.222. Simple installation: a PSTN or ISDN- basic access line with one or more numbers or a non geographical number. Complex installation: a PBX or other complex customer premises equipment connected via one or more ISDN or PSTN lines or DDI ranges of 10 100 or 1 000 non-geographical numbers.

**Bulgaria**: Fixed portability was launhced in July 2009. The price for number portability is the same for all operators: 25.00 BGN per number, excluding VAT.

**Czech Republic**: Portations of both single numbers and number ranges are included.

**Denmark**: Data refers to transactions between January and June each year.

**Germany**: The very high figure on ported numbers is due to the fact, that close to 300 million numbers are allocated to customers. Data is as of 1 January 2009, no data is available for 2008. There are no inter-operator charges for number portability. Retail subscribers have to pay € 5.81.

**France and Slovakia**: Data refers to 12 months intervals (1 October to 30 September).

**The Netherlands**: Not all transactionas are included: Numbers which are ported from another operator to the original number holder are not indicated in the table above. The total transactions between 1/10/2008 till 1/10/2009 are (including the transactions from another operator to the original number holder) are 1.089.426.

**Austria**: The maximum price (one-off fee) is given.

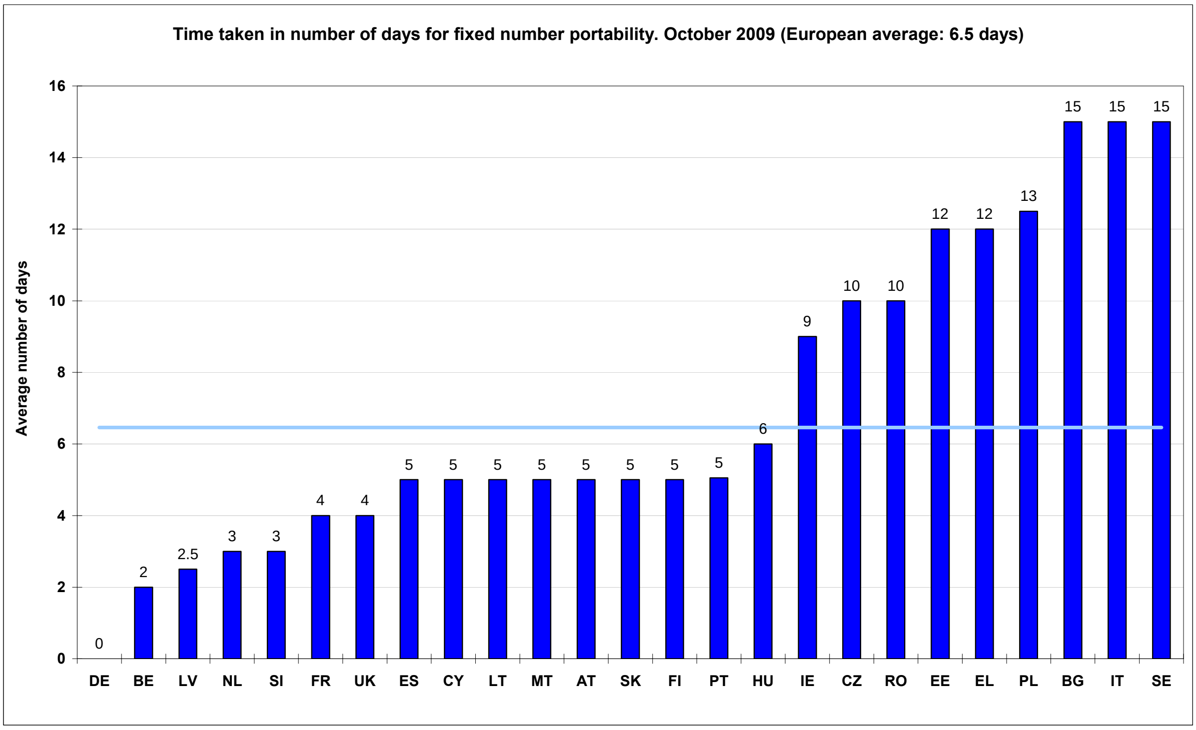
**Portugal**: The wholesale price per ported number of the incumbent includes a reduction in case of DDI: € 1.47 for DDI blocks between 10 and 100 numbers, € 0.73 for DDI blocks with more than 100 numbers.

**Romania**: Number portability was not available in 2008.

**Slovenia**: Maximum price is given.

**United Kingdom**: Data are not collected.

## Figure 50: Time taken in number of days for fixed number portability




**Belgium**: Time needed for simple installations is 2 working days. For complex installation it is 3 working days.

**Bulgaria**: Time limit for porting a group of numbers is 25 working days and 15 working days for porting a single number.

**Czech Republic**: Time limit for making number available for porting is 10 days.

**Cyprus**: A provisional value is presented

**Denmark and Luxembourg:** Data are not available.

**Germany**: If requesting numbers can be ported immediately, otherwise it takes 5 days.

**Hungary**: Maximum time is eight days, average is six days.

**Latvia**: Maximum time according to law is 10 days. The average number of days is estimated at 2-3.

**Slovenia**, **Sweden**, **Slovakia**, **Malta, Lithuania and Romania**: Maximum time is given.

**Netherlands**: Technical porting: is less than 2 hours. For the end-user (from request to end of technical porting) the average is 3 days (max. 10 days).

**Poland**: Time needed to port to the incumbent's network is given.

**Portugal**: Minimum time is 2 days.

## 3.4 Public Fixed voice telephony tariffs

This section examines the monthly rental charges and the main tariffs for public fixed voice telephony charged by the incumbent operators in each Member State in September 2009. The price trend over the past 10 years is also analyzed.

The incumbent operators are: Belgacom for Belgium, Vivacom for Bulgaria, Telefonica O2 for Czech Republic, TDC for Denmark, Deutsche Telekom for Germany, Elion for Estonia, OTE for Greece, Telefonica for Spain, France Telecom for France, Eircom for Ireland, Telecom Italia for Italy, CYTA for Cyprus, Lattelekom for Latvia, TEO LT for Lithuania, P&T Luxembourg for Luxembourg, Magyar Telekom for Hungary, GO for Malta, KPN for the Netherlands, Telekom Austria for Austria, Polish Telecom for Poland, Portugal Telecom for Portugal, RomTelecom for Romania, Telekom Slovenije for Slovenia, Slovak Telecom for Slovakia, TeliaSonera for Finland, Telia Sonera for Sweden, and British Telecom for the United Kingdom.

The incumbent operators still retain a large market share, but new entrants/alternative operators are increasingly gaining market share by offering cheaper prices for certain types of calls (usually long-distance (national) or international) or destination and/or using chepaer technologies (IP). The prices charged by incumbents do not necessarily, therefore, represent the lowest prices available. A comparison between the rates charged by incumbents and alternative operators is also shown for a sample of countries.

The figures and information are taken from a study carried out for the Commission by Teligen, Strategy Analytics Ltd. The data are collected from primary sources (i.e. directly from the operators).

NRAs were given the possibility to check and validate these data before finalizing this report. In a few cases the NRAs declined to comment on the data because of lack of insight into the operator's pricing.

Different sets of charges for fixed national voice telephony services are shown in the following sections:

- the monthly rental charged by incumbent operators;

- the charges for a composite basket of calls (national, international fixed calls and calls to mobile), that gives an estimate of the average monthly spending of a typical “European business/residential user” for the whole range of calls;

- the charges for a basket of national calls, that gives an estimate of the average monthly spending of a typical “European business/residential user” for fixed national calls;

- the basket of international calls for each country that indicates the average charge for calls from the originating country to OECD destinations (In addition, the price of individual calls to specific destinations is also shown);

- the price of some individual calls (3- and 10-minute local, national and international calls) at peak time, inclusive of any initial charge. For those countries where unit-based charging is used, the price of a whole unit is calculated.

For the various types of calls, a benchmark based on a comparison with the USA and Japan is also included. The EU average tariffs shown in the charts are weighted averages (by population of the Member States).

**Monthly rental charged by the incumbent operators**

The following charts show the incumbent’s monthly line rental charges for residential and business users in September 2008 and September 2009. In order to reflect the real charges actually paid by users, values are expressed in Euros, including VAT for residential users and excluding VAT for business users.

A number of countries have different rental charges for business and residential customers.

In some countries the monthly rental depends on where in the country the line is connected. The charges shown are for the capital/most densely populated area.

Figure 51: Residential monthly rental

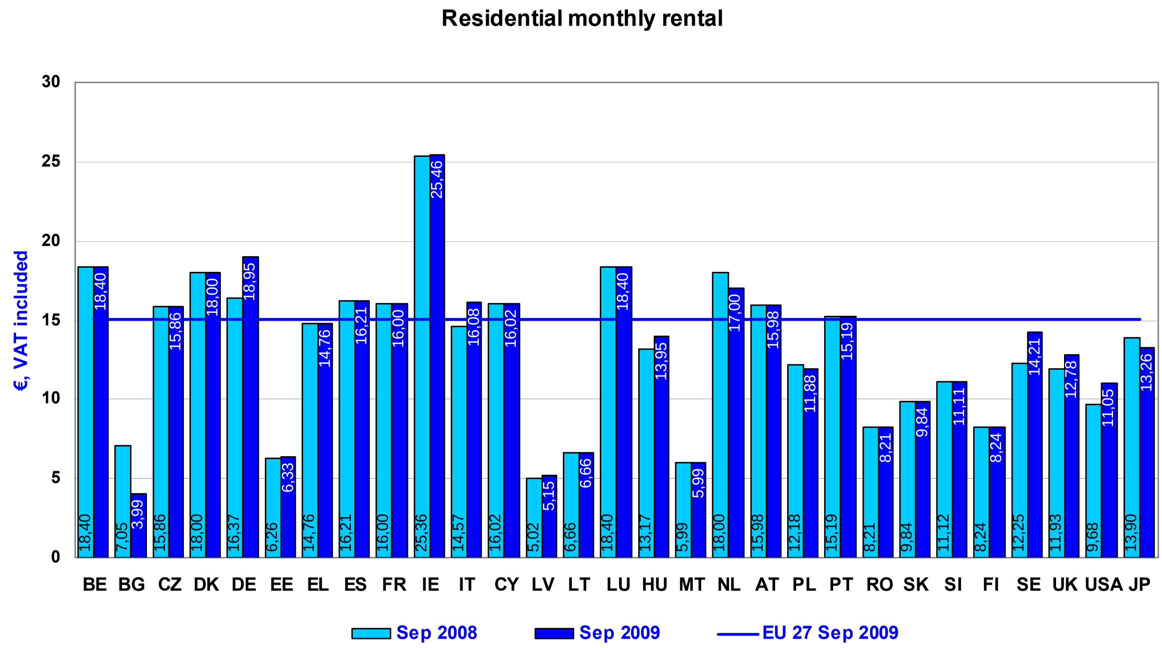
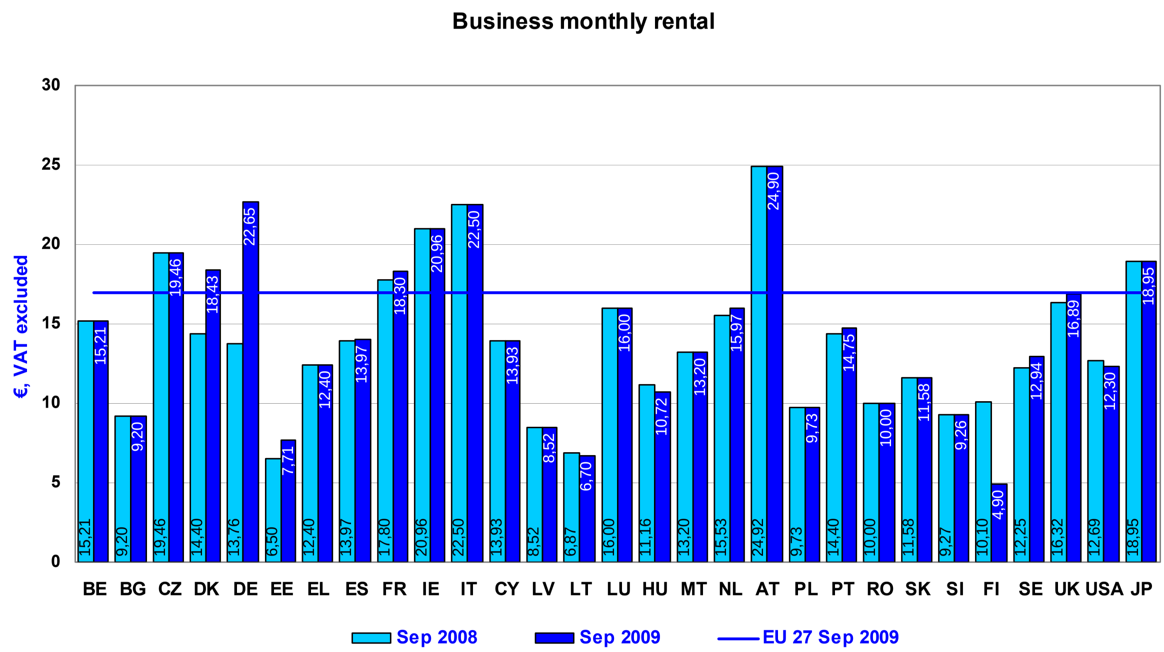



Figure 52: Business monthly rental




The following charts show the EU weighted average variation in nominal terms of the residential and business monthly line rental charge.

**Figure 53: Residential rental per month**

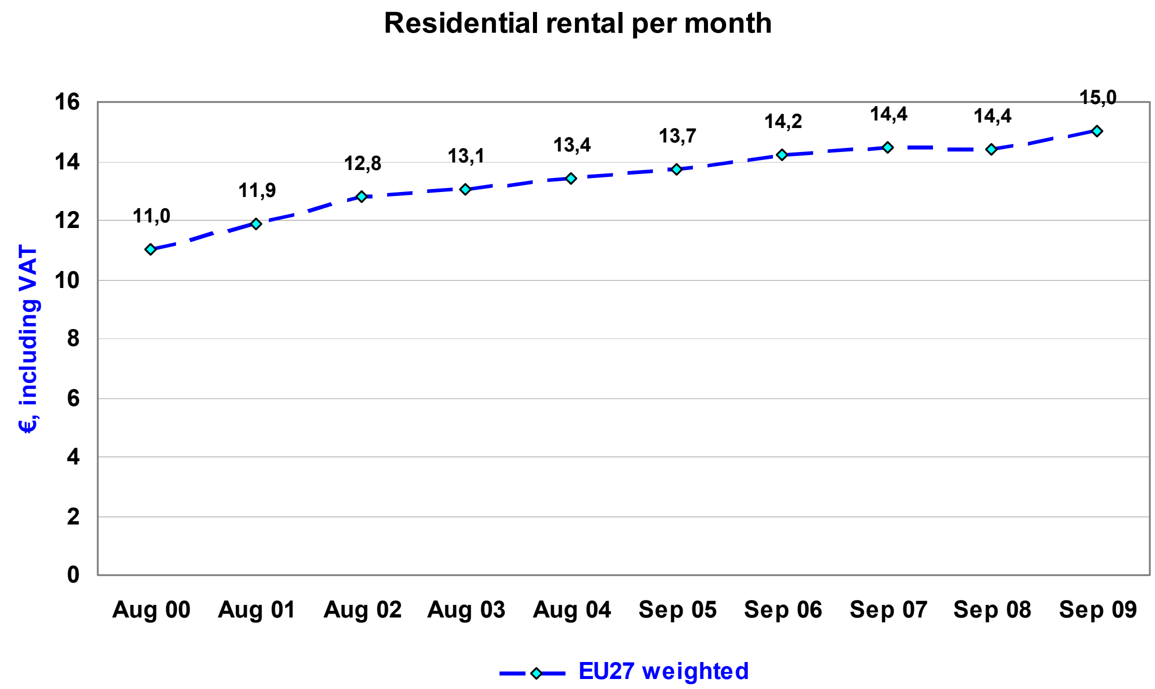
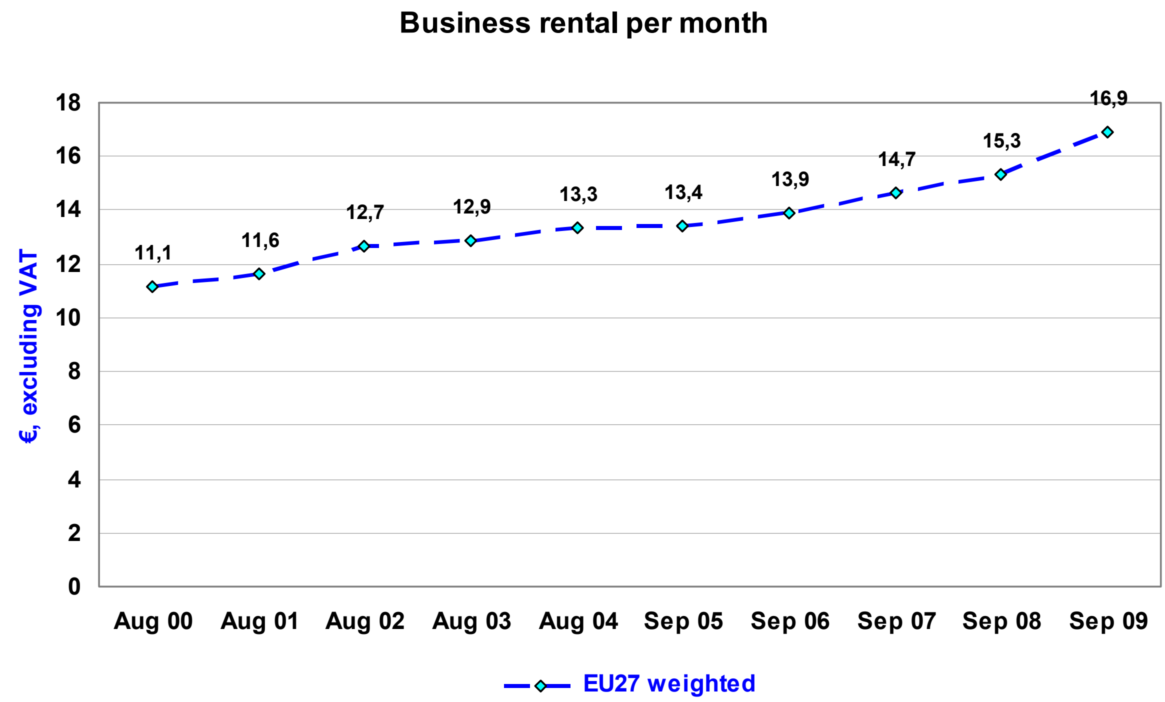



**Figure 54: Business rental per month**




### *Average monthly expenditure (composite call basket)*

The figures presented in this section are intended to provide an estimate of the average monthly expenditure of a "standard" European consumer (business and residential). The Basket Methodology for Telecommunications Cost Comparison has been devised by the OECD and accepted in most countries as the most stable and neutral method of comparison.

The user is assumed to have a contract for the provision of voice telephony services with the incumbent operator and to use only this operator for all types of calls (local, national, international, calls to mobile). Since consumers are making increasingly use of call-by-call carrier selection, in particular for specific highly discounted types of calls (i.e. international and national), the figures given below are purely indicative, and do not necessarily reflect the cheapest solution available.

The charts below show the average monthly expenditure for standard residential and business users as of September 2009, expressed in Euros, based on the standard tariffs charged by the incumbent operators (i.e. excluding any discount packages). This means that lower costs can be achieved if the user subscribes to one or more discounted packages.

The basket of calls used to estimate average monthly expenditure is the "2000 composite OECD basket" which includes fixed national calls, international calls and calls to mobile networks.

The OECD residential/business baskets are defined as follows (on an annual basis):

The fixed (i.e. non-recurring) charges include the annual line rental charge plus the charge for the installation of a new line (depreciated over five years). Fixed charges for residential users include VAT, while for business users VAT is excluded.

The usage charge for residential users refers to a basket of 1 200 national calls to fixed lines, plus 120 calls (with an average duration of two minutes) to mobile networks (representing 10% of the number of calls to fixed lines), plus 72 international calls (representing 6% of the number of calls to fixed lines). The usage charges for national calls to fixed lines are calculated with a weighted distribution over 14 distances from 3 to 490 km, at representative times of the day (four calls during the week and two during the weekend). The call duration varies from 2.5 to 7 minutes, depending on time and distance. The usage for residential users is weighted towards off-peak hours, and with typically long calls. Only 36% of the calls are within normal business hours; 74% are for distances below 10 km; 9% are for distances above 100 km.

The usage charge for business users refers to a basket of 3 600 national calls to fixed lines plus 360 calls (with an average call duration of two minutes) to mobile networks, plus 216 international calls. The usage charges for national calls to fixed lines are calculated with a weighted distribution over 14 distances from 3 to 490 km, at representative times of the day (four calls during the week and two during the weekend), and with a call duration of 3.5 minutes regardless of time of day and distance. The usage for business users is weighted towards business hours, and with typically short calls. Over 86% of the calls are within normal business hours; 64% are for distances below 10km; 12.5% are for distances above 100 km.

A full description of the methodology can be found at the end of this report.

There was a revision of the OECD baskets in February 2006. Highlights of the new 2006 OECD baskets are as follows:

Five new baskets for Low, Medium and High residential usage and business baskets for SOHO and SME usage;

- Fixed to mobile calls now include calls to up to four national mobile networks, weighted by subscriber numbers;
- A range of tariff packages from the incumbent operator are now included, with automatic selection of the cheapest package for each basket;
- Traffic weights and volumes have been updated with recent information.

**Low usage residential basket**

The usage charge for low usage residential users refers to a basket of 600 calls, where 76% (456 calls) are to national fixed lines, 19% (114 calls) are to mobile networks, and 5% (30 calls) are to international destinations. The usage for residential users is weighted towards off-peak hours, and with typically long calls. 58% of the calls are within normal business hours; 76.5% are for distances below 10 km; 7% are for distances above 100 km.

**Medium usage residential basket**

The usage charge for medium usage residential users refers to a basket of 1 200 calls, where 75% (900 calls) are to national fixed lines, 23% (276 calls) are to mobile networks, and 2% (24 calls) are to international destinations. The usage for residential users is weighted towards off-peak hours, and with typically long calls. 55.5% of the calls are within normal business hours; 70% are for distances below 10 km; 11.5% are for distances above 100 km.

**High usage residential basket**

The usage charge for high usage residential users refers to a basket of 2 400 calls, where 65% (1 560 calls) are to national fixed lines, 31% (744 calls) are to mobile networks, and 4% (96 calls) are to international destinations.

The usage for residential users is weighted towards off-peak hours, and with typically long calls. 60.5% of the calls are within normal business hours; 78% are for distances below 10 km; 7% are for distances above 100 km.

The usage charges for national calls to fixed lines for residential users are calculated with a weighted distribution over 14 distances from 3 to 490 km, at representative times of day (4 calls during the week and 2 during the weekend). The call duration varies from 3.7 to 7 minutes, depending on time and distance.

**SOHO business basket**

The usage charge for SOHO users refers to a basket of 1800 calls, where 67% (1206 calls) are to national fixed lines, 29% (522 calls) are to mobile networks, and 4% (72 calls) are to international destinations. The usage for business users is weighted towards business hours, and with typically short calls. 79% of the calls are within normal business hours; 68.5% are for distances below 10 km; 12.5% are for distances above 100 km.

**SME business basket**

The usage charge for SME users refers to a basket where 30 users each have 2 800 calls, where 72% (2 016 calls) are to national fixed lines, 20% (560 calls) are to mobile networks, and 8% (224 calls) are to international destinations. The usage for business users is weighted towards business hours, and with typically short calls. 81% of the calls are within normal business hours; 70.5% are for distances below 10 km; 11% are for distances above 100 km.

The usage charges for national calls to fixed lines are calculated with a weighted distribution over 14 distances from 3 to 490 km, at representative times of the day (4 calls during the week and 2 during the weekend). The call duration varies from 1.9 to 3.1 minutes, depending on time and distance.

The 2006 OECD baskets revision brought a new element into the baskets, namely the inclusion of more tariff packages for each country. This allows for a comparison of the "standard" package with the "cheapest" package.

**"2000 composite OECD baskets"**

**Figure 55: Average monthly expenditure (composite basket) residential users**

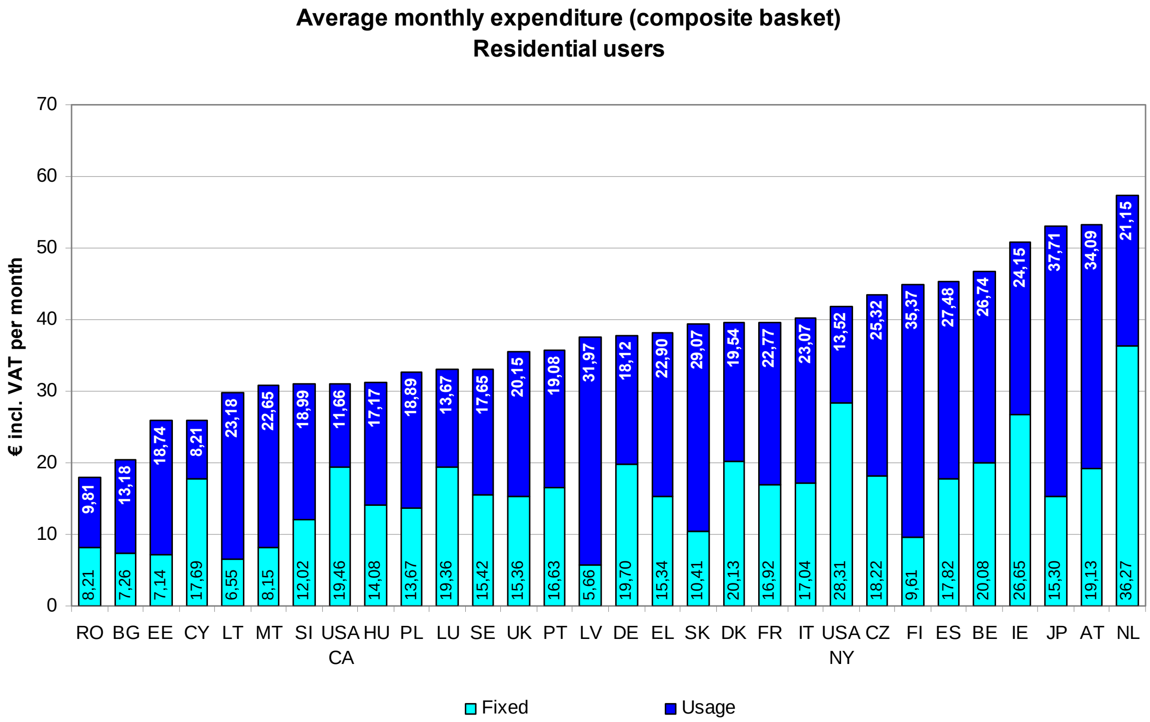
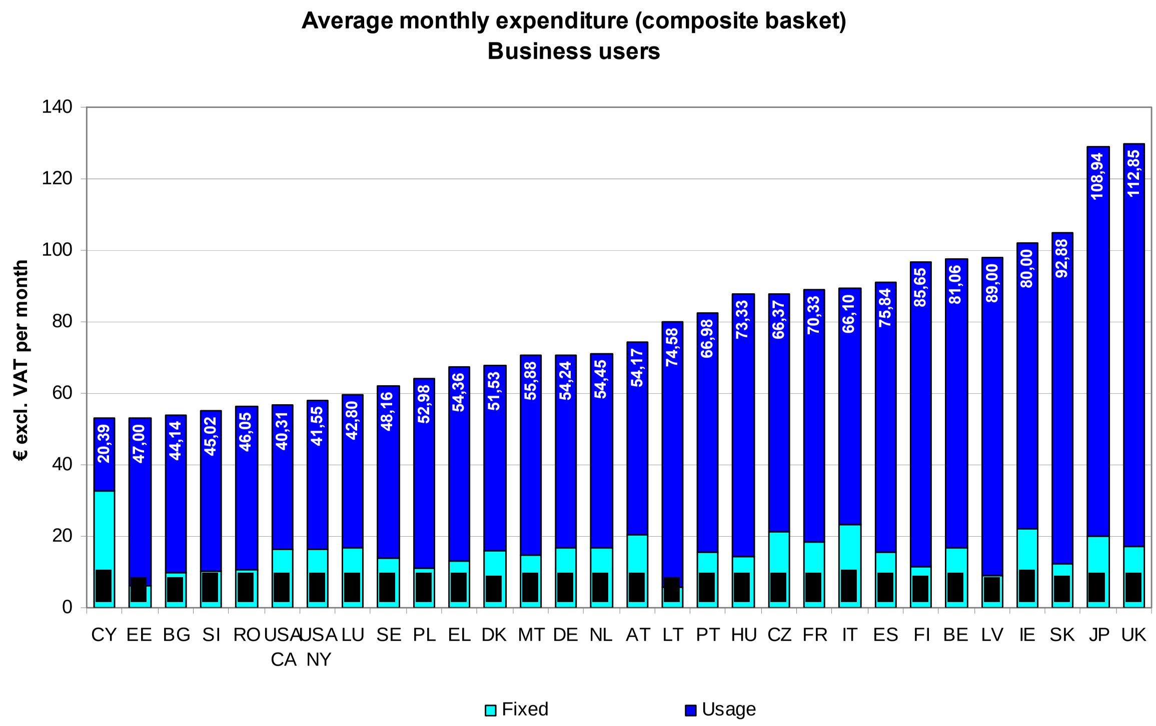


Figure 56: Average monthly expenditure (composite basket) business users




"2006 OECD Baskets"

