

**Report on**

**Internet Access Costs**

**Via a Standard Telephone Line, ADSL, and**  
**Cable Modem**

**January 2004**

Produced for:

**European Commission**  
**Directorate General for Information Society**

**The opinions expressed in this Study are those of the authors and do not necessarily reflect the views of the European Commission.**

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The numbers behind the tables and graphs in this report is provided to the European Commission in 3 spreadsheets, where the presentational formats can be altered.

**Important: These appendices are only available for use within the European Commission, and should not be distributed to other parties.**

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**Disclaimer: This report has been commissioned as an independent study to examine tariff developments in the European Community. The Commission does not accept any responsibility for the accuracy or completeness of the information contained herein.**

The tariff information is collected by Teligen from the individual operators, and is believed to be correct as of 1 January 2004. Teligen will not accept responsibility for any decisions made on the basis of information in this report.

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# 1 Report Summary

## 1.1 Background

Teligen has produced this report on behalf of the DG Information Society of the European Commission. As an aid to the monitoring of the development of the information society in Europe and the implementation of the current regulatory package, the Commission needs to collect and analyse information on a number of indicators. These indicators cover key aspects of the market such as growth, tariffs for retail services, leased lines and interconnection, local access and incumbents' market share. Also included are Internet retail tariffs, as offered in the EU and EEA.

This report shows actual prices as of 1 January 2004, for services offered to residential subscribers only. It covers 3 main types of access: *dial-up via a standard telephone line*, *ADSL* and *cable modem*. The prices covered also include, where applicable, charges related to the access "service" (e.g. the telephone line) as well as the ISP service, in order to build a picture of the total cost experienced by the user. More specific details regarding cost elements used in the analysis for each access type are highlighted in **Section 2.2**.

In addition a selection of other important parameters of the services, especially for the ISP services, are included in order to further distinguish between different levels of offerings. These include non-price data such web space and email addresses.

Information has been collected from all 15 EU member States, as well as Norway and Iceland (EEA). Certain criteria are given as to the number and choice of ISP's in each country – these will be discussed in more detail in **Section 2.1**.

The analysis of dial-up access services is based on a basket profile approach, and is the same as that used in Teligen's 2002 reports on the same subject. As specified by the Commission, the methodology for calculating dial-up Internet access prices has been designed to enable direct comparisons with the estimates of the Organisation for Economic Co-operation and Development (OECD) Secretariat, published in their biennial Communications Outlook<sup>1</sup>. In total, 3 profiles are defined: 40 hour peak time usage, 20 hour off-peak time usage, and "unlimited" usage with an optional 30 x 5-hour calls per month (assumed to be at peak times). It should be considered, however, that the latter profile is no longer part of the OECD benchmark for dial-up services, as it is acknowledged that DSL and cable modem technologies are on the whole more suited to such "always-on" usage – in fact, the OECD currently place less emphasis on the comparison of dial-up access prices, in favour of broadband access services. The analysis will nonetheless consider all three of these dial-up profiles so as to remain within the scope of the report. The total cost for using the services, as defined in these profiles, has been calculated along with a full breakdown of the fixed and variable prices connected to each service (access and ISP charges).

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<sup>1</sup> Available at <http://www1.oecd.org/publications/e-book/9303021E.PDF>  
(see tables 6.2 to 6.4)

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The analysis of ADSL and cable modem access services is again similar to that used in Teligen's 2002 reports. The bandwidth issue makes it difficult to compile accurate direct comparisons between providers, as generally there is a wide range of bandwidths on offer. This study uses Teligen's normalised bandwidth benchmark where a like-for-like comparison of cost per 1 Mbit/s of bandwidth can be found, using specifications provided by the Commission. This method, however, tends to favour higher bandwidth services, therefore a second set of data is also provided showing the lowest actual monthly price from each provider together with the bitrates for that offer. This way a more complete picture can be created from the available data.

Results are reported in Euro, including VAT. Also Euro / PPP conversions are included in the spreadsheets behind this report, using values produced by Eurostat for 2004. VAT levels have been identified, and these are displayed along with the appropriate exchange rates in **Section 1.2**.

The results displayed in **Section 3** include a full list of packages analysed, as well as an analysis of the best (cheapest) and average prices for each service provider.

Teligen has collected tariff data from primary sources, i.e. directly from the telecom operators and Internet Service Providers. As a specialist in tariff information, Teligen maintains direct contacts with all the operators covered on a regular basis, using a unique network of personal contacts within the operators' organisations (liaison officers).

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## 1.2 Exchange rates

The following table lists the exchange rates and the VAT rates used in this report. All exchange rates refer to **January 2004**, obtained from the online Financial Times (UK) currency service<sup>2</sup>.

As the Commission required the results also to be available in Euro Purchasing Power Parities (Euro / PPP), these rates have been bought in from Eurostat, and are 2004 projected averages.

**Table 1.1 Jan. 2004: Exchange rates, national currency to Euro, and VAT percentages**

	Exchange rate to euro		VAT
	EURO	EURO PPP	January 2004
<b>Austria</b>	1.0	0.970591	20%
<b>Belgium</b>	1.0	1.001301692	21%
<b>Denmark</b>	0.134224	0.104415633	25%
<b>Finland</b>	1.0	0.888257239	22%
<b>France</b>	1.0	0.992851469	19.6%
<b>Germany</b>	1.0	0.932487878	16%
<b>Greece</b>	1.0	1.247660636	18%
<b>Iceland</b>	0.011570	0.009102908	24.5%
<b>Ireland</b>	1.0	0.856751199	21%
<b>Italy</b>	1.0	1.056747332	20%
<b>Luxembourg</b>	1.0	0.875886835	15%
<b>Netherlands</b>	1.0	0.949397133	19%
<b>Norway</b>	0.115235	0.096354894	24%
<b>Portugal</b>	1.0	1.306847883	19%
<b>Spain</b>	1.0	1.144426642	16%
<b>Sweden</b>	0.108731	0.092555742	25%
<b>UK</b>	1.462095	1.428038974	17.5%

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<sup>2</sup> Available at <http://www.marketprices.ft.com/markets/currencies/ab>

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## **2 Data Collection**

### **2.1 Service Provider Research**

Teligen has gained extensive experience in monitoring the ISP market over several years. A detailed understanding of the varying implications of access to the Internet has allowed us to build comprehensive price comparisons for dial up access to ISPs, and prices for the “always on” access media of ADSL and cable modem.

The service providers considered in the dial-up access part of this study were chosen based upon market share, a measurement that has shown relatively little movement over the past few years. In general we are seeing more in the way of a consolidation of ISPs, both within and across countries, in this market that is becoming less significant in the advent of broadband. It is apparent that the largest players in each dial-up market remain prominent in all of the countries. The selection criteria for the ADSL and cable modem parts of this study were more specific, and these are discussed in more detail later in this report.

The following sections deal with the research involved in ascertaining which service providers should be included in the comparison, based upon the associated criteria set by the Commission.

#### **2.1.1 Carrier Selection**

For each of the three access types the Commission has set various criteria for the selection of service providers to be included in the comparisons. The main selection issue, pertinent to the dial-up part of the study, was to base upon market share, ranked by number of subscribers.

Collecting the original data for the subscriber numbers in some cases proved problematic; ISPs as a matter of course are not keen to give out subscriber numbers, and many of them make it policy not to divulge such information. Taking this into consideration, either the National Regulatory Authority in each country or, where available, an ISP Association (ISPA) was contacted for this type of information.

Some National Regulatory Authorities (NRAs) collect such data, and then publish it in their annual or quarterly reports. However, even in countries where the NRA makes such information available, the ISPs are again usually reluctant to give up-to-date subscriber numbers.

Compliance with the scope of this study requires representation of as much accurate information on subscriber numbers or market share as possible. For each country in the study, therefore, either the NRA or the ISPA was approached to obtain this information, and in cases where no specific subscriber number information was available, the NRA or the ISPA were on the whole able to provide a list of the top ISPs and their combined market share.

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### **2.1.2 Dial-up Access**

For each of the 17 countries in the study the top 5 Internet Service Providers, ranked by market share / number of users, has been identified. Fewer ISPs have been included if the combined market share of the smaller number is at least 80% of the overall national market. Where the top 5 cover less than 50% of the market, up to 5 additional ISPs have been included to give at least 80% market coverage. Thus no more than 10 ISPs have been included for any Member State.

The ISPAs in each country are reputable associations and very much representative of the ISPs. In most cases the ISPA can account for 90% or more of the ISPs as their members. The duties the ISPAs have towards their ISPs vary, but often they include providing data for ISP reports.

The national regulators, in some countries, act like an ISPA in the sense that they collect data from the ISPs and make it available on their websites. It varies enormously between countries whether data is made publicly available. The Scandinavian countries, for example, tend to be very transparent in their communication of the information provided by the ISPs.

The following table details the ISPs chosen for this final comparison, as of January 2004, along with data sources, and some reasoning for the choices made:



**Table 2.1 ISPs Selected for Dial-up Access Comparison**

<b>Austria</b>	<b><i>List of ISPs provided by Austrian ISP Association</i></b>	<b>Number of subscribers</b>		<b>Data source</b>
	Telekom Austria	Combined 80% market share		ISP Association
	UTA Telekom AG, Netway (merged)	Combined 80% market share		ISP Association
	T-Online	Combined 80% market share		ISP Association
	Tiscali	Combined 80% market share		ISP Association
	Inode	Combined 80% market share		ISP Association
<b>Belgium</b>	<b><i>List of ISPs provided by Belgian ISP Association</i></b>	<b>Number of subscribers</b>		<b>Data source</b>
	Belgacom Skynet	Combined 80% market share		ISP Association
	Tiscali	Combined 80% market share		ISP Association
	Scarlet	Combined 80% market share		ISP Association
	XS4ALL	Combined 80% market share		ISP Association
	EDP net.	Combined 80% market share		ISP Association
<b>Denmark</b>	<b><i>List of ISP provided by the Danish Telecoms regulator</i></b>	<b>Number of subscribers</b>		<b>Data source</b>
	TDC Internet	941,400	61%	National Regulator
	Tele2	146,663	9%	National Regulator
	Telia	134,961	9%	National Regulator
	Tiscali	130,265	8%	National Regulator
	Cybercity	92,654	6%	National Regulator

<b>Finland</b>	<b><i>List of ISP provided by Finnish Telecoms regulator</i></b>	<b>Number of subscribers</b>	<b>Data source</b>
	TeliaSonera	Combined 80% market share	National Regulator
	MTV3	Combined 80% market share	National Regulator
	Tiscali / SurfEU.fi	Combined 80% market share	National Regulator
	Saunalahti	Combined 80% market share	National Regulator
	Elisa Internet	Combined 80% market share	National Regulator
<b>France</b>	<b><i>Information provided by the French regulator</i></b>	<b>Number of subscribers</b>	<b>Data source</b>
	Wanadoo (France Telecom)	Combined 80% market share	National regulator
	AOL	Combined 80% market share	National regulator
	Tiscali	Combined 80% market share	National regulator
	T-Online / Club Internet	Combined 80% market share	National regulator
	Free Internet	Combined 80% market share	National regulator
<b>Germany</b>	<b><i>Information provided by ISPs</i></b>	<b>Number of subscribers</b>	<b>Data source</b>
	T-Online	7,400,000	ISP
	Freenet	3,700,000	ISP
	AOL	2,400,000	ISP
	Arcor	1,600,000	ISP
	Tiscali	700,000	ISP

<b>Greece</b>	<b><i>Information provided by the Greek telecoms regulator</i></b>	<b>Number of subscribers</b>	<b>Data source</b>
	Otenet	Combined 80% market share	National regulator
	Forthnet	Combined 80% market share	National regulator
	Hellas Online	Combined 80% market share	National regulator
	Panafonet / Vodafone	Combined 80% market share	National regulator
	ACN SA	Combined 80% market share	National regulator
<b>Ireland</b>	<b><i>Information provided by the national regulator</i></b>	<b>Number of subscribers</b>	<b>Data source</b>
	Eircom	Combined 80% market share	National regulator
	EsatBT	Combined 80% market share	National regulator
	UTV	Combined 80% market share	National regulator
	Connect Ireland	Combined 80% market share	National regulator
	Unison	Combined 80% market share	National regulator
<b>Italy</b>	<b><i>Information provided by the Italian ISPA, AIIP.</i></b>	<b>Number of subscribers</b>	<b>Data source</b>
	Telecom Italia Network (TIN)	Combined 80% market share	ISP Association
	WIND (Infostrada/Italia Online)	Combined 80% market share	ISP Association
	Tiscalinet/Worldonline	Combined 80% market share	ISP Association
	Mc-Link	Combined 80% market share	ISP Association
	DADA	Combined 80% market share	ISP Association

<b>Luxembourg</b>	<b><i>Information provided by the ISPA Luxembourg</i></b>	<b>Number of subscribers</b>	<b>Data source</b>
	P&T Luxembourg	Combined over 90% market share, P&T with at least 60%	ISP Association
	Luxembourg Online	Combined over 90% market share, P&T with at least 60%	ISP Association
	Visual Online	Combined over 90% market share, P&T with at least 60%	ISP Association
	Tele2	N/A	ISP Association
	Crosscomm	N/A	ISP Association
<b>Netherlands</b>	<b><i>Information from National regulator</i></b>	<b>Number of subscribers</b>	<b>Data source</b>
	<i>KPN, divided into</i>		
	- Planet Internet	16%	National regulator
	- Het Net	16%	National regulator
	Zonnet	11%	National regulator
	Wanadoo	8%	National regulator
	Tiscali	7%	National regulator
	12 Move	7%	National regulator
	Freeler	6%	National regulator
	XS4all	N/A	National regulator
	Compuserve (AOL Benelux)	N/A	National regulator
	Cistron	N/A	National regulator

<b>Portugal</b>	<i>Information provided by National regulator and Reportium XXI Consulting</i>	<b>Number of subscribers</b>	<b>Data source</b>
	Media Capital Multimedia	1,067,000	National regulator and Reportium Consulting
	Telepac	940,000	National regulator and Reportium Consulting
	Clix	221,465	National regulator and Reportium Consulting
	Oninet	367,641	National regulator and Reportium Consulting
	Jazznet		National regulator and Reportium Consulting
<b>Spain</b>	<i>List of ISPs confirmed by the Spanish regulator and other sources</i>	<b>Number of subscribers</b>	<b>Data source</b>
	Terra	Combined 80% market share	National regulator and other sources
	Wanadoo España	Combined 80% market share	National regulator and other sources
	Tiscali	Combined 80% market share	National regulator and other sources
	ya.com	Combined 80% market share	National regulator and other sources
	Telefonica España	Combined 80% market share	National regulator and other sources
<b>Sweden</b>	<i>List of ISPs provided by Swedish Telecoms regulator</i>	<b>Number of subscribers</b>	<b>Data source</b>
	Telia Sonera	36%	National regulator
	Tele2	26%	National regulator
	Glocalnet (was Telenordia)	10%	National regulator
	Spray	9%	National regulator
	Tiscali	3%	National regulator

<b>UK</b>	<b><i>List of subscribers provided by ISP Review</i></b>	<b>Number of subscribers</b>	<b>Data source</b>
	Freeserve	2,640,000	ISP Review (13/11/2003)
	AOL UK	2,200,000	ISP Review (13/11/2003)
	BT Openworld	1,780,000	ISP Review (13/11/2003)
	Tiscali	1,400,000	ISP Review (13/11/2003)
	NTL	1,332,000	ISP Review (13/11/2003)
	Virgin	1,100,000	ISP Review (13/11/2003)
	Breathe	630,000	ISP Review (13/11/2003)
	Telewest	610,000	ISP Review (13/11/2003)
	Claranet	450,000	ISP Review (13/11/2003)
	Brightview	400,000	ISP Review (13/11/2003)
<b>Iceland</b>	<b><i>List of ISPs provided by Icelandic Telecoms regulator</i></b>	<b>Number of subscribers</b>	<b>Data source</b>
	Siminn Internet	Combined 80% market share	National regulator
	Og Vodafone	Combined 80% market share	National regulator
	Margmiðlun	Combined 80% market share	National regulator
	Hringiðan	Combined 80% market share	National regulator
	Snerpa	Combined 80% market share	National regulator
<b>Norway</b>	<b><i>List of ISPs provided by the Norwegian Telecoms regulator</i></b>	<b>Number of subscribers</b>	<b>Data source</b>
	Telenor	Combined 80% market share	National regulator
	Tele2 Norge	Combined 80% market share	National regulator
	Tiscali AS	Combined 80% market share	National regulator
	RingNett	Combined 80% market share	National regulator
	Start	Combined 80% market share	National regulator

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Several issues were raised during the process of determining which ISPs to include in the dial-up comparisons – these are summarised below:

As previously mentioned, several countries in the comparison have their ISPs monitored by an ISP Association (ISPA). These will collate information on most, if not all, of the active ISPs in their particular market. This may include subscriber numbers, but more often than not further research is required directly with the NRAs or ISPs in order to obtain such information. Within the country group in question eleven have ISPAs: Austria, Belgium, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Spain, UK and Iceland.

