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**Conference Paper**

## European Broadband Tariffs Analysis: Broadband Tariff Analysis - EU 27, Q4 2010

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Author **Qmars Safikhani**

## European Broadband Tariffs Analysis

### Abstract

#### European Broadband Tariffs Analysis

#### Introduction

The broadband market is diverse, demanding and extremely fast-moving. The success of broadband service providers depends on effectively aligning new services and tariffs with consumer and business tastes and buying behaviour all in the face of a shifting regulatory landscape and dynamic socioeconomic environment.

A cross section Broadband Tariffs Analysis offers a complex search, enabling to retrieve fixed and mobile broadband tariffs trend by stratifying tariff by:

- Countries
- Operators
- Access technologies (xDSL, Cable Modem, FTTx, Satellite, Ethernet, Mobile Broadband)
- Client type (residential/- business)
- Speed bands
- Bundled and unbundled tariffs
- Recurring and non-recurring costs
- Promotions

#### Research Question

This presentation will provide an insight on thematic related to broadband tariffs from supply and demand side and best practice for operators in a highly complex market of broadband considering stand-alone and bundled packages prices at retail level.

#### Research Results

Quantum-Web comparative analysis of Q2 2011 broadband tariffs for 42 European countries reveals the latest retail broadband tariffs structure and pricing policy adopted by operators.

Its most significant findings for the Old Continent include:

- Broadband subscribers enjoy average monthly discounts of 7% off the list price.
- Telecoms operators offer better deals on double- and quad-plays than on triple-play packages.

Mobile and fixed-line operators offer discounts and promotions on recurring and non-recurring items. The extent of their promotions varies according to factors including bandwidth, access technology and whether the services are offered on a bundled or stand-alone basis

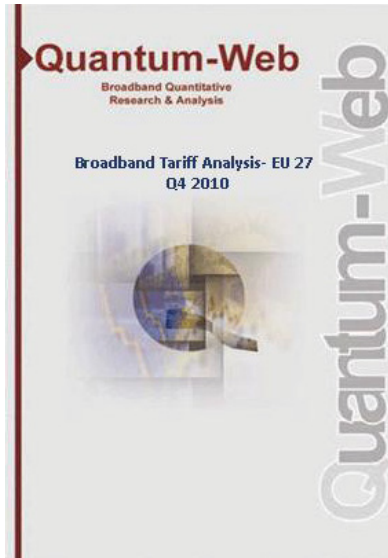


**JEL codes: L96 (Telecommunications)**

**Key words:** Broadband Tariffs, European Broadband, Fixed Broadband Tariffs, xDSL Tariffs, FTTx Tariffs, Cable Modem Tariffs, Mobile Broadband Tariffs, Broadband Statistics, Broadband Tariffs Elasticity and Forecast, Broadband Forecasts, Financial Broadband Analysis, Comparative Analysis of Broadband Market, World Broadband Tariffs, Middle East and Africa Broadband Tariffs and Analysis, Latin America Broadband Tariffs and Analysis, Asia-Pacific Broadband Tariffs and Analysis, Western Europe Broadband Tariffs and Analysis, Eastern Europe Broadband Tariffs and Analysis, North America Broadband Tariffs and Analysis, Econometrics modelling of Broadband take up, Broadband Economy. Broadband Content and Applications.



## Fourth Quarter 2010 European Broadband Tariffs Analysis



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# Contents

Executive summary.....	4
Fig. 1: EU countries residential average monthly broadband fee in € PPP terms.....	5
Fig. 2: EU countries residential average monthly broadband fee for 2Mb-8Mb band in € PPP terms.....	5
Fig. 3: EU countries business average monthly fee in € PPP terms.....	6
Fig. 4: EU countries business average monthly broadband fee in € PPP terms.....	6
Fig. 5: EU countries residential average monthly broadband fee for Bundled package (Internet + Telephone) in € PPP terms.....	7
Fig. 6: EU countries residential average monthly broadband fee for 2Mb-8Mb band Bundled package (Internet + Telephone) in € PPP terms.....	7
Fig. 7: EU countries residential average monthly broadband fee for Bundled package (Internet + TV) in € PPP terms.....	8
Fig. 8: EU countries residential average monthly broadband fee for 2Mb-8Mb band Bundled package (Internet + TV) in € PPP terms.....	8
Fig. 9: EU countries residential average monthly broadband fee for Bundled package (Internet + Telephone + TV) in € PPP terms.....	9
Fig. 10: EU countries residential average monthly broadband fee for 24Mb-100Mb band Bundled package (Internet + Telephone + TV) in € PPP terms.....	9
Fig. 11: EU countries residential average monthly broadband fee for xDSL in € PPP terms.....	10
Fig. 12: EU countries residential average monthly broadband fee for xDSL- 2Mb-8Mb band in € PPP terms.....	10
Fig. 13: EU countries residential average monthly broadband fee for Cable modem technology in € PPP terms.....	11
Fig. 14: EU countries residential average monthly broadband fee for Cable modem technology- 24Mb-100Mb band in € PPP terms.....	11
Fig. 15: EU countries residential average monthly broadband fee for FTTx in € PPP terms.....	12
Fig. 16: EU countries residential average monthly broadband fee for FTTx- 24Mb-10Mb band in € PPP terms.....	12
Fig. 17: EU countries residential average monthly broadband fee for Mobile broadband in € PPP terms.....	13
Fig. 18: EU countries residential average monthly broadband fee for Mobile broadband 2Mb-8Mb band in € PPP terms.....	13
Methodology.....	14



## Executive summary

This is a comparative analysis of Q4 2010 broadband tariffs in 27 members of the European Union based on the Quantum-Web ongoing quarterly European broadband tariffs monitoring.

With the growing number of operators and services options, there has never been a more appropriate and better time for telcos to find out at what price they should introduce their new services. Top requirements for all operators today is to keep their costs low and evaluating new service solutions through monitoring the tariffs across the national and international market. For these reasons, Quantum-Web is finding more operators are offering exclusively bundled services and not **access** only anymore.