Figure 57: OECD baskets for PSTN, 2009, Low usage residential basket

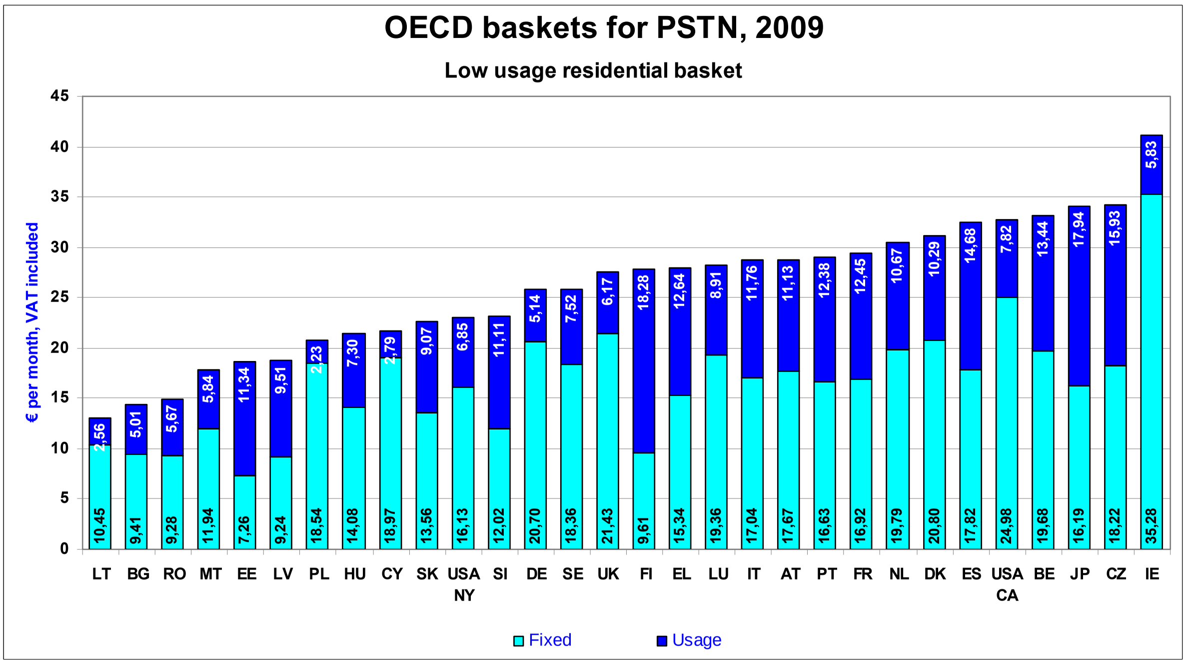


Figure 58: OECD baskets for PSTN, 2009, Medium usage residential basket

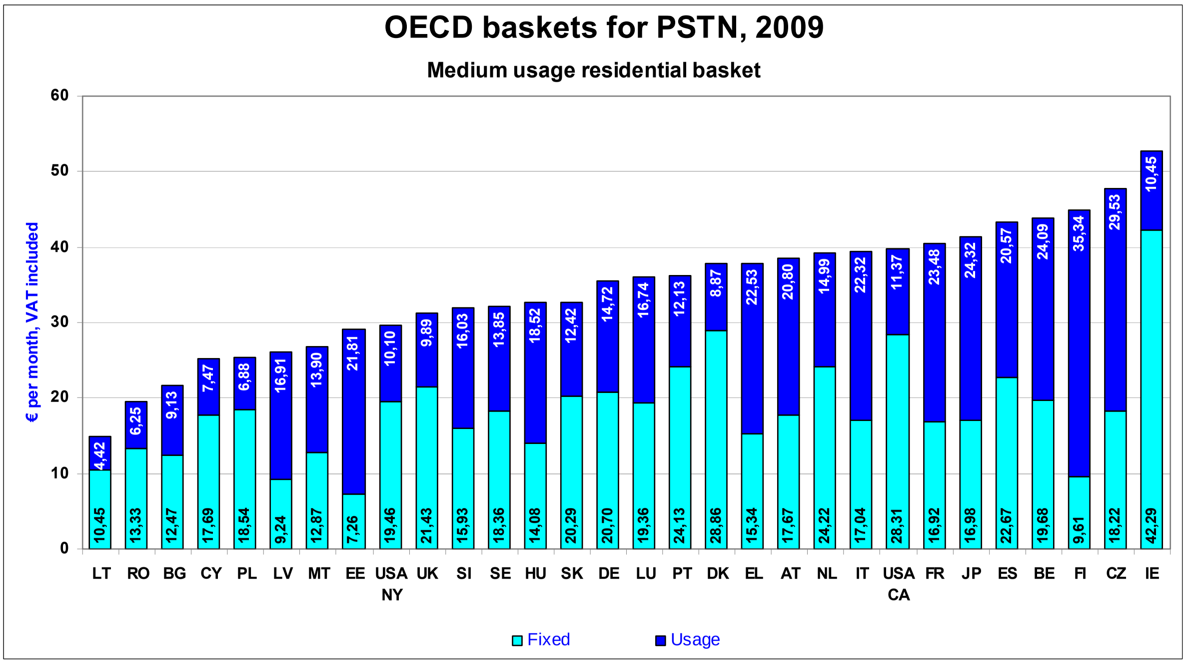



Figure 59: OECD baskets for PSTN, 2009, High usage residential basket

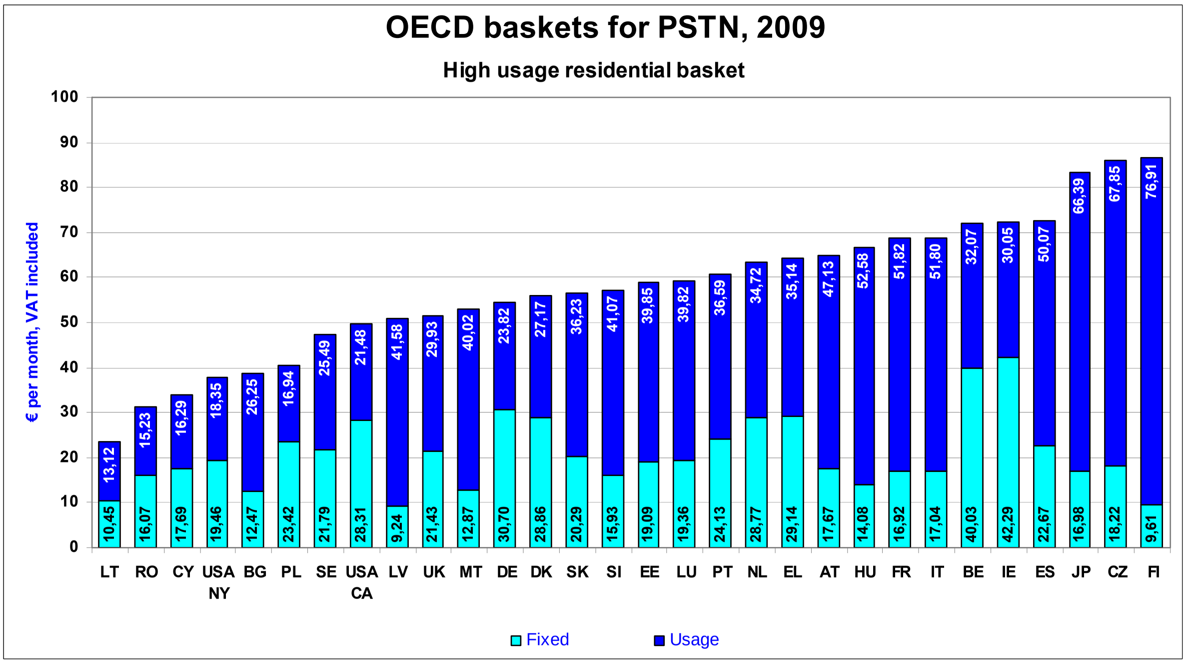


Figure 60: OECD baskets for PSTN, 2009, SOHO business basket

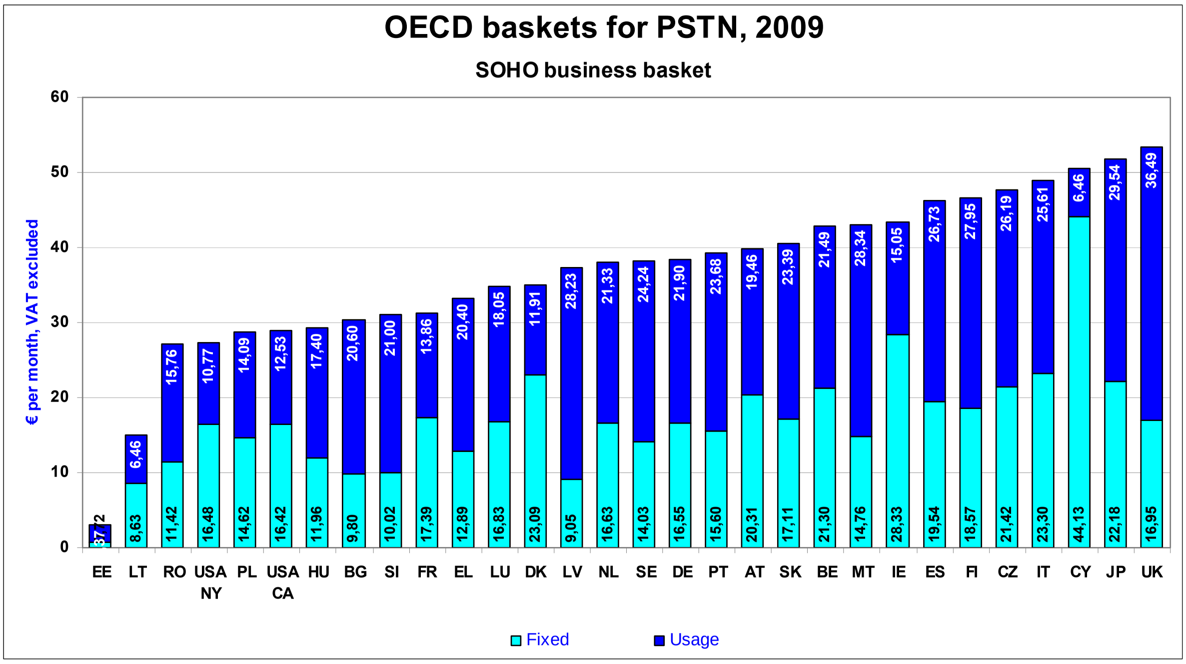
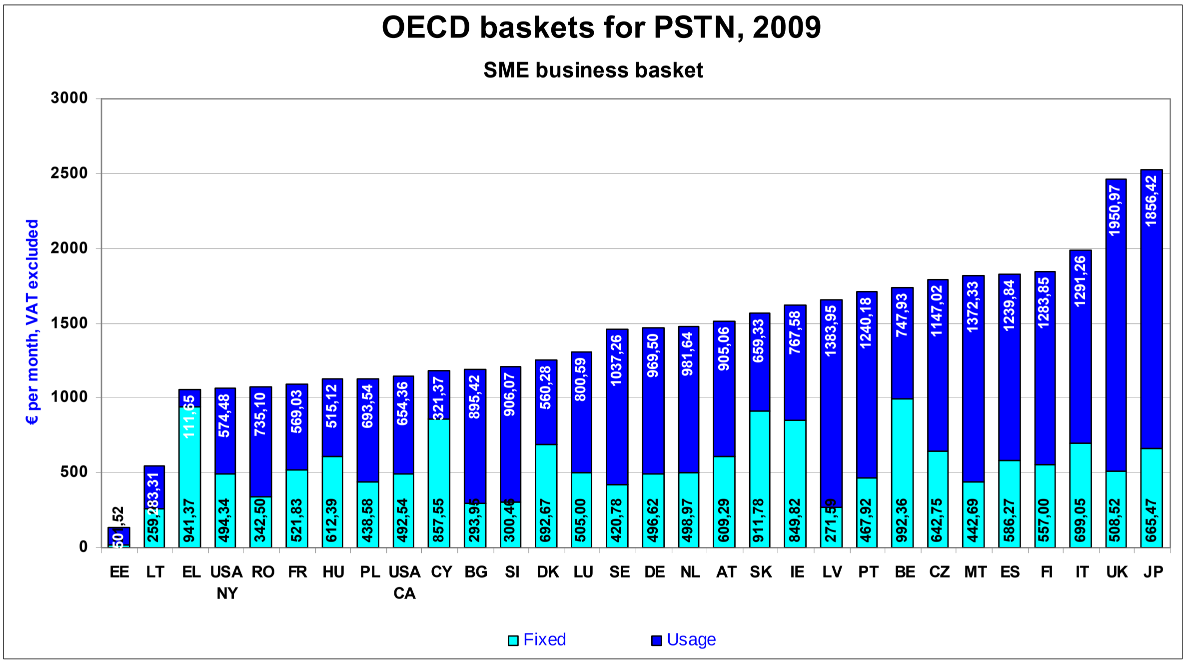



Figure 61: OECD baskets for PSTN, 2009, SME business basket




## Comparison of the "standard" package with the "cheapest" package

Total cost for "standard" package is compared with the equivalent cost for the "cheapest" package. As some operators do not clearly publish a range of discount package options, only standard package is included in such cases.

**Figure 62: OECD Residential Composite basket**

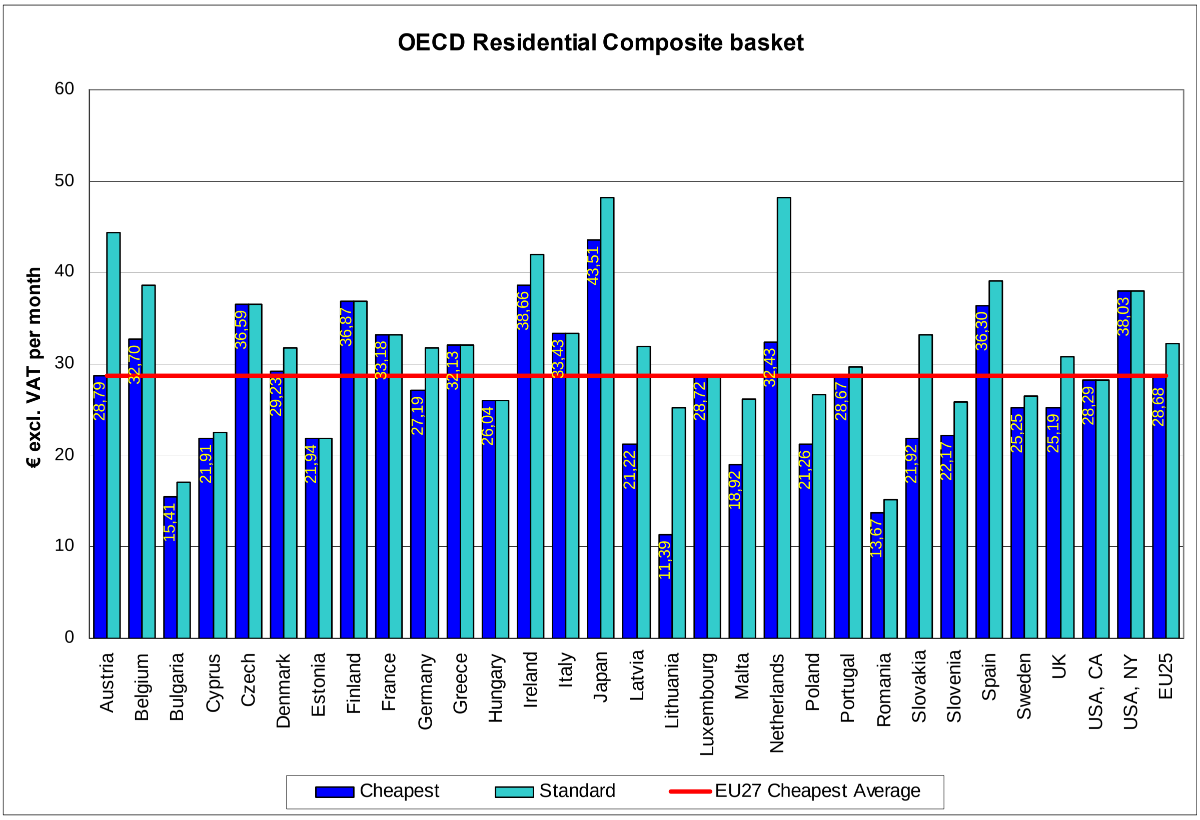
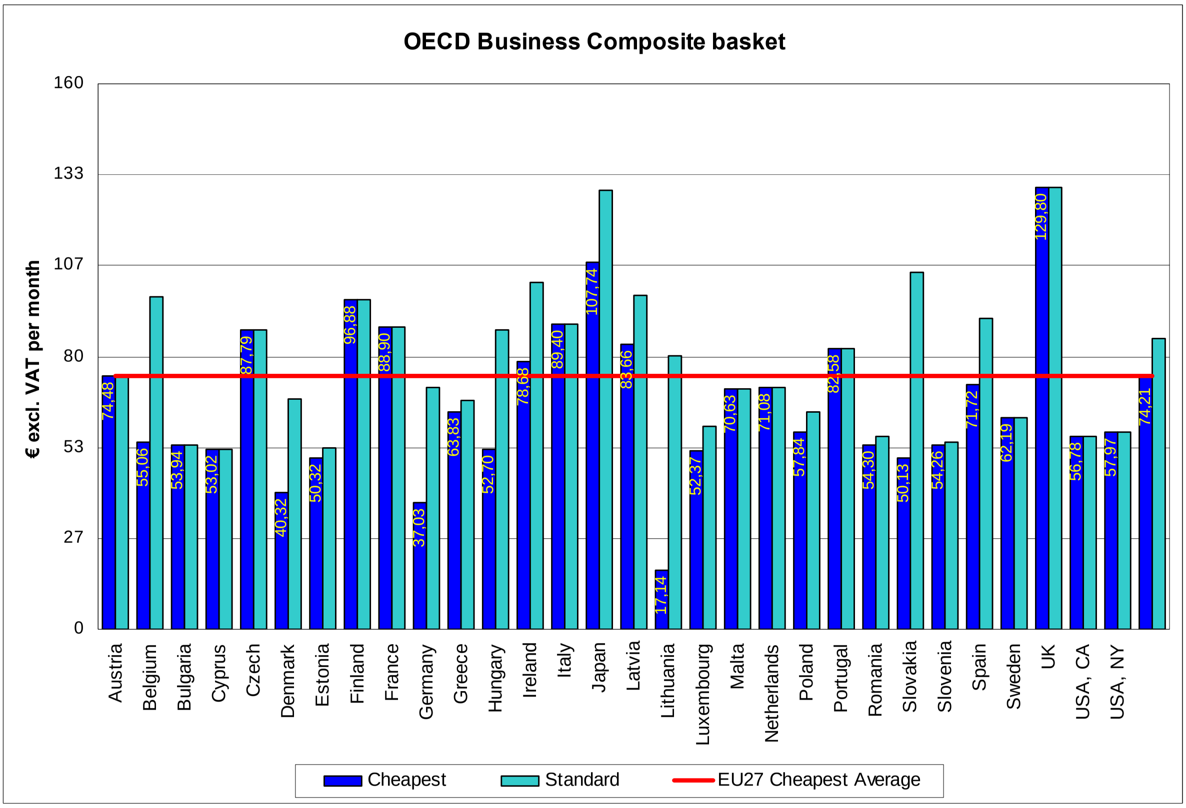
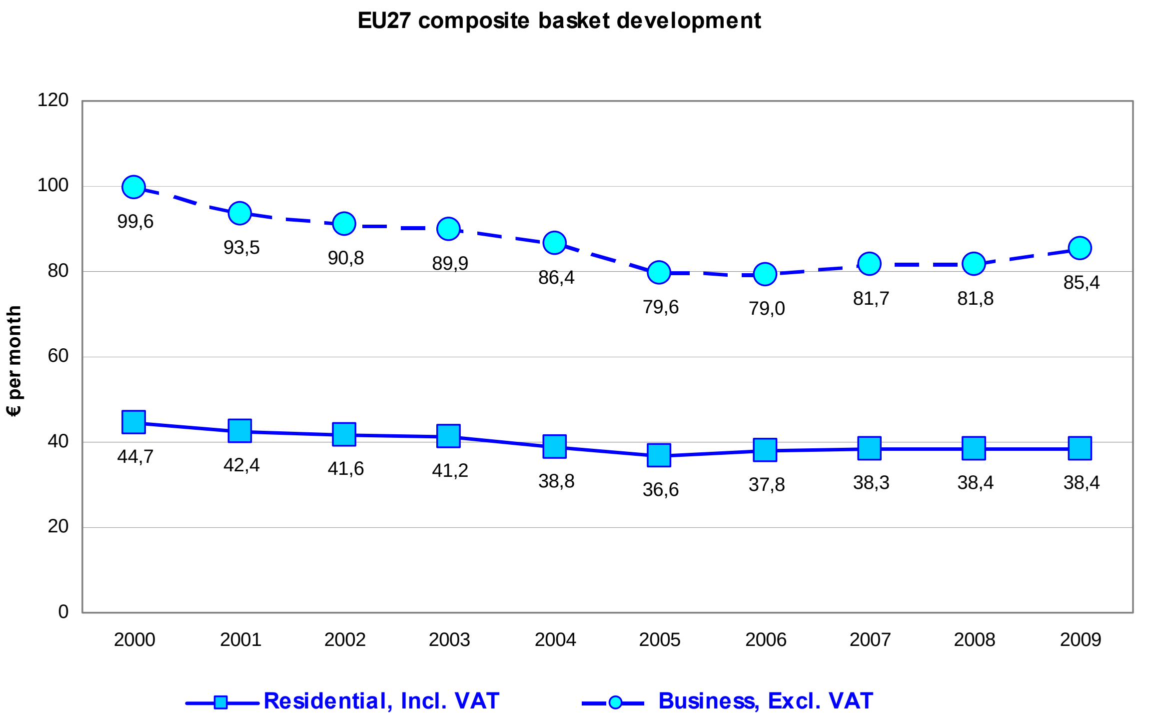



**Figure 63: OECD Business Composite basket**




***Trend of the basket for fixed national calls (composite basket)***

**Figure 64: EU composite basket development**




### *Incumbent operator price for an average fixed international call (international call basket)*

The basket of international calls provides an estimate of the average cost of an international call.

For the basket comparison of international PSTN call charges, the OECD traffic weight basket methodology is used. The basket calculates an average charge for calls to all OECD destination countries.

In case of the residential basket VAT is included. Call charges are weighted between peak and off-peak hours: 25% for peak hours and 75% for off-peak hours. In case of the business basket VAT is excluded. Call charges are weighted 75% for peak hours and 25% for off-peak hours. International call charges vary widely with the destination, and the basket results are based on a weighted average call charge. Traffic weighting is used, as defined by the OECD for the destination weighting, as per the revision in 2000. This method applies a weight to each destination based on the traffic volumes reported on that route (ITU statistics).

All tariffs are standard prices from incumbent operators, and both these operators and new entrants/alternative operators may offer lower prices.

The EU average value is the average of the EU countries weighted according to the national population.

A full description of the methodology can be found at the end of this report.

**Figure 65: Average price for an international call, residential user**

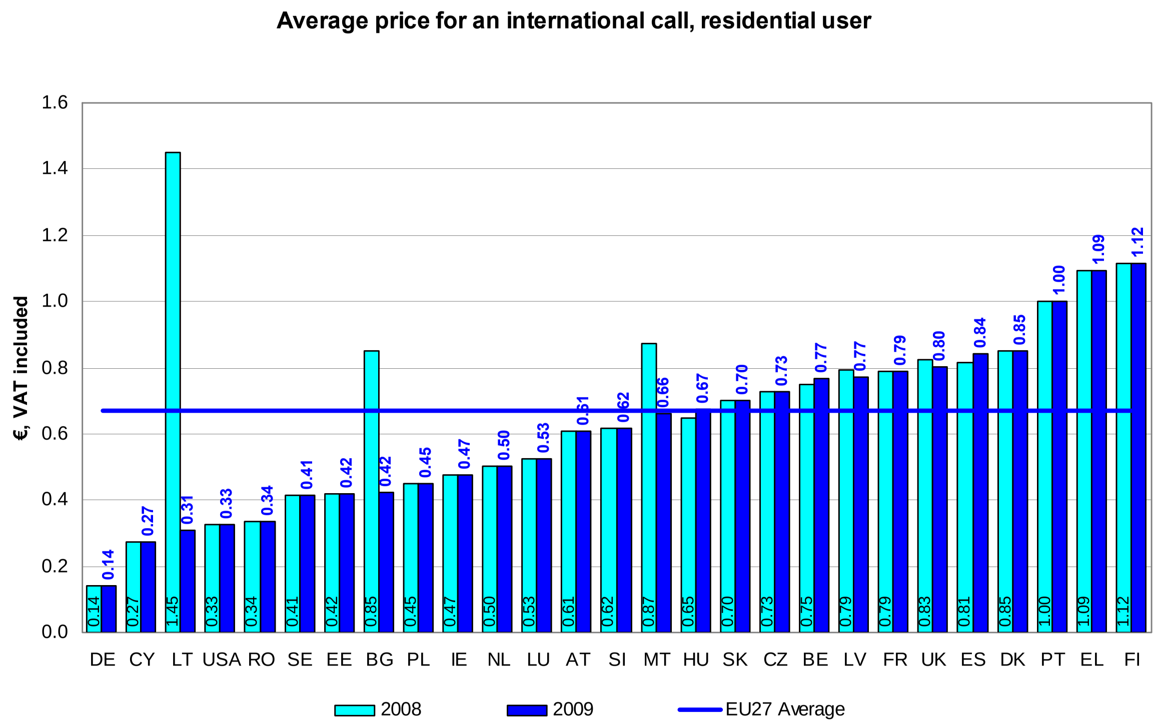



**Figure 66: Average price for an international call, business user**

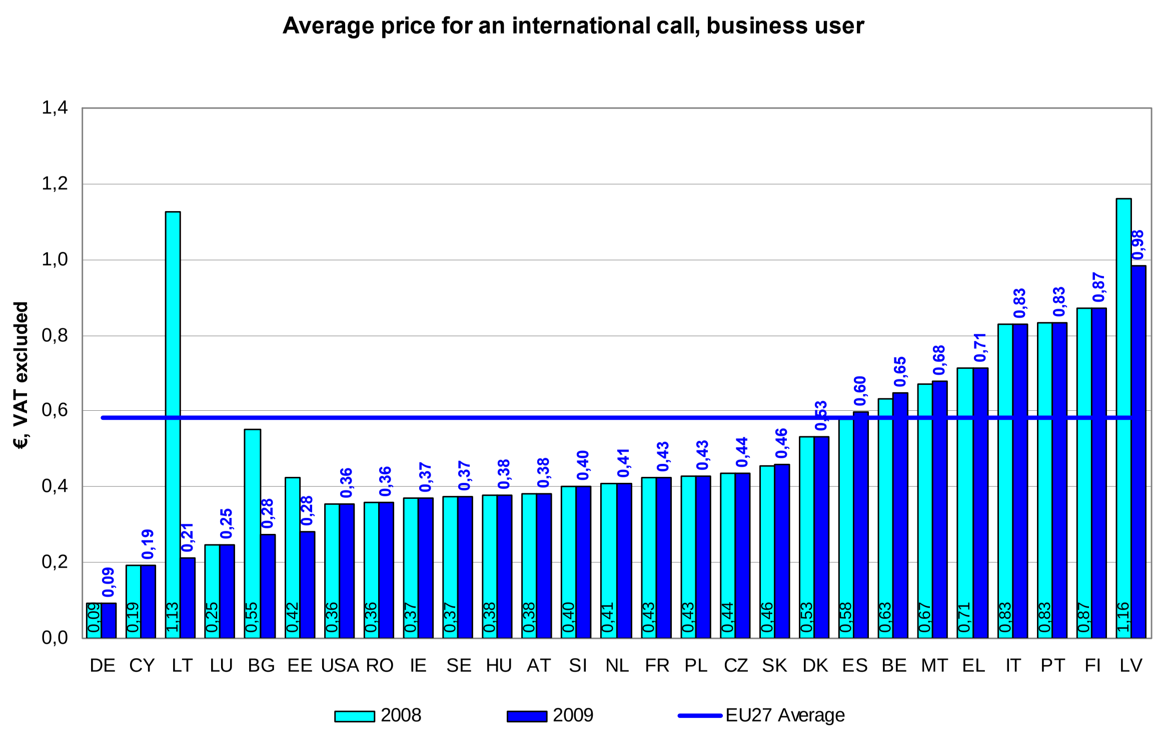
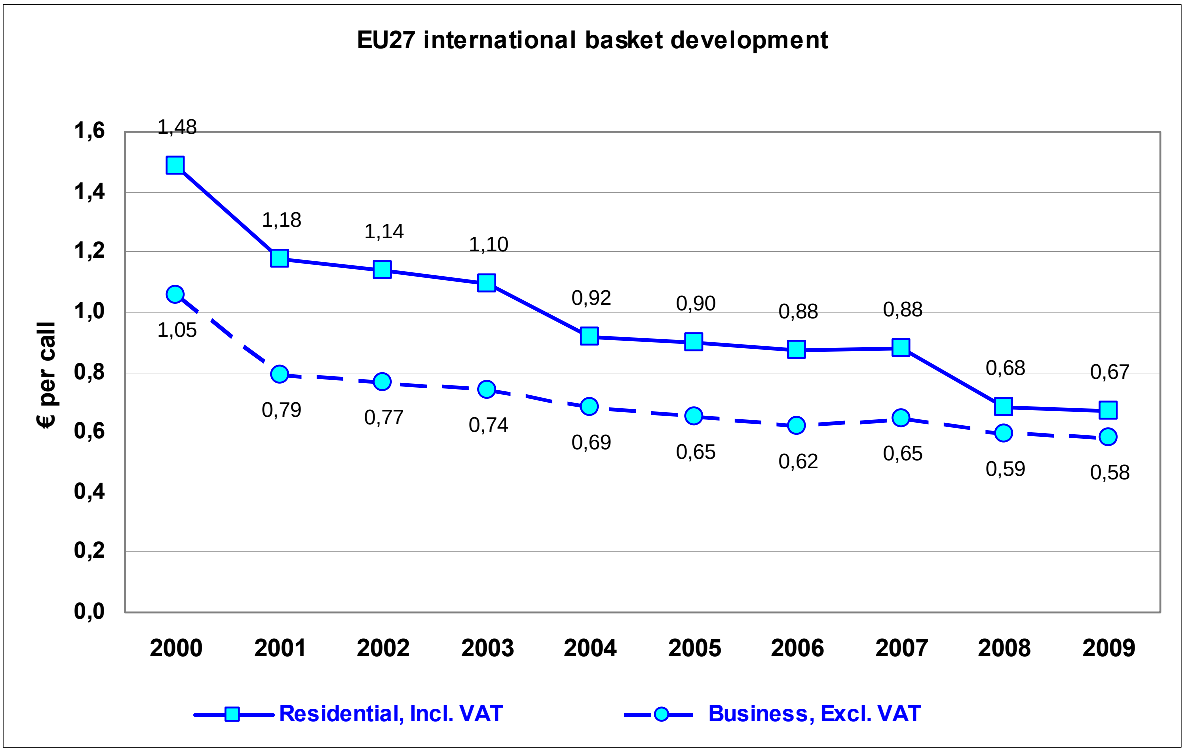


**Figure 67: EU 27**




## *Price of fixed national calls by the incumbent operator*

**Prices charged by the incumbent operators for individual fixed national calls**

This section shows the prices charged by the incumbent operators for individual fixed calls (the same call prices apply to business and residential users). For those countries where unit based charging is used, the cost of the amount of full units is calculated. Any call set-up charges, minimum charges and/or call specific duration allowances have been taken into account.

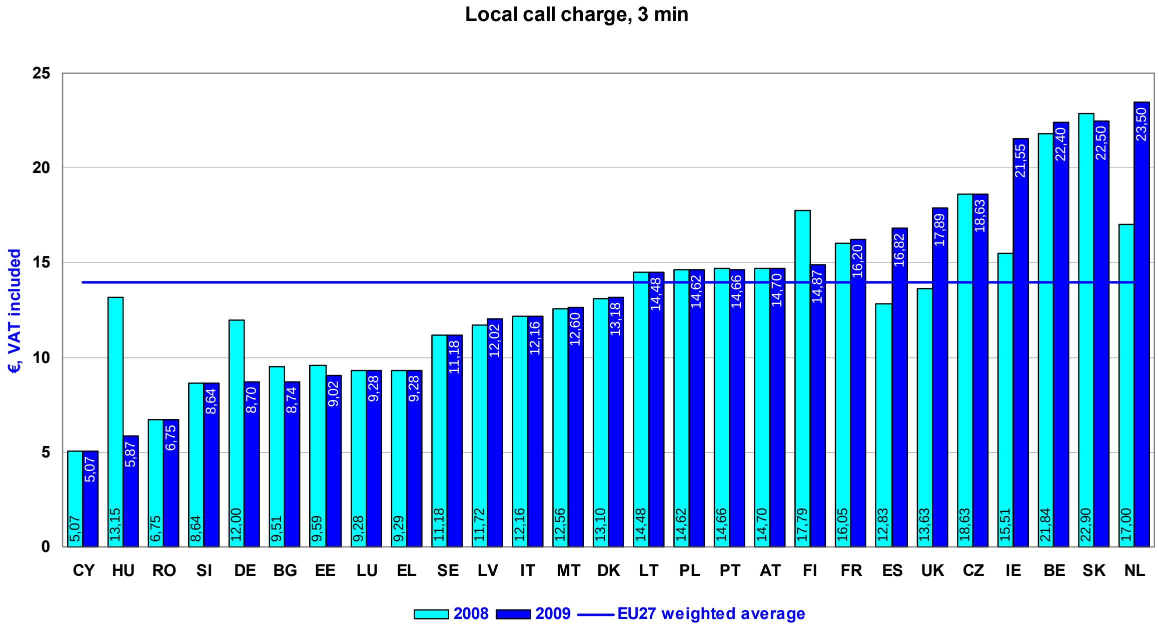
Prices refer to peak hours (weekdays 11:00 am) and are expressed in Eurocents including VAT. Except where otherwise specified, the figures refer to September 2009. Prices are indicated for three-minute and ten-minute calls over two distances: 3 km (equivalent to a local call) and 200 km (equivalent to a national call). In several countries the tariff changes at exactly one of these distances: in these cases, the rates for the lower distance band are used.

The price of a three-minute call is more affected by the magnitude of the call set-up charge than the price of a ten-minute call.

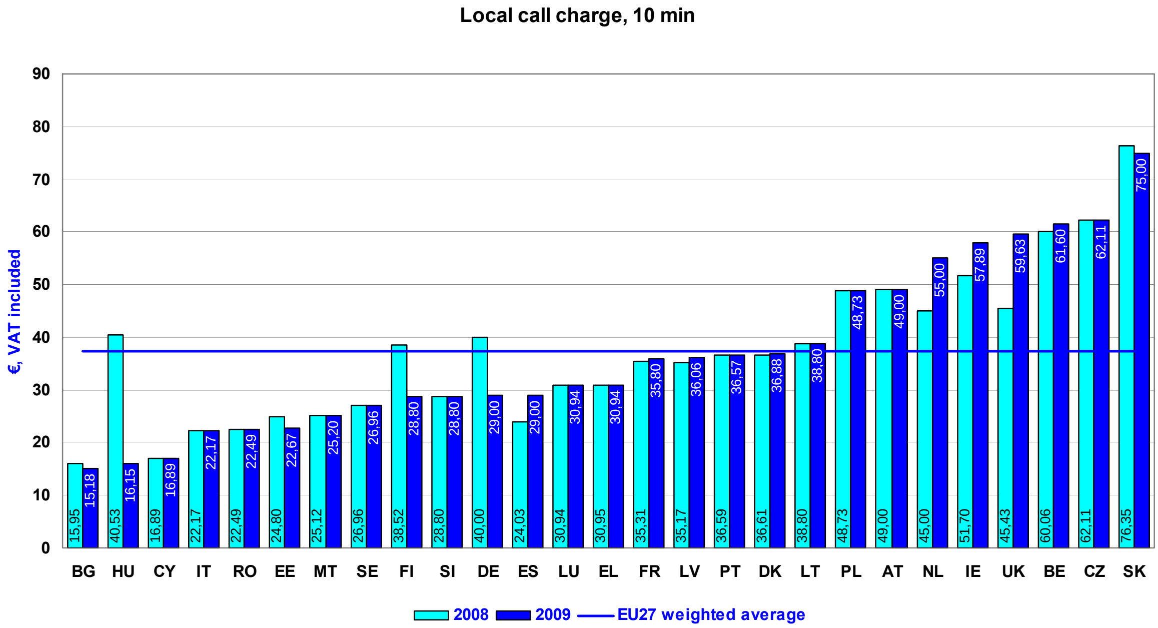
Where different tariff packages exist, the basic, residential package is selected. Otherwise the standard tariff is used. No discount packages are taken into account.

The EU average value is the average of the EU countries weighted according to the national population.