For this report either the NRA or ISPA were contacted to confirm the major ISPs in each country, based on the coverage of the original set of Teligen reports. In fact, since the last Internet Access report for the Information Society, in November 2002, it is evident that there has been a certain consolidation of ISPs, but the most prominent ones are still very much prevalent in all the countries and no major shuffles have taken place in any particular market.

For the countries that do not have an ISPA the national regulatory authority (NRA) was contacted to obtain information on the major ISPs. In Denmark, the Netherlands and Sweden, the NRA collects and publishes subscriber information provided to them directly by the ISPs. These countries, however, proved to be exceptions, as in other countries the NRA could provide information on which ISPs were the most prominent, but not details of subscriber information. In these cases the ISPs were directly contacted in order to obtain the subscriber information.

One clear fact that emerges from the study of Internet Service Provision in Europe is that the market positioning of the major operators remains relatively static. In terms of obtaining substantiating information on market share, certain issues become apparent: most ISPs consider subscriber or market share information extremely confidential. Some are unwilling to divulge or publish subscriber information on competitively sensitive grounds. In other cases, the ISP might only publish the total number of subscribers in all its operating countries. Generally it is most likely that the incumbent ISP will be the one to publish subscriber numbers, either itself, or through the ISPA. It is also common to be able to determine those prominent operators with combined market shares of a certain level, usually from an ISPA or regulator. Information on subscriber numbers for the UK was obtained from *ISP Review*<sup>3</sup>. Information for Portugal was obtained from the NRA, and from *Reportium XXI Consulting*, who produce an annual report on the Portuguese Telecoms and IT market.

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<sup>3</sup> Website at <http://www.ispreview.co.uk/>

### 2.1.3 ADSL

For ADSL services, the Commission stipulated that the ISP of the ex-incumbent operator and a second major ISP offering ADSL should be identified for each of the 17 countries included. The table below lists the two ISPs chosen for each country:

**Table 2.2** ISPs Selected for ADSL Access Comparison

<b>COUNTRY</b>	<b>ISPs</b>
<b>Austria</b>	<i>List of ISPs provided by Austrian ISP Association</i>
	Telekom Austria
	UTA Telekom AG, Netway (merged)
<b>Belgium</b>	<i>List of ISPs provided by Belgian ISP Association</i>
	Belgacom Skynet
	Tiscali
<b>Denmark</b>	<i>List of ISP provided by the Danish Telecoms regulator</i>
	TDC
	Tele2
<b>Finland</b>	<i>List of ISP provided by Finnish Telecoms regulator</i>
	Sonera
	Elisa Internet Oy
<b>France</b>	<i>Information provided by the French regulator</i>
	France Telecom - Wanadoo
	AOL
<b>Germany</b>	<i>Information provided by ISPs</i>
	T-Online
	Freenet
<b>Greece</b>	<i>Information provided by the Greek Telecoms regulator</i>
	Otenet
	Forthnet
<b>Iceland</b>	<i>List of ISPs provided by Icelandic Telecoms regulator</i>
	Íslandssími
	Og Vodafone



<b>COUNTRY</b>	<b>ISPs</b>
<b>Ireland</b>	<i>Information provided by the national regulator</i>
	Eircom
	Esat
<b>Italy</b>	<i>Information provided by the Italian ISPA, AIIP.</i>
	Telecom Italia Network (TIN)
	WIND (Libero/Italia Online)
<b>Luxembourg</b>	<i>Information provided by the ISPA Luxembourg</i>
	P&T Luxembourg
	Luxembourg Online
<b>Netherlands</b>	<i>Information provided by the national regulator</i>
	<i>KPN, divided into</i>
	- Planet Internet
	- Het Net
	Zonnet
<b>Norway</b>	<i>List of ISPs provided by the Norwegian Telecoms regulator</i>
	Telenor
	Tele2 Norge
<b>Portugal</b>	<i>Information provided by National regulator and Reportium XXI Consulting</i>
	Media Capital Multimedia
	Telepac
<b>Spain</b>	<i>List of ISPs confirmed by the Spanish regulator and other sources</i>
	Terra
	Wanadoo España
<b>Sweden</b>	<i>List of ISPs provided by Swedish Telecoms regulator</i>
	Telia Sonera
	Tele2
<b>UK</b>	<i>List of subscribers provided by ISP Review</i>
	Freeserve
	BT Openworld

The market situation in most countries is such that many service providers do not have their own physical telephone network – this is necessary in order to enable ADSL access to customer premises. Instead, the service providers will most often resell the incumbent’s ADSL service. In some such cases, additional ADSL transport charges are also levied by the incumbent. This is discussed in more detail in the methodology, in **Section 2.2.2**.

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## 2.1.4 Cable Modem

Cable modem is a less common Internet access medium for private customers in Europe, although the industry is seeing increased diversity in service provision. In countries like the Netherlands and the UK it is widely used, and without doubt an active competitor of dial-up and ADSL access. Most other countries, however, are very much still beginning to offer such services. For this part of the report the Commission has stipulated that between 1 and 5 cable operators are to be identified, in the following countries: Austria, Belgium, Ireland, the Netherlands, Portugal and the UK. These countries have been chosen as it has been estimated that, approximately, cable modem connections represent more than 40% of total broadband connections.

The source for cable modem service providers, offering Internet services to private customers, is the *Cable & Satellite Yearbook 2004*<sup>4</sup>.

The table on the following page details which ISPs offering Cable Modem services have been used in the comparison:

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<sup>4</sup> An Informa Media Group Publication

**Table 2.3 ISPs Selected for Cable Modem Access Comparison**

<b>COUNTRY</b>	<b>ISP</b>
<b>Austria</b>	
	UPC Telekabel
	Kabelsignal
	Liwest
	tplus
<b>Belgium</b>	
	Brutelecom
	Coditel
	Telenet
	UPC
<b>Ireland</b>	
	Chorus
	NTL
<b>Netherlands</b>	
	Casema/Wanadoo
	Essent Kabelkom
	Multikabel/Quicknet
	UPC
<b>Portugal</b>	
	Bragatel
	TV Cabo
	CaboVisao / Netvisao
	TVTEL
<b>UK</b>	
	NTL
	Telewest - BlueYonder
	Wight Cable

Cable modem Internet access is a service that is growing in Europe. Networks originally built for cable television have been used to offer telephony services to rival the former incumbents for some time now, and in some countries the high capacity of these cable networks are now being efficiently utilised to move into the broadband Internet access markets. In the countries that are included in this part of the study cable modem broadband access has a sizeable portion of the market, and as such there is a reasonable selection of service providers to choose from. Tariff and service information for these service providers is becoming more abundant, allowing a useful comparison using the same methodologies as for the ADSL comparison. These Methodologies are described in detail in the next section.

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## 2.2 Methodologies

Based on the service and price data collected along the lines described in the previous sections, price comparisons for each of the three access methods have been produced. The methodologies for these price comparisons are described below.

### 2.2.1 Dial-up Access

Although services like ADSL and cable modem that provide high-speed access to the Internet are becoming increasingly widespread in the Internet access market, dial up Internet access will always have a presence in the domestic market. It may in some cases only be used as back-up for the ever more prominent broadband services, but the significance of benchmarking these services is still very much apparent if we are to gain a complete picture of the variation in Internet access costs. The Commission has stipulated an analysis of the prices of dial up services to ISPs via a standard telephone line. This therefore requires an analysis of the associated telephony charges in the 17 countries, in addition to the actual ISP charges, in order to find the best overall option for the types of access described by the basket profiles.

It should be noted that while the methodologies used in this study are based on those developed by the OECD, their focus on Internet access price comparisons has more recently shifted from dial-up to the increasingly common broadband access media. Research shows that in many countries broadband is becoming less expensive than dial-up, particularly as hours of usage increase, and as discussed in **Section 4** this should be considered when interpreting the findings in this report. With this in mind, the methodology for calculating dial-up Internet access prices has been designed to enable comparison to be made with *previous* OECD estimates. The approach is to calculate the cost of 3 different usage profiles: 40 hour peak time usage, 20 hour off-peak time usage, and “unlimited” usage with an optional 30 x 5-hour calls per month (assumed to be at peak times, as off-peak users are unlikely to engage in such lengthy access periods).

Many operators or ISPs will have special dial up tariffs for Internet access, and these are used where appropriate.

The analysis of dial-up access includes:

- PSTN line rental charges for residential users. Any additional charges related to the selection of the most appropriate tariff package for Internet access are also included. This may for example be a telephony charge related to a certain access option, or charges related to “frequent/extended call” types of discount;
- PSTN call charges as applicable for Internet access, either using the standard local call charges, or charges defined in special Internet access tariffs. *As defined by the Commission, the peak call charges used are those that apply at 1100hrs and the off-peak call charges used are those that apply at 2000hrs (both during the week).* Additional discounts are also analysed in this context, where they may provide even lower access call charges, for example after a certain period of access time. It

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should be noted that with many ISP services there are no call charges, or different call charges from the carrier, as determined by the ISP;

- ISP monthly rental and/or connection charges for each ISP package. Most ISPs identify their packages for use by residential and/or business users, but in this report the focus for dial-up services is on residential users. Any connection charges are discounted over 3 years in the calculation;
- ISP charges related to usage. Such charges are sometimes given on a per hour basis, and are accumulated to the number of hours or minutes of usage per month. Any amount of inclusive time offered as part of the monthly subscription is deducted from the actual usage, and when such time is applicable to specific times of day (i.e. either during peak or off-peak hours), this is represented accordingly. Many ISP services do not have such charges;
- Additional information on webspace and email accounts included in the ISP service, where available;
- The results are shown in Euros, including VAT, as required by INFISO DG. The accompanying spreadsheets supplied to the Commission include functions that enable the user to see results with or without VAT. They also enable the user to view the results using the Euro PPP adjustments as detailed in the exchange rate summary in **Section 1.2**.

The results are presented in **Section 3**, based on total cost, detailing costs paid to the ISPs and to the telecom network operator. This section also recaps on the key elements considered in the benchmark.

## 2.2.2 ADSL and Cable Modem

DSL technology is, in most of the countries included in this report, the broadband access of choice, being an economical way of having high speed Internet access. For residential users the ADSL service offers a variety of speeds (bitrates), and the advantage that no special lines need to be installed. A regular telephone line can serve as the basis for the service.

All incumbent operators in the EEA are now offering ADSL services in one form or another. Control over the local extensions to the end user is key to deliver such services, and hence the incumbent operators usually control the rollout of ADSL. Only when the incumbent operator offers ADSL for resale, or alternative local networks or co-location arrangements exist, can this service be offered by other providers, for example Internet Service Providers. Such arrangements are now apparent in all countries but there are still restrictions in some markets; for example, the local access may not have been fully opened up, or wholesale prices from the incumbent may still be very high. Most markets, however, are becoming increasingly competitive.

Cable modem, as previously discussed, is not as common an Internet access medium for private customers in Europe. This is due to the limited rollout of such technology,

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and the fact that the service is based upon existing Cable TV services, as opposed to the existing fixed telephony services upon which ADSL rollout is based. The exceptions to this are those countries that are included in this report. Pricing structures for cable modem access, however, are very similar to those for ADSL.

As stipulated by the Commission, prices for ADSL services provided by the incumbent ISP have been collected for each of the 17 EEA countries, along with prices from a major competitor. As stated above, prices for cable modem Internet access have been collected for 6 countries, and from up to 4 ISPs offering the service.

In this report a separate set of results tables for ADSL and Cable modem are provided. They are treated together in this section, as most of the issues are similar to both access types. Teligen's regular research indicates that while there are a growing number of ADSL providers, cable modem access providers remain quite static, and in some cases are consolidating their operations.

The bandwidths offered in the different countries vary a lot. Teligen's research into the broadband market over the last few years suggests that there is no single bitrate combination that is offered in all countries, and that creating an inter-country price comparison is quite difficult. With this in mind, the analysis of ADSL and cable modem access includes:

- Installation costs for the ADSL or Cable modem service, over and above the basic PSTN or cable service. Any additional one off charges related to the installation of the service shall also be included. The cheapest option will be considered, and this will normally be a "self-install" option;
- Monthly rental charges for the ADSL or Cable modem service, over and above the basic PSTN or cable service;
- Any charges payable to the incumbent network operator as a standard part of the service (transport service), where applicable, in addition to those service charges payable to the ISP – these might include access and / or rental charges;
- Any additional price for the modem or router equipment, if applicable;
- Any additional monthly charges to the ISP (if different from the ADSL or Cable modem service provider) for access to the Internet. Additional information about the ISP service will be provided outside the price analysis;
- Information on limits to data transfer or time allowance, where applicable, including costs applicable in the event of these limits being exceeded (usually in Megabits, or minutes in excess of limit);
- Each tariff package will be listed along with its bandwidth (bitrate up/down), and any additional information on webspace and email accounts included in the ISP service, where available

In many cases there is a limit imposed on usage for ADSL and cable modem Internet access services (sometimes known as a "fair use" limit), and this often affects the

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overall price of the service. In such cases, unless the service is automatically halted as soon as this limit is reached, the user is charged for any additional data transfer. The limit may either be by data volume or by time, with additional usage charged correspondingly. As a result of this it is necessary to apply a certain level of usage to the analysis, so as to have such usage limitations accurately represented. Teligen has assumed a usage level of **40 hours or 10 Gigabits per month** (with each session lasting 60 minutes), and therefore if any appropriate charges are applicable in the comparison these will apply up to this usage level and will be considered as such in the results. This approach is different to Teligen's previous studies on broadband Internet access pricing and as such care should be taken when comparing the results presented in this report to previous findings.

To report on the absolute prices for different service offerings at different bitrates, a price comparison across offerings has been produced using two different ways of presenting the prices: normalised prices to a common bitrate, and actual prices for the cheapest offering. These processes have a few implications that should be made clear before presenting the results:

### **Normalised prices**

The methodology used is mainly concerned with the monthly rental charges. As the service providers offer a wide range of bitrates, a normalised price has to be produced to allow for direct price comparisons. The calculated price for 1 Mbit/s bitrate is chosen as a measure. This price is produced by:

- Adding the upload and download bitrates to get a total bitrate (e.g. 64 kbit/s upload and 256 kbit/s download gives a total bitrate of 320 kbit/s);
- The monthly rental is divided by the calculated total bitrate and multiplied with 1024 to give the price per 1 Mbit/s;
- The non-recurring charges are then added to this price (discounted over 3 years), those being the charge for the installation of the service (the cheapest is used, usually the self-install option), plus the charge for the modem;
- Finally, any applicable usage charges are added to the total (i.e. charges applicable to usage in excess of the limits set in the comparison, those being 40 hours or 10 Gigabits per month).

The implications of this normalisation are:

- As the monthly price per unit (i.e. per Mbit/s) will normally decrease with increasing bitrate, the offerings with higher total bitrates will be favoured. Providers offering only "low speeds" will fall behind in the comparison;
- The prices shown are not actual prices paid by the customer. Tracing the calculations back to the origin requires information about the actual bitrates involved;

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This method, however, does produce comparable price points for these widely different offerings across the countries in the survey. The associated results are presented in **Section 3**.