Some highlights of Q4 2010 broadband tariffs in EU area include the following:

- The monthly tariff for broadband access across the EU countries remains steady during the last quarter of 2010 as operators try to **leveraging the VAT rate increase** impact on tariffs by lowering non-recurring costs or through short term promotions.
- Tariffs for 2Mb-8Mb and 8Mb-16Mb bands became nearly identical whereas the 24Mb-100Mb band now is under **€50 threshold**.
- Despite the fact that Denmark is the most expensive country in Europe to access broadband, the country has the highest broadband penetration among the EU 27 whereas Poland offers one of the cheapest broadband tariffs across all speed bands.
- **O2** (Telefonica) in Czech Republic offers the best broadband promotion across the EU market followed by Welho in Finland and Numericable in France.

The above points highlighting the vivid market of broadband in the EU, however, as our quarterly tariff monitoring service demonstrates, overall broadband recurring costs elements (connection fee plus monthly line rental and or basic cable TV fee) still remains a very important part of revenue streams for operators. In the following we analyse EU broadband tariff market from different perspectives to understand exactly how the tariffs are varying by countries, by speed band and by technology.

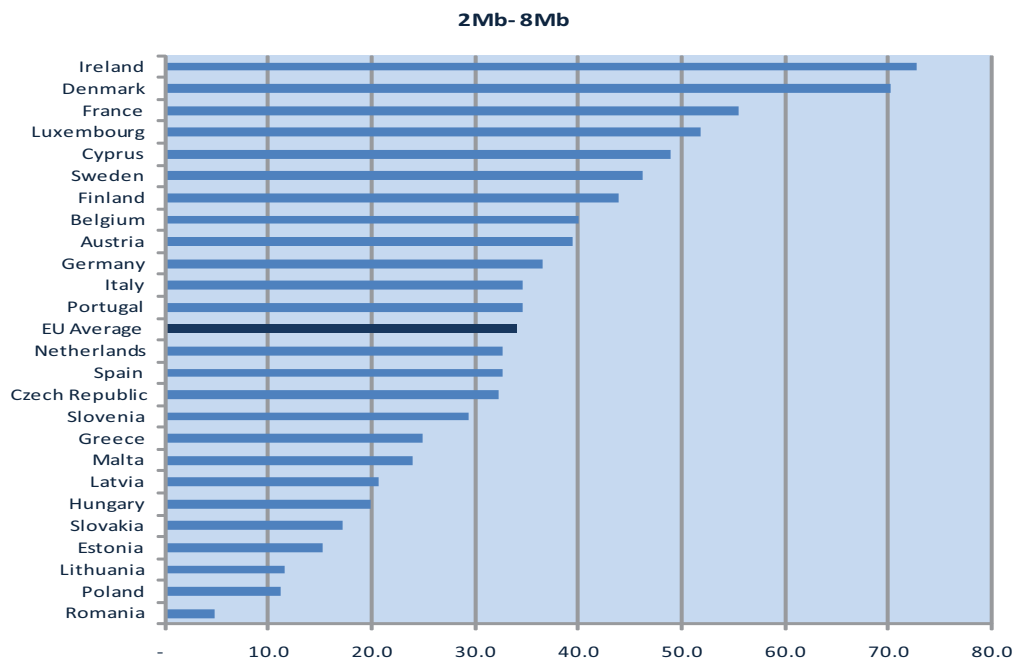
Residential single play broadband tariffs show a systematic pattern; the most common speed band which are 2Mb-8Mb and 8Mb-16Mb are relatively the cheapest packages and majority of promotion targeting these two speed bands.

Fig. 1: EU countries residential average monthly broadband fee in € PPP terms

Country	128Kb- 1Mb	1Mb- 2Mb	2Mb- 8Mb	8Mb- 16Mb	16Mb- 24Mb	24Mb- 100Mb	over 100Mb
Austria	38.4	52.9	39.4	44.1	49.1	81.5	99.0
Belgium			40.0	58.8		102.2	
Bulgaria				9.7	9.2	15.8	
Cyprus	39.7	47.0	48.9		72.6		
Czech Republic		30.0	32.3	26.8		26.1	
Denmark			70.3	80.9	96.2	113.0	
Estonia	16.5	6.2	15.2	16.4	19.4		20.9
Finland	29.1	37.7	43.9	43.7	57.8	50.6	66.4
France			55.6				
Germany			36.6	28.9		35.1	51.7
Greece		32.5	25.0		35.8		
Hungary		6.3	20.0	16.5		23.4	22.8
Ireland	50.6		72.8			62.2	
Italy	19.9		34.7	46.3	45.0		
Latvia	15.3	38.8	20.6	37.9	10.8	18.4	20.8
Lithuania	7.4	6.7	11.5	16.1	10.5	13.2	21.3
Luxembourg		76.8	51.8	55.8	67.9	68.0	
Malta			24.1	32.2	55.7	76.4	
Netherlands		31.0	32.7	52.7	44.4	67.2	79.9
Poland		12.0	11.3	13.7	15.3	18.8	23.4
Portugal			34.6		43.9		
Romania	3.5	6.7	4.8	5.3	7.9	6.2	
Slovakia		14.2	17.2	22.5	14.4	20.3	28.6
Slovenia	19.6	22.4	29.5	33.2	28.7	50.1	341.8
Spain	11.6		32.6	36.6			
Sweden	36.6	39.0	46.3	40.6	53.9	56.3	100.5
UK				31.0	38.7	42.5	
<b>EU Average</b>	<b>24.0</b>	<b>28.8</b>	<b>34.1</b>	<b>34.1</b>	<b>38.9</b>	<b>47.4</b>	<b>73.1</b>

Ireland average tariffs in the 2Mb-8Mb speed band is the highest among the EU state members. The main reason of this high price is bandwidth availability surcharges in the county. In fact majority of broadband packages are capped and those uncapped broadband packages are too expensive in comparison to the EU Average which stands at €34.1

Fig. 2: EU countries residential average monthly broadband fee for 2Mb-8Mb band in € PPP terms