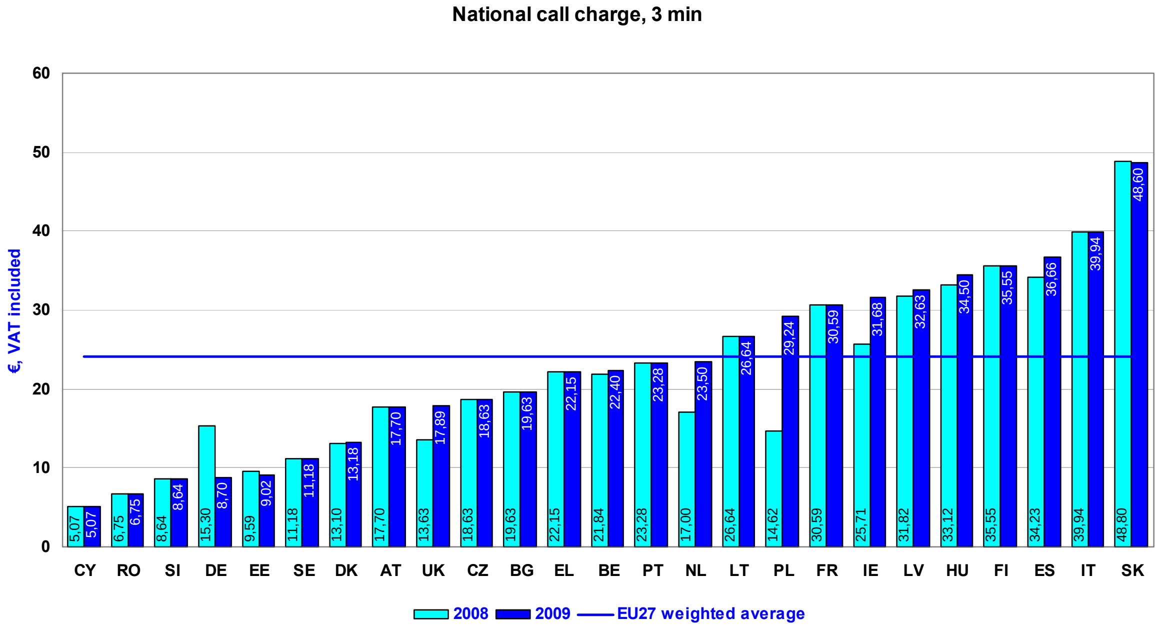
## Figure 68: Local charge, 3 min




## Figure 69: Local charge, 10 min

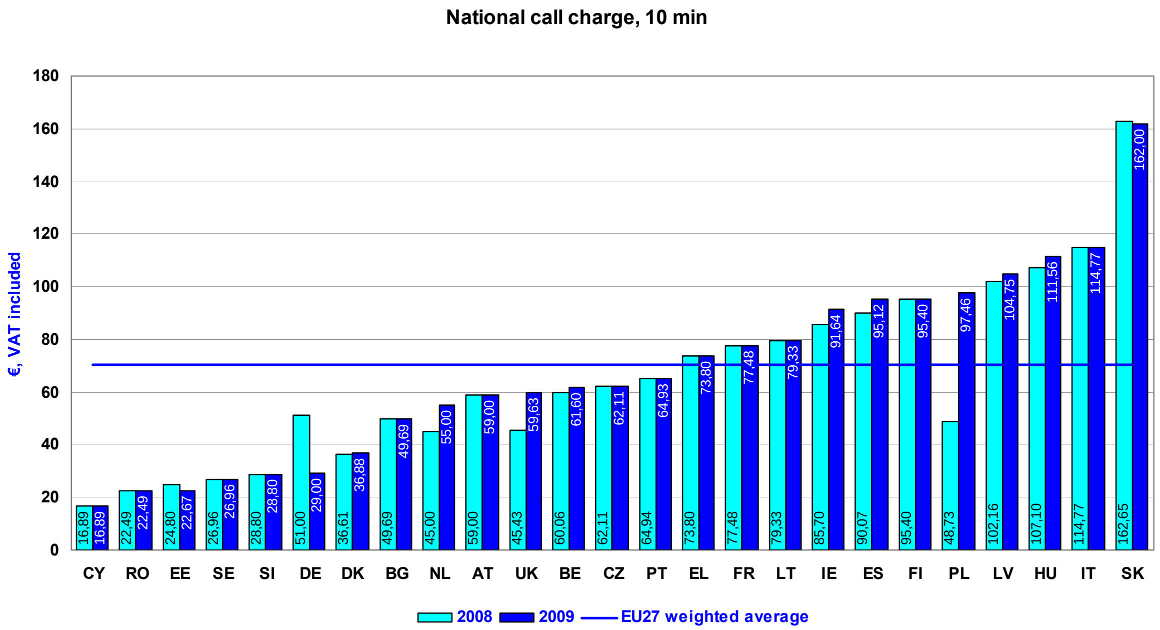


## Figure 70: National charge, 3 min




**Luxembourg and Malta**: Not applicable.

## Figure 71: National charge, 10 min




**Luxembourg and Malta**: Not applicable.

Figure 72: Local and National call charge, 3 min, EU27 weighted average

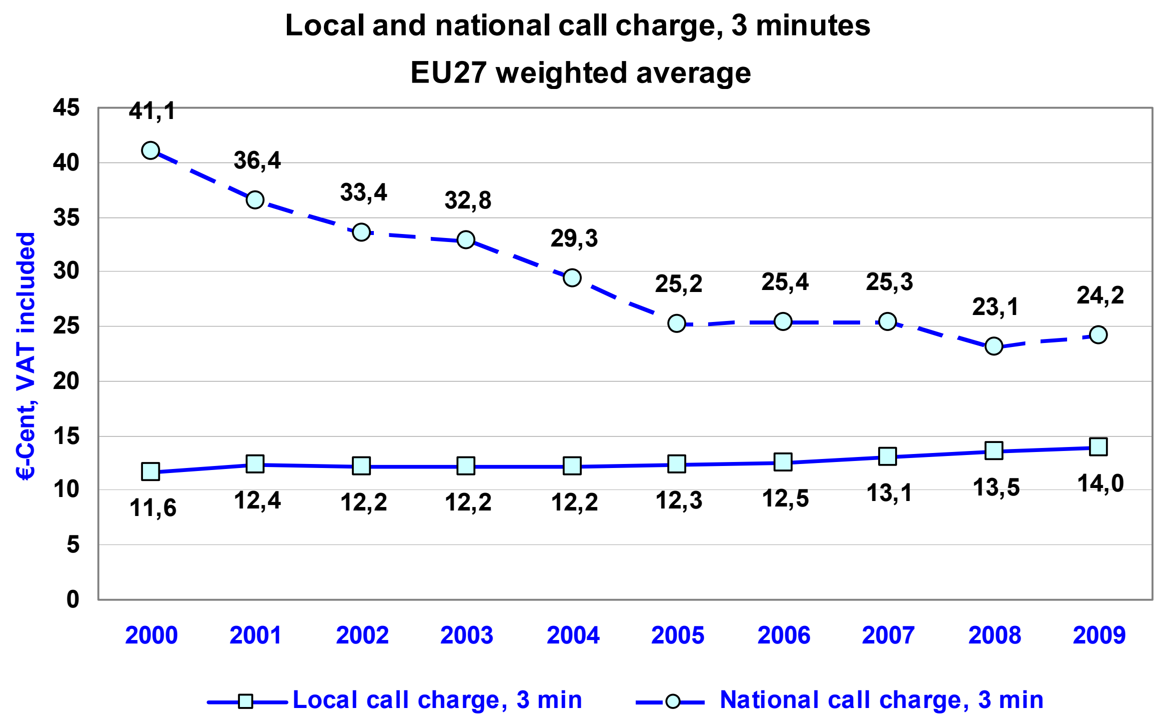
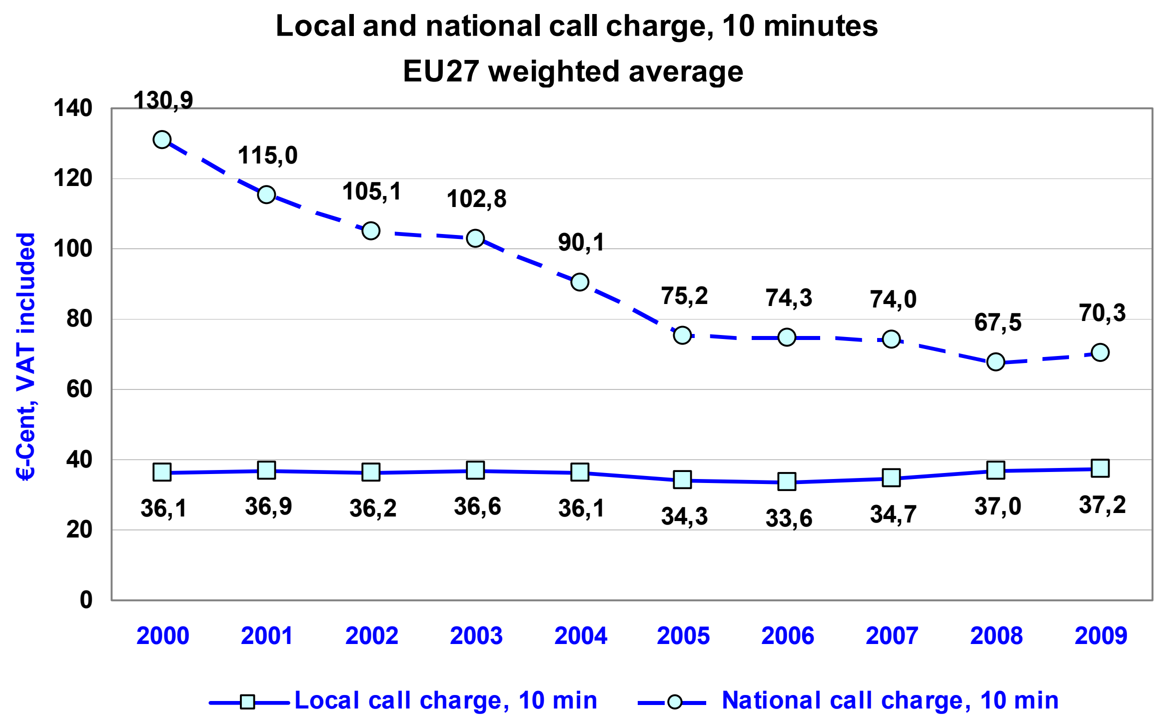



Figure 73: Local and National call charge, 10 min, EU27 weighted average



### *Price of fixed national calls by alternative operators*

This section compares the prices charged for public voice telephony services by the incumbent operators and by the largest competitor in each Member State. The tariff packages selected will impact on this comparison, although care has been taken to ensure reasonable comparability.

In this report the following second largest operators have been covered for the year 2009. In some cases there has been a change of "second operator" from last year, and these are marked with an *

| | Dominant (incumbent) | Second largest | Competing service type |
|---|---|---|---|
| Belgium | Belgacom | Telenet | PSTN / IP |
| Bulgaria | Vivacom | Orbitel | IP |
| Czech Rep. | Telefonica O2 | Radiokomunikace | PSTN / IP |
| Denmark | TDC | Telenor * | PSTN |
| Germany | Deutsche Telekom | Vodafone * | PSTN / IP |
| Estonia | Elion | Starman | IP |
| Greece | OTE | Wind * | PSTN |
| Spain | Telefonica | Ono | Cable |
| France | France Telecom | SFR * | PSTN |
| Ireland | Eircom | Vodafone * | PSTN |
| Italy | Telecom Italia | Infostrada | PSTN |
| Cyprus | CYTA | Primetel * | PSTN / IP |
| Latvia | Lattelekom | Telecom Baltija | PSTN / IP |
| Lithuania | TEO LT | Eurocom | PSTN |
| Luxembourg | P&T Luxembourg | Tele2 | PSTN |
| Hungary | Magyar Telekom | Invitel * | PSTN |
| Malta | GO | Melita * | Cable |
| Netherlands | KPN | Tele2 * | PSTN |
| Austria | Telekom Austria | Tele2 | PSTN |
| Poland | Polish Telecom | Netia * | PSTN |
| Portugal | Portugal Telecom | Sonaecom | PSTN |

| | | | |
|---|---|---|---|
| Romania | RomTelecom | RCS&RDS | PSTN |
| Slovakia | Slovak Telecom | GTS Slovakia | PSTN / IP |
| Slovenia | Telekom Slovenije | T-2 | IP |
| Finland | TeliaSonera | Elisa | PSTN |
| Sweden | TeliaSonera | Tele2 | PSTN |
| UK | BT | Virgin Media | PSTN / IP |

Figure 74: 3 min local calls, Incumbent and competitor's price

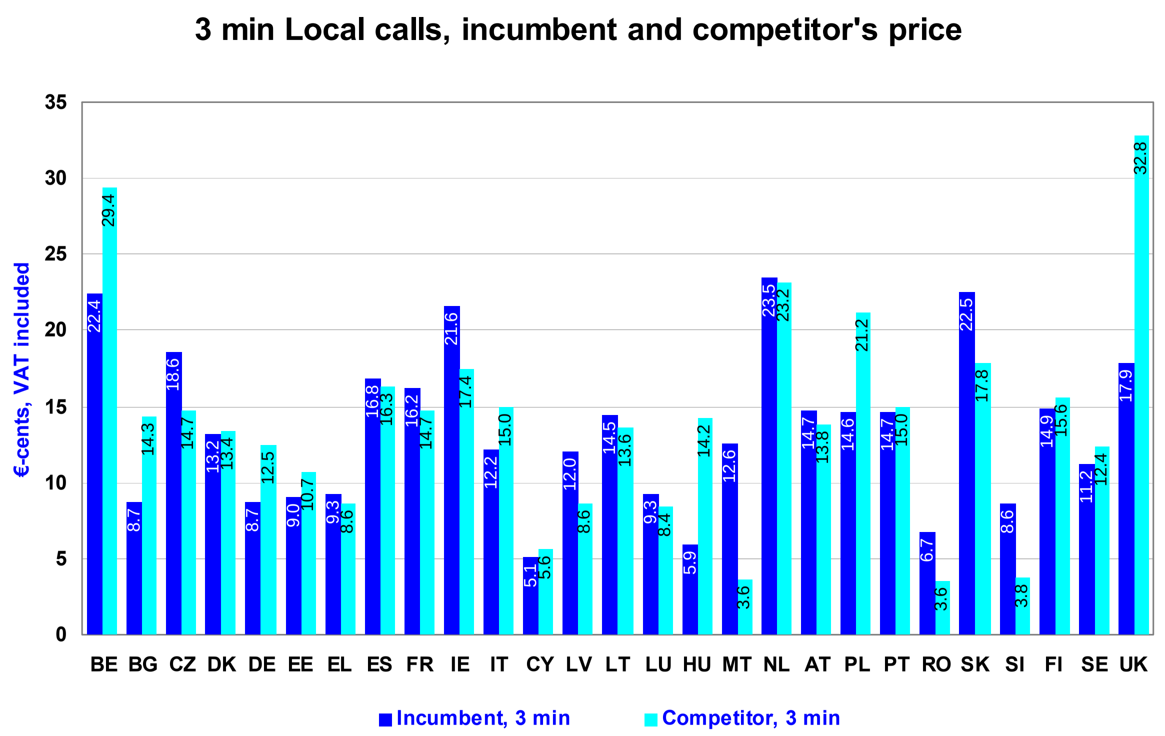



Figure 75: 10 min local calls, Incumbent and competitor's price

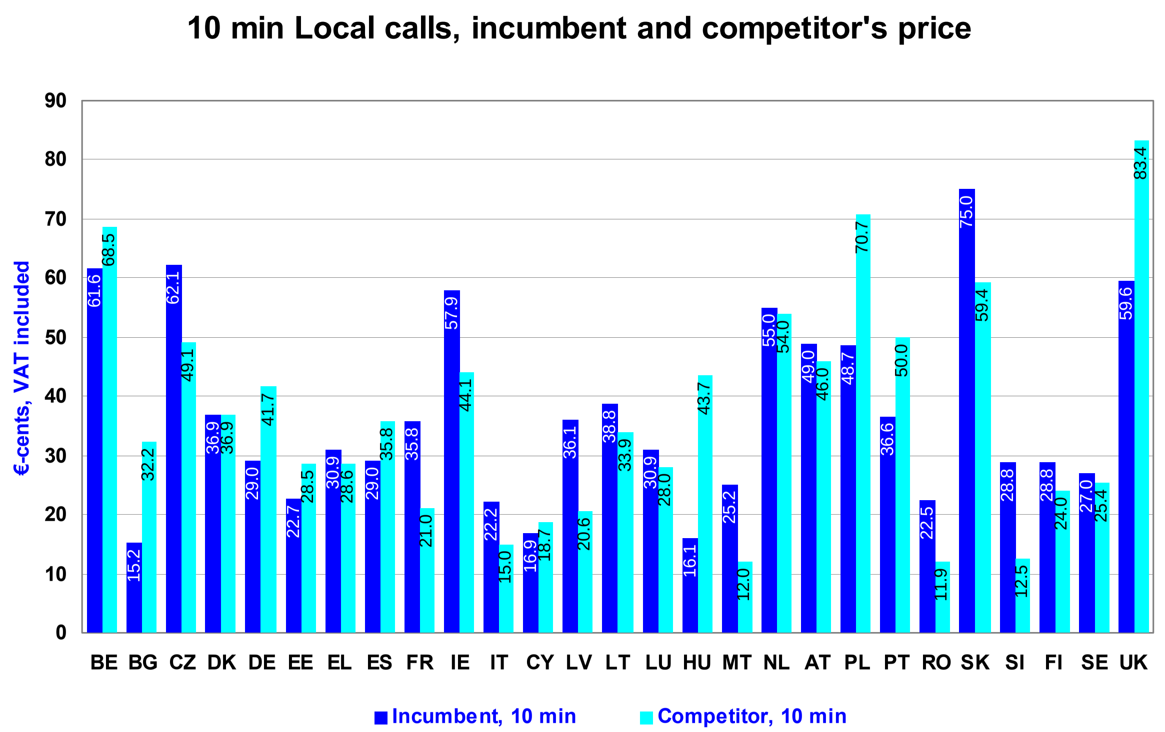


**Figure 76: 3 min national calls, Incumbent and competitor's price**

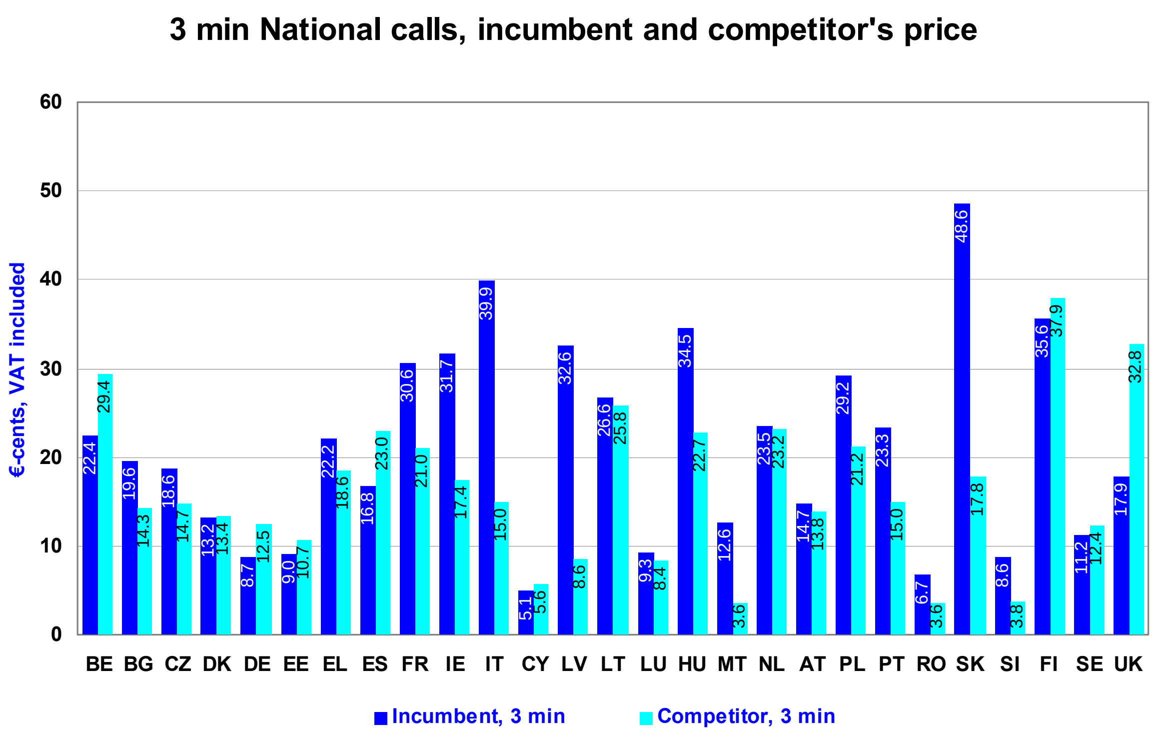
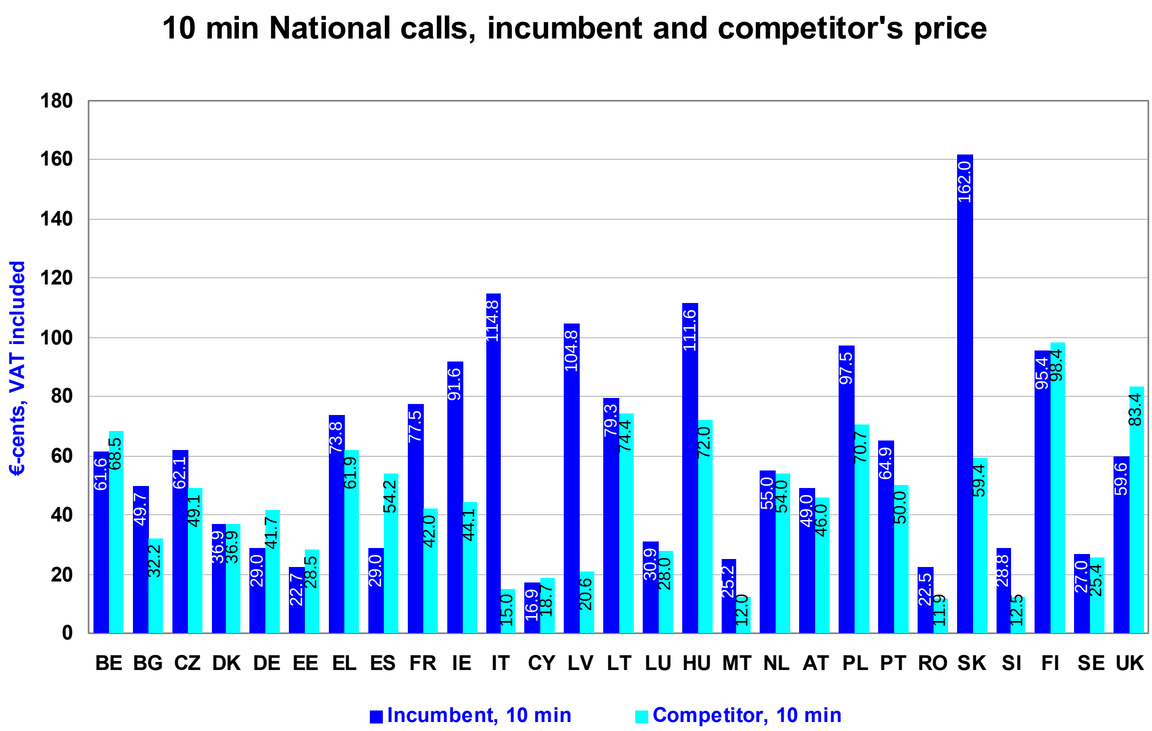



**Figure 77: 10 min national calls, Incumbent and competitor's price**




### *Incumbent operator price of calls to EU, Japan, USA*

The following charts show the prices of a 10-minute international call (including VAT) during peak hours (weekday 11:00 am) to four different destinations: a near EU country, a distant EU country, the USA and Japan. Figures are expressed in Euros, including VAT, and they refer to the European incumbent operators and the EU weighted average.

The table below summarizes the definition of near and distant EU destination countries.

| From: | Near EU | Far EU |
|---|---|---|
| BE | FR | EL |
| BU | EL | PT |
| CZ | DE | FI |
| DK | SE | EL |
| DE | FR | EL |
| EE | FI | EL |
| EL | IT | DK |
| ES | PT | DK |
| FR | BE | EL |
| IE | UK | EL |
| IT | EL | DK |
| CY | EL | DK |
| LV | SE | EL |
| LT | SE | EL |
| LU | DE | EL |
| HU | AT | FI |
| MT | IT | FI |
| NL | DE | EL |
| AT | DE | EL |
| PL | DE | EL |
| PT | ES | DK |
| RO | HU | PT |
| SK | CZ | FI |
| SI | AT | FI |
| FI | SE | EL |
| SE | DK | EL |
| UK | FR | EL |

Figure 78: 10 min call to near EU country

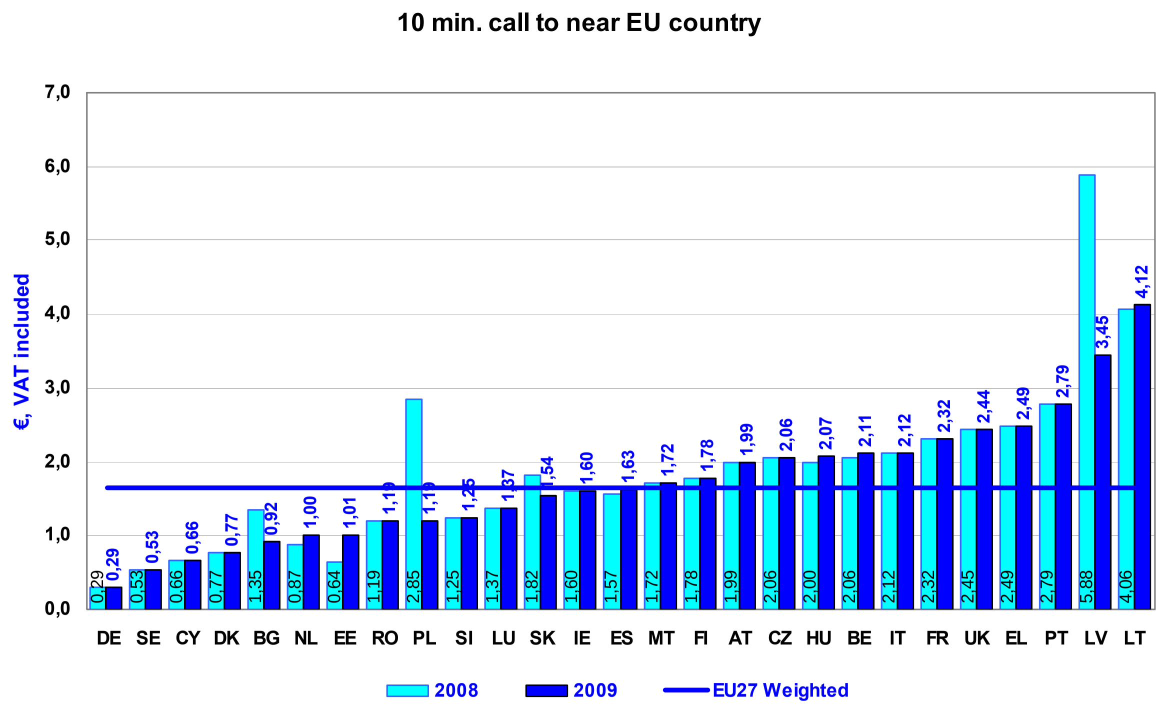



Figure 79: 10 min call to near EU country

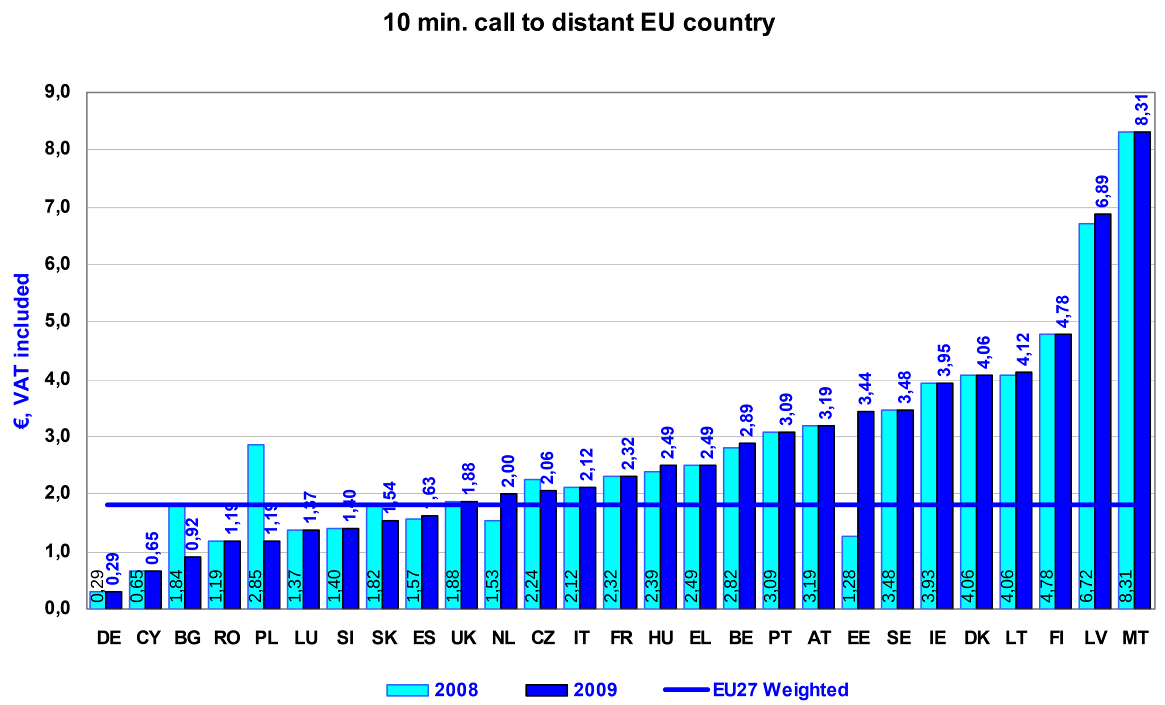


**Figure 80: 10 min call to USA**

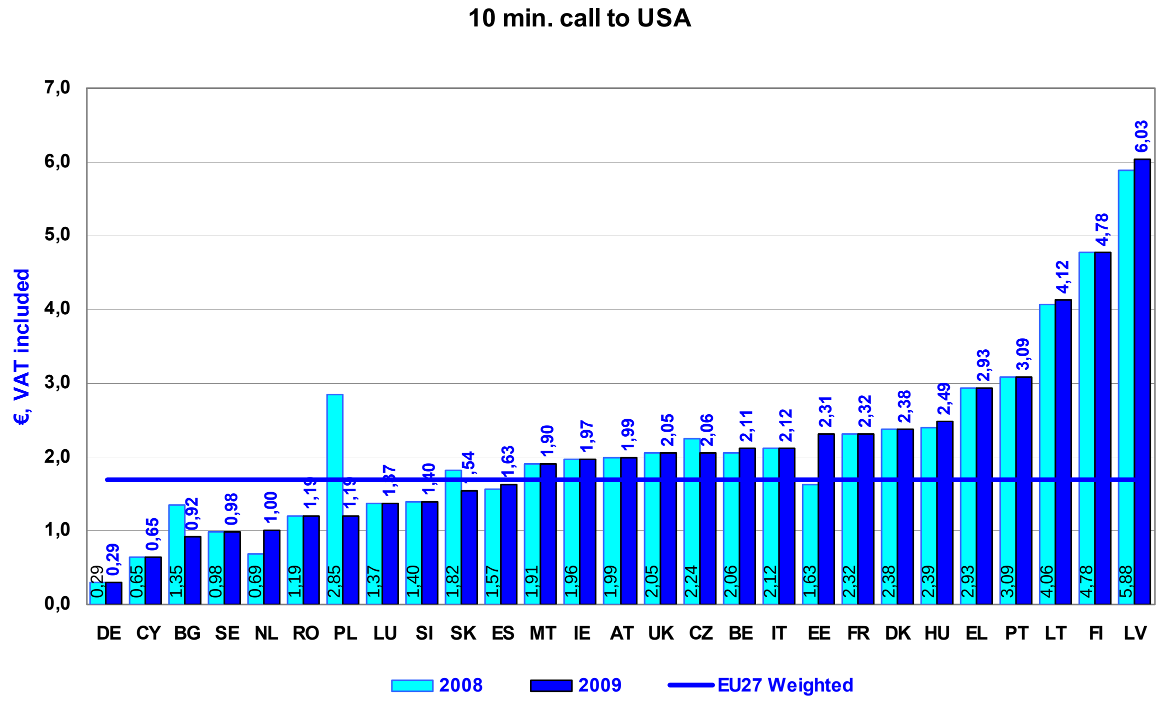
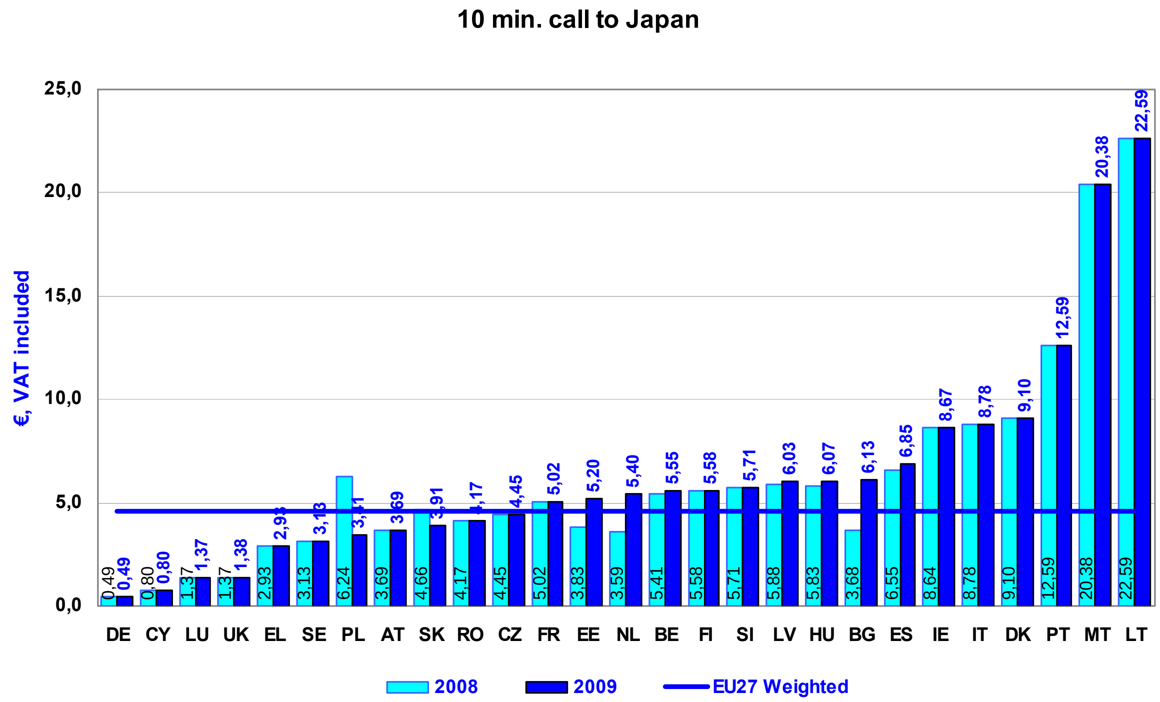



**Figure 81: 10 min call to Japan**




### *Alternative operators` price for fixed international calls*

The equivalent prices for competitor providers in the EU countries are shown in the charts below. One competitor per country has been analyzed. The prices are shown for a 10-minute call, at peak time on weekdays. Prices include VAT and are as of September 2009.