### **Actual prices**

To complement the normalised method as described above, the actual prices for the cheapest offering from each provider are presented as well. The results of this comparison will show the installation, monthly rental, and any associated usage based charge for the cheapest overall offering for each provider. However, due to the differences in bitrates it is vital to also know what you get for this money, i.e. the bandwidth of the service.

The cheapest prices are therefore shown together with the bitrates provided at those prices, so that the reader is able to assess the suitability of the service and the value for money.

This method of showing the prices means:

- Prices are not directly comparable. The reader will have to analyse the price tables to find out the actual value of any price/bitrates combination.
- The providers offering low bitrates will usually also have the lowest prices. This means that the low-bitrate services will be favoured using this method of presentation.

The associated results are presented in **Section 3**.



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### 3 Report Findings

Based on the methodologies set out in Section 2, the price and service data has been filtered, and the relevant parts extracted in order to create a comparison that gives an accurate picture of Internet access services across the EEA. The results of these comparisons, and associated comments, are laid out in this section.

#### 3.1 Dial-up Access via a Standard Telephone Line

The overall summary of the dial up access information collected covers 95 different providers with 279 packages in the 17 countries. The number of providers covered in each country is summarised in table 3.1 below.

**Table 3.1** Number of ISPs offering dial up access covered in each country

Austria	5	Italy	5
Belgium	5	Luxembourg	5
Denmark	5	Netherlands	10
Finland	5	Norway	5
France	5	Portugal	5
Germany	5	Spain	5
Greece	5	Sweden	5
Iceland	5	UK	10
Ireland	5		

*Please see the section on data collection for more details.*

The criteria for selecting the ISPs were that:

- The top 5 ISPs in each country should be covered;
- Fewer ISPs could be covered as long as the combined market share was at least 80%;
- If the top 5 ISPs had less than 50% of the market, additional ISPs should be covered up to around 80% combined market share (or a maximum of 10 ISPs).

Prices for a dial up connection to an ISP will normally consist of a combination of any of these elements:

- Nonrecurring ISP charge;
- Monthly rental to the ISP;
- Usage charges to ISP, normally on a per hour basis;
- Rental charge for the PSTN line;
- Usage charges for the PSTN access, normally on a per minute basis.

This report covers all of these charges. The nonrecurring and monthly ISP charges have been combined with a depreciation of the nonrecurring charge over 3 years. Very few ISP packages have non-recurring charges.

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The installation of the PSTN line is not included, and it can be argued whether the monthly rental for the PSTN line should be included either. It has been kept in the basket analysis for consistency with the OECD Internet access baskets. In the inter-service comparisons in **Section 4** it is not included.

### **3.1.1 Presentation of price data**

The dial up data will be presented in 3 different ways:

- A list of the cheapest packages for each provider, based on the overall cost, including the PSTN monthly rental. The cost is calculated with baskets of 40 hour peak time usage, 20 hour off-peak time usage, and “unlimited” usage with an optional 30 x 5-hour calls per month (assumed to be at peak times);
- A table of overall price variations per country, for each of the 40 hour peak and 20 hour off-peak time usage baskets. This analysis looks at the minimum price per country, the average price, and the variation between the two. The PSTN rental charge is not included in this comparison;
- A full list of all packages with ISP and PSTN costs per month and per hour (at the cheapest available rate), with additional information on included facilities.

All prices are presented in Euro, including VAT.

### **3.1.2 Summary results for Dial up access via PSTN**

The tables below show the summary price data as discussed above:

**Table 3.2 Lowest prices per provider for 40 hour peak time usage**

PART 1 Dial Up Internet Access Cost per month in Euro, VAT Included								Cheapest per provider
<b>Basket 1, Peak</b> 40 peak hours per month								
Country	Provider	Package	ISP Conn.	ISP Rental	ISP Usage	PSTN Rental	PSTN Usage	Total
UK	Tiscali	Daytime	-	7.30	-	11.82	-	19.11
Spain	Terra	Tarifa Plana Nocturna	-	6.84	-	14.64	-	21.48
France	Tiscali	Illimité le Journée	-	10.00	-	13.00	-	23.00
Spain	Wanadoo España	20 Horas	-	11.48	-	14.64	-	26.12
UK	ntl:home	Unlimited	-	14.62	-	11.82	-	26.44
France	Free Telecom	Forfait 50H	-	14.94	-	13.00	-	27.94
France	T-Online Club Internet	Forfait Bas 50H	-	15.00	-	13.00	-	28.00
Italy	Tiscali	Flat Day	-	14.95	-	14.57	-	29.52
Denmark	Cybercity	Fastpris 60	-	14.09	-	15.97	-	30.07
UK	Telewest	Blueyonder Internet	-	19.01	-	11.82	-	30.83
UK	Virgin	24 seven	-	19.72	-	11.82	-	31.54
UK	Breathe	breathe registration	-	20.45	-	11.82	-	32.27
France	Wanadoo	Integrales 60H	-	20.00	-	13.00	-	33.00
Spain	ya.com	Tarifa Plana Día	-	18.55	-	14.64	-	33.19
UK	FreeServe	AnyTime	-	21.92	-	11.82	-	33.74
UK	Clara.net	Freetime Anytime	-	21.92	-	11.82	-	33.74
UK	Madasafish	Anytime	-	21.92	-	11.82	-	33.74
Germany	Arcor	Internet by call Spartarif	-	-	-	15.66	19.24	34.90
UK	AOL	Flat Rate	-	23.38	-	11.82	-	35.20
UK	BT Yahoo	AnyTime	-	23.38	-	11.82	-	35.20
Greece	ACN	ACN Connect	-	9.74	-	11.78	14.08	35.59
Sweden	Tiscali	Supersurf	-	15.77	-	13.59	6.73	36.09
Germany	Freenet.de	Super Call-by-Call	-	-	-	15.66	21.08	36.74
Germany	T-Online	T-Online surftime 30	-	14.95	-	15.66	9.54	40.15
Sweden	Spray	Fast price 50	-	27.18	-	13.59	-	40.77
Greece	Forthnet	Dial up	-	15.63	-	11.78	14.08	41.48
Greece	Hellas Online	HOL Home	-	15.73	-	11.78	14.08	41.59
Greece	Panafonet	Dynamic	-	15.83	-	11.78	14.08	41.68
Germany	Tiscali	Tiscali Anonym	-	-	-	15.66	26.16	41.82
Finland	MTV3	MTV3 Internet	-	-	-	13.79	29.28	43.07
Finland	Tiscali- SurfEU	Surf Easy	-	-	-	13.79	29.28	43.07
Finland	Saunalahti	Free registered	-	-	-	13.79	29.28	43.07
Finland	Elisa - Kolumbus	Elisa Internet Free	-	-	-	13.79	29.28	43.07

PART 2								
Dial Up Internet Access Cost per month								Cheapest per provider
in Euro, VAT Included								
Basket 1, Peak								
40 peak hours per month								
Country	Provider	Package	ISP Conn.	ISP Rental	ISP Usage	PSTN Rental	PSTN Usage	Total
Greece	OTEnet	Easy Gate Basic	-	17.26	-	11.78	14.08	43.12
Austria	Telekom Austria	aonflash 50	0.11	27.90	-	15.98	-	43.89
Norway	Tiscali	Super Surfer	-	16.71	-	18.32	9.22	44.25
Germany	AOL	Top	-	-	-	15.66	28.80	44.46
Austria	UTA Telekom AG	Super Surf 30 (with Easy)	-	18.00	-	15.98	14.40	48.38
Italy	Wind.it	Pronto 1055 Preselection	-	-	-	14.57	36.03	50.60
Luxembourg	Luxembourg Online	Forfait Freespace 50	-	32.20	-	18.40	-	50.60
Austria	T-Online.at	T-Online surftime 60	-	34.99	-	15.98	-	50.97
Finland	TeliaSonera	Internet Fun	-	8.28	-	13.79	29.28	51.35
Norway	Tele2 (preselected)	Free2Connect	-	-	-	18.32	34.48	52.80
Denmark	TDC Internet	NetTid 80	-	40.13	-	15.97	-	56.11
Netherlands	Wanadoo	Smartpack 30	-	18.95	-	17.79	20.59	57.33
Norway	Tele2	Free2Connect	-	-	-	18.32	40.01	58.33
Italy	Tin.it	Free	-	-	-	14.57	44.38	58.95
Italy	MC-Link	MC-Link.Net dial-up	-	-	-	14.57	44.38	58.95
Norway	RingNett	Freeway	-	-	-	18.32	40.79	59.12
Iceland	Og Vodafone	Dial-up Internet Free	-	-	-	14.69	45.75	60.44
Austria	Tiscali	prime 15	-	9.99	-	15.98	34.50	60.47
Portugal	Oninet	Internet Gratis	-	-	-	14.64	46.77	61.41
Portugal	Jazztel	JazzPro	-	9.98	-	14.64	37.20	61.82
Luxembourg	Crosscomm	20 hrs	-	9.20	-	18.40	34.22	61.82
Iceland	Margmiðlun	Free	-	-	-	14.69	47.46	62.15
Norway	Telenor	Online Pluss Kontant	-	9.58	-	18.32	35.91	63.81
Netherlands	Planet Internet	Basic	-	2.95	45.20	17.79	-	65.94
Portugal	Telepac	Sapo Livre	-	-	-	14.64	51.68	66.32
Sweden	Tele2	Internet Plus	-	3.15	-	13.59	50.28	67.02
Netherlands	ZON	Vaak	-	5.00	-	17.79	44.59	67.38
Italy	DADA	aziende.it Power	-	9.20	-	14.57	44.38	68.15
Belgium	Tiscali	Free	-	-	-	16.80	52.88	69.68
Netherlands	12move	Gratis	-	-	-	17.79	52.35	70.14
Portugal	Clix	MyClix Control	-	-	-	14.64	55.99	70.63
Austria	inode	inode Complete	-	9.90	-	15.98	45.60	71.48

PART 3								
Dial Up Internet Access Cost per month								Cheapest per provider
in Euro, VAT Included								
<b>Basket 1, Peak</b>								
40 peak hours per month								
Country	Provider	Package	ISP Conn.	ISP Rental	ISP Usage	PSTN Rental	PSTN Usage	Total
Spain	Telefonica Net	Net Base	-	-	-	14.64	57.78	72.42
Netherlands	Freeler	Voordelig	-	5.95	-	17.79	49.68	73.42
Norway	Start	Gratis Internett	-	-	-	18.32	55.27	73.59
Iceland	Hringioan	Star Subscription	-	11.45	-	14.69	47.46	73.61
Iceland	Siminn	Dial-up Internet	-	12.61	-	14.69	47.46	74.76
Sweden	Glocalnet	G-Surf	-	-	-	13.59	61.98	75.57
Sweden	Telia	Telia Internet För Alle	-	-	-	13.59	61.98	75.57
Spain	Telefonica	Net Premium	-	3.48	-	14.64	57.78	75.90
Iceland	Snerpa	Dial-up	-	13.77	-	14.69	47.46	75.92
Luxembourg	Tele2	Acces Gratuit	-	-	-	18.40	58.80	77.20
Ireland	Connect-Ireland	Personal	-	8.92	-	22.50	46.75	78.17
Spain	Tiscali	Free Internet	-	-	-	14.64	67.03	81.67
Ireland	Esat BT	IOL Gold	-	12.70	-	22.50	46.80	82.00
Denmark	Telia	Internet Time Plus	-	3.34	-	15.97	64.96	84.28
Netherlands	Compuserve	Standard dial-up	-	5.82	-	17.79	61.97	85.59
Ireland	Eircom net	net subscription	-	18.44	-	22.50	46.75	87.69
Luxembourg	P&T Luxembourg	Classic Cube with ClassicSurf	1.24	2.25	-	18.40	68.45	89.20
Netherlands	KPN Het Net	Regular	-	3.95	-	17.79	68.42	90.16
Portugal	IOL	dial-up	-	-	-	14.64	78.06	92.70
Denmark	Tiscali	Net	-	-	-	15.97	77.04	93.02
Denmark	Tele2	get2net gratis internet	-	-	-	15.97	78.66	94.63
Belgium	Scarlet	Scarlet Freedom Premium	-	2.00	-	16.80	78.76	97.56
Netherlands	Cistron	Standard	-	11.46	-	17.79	71.07	100.32
Luxembourg	Visual Online	Subscription	-	8.25	-	18.40	74.24	100.89
Netherlands	XS4all	Standard	0.39	13.01	-	17.79	71.07	101.90
Netherlands	Tiscali	Compleet	-	3.40	-	17.79	82.35	103.54
Belgium	EDPnet	Free EDPnet	-	-	-	16.80	104.04	120.84
Belgium	Skynet	Skynet Discovery Free	0.69	-	-	16.80	104.04	120.90
Ireland	UTVip	UTVip Medium Lite	-	9.99	-	22.50	92.75	125.24
Belgium	xs4all	Standard Dial-up	0.84	12.49	-	16.80	104.04	133.40
France	AOL	AOL Connexion Classique	-	16.90	107.50	13.00	-	137.40
Ireland	Unison	free	-	-	-	22.50	121.68	144.18

**Table 3.3 Lowest prices per provider for 20 hour off-peak time usage**

<b>PART 1</b>								
<b>Dial Up Internet Access Cost per month</b>								<b>Cheapest per provider</b>
in Euro, VAT Included								
<b>Basket 2, Off-peak</b>								
20 off-peak hours per month								
Country	Provider	Package	ISP Conn.	ISP Rental	ISP Usage	PSTN Rental	PSTN Usage	Total
UK	Clara.net	Freetime 20 Account	-	7.31	-	11.82	-	19.13
UK	BT Yahoo	SurfTime	-	10.22	-	11.82	-	22.04
Portugal	Telepac	Sapo Pre-pago	-	-	-	14.64	9.14	23.78
Italy	Wind.it	Pronto 1055 Preselection	-	-	-	14.57	10.24	24.81
Greece	ACN	ACN Connect	-	9.74	-	11.78	3.52	25.03
Portugal	Clix	MyClix Night	-	-	-	14.64	11.45	26.09
Spain	ya.com	Tarifa Plana Noche	-	11.48	-	14.64	-	26.12
Sweden	Tiscali	Minisurf	-	9.24	-	13.59	3.37	26.20
Germany	Freenet.de	Super Call-by-Call	-	-	-	15.66	10.54	26.20
UK	ntl:home	Unlimited	-	14.62	-	11.82	-	26.44
Germany	Arcor	Internet by call Spartarif	-	-	-	15.66	10.82	26.48
Belgium	Tiscali	Free	-	-	-	16.80	9.95	26.75
Spain	Telefonica Net	Net Base	-	-	-	14.64	12.72	27.36
Portugal	Oninet	Internet Gratis	-	-	-	14.64	12.85	27.49
Italy	Tiscali	Flat Night	-	12.95	-	14.57	-	27.52
Luxembourg	Crosscomm	20 hrs	-	9.20	-	18.40	-	27.60
Italy	Tin.it	Free	-	-	-	14.57	13.27	27.84
Italy	MC-Link	MC-Link.Net dial-up	-	-	-	14.57	13.27	27.84
Iceland	Og Vodafone	Dial-up Internet Free	-	-	-	14.69	13.16	27.85
France	Free Telecom	Forfait 50H	-	14.94	-	13.00	-	27.94
Austria	UTA Telekom AG	Super Surf 20 (with Easy)	-	12.00	-	15.98	-	27.98
Austria	Tiscali	Euro	-	-	-	15.98	12.00	27.98
France	Wanadoo	Integrales 20H	-	15.00	-	13.00	-	28.00
France	T-Online Club Internet	Forfait Bas 50H	-	15.00	-	13.00	-	28.00
Finland	MTV3	MTV3 Internet	-	-	-	13.79	14.64	28.43
Finland	Tiscali- SurfEU	Surf Easy	-	-	-	13.79	14.64	28.43
Finland	Saunalahti	Free registered	-	-	-	13.79	14.64	28.43
Finland	Elisa - Kolumbus	Elisa Internet Free	-	-	-	13.79	14.64	28.43
Austria	Telekom Austria	aonflash 20	0.11	12.49	-	15.98	-	28.48
Germany	Tiscali	Tiscali Anonym	-	-	-	15.66	13.08	28.74
Iceland	Margmiðlun	Free	-	-	-	14.69	14.57	29.26
UK	Tiscali	Off-peak	-	17.53	-	11.82	-	29.35
Sweden	Spray	Fast price 20	-	15.77	-	13.59	-	29.36