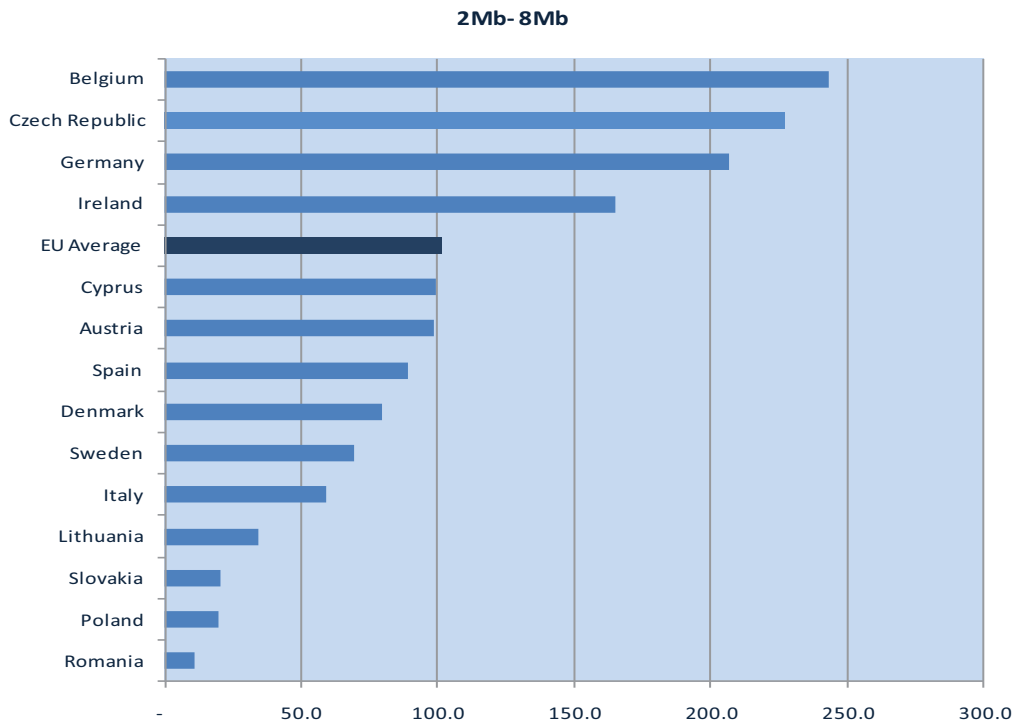


Business single play broadband tariffs are usually more expensive than residential one due to extra services such contingency rate, security packages, static IP, online back-up, IT assistance etc. Within this category of packages the entry level and 1Mb-2Mb are among the most expensive broadband packages due to presence of majority of SDSL services in these two categories.

Fig. 3: EU countries business average monthly broadband fee in € PPP terms

Country	128Kb- 1Mb	1Mb- 2Mb	2Mb- 8Mb	8Mb- 16Mb	16Mb- 24Mb	24Mb- 100Mb	over 100Mb
Austria	101.3	97.5	98.9	189.4		92.2	
Belgium	343.5		243.0			191.0	
Bulgaria				11.5	15.0		
Cyprus		61.7	99.5				
Czech Republic		73.6	226.8	342.0			
Denmark			79.8	135.8	176.9	660.9	
France					74.7		
Germany		145.6	206.5	516.0	682.2		
Greece		45.5			55.1		
Hungary				75.9	101.2	236.0	
Ireland			165.0	124.0	143.6		
Italy			58.8		61.6		
Lithuania			34.3	70.3		43.3	
Luxembourg	522.3	737.2			111.3		
Malta					61.0		
Poland	15.3	16.5	19.4	26.4	11.5	24.2	36.8
Romania			11.1	17.2		23.8	
Slovakia		15.0	20.1				
Spain			89.2	56.4	93.1	60.3	
Sweden	57.2	62.0	69.1	77.9	84.0		57.2
UK					24.2		
<b>EU Average</b>	<b>207.9</b>	<b>139.4</b>	<b>101.5</b>	<b>136.9</b>	<b>121.9</b>	<b>161.9</b>	<b>47.0</b>

Belgium with national average of €243 within 2Mb-8Mb band is the dearest country for business users. Telenet offers “Xpert” range packages from €168 up to €308. Clicknet, the Romania incumbent on the other hand offers the cheapest uncapped business packages within this speed band starting for just €9.56 where the EU average price is €101.





Residential uncapped double play (Internet+ Telephone) broadband tariffs are offered only in 16 EU countries. Double play packages usually includes unlimited local and national calls at pick time or off pick and some of operators even go one step further and offer free international calls as well. On the other hand a minority of operators offer discounted rates and a handful of operators charge their subscribers the connection fee.

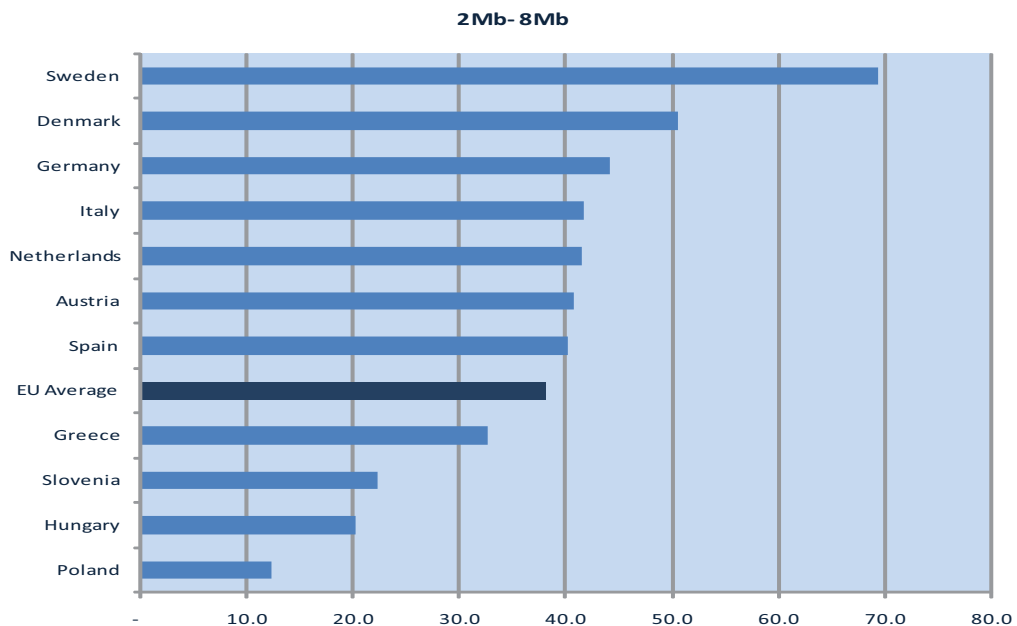
Fig. 5: EU countries residential average monthly broadband fee for Bundled package (Internet + Telephone) in € PPP terms