**Figure 82: 10 min call to near EU country, Incumbent and competitor's price**

10 min. call to near EU country, incumbent and competitor's price

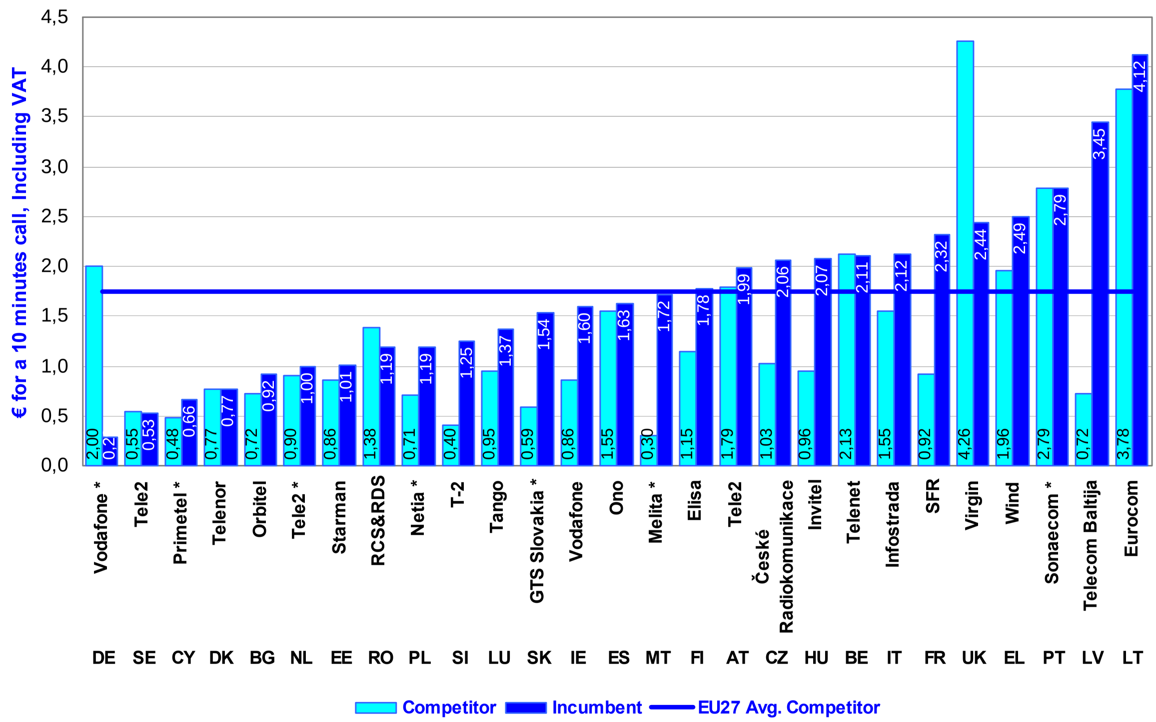



Figure 83: 10 min call to distant EU country, Incumbent and competitor's price

10 min. call to distant EU country, incumbent and competitor's price

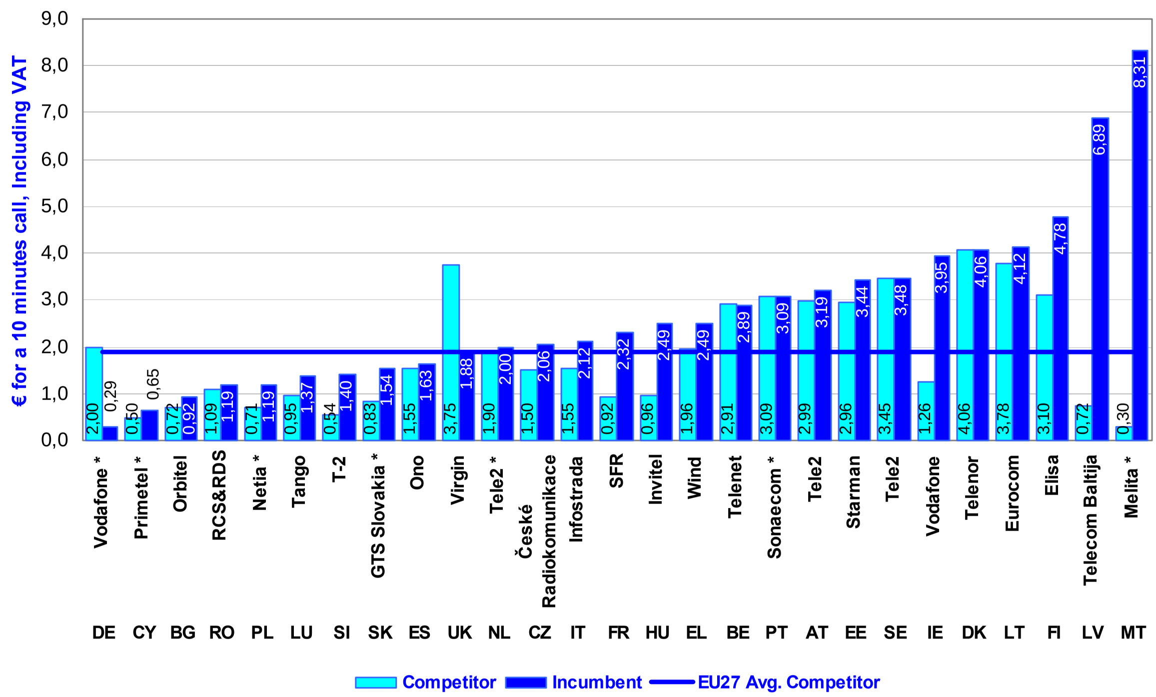


Figure 84: 10 min call to USA, Incumbent and competitor's price

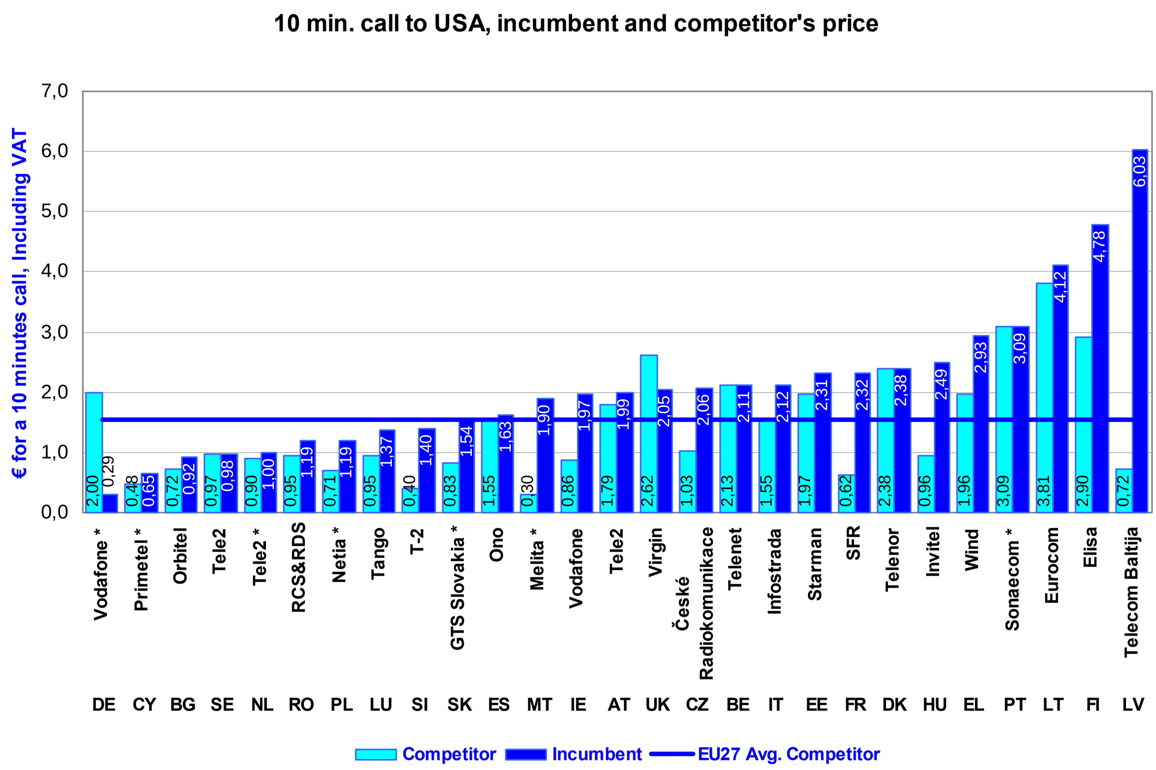
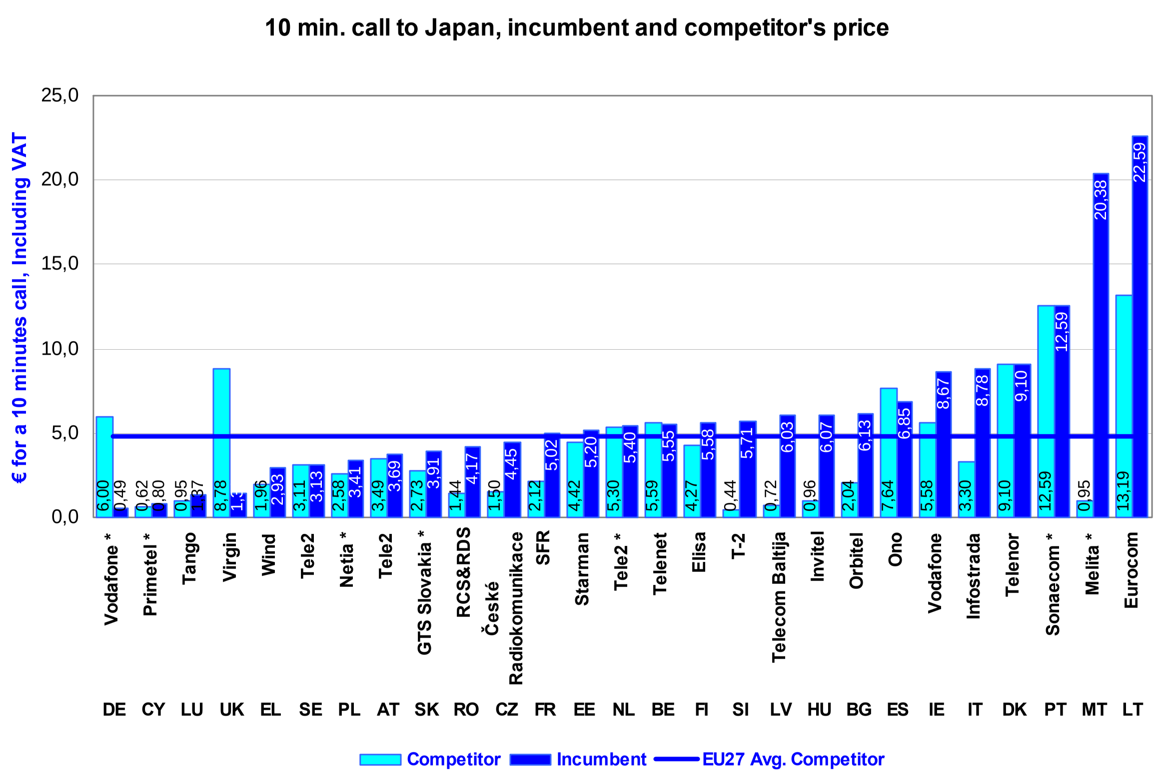
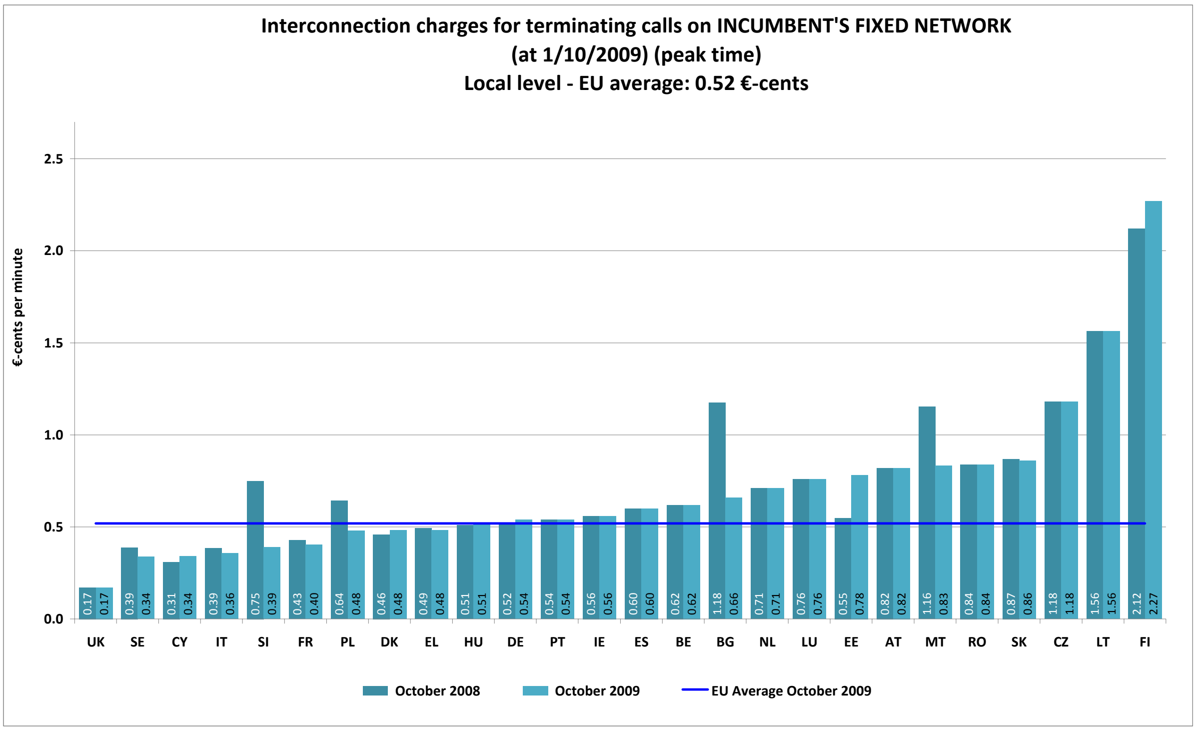



Figure 85: 10 min call to Japan, Incumbent and competitor's price



## 3.5 Fixed Interconnection

### Figure 86: Interconnection charges – Local level




**Bulgaria**: As of 1 October 2009 the termination rates imposed by the Decision № 237/17 March 2009 are not applied by all operators because the incumbent and alternative operators are in the process of negotiating and signing additional agreements. Charges for terminating incumbent's calls on alternative operators' fixed networks are symmetrical with those charged by the incumbent operator and are limited to the price of double transit.

**Czech Republic**: Call set-up is not charged.

**Spain**: Capacity-based interconnection for fixed interconnection prices is also used.

**France**: Single transit and double transit are not regulated anymore. Consequently, current tariffs from the incumbent may differ from the tariffs reported hereby.

**Latvia**: Local level is not applicable.

**Luxembourg**: Local level rates are preasented

**Netherlands**: Double transit is not regulated.

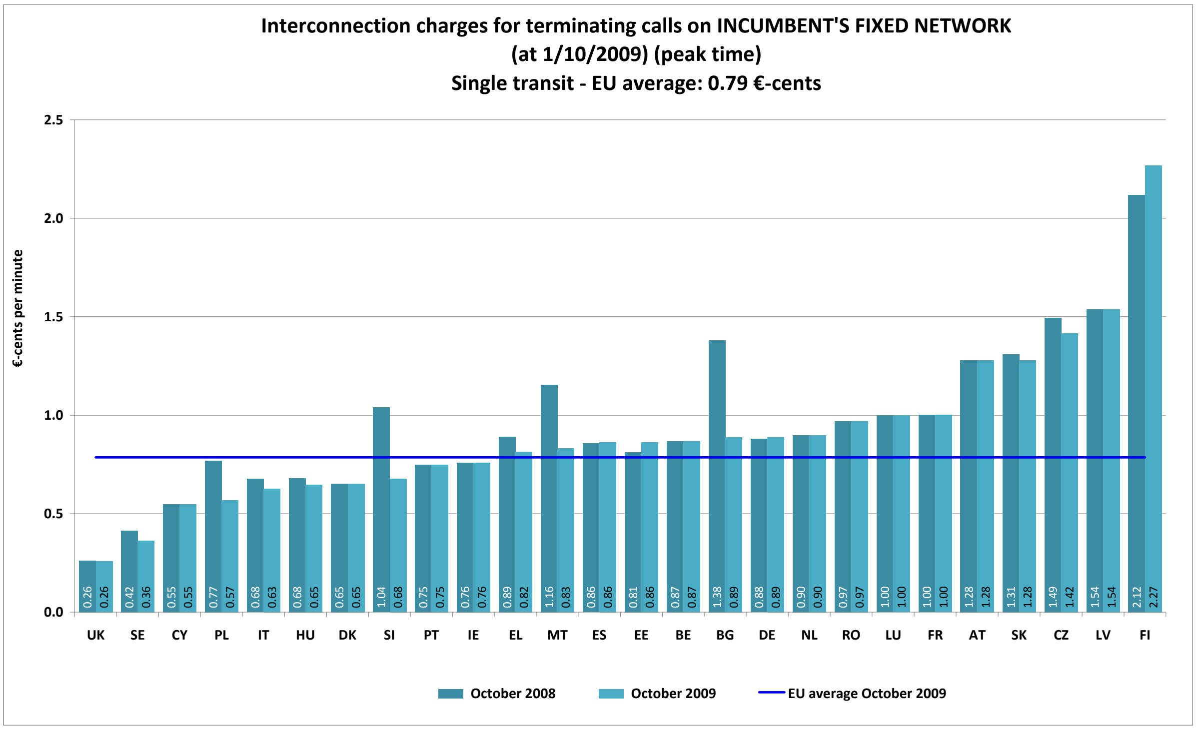
**Austria**: In a dispute settlement between Telekom Austria and Hutchinson 3G TKK fixed termination rates for calls from Hutchison to Telekom Austria's fixed network are set at 1.12 €cents.

**Romania**: Figures refer to maximum average tariffs.

**Slovenia**: Prices are based on APEK's temporary decision.

**Finland**: Figures are based on the average of 33 SMP-operators call termination charges. Termination charges vary from 1.27 €cent/min to 2.40 €cent/min. Average is 2.27 € cent/min and median charge is 2.35 €cent/min.

## Figure 87: Interconnection charges – Single transit




**Bulgaria**: As of 1 October 2009 the termination prices imposed by the Decision № 237/17 March 2009 are not applied by all operators because the incumbent and alternative operators are in the process of negotiating and signing additional agreements. Charges for terminating incumbent's calls on alternative operators' fixed networks are symmetrical with those charged by the incumbent operator and are limited to the price of double transit.

**Czech Republic**: Call set-up is not charged.

**Spain**: Capacity-based interconnection for fixed interconnection prices is also used.

**France**: Single transit and double transit are not regulated anymore. Consequently, current tariffs from the incumbent may differ from the tariffs reported hereby.

**Lithuania**: Single transit is not applicable. Local and national level of interconnection is presented.

**Luxembourg**: National level is presented.

**Netherlands**: Double transit is not regulated.

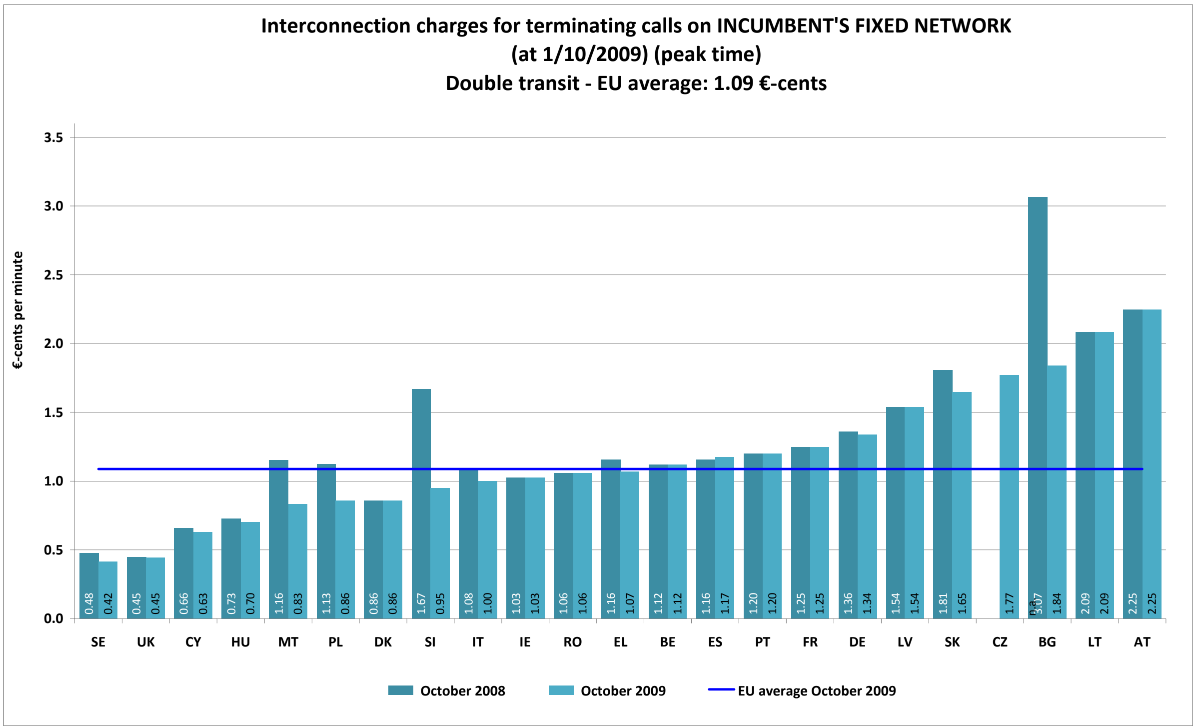
**Austria**: In a dispute settlement between Telekom Austria and Hutchinson 3G TKK fixed termination rates for calls from Hutchison to Telekom Austria's fixed network are set at 1.58 €cents.

**Romania**: Maximum average tariffs are presented.

**Slovenia**: Prices are based on APEK's temporary decision.

**Finland**: Based on the average of 33 SMP-operators call termination charges. Termination charges varies from 1.27 €cent/min to 2.40 €cent/min. Average is 2.27 € cent/min and median charge is 2.35 €cent/min.

**Figure 88: Interconnection charges – Double transit**




**Bulgaria**: As of 1 October 2009 the termination prices imposed by the Decision № 237/17 March 2009 are not applied by all operators because the incumbent and alternative operators are in the process of negotiating and signing additional agreements. Charges for terminating incumbent's calls on alternative operators' fixed networks are symmetrical with those charged by the incumbent operator and are limited to the price of double transit.

**Czech Republic**: Call set-up is not charged. Double transit is not regulated.

**Spain**: Capacity-based interconnection for fixed interconnection prices is also used.

**Finland**: Figures are based on the average of 33 SMP-operators call termination charges. Termination charges varies from 1.27 €cent/min to 2.40 €cent/min. Average is 2.27 € cent/min and median charge is 2.35 €cent/min.

**France**: Single transit and double transit are not regulated anymore as at 01/10/2008 and 01/10/2009. Consequently, current tariffs from the incumbent may differ from the tariffs reported hereby.

**Lithuania**: Local and national level of interconnection is presented.

**Luxembourg**: Double transit does not exist due to the size of the country.

**Netherlands**: Double transit is not regulated.

**Austria**: In a dispute settlement between Telekom Austria and Hutchinson 3G TKK fixed termination rates for calls from Hutchison to Telekom Austria's fixed network are set at 2.16 €cents.

**Romania**: Maximum average tariffs are presented.

**Slovenia**: Prices are based on APEK's temporary decision.

**Estonia**, **Finland**: Double transit is not applicable.

# 4. BROADBAND MARKET

## 4.1 Broadband access definitions

This section provides data on the number and type of broadband lines supplied by both incumbent operators and new entrants/alternative operators in the EU. It also contains information on access lines provided by means of alternative technologies such as fixed wireless access (WLL), fibre and cable modem. Data on mobile broadband access is also available; however data is not of the same quality for all countries. Data on speeds is partially available.

Information has been provided by the national regulatory authorities through the COCOM questionnaires on data for local broadband access. Given the rapid developments in this sector, it has been agreed with NRAs to update the questionnaires on a regular basis every January and July. Unless otherwise stated, the data below refer to the market situation on 1 January 2010.

The definitions used in the charts and data below are as follows:

- **Fully unbundled lines**: Fully unbundled lines supplied by the incumbent operator to other operators (new entrants), excluding experimental lines. In the case of full unbundling, a copper pair is rented to a third party for its exclusive use. As fully unbundled lines (LLU) supplied by the incumbent operator to the new entrants could in principle be used for services other than broadband, the total number of LLU for access to internet will be lower than the total number of LLU.

- **Shared access lines:** Shared access lines supplied by the incumbent to other operators (new entrants), excluding experimental lines. In the case of shared access, the incumbent continues to provide telephony service, while the new entrant delivers high-speed data services over that same local loop.

- **Bitstream access**: It refers to the situation where the incumbent installs a high-speed access link to the customer premises, and makes this access link available to third parties (new entrants), to enable them to provide high-speed services to customers. Bitstream depends in part on the PSTN, and may include other networks such as the ATM network. Bitstream access is a wholesale product that consists of the provision of transmission capacity in such a way as to allow new entrants to offer their own, value-added services to their clients. The incumbent may also provide transmission services to its competitor, to carry traffic to a 'higher' level in the network hierarchy where new entrants may already have a broadband point of presence.

- **Simple resale**: In contrast to bitstream access, simple resale occurs when a new entrant receives and sells on to end users a product (with no possibility of value added features to the DSL part of the service) that is commercially similar to the DSL product provided by the incumbent to its own retail customers, irrespective of the ISP service that may be packaged with it. Resale offers are not a substitute for bitstream access because they do not allow new entrants to differentiate their services from those of the incumbent (i.e. whenthe new entrant simply resells the end-to-end service provided to him by the incumbent on a wholesale basis).

- **Incumbent's DSL lines**: Lines provided to end users by the incumbent, its subsidiaries or partners (for example an associated company such as a joint venture providing ISP services).

- **WLL**: Broadband internet connections by means of wireless local loop (sometimes referred to as fixed wireless access).

- **Cable modem**: Broadband internet connections by means of cable TV access.

- **L.L. or Other traditional wireline access**: Broadband internet connections by means of dedicated capacity (Leased Lines) provided over metallic copper pairs, including tail ends or partial circuits. “Incumbent's leased lines” include only retail lines and excludes lines provided to other operators. “New entrants' leased lines” include all retail lines provided to end users, even if based on wholesale lines supplied by the incumbent.

- **Fibre to the home (FTTH)**: Broadband internet connections by means of fibre optic.

- **Satellite Internet**: Broadband internet connections via satellite.

- **Powerline communications**: Broadband internet transmitted over utility power lines.

- **Other categories**: Internet broadband connections by means of local area networks and other.

- **Retail access**: Access provided to end users.

- **Incumbent:** Organisations enjoying special and exclusive rights or *de facto* monopoly for the provision of voice telephony services before liberalisation, regardless of the role played in the provision of access by means of technologies alternative to the PSTN.

- **New entrant**: Alternative telecommunications operators, as well as internet service providers (ISPs).

- **Mobile Broadband:** Internet access using 3G or higher mobile standards. Mobile Broadband can be accessed either by means of dedicated data devices (modems, cards and USB keys) and mobile handset enabling 3G or higher standard technologies. In the case of access through dedicated data devices the total number of subscribers is taken into consideration. In the case of access through mobile handsets, only active users (those who used the service in the past 90 days) are included.

- **Broadband connection**: an internet connection enabling higher than 144 Kbit/s download speed. As of January 2010 it is estimated that 1-2 Mbps is the minimum download speed and that just a fraction of all retail broadband lines provide speeds of 144 Kbit/s.

## 4.2 Wholesale access

This section shows the availability of fixed wholesale access lines supplied by incumbent operators to new entrants. Separate figures are provided for fully unbundled lines, shared access, bitstream access and resale.

**Table 1: Number of wholesale lines and agreements (full LLU, shared lines, bitstream and resale lines) on 1 January 2010**

| Date | | **Availability of wholesale access** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| January-10 | Incumbent's PSTN activated main lines | Fully unbundled lines | | | Shared access lines supplied by the incumbent to new entrants | | | Wholesale DSL lines supplied | | | |
| | | | | | | | | Bitstream access | | Simple resale | |
| Country | | Unbundled lines | FUL Requested lines | FUL N. of agreements | Shared lines | SAL Requested lines | SAL N. of agreements | Bitstream N. lines | Bitstream N. agreements | ResaleN. lines | Resale N. agreements |
| **BE** | 3.242.197 | 69.580 | 403 | 8 | 27.657 | 18 | 8 | 132.869 | 10 | 59.052 | 13 |
| **DK** | 1.950.000 | 182.000 | N/A | 20 | 45.000 | N/A | 7 | 89.000 | 19 | 18.000 | 16 |
| **DE** | 35.391.000 | 9.100.000 | 0 | 161 | 91.000 | 0 | 22 | 838.000 | 19 | 1.382.800 | 9 |
| **EL** | 5.248.000 | 937.878 | 34.875 | 19 | 49.432 | 375 | 7 | 52.625 | 0 | 0 | 0 |
| **ES** | 15.067.436 | 1.706.127 | 0 | 16 | 447.668 | 0 | 11 | 333.061 | 24 | 33.339 | 2 |
| **FR** | 8.879.844 | 6.414.377 | 0 | 0 | 1.309.074 | 0 | 0 | 1.891.891 | 0 | 0 | 0 |
| **IE** | 1.614.325 | 16.497 | 70 | 7 | 6.406 | 1 | 7 | 200.678 | 16 | 0 | 0 |
| **IT** | 15.545.083 | 5.814.774 | 38.319 | 33 | 596.227 | 513 | 13 | 1.740.733 | 162 | 0 | 0 |
| **LU** | 216.402 | 15.092 | 285 | 4 | 12 | 0 | 4 | 0 | 0 | 13.485 | 6 |
| **NL** | 7.555.000 | 536.000 | 0 | 6 | 170.000 | 0 | 4 | 0 | 20 | 0 | 0 |
| **AT** | 2.510.000 | 288.509 | 849 | 36 | 85 | 0 | 2 | 55.400 | 45 | 0 | 0 |
| **PT** | 2.696.819 | 280.518 | ND | 4 | 0 | 0 | 0 | 44.787 | 10 | 138 | 2 |
| **FI** | 2.071.000 | 314.000 | 0 | 0 | 34.300 | 0 | 0 | 52.200 | 0 | 0 | 0 |
| **SE** | 4.379.000 | 202.917 | N/A | N/A | 389.061 | N/A | N/A | N/A | N/A | 74.022 | N/A |
| **UK** | 18.221.660 | 2.576.941 | n/a | 63 | 3.785.505 | n/a | 39 | 468.076 | 31 | 7.564.417 | 459 |
| **CY** | 382.516 | n.a. | 0 | 3 | 235 | 0 | 3 | 564 | 6 | 0 | 0 |
| **CZ** | 1.820.304 | 43.640 | 0 | 6 | 8.800 | 0 | 6 | 48.103 | 21 | 0 | 0 |
| **EE** | 395.000 | 8.436 | 8 | 7 | 0 | 0 | 0 | 161 | 1 | 0 | 0 |
| **HU** | 2.131.316 | 16.991 | 321 | 7 | 7.412 | 34 | 7 | 168.327 | 19 | n.a. | n.a. |
| **LV** | 570.000 | 0 | 0 | 2 | 0 | 0 | 2 | 420 | 13 | 0 | 0 |
| **LT** | 658.648 | 121 | 0 | 2 | 494 | 0 | 0 | 1.606 | 11 | 0 | 0 |
| **MT** | 188.074 | 0 | 0 | 0 | 0 | 0 | 0 | 3.352 | 8 | 0 | 0 |
| **PL** | 7.542.587 | 32.131 | n/a | 5 | 19.483 | n/a | 5 | 458.186 | 13 | 0 | 0 |
| **SK** | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 29.030 | 19 | 0 | 0 |
| **SI** | 719.322 | 56.349 | 173 | 3 | 20.320 | 42 | 3 | 21.590 | 4 | 0 | 0 |
| **BG** | 1.993.619 | 0 | 0 | 0 | 2 | 10 | 3 | 206 | 7 | 0 | 0 |
| **RO** | 2.800.000 | 1.073 | 3 | 16 | 275 | 0 | 16 | N/A | N/A | N/A | N/A |

**Austria**: Incumbent activated mainlines and bitstream access lines are estimates based on Q3 2009. The number of bit stream access agreements is an estimate based on Q1 2009.

**Belgium**: Wholesale lines supplied by Scarlet are no longer included as Scarlet has been bought by Belgacom.

**Czech Republic**: Number of fully unbundled lines and shared lines are as of Q3 2009.

**Germany**: Incumbent activated mainlines excludes bitstream access and DSL resale.

**Hungary**: Data on incumbent activated mainlines refer to Q3 2009.

**The Netherlands:** Data as of July 2009

**Lithuania**: Incumbents' full LLU lines are used at retail level by new entrants for the provision of other data transmission services (e.g. VPN) and 40 lines are used for the provision of broadband internet access services. The same two agreements can be used for fully unbundled lines and for shared access lines, too.

**Portugal**: All data refer to Q4 2009 except for bit stream access (Q3 2009).

**Romania**: All data are provisional.

**Sweden**: Data on simple resale is an estimate; data as of 30 June 2009.

## 4.3 Retail fixed broadband access

This section provides information on the deployment of fixed broadband access lines by incumbents (and their subsidiaries or partners) and by new entrants (alternative telecom operators or Internet Service Providers) to end-users.

Fixed broadband access can be provided by different means: DSL lines, cable modem, Wireless Local Loop (WLL), fibre, dedicated leased lines and other technologies (such as satellite, powerline communications, local area networks, etc.).

New entrants' DSL lines can be provided to end users by means of fully unbundled or shared access lines, bitstream access or resale. In some Member States, new entrants have started rolling out parallel DSL networks. In all the charts below on fixed broadband retail lines data refer either to 1 January 2009 or 1 January 2010. In some cases only estimates are available or data are as of 1 July or 1 October 2009.

The following table shows the total number of fixed broadband access lines for each Member State, provided by both incumbents and new entrants/alternative operators, and including all types of fixed broadband connections.

**Table 2: Number of fixed broadband lines by operator and technology on 1 January 2010**

| Country | Incumbent's DSL lines | Own network | Full ULL | Shared access | Bitstream access | Resale | Total new entrants DSL lines | Inc. WLL | Inc. Cable modem | Other traditional wireline access | Inc. Fiber to the home | Inc. Satellite | Inc. PLC | Inc. Other | Public access WIFI Hotspots | Total (exc. WiFi) | New E. WLL | New E. Cable modem | New E. Other traditional wireline access | New E. Fiber to the home | New E. Satellite | New E. PLC | New E. Other | Public access WIFI Hotspots | Total (exc. WiFi) | Total broadband lines (exc. WiFi) | Total number of new entrants |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BE | 1 521 597 | | 53 851 | 8 796 | 101 705 | 89 460 | 253 812 | | | 5 090 | | | | | 854 | 5 090 | 19 186 | 1 331 526 | 1 263 | 1 407 | | | 195 | 1 693 | 1 353 577 | 3 134 076 | 50 |
| DK | 911 000 | | 169 000 | 56 000 | 81 000 | 34 000 | 340 000 | 1 000 | 361 000 | 12 000 | 5 000 | N/A | N/A | 26 000 | n/a | 405 000 | 24 000 | 196 000 | 6 000 | 116 000 | N/A | N/A | 86 000 | n/a | 428 000 | 2 084 000 | 78 |
| DE | 11 500 000 | 13 000 | 8 600 000 | 91 000 | 838 000 | 1 382 800 | 10 924 800 | n.a. | | 30 000 | n.a. | 14 000 | | n.a. | 8 000 | 44 000 | 1 100 | 2 300 000 | 37 000 | 133 700 | 26 800 | 10 000 | n.a. | n.a. | 2 508 600 | 24 977 400 | 100 |
| EL | 1 060 821 | | 745 246 | 49 432 | 52 625 | | 847 303 | 16 | | 231 | 81 | 565 | | | | 893 | 1 043 | | 4 026 | 2 544 | | | | | 7 613 | 1 916 630 | |
| ES | 5 365 745 | - | 1 706 127 | 447 668 | 333 061 | 33 339 | 2 520 195 | - | - | - | 29 223 | - | - | - | - | 29 223 | 57 875 | 1 866 101 | 1 787 | 3 099 | 1 616 | - | 428 | - | 1 930 906 | 9 846 069 | |
| FR | 8 879 844 | | 6 414 377 | 1 309 074 | 1 891 891 | | 9 615 342 | | | | | | | | | | | 1 000 000 | | | | | | | 1 000 000 | 19 495 186 | |
| IE | 490 435 | | 16 497 | 6 406 | 200 678 | | 223 581 | 266 | | 10 757 | | 83 | | | 971 | 11 106 | 103 077 | 150 823 | 3 613 | 5 678 | 2 845 | | | 331 | 266 036 | 991 158 | 34 |
| IT | 7 040 000 | 1 461 | 3 077 770 | 142 647 | 1 740 830 | 1 781 | 4 964 489 | | | 268 | 750 | 2 389 | | 442 | | 3 849 | 911 | | 1 959 | 331 612 | 50 000 | 1 709 | 577 | 3 540 | 386 768 | 12 395 106 | 34 |
| LU | 105 069 | 21 | 12 604 | 33 | | 14 152 | 26 810 | | 766 | 410 | 293 | | | | 41 | 1 469 | 4 | 25 130 | 10 | 60 | | | | 90 | 25 204 | 158 552 | |
| NL | 2 823 800 | | 537 000 | 170 000 | 247 000 | 55 000 | 1 009 000 | | | | 139 000 | | | | | 139 000 | | 2 250 000 | | | | | | | 2 250 000 | 6 221 800 | |
| AT | 967 200 | | 266 810 | 85 | 55 400 | | 322 295 | | | | 350 | | | | | 350 | 33 500 | 560 000 | | 5 500 | | 4 700 | 240 | | 603 940 | 1 893 785 | 240 |
| PT | 844 048 | | 269 066 | | 44 787 | 138 | 313 991 | | | 636 | 20 011 | 23 | | | 1 524 | 20 670 | 23 563 | 760 637 | 1 571 | 10 748 | 1 | | 4 | 5 539 | 796 524 | 1 975 233 | 32 |
| FI | 810 100 | n.a. | 314 000 | 8 200 | 52 200 | n.a. | 374 400 | 23 700 | 109 800 | n.a. | 7 200 | n.a. | | 94 800 | n.a. | 235 500 | 8 100 | 113 000 | n.a. | 5 400 | n.a. | 1 200 | 17 800 | n.a. | 145 500 | 1 565 500 | 55 |
| SE | 1 041 000 | | 202 917 | 389 061 | N/A | 74 022 | 666 000 | | | | 83 171 | | | 8 000 | N/A | 91 171 | 3 331 | 577 070 | | 537 829 | | | | N/A | 1 118 230 | 2 916 401 | 244 |
| UK | 5 200 072 | 96 066 | 2 576 941 | 3 785 505 | 468 076 | 2 364 345 | 9 290 933 | | | | | | | | | | 18 300 | 3 844 660 | | | | | | | 3 862 960 | 18 353 965 | 13 153 893 |
| CY | 138 080 | | 27 040 | 235 | 499 | | 27 774 | | | | 81 | | | | 93 | 81 | | 9 772 | | | 196 | | 121 | 21 | 10 089 | 176 024 | |
| CZ | 677 050 | 550 | 43 640 | 8 800 | 48 103 | | 101 093 | | | | 2 000 | | | | | 2 000 | 680 000 | 441 700 | | 102 000 | | | | | 1 223 700 | 2 003 843 | 1 150 |
| EE | 137 823 | 1 810 | 6 355 | | 161 | 25 | 8 351 | 6 359 | | | 36 576 | | | 366 | 399 | 43 301 | 31 927 | 76 757 | | 33 106 | | | 17 139 | 743 | 158 929 | 348 404 | 82 |
| HU | 630 545 | n.a. | 16 991 | 7 412 | 168 327 | n.a. | 192 730 | 800 | 124 684 | | 7 136 | | | | n.a. | 132 620 | 94 200 | 715 725 | | 2 700 | | 206 | 110 455 | n.a. | 923 286 | 1 879 181 | 461 |
| LV | 215 128 | | 68 | 10 | 33 | 339 | 450 | 1 157 | | | 9 249 | | | 667 | | 11 073 | 16 548 | 32 998 | 6 499 | 12 888 | 55 | | 141 411 | n/a | 210 399 | 437 050 | 228 |
| LT | 226 484 | | | 40 | 1 606 | | 1 646 | 22 531 | | | 62 772 | | | 56 | 3 998 | 85 359 | 46 507 | 52 428 | 1 327 | 190 797 | | | 29 035 | 204 | 320 094 | 633 583 | 107 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MT** | 49 395 | | | | 3 352 | | 3 352 | | | | | | | | 6 | | 3 757 | 54 221 | | | | | 44 | 12 | 58 022 | 110 769 | 13 |
| **PL** | 2 068 686 | 298 800 | 32 131 | 19 483 | 458 186 | | 808 600 | | | | 53 | 28 | | 7 525 | | 7 606 | 7 336 | 1 389 943 | 2 304 | 2 016 | 1 | | 880 464 | 706 | 2 282 064 | 5 166 956 | n/a |
| **SK** | 338 693 | | | | 29 030 | | 29 030 | Confidential | | | | | | | | | 147 190 | 85 482 | 2 200 | 71 991 | 205 | 1 021 | 108 933 | 600 | 417 022 | 803 189 | 610 |
| **SI** | 191 141 | | 56 349 | 20 320 | 21 590 | | 98 259 | | | | 23 570 | | | | 70 | 23 570 | 2 160 | 104 939 | 407 | 44 872 | 5 | | | 600 | 152 383 | 465 353 | |
| **BG** | 309 554 | | | | 194 | | 194 | | | 930 | | | | 30 | | 960 | 7 247 | 119 261 | 55 | 12 485 | 38 | | 536 640 | | 675 726 | 986 434 | 530 |
| **RO** | 781 000 | 550 | 470 | | N/A | N/A | 1 020 | N/A | N/A | N/A | 1 730 | N/A | N/A | | 81 | 1 730 | 22 300 | 480 000 | 42 | 97 200 | 602 | N/A | 1 419 400 | 922 | 2 019 544 | 2 803 294 | 1 016 |

**Austria**: Incumbent DSL, bitstream access, fibre, and new entrants` lines by other means are estimates based on Q3 2009. Number of new entrants is an estimate based on Q1 2009.