PART 2								
Dial Up Internet Access Cost per month							Cheapest per provider	
in Euro, VAT Included								
<b>Basket 2, Off-peak</b>								
20 off-peak hours per month								
Country	Provider	Package	ISP Conn.	ISP Rental	ISP Usage	PSTN Rental	PSTN Usage	Total
UK	FreeServe	No Ties	-	-	-	11.82	17.55	29.36
UK	Virgin	Pay As You Go	-	-	-	11.82	17.55	29.36
UK	Breathe	breathe pay as you go	-	-	-	11.82	17.55	29.36
UK	Madasafish	Pay As You Go	-	-	-	11.82	17.55	29.36
Spain	Wanadoo España	Connection Gratis	-	-	-	14.64	14.76	29.40
Spain	Tiscali	Free Internet	-	-	-	14.64	14.76	29.40
Sweden	Tele2	Internet Start	-	-	-	13.59	15.87	29.47
Sweden	Glocalnet	G-Surf	-	-	-	13.59	15.98	29.57
Sweden	Telia	Telia Internet För Alle	-	-	-	13.59	15.98	29.57
Spain	Terra	Terra Bono Libre	-	14.96	-	14.64	-	29.60
Austria	T-Online.at	T-Online surftime 15	-	9.99	-	15.98	3.90	29.87
Germany	AOL	Top	-	-	-	15.66	14.40	30.06
Denmark	Cybercity	Fastpris 60	-	14.09	-	15.97	-	30.07
Germany	T-Online	T-Online surftime 30	-	14.95	-	15.66	-	30.61
UK	Telewest	Blueyonder Internet	-	19.01	-	11.82	-	30.83
Spain	Telefonica	Net Premium	-	3.48	-	14.64	12.72	30.84
Greece	Forthnet	Dial up	-	15.63	-	11.78	3.52	30.92
Greece	Hellas Online	HOL Home	-	15.73	-	11.78	3.52	31.03
Greece	Panafonet	Dynamic	-	15.83	-	11.78	3.52	31.13
Norway	Tiscali	Surfer	-	9.22	-	18.32	4.61	32.15
Ireland	UTVip	UTVip Medium Lite	-	9.99	-	22.50	-	32.49
Greece	OTEnet	Easy Gate Basic	-	17.26	-	11.78	3.52	32.56
Portugal	IOL	dial-up	-	-	-	14.64	17.97	32.61
Denmark	TDC Internet	Net Plus	-	3.34	-	15.97	13.56	32.87
Luxembourg	Tele2	Acces Gratuit	-	-	-	18.40	14.64	33.04
Netherlands	Wanadoo	Smartpack 15	-	9.95	-	17.79	5.70	33.44
Portugal	Jazztel	JazzPro	-	9.98	-	14.64	9.75	34.37
Austria	inode	inode Complete	-	9.90	-	15.98	9.07	34.95
Netherlands	ZON	Vaak	-	5.00	-	17.79	12.21	35.00
Denmark	Tiscali	Net	-	-	-	15.97	19.19	35.17
UK	AOL	Flat Rate	-	23.38	-	11.82	-	35.20
Ireland	Esat BT	IOL Free	-	-	-	22.50	12.76	35.26

PART 3								
Dial Up Internet Access Cost per month							Cheapest per provider	
in Euro, VAT Included								
<b>Basket 2, Off-peak</b>								
20 off-peak hours per month								
Country	Provider	Package	ISP Conn.	ISP Rental	ISP Usage	PSTN Rental	PSTN Usage	Total
France	Tiscali	Forfait 10H Fidelite	-	9.50	12.90	13.00	-	35.40
Norway	Tele2 (preselected)	Free2Connect	-	-	-	18.32	17.24	35.56
Denmark	Telia	Internet Time	-	-	-	15.97	19.87	35.84
Denmark	Tele2	get2net gratis internet	-	-	-	15.97	20.00	35.97
Belgium	Scarlet	Scarlet Freedom go	-	-	-	16.80	19.62	36.42
Finland	TeliaSonera	Internet Fun	-	8.28	-	13.79	14.64	36.71
Luxembourg	Luxembourg Online	Internet Gratuit	-	-	-	18.40	18.49	36.89
Italy	DADA	aziende.it Power	-	9.20	-	14.57	13.27	37.04
Netherlands	12move	Gratis	-	-	-	17.79	19.33	37.12
Netherlands	Freeler	Voordelig	-	5.95	-	17.79	13.56	37.30
Ireland	Eircom net	free	-	-	-	22.50	15.10	37.60
Ireland	Unison	free	-	-	-	22.50	15.10	37.60
Belgium	EDPnet	Free EDPnet	-	-	-	16.80	21.42	38.22
Belgium	Skynet	Skynet Discovery Free	0.69	-	-	16.80	21.42	38.28
Norway	Tele2	Free2Connect	-	-	-	18.32	20.00	38.33
Norway	RingNett	Freeway	-	-	-	18.32	20.40	38.72
Norway	Telenor	Free	-	-	-	18.32	20.72	39.04
Norway	Start	Gratis Internett	-	-	-	18.32	20.72	39.04
Luxembourg	P&T Luxembourg	Classic Cube with ClassicSurf	1.24	2.25	-	18.40	18.63	39.38
Netherlands	KPN Het Net	Standard	-	2.95	-	17.79	19.03	39.77
Netherlands	Compuserve	Standard dial-up	-	5.82	-	17.79	16.95	40.56
Iceland	Hringioan	Star Subscription	-	11.45	-	14.69	14.57	40.71
Iceland	Siminn	Dial-up Internet	-	12.61	-	14.69	14.57	41.87
Iceland	Snerpa	Dial-up	-	13.77	-	14.69	14.57	43.03
Ireland	Connect-Ireland	Personal	-	8.92	-	22.50	11.62	43.03
Netherlands	Planet Internet	Plus	-	5.85	-	17.79	19.48	43.12
Netherlands	Tiscali	Gratis	-	-	-	17.79	26.17	43.96
Netherlands	XS4all	Standard	0.39	13.01	-	17.79	13.33	44.17
Luxembourg	Visual Online	Subscription	-	8.25	-	18.40	18.63	45.28
Netherlands	Cistron	Standard	-	11.46	-	17.79	19.45	48.70
Belgium	xs4all	Standard Dial-up	0.84	12.49	-	16.80	21.42	50.78
France	AOL	AOL Connexion Classique	-	16.90	47.50	13.00	-	77.40



**Table 3.4** Lowest prices per provider for “unlimited” (150 hour peak time) usage

PART 1								
Dial Up Internet Access Cost per month								Cheapest per provider
in Euro, VAT Included								
<i>Basket 3, Always on</i>								
150 peak hours per month								
Country	Provider	Package	ISP Conn.	ISP Rental	ISP Usage	PSTN Rental	PSTN Usage	Total
UK	Tiscali	Daytime	-	7.30	-	11.82	-	19.11
Spain	Terra	Tarifa Plana Nocturna	-	6.84	-	14.64	-	21.48
France	Tiscali	Illimité le Journée	-	10.00	-	13.00	-	23.00
Spain	Wanadoo España	20 Horas	-	11.48	-	14.64	-	26.12
UK	ntl:home	Unlimited	-	14.62	-	11.82	-	26.44
Italy	Tiscali	Flat Day	-	14.95	-	14.57	-	29.52
UK	Telewest	Blueyonder Internet	-	19.01	-	11.82	-	30.83
UK	Virgin	24 seven	-	19.72	-	11.82	-	31.54
UK	Breathe	breathe registration	-	20.45	-	11.82	-	32.27
Spain	ya.com	Tarifa Plana Día	-	18.55	-	14.64	-	33.19
UK	FreeServe	AnyTime	-	21.92	-	11.82	-	33.74
UK	Madasafish	Anytime	-	21.92	-	11.82	-	33.74
UK	AOL	Flat Rate	-	23.38	-	11.82	-	35.20
UK	BT Yahoo	AnyTime	-	23.38	-	11.82	-	35.20
Denmark	Cybercity	Fastpris 120	-	26.17	-	15.97	26.78	68.92
Greece	ACN	ACN Connect	-	9.74	-	11.78	52.78	74.29
Germany	Arcor	Internet by call Spartarif	-	-	-	15.66	62.67	78.33
Greece	Forthnet	Dial up	-	15.63	-	11.78	52.78	80.18
Greece	Hellas Online	HOL Home	-	15.73	-	11.78	52.78	80.29
Greece	Panafonet	Dynamic	-	15.83	-	11.78	52.78	80.39
Norway	Tiscali	Maxi Surfer	-	62.80	-	18.32	-	81.13
Greece	OTEnet	Easy Gate Basic	-	17.26	-	11.78	52.78	81.82
Germany	Freenet.de	Super Call-by-Call	-	-	-	15.66	71.97	87.63
Sweden	Tiscali	Maxisurf	-	75.57	-	13.59	-	89.16
Germany	T-Online	T-Online surftime 120	-	49.95	-	15.66	28.62	94.23
Germany	AOL	Power	-	39.80	-	15.66	50.40	105.86
Germany	Tiscali	Tiscali Anonym	-	-	-	15.66	90.90	106.56
Finland	MTV3	MTV3 Internet	-	-	-	13.79	94.68	108.47
Finland	Tiscali- SurfEU	Surf Easy	-	-	-	13.79	94.68	108.47
Finland	Saunalahti	Free registered	-	-	-	13.79	94.68	108.47
Finland	Elisa - Kolumbus	Elisa Internet Free	-	-	-	13.79	94.68	108.47
Denmark	TDC Internet	NetTid 80	-	40.13	-	15.97	56.47	112.57
Finland	TeliaSonera	Internet Fun	-	8.28	-	13.79	94.68	116.75

**PART 2**  
**Dial Up Internet Access Cost per month** **Cheapest per provider**  
in Euro, VAT Included  
**Basket 3, Always on**  
150 peak hours per month

Country	Provider	Package	ISP Conn.	ISP Rental	ISP Usage	PSTN Rental	PSTN Usage	Total
France	Wanadoo	Integrales 100H Fidelite	-	25.00	90.00	13.00	-	128.00
UK	Clara.net	Freetime Anytime	-	21.92	-	11.82	105.27	139.01
Norway	Tele2 (preselected)	Free2Connect	-	-	-	18.32	121.27	139.60
Italy	Wind.it	Pronto 1055 Preselection	-	-	-	14.57	127.80	142.37
France	Free Telecom	Forfait 50H	-	14.94	-	13.00	119.60	147.54
Portugal	Jazztel	JazzPro	-	9.98	-	14.64	128.65	153.27
Norway	Telenor	Online Pluss Kontant	-	9.58	-	18.32	126.49	154.40
Norway	Tele2	Free2Connect	-	-	-	18.32	142.02	160.34
Denmark	Telia	Internet Time Plus	-	3.34	-	15.97	145.20	164.52
Norway	RingNett	Freeway	-	-	-	18.32	146.75	165.07
Sweden	Spray	Fast price 70	-	32.51	-	13.59	120.74	166.84
Portugal	Oninet	Internet Gratis	-	-	-	14.64	154.87	169.51
Italy	Tin.it	Free	-	-	-	14.57	156.11	170.68
Italy	MC-Link	MC-Link.Net dial-up	-	-	-	14.57	156.11	170.68
Italy	DADA	aziende.it Power	-	9.20	-	14.57	156.11	179.88
Austria	T-Online.at	T-Online surftime 60	-	34.99	-	15.98	129.60	180.57
Iceland	Og Vodafone	Dial-up Internet Free	-	-	-	14.69	166.76	181.46
Netherlands	ZON	Vaak	-	5.00	-	17.79	164.48	187.27
France	T-Online Club Internet	Forfait Bas 100H	-	25.00	-	13.00	149.50	187.50
Iceland	Margmiðlun	Free	-	-	-	14.69	173.05	187.74
Austria	Telekom Austria	aonflash 50	0.11	27.90	-	15.98	144.00	187.89
Portugal	Telepac	Sapo Livre	-	-	-	14.64	173.70	188.34
Netherlands	Planet Internet	Basic	-	2.95	169.50	17.79	-	190.24
Denmark	Tele2	get2net gratis internet	-	-	-	15.97	174.56	190.53
Iceland	Hringioan	Star Subscription	-	11.45	-	14.69	173.05	199.19
Iceland	Siminn	Dial-up Internet	-	12.61	-	14.69	173.05	200.35
Sweden	Tele2	Internet Plus	-	3.15	-	13.59	184.10	200.85
Iceland	Snerpa	Dial-up	-	13.77	-	14.69	173.05	201.51
Portugal	Clix	MyClix Control	-	-	-	14.64	189.02	203.66
Netherlands	Freeler	Voordelig	-	5.95	-	17.79	182.70	206.44
Ireland	Connect-Ireland	Personal	-	8.92	-	22.50	175.33	206.75
Austria	UTA Telekom AG	Super Surf 30 (with Easy)	-	18.00	-	15.98	172.80	206.78

PART 3								
Dial Up Internet Access Cost per month								Cheapest per provider
in Euro, VAT Included								
<b>Basket 3, Always on</b>								
150 peak hours per month								
Country	Provider	Package	ISP Conn.	ISP Rental	ISP Usage	PSTN Rental	PSTN Usage	Total
Netherlands	Wanadoo	Budget 30%	-	5.95	-	17.79	183.08	206.82
Netherlands	12move	Gratis	-	-	-	17.79	191.18	208.97
Belgium	Tiscali	Free	-	-	-	16.80	192.59	209.39
Ireland	Esat BT	IOL Gold	-	12.70	-	22.50	175.50	210.70
Austria	Tiscali	prime 15	-	9.99	-	15.98	186.30	212.27
Ireland	Eircom net	net subscription	-	18.44	-	22.50	175.33	216.27
Norway	Start	Gratis Internett	-	-	-	18.32	199.09	217.41
Austria	inode	inode Complete	-	9.90	-	15.98	204.00	229.88
Spain	Telefonica Net	Net Base	-	-	-	14.64	216.14	230.77
Spain	Telefonica	Net Premium	-	3.48	-	14.64	216.14	234.25
Luxembourg	Tele2	Acces Gratuit	-	-	-	18.40	220.50	238.90
Sweden	Glocalnet	G-Surf	-	-	-	13.59	226.54	240.13
Sweden	Telia	Telia Internet För Alle	-	-	-	13.59	226.54	240.13
Luxembourg	Crosscomm	20 hrs	-	9.20	-	18.40	222.46	250.06
Netherlands	Compuserve	Standard dial-up	-	5.82	-	17.79	227.92	251.53
Spain	Tiscali	Free Internet	-	-	-	14.64	250.72	265.36
Netherlands	KPN Het Net	Regular	-	3.95	-	17.79	251.79	273.53
Luxembourg	Luxembourg Online	Forfait Freespace 50	-	32.20	-	18.40	223.20	273.80
Luxembourg	P&T Luxembourg	Classic Cube with ClassicSurf	1.24	2.25	-	18.40	256.68	277.43
Portugal	IOL	dial-up	-	-	-	14.64	267.57	282.21
Netherlands	Cistron	Standard	-	11.46	-	17.79	261.38	290.63
Netherlands	XS4all	Standard	0.39	13.01	-	17.79	261.38	292.22
Denmark	Tiscali	Net	-	-	-	15.97	284.89	300.86
Luxembourg	Visual Online	Subscription	-	8.25	-	18.40	278.42	305.07
Belgium	Scarlet	Scarlet Freedom Premium	-	2.00	-	16.80	288.03	306.83
Netherlands	Tiscali	Compleet	-	3.40	-	17.79	303.68	324.87
Ireland	UTVip	UTVip Medium Lite	-	9.99	-	22.50	343.16	375.65
Belgium	EDPnet	Free EDPnet	-	-	-	16.80	384.03	400.83
Belgium	Skynet	Skynet Discovery Free	0.69	-	-	16.80	384.03	400.89
Belgium	xs4all	Standard Dial-up	0.84	12.49	-	16.80	384.03	413.39
France	AOL	AOL Connexion Classique	-	16.90	437.50	13.00	-	467.40
Ireland	Unison	free	-	-	-	22.50	456.29	478.79

**Table 3.5 Price variations**

	40 hour peak time usage			20 hour off-peak time usage		
	Minimum	Average	Variation	Minimum	Average	Variation
Austria	28.01	49.35	43%	12.00	17.86	33%
Belgium	52.88	102.74	49%	9.95	25.92	62%
Denmark	14.09	62.50	77%	14.09	25.44	45%
Finland	29.28	33.92	14%	14.64	19.28	24%
France	10.00	61.11	84%	14.94	29.85	50%
Germany	19.24	32.38	41%	10.54	20.49	49%
Greece	23.81	37.58	37%	13.25	27.02	51%
Iceland	45.75	57.65	21%	13.16	24.82	47%
Ireland	55.67	96.79	42%	9.99	20.41	51%
Italy	14.95	47.55	69%	10.24	18.52	45%
Luxembourg	32.20	66.02	51%	9.20	21.59	57%
Netherlands	39.54	70.85	44%	15.65	22.74	31%
Norway	25.93	44.54	42%	13.83	26.66	48%
Portugal	46.77	64.99	28%	9.14	17.40	48%
Spain	6.84	51.90	87%	11.48	24.15	52%
Sweden	22.50	48.81	54%	12.61	21.93	42%
UK	7.30	67.94	89%	7.31	19.66	63%

**Please note:**

- Prices in euro, including VAT.
- PSTN rental charge is **not** included.