Country	128Kb- 1Mb	1Mb- 2Mb	2Mb- 8Mb	8Mb- 16Mb	16Mb- 24Mb	24Mb- 100Mb	over 100Mb
Austria			40.7	42.1	61.0	69.9	102.3
Belgium						51.2	
Cyprus				42.0			
Denmark		58.9	50.5	64.3	82.9		
Germany		37.8	44.1	40.9	37.5	43.0	
Greece		51.7	32.8		44.1		
Hungary			20.2				
Ireland	78.8						
Italy			41.7	57.6	57.6		
Netherlands			41.5	55.0	56.6	68.9	91.6
Poland			12.4		14.3		
Romania		12.4			13.6	14.8	
Slovenia	18.8	20.9	22.3	18.8	21.2	33.5	
Spain	40.3	56.7	40.2	48.8	48.4	59.2	
Sweden		59.1	69.3		75.2	66.3	
UK				33.0	37.6	48.9	
<b>EU Average</b>	<b>46.0</b>	<b>42.4</b>	<b>38.0</b>	<b>44.0</b>	<b>44.9</b>	<b>50.6</b>	<b>97.0</b>

Within the most popular speed band (2Mb-8Mb) for double play (Internet +Telephone), Sweden is the most expensive and Poland the cheapest country in the EU area.

Telia, the Swedish incumbent, provides the most expensive double play in Sweden but offers free unlimited calls to national fixed and Telia network plus 3 months at zero Swedish Krona to its new clients. Netia an alternative incumbent in Poland offers a double play package with off pick free national calls at €12.06 per month.

Fig. 6: EU countries residential average monthly broadband fee for 2Mb-8Mb Bundled package (Internet + Telephone) in € PPP terms



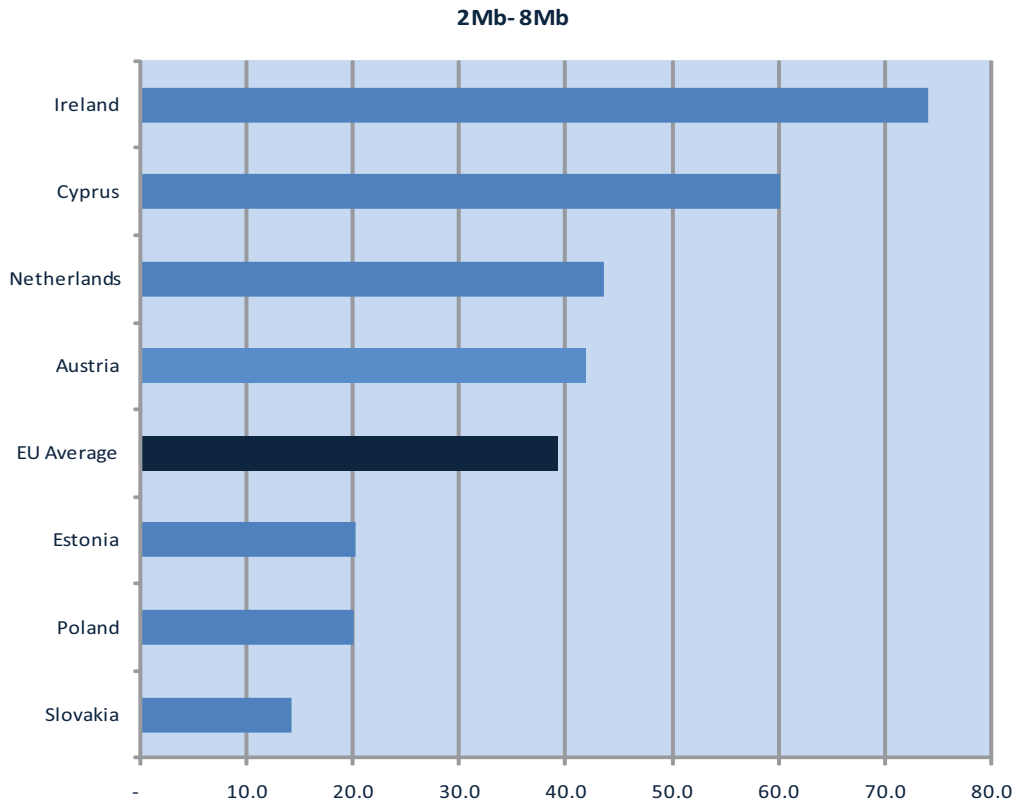
Another popular residential uncapped double play package in EU market is Internet + TV. This category of double play packages is available in 8 EU member states only and on average is much cheaper than Internet + Telephone double plays due to the higher bandwidth of cable network.

Fig. 7: EU countries residential average monthly broadband fee for Bundled package (Internet + TV) in € PPP terms

Country	128Kb- 1Mb	1Mb- 2Mb	2Mb- 8Mb	8Mb- 16Mb	16Mb- 24Mb	24Mb- 100Mb	over 100Mb
Austria			41.9				
Bulgaria				11.0		23.3	
Cyprus		48.1	60.2	41.5	76.7		
Czech Republic	16.2			22.9			
Estonia	13.2		20.2	24.5			30.8
Greece		46.2			51.9		
Ireland			74.0	79.8		88.4	
Latvia						36.5	
Netherlands			43.7	54.8		71.5	
Poland			20.1	21.6		26.1	
Romania						8.8	
Slovakia			14.2		16.2	26.7	
Grand Total	14.2	47.2	41.5	28.5	47.6	35.1	30.8
<b>EU Average</b>	<b>16.6</b>	<b>47.2</b>	<b>39.5</b>	<b>38.1</b>	<b>48.3</b>	<b>39.9</b>	<b>30.8</b>

In the 2Mb-8Mb bandwidth, Ireland is the most expensive and Slovakia the cheapest EU countries. UPC Ireland with “Fibre Starter HD” at €74 monthly cost is defiantly an expensive package where as PKG1 of Slovanet with 42 TV Channels is the cheapest EU option.