**Belgium**: Wholesale lines supplied by Scarlet are no longer included as Scarlet has been bought by Belgacom.

**Czech Republic**: Number of fully unbundled lines and shared lines are as of Q3 2009. New entrants FWA and fibre lines (including FTTH and FTTB) are estimates.

**Germany**: Number of new entrants` DSL lines on own networks and lines of other traditional wire line access are estimates. FWA refers to the number of BWA base stations.

**France**: Figure on cable modem internet is an estimate.

**Italy:** `Incumbent DSL lines` is an estimate.

**The Netherlands**: Data as of July 2009.

**Luxembourg**: FWA is counted as number of access points regardless of the number of end users.

**Portugal**: All data refer to Q4 2009 except for bitstream access (Q3 2009) and public access WIFI hotspots (Q4 2008).

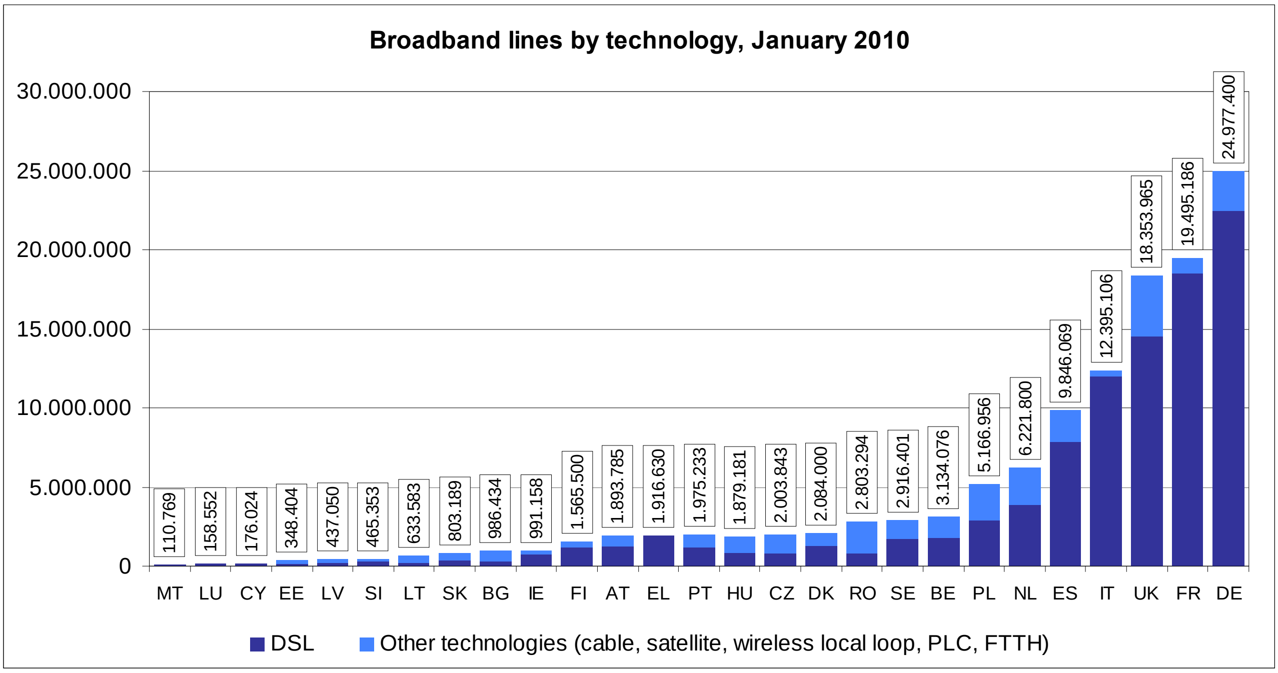
**Romania**: All data are provisional.

**Sweden**: Data on simple resale is an estimate; data as of 30 June 2009.

**Slovakia**: Figures on fibre, FWA, cable modem, other traditional wire line, PLC and Other are estimates.

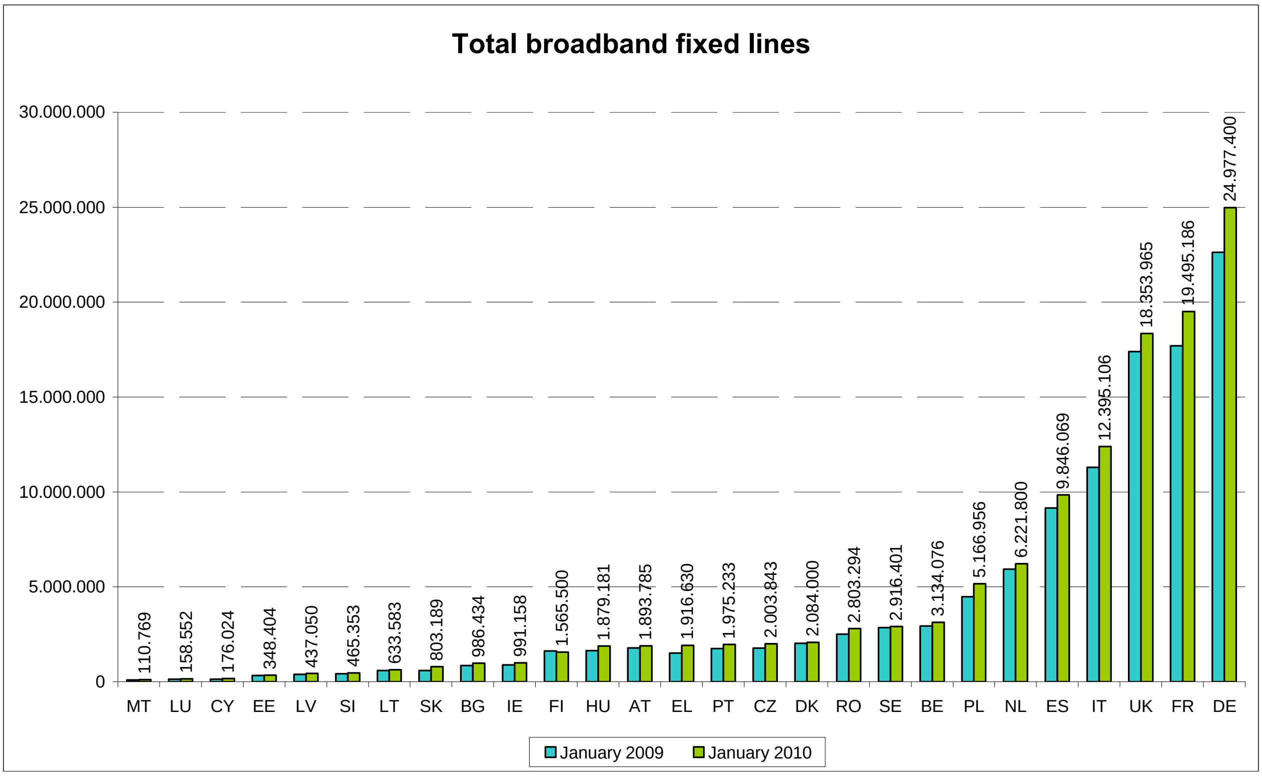
**United Kingdom**: FWA includes satellite. Some figures are estimated

**Figure 89: EU fixed broadband lines by Member States, January 2010**




The following chart presents the number of broadband lines per Member State on 1 January 2009 and 1 January 2010.

**Figure 90: Total fixed broadband retail lines**



The following two charts show the breakdown of broadband lines according to the two main groups of types of technologies. Figure 91 shows the number of DSL lines. Amongst the technologies other than DSL (Figure 92), cable modem is the most common technology. Other technologies are still marginal, though some (fibre to the home and WLL) are quickly developing.

**Figure 91: Total DSL retail lines**

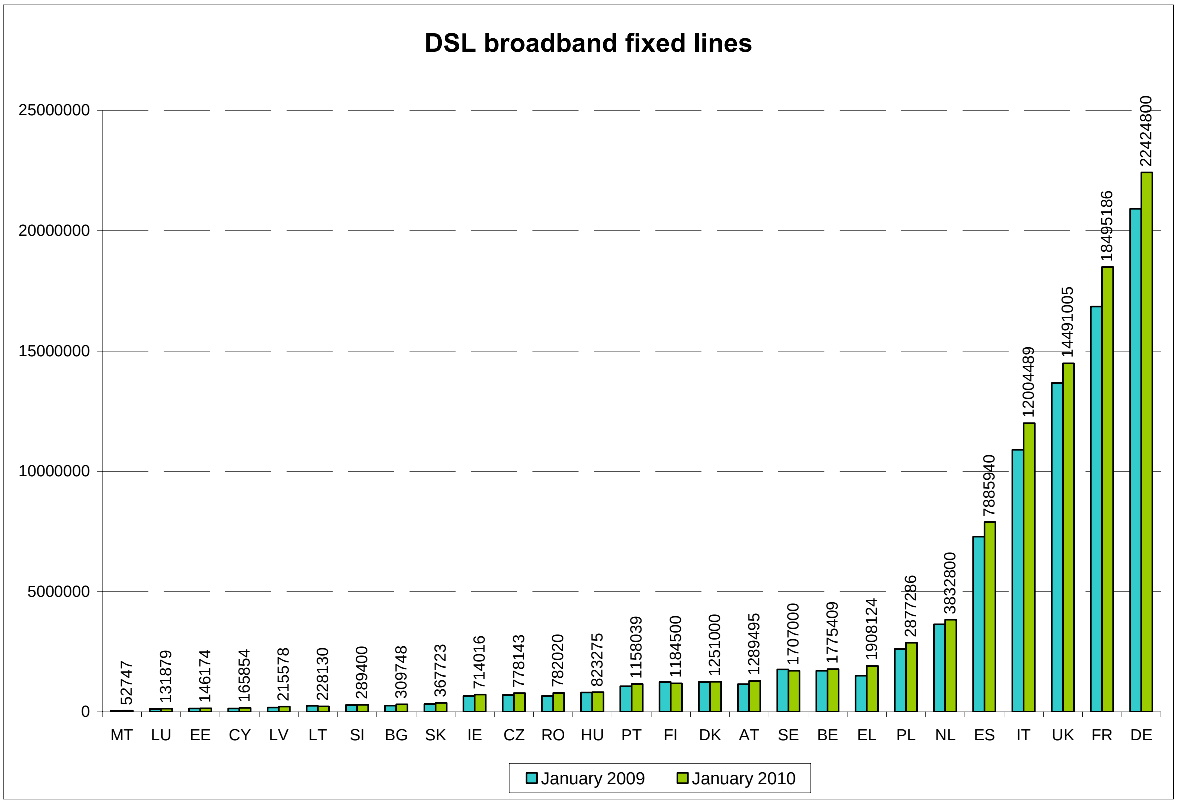
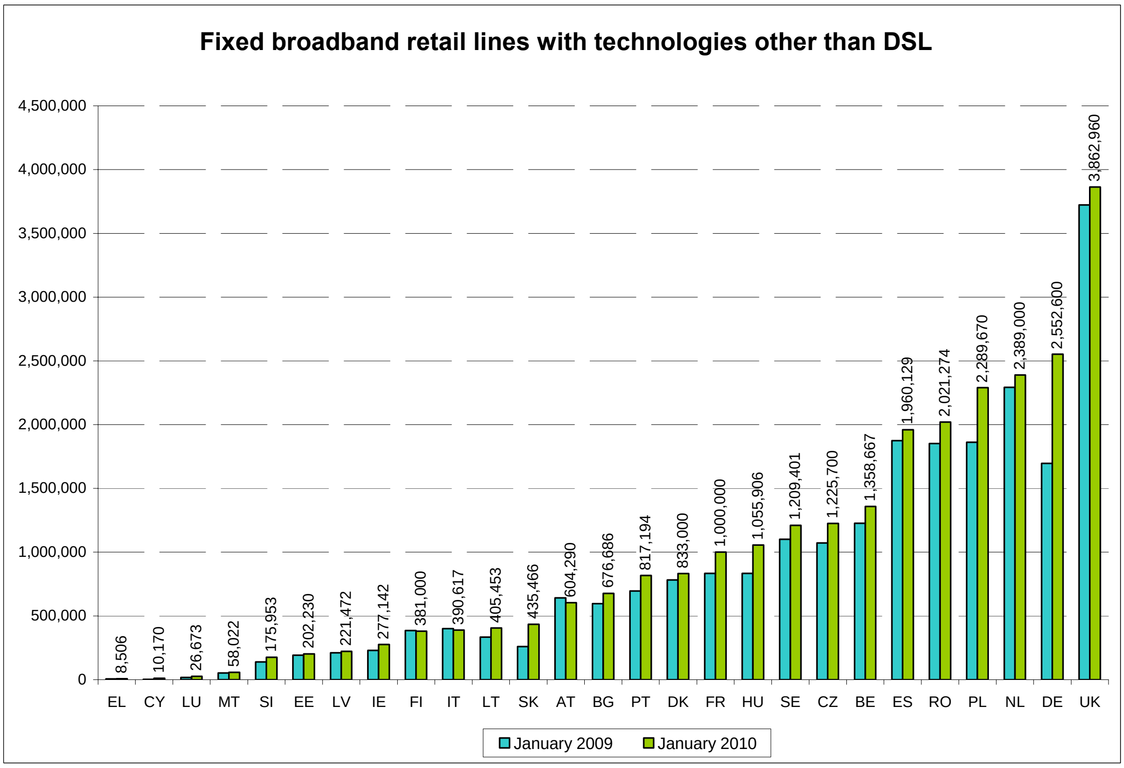



**Figure 92: Total fixed broadband retail lines with technologies other than DSL**



The following charts provide information on the national broadband market according to the technology used and the type of operator. Data show that DSL is the predominant technology in the EU. On average 79% of the EU broadband lines use DSL technologies, while in nine countries DSL takes less than 50% of the overall market.

**Figure 93: Fixed broadband lines by technology (January 2010)**

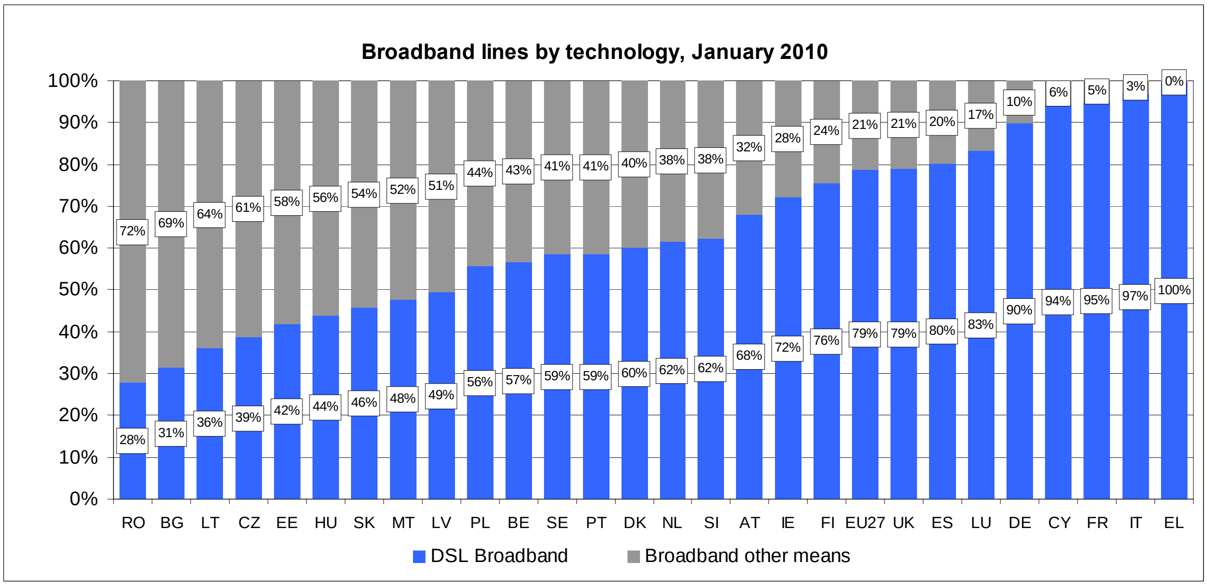
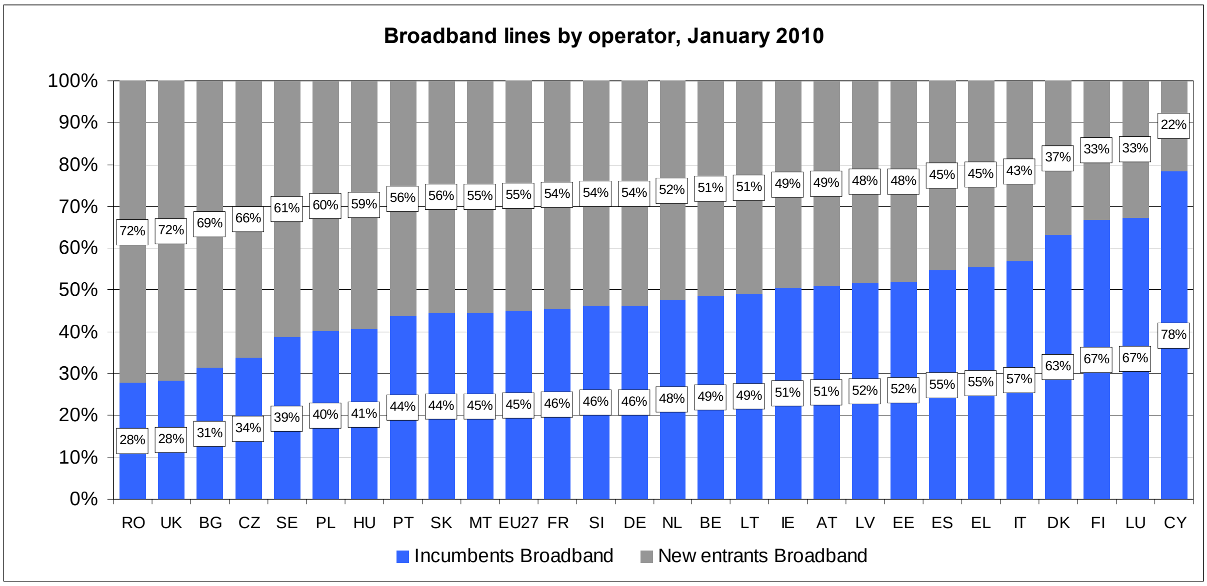
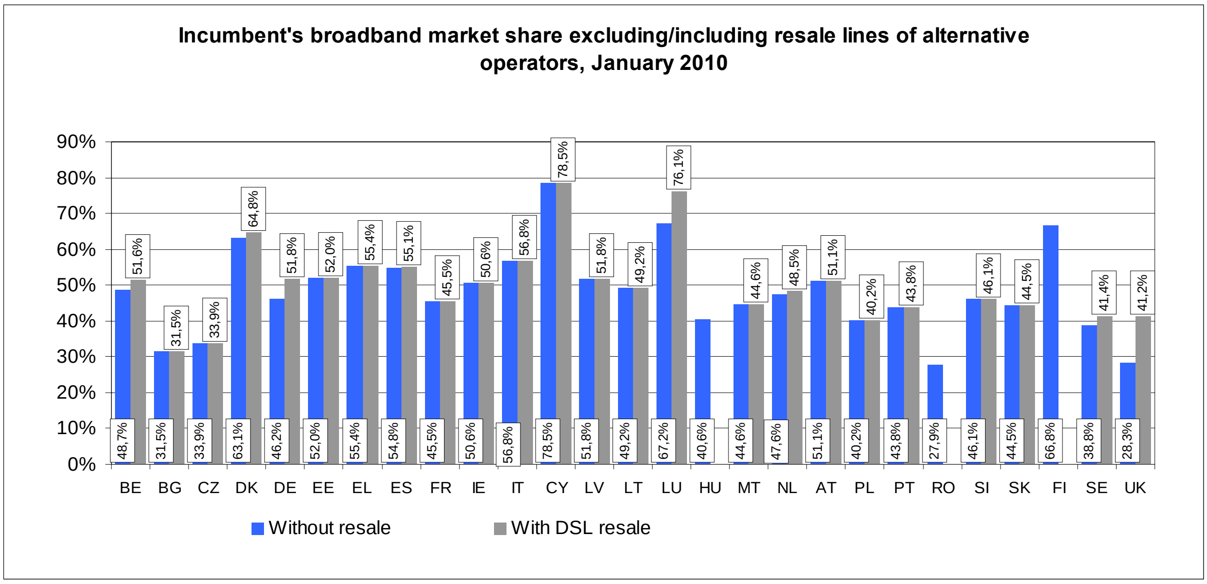



**Figure 94: Fixed broadband access lines by operator (January 2010)**



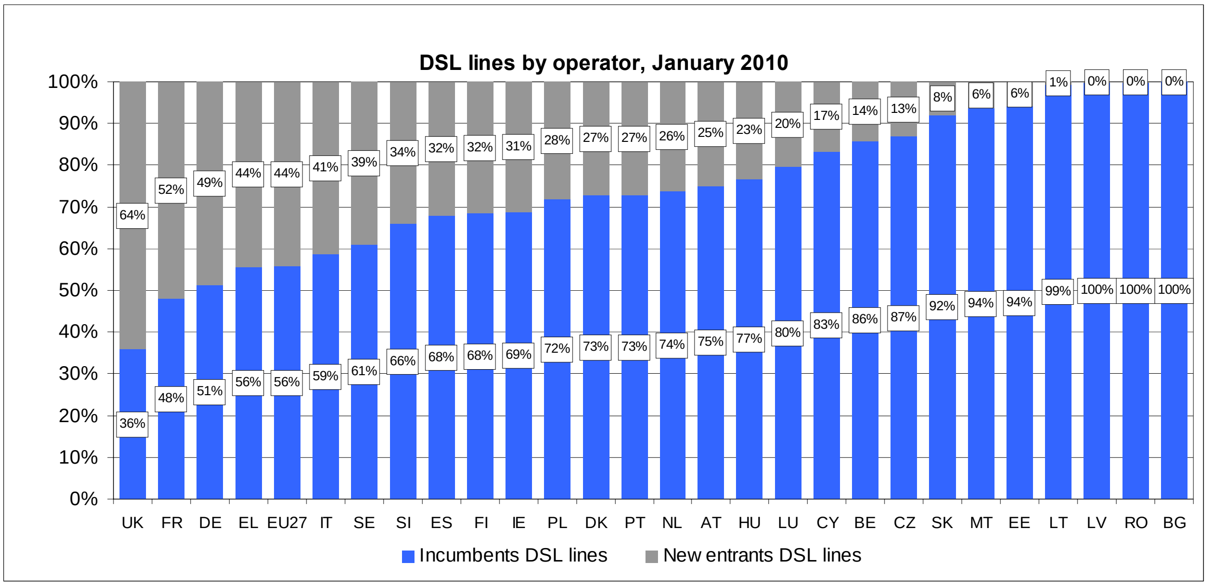
With the exception of a number of countries (BE, DK, DE, LU, SE and UK), differences in the incumbents' market share depending on whether DSL resale lines are included or not are now negligible.

**Figure 95: Incumbent's broadband market share excluding/including resale lines of alternative operators (January 2010)**

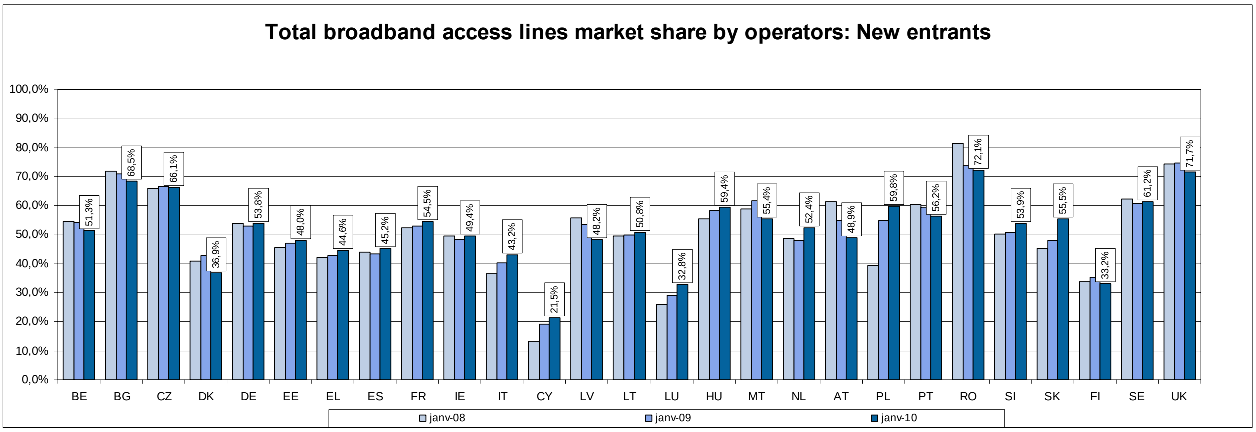



Data on resale not available for Hungary, Romania and Finland.

**Figure 96: DSL access lines per operator (January 2010)**



## Figure 97: Trends in the fixed broadband retail lines market share: New entrants




## Figure 98: DSL market share: New entrants

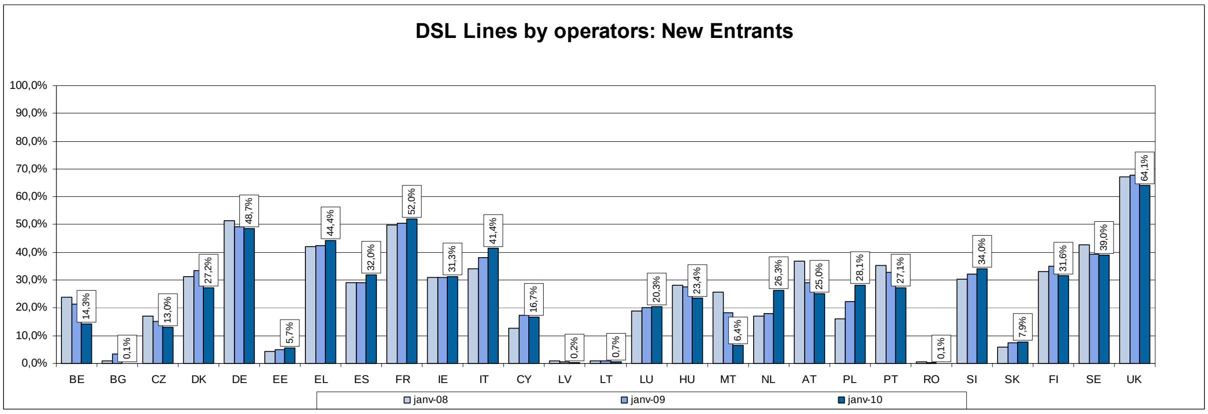


**Figure 99: Total broadband market share by technologies: DSL**

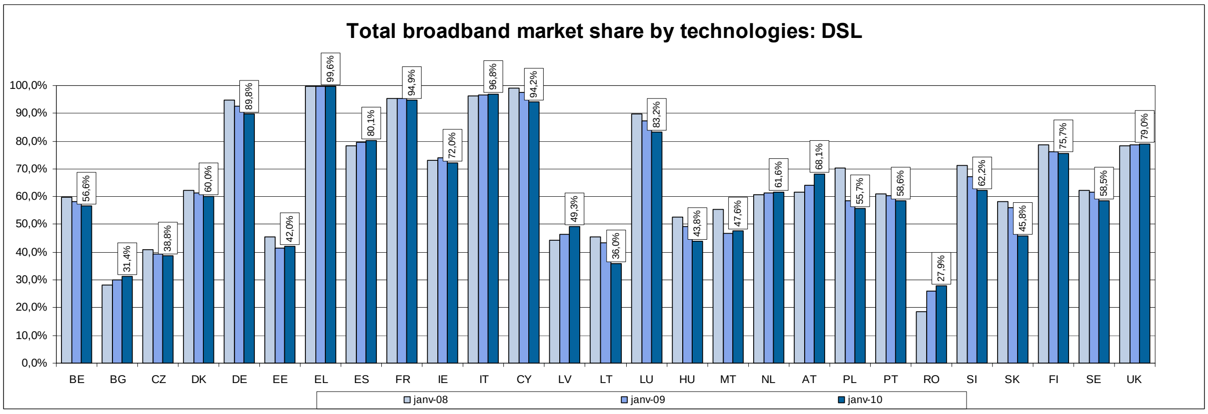
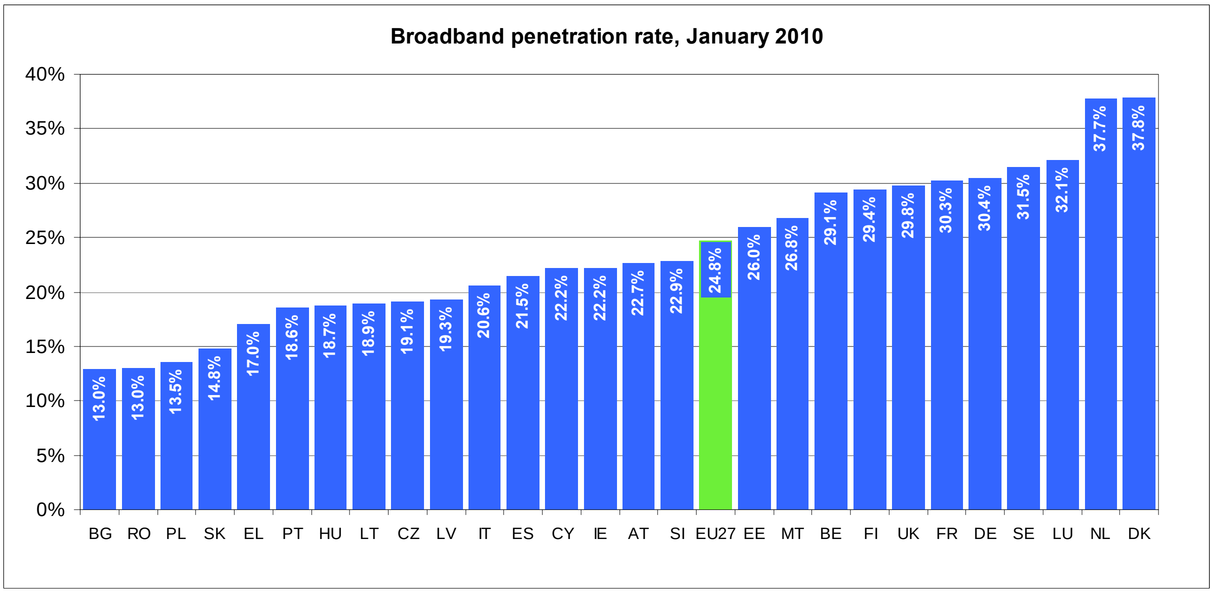



**Figure 100: EU broadband penetration rate (January 2010)**



**Retail broadband lines by speeds**

The next table shows how the fixed broadband lines have been distributed by various speeds as of 1 January 2010.