Countries with low prices and low variation will generally have low prices, while low prices and high variation means that there are other packages that are significantly more expensive in the market.

Comparing the lowest price with the average for each country minimises the effect of any very expensive packages that may exist.

### 3.1.3 The full list of providers

In Table 3.6 below all packages for all of the dial up providers covered in this survey are listed. The charges shown are in euro, including VAT – the ISP Fixed charge per month comprises the monthly rental charge and a depreciated connection value; the ISP and PSTN usage charge values take the cheapest available option, be that during peak or off-peak hours. There is also an indication of number of email addresses included in the standard offering, and the amount of webspace included.

**Table 3.6 List of all providers and packages with normalised prices and additional information**

<b>Part 1 Country</b>	<b>Provider / Package</b>	<b>ISP fixed per month</b>	<b>ISP usage per hour</b>	<b>PSTN fixed per month</b>	<b>PSTN access per hour</b>	<b>Hours included per month</b>	<b>Webspace Mbyte</b>	<b>Email accounts</b>
<b>Austria</b>	Telekom Austria, aonflash easy	0.11	-	15.98	0.78	0	10	5
<b>Austria</b>	Telekom Austria, aonflash 10	7.10	-	15.98	0.78	10	10	5
<b>Austria</b>	Telekom Austria, aonflash 20	12.60	-	15.98	0.78	20	10	5
<b>Austria</b>	Telekom Austria, aonflash 30	18.01	-	15.98	0.78	30	10	5
<b>Austria</b>	Telekom Austria, aonflash 50	28.01	-	15.98	0.78	50	10	5
<b>Austria</b>	UTA Telekom AG, Easy Internet Lemon	3.00	-	15.98	0.80	0	10	6
<b>Austria</b>	UTA Telekom AG, Happy Hours	18.17	-	15.98	-	0	10	6
<b>Austria</b>	UTA Telekom AG, Super Surf 10 (with Easy)	7.00	-	15.98	0.80	10	10	6
<b>Austria</b>	UTA Telekom AG, Super Surf 20 (with Easy)	12.00	-	15.98	0.80	20	10	6
<b>Austria</b>	UTA Telekom AG, Super Surf 30 (with Easy)	18.00	-	15.98	0.80	30	10	6
<b>Austria</b>	T-Online.at, T-Online by call	-	-	15.98	0.78	0	20	6
<b>Austria</b>	T-Online.at, T-Online surftime 60	34.99	-	15.98	0.78	60	20	6
<b>Austria</b>	T-Online.at, T-Online surftime 25	14.90	-	15.98	0.78	25	20	6
<b>Austria</b>	T-Online.at, T-Online surftime 15	9.99	-	15.98	0.78	15	20	6
<b>Austria</b>	T-Online.at, T-Online surftime 8	5.99	-	15.98	0.78	8	20	6
<b>Austria</b>	Tiscali, Euro	-	-	15.98	0.60	0	10	2
<b>Austria</b>	Tiscali, prime 10	6.99	-	15.98	0.60	10	10	2
<b>Austria</b>	Tiscali, prime 15	9.99	-	15.98	0.60	15	15	2
<b>Austria</b>	inode, inode Complete	9.90	-	15.98	0.78	8	20	10
<b>Austria</b>	inode, inode Low Budget	5.74	-	15.98	0.78	0	20	10
<b>Austria</b>	inode, inode unlimited	15.08	-	15.98	0.78	0	50	20

**Notes:**

- Prices are in euro, including VAT

Part 2 Country	Provider / Package	ISP fixed per month	ISP usage per hour	PSTN fixed per month	PSTN access per hour	Hours included per year	Webspace Mbyte	Email accounts
Belgium	Skynet, Skynet Discovery Free	0.69	-	16.80	1.02	0	10	10
Belgium	Skynet, Net Comfort	6.18	-	16.80	1.02	0	20	5
Belgium	Skynet, Net Addict	10.31	-	16.80	1.02	0	30	5
Belgium	Tiscali, Free	-	-	16.80	0.45	0	50	3
Belgium	Scarlet, Scarlet Freedom go	-	-	16.80	0.90	0	0	webmail
Belgium	Scarlet, Scarlet Freedom Premium	2.00	-	16.80	0.85	0	30	5
Belgium	xs4all, Standard Dial-up	13.33	-	16.80	1.02	0	50	5
Belgium	xs4all, Basic Mail Dial-up	15.85	-	16.80	1.02	0	50	5
Belgium	xs4all, Advanced Mail Dial-up	19.58	-	16.80	1.02	0	50	10
Belgium	EDPnet, Free EDPnet	-	-	16.80	1.02	0	0	0
Belgium	EDPnet, Free EDPnet +	-	-	16.80	1.02	0	10	2
Belgium	EDPnet, Personal dial-up	2.52	-	16.80	1.02	0	25	5
Denmark	TDC Internet, Net Plus	3.34	-	15.97	0.64	0	10	5
Denmark	TDC Internet, Opasia Standard Internet	5.58	-	15.97	0.81	0	10	5
Denmark	TDC Internet, NetBasis	-	-	15.97	1.13	0	10	5
Denmark	TDC Internet, NetTid 10	10.60	-	15.97	1.13	10	10	5
Denmark	TDC Internet, NetTid 20	18.66	-	15.97	0.97	20	10	5
Denmark	TDC Internet, NetTid 30	24.03	-	15.97	0.81	30	10	5
Denmark	TDC Internet, NetTid 80	40.13	-	15.97	0.81	80	10	5
Denmark	Tele2, get2net gratis internet	-	-	15.97	0.97	0	20	5
Denmark	Tiscali, Net	-	-	15.97	0.93	0	10	10
Denmark	Telia, Internet Time	-	-	15.97	0.97	0	10	5
Denmark	Telia, Internet Time Plus	3.34	-	15.97	0.97	0	10	5

**Notes:**

- Prices are in euro, including VAT

<b>Part 3</b>	<b>Provider / Package</b>	<b>ISP fixed per month</b>	<b>ISP usage per hour</b>	<b>PSTN fixed per month</b>	<b>PSTN access per hour</b>	<b>Hours included per year</b>	<b>Webspace Mbyte</b>	<b>Email accounts</b>
<b>Country</b>								
<b>Denmark</b>	Cybercity, Fastpris 60	14.09	-	15.97	0.89	60	10	1
<b>Denmark</b>	Cybercity, Fastpris 120	26.17	-	15.97	0.89	120	10	1
<b>Denmark</b>	Cybercity, Fastpris 480	66.44	-	15.97	0.89	480	10	1
<b>Finland</b>	TeliaSonera, Internet Active	16.99	-	13.79	0.61	0	25	10
<b>Finland</b>	TeliaSonera, Internet Fun	8.28	-	13.79	0.61	0	25	2
<b>Finland</b>	MTV3, MTV3 Internet	-	-	13.79	0.61	0	20	2
<b>Finland</b>	Tiscali- SurfEU, Surf Easy	-	-	13.79	0.61	0	15	10
<b>Finland</b>	Saunalahti, iGyM	8.24	-	13.79	0.61	0	25	10
<b>Finland</b>	Saunalahti, Free registered	-	-	13.79	0.61	0	0	1
<b>Finland</b>	Saunalahti, Free	-	-	13.79	0.61	0	0	0
<b>Finland</b>	Elisa - Kolumbus, Elisa Internet	8.24	-	13.79	0.61	0	30	1
<b>Finland</b>	Elisa - Kolumbus, Elisa Internet Free	-	-	13.79	0.61	0	0	0
<b>France</b>	Wanadoo, Acces Libre	-	-	13.00	1.20	0	100	5
<b>France</b>	Wanadoo, Integrales 5H	8.00	3.00	13.00	-	5	100	5
<b>France</b>	Wanadoo, Integrales 5H Fidelite	8.00	3.00	13.00	-	6	100	5
<b>France</b>	Wanadoo, Integrales 10H	10.00	3.00	13.00	-	10	100	5
<b>France</b>	Wanadoo, Integrales 10H Fidelite	10.00	3.00	13.00	-	12	100	5
<b>France</b>	Wanadoo, Integrales 20H	15.00	3.00	13.00	-	20	100	5
<b>France</b>	Wanadoo, Integrales 20H Fidelite	15.00	3.00	13.00	-	24	100	5
<b>France</b>	Wanadoo, Integrales 60H	20.00	3.00	13.00	-	60	100	5
<b>France</b>	Wanadoo, Integrales 60H Fidelite	20.00	3.00	13.00	-	72	100	5
<b>France</b>	Wanadoo, Integrales 100H	25.00	3.00	13.00	-	100	100	5
<b>France</b>	Wanadoo, Integrales 100H Fidelite	25.00	3.00	13.00	-	120	100	5

**Notes:**

- Prices are in euro, including VAT

<b>Part 4</b>	<b>Provider / Package</b>	<b>ISP fixed per month</b>	<b>ISP usage per hour</b>	<b>PSTN fixed per month</b>	<b>PSTN access per hour</b>	<b>Hours included per year</b>	<b>Webspace Mbyte</b>	<b>Email accounts</b>
<b>France</b>	AOL, AOL Connexion Classique	16.90	3.00	13.00	-	4	140	7
<b>France</b>	Tiscali, Forfait 5H	5.50	2.58	13.00	-	5	100	unlim.
<b>France</b>	Tiscali, Forfait 5H Fidelite	5.50	2.58	13.00	-	8	100	unlim.
<b>France</b>	Tiscali, Forfait 10H	9.50	2.58	13.00	-	10	100	unlim.
<b>France</b>	Tiscali, Forfait 10H Fidelite	9.50	2.58	13.00	-	15	100	unlim.
<b>France</b>	Tiscali, Totale Liberte	-	-	13.00	1.20	0	100	unlim.
<b>France</b>	Tiscali, Illimité le Journée	10.00	-	13.00	3.00	288	100	unlim.
<b>France</b>	Tiscali, Illimité Total	24.95	-	13.00	-	0	100	unlim.
<b>France</b>	T-Online Club Internet, Forfait Bas 5H	6.00	-	13.00	3.00	5	150	unlim.
<b>France</b>	T-Online Club Internet, Forfait Bas 15H	10.00	-	13.00	3.00	15	150	unlim.
<b>France</b>	T-Online Club Internet, Forfait Bas 50H	15.00	-	13.00	3.00	50	150	unlim.
<b>France</b>	T-Online Club Internet, Forfait Bas 100H	25.00	-	13.00	3.00	100	150	unlim.
<b>France</b>	T-Online Club Internet, Acces Direct	-	-	13.00	1.20	0	150	unlim.
<b>France</b>	Free Telecom, Acces Gratuit	-	-	13.00	1.20	0	100	unlim.
<b>France</b>	Free Telecom, Forfait 50H	14.94	-	13.00	1.20	50	100	unlim.
<b>Germany</b>	T-Online, Eco	3.95	-	15.66	0.95	0	0	1
<b>Germany</b>	T-Online, By Day	7.49	-	15.66	0.48	0	0	1
<b>Germany</b>	T-Online, T-Online surftime 30	14.95	-	15.66	0.95	30	0	1
<b>Germany</b>	T-Online, T-Online surftime 60	27.95	-	15.66	0.95	60	0	1
<b>Germany</b>	T-Online, T-Online surftime 90	39.95	-	15.66	0.95	90	0	1
<b>Germany</b>	T-Online, T-Online surftime 120	49.95	-	15.66	0.95	120	0	1
<b>Germany</b>	T-Online, By Call	-	-	15.66	1.19	0	0	1
<b>Germany</b>	AOL, Top	-	-	15.66	0.72	0	140	7
<b>Germany</b>	AOL, Start	-	-	15.66	0.99	0	140	7
<b>Germany</b>	AOL, Power	39.80	-	15.66	0.84	90	140	7

**Notes:**

- Prices are in euro, including VAT



<b>Part 5</b>	<b>Provider / Package</b>	<b>ISP fixed per month</b>	<b>ISP usage per hour</b>	<b>PSTN fixed per month</b>	<b>PSTN access per hour</b>	<b>Hours included per year</b>	<b>Webspace Mbyte</b>	<b>Email accounts</b>
<b>Country</b>								
<b>Germany</b>	Freenet.de, Sorglos	-	-	15.66	0.77	0	15	1
<b>Germany</b>	Freenet.de, Super Call-by-Call	-	-	15.66	0.47	0	15	1
<b>Germany</b>	Freenet.de, Standard	-	-	15.66	1.50	0	15	1
<b>Germany</b>	Freenet.de, Power	-	-	15.66	0.59	0	15	1
<b>Germany</b>	Tiscali, Tiscali Anonym	-	-	15.66	0.59	0	0	0
<b>Germany</b>	Tiscali, Tiscali Smart Standard	-	-	15.66	0.59	0	30	30
<b>Germany</b>	Tiscali, Tiscali Smart Pro	3.99	-	15.66	0.59	0	90	90
<b>Germany</b>	Tiscali, Tiscali Protect	-	-	15.66	0.89	0	50	50
<b>Germany</b>	Arcor, Internet by call Day	-	-	15.66	0.66	0	0	5
<b>Germany</b>	Arcor, Internet by call Evenings	-	-	15.66	0.59	0	25	5
<b>Germany</b>	Arcor, Internet by call Spartarif	-	-	15.66	0.40	0	25	5
<b>Germany</b>	Arcor, Internet by call Local	-	-	15.66	0.40	0	25	5
<b>Germany</b>	Arcor, Online Power	-	-	15.66	0.60	0	50	5
<b>Greece</b>	OTEnet, Easy Gate Basic	17.26	-	11.78	1.56	0	80	1
<b>Greece</b>	OTEnet, Easy Gate Exclusive	51.94	-	11.78	1.56	0	80	1
<b>Greece</b>	Forthnet, Dial up	15.63	-	11.78	1.56	0	5	1
<b>Greece</b>	Forthnet, Dial up	30.44	-	11.78	1.56	0	5	1
<b>Greece</b>	Hellas Online, HOL Home	15.73	-	11.78	1.56	0	20	1
<b>Greece</b>	Hellas Online, HOL Power	24.19	-	11.78	1.56	0	20	3
<b>Greece</b>	Panafonet, Dynamic	15.83	-	11.78	1.56	0	5	1
<b>Greece</b>	Panafonet, Static	34.61	-	11.78	1.56	0	5	1
<b>Greece</b>	ACN, ACN Connect	9.74	-	11.78	1.56	0	50	1
<b>Greece</b>	ACN, ACN Connect Plus	19.65	-	11.78	1.56	0	50	1