Fig. 8: EU countries residential average monthly broadband fee for 2Mb-8Mb band Bundled package (Internet + TV) in € PPP terms



Residential uncapped Triple play (Internet+ Telephone+ TV) broadband tariffs are available in 22 EU member states.

The most common bandwidth for this category of bundled services is 24Mb-100Mb. This category of bundled packages is available mostly through Cable modem and Fibre operators.

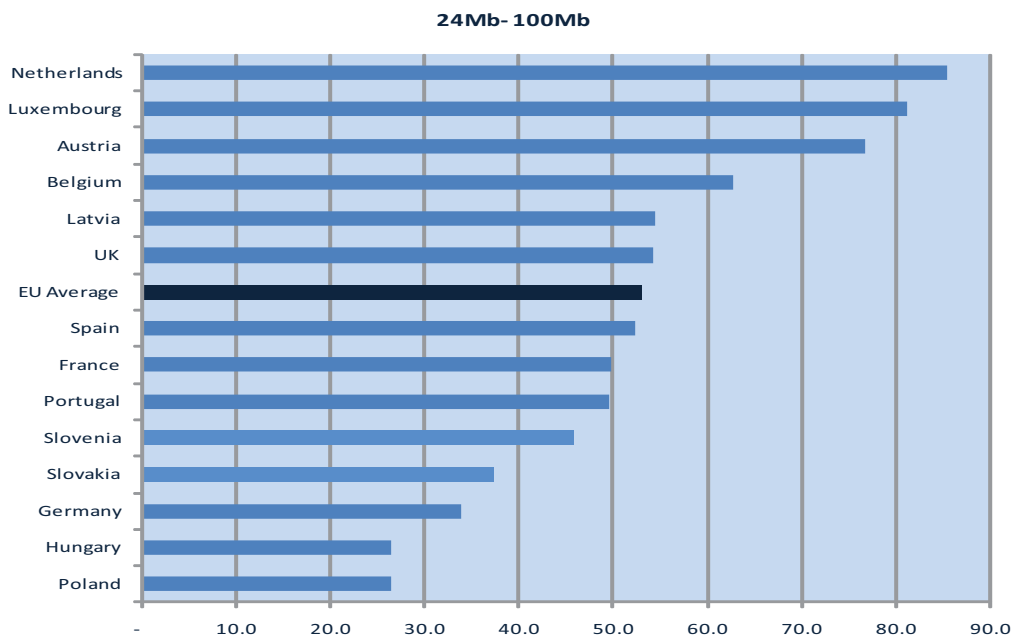
Fig. 9: EU countries residential average monthly broadband fee for Bundled package (Internet + Telephone + TV) in € PPP terms

Country	128Kb- 1Mb	1Mb- 2Mb	2Mb- 8Mb	8Mb- 16Mb	16Mb- 24Mb	24Mb- 100Mb	over 100Mb
Austria			60.8	43.5		76.8	108.3
Belgium				91.8		62.8	
Cyprus	26.3			48.3	74.3		
Czech Republic				19.4			
Denmark			70.5				
Estonia	8.4		16.9	25.8			38.3
France					48.6	49.9	
Germany				59.5		33.8	44.3
Greece					51.5		
Hungary				20.2		26.6	33.5
Italy				69.0	69.0		
Latvia						54.4	
Luxembourg						81.3	
Netherlands		67.9	57.9	64.9	74.3	85.5	97.9
Poland						26.4	
Portugal				33.2	43.7	49.7	140.6
Romania			52.7				
Slovakia		23.5				37.3	43.2
Slovenia				31.1	33.5	45.8	
Spain			45.2	58.0	49.9	52.4	
Sweden						88.0	
UK				39.0	49.6	54.2	
<b>EU Average</b>	<b>17.3</b>	<b>38.3</b>	<b>52.6</b>	<b>47.9</b>	<b>55.6</b>	<b>53.0</b>	<b>90.3</b>

The Netherlands is the most expensive country for triple packages where as Poland have the cheapest tariffs in the EU.

UPC Netherlands with “Fibre Power 90 + Calling Standard+ Digital TV DVR Starter” costs €102 per month which is well above the European average and UPC Poland with “Internet Fibre Power 25” at €24.31 per month is the cheapest option in EU zone.

Fig. 10: EU countries residential average monthly broadband fee for 24Mb-100Mb band Bundled package (Internet + Telephone + TV) in € PPP terms