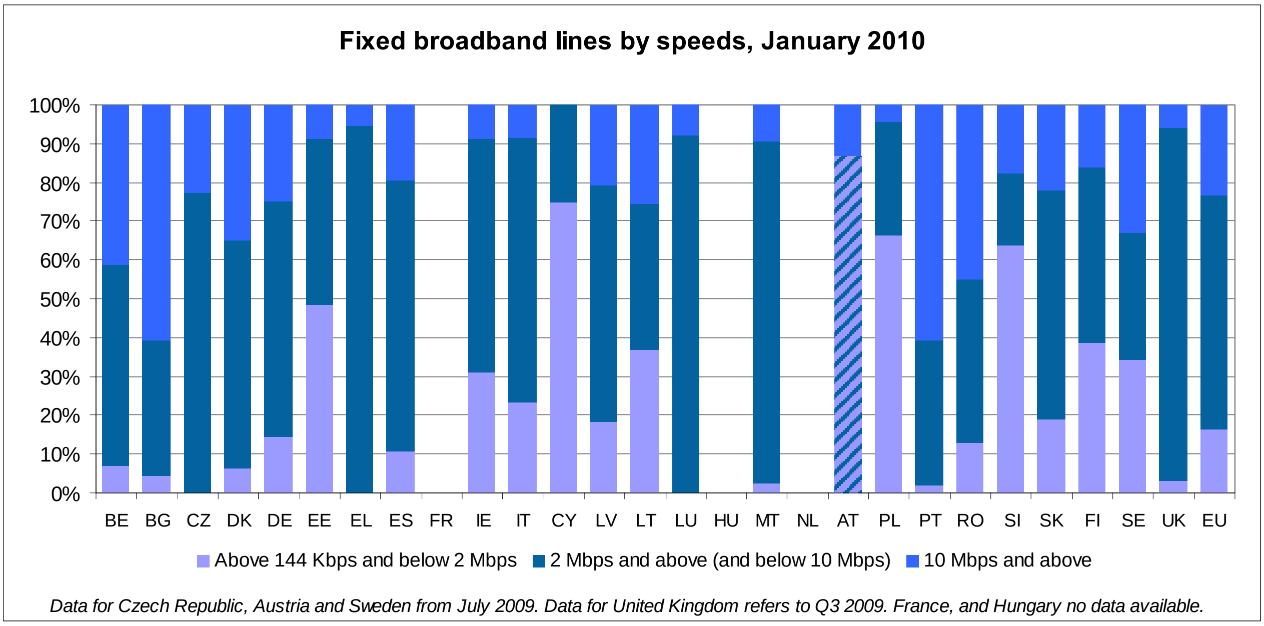
**Only 75% of all retail lines available in January 2010 are presented below.**

**Table 3: Fixed broadband lines by speeds in the EU by country**

| | Above 144 Kbps and below 2 Mbps | 2 Mbps and above (and below 10 Mbps) | 10 Mbps and above | TOTAL | Above 144 Kbps and below 2 Mbps | 2 Mbps and above (and below 10 Mbps) | 10 Mbps and above |
|---|---|---|---|---|---|---|---|
| BE | 211 814 | 1 582 576 | 1 248 986 | 3 043 376 | 6.96% | 52.00% | 41.04% |
| BG | 43 167 | 345 455 | 597 812 | 986 434 | 4.38% | 35.02% | 60.60% |
| CZ | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| DK | 129 000 | 1 197 000 | 715 000 | 2 041 000 | 6.32% | 58.65% | 35.03% |
| DE | 3 630 970 | 15 076 250 | 6 153 080 | 24 860 300 | 14.61% | 60.64% | 24.75% |
| EE | 168 660 | 149 070 | 30 522 | 348 252 | 48.43% | 42.81% | 8.76% |
| EL | 0 | 1 003 473 | 57 348 | 1 060 821 | 0.00% | 94.59% | 5.41% |
| ES | 1 040 561 | 6 773 976 | 1 879 950 | 9 694 487 | 10.73% | 69.87% | 19.39% |
| FR | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| IE | 308 026 | 595 037 | 88 095 | 991 158 | 31.08% | 60.03% | 8.89% |
| IT | 2 878 165 | 8 472 461 | 1 044 480 | 12 395 106 | 23.22% | 68.35% | 8.43% |
| CY | 131 507 | 44 334 | 183 | 176 024 | 74.71% | 25.19% | 0.10% |
| LV | 79 196 | 267 580 | 90 274 | 437 050 | 18.12% | 61.22% | 20.66% |
| LT | 232 925 | 238 354 | 162 304 | 633 583 | 36.76% | 37.62% | 25.62% |
| LU | 20 | 146 017 | 12 515 | 158 552 | 0.01% | 92.09% | 7.89% |
| HU | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| MT | 2 760 | 97 689 | 10 320 | 110 769 | 2.49% | 88.19% | 9.32% |
| NL | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| AT | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| PL | 3 424 993 | 1 512 668 | 222 879 | 5 160 540 | 66.37% | 29.31% | 4.32% |
| PT | 35 027 | 744 386 | 1 195 820 | 1 975 233 | 1.77% | 37.69% | 60.54% |
| RO | 85 895 | 1 566 529 | 2 773 732 | 4 426 156 | 1.94% | 35.39% | 62.67% |
| SI | 297 411 | 85 993 | 81 949 | 465 353 | 63.91% | 18.48% | 17.61% |
| SK | 151 108 | 474 482 | 177 598 | 803 188 | 18.81% | 59.07% | 22.11% |
| FI | 604 800 | 710 500 | 250 200 | 1 565 500 | 38.63% | 45.38% | 15.98% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **SE** | 1 314 409 | 1 257 798 | 1 264 970 | 3 837 177 | 34.25% | 32.78% | 32.97% |
| **UK** | 319 452 | 14 048 355 | 3 548 410 | 17 916 217 | 1.78% | 78.41% | 19.81% |
| **Total** | 15 089 867 | 56 389 983 | 21 606 426 | 93 086 276 | 16.21% | 60.58% | 23.21% |

**Figure 101: EU countries by speeds – retail fixed broadband lines**




**Germany**: Figures are estimates.

**Romania**: All data are provisional.

**Slovakia**: Figures of alternative operators on speeds are estimates.

**Czech Republic, France, Hungary, the Netherlands and Austria**: Data not available.

**Italy**: Figures on the incumbent operator are estimates.

**Sweden:** Data as of 30 June 2009.

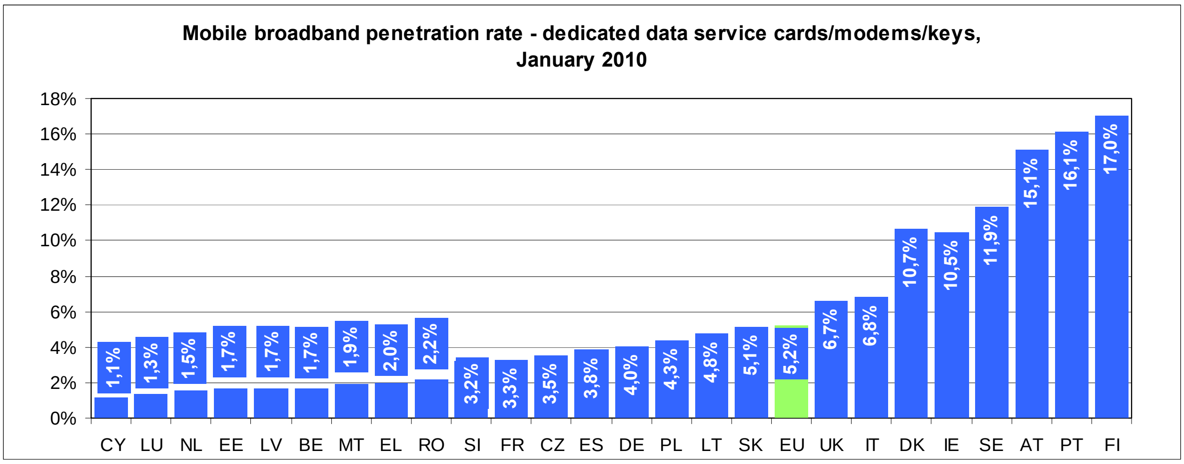
**United Kingdom:** Data refer to Q3 2009

## 4.4 Retail mobile broadband access

**Mobile broadband**

| Country | All available terminals, SIM cards & mobile BB dedicated data services | Mobile active users - (access to dedicated data services via modems/cards and other active 3G equivalent advanced data users using mobile terminals) | Mobile BB dedicated data services cards/modems/keys only |
|---|---|---|---|
| AT | 4.522.000 | N.a. | 1.264.000 |
| BE | 898.012 | 614.831 | 182.614 |
| BG | N.a. | 520.912 | N.a. |
| CY | 928.564 | 94.537 | 9.129 |
| CZ | N.a. | 58.286 | 370.638 |
| DE | 26.000.000 | 19.000.000 | 3.300.000 |
| DK | 1.968.000 | 1.635.000 | 587.000 |
| EE | N.a. | 250.000 | 22.336 |
| EL | 3.922.888 | 1.374.624 | 225.325 |
| ES | 23.129.655 | 14.719.443 | 1.754.330 |
| FI | 2.933.000 | 2.933.000 | 908.000 |
| FR | 15.400.000 | N.a. | 2.100.000 |
| HU | N.a. | N.a. | N.a. |
| IE | 2.220.510 | 1.662.666 | 466.969 |
| IT | 32.923.000 | 9.891.000 | 4.094.900 |
| LT | 460.083 | 226.361 | 160.385 |
| LU | 408.601 | 105.684 | 6.564 |
| LV | 2.745.069 | 391.471 | 37.917 |
| MT | 97.600 | 62.345 | 7.925 |
| NL | N.a. | N.a. | 252.000 |
| PL | 41.891.439 | 14.197.701 | 1.658.736 |
| PT | 5.984.053 | 2.580.175 | 1.713.673 |
| RO | 3.005.000 | 1.647.000 | 476.000 |
| SE | N.a. | 5.888.179 | 1.099.761 |
| SI | 2.165.849 | 577.392 | 65.414 |
| SK | 2.236.759 | 1.239.157 | 278.554 |
| UK | 25.503.490 | 15.300.000 | 4.100.000 |
| EU | 199.343.572 | 94.969.764 | 25.142.170 |

**Figure 102: EU countries by number of dedicated data service cards/modems/keys per 100 population**




**Austria**: Figures are estimates based on Q3 2009. Mobile broadband dedicated data services via cards/modems/keys are defined as the number of contracts with included data volume of 250 MB or more per month as well as dedicated prepaid data services (UMTS/HSPA) including at least 750 MB downloaded per quarter. If the Commission's definition was applied, the above figure would be higher.

**Bulgaria, Hungary**: Data not available

**Germany**: Figures are estimates.

**Denmark**: As of the second half of 2009 the definition on mobile broadband dedicated data services via cards/modems/keys has been adjusted.

**Estonia**: Number of active mobile broadband lines is an estimate.

**Greece**: `Total active mobile broadband lines` refers to subscribers of 3G services, using a 3G device or data card, who have made use of any retail or wholesale service during the past 3 months. Data on subscribers who have made use of a 3G data service in the past 3 months are not available. `Mobile broadband access through dedicated data services via cards/modems/keys` refers to subscribers of 3G services, using a 3G data card (excluding 3G handsets) and who have made use of the data service in the past 3 months.

**France**: `Mobile broadband access through dedicated data services via cards/modems/keys` includes all internet SIM cards as of Q4 2009.

**Italy:** Figures are estimates.

**The Netherlands:** All data are as of July 2009.

**Portugal**: Data excludes MVNO figures. Data on `Mobile broadband access through dedicated data services via cards/modems/keys` is an estimate.

**Romania**: All data are provisional.

**Sweden**: `Total active mobile broadband lines` refers to active post paid subscriptions and pre-paid cards for data traffic and voice services, and subscriptions primarily used for data traffic in mobile networks with transfer speeds over 144 kbit/s. `Mobile broadband access through dedicated data services via cards/modems/keys` refers to active subscriptions primarily used for data traffic in mobile networks with transfer speeds over 144 kbit/s. Data is as of 30 June 2010.

**United Kingdom**: Figures are estimates as of end of December 2009.

## 4.5 Price of the Local Loop

This section illustrates the cost of connection and monthly rental for both Fully Unbundled Access (full LLU) and Shared Access (SA) to the loop. Monthly rental and connection fees are presented as well as the total average monthly cost, which is calculated as the monthly fee + the connection fee amortised over three years.

Unless otherwise stated in the footnotes, connection fees include the technical expertise to assess the speed that can be conveyed through and disconnection fees (where applicable). Furthermore, only the price for a single line is presented here (charges may be different in the case of subsequent access). It is assumed that the loop is active and it will be used to provide both telephony and DSL services. Unless otherwise stated, figures exclude a whole range of additional one-off costs that may exist in some Member States like cost of co-location, cost for the cable termination point, cost for installation at the end-user premises, etc.

Data is not always comparable with those of the previous reports, due to changes in methodology in some countries.

The following charts illustrate the monthly total cost for the full Local Loop Unbundling and Shared Access (connection and monthly fees) based on the assumption that the loop is used for three years. The EU average since 2005 is also shown.

**Figure 103: Monthly average total cost**

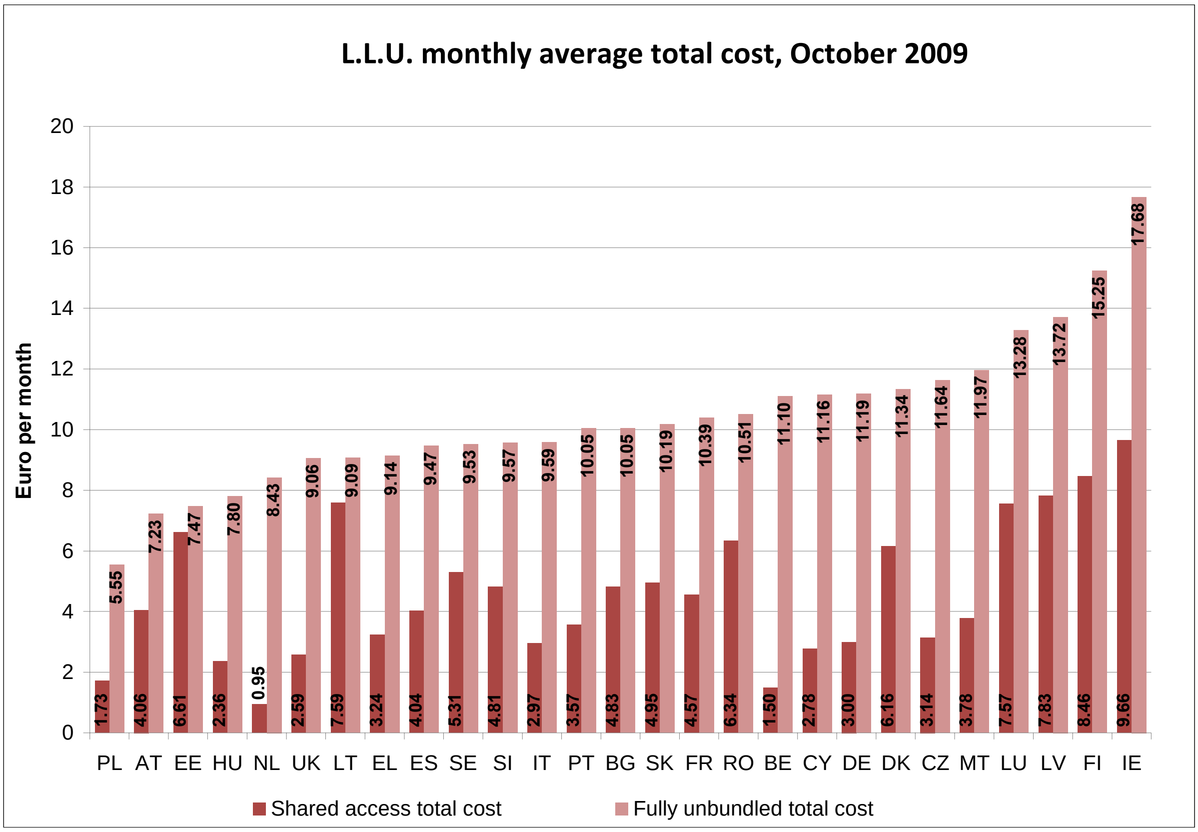


**Figure 104: LLU Monthly average total cost**

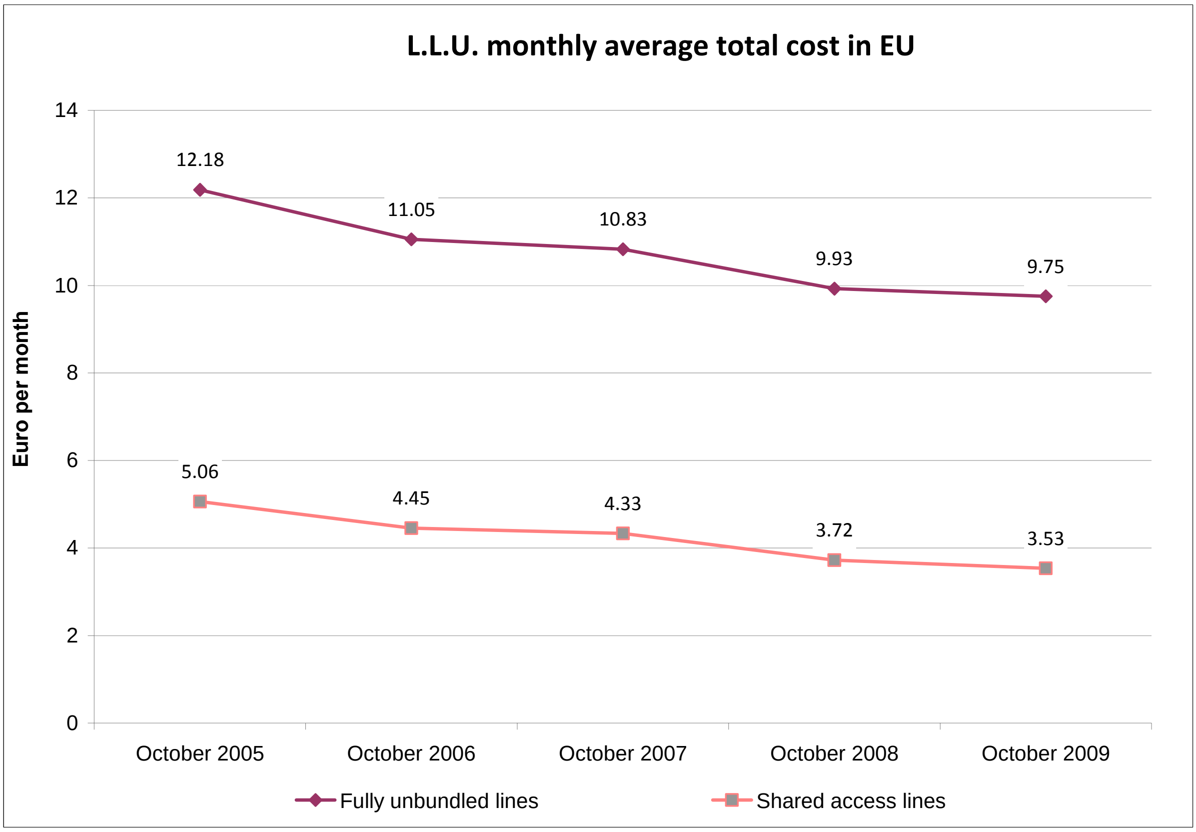


**Figure 105: Monthly average total cost per fully unbundled loop**

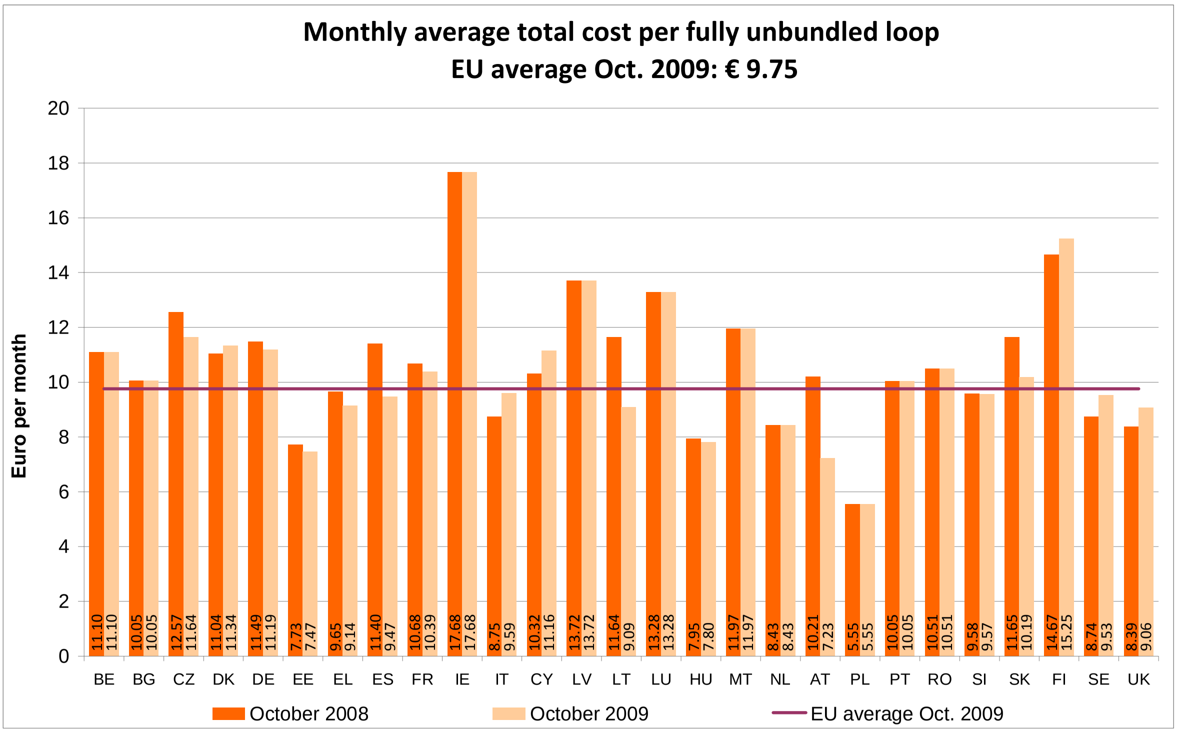



**Figure 106: Monthly total cost per shared access**

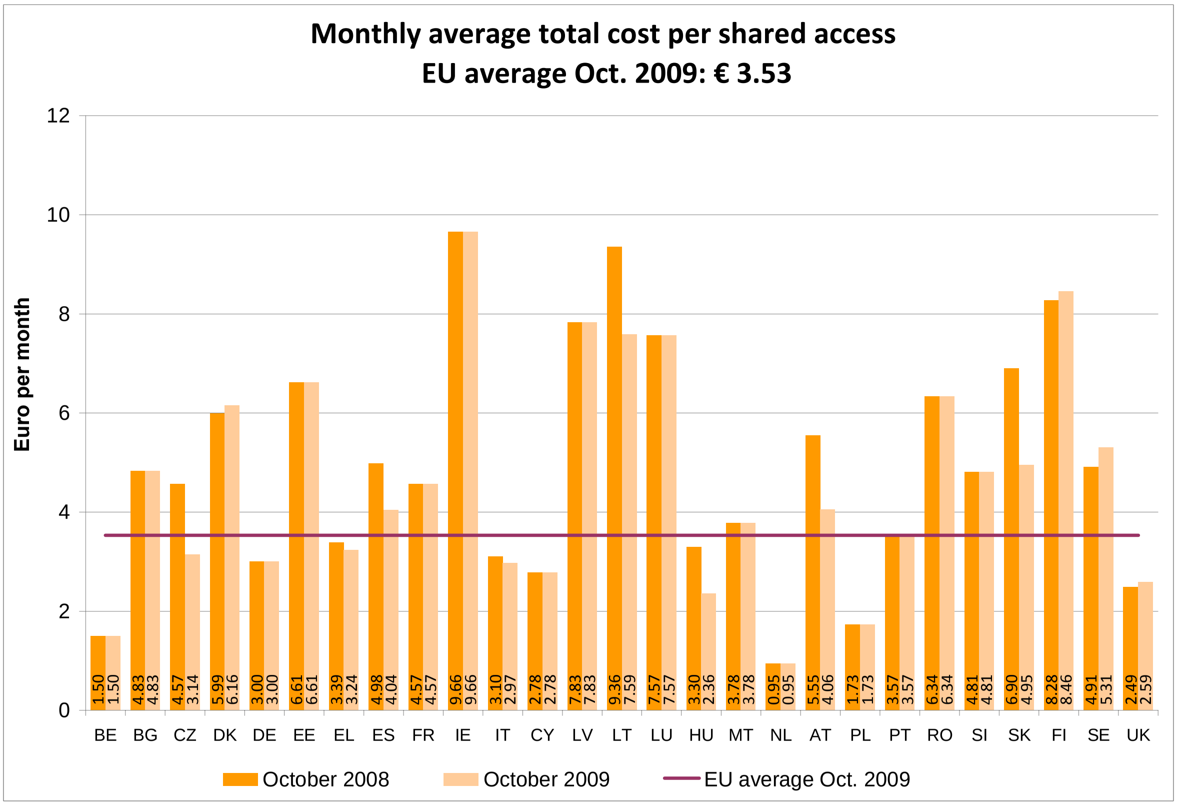
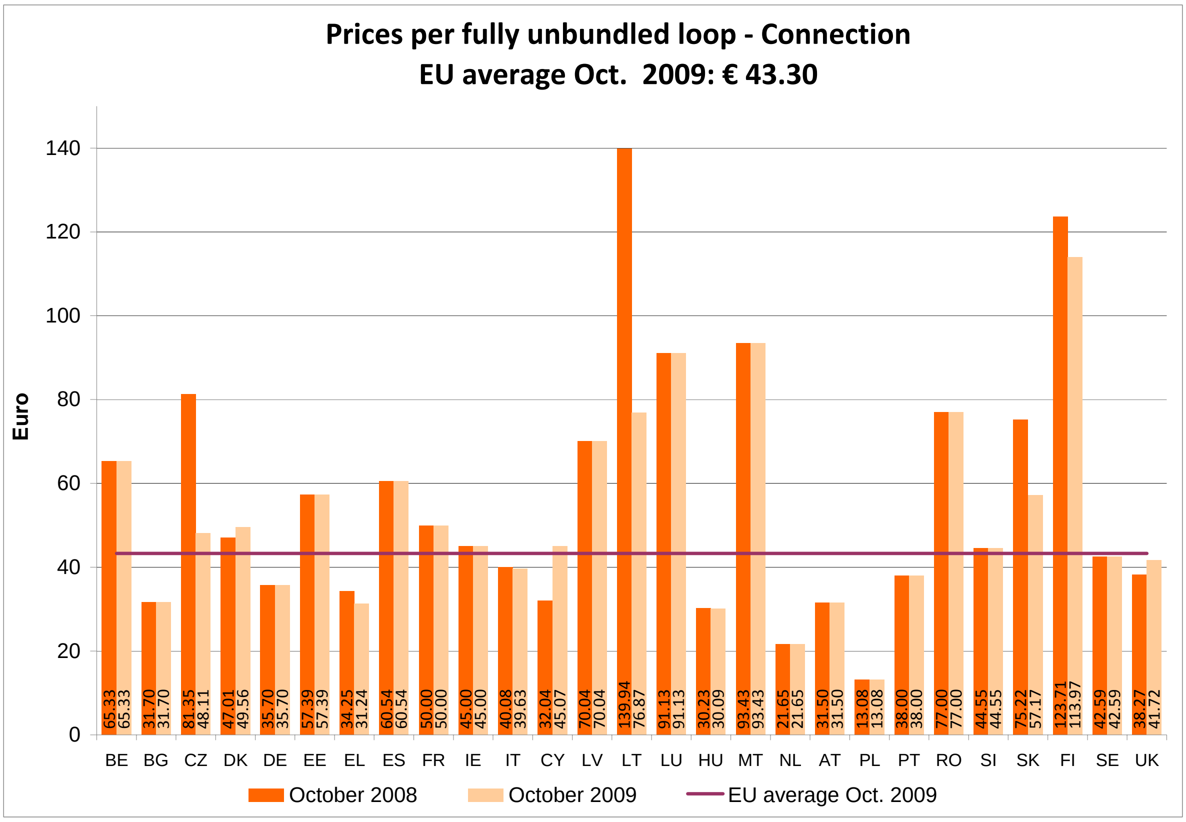


**Figure 107: Prices per fully unbundled loop Connection**




**Bulgaria**: Cost of the test of access is not included. Disconnection fees are included (15 BGN, €7.67).

**Czech Republic**: Cost of test and disconnection fees are not calculated separately. Disconnection fees are only charged for co-location.

**Cyprus**: Costs are € 45.07 for active loops and €103.67 for inactive loops in 2009.

**Denmark**: No disconnection fees are included.

**Spain**: For full LLU connection the cost of the test is included, too. The price of the NTU (Network Termination Unit) installation is included.

**Italy**: Price of active pair with NP is presented (price of active pair without NP is €35.88). Cost to asses the speed ("qualification cost") is €11.56. This cost is optional and only due if the line was not previously used for xDSL. Disconnection charge is €31.93 (€32.37 in 2008), which is not due if the customer migrates to a different OLO or to the incumbent.

**Latvia**: Connection (7.78 LVL, €11.1) and testing (27.08 LVL, €38.5) are included.

**Lithuania**: Figures include the cost of the test to access and the disconnection cost.

**Malta**: Disconnection fees are included (Full unbundled: €33). The splitter is to be procured by OAOs. Data are different compared to those in the 14th Progress Report as they include disconnection fees.

**Austria**: In case of full LLU there is no installation or connection fee during promotion periods.

**Poland**: Co-location costs are not included. Cost of non-active loops is €33.88 (143.83 PLN).

**Portugal**: The splitter is not provided by the incumbent. The test to assess the speed is not requested.

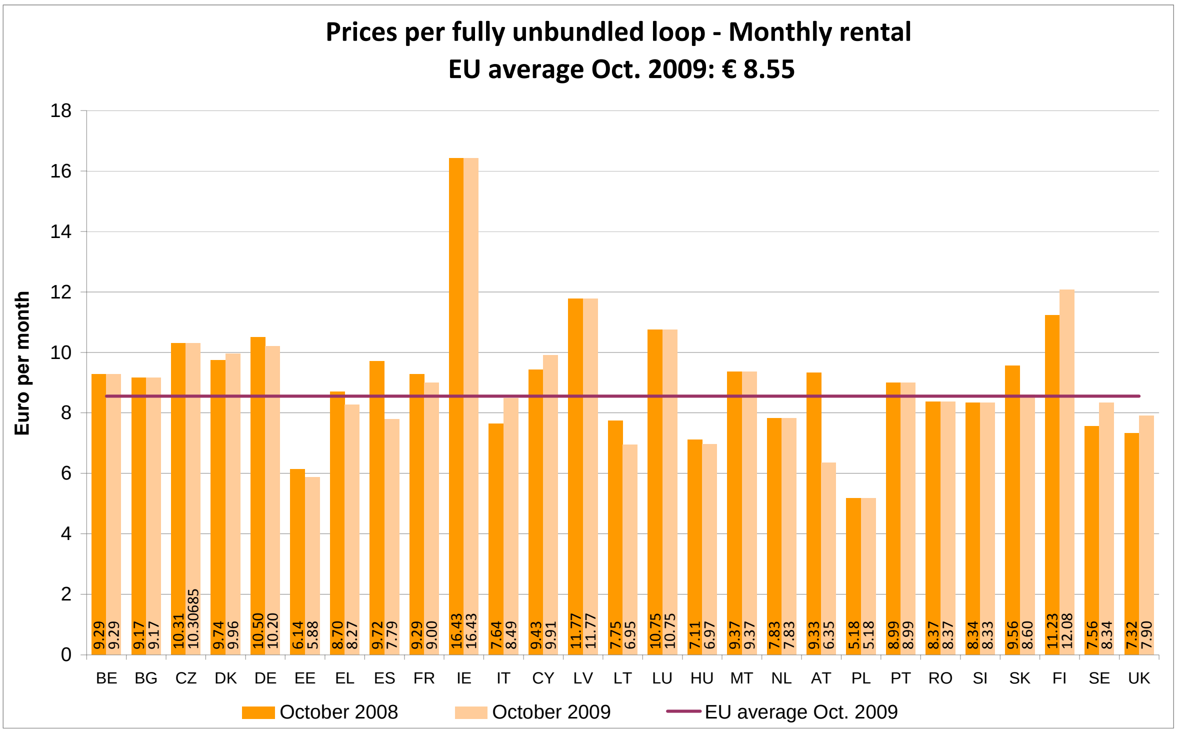
**Netherlands**: Price includes disconnection fees and the price of the test to assess the speed of the access line.

**Romania**: In case of full LLU connection the cost of the test to assess the speed and disconnection fees are included.

**Slovakia**: Costs of the test to assess the speed and disconnection fees are excluded

**Finland**: Data are the weighted average of 31 SMP operators providing LLU.

**Figure 108: Prices per fully unbundled loop Monthly rental**



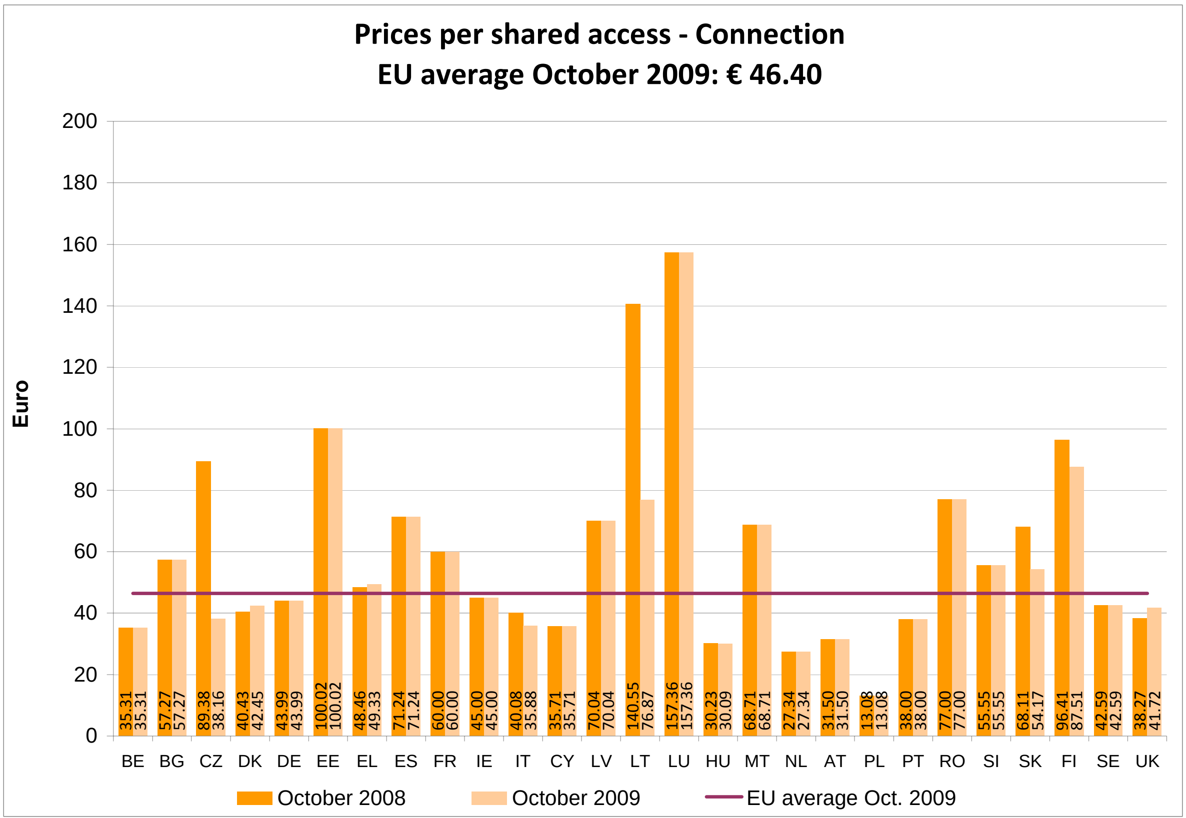

**Belgium**: Blend of installations with and without customer visit. An additional €12.01 is charged if customer moves or leaves DSL. If customer changes from DSL operator no disconnection fee is charged.

**Germany**: New decision was taken in March 2009.

**Austria**: Regular LLU price was lowered to the value of the former promotional price.

**Finland**: Data are the weighted average of 31 SMP operators providing LLU.

**Figure 109: Prices per shared access - Connection**




**Bulgaria**: Cost of the test of access is not included. Disconnection fees are included (15 BGN, € 7.67).

**Denmark**: No disconnection fees are included.

**Spain**: The cost of the test is included. The price of the splitter provided by the incumbent is included.

**Czech Republic**: Cost of test and disconnection fees are not calculated separately. Disconnection fees are only charged for co-location. The price of the splitter is included in the monthly rental for shared access.

**Italy**: Cost to asses the speed ("qualification cost") is €11.56. This cost is optional and only due if the line was not previously used for xDSL. Disconnection charge is €31.93 (€32.37 in 2008), which is not due if the customer migrates to a different OLO or to the incumbent.

**Latvia**: Connection (7.78 LVL, €11.1) and testing (27.08 LVL, €38.5) are included.

**Lithuania**: The cost of the test and disconnection are included. Frequency splitter's price is included.

**Malta**: Disconnection fees are included (€26.76). The splitter is to be procured by OAOs. Data are different compared to those in the 14th Progress Report as they include disconnection fees.

**Austria**: No installation or connection fee applies during promotion periods.

**Netherlands**: Price includes disconnection fees and the price of the test to assess the speed of the access line.

**Poland**: Co-location and splitter's cost are not included. Cost of non-active loops is €33.88 (143.83 PLN).

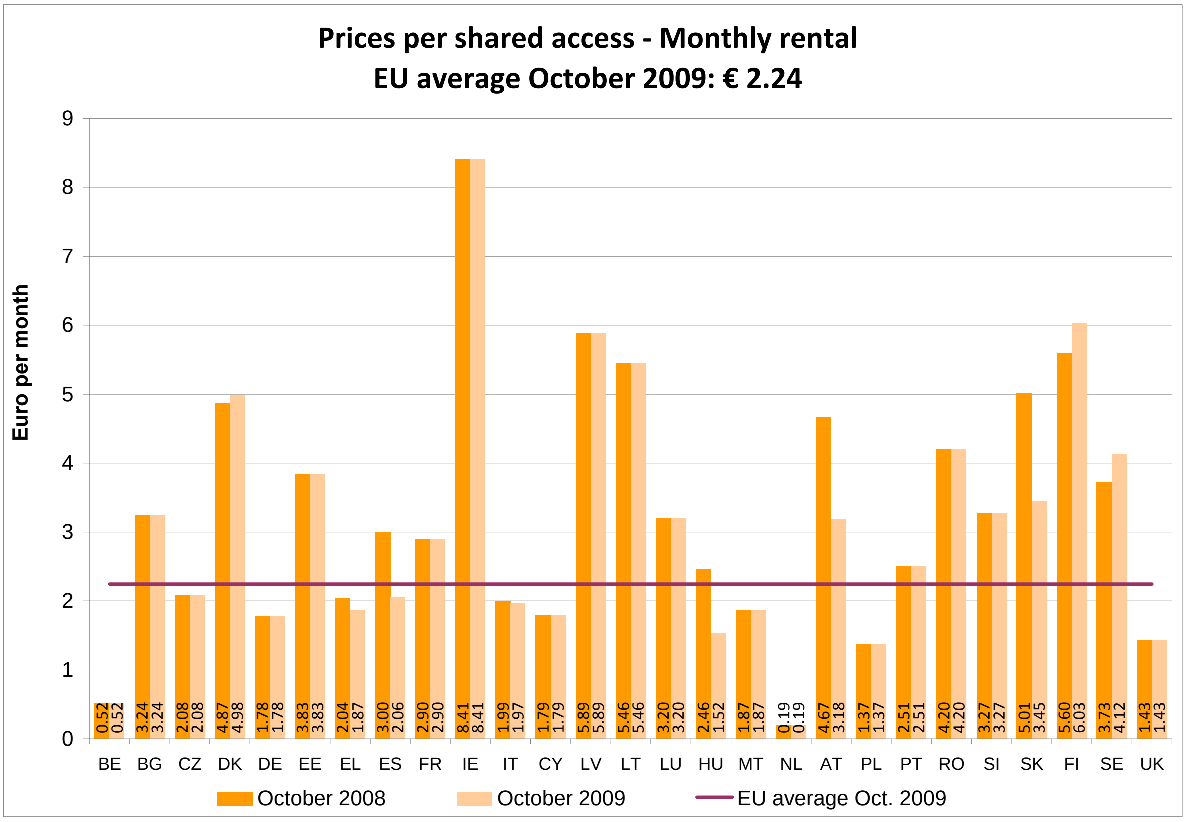
**Portugal**: The splitter is not provided by the incumbent. The test to assess the speed is not requested.