**Notes:**

- Prices are in euro, including VAT

Part 6 Country	Provider / Package	ISP fixed per month	ISP usage per hour	PSTN fixed per month	PSTN access per hour	Hours included per year	Webspace Mbyte	Email accounts
Ireland	Eircom net, free	-	-	22.50	0.76	0	20	unlim.
Ireland	Eircom net, net subscription	18.44	-	22.50	0.58	0	100	unlim.
Ireland	Esat BT, NetSmart 40	15.00	-	22.50	0.60	0	0	unlim.
Ireland	Esat BT, NetSmart 80	25.00	-	22.50	0.60	0	0	unlim.
Ireland	Esat BT, NetSmart 120	30.00	-	22.50	0.60	0	0	unlim.
Ireland	Esat BT, IOL Free	-	-	22.50	0.60	0	0	unlim.
Ireland	Esat BT, IOL Gold	12.70	-	22.50	0.58	0	0	unlim.
Ireland	UTVip, UTVip Medium High Milage	24.95	-	22.50	0.57	0	unlim.	unlim.
Ireland	UTVip, UTVip Medium Lite	9.99	-	22.50	0.57	0	unlim.	unlim.
Ireland	Connect-Ireland, Personal	8.92	-	22.50	0.58	0	5	1
Ireland	Connect-Ireland, Family	10.50	-	22.50	0.58	0	3	1
Ireland	Unison, free	-	-	22.50	0.76	0	0	5
Italy	Tin.it, Free	-	-	14.57	0.66	0	50	1
Italy	Tin.it, Pro	7.95	-	14.57	0.66	0	100	5
Italy	Tin.it, Special	3.96	-	14.57	0.66	0	100	1
Italy	Tin.it, Family	6.66	-	14.57	0.66	0	100	4
Italy	Wind.it, Pronto 1055 Preselection	-	-	14.57	0.57	0	0	webmail
Italy	Wind.it, Pronto 1055	-	-	14.57	2.10	0	0	webmail
Italy	Wind.it, Family Preselection	-	-	14.57	0.64	0	0	webmail
Italy	Wind.it, Family	-	-	14.57	1.49	0	0	webmail
Italy	Tiscali, Tiscali 10 Abbonati Gratis	-	-	14.57	0.66	0	20	3
Italy	Tiscali, Flat Day	14.95	-	14.57	0.51	274	20	1
Italy	Tiscali, Flat Night	12.95	-	14.57	0.51	0	20	1
Italy	MC-Link, MC-Link.Net dial-up	-	-	14.57	0.66	0	4	1
Italy	DADA, aziende.it Power	9.20	-	14.57	0.66	0	10	5

**Notes:**

- Prices are in euro, including VAT

Part 7 Country	Provider / Package	ISP fixed per month	ISP usage per hour	PSTN fixed per month	PSTN access per hour	Hours included per year	Webspace Mbyte	Email accounts
Luxembourg	P&T Luxembourg, ClassicSurf	4.93	-	18.40	0.93	0	0	1
Luxembourg	P&T Luxembourg, Classic Cube with ClassicSurf	3.49	-	18.40	0.93	0	20	3
Luxembourg	P&T Luxembourg, Flat rate weekend	12.40	-	18.40	0.93	0	20	3
Luxembourg	P&T Luxembourg, Classic Cube with Flat rate weekend	7.44	-	18.40	0.93	0	20	3
Luxembourg	Luxembourg Online, Internet Gratuit	-	-	18.40	0.92	0	10	3
Luxembourg	Luxembourg Online, Forfait Freezone	7.41	-	18.40	1.12	10	10	3
Luxembourg	Luxembourg Online, Forfait Freeland	19.81	-	18.40	1.12	30	10	3
Luxembourg	Luxembourg Online, Forfait Freespace 50	32.20	-	18.40	1.12	50	10	3
Luxembourg	Tele2, Acces Gratuit	-	-	18.40	0.73	0	0	unlim.
Luxembourg	Visual Online, Subscription	8.25	-	18.40	0.93	0	10	3
Luxembourg	Crosscomm, Free 10 hrs	-	-	18.40	0.93	10	10	5
Luxembourg	Crosscomm, 20 hrs	9.20	-	18.40	0.93	20	10	5
Luxembourg	Crosscomm, Unlimited	28.75	-	18.40	-	0	10	5
Netherlands	Planet Internet, Basic	2.95	1.13	17.79	-	5	25	20
Netherlands	Planet Internet, Plus	5.85	-	17.79	0.97	1	25	20
Netherlands	KPN Het Net, Regular	3.95	-	17.79	0.90	0	22	5
Netherlands	KPN Het Net, Standard	2.95	-	17.79	1.01	2	22	2
Netherlands	KPN Het Net, Basis	1.95	-	17.79	1.01	0	22	2
Netherlands	KPN Het Net, Frequent	6.95	-	17.79	1.01	5	22	5
Netherlands	Tiscali, Gratis	-	-	17.79	1.27	0	5	1
Netherlands	Tiscali, Compleet	3.40	-	17.79	1.10	0	50	5
Netherlands	XS4all, Standard	13.41	-	17.79	0.62	0	50	10

**Notes:**

- Prices are in euro, including VAT

<b>Part 8</b>	<b>Provider / Package</b>	<b>ISP fixed per month</b>	<b>ISP usage per hour</b>	<b>PSTN fixed per month</b>	<b>PSTN access per hour</b>	<b>Hours included per year</b>	<b>Webspace Mbyte</b>	<b>Email accounts</b>
<b>Netherlands</b>	Wanadoo, Free	-	-	17.79	1.27	0	20	2
<b>Netherlands</b>	Wanadoo, Budget 10%	1.95	-	17.79	0.83	0	20	4
<b>Netherlands</b>	Wanadoo, Budget 30%	5.95	-	17.79	0.65	0	20	4
<b>Netherlands</b>	Wanadoo, Smartpack 15	9.95	-	17.79	1.10	15	10	4
<b>Netherlands</b>	Wanadoo, Smartpack 30	18.95	-	17.79	1.10	30	20	4
<b>Netherlands</b>	ZON, Regelmatig	1.95	-	17.79	0.90	0	20	1
<b>Netherlands</b>	ZON, Vaak	5.00	-	17.79	0.59	0	20	1
<b>Netherlands</b>	Freeler, Basis	-	-	17.79	1.27	0	0	1
<b>Netherlands</b>	Freeler, Compleet	3.45	-	17.79	0.93	0	20	12
<b>Netherlands</b>	Freeler, Voordelig	5.95	-	17.79	0.65	0	20	12
<b>Netherlands</b>	Compuserve, Standard dial-up	5.82	-	17.79	0.81	0	unlim.	7
<b>Netherlands</b>	Cistron, Standard	11.46	-	17.79	0.93	0	50	5
<b>Netherlands</b>	12move, Gratis	-	-	17.79	0.92	0	5	1
<b>Portugal</b>	Telepac, Sapó Pre-pago	-	-	14.64	0.48	0	20	2
<b>Portugal</b>	Telepac, Sapó Livre	-	-	14.64	0.71	0	15	2
<b>Portugal</b>	Telepac, Free Já	-	-	14.64	0.82	0	0	0
<b>Portugal</b>	IOL, dial-up	-	-	14.64	1.06	0	0	webmail
<b>Portugal</b>	Clix, Clix Free	-	-	14.64	0.79	0	10	4
<b>Portugal</b>	Clix, MyClix Control	-	-	14.64	0.72	0	15	4
<b>Portugal</b>	Clix, MyClix Night	-	-	14.64	0.63	0	15	4
<b>Portugal</b>	Oninet, Internet Gratis	-	-	14.64	0.71	0	10	4
<b>Portugal</b>	Jazztel, JazzPro	9.98	-	14.64	0.60	0	5	4
<b>Portugal</b>	Jazztel, JaxxDuet	14.96	-	14.64	0.60	0	10	8
<b>Portugal</b>	Jazztel, JazzQuartet	32.42	-	14.64	0.60	0	15	40

**Notes:**

- Prices are in euro, including VAT

Part 9 Country	Provider / Package	ISP fixed per month	ISP usage per hour	PSTN fixed per month	PSTN access per hour	Hours included per year	Webspace Mbyte	Email accounts
Spain	Terra, Tarifa Plana 24 H	25.40	-	14.64	-	0	10	2
Spain	Terra, Tarifa Plana Tarde	18.44	-	14.64	-	0	5	1
Spain	Terra, Tarifa Plana Nocturna	6.84	-	14.64	-	0	5	1
Spain	Terra, Terra Bono Libre	14.96	-	14.64	1.39	20	5	1
Spain	Wanadoo España, Connection Gratis	-	-	14.64	0.69	0	50	webmail
Spain	Wanadoo España, @ bono 7	6.84	-	14.64	1.46	7	50	5
Spain	Wanadoo España, @ bono 15	13.80	-	14.64	1.46	15	50	5
Spain	Wanadoo España, @ bono 30	18.44	-	14.64	1.46	30	50	5
Spain	Wanadoo España, Acceso premium	4.65	-	14.64	0.69	0	50	5
Spain	Wanadoo España, Tarifa Plana Optima	20.76	-	14.64	-	0	15	5
Spain	Wanadoo España, 20 Horas	11.48	-	14.64	-	0	15	5
Spain	Wanadoo España, 24 Horas	25.40	-	14.64	-	0	15	5
Spain	Tiscali , Free Internet	-	-	14.64	0.69	0	10	4
Spain	Tiscali , Tarifa Plana	19.17	-	14.64	-	0	10	4
Spain	Tiscali , Premium	5.79	-	14.64	0.69	0	30	5
Spain	ya.com, Tarifa Plana 24h	23.08	-	14.64	-	0	50	11
Spain	ya.com, Tarifa Plana	18.55	-	14.64	-	0	30	5
Spain	ya.com, Tarifa Plana Classic	16.12	-	14.64	-	0	30	5
Spain	ya.com, Tarifa Plana Noche	11.48	-	14.64	-	0	30	5
Spain	ya.com, Tarifa Plana Día	18.55	-	14.64	-	0	30	5
Spain	Telefonica Net, Tarifa Plana Internet Flat rate	19.17	-	14.64	-	0	10	2
Spain	Telefonica Net, Net Base	-	-	14.64	0.59	0	10	2
Spain	Telefonica, Net Premium	3.48	-	14.64	0.59	0	10	5

**Notes:**

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Part 10 Country	Provider / Package	ISP fixed per month	ISP usage per hour	PSTN fixed per month	PSTN access per hour	Hours included per year	Webspace Mbyte	Email accounts
Sweden	Glocalnet, G-Surf	-	-	13.59	0.75	0	10	webmail
Sweden	Telia, Telia Internet 020	2.61	-	13.59	0.75	0	0	webmail
Sweden	Telia, Telia Internet För Alle	-	-	13.59	0.75	0	0	webmail
Sweden	Spray, Free internet	-	-	13.59	0.75	0	50	1
Sweden	Spray, Fast price 20	15.77	-	13.59	0.75	20	50	1
Sweden	Spray, Fast price 30	21.20	-	13.59	0.75	30	50	1
Sweden	Spray, Fast price 50	27.18	-	13.59	0.75	50	50	1
Sweden	Spray, Fast price 70	32.51	-	13.59	0.75	70	50	1
Sweden	Tele2, Tele2Internet	2.58	-	13.59	0.72	0	10	10
Sweden	Tele2, Internet Start	-	-	13.59	0.75	0	10	5
Sweden	Tele2, Internet Plus	3.15	-	13.59	0.61	0	10	5
Sweden	Tiscali, Free Internet	-	-	13.59	0.65	0	10	10
Sweden	Tiscali, Cash n' Surf	-	-	13.59	0.72	0	10	10
Sweden	Tiscali, Minisurf	9.24	-	13.59	0.65	15	0	webmail
Sweden	Tiscali, Supersurf	15.77	-	13.59	0.65	30	0	webmail
Sweden	Tiscali, Megasurf	26.64	-	13.59	0.65	61	0	webmail
Sweden	Tiscali, Maxisurf	75.57	-	13.59	0.65	182	0	webmail
UK	FreeServe, No Ties	-	-	11.82	0.88	0	150	unlim.
UK	FreeServe, AnyTime	21.92	-	11.82	-	0	150	unlim.
UK	AOL, Flat Rate	23.38	-	11.82	-	0	120	7
UK	BT Yahoo, SurfTime	10.22	-	11.82	0.88	0	ISP	ISP
UK	BT Yahoo, Pay As You Go	-	-	11.82	0.88	0	10	5
UK	BT Yahoo, AnyTime	23.38	-	11.82	0.88	150	15	10

**Notes:**

- Prices are in euro, including VAT

Part 11 Country	Provider / Package	ISP fixed per month	ISP usage per hour	PSTN fixed per month	PSTN access per hour	Hours included per year	Webspace Mbyte	Email accounts
UK	Tiscali, Pay As You Go	-	-	11.82	0.88	0	100	webmail
UK	Tiscali, Anytime	21.92	-	11.82	0.88	150	100	webmail
UK	Tiscali, Off-peak	17.53	-	11.82	-	0	100	webmail
UK	Tiscali, Daytime	7.30	-	11.82	-	0	100	webmail
UK	Tiscali, Daytime Plus	11.68	-	11.82	-	0	100	webmail
UK	ntl:home, Unlimited	14.62	-	11.82	-	0	55	15
UK	ntl:home, Pay As You Go	-	-	11.82	0.88	0	55	15
UK	Virgin, Pay As You Go	-	-	11.82	0.88	0	10	5
UK	Virgin, 24 seven	19.72	-	11.82	-	0	10	5
UK	Breathe, breathe registration	20.45	-	11.82	-	0	10	5
UK	Breathe, breathe pay as you go	-	-	11.82	0.88	0	10	5
UK	Telewest, Blueyonder Internet	19.01	-	11.82	-	0	30	15
UK	Clara.net, Freetime Anytime	21.92	-	11.82	0.88	120	50	unlim.
UK	Clara.net, Freetime Unlimited	14.61	-	11.82	-	0	50	unlim.
UK	Clara.net, Freetime 12 Account	4.87	-	11.82	0.88	12	50	unlim.
UK	Clara.net, Freetime 20 Account	7.31	-	11.82	0.88	20	50	unlim.
UK	Clara.net, Freetime 35 Account	21.92	-	11.82	0.88	35	50	unlim.
UK	Clara.net, Freetime 80 Account	43.85	-	11.82	0.88	80	50	unlim.
UK	Madasafish, Pay As You Go	-	-	11.82	0.88	0	20	unlim.
UK	Madasafish, Anytime	21.92	-	11.82	-	0	20	unlim.
Iceland	Siminn, Dial-up Internet	12.61	-	14.69	0.69	0	0	1
Iceland	Og Vodafone, Dial-up Internet Free	-	-	14.69	0.62	0	0	2
Iceland	Og Vodafone, Dial-up Internet	11.45	-	14.69	0.62	0	10	2

**Notes:**

- Prices are in euro, including VAT

Part 12 Country	Provider / Package	ISP fixed per month	ISP usage per hour	PSTN fixed per month	PSTN access per hour	Hours included per year	Webspace Mbyte	Email accounts
Iceland	Margmiðlun, Free	-	-	14.69	0.69	0	0	1
Iceland	Margmiðlun, Bronze	8.04	-	14.69	0.69	0	50	2
Iceland	Margmiðlun, Silver	11.37	-	14.69	0.69	0	50	3
Iceland	Margmiðlun, Gold	18.22	-	14.69	0.69	0	20	4
Iceland	Hringioan, Star Subscription	11.45	-	14.69	0.69	0	5	2
Iceland	Hringioan, Elite Subscription	18.40	-	14.69	0.69	0	10	4
Iceland	Snerpa, Dial-up	13.77	-	14.69	0.69	0	6	4
Norway	Telenor, Free	-	-	18.32	0.97	0	10	1
Norway	Telenor, Online Basis	11.29	-	18.32	0.83	0	50	4
Norway	Telenor, Online Pluss	17.17	-	18.32	0.83	0	50	11
Norway	Telenor, Online Total	25.93	-	18.32	0.83	0	100	11
Norway	Telenor, Online Pluss Kontant	9.58	-	18.32	0.83	0	50	11
Norway	Tele2, Tele2Internet	5.65	-	18.32	0.93	0	10	10
Norway	Tele2, Free2Connect	-	-	18.32	0.93	0	0	1
Norway	Tele2 (preselected), Tele2Internet	5.65	-	18.32	0.80	0	10	10
Norway	Tele2 (preselected), Free2Connect	-	-	18.32	0.80	0	0	1
Norway	Tiscali, FreeInternet	-	-	18.32	0.90	0	20	10
Norway	Tiscali, Surfer	9.22	-	18.32	0.90	15	20	10
Norway	Tiscali, Super Surfer	16.71	-	18.32	0.90	30	20	10
Norway	Tiscali, Mega Surfer	28.23	-	18.32	0.90	61	20	10
Norway	Tiscali, Maxi Surfer	62.80	-	18.32	0.90	183	20	10
Norway	RingNett, Freeway	-	-	18.32	0.97	0	10	1
Norway	RingNett, Pluss	8.63	-	18.32	0.97	0	25	10
Norway	Start, Gratis Internett	-	-	18.32	0.97	0	30	10

**Notes:**

- Prices are in euro, including VAT



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## 3.2 ADSL Access

The overall summary of the ADSL information collected covers the ISP of the incumbent operator and a second major ISP offering ADSL for each of the 17 countries included.