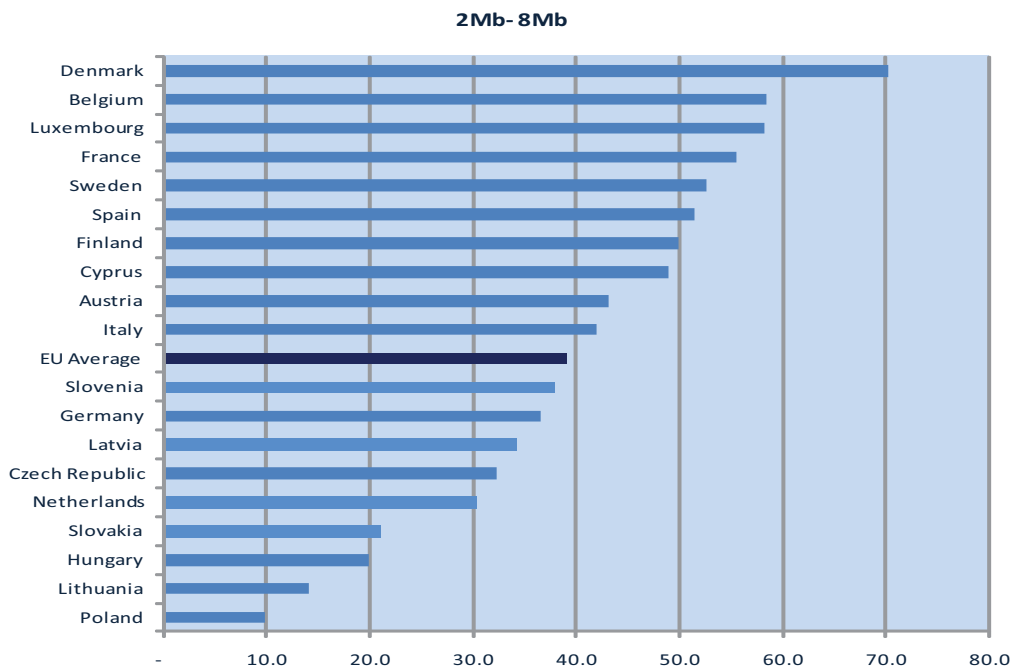
DSL prices have shown the most stable prices during the Q4 2010, remaining above the monthly broadband tariffs in Europe, confirming the most widely access technology hesitates to show any inclination thanks to the two factors; Its wide coverage in terms of national availability and set back of FTTx roll out.

Fig. 11: EU countries residential average monthly broadband fee for xDSL in € PPP terms

Country	128Kb- 1Mb	1Mb- 2Mb	2Mb- 8Mb	8Mb- 16Mb	16Mb- 24Mb	24Mb- 100Mb	over 100Mb
Austria			43.0	49.4			
Belgium			58.4	58.8			
Bulgaria				9.7	9.2		
Cyprus	39.7	47.0	48.9		72.6		
Czech Republic		27.4	32.3	37.4			
Denmark			70.3	80.3	90.1		
Finland	45.6	46.7	49.9	56.7	54.9		
France			55.6				
Germany			36.6	44.7			
Greece		32.5			35.8		
Hungary			20.0	21.4		22.7	
Ireland	50.6						
Italy	19.9		42.0	46.3	44.6		
Latvia		27.5	34.3	37.9			
Lithuania	9.7		14.2	20.8			
Luxembourg		76.8	58.3		70.0		
Malta				32.2	61.0		
Netherlands			30.4	47.7	38.4	56.6	
Poland		10.8	9.9	13.1	12.3		
Romania		6.7			7.9	9.1	
Slovakia		15.7	21.1	27.9			
Slovenia	25.8	39.7	37.9	49.6	44.3	44.3	
Spain			51.4	36.6			
Sweden		46.4	52.6		56.5	47.4	54.8
UK					38.3		
<b>EU Average</b>	<b>33.0</b>	<b>33.4</b>	<b>39.1</b>	<b>39.7</b>	<b>43.9</b>	<b>32.2</b>	<b>54.8</b>

Denmark is the most expensive country for xDSL services in the 2Mb-8Mb speed band. The “5Mbit” of the incumbent TDC costs €72.3 where as the “4 Mbit/s” of Netia in Poland is the cheapest deal in this category.

Fig. 12: EU countries residential average monthly broadband fee for xDSL- 2Mb-8Mb band in € PPP terms



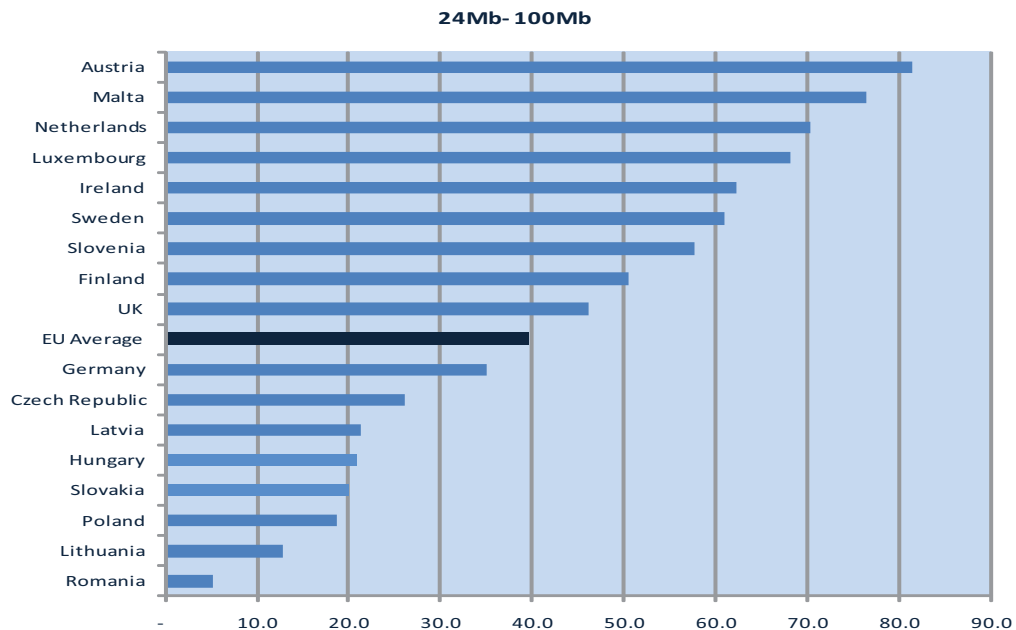
Cable modem prices remained relatively stable and well below the monthly tariffs of broadband in each bandwidth category throughout 2010, and thanks to the generous promotions of big cable operators, namely UPC, the churn rate to other technologies such as Fibre has been minimised during the fourth quarter of 2010.