**Romania**: Splitter price is included.

**Slovakia**: Costs of the test to assess the speed, disconnection fees and the price of the splitter are excluded

**Finland**: Data are the weighted average of 31 SMP operators providing LLU.

**Figure 110: Prices per shared access – Monthly rental**




**Belgium**: An additional €23.12 is charged if customer moves or leaves DSL. If customer changes from DSL operator no disconnection fee is charged.

**France**: Price includes splitters.

**Austria**: In 2008 the Shared Access monthly rental was 50% of full LLU.

**Finland**: Data are the weighted average of 31 SMP operators providing LLU.

## 5. CONVERGED SERVICES - BUNDLED OFFERS

Fixed voice telephony offers are increasingly bundled to other services (e.g.: broadband internet or television). Although bundling is hard to measure (sometimes services in one offer are invoiced separately, sometimes not), it is becoming a key element of the fixed electronic communications markets: according to the questionnaires sent by NRAs 15.5% of the European population already subscribes to a bundled offer with a single bill.

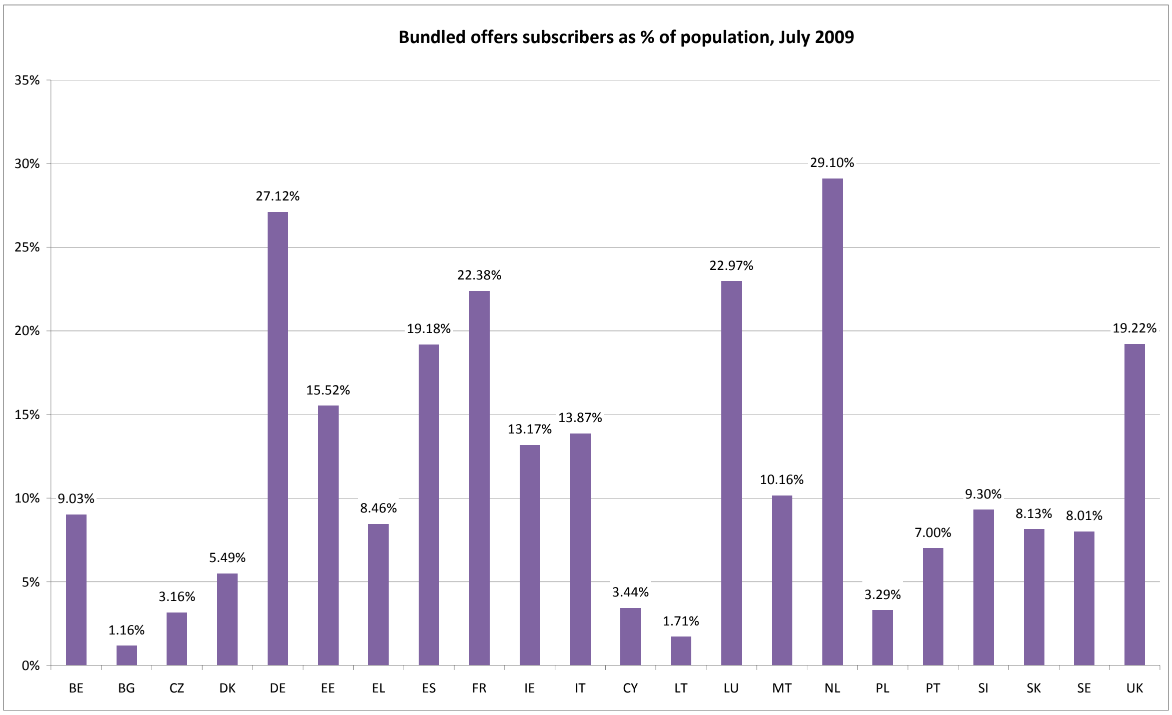
Actually, in this case, 'Bundled offer' means a commercial offer of a single operator which includes two or more services such as fixed and mobile public telephony services, access to TV programmes and broadband internet access, offered for a single price and as part of one bill.

Although not every Member State is collecting data to measure the extent of this market development, the situation is likely to improve in the following Reports.

Data in this section is purely indicative and can be completed with the Eurostat E-Communications Household survey. The differences with this Progress Report results can be attributed to a different definition (due to the billing of the services) and the lack of data for some countries.

The charts show the penetration of bundled services (measured as the % of the population subscribing to such offers) and the number of operators providing these offerings.

**Figure 111: Bundled offers (double, triple and quadruple play offers) subscribers as a % of population.**




**Bulgaria**: Data of subscribers are as of 31 December 2008.

**Denmark**: Triple play includes internet, telephony (either mobile or fixed) and TV, so only the subtotal is reported.

**Germany**: In case of Triple Play cable operators are not included. Access to TV programs, broadband internet and fixed voice telephony is marketed as a single offer by cable operators but not for a single price. Therefore, bundled offers provided by cable operators do not go in line with the definition given by European Commission. Data on mobile voice telephony & BB are estimates.

**Latvia**, **Hungary**, **Austria**, **Finland**, **Romania**: Data are not available.

**Netherlands**: Data are as of 31 December 2008.

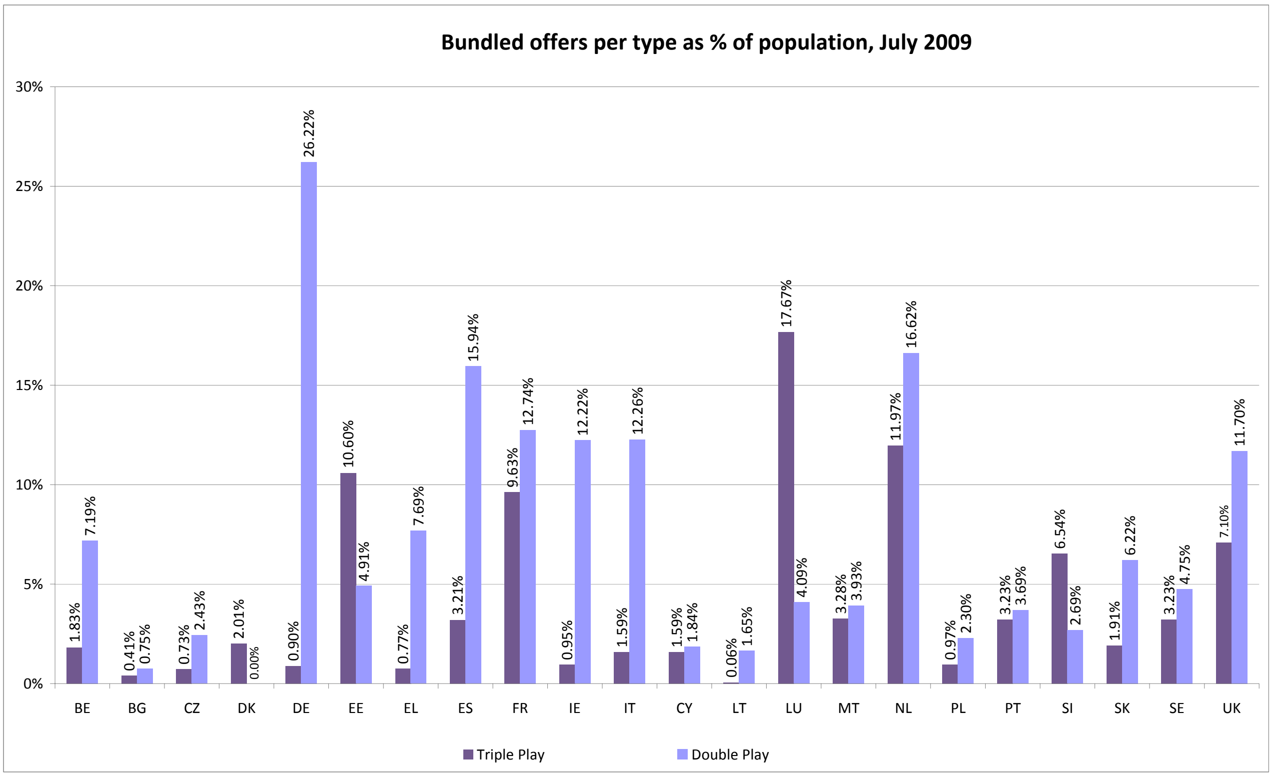
**Poland**: Data are from 54 undertakings.

**Portugal**: All figures refer to 31 December 2008.

**Slovenia**: Only pure bundling is included (single offer for a single price). Tied offers where the purchase of one offer is conditional on the purchase of another are not included.

**United Kingdom**: Data are as of 1 March 2009.

**Figure 112: Bundled offers per type as a % of population**




**Denmark**: Data are on triple play only, which comprises internet, telephony (either mobile or fixed) and TV so only the subtotal is reported.

**Latvia**, **Hungary**, **Austria**, **Finland** **Romania**: Data are not available.

**Luxembourg:** Triple play is in general 'fixed voice telephony + fixed BB + mobile'

**Netherlands**: Data are as of 31 December 2008

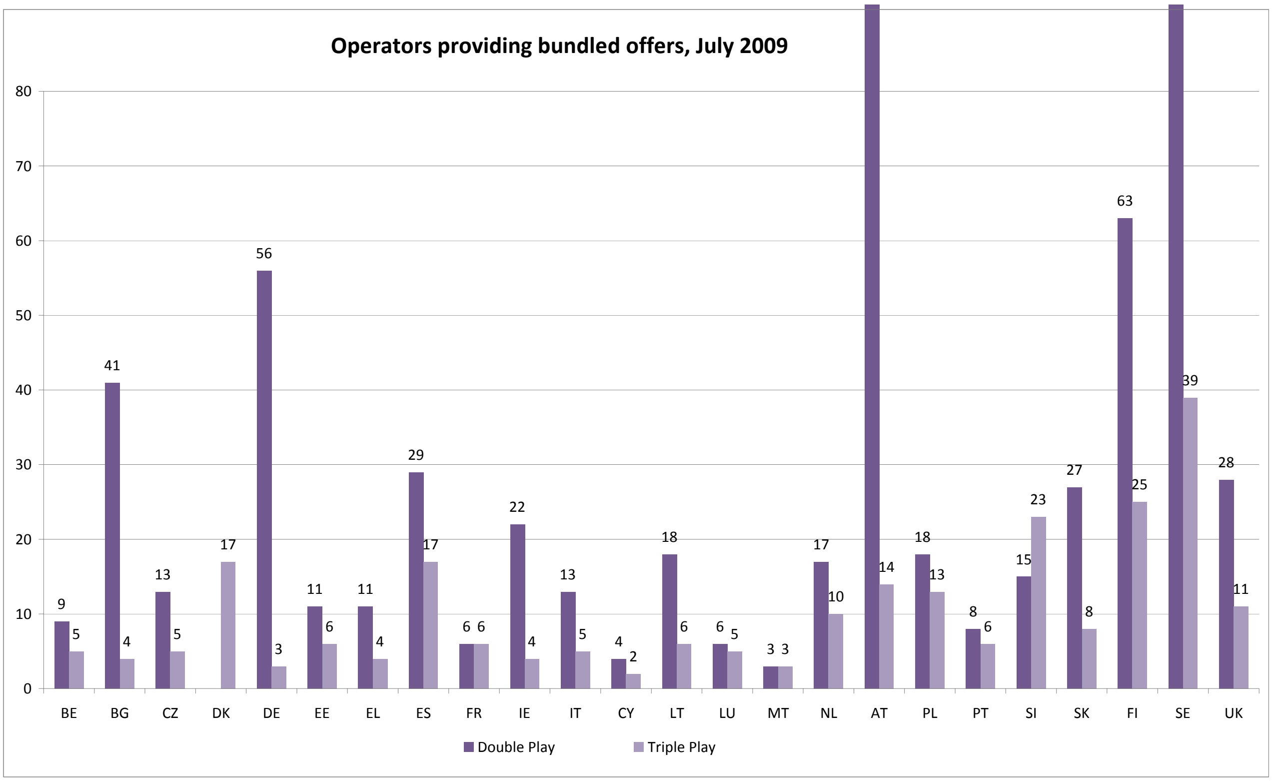
**Poland**: Data are from 54 undertakings

**Portugal**: All figures refer to 31 December 2008.

**Slovenia**: Only pure bundling is included (single offer for a single price). Tied offers where the purchase of one offer is conditional on the purchase of another are not included.

**UK**: Data as of 1 March 2009

**Figure 113: Bundled offers operators**




**Bulgaria, Belgium**: Data are as of 31 December 2008.

**Latvia**, **Hungary and Romania**: Data are not available.

**Netherlands**: Data are as of 31 December 2008. Figures refer to operators that market such offers. Data on all small operators are not available.

**Poland**: Data come from 54 undertakings.

**Portugal**: All figures refer to 31 December 2008.

**Finland**: All operators offer services, which are invoiced on a single bill, at a cheaper price than if the services are invoiced separately. Services may be bought individually though.

**Austria**: Figures are estimates out of scale with 170 double play operators.

**Slovenia**: Only pure bundling is included (single offer for a single price). Tied offers where the purchase of one offer is conditional on the purchase of another are not included.

**Sweden**: Data is out of scale with 417 double play operators.

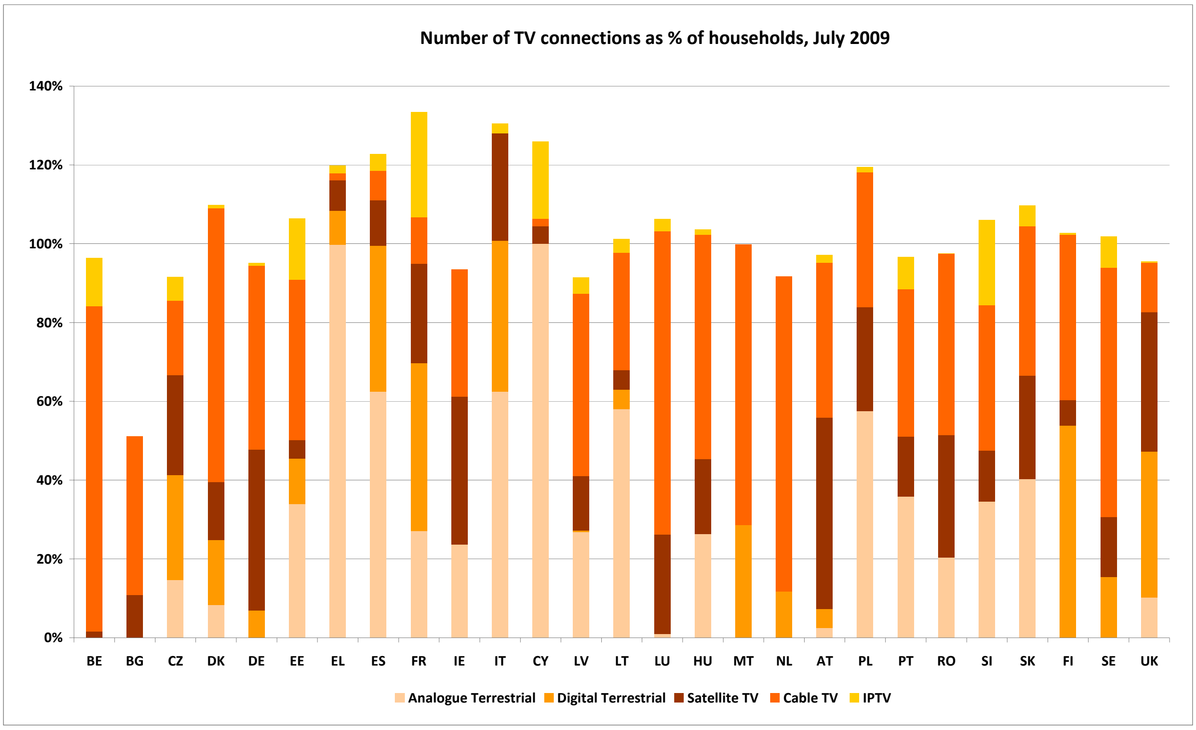
# 6. BROADCASTING

In this section some indicators are presented for broadcasting. This market is becoming more and more important from an electronic communications point of view due to the convergence phenomenon, by which the frontiers between these two traditional markets are diffusing.

This section is purely indicative as not all the NRAs could submit data on all of the segments of the market but it provides a good perspective of the technological diversity present in the Member States.

In the first chart the number of TV connections as % of the population is presented while in the second chart only the number of IPTv connections as % of the population appears.

**Figure 114: Number of TV connections as % of households**




**Belgium:** TV only includes pay-TV. Source: Press release TV Vlaanderen of 29 September 2008, Cable Belgium at end of 2008(Cable TV), Belgacom's press release of Q1 (IPTV).

**Bulgaria**: Data are as of 31 December 2008.

**Czech Republic**: Data concerning single technological platform refers to the number of households receiving national TV programmes primarily via this platform.

**Denmark**: Data include double counting. Figures refer to the number of households that use the technology as their primary TV connection. Figures are survey based and are therefore estimates.

**Germany**: Data are as of January 2009. Source: SES ASTRA

**Ireland:** Analogue TV refers to free to air. Cable TV data includes MMDS and cable.

**Greece:** Data for analogue terrestrial TV is not available. It can be however considered that all households with terrestrial TV also have analogue TV.

**Spain:** Data on Terrestrial TV (analogue+digital) refer to 31 December 2008. Some digital terrestrial TV households can still receive analogue TV. Data on satellite TV, cable TV and IPTV refer to 1 July 2009.

**France:** Source: Etude Mediamétrie Q2 2009 "référence des équipements multimédia". Data may include double counting as analogue TV is still available.

**Italy:** Source: Operators (Telecom Italia, Fastweb, Wind) for IPTV data. Other Platforms: Agcom evaluation based on on Istat, DGTVI, GFK data.

**Latvia**: Data refer to main access technologies and estimated by the Latvian Association of Electronic Communications HS using different technologies exceeding total number of HS because many households use several technologies.

**Luxembourg**: In 2008 an estimated 10% of households have cable and satellite.

**Hungary**: Analogue Terrestrial households are estimates.

**Lithuania**: Data on terrestrial TV are estimates. Coverage of analogue terrestrial network is estimated at about 100% of households and coverage of digital terrestrial network at about 95%.

**Netherlands**: Data on satellite TV and IPTV subscriptions are confidential. Data are as of Q2 2009. Cable data comes from the structural monitoring for large cable companies (Q2 2008) and increased by approximately 200 000 connections at very small cable companies.

**Poland**: Source: Survey conducted by an external company on behalf of UKE. Data on terrestrial TV reflect the number of households equipped with a terrestrial TV according to the definition, but without the ability to access any other sources of transmission of television signals. Data on cable include households equipped with cable and ADSL television.

**Portugal**: According to the Portuguese National Statistical Institute, the percentage of TV households in Portugal is 99.4. Data on Terrestrial TV are estimates based on TV households (source: Mavise http://mavise.obs.coe.int/country?id=25) and the number of pay-TV subscribers. Satellite TV figures include DTH only. Split between terrestrial and digital TV is not available.

**Romania:** The number of Analogue Terrestrial TV connections is estimated; digital terrestrial TV is not available in Romania.

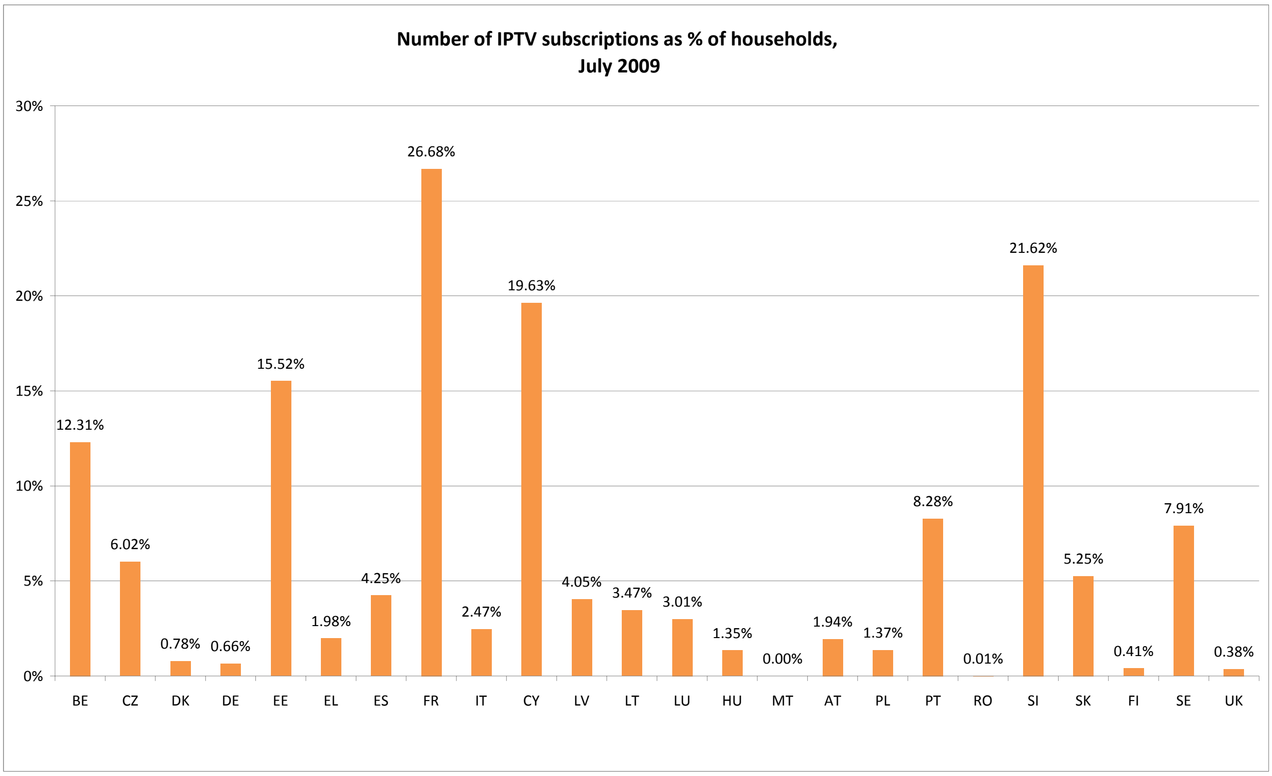
**Slovenia**: Households with several types of TV platforms are double counted. Data for analogue terrestrial TV is an estimate.

**Slovakia**: Digital Terrestrial TV commercial service is being tested. DVB-T will be launched in 2012. Data are estimates.

**Finland**: Based on Finnpanel Oy's research "TV Households in Finland" (May to June 2009). Satellite TV and IPTV are additional platforms.

**Sweden**: Free-to-air households do not have any subscriptions and are not registered by free-to-air broadcasters.

### Figure 115: Number of IPTV subscriptions as % of households




**Belgium**: IPTV figures. Source: Belgacom's press release of Q1 2009.

**Denmark**: Data include double counting. Figures are estimates based on a survey and refer to the number of households that use the technology as their primary TV connection.

**Germany**: Data are as of January 2009. Source: SES ASTRA.

**Italy**: Source: Operators (Telecom Italia, Fastweb, Wind) for IPTV data.

**Latvia**: Data are an estimate by the Latvian Association of Electronic Communication.

**Bulgaria**: Data are not available.

**Netherlands**, **Ireland**: Data are confidential.

# 7. LEASED LINES TARIFFS

This section contains an overview of prices charged by incumbent operators to end users in each Member State for national line services as of 15 September 2009. Figures do not cover wholesale prices. Price developments are also analysed over the period August 1998 - September 2009.

The figures and the information are taken from a study carried out by Teligen, Strategy Analytics Ltd. for the Commission. Data on standard retail prices charged by incumbent operators have been collected in each country.

INCUMBENTS' NATIONAL LEASED LINES

National leased line data is provided for 2008 and 2009. Two distances are covered: 2 km (local circuits), and 200 km. Tariffs are taken from the incumbent operator in each country. Other operators may offer other prices. In order to properly reflect the tariff structures used in some countries, the circuits may be considered in one of two different ways, depending on tariff structure. The one to apply will differ from carrier to carrier. The principles used in this report for calculating the price of a full circuit are:

| | 1: When tariff specifies local tail prices separately, in addition to main circuit. | | 2: When tariff specifies a single price for the circuit, end to end, including local tails. | |
|---|---|---|---|---|
| | Local tail length | Main circuit length | Local tail length | Main circuit length |
| 2 km circuit | 1 km | 0 | 0 | 2 km |
| 200 km circuit | 2 km | 196 km | 0 | 200 km |

Note: The local tail length is per tail, i.e. there will be 2 such tails with each circuit.

Where several tariff options exist depending on type of location, the criteria for choice is as follows:

2 km circuits are always within a major city (usually the capital city)

200 km circuits are between a major city and a “minor” city

As the definitions vary between countries, the type of tariff option chosen will also vary (see details below). The countries where the price may vary with location or other non-distance related definitions are: Belgium, France, Austria, Finland, Sweden and the United Kingdom.

Some operators apply termination charges per local end, without necessarily covering the local tail circuit within that charge.

Two types of circuits are covered: 2 Mbps and 34 Mbps. As not all carriers publish tariffs for all these bitrates and all years, there may be some gaps in the information, especially for higher bitrates.

Some carriers offer 2 Mbps circuits as both structured and unstructured. In this analysis only unstructured circuits are included.

In addition, some carriers offer different types of leased lines, often in the form of “basic circuits” and circuits in a managed network. Only “basic circuits” are included in this analysis, as the managed network services are not comparable between carriers.

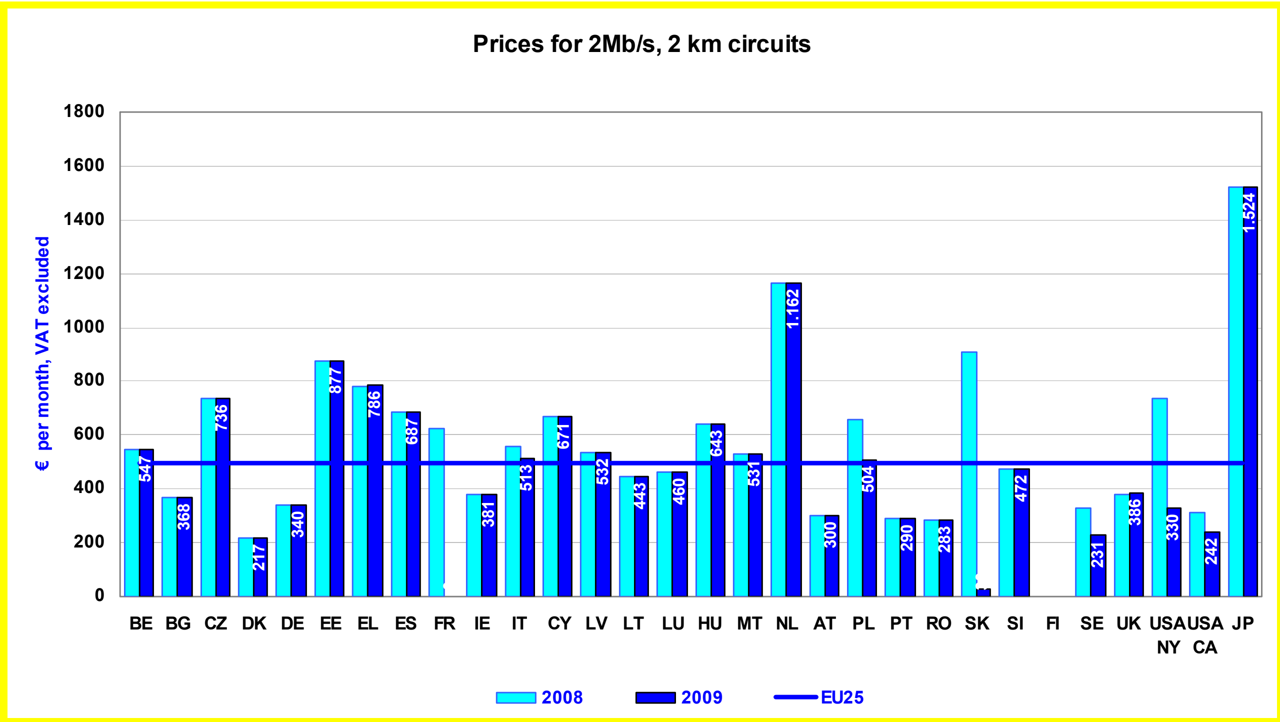
Lately a few carriers have decided not to publish their prices for some or all types of leased lines. This makes it increasingly difficult to present a full overview of the prices in all 27 EU countries.

The bitrates of leased lines offered in some countries may be different from the ones found in most EU Member States. Some operators may offer 1.5 Mbps instead of 2 Mbps, and 45 Mbps or 50 Mbps instead of 34 Mbps. Prices shown in the tables and graphs in this section of the report have been adjusted according to the difference in capacity.

All prices are presented in Euro per month, excluding VAT. National leased lines prices as of 15 September 2009.

## *2Mbps*

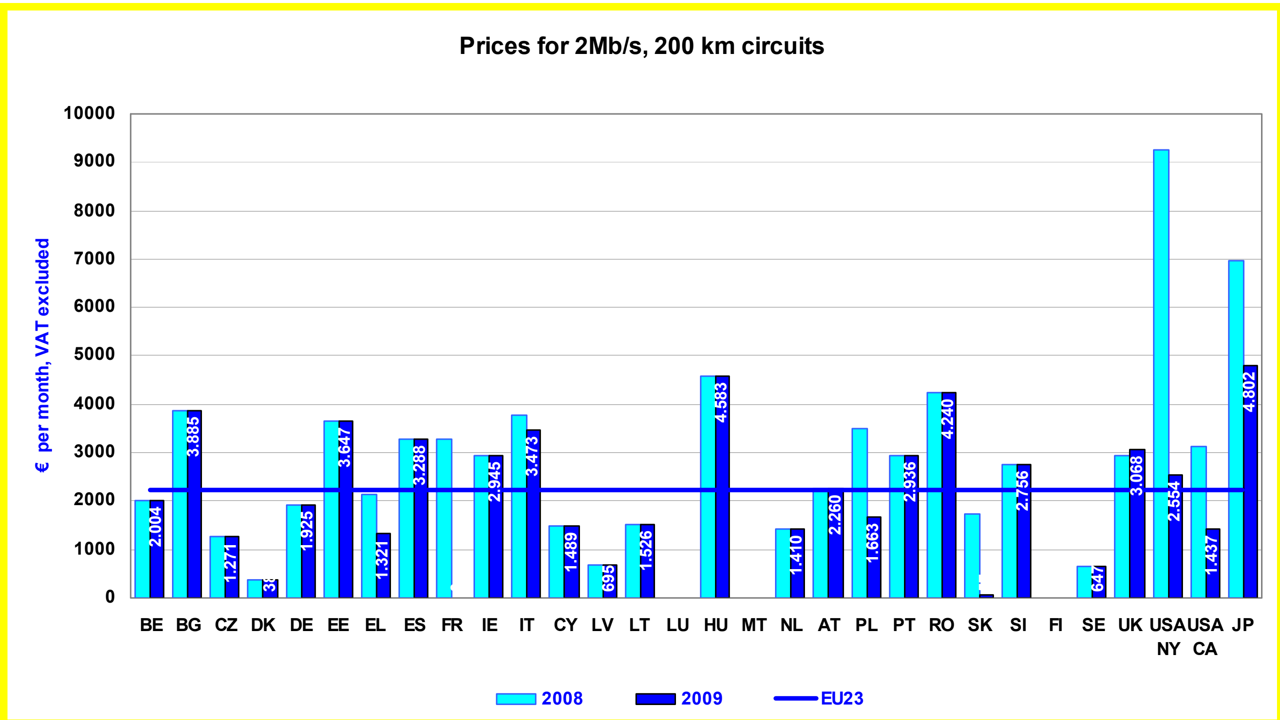
**Figure 116: Prices for 2 Mb/s, 2 km circuits**




Blue line represents EU average= € 496

**<u>Finland, France</u>:** no data is available for 2009.

**Figure 117: Prices for 2 Mb/s, 200 km circuits**

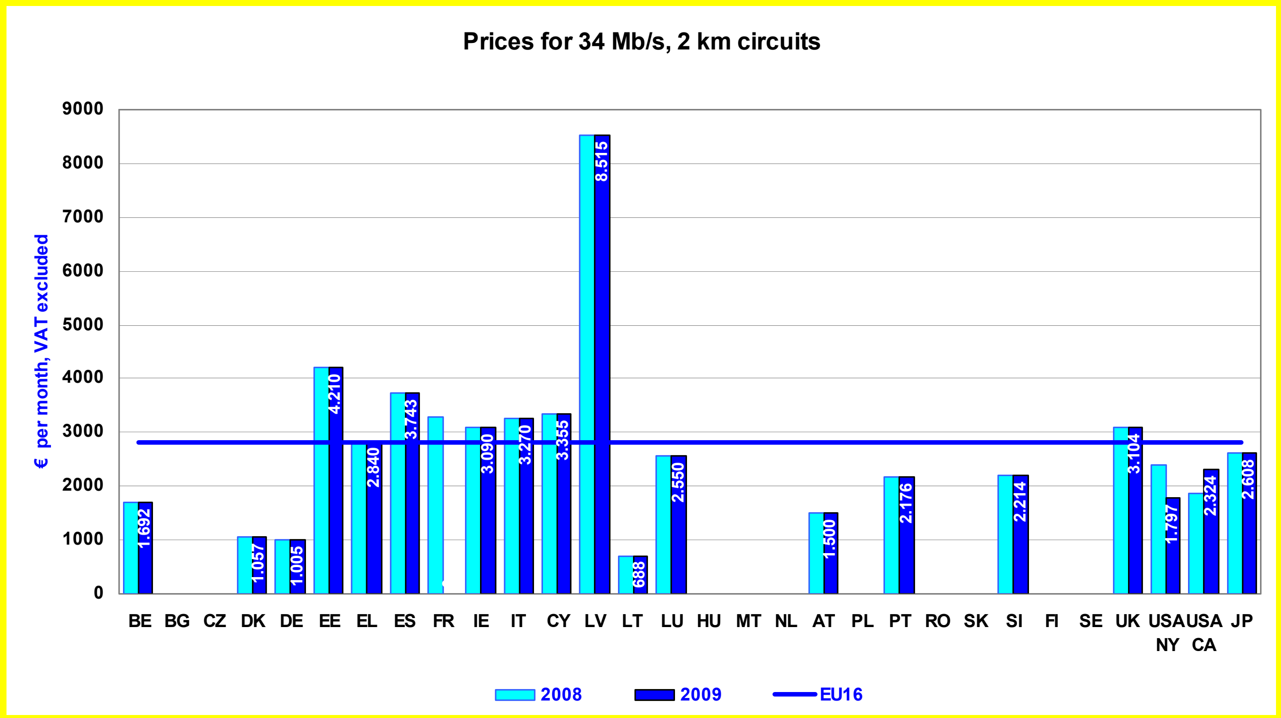



Blue line represents EU average= € 2 238

**<u>Luxembourg, Malta, Finland and France:</u>** No data is available for 2009.

## *34Mbps*

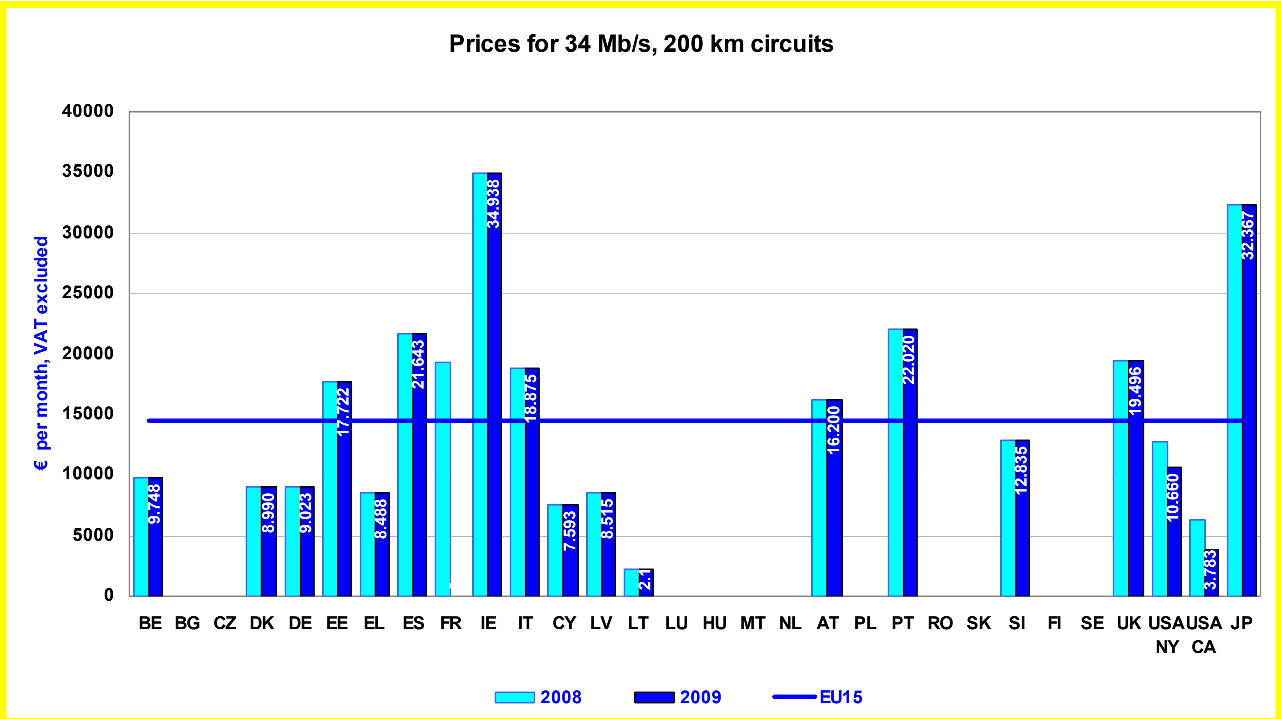
### Figure 118: Prices for 34 Mb/s, 2 km circuits




Blue line represents EU average= € 2 813

**<u>Bulgaria, Czech Republic, Hungary, Malta, Netherlands, Poland, Romania, Slovakia, Finland, Sweden and France:</u>** no data is available for 2009

### Figure 119: Prices for 34 Mb/s, 200 km circuits




Blue line represents EU average= € 14 551

**<u>Bulgaria, Czech Republic, Luxembourg, Hungary, Malta, Netherlands, Poland, Romania, Slovakia, Finland, Sweden and France:</u>** no data is available for 2009.