*Please see the section on data collection for more details.*

In most cases the second operator covered for each country will not be offering a physical ADSL service of their own, but rather reselling the ADSL transport service offered by the incumbent operator. The main revenue for the providers will in those cases come from the ISP service offered on top of the ADSL transport.

Prices for a full ADSL connection to an ISP will normally consist of up to six elements:

- ADSL transport service installation;
- ISP service registration;
- ADSL transport service monthly charges;
- ISP service monthly charges;
- Modem / router charges; and
- Some providers apply traffic charges (e.g. per Mbyte transferred) if traffic goes above a certain threshold per month (e.g. above 1 Gbyte / month). In some cases a similar charge is levied if usage goes over a certain time limit. This all relates to the ISP service more than the ADSL service, and is not found with all providers.

In addition there may be other charges to consider, such as PSTN or ISDN line installation and rental, if such a line does not exist. Such charges are not considered in this report.

This report will only deal with the six main charge types, where the ADSL installation and ISP service registration charges added together are shown as “Non-recurring”, and the ADSL rental and ISP service rental added together are shown as “Recurring”. Any applicable modem or router charges are also added, either to installation, to rental or to both. As previously mentioned, Teligen has assumed a usage level of **40 hours or 10 Gigabits per month** (with each session lasting 60 minutes), and therefore if any appropriate charges are applicable in the comparison, these will apply up to this usage level and will be considered as such in the results, shown as “Usage”.

In their marketing of the ADSL service some providers are not clear on whether additional charges from the incumbent operator apply in addition to the ones listed from the provider. The additional ADSL transport charges from the incumbent operator have only been added where it is clear that they are applicable. Some providers of ADSL services build their own transport service, or they include the incumbent operators ADSL charges into their own, and in those cases no additional charges would apply.

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### 3.2.1 Presentation of price data

There is a wide range of bitrates offered for ADSL. The offerings from the 34 providers listed in this report are spread over 41 different bitrate combinations. In general, for each of the service providers, the installation charges for these different bitrates are the same, while the rental will increase with the bitrate, although not proportionally. Most providers will offer between 1 and 5 of these bitrate combinations – Teligen’s research has shown that the range of bitrates offered by service providers in general is increasing, as broadband services and capabilities become more diverse.

The bitrate combinations consist of an upload bitrate and a download bitrate; the former is normally lower than the latter. The prices are compared in two different ways, as described in **Section 2.2.2**, using the lowest normalised and actual prices from each provider. There are some bitrate combinations that are more common than others, and these are 128/256 kb/s, 128/512 kb/s, 256/1024 kb/s and 512/2048 kb/s. Some service providers offer speeds with a download rate of less than 256 kb/s – these are omitted from this study as they are considered to be akin to ISDN (integrated services digital network) levels of service. A similar approach is also used by the OECD in their comparisons.

### 3.2.2 Results of ADSL Access Comparison

The following tables show the summary price data as discussed above, firstly looking at the comparison of the best prices per provider normalised to 1024 kbit/s speed, followed by the comparison of the cheapest actual prices per provider:

Table 3.7 Best normalised ADSL prices per provider

Cheapest for each provider			Normalised prices per month @ 1024 kb/s				
All prices in Euro, including VAT			40 hours / 10 GB per month. 60 minutes per session				
Country	ISP	Package	Speed Up/Down	Non- recurring	Recurring	Usage	Total
Sweden	Telia Sonera	Telia Bredband 8000	800 / 8000	0.48	5.68	-	6.16
Belgium	Belgacom Skynet	ADSL Go	128 / 3072	2.15	9.72	-	11.87
Belgium	Tiscali	Tiscali ADSL	128 / 3000	0.66	11.46	-	12.12
Netherlands	Planet Internet	ADSL Advanced	640 / 4096	0.86	17.29	-	18.14
Germany	FreeNet	freenet DSL by Call traffic	196 / 1536	2.11	11.82	6.05	19.98
Netherlands	Zon Zonnet	Extra	640 / 4096	1.60	19.03	-	20.63
Denmark	Tele Denmark	2048/128	128 / 2048	0.43	34.68	-	35.10
Netherlands	Het Net	ADSL Surfen	320 / 1024	3.02	25.10	7.80	35.92
Germany	T-Online	T-Online DSL Flat	128 / 768	4.08	34.23	-	38.31
France	France Telecom	eXtense 1024k	128 / 1024	-	39.91	-	39.91
Denmark	Tele2	Tele2ADSL 2048	512 / 2048	0.69	41.88	-	42.57
Finland	Elisa Internet Oy	2048/512	512 / 2048	3.49	39.60	-	43.09
Italy	Liberio / Italia Online	Liberio ADSL Fast Solo Connettivita	128 / 640	-	43.27	-	43.27
Finland	Telia Sonera	ADSL 512/2048	512 / 2048	2.67	41.84	-	44.52
Norway	Tele2	ADSL Large for Tele2 fixed customers	256 / 1024	2.52	43.24	-	45.76
Sweden	Tele2	Bredband ADSL 1	400 / 500	2.02	44.41	-	46.44
Italy	Telecom Italia - Tin.it	ADSL 1200 base	256 / 1280	3.45	43.30	-	46.75
Austria	UTA	ADSL Wild Cherry Home	128 / 768	5.75	47.36	-	53.11
UK	Freeserve	Connection only pack	256 / 512	-	54.57	-	54.57
Norway	Telenor	Online ADSL Ekstra	256 / 1024	6.49	50.61	-	57.10
Austria	Telekom Austria	Aon Speed 30	128 / 768	1.37	39.89	16.46	57.71
UK	BTOpenworld	BT Broadband	250 / 500	3.84	55.89	-	59.74
Luxembourg	P&T	LuxDSL Express	192 / 1024	3.21	72.63	-	75.84
Spain	Terra	Terra ADSL 2048	300 / 2048	2.16	76.17	-	78.33
France	AOL	AOL ADSL 512k	128 / 512	-	79.98	-	79.98
Portugal	Media Capital Multimedia	VIA ADSL Standard 512/128	128 / 512	13.42	78.40	-	91.82
Luxembourg	Luxembourg online	Top 1024	192 / 1024	3.05	92.63	-	95.68
Spain	Wanadoo Espana	ADSL Speed	128 / 256	-	120.64	-	120.64
Greece	OTEnet	OnDSL Home 384	128 / 384	2.27	133.12	-	135.39
Iceland	Og Vodafone	ADSL II 1GB Start	512 / 2048	-	31.01	106.20	137.21
Iceland	Iceland Telecom	ADSL 2000	512 / 2048	0.76	23.14	118.48	142.38
Iceland	Siminn Internet	5GB	512 / 2048	2.03	87.75	59.24	149.02
Greece	Forthnet.gr	Forthnet Fast Internet 384	128 / 384	7.79	160.63	-	168.42
Ireland	EsatBT / IOL	IOL Broadband	128 / 512	3.96	79.18	98.30	181.45
Portugal	PT (Telepac & Sapo)	SAPO ADSL PT LIGHT	128 / 256	3.67	70.67	120.00	194.33
Ireland	Eircom	eircom i-stream solo	128 / 512	8.78	172.30	237.90	418.98

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**Notes for Table 3.7:**

- Prices in euro, including VAT;
- Cheapest normalised price is based on total cost, including non-recurring, recurring and usage charges, and assumes a 3 year service lifetime;
- The non-recurring charge is discounted (depreciated) over 3 years, and is shown as a proportionate charge per month with the same normalisation factor as the rental charge;
- The recurring charge is normalised to 1024 kbit/s, as previously explained, and is applicable to the respective bitrate combination shown in the table;
- A usage charge applies if the assumed usage (40 hours or 10 Gigabits per month, 60 minutes per session) exceeds the usage limit for the package in question.

The cost of subscribing to an ADSL service is largely dependent upon the monthly rental charge. Adding the installation charge to the cost does not significantly alter the numbers, and would not change the ranking between countries. Charges for excessive usage have more of an effect on the total cost – this highlights the relevance of such charges that are not always considered to have much of an impact on overall cost.

As previously discussed, this normalisation comparison has various implications. For example, as the monthly price per unit (i.e. per Mbit/s) will normally decrease with increasing bitrate, the offerings with higher total bitrates will be favoured. Service providers offering only “low speeds” will fall behind in the comparison. Also, the prices shown are not actual prices paid by the customer. Tracing the calculations back to the origin requires information about the actual bitrates involved.

Table 3.8 Cheapest ADSL prices per provider

Cheapest for each provider			Monthly cost for usage profile				
All prices in Euro, including VAT			40 hours / 10 GB per month. 60 minutes per session				
Country	ISP	Package	Speed Up/Down	Non- recurring	Recurring	Usage	Total
Netherlands	Zon Zonnet	Budget	64 / 256	7.40	14.95	-	22.35
Germany	FreeNet	freenet DSL by Call time	196 / 768	3.57	19.99	2.40	25.96
France	France Telecom	L'ADSL référence 512	128 / 512	1.74	25.00	-	26.74
Italy	Libero / Italia Online	Libero ADSL Light Solo Connettivita	128 / 300	-	12.45	14.93	27.38
Germany	T-Online	T-Online DSL Flat	128 / 768	3.57	29.95	-	33.52
Luxembourg	P&T	LuxDSL Start	64 / 256	3.81	31.05	-	34.86
Sweden	Telia Sonera	Telia Bredband 250	64 / 250	4.16	32.51	-	36.67
Belgium	Tiscali	Tiscali ADSL	128 / 3000	2.03	35.00	-	37.03
Belgium	Belgacom Skynet	ADSL Go	128 / 3072	6.71	30.37	-	37.08
Netherlands	Planet Internet	ADSL Standard	320 / 1024	3.96	34.90	-	38.86
Sweden	Tele2	Bredband ADSL 1	400 / 500	1.78	39.03	-	40.81
UK	Freeserve	Connection only pack	256 / 512	-	40.92	-	40.92
Norway	Tele2	ADSL Medium for Tele2 fixed customers	128 / 704	3.15	37.80	-	40.95
Italy	Telecom Italia - Tin.it	ADSL forfait base	128 / 256	4.26	36.95	-	41.21
Finland	Elisa Internet Oy	Elisa Kotiportti	256 / 256	5.80	36.00	-	41.80
UK	BTOpenworld	BT Broadband	250 / 500	2.81	40.94	-	43.75
Finland	Telia Sonera	ADSL 256/256	256 / 256	6.68	38.00	-	44.68
Spain	Wanadoo Espana	ADSL Speed	128 / 256	-	45.24	-	45.24
Spain	Terra	Terra ADSL Bono Libre	128 / 256	3.70	41.64	-	45.35
Austria	UTA	ADSL Wild Cherry Home	128 / 768	5.03	41.44	-	46.47
Netherlands	Het Net	ADSL Surfen	320 / 1024	3.96	32.95	10.24	47.15
Denmark	Tele2	Tele2ADSL 256	128 / 256	1.73	45.64	-	47.37
Denmark	Tele Denmark	512/128	128 / 512	0.90	48.19	-	49.09
France	AOL	AOL ADSL 512k	128 / 512	-	49.99	-	49.99
Austria	Telekom Austria	Aon Speed 30	128 / 768	1.20	34.90	14.40	50.50
Luxembourg	Luxembourg online	Basic 256 Flat	64 / 256	3.62	49.00	-	52.62
Norway	Telenor	Online ADSL opgradert	128 / 704	8.11	45.98	-	54.09
Portugal	Media Capital Multimedia	VIA ADSL Standard 512/128	128 / 512	8.39	49.00	-	57.39
Greece	OTEnet	OnDSL Home 384	128 / 384	1.14	66.56	-	67.70
Portugal	PT (Telepac & Sapo)	SAPO ADSL PT LIGHT	128 / 256	1.38	26.50	45.00	72.88
Greece	Forthnet.gr	Forthnet Fast Internet 256	128 / 256	3.89	72.36	-	76.25
Ireland	EsatBT / IOL	IOL Broadband	128 / 512	2.48	49.49	61.44	113.41
Ireland	Eircom	eircom i-stream solo	128 / 512	5.49	107.69	148.68	261.87
Iceland	Siminn Internet	5GB	128 / 256	5.08	168.92	148.10	322.10
Iceland	Iceland Telecom	ADSL 256	128 / 256	1.91	28.92	296.19	327.02
Iceland	Og Vodafone	ADSL II 1GB Start	256 / 512	-	65.95	265.50	331.45

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**Notes for Table 3.8:**

- Prices in euro, including VAT;
- Cheapest price is based on total cost, including non-recurring, recurring and usage charges, and assumes a 3 year service lifetime;
- The non-recurring charge is discounted (depreciated) over 3 years, and is shown as a proportionate charge per month;
- The recurring charge is applicable to the respective bitrate combination shown in the table;
- A usage charge applies if the assumed usage (40 hours or 10 Gigabits per month, 60 minutes per session) exceeds the usage limit for the package in question.

These prices are shown together with the bitrates provided at those prices, so that the reader is able to assess the suitability of the service and the value for money. Again, as with the normalisation comparison, it is evident that the cost of subscribing to an ADSL service is largely dependent upon the monthly rental charge. Overall costs are mostly affected by any applicable charges for excessive usage.

As previously discussed, this comparison also has various implications. For example, the prices are not directly comparable – the reader needs to analyse these price tables (including the full table below) to determine the actual value of any price/bitrate combination. Also, the providers offering low bitrates will usually also have the lowest prices – this means that the low-bitrate services will be favoured using this method of presentation.

### **3.2.3 The full list of providers**

In Table 3.9 below all the packages covered in this survey are listed, including the cheapest applicable installation charge (usually the self-install option, if available, plus any applicable modem price and incumbent access charge), and the monthly rental for each package normalised to 1 Mbit/s speed (again, this calculation includes any applicable modem price and incumbent access charge). There is also an indication of whether excess usage charges apply, the amount of webspace included and the number of email addresses included in the standard offering. Other comments are included where necessary.