Fig. 13: EU countries residential average monthly broadband fee for cable modem technology in € PPP terms

Country	128Kb- 1Mb	1Mb- 2Mb	2Mb- 8Mb	8Mb- 16Mb	16Mb- 24Mb	24Mb- 100Mb	over 100Mb
Austria	38.4	52.9	41.0	40.5	49.1	81.5	99.0
Czech Republic				16.2		26.1	
Estonia	7.9		12.4	16.4			20.9
Finland	24.7	29.7	37.1	40.7		50.6	66.4
Germany				20.9		35.1	51.7
Hungary		6.3		13.2		20.9	22.8
Ireland						62.2	
Latvia						21.2	
Lithuania	5.8	6.7	9.7	13.7	11.3	12.9	22.4
Luxembourg			45.3	55.8	63.7	68.0	
Malta					50.3	76.4	
Netherlands		31.0	37.2	49.4	44.5	70.4	79.9
Poland		12.7	12.3	13.9	17.3	18.8	23.4
Romania	3.5		4.8	5.3		5.3	
Slovakia		9.6	13.2	11.7	14.9	20.0	28.6
Slovenia	16.5	16.7	21.1	30.9	45.5	57.8	70.1
Sweden		31.6	43.3		46.2	60.9	
UK				31.0	40.0	46.2	
<b>EU Average</b>	<b>14.4</b>	<b>19.2</b>	<b>19.6</b>	<b>26.0</b>	<b>30.5</b>	<b>39.5</b>	<b>46.0</b>

The 24Mb- 100Mb bandwidth is the most popular band among operators and 17 countries offer cable modem broadband at this speed. Austria has the highest and Romania the lowest tariff in this category. “Chello Ultra” of UPC with 100Mb download and 10 Mb upload speed costs €111 per month where as “Digi net Fiberlink” with the same bandwidth costs only €5.

Fig. 14: EU countries residential average monthly broadband fee for cable modem technology 24Mb-100Mb band in € PPP terms



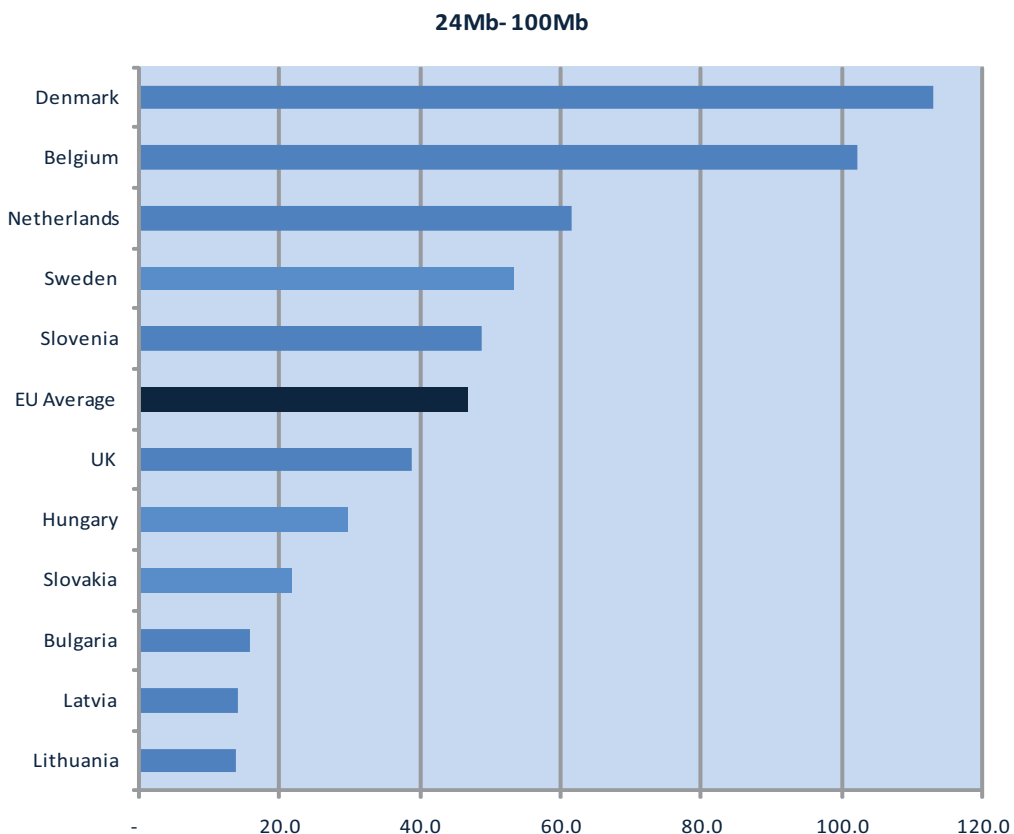
Fibre tariffs remained relatively stable during the last quarter and offers are available in 13 EU countries. Price of fibre packages where there is availability is cheaper than cable modem broadband. The average price of fibre connection is €40 per month excluding the outlier operator t-2 in Slovenia where the 500/500 Mbps and 1/1Gbps cost €409 and €819 respectively.

Fig. 15: EU countries residential average monthly broadband fee for FTTx in € PPP terms

Country	128Kb- 1Mb	1Mb- 2Mb	2Mb- 8Mb	8Mb- 16Mb	16Mb- 24Mb	24Mb- 100Mb	over 100Mb
Belgium						102.2	
Bulgaria						15.8	
Denmark				81.5	102.3	113.0	
Finland	32.6		38.8	53.5	62.1		
Hungary				21.4		29.8	
Italy					46.3		
Latvia					10.8	14.2	20.8
Lithuania					8.9	13.8	20.2
Netherlands				69.1	74.7	61.4	
Slovakia					12.9	21.7	
Slovenia				29.2	17.9	48.8	819.4
Sweden	36.6	34.1	43.3	41.3		53.3	123.4
UK						38.9	
<b>EU Average</b>	<b>34.6</b>	<b>34.1</b>	<b>41.0</b>	<b>44.9</b>	<b>39.4</b>	<b>46.6</b>	<b>246.0</b>

EnergiMidt’s 40/40 Mbit/s at €162 per month is the dearest package in this bandwidth whereas the Lithuanian incumbent Teo’s “Optimalus Fibre” with 80/20 Mbps download and upload speed costs just over€11 per month.