NATIONAL LEASED LINES PRICE TRENDS (1 AUGUST 1998 – 15 SEPTEMBER 2009)

Figure 120: EU average price variation since 1998, 2Mb/s

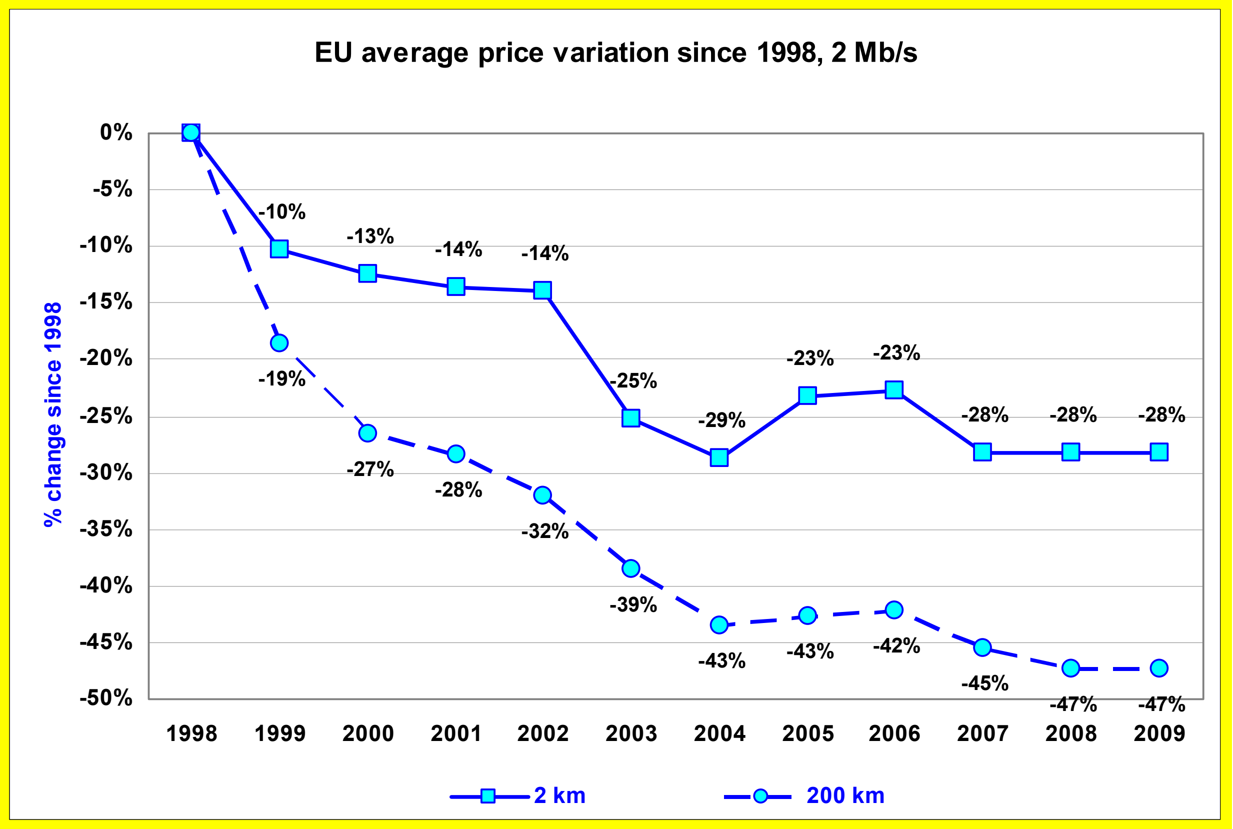
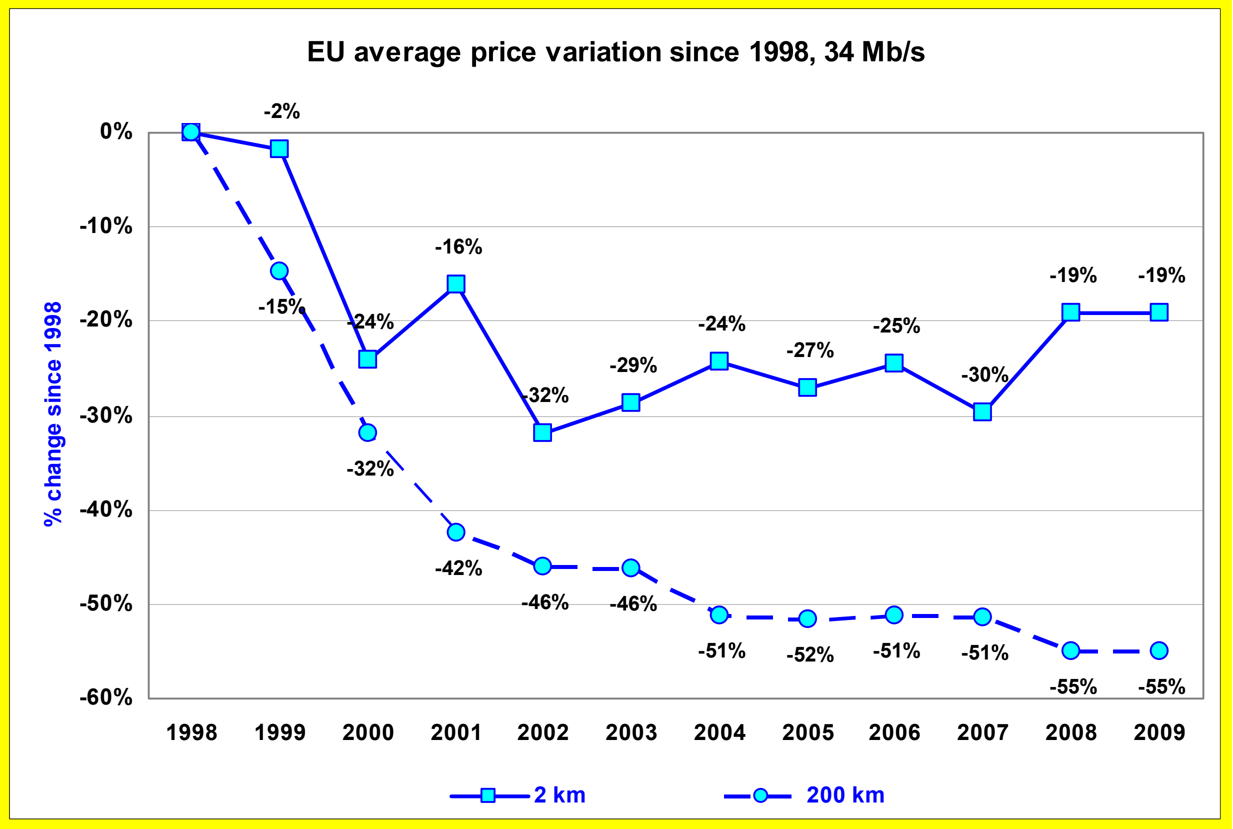



Figure 121: EU average price variation since 1998, 34Mb/s



# 8. EXCHANGE RATES AND POPULATION

## 8.1. EXCHANGE RATE USED FOR NRAs DATA

| | Average exchange rate for 2008 | Exchange rate 1st October 2009 |
|---|---|---|
| **Belgium** | 1,00 | 1,00 |
| **Bulgaria** | 1,96 | 1,96 |
| **Czech Republic** | 24,95 | 25,42 |
| **Denmark** | 7,46 | 7,44 |
| **Germany** | 1,00 | 1,00 |
| **Estonia** | 15,65 | 15,65 |
| **Greece** | 1,00 | 1,00 |
| **Spain** | 1,00 | 1,00 |
| **France** | 1,00 | 1,00 |
| **Ireland** | 1,00 | 1,00 |
| **Italy** | 1,00 | 1,00 |
| **Cyprus** | 1,00 | 1,00 |
| **Latvia** | 0,70 | 0,71 |
| **Lithuania** | 3,45 | 3,45 |
| **Luxembourg** | 1,00 | 1,00 |
| **Hungary** | 251,51 | 270,26 |
| **Malta** | 1,00 | 1,00 |
| **Netherlands** | 1,00 | 1,00 |
| **Austria** | 1,00 | 1,00 |
| **Poland** | 3,51 | 4,25 |
| **Portugal** | 1,00 | 1,00 |
| **Romania** | 3,68 | 4,27 |
| **Slovenia** | 1,00 | 1,00 |
| **Slovakia** | 1,00 | 1,00 |
| **Finland** | 1,00 | 1,00 |

| | | | |
|---|---|---|---|
| **Sweden** | 9,62 | 10,19 | |
| **UK** | 0,80 | 0,91 | |
| | **Source** | *Average Exchange Rate 2008 (www.ecb.eu)* | *Exchange Rate as of 1st October 2009 (www.ecb.eu)* |

## 8.2. EXCHANGE RATE USED FOR RETAIL TARIFFS

*(on the mobile tariff, public voice telephony tariffs and leased line tariffs).*

| | From 2002 | From 2007 | From 2008 | From 2009 |
|---|---|---|---|---|
| **Austria** | 1 | 1 | 1 | 1 |
| **Belgium** | 1 | 1 | 1 | 1 |
| **Bulgaria** | 0,511221308 | 0,511221308 | 0,511221308 | 0,511221308 |
| **Cyprus** | 1,708525542 | 1,708525542 | 1 | 1 |
| **Czech** | 0,039312967 | 0,039312967 | 0,039312967 | 0,039312967 |
| **Denmark** | 0,134341792 | 0,134341792 | 0,134341792 | 0,134341792 |
| **Estonia** | 0,063911649 | 0,063911649 | 0,063911649 | 0,063911649 |
| **Finland** | 1 | 1 | 1 | 1 |
| **France** | 1 | 1 | 1 | 1 |
| **Germany** | 1 | 1 | 1 | 1 |
| **Greece** | 1 | 1 | 1 | 1 |
| **Hungary** | 0,003669738 | 0,003669738 | 0,003669738 | 0,003669738 |
| **Ireland** | 1 | 1 | 1 | 1 |
| **Italy** | 1 | 1 | 1 | 1 |
| **Japan** | 0,007519419 | 0,007519419 | 0,007519419 | 0,007519419 |
| **Latvia** | 1,419244962 | 1,419244962 | 1,419244962 | 1,419244962 |
| **Lithuania** | 0,289519398 | 0,289519398 | 0,289519398 | 0,289519398 |
| **Luxembourg** | 1 | 1 | 1 | 1 |
| **Malta** | 2,300966406 | 2,300966406 | 1 | 1 |
| **Netherlands** | 1 | 1 | 1 | 1 |
| **Poland** | 0,243652843 | 0,243652843 | 0,243652843 | 0,243652843 |
| **Portugal** | 1 | 1 | 1 | 1 |
| **Romania** | 0,236088486 | 1 | 1 | 1 |
| **Slovakia** | 0,033193919 | 0,033193919 | 0,033193919 | 1 |
| **Slovenia** | 0,004172926 | 1 | 1 | 1 |
| **Spain** | 1 | 1 | 1 | 1 |

| | | | | |
|---|---|---|---|---|
| **Sweden** | 0,098027683 | 0,098027683 | 0,098027683 | 0,098027683 |
| **UK** | 1,135718342 | 1,135718342 | 1,135718342 | 1,135718342 |
| **USA** | 0,699105145 | 0,699105145 | 0,699105145 | 0,699105145 |

Slovakia joined the Euro in 2009, and the most recent prices are based on the Euro currency.

The prices for Romania are in fact also given in Euro.

PPP rates are taken from Eurostat website, where the latest available data refer to 2008.

## 8.3. POPULATION

Source: Eurostat web site

| | 2008 | 2009 |
|---|---|---|
| **BE** | 10.666.866 | 10.754.528 |
| **BG** | 7.640.238 | 7.606.551 |
| **CZ** | 10.381.130 | 10.467.542 |
| **DK** | 5.475.791 | 5.511.451 |
| **DE** | 82.221.808 | 82.050.000 |
| **EE** | 1.340.935 | 1.340.415 |
| **EL** | 11.214.992 | 11.257.285 |
| **ES** | 45.283.259 | 45.828.172 |
| **FR** | 63.753.140 | 64.351.000 |
| **IE** | 4.419.859 | 4.465.540 |
| **IT** | 59.618.114 | 60.053.442 |
| **CY** | 794.580 | 793.963 |
| **LV** | 2.270.894 | 2.261.294 |
| **LT** | 3.366.357 | 3.349.872 |
| **LU** | 483.799 | 493.500 |
| **HU** | 10.045.000 | 10.031.208 |
| **MT** | 410.584 | 413.627 |
| **NL** | 16.404.282 | 16.486.587 |
| **AT** | 8.331.930 | 8.355.260 |
| **PL** | 38.115.641 | 38.135.876 |
| **PT** | 10.617.575 | 10.627.250 |
| **RO** | 21.528.627 | 21.498.616 |
| **SI** | 2.025.866 | 2.032.362 |
| **SK** | 5.400.998 | 5.412.254 |
| **FI** | 5.300.484 | 5.326.314 |
| **SE** | 9.182.927 | 9.256.347 |
| **UK** | 61.185.981 | 61.634.599 |
| **EU** | 497.481.657 | 499794855 |

Source: Eurostat http://epp.eurostat.ec.europa.eu

## 9. OECD TELECOMMUNICATIONS BASKET DEFINITIONS

## 9.1. COMPOSITE NATIONAL – INTERNATIONAL BASKET

This basket is based on a combination of the national and international baskets. The international basket is scaled using a fixed number of international calls.

Business basket results exclude VAT. Residential basket results include VAT.

The number of calls to fixed line phones (i.e. excluding calls to mobile phones) is defined as:

| **Number of national fixed line calls** | Calls per year |
|---|---|
| Business basket | 3600 |
| Residential basket | 1200 |

The international portion of the basket shall have a number of calls equal to 6% of the national fixed line calls, in addition to the calls defined in the national portion of the basket.

| | **International calls per year** |
|---|---|
| Business basket | 216 |
| Residential basket | 72 |

Calls to mobile phones are added to the basket. The number of calls shall be 10% of the number of national fixed line calls, in addition to the fixed line calls.

| **Calls to mobile phones** | **Calls per year** | **Call duration** |
|---|---|---|
| Business basket | 360 | 2 |
| Residential basket | 120 | 2 |

Call duration in minutes per call.

A weighted distribution over six time and day points is used. Call charges relevant at each of these time and day points shall be used.

| Day/Time | We 11:00 | We 15:00 | We 20:00 | We 03:00 | Sa 11:00 | Su 15:00 |
|---|---|---|---|---|---|---|
| Bus | 45.4 | 40.6 | 7 | 0.8 | 5.7 | 0.5 |
| Res | 14.3 | 22.1 | 31.6 | 3 | 13 | 16 |

Bus = Business basket, Res = Residential basket. All weights in percent of total number of fixed line calls.

We = Weekdays, Sa = Saturdays, Su = Sundays.

Call duration will vary with distance and time of day. The charge for each call shall reflect the actual charge for the duration in question, as defined by the tariff. Call setup and minimum charges shall be included.

| **Day/Time** | **Weekday daytime** | **Weekday evenings, nights and weekends** |
|---|---|---|

| Distance | 3-12 Km | 17-40 Km | 40-490 km | 3-12 km | 17-40 Km | 40-490 Km |
|---|---|---|---|---|---|---|
| Bus | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| Res | 2.5 | 3.5 | 3.5 | 3.5 | 6 | 7 |

Bus = Business basket, Res = Residential basket. Duration in minutes per call.

## 9.2. NEW OECD BASKETS FOR PSTN 2006

Number of calls per year

| Number of calls per year | National calls | Calls to mobile | International calls | Total calls |
|---|---|---|---|---|
| OECD Residential basket, Low Usage | 456 | 114 | 30 | 600 |
| OECD Residential basket, Medium Usage | 900 | 276 | 24 | 1200 |
| OECD Residential basket, High Usage | 1560 | 744 | 96 | 2400 |
| OECD Business basket, SOHO | 1206 | 522 | 72 | 1800 |
| OECD Business basket, SME | 2016 | 560 | 224 | 2800 |

The SME basket shall also reflect 30 lines and users.

Distribution over time

| Fixed call distribution over time | We 11.00 | We 15.00 | We 20.00 | We 03.00 | Sa 11.00 | Su 15.00 |
|---|---|---|---|---|---|---|
| OECD Residential basket, Low Usage | 30.2% | 28.1% | 23.6% | 0.9% | 8.2% | 9.0% |
| OECD Residential basket, Medium Usage | 27.5% | 28.0% | 23.0% | 2.0% | 8.0% | 11.5% |
| OECD Residential basket, High Usage | 30.0% | 30.4% | 20.0% | 0.6% | 8.5% | 10.5% |
| OECD Business basket, SOHO | 39.5% | 39.3% | 7.5% | 3.6% | 5.5% | 4.6% |
| OECD Business basket, SME | 40.2% | 40.5% | 6.5% | 3.4% | 4.7% | 4.7% |
| **Mobile call distribution over time** | We 11.00 | We 15.00 | We 20.00 | We 03.00 | Sa 11.00 | Su 15.00 |
| OECD Residential basket, Low Usage | 28.6% | 28.6% | 20.5% | 0.6% | 10.1% | 11.6% |
| OECD Residential basket, Medium Usage | 29.1% | 30.5% | 20.5% | 0.7% | 8.5% | 10.7% |
| OECD Residential basket, High Usage | 30.0% | 30.4% | 20.0% | 0.6% | 8.5% | 10.5% |
| OECD Business basket, SOHO | 39.5% | 39.5% | 4.5% | 0.3% | 9.0% | 7.2% |
| OECD Business basket, SME | 44.0% | 42.0% | 1.2% | 0.1% | 6.3% | 6.4% |

Distribution over distance

| Fixed call distribution over distance | 3 km | 7 km | 12 km | 17 km | 22 km | 27 km | 40 km |
|---|---|---|---|---|---|---|---|
| OECD Residential basket, Low Usage | 62.0% | 14.5% | 5.2% | 3.1% | 1.6% | 2.1% | 2.1% |
| OECD Residential basket, Medium Usage | 56.7% | 13.3% | 4.7% | 2.8% | 1.4% | 3.2% | 3.2% |
| OECD Residential basket, High Usage | 63.0% | 14.7% | 5.2% | 3.1% | 1.6% | 1.9% | 1.9% |
| OECD Business basket, SOHO | 55.5% | 13.0% | 4.6% | 2.9% | 1.5% | 3.3% | 3.3% |
| OECD Business basket, SME | 57.2% | 13.4% | 4.9% | 3.0% | 1.5% | 3.0% | 3.0% |
| **Fixed call distribution over distance** | 75 km | 110 km | 135 km | 175 km | 250 km | 350 km | 490 km |
| OECD Residential basket, Low Usage | 2.1% | 1.2% | 1.0% | 0.8% | 0.8% | 0.6% | 2.9% |
| OECD Residential basket, Medium Usage | 3.2% | 1.9% | 1.6% | 1.3% | 1.3% | 1.0% | 4.4% |
| OECD Residential basket, High Usage | 1.9% | 1.1% | 0.9% | 0.7% | 0.7% | 0.6% | 2.7% |
| OECD Business basket, SOHO | 3.3% | 2.0% | 1.7% | 1.4% | 1.4% | 1.1% | 5.0% |
| OECD Business basket, SME | 3.0% | 1.8% | 1.5% | 1.2% | 1.2% | 0.9% | 4.4% |

Call durations in minutes

| Call durations 3-22 km | We 11.00 | We 15.00 | We 20.00 | We 03.00 | Sa 11.00 | Su 15.00 |
|---|---|---|---|---|---|---|
| OECD Residential basket, Low Usage | 3.7 | 3.7 | 4.7 | 4.7 | 4.5 | 4.5 |
| OECD Residential basket, Medium Usa | 3.7 | 3.7 | 4.7 | 4.7 | 4.5 | 4.5 |
| OECD Residential basket, High Usage | 3.7 | 3.7 | 4.7 | 4.7 | 4.5 | 4.5 |
| OECD Business basket, SOHO | 1.9 | 1.9 | 2.1 | 2.1 | 2.3 | 2.3 |
| OECD Business basket, SME | 1.9 | 1.9 | 2.1 | 2.1 | 2.3 | 2.3 |
| **Call durations >22 km** | We 11.00 | We 15.00 | We 20.00 | We 03.00 | Sa 11.00 | Su 15.00 |
| OECD Residential basket, Low Usage | 4.4 | 4.4 | 7 | 7 | 6.6 | 6.6 |
| OECD Residential basket, Medium Usa | 4.4 | 4.4 | 7 | 7 | 6.6 | 6.6 |
| OECD Residential basket, High Usage | 4.4 | 4.4 | 7 | 7 | 6.6 | 6.6 |
| OECD Business basket, SOHO | 2.2 | 2.2 | 3 | 3 | 3.1 | 3.1 |
| OECD Business basket, SME | 2.2 | 2.2 | 3 | 3 | 3.1 | 3.1 |
| **Call durations to mobile** | We 11.00 | We 15.00 | We 20.00 | We 03.00 | Sa 11.00 | Su 15.00 |
| OECD Business basket, SME | 1.8 | 1.8 | 2.1 | 2.1 | 1.9 | 1.9 |
| OECD Business basket, SME | 1.8 | 1.8 | 2.1 | 2.1 | 1.9 | 1.9 |
| OECD Business basket, SME | 1.8 | 1.8 | 2.1 | 2.1 | 1.9 | 1.9 |
| OECD Residential basket, Low Usage | 1.6 | 1.6 | 1.7 | 1.7 | 1.7 | 1.7 |
| OECD Residential basket, Medium Usa | 1.6 | 1.6 | 1.7 | 1.7 | 1.7 | 1.7 |

International calls

| International calls | Distribution | | Call duration (minutes) | |
|---|---|---|---|---|
| | Peak | Off-peak | Peak | Off-peak |
| OECD Residential basket, Low Usage | 33% | 67% | 5.5 | 7.2 |
| OECD Residential basket, Medium Usa | 33% | 67% | 5.5 | 7.2 |
| OECD Residential basket, High Usage | 33% | 67% | 5.5 | 7.2 |
| OECD Business basket, SOHO | 80% | 20% | 2.9 | 3.9 |
| OECD Business basket, SME | 80% | 20% | 2.9 | 3.9 |

## 9.3. INTERNATIONAL PSTN BASKET

The international PSTN basket, when used separately, shall reflect the cost of a single call, calculated according to the weighting method described below. No fixed charges are included.

Business basket results exclude VAT. Residential basket results include VAT.

Call charges for calls to all other OECD Member States shall be used. Peak and off-peak time call charges are used, defined as the highest (most expensive) charge and the lowest (least expensive) charge.

Call cost is based on average per minute charge. Call setup charges and/or different charges for first and additional minutes are included.

The charges to different destinations are weighted according to the ITU call volume statistics. An average over the latest 5 years of available traffic statistics is used. As there may be gaps in the ITU statistics for certain destinations from some countries, calls on such routes are excluded from the calculation.

Call charges are weighted between peak and off-peak:

| | Peak time weight | Off-peak time weight |
|---|---|---|
| Business basket | 75.0 % | 25.0 % |
| Residential Basket | 25.0 % | 75.0 % |

Call duration differ between peak and off-peak time:

| | Peak time | Off-peak time |
|---|---|---|
| Business basket | 3 minutes | 5 minutes |

| | | |
|---|---|---|
| Residential Basket | 3 minutes | 5 minutes |

## 9.4. OECD MOBILE BASKETS

### 2002 Baskets

All baskets will include:

Registration or installation charges with 1/3 of the charges, *i.e.* distributed over 3 years.

Monthly rental charges, and any option charges that may apply to the package, or package combination.

The three new baskets are:

Low user basket. The usage level of this basket is low, with a call volume less than half of that in the Medium user basket.

Medium user basket. This basket will have 75 outgoing calls per month.

High user basket. The usage level is about twice the Medium user basket.

The usage profiles will also include a number of SMS messages per month.

Call and message volumes for each basket are:

| | Outgoing calls /month | SMS per month |
|---|---|---|
| Low user | 25 | 30 |
| Medium user | 75 | 35 |
| High user | 150 | 42 |

The information received showed that there is little difference between the average pre-paid usage and the low user post-paid usage. The low user basket can therefore be used for both pre- and post-paid tariffs, allowing a simple comparison also between the two types.

Only national calls are included in the profiles, with 4 different destinations:

Local area fixed line calls. This is used to accommodate the tariffs that have separate charges for the local area. When such charges are not available, this proportion of calls is included in the National.

National fixed line calls. This covers all fixed line calls outside the local area, except in cases as noted above.

Same network mobile calls (On-net). This includes all calls made to mobiles in the same mobile network as the caller.

Other network mobile calls (Off-net). This includes calls to all other mobile networks in the caller’s country. When the charges are different depending on destination network, the market shares based on subscriber numbers are used for weighting the charges. Up to 3 other networks will be considered in each country.

Distributions per destination for each basket are:

| % of total number of calls | Fixed Local area | Fixed National area | On-net mobile | Off-net mobile |
|---|---|---|---|---|
| Low user | 28.0% | 14.0% | 40.0% | 18.0% |
| Medium user | 24.0% | 12.0% | 43.0% | 21.0% |
| High user | 26.0% | 14.0% | 42.0% | 18.0% |

As the information received produced little evidence on the split between local and national fixed line calls, the assumption has been used that the ratio would be 2:1 for local:national, i.e. 67% local and 33% national. This assumption is taken from the averages in fixed baskets, and the scarce information received.

Instead of splitting time and day into distinct times and days the following approach will be used:

Peak time calls at weekdays, most expensive time during daytime.

Off-peak time calls at weekdays, cheapest time before midnight.

Weekend time calls, at daytime Sundays.

Distributions over time and day for each basket are:

| % of total number of calls | ToD Peak | ToD Off-peak | ToD Weekend |
|---|---|---|---|
| Low user | 38.0% | 35.0% | 27.0% |
| Medium user | 47.0% | 30.0% | 23.0% |
| High user | 63.0% | 22.0% | 15.0% |

There will be 3 separate call durations:

Local and national fixed line calls

Same network mobile calls (On-net)

Other network mobile calls (Off-net)

Call durations for each basket are:

| Minutes per call | Dur Fixed National | Dur Mobile On-net | Dur Mobile Off-net |
|---|---|---|---|
| Low user | 1.6 | 1.4 | 1.4 |
| Medium user | 2.1 | 1.9 | 1.9 |
| High user | 2.2 | 2.0 | 2.1 |

Any call allowance value included in the monthly rental will be deducted from the usage value once the basket is calculated. The deduction cannot be larger than the actual usage value, i.e. negative usage is not allowed. No transfer of unused value to next month is taken into account.

Any inclusive minutes will be deducted from the basket usage before starting the calculation of usage cost. The inclusive minutes are assumed to be used up with the same calling pattern that is described in the basket, i.e. the same peak/off-peak ratio and the same distribution across destinations. Where the inclusive minutes are clearly limited to specific destinations or times of day this will be taken into account. No transfer of unused minutes is taken into account.

Any inclusive SMS-messages will be deducted from the basket before starting the calculation of the SMS message cost, up to the number of messages in the basket.

For each of the operators covered a set of packages shall be included so that the cheapest package offered by that operator can be calculated for each of the 3 baskets.

Multiple operators in each country shall be included, with at least the two operators with highest number of subscribers in each country. The operators included shall have a total market share of at least 50% based on subscriber numbers.

Basket results are calculated for a period of one year.

**2006 Baskets**

The basket structure remains the same as with the previous (2002) version of the baskets. All baskets will include:

Registration or installation charges with 1/3 of the charges, i.e. distributed over 3 years.

Monthly rental charges, and any option charges that may apply to the package, or package combination.

Usage charges for voice calls and SMS and MMS message, as defined by the usage profile.

The three baskets are:

Low user basket. The usage level of this basket is low, with a call volume less than half of that in the Medium user basket.

Medium user basket. This basket will have 65 outgoing calls per month.

High user basket. The usage level is about twice the Medium user basket.

The usage profiles will also include a number of SMS and MMS messages per month. The number of MMS is low, reflecting a new service with still little use.

Call and message volumes for each basket are:

| | Outgoing calls /month | SMS per month | MMS per month |
|---|---|---|---|
| Low user | 30 | 33 | 0.67 |
| Medium user | 65 | 50 | 0.67 |
| High user | 140 | 55 | 1 |

There is little difference between the average pre-paid usage and the low user post-paid usage. The low user basket can therefore be used for both pre- and post-paid tariffs, allowing a simple comparison also between the two types.

Only national calls are included in the profiles, with 5 different destinations:

Local area fixed line calls. This is used to accommodate the tariffs that have separate charges for the local area. When such charges are not available, this proportion of calls is included in the National.

National fixed line calls. This covers all fixed line calls outside the local area, except in cases as noted above.

Same network mobile calls (On-net). This includes all calls made to mobiles in the same mobile network as the caller.

Other network mobile calls (Off-net). This includes calls to all other mobile networks in the caller's country. When the charges are different depending on destination network, the market shares based on subscriber numbers are used for weighting the charges. Up to 3 other networks will be considered in each country.

Voicemail calls. This reflects calls made to retrieve voicemail messages from the on-net voicemail service.

Distributions per destination for each basket are:

| % of total number of calls | Fixed Local | Fixed National | On-net mobile | Off-net mobile | Voicemail |
|---|---|---|---|---|---|
| Low user | 15% | 7% | 48% | 22% | 8% |

| | | | | | |
|---|---|---|---|---|---|
| Medium user | 14% | 7% | 48% | 24% | 7% |
| High user | 13% | 7% | 47% | 26% | 7% |

As there is little evidence on the split between local and national fixed line calls, the assumption has been used that the ratio would be 2:1 for local:national, i.e. 67% local and 33% national. This assumption is taken from the averages in fixed baskets, and the scarce information received.

Instead of splitting time and day into distinct times and days the following approach will be used:

Peak time calls at weekdays, most expensive time during daytime.

Off-peak time calls at weekdays, cheapest time before midnight.

Weekend time calls, at daytime Sundays.

Distributions over time and day for each basket are:

| % of total number of calls | ToD Peak | ToD Off-peak | ToD Weekend |
|---|---|---|---|
| Low user | 48% | 25% | 27% |
| Medium user | 50% | 24% | 26% |
| High user | 60% | 19% | 21% |

There will be 4 separate call durations:

Local and national fixed line calls

Same network mobile calls (On-net)

Other network mobile calls (Off-net)

Voicemail calls

Call durations for each basket are:

| Minutes per call | Duration Fixed National | Duration Mobile On-net | Duration Mobile Off-net | Duration Voicemail |
|---|---|---|---|---|
| Low user | 1.5 | 1.6 | 1.4 | 0.8 |
| Medium user | 1.8 | 1.9 | 1.7 | 0.8 |
| High user | 1.7 | 1.9 | 1.8 | 0.8 |

Any call allowance value included in the monthly rental will be deducted from the usage value once the basket is calculated. The deduction cannot be larger than the actual usage value, i.e. negative usage is not allowed. No transfer of unused value to next month is taken into account.

Any inclusive minutes will be deducted from the basket usage before starting the calculation of usage cost. The inclusive minutes are assumed to be used up with the same calling pattern that is described in the basket, i.e. the same peak/off-peak ratio and the same distribution across destinations. Where the inclusive minutes are clearly limited to specific destinations or times of day this will be taken into account. No transfer of unused minutes is taken into account.

Any inclusive SMS- and MMS-messages will be deducted from the basket before starting the calculation of the SMS and MMS message cost, up to the number of messages in the basket.

For each of the operators covered a set of packages shall be included so that the cheapest package offered by that operator can be calculated for each of the 3 baskets.

Multiple operators in each country shall be included, with at least the two operators with highest number of subscribers in each country. The operators included shall have a total market share of at least 50% based on subscriber numbers.

Basket results are calculated for a period of one year