Fig. 16: EU countries residential average monthly broadband fee for FTTx- 24Mb-100Mb band in € PPP terms

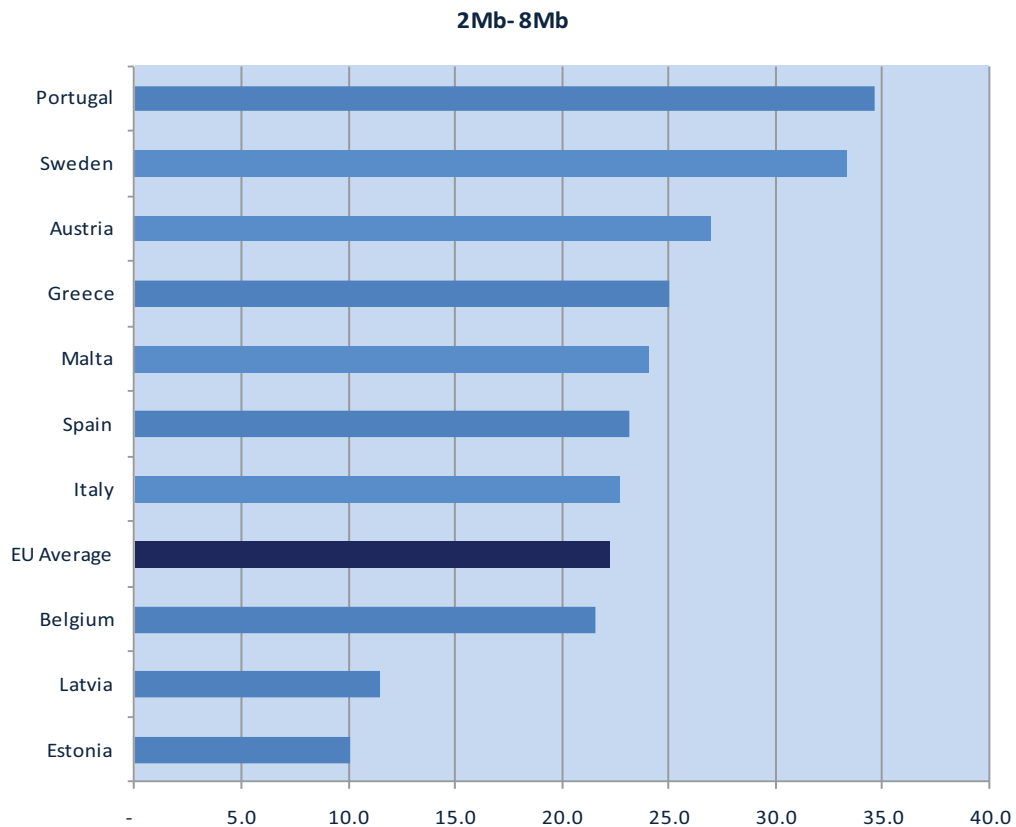


Mobile broadband as an alternative to the traditional fixed broadband service is trying to establish itself as alternative broadband technology. The speed and network capacity always have been the major drawbacks of wireless broadband but operators are trying to tackle these issues around the clock. The 4G of Telia in Sweden offers speed up to 80 Mb which is incredibly fast for wireless broadband. Pricewise, tariffs are in line with Wireline counterparts and more mobile or hybrid operators are moving into ever growing broadband market.

Fig. 17: EU countries residential average monthly broadband fee for Mobile broadband in € PPP terms

Country	128Kb- 1Mb	1Mb- 2Mb	2Mb- 8Mb	8Mb- 16Mb	16Mb- 24Mb	24Mb- 100Mb	over 100Mb
Austria			26.9				
Belgium			21.5				
Czech Republic		32.7					
Estonia		6.2	10.1		19.4		
Finland	18.3	36.8		17.1			
Greece			25.0				
Italy			22.7				
Latvia			11.5				
Malta			24.1				
Portugal			34.6		43.9		
Spain	11.6		23.2				
Sweden			33.4	39.2		87.7	
<b>EU Average</b>	<b>16.6</b>	<b>25.2</b>	<b>22.2</b>	<b>28.2</b>	<b>31.7</b>	<b>87.7</b>	

The most popular bandwidth in the mobile broadband spectrum is 2Mb- 8Mb. Operators in 10 country within the EU area offer uncapped residential mobile broadband through dongle and PC cards. Portugal incumbent TMN with €34.6 and Estonian EMT with €10.1 offer the highest and lowest fare within 2Mb- 8Mb bandwidth across the EU area.





## Methodology

### Limitations

The main issues and limitation of a comparative analysis are lack of like-to-like tariffs not only at the European level but at national level which make the analysis task a very complex. For example Digital TV as part of a bundle package can offer free to Air digital TV plus 20 channels or 100 channels, or bundle telephone service can include interconnection cost or not or perhaps includes cross network or only on network calls. All these thematic should be taken into consideration in a comparative analysis.

### Promotions

For the purpose of our analysis we didn't take into account promotion even those applied for entire duration of contract.

### Residential and business

In our analysis we divide broadband offers into two categories, Residential and Business, despite the fact that majority of micro businesses using residential packages.

### Capped and not capped packages

The concept of monthly allowance is at heart of countries or operators with limited international bandwidth. A category of operators impose monthly allowance in order to minimising the risk of multi tenant dwellings to share a broadband connection through an Ethernet network. For the purpose of this analysis we extrapolate from our broadband tariffs database, those packages with unlimited data allowance.

### Bundled and not bundled packages

In our analysis we didn't take into account entire range of bundled packages such as quad play and all variations of triple and dual play packages available in our database.

### Cost of line rental or cable TV monthly fee

In our analysis we take into account the cost of access to a broadband service and not merely the broadband connection as we believe it would be misleading to ignore a recurring cost for access the broadband from





our calculation. Therefore Line rental and a basic cable monthly fee where is compulsory to pay in order to have a broadband access is included in our analysis.

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### **Non recurring cost spread**

In our analysis we calculated all non recurring costs and spread for the duration of each contract in order to avoid a generalised and basic approach of spreading non recurring cost on a fixed period of time for all packages with different contract duration.

### **Currency conversion**

For the purpose of our analysis we converted all currency in to Euro expressed not in current value but expressed in PPP terms to provide a more unbiased comparative analysis of broadband cost across EU member states.



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