**Table 3.9 List of all ADSL packages with service information**

<b>Part 1 Country</b>	<b>Provider / Package</b>	<b>Bitrate</b>	<b>Installation</b>	<b>Monthly rental per 1Mb/s</b>	<b>Excess Usage charges apply</b>	<b>Webspace MB</b>	<b>Email accounts</b>	<b>Comment</b>
<b>Austria</b>	Telekom Austria, Aon Speed 30	128 / 768	43.52	39.89	Yes	10	5	Peak: Mon-Fri 0800-1800; Off-peak: all other times & public holidays
<b>Austria</b>	Telekom Austria, AonSpeed 500MB	128 / 768	43.52	34.17	Yes	10	5	-
<b>Austria</b>	Telekom Austria, Aon Speed 1GB	128 / 768	43.52	45.60	Yes	10	25	-
<b>Austria</b>	Telekom Austria, AonSpeed 2,5GB	128 / 768	43.52	51.31	Yes	10	25	-
<b>Austria</b>	Telekom Austria, AonSpeed FreeTime	128 / 768	43.52	68.46	Yes	10	25	Peak: 1GB (Mon- Fri 0800-1800); Off-peak: 10GB (all other times & public holidays)
<b>Austria</b>	UTA, ADSL Wild Cherry	128 / 768	183.05	41.65	Yes	10	6	>3GB EUR0.211/MB
<b>Austria</b>	UTA, ADSL Wild Cherry Home	128 / 768	183.05	47.36	No	10	6	Account is closed for rest of month if customers exceed "fair use" limit.
<b>Austria</b>	UTA, ADSL Wild Cherry Flexible	128 / 768	183.05	22.74	Yes	10	6	-
<b>Belgium</b>	Belgacom Skynet, ADSL Skynet Go	128 / 3072	244.00	12.65	Yes	50	5	-
<b>Belgium</b>	Belgacom Skynet, ADSL Skynet Plus	192 / 3072	244.00	17.07	Yes	50	25	-
<b>Belgium</b>	Belgacom Skynet, ADSL Go	128 / 3072	244.00	9.72	Yes	50	5	-
<b>Belgium</b>	Belgacom Skynet, ADSL Plus	192 / 3072	244.00	12.44	Yes	50	25	-
<b>Belgium</b>	Tiscali, Tiscali ADSL	128 / 3000	73.75	11.46	Yes	100	3	-

**Notes:**

- Prices are in euro, including VAT
- Installation and normalised monthly rental charges include any applicable modem price and incumbent access charge.

Part 2 Country	Provider / Package	Bitrate	Installation	Monthly rental per 1Mb/s	Excess Usage charges apply	Webspace MB	Email accounts	Comment
Denmark	Tele Denmark, 512/128	128 / 512	32.88	77.10	No	10	5	-
Denmark	Tele Denmark, 512/256	256 / 512	32.88	73.20	No	10	5	-
Denmark	Tele Denmark, 512/512	512 / 512	32.88	64.96	No	10	5	-
Denmark	Tele Denmark, 2048/128	128 / 2048	32.88	34.68	No	10	5	-
Denmark	Tele Denmark, 2048/256	256 / 2048	32.88	35.73	No	10	5	-
Denmark	Tele Denmark, 2048/512	512 / 2048	32.88	36.19	No	10	5	-
Denmark	Tele Denmark, 256/128	128 / 256	32.88	49.75	Yes	10	5	-
Denmark	Tele2, Tele2ADSL 256	128 / 256	63.09	121.70	No	20	5	-
Denmark	Tele2, Tele2ADSL 512	128 / 512	63.09	92.35	No	20	5	-
Denmark	Tele2, Tele2ADS 1024	256 / 1024	63.09	56.91	No	20	5	-
Denmark	Tele2, Tele2ADSL 2048	512 / 2048	63.09	41.88	No	20	5	-
Finland	Telia Sonera, ADSL 256/256	256 / 256	243.00	76.00	No	10	2	Customers buy modem separately.
Finland	Telia Sonera, ADSL 512/512	512 / 512	243.00	48.00	No	10	5	Customers buy modem separately
Finland	Telia Sonera, ADSL 512/1024	512 / 1024	243.00	41.33	No	10	10	Customers buy modem separately
Finland	Telia Sonera, ADSL 512/2048	512 / 2048	243.00	41.84	No	10	10	Customers buy modem separately
Finland	Elisa Internet Oy, Elisa Kotiportti	256 / 256	211.00	72.00	No	30	2	Special offering for multiple apartment blocks
Finland	Elisa Internet Oy, 256/256	256 / 256	317.00	78.00	No	30	5	-
Finland	Elisa Internet Oy, 512/512	512 / 512	317.00	49.00	No	30	5	-
Finland	Elisa Internet Oy, 1024/384	384 / 1024	317.00	42.91	No	30	5	-
Finland	Elisa Internet Oy, 2048/512	512 / 2048	317.00	39.60	No	30	5	-
Finland	Elisa Internet Oy, 4000/512	512 / 4000	317.00	67.86	No	30	5	-

**Notes:**

- Prices are in euro, including VAT
- Installation and normalised monthly rental charges include any applicable modem price and incumbent access charge.



<b>Part 3</b>	<b>Provider / Package</b>	<b>Bitrate</b>	<b>Installation</b>	<b>Monthly rental per 1Mb/s</b>	<b>Excess Usage charges apply</b>	<b>Webspace MB</b>	<b>Email accounts</b>	<b>Comment</b>
<b>France</b>	France Telecom, eXtense 512k w. Modem	128 / 512	99.00	55.84	No	100	5	-
<b>France</b>	France Telecom, eXtense 1024k w. Modem	128 / 1024	99.00	39.91	No	100	5	-
<b>France</b>	France Telecom, eXtense 512k Wi-Fi (modem sans fil)	128 / 512	149.00	55.84	No	100	5	-
<b>France</b>	France Telecom, eXtense 1024k Wi-Fi (modem sans fil)	128 / 1024	149.00	39.91	No	100	5	-
<b>France</b>	France Telecom, eXtense 128k	128 / 128	-	120.00	No	100	5	-
<b>France</b>	France Telecom, eXtense 512k	128 / 512	-	55.84	No	100	5	-
<b>France</b>	France Telecom, eXtense 1024k	128 / 1024	-	39.91	No	100	5	-
<b>France</b>	France Telecom, L'ADSL référence 512	128 / 512	63.39	40.00	No	100	5	-
<b>France</b>	France Telecom, L'ADSL exigence 1024	128 / 1024	63.39	45.33	No	100	5	-
<b>France</b>	France Telecom, L'ADSL référence 512 w. Modem Pack	128 / 512	222.39	40.00	No	100	5	-
<b>France</b>	France Telecom, L'ADSL référence 1024 w. Modem Pack	128 / 1024	222.39	45.33	No	100	5	-
<b>France</b>	France Telecom, L'ADSL référence 512 w. Ethernet Pack	128 / 512	262.39	40.00	No	100	5	-
<b>France</b>	France Telecom, L'ADSL référence 1024 w. Ethernet Pack	128 / 1024	262.39	45.33	No	100	5	-
<b>France</b>	France Telecom, Wanadoo ADSL 512/128	128 / 512	63.39	72.93	No	100	5	-
<b>France</b>	France Telecom, Wanadoo ADSL 1024/128	128 / 1024	63.39	72.00	No	100	5	-
<b>France</b>	AOL, AOL ADSL 512k	128 / 512	-	79.98	No	14	7	-

**Notes:**

- Prices are in euro, including VAT
- Installation and normalised monthly rental charges include any applicable modem price and incumbent access charge.

Part 4 Country	Provider / Package	Bitrate	Installation	Monthly rental per 1Mb/s	Excess Usage charges apply	Webspace MB	Email accounts	Comment
Germany	FreeNet, freenet DSL flatrate 768	196 / 768	129.85	51.93	No	0	Unlimited	-
Germany	FreeNet, freenet DSL flatrate 1536	196 / 1536	129.85	40.73	No	0	Unlimited	-
Germany	FreeNet, freenet DSL flexi Flat, Option 1	196 / 768	129.85	53.00	No	0	Unlimited	Unlimited use
Germany	FreeNet, freenet DSL flexi Flat, Option 2	196 / 768	129.85	41.31	No	0	Unlimited	Limited use; if used more than 10 GB than falls automatically into Option 1 for that month
Germany	FreeNet, freenet DSL flexi Flat, Option 3	196 / 768	129.85	34.94	No	0	Unlimited	Limited use; if used more than 10 GB and 100 hours than falls automatically into Option 1 or 2 for that month
Germany	FreeNet, freenet DSL start	196 / 1536	129.85	13.53	Yes	0	Unlimited	-
Germany	FreeNet, freenet DSL timesurf	196 / 768	129.85	27.50	Yes	0	Unlimited	-
Germany	FreeNet, freenet DSL power	384 / 1536	129.85	15.94	Yes	0	Unlimited	-
Germany	FreeNet, freenet DSL by Call time	196 / 768	129.85	21.23	Yes	0	Unlimited	-
Germany	FreeNet, freenet DSL by Call traffic	196 / 1536	129.85	11.82	Yes	0	Unlimited	-
Germany	T-Online, T-Online DSL Flat	128 / 768	129.94	34.23	No	2	1	-
Germany	T-Online, T-Online DSL Flat 1500	768 / 1500	129.94	45.13	No	2	1	-
Germany	T-Online, T-Online DSL Flat 1000 MB	768 / 1500	129.94	4.49	Yes	2	1	-
Germany	T-Online, T-Online DSL Flat 5000 MB	128 / 768	129.94	28.51	Yes	2	1	-
Germany	T-Online, T-Online DSL Flat 5000 MB 1500	192 / 1500	129.94	21.15	Yes	2	1	-

**Notes:**

- Prices are in euro, including VAT
- Installation and normalised monthly rental charges include any applicable modem price and incumbent access charge.

Part 5 Country	Provider / Package	Bitrate	Installation	Monthly rental per 1Mb/s	Excess Usage charges apply	Webspace MB	Email accounts	Comment
Greece	Forthnet.gr, Forthnet Fast Internet 256	128 / 256	141.58	192.96	No	10	1	-
Greece	Forthnet.gr, Forthnet Fast Internet 384	128 / 384	141.58	160.63	No	10	1	-
Greece	Forthnet.gr, Forthnet Fast Internet 512	128 / 512	141.58	209.55	No	10	1	-
Greece	Forthnet.gr, Forthnet Fast Internet 1024	256 / 1024	141.58	196.81	No	15	1	-
Greece	Forthnet.gr, Forthnet Fast Internet Static 256	128 / 256	141.58	242.52	No	10	1	-
Greece	Forthnet.gr, Forthnet Fast Internet Static 384	128 / 384	141.58	203.41	No	10	1	-
Greece	Forthnet.gr, Forthnet Fast Internet Static 512	128 / 512	141.58	242.97	No	10	1	-
Greece	Forthnet.gr, Forthnet Fast Internet Static 1024	256 / 1024	141.58	213.15	No	15	1	-
Greece	OTEnet, OnDSL Home 384	128 / 384	41.29	133.12	No	10	1	-
Greece	OTEnet, OnDSL Home 512	128 / 512	41.29	188.78	No	10	1	-
Greece	OTEnet, OnDSL Home 1024	128 / 1024	41.29	199.28	No	10	1	-
Iceland	Iceland Telecom, ADSL 256	128 / 256	69.42	77.13	Yes	0	0	National download is free.
Iceland	Iceland Telecom, ADSL 1500	256 / 1536	69.42	23.14	Yes	0	0	National download is free.
Iceland	Iceland Telecom, ADSL 2000	512 / 2048	69.42	23.14	Yes	0	0	National download is free.
Iceland	Siminn Internet, 100MB	128 / 256	184.89	117.86	Yes	0	0	National download is free.
Iceland	Siminn Internet, 500MB	128 / 256	184.89	145.01	Yes	0	0	National download is free.
Iceland	Siminn Internet, 1GB	128 / 256	184.89	178.95	Yes	0	0	National download is free.
Iceland	Siminn Internet, 2GB	128 / 256	184.89	246.83	Yes	0	0	National download is free.
Iceland	Siminn Internet, 3GB	128 / 256	184.89	314.70	Yes	0	0	National download is free.
Iceland	Siminn Internet, 4GB	128 / 256	184.89	382.58	Yes	0	0	National download is free.
Iceland	Siminn Internet, 5GB	128 / 256	184.89	450.46	Yes	0	0	National download is free.

**Notes:**

- Prices are in euro, including VAT
- Installation and normalised monthly rental charges include any applicable modem price and incumbent access charge.

Part 6 Country	Provider / Package	Bitrate	Installation	Monthly rental per 1Mb/s	Excess Usage charges apply	Webspace MB	Email accounts	Comment
Iceland	Siminn Internet, 100MB	256 / 1536	184.89	31.87	Yes	0	0	National download is free.
Iceland	Siminn Internet, 500MB	256 / 1536	184.89	37.68	Yes	0	0	National download is free.
Iceland	Siminn Internet, 1GB	256 / 1536	184.89	44.96	Yes	0	0	National download is free.
Iceland	Siminn Internet, 2GB	256 / 1536	184.89	59.50	Yes	0	0	National download is free.
Iceland	Siminn Internet, 3GB	256 / 1536	184.89	74.05	Yes	0	0	National download is free.
Iceland	Siminn Internet, 4GB	256 / 1536	184.89	88.59	Yes	0	0	National download is free.
Iceland	Siminn Internet, 5GB	256 / 1536	184.89	103.14	Yes	0	0	National download is free.
Iceland	Siminn Internet, 100MB	512 / 2048	184.89	37.86	Yes	0	0	National download is free.
Iceland	Siminn Internet, 500MB	512 / 2048	184.89	41.93	Yes	0	0	National download is free.
Iceland	Siminn Internet, 1GB	512 / 2048	184.89	47.02	Yes	0	0	National download is free.
Iceland	Siminn Internet, 2GB	512 / 2048	184.89	57.20	Yes	0	0	National download is free.
Iceland	Siminn Internet, 3GB	512 / 2048	184.89	67.38	Yes	0	0	National download is free.
Iceland	Siminn Internet, 4GB	512 / 2048	184.89	77.56	Yes	0	0	National download is free.
Iceland	Siminn Internet, 5GB	512 / 2048	184.89	87.75	Yes	0	0	National download is free.
Iceland	Og Vodafone, ADSL II 100MB Start	256 / 512	-	57.85	Yes	10	Webmail	National download is free.
Iceland	Og Vodafone, ADSL II 500MB Start	256 / 512	-	70.96	Yes	10	Webmail	National download is free.
Iceland	Og Vodafone, ADSL II 1GB Start	256 / 512	-	87.93	Yes	10	Webmail	National download is free.
Iceland	Og Vodafone, ADSL II 100MB Start	512 / 2048	-	21.98	Yes	10	Webmail	National download is free.
Iceland	Og Vodafone, ADSL II 500MB Start	512 / 2048	-	25.92	Yes	10	Webmail	National download is free.
Iceland	Og Vodafone, ADSL II 1GB Start	512 / 2048	-	31.01	Yes	10	Webmail	National download is free.
Iceland	Og Vodafone, ADSL IV 100MB Start - for GSM customers	512 / 1024	-	28.92	Yes	10	5	National download is free.
Iceland	Og Vodafone, ADSL IV 500MB Start - for GSM customers	512 / 1024	-	35.48	Yes	10	5	National download is free.
Iceland	Og Vodafone, ADSL IV 1GB Start - for GSM customers	512 / 1024	-	43.97	Yes	10	5	National download is free.

**Notes:**

- Prices are in euro, including VAT
- Installation and normalised monthly rental charges include any applicable modem price and incumbent access charge.

Part 7 Country	Provider / Package	Bitrate	Installation	Monthly rental per 1Mb/s	Excess Usage charges apply	Webspace MB	Email accounts	Comment
Ireland	Eircom, eircom i-stream Starter	128 / 512	199.65	87.12	Yes	100	1	-
Ireland	Eircom, eircom i-stream self-install	128 / 512	99.00	87.12	Yes	100	1	-
Ireland	Eircom, eircom i-stream solo	128 / 512	199.65	172.30	Yes	150	1	-
Ireland	EsatBT / IOL, IOL Broadband	128 / 512	90.00	79.18	Yes	50	1	-
Italy	Telecom Italia - Tin.it, ADSL Senza Canone base	128 / 256	28.00	-	Yes	100	1	-
Italy	Telecom Italia - Tin.it, ADSL Senza Canone kit	128 / 256	50.00	-	Yes	100	1	-
Italy	Telecom Italia - Tin.it, ADSL Senza Canone on site	128 / 256	125.00	-	Yes	100	1	-
Italy	Telecom Italia - Tin.it, ADSL tempo base	128 / 256	154.80	34.53	Yes	100	1	-
Italy	Telecom Italia - Tin.it, ADSL tempo kit	128 / 256	154.80	42.53	Yes	100	1	-
Italy	Telecom Italia - Tin.it, ADSL tempo on site	128 / 256	154.80	50.53	Yes	100	1	-
Italy	Telecom Italia - Tin.it, ADSL tempo senza fili	128 / 256	154.80	74.53	Yes	100	1	-
Italy	Telecom Italia - Tin.it, ADSL giornaliero base	128 / 256	154.80	66.53	No	100	1	Call set up of €0.5 only applies to first time of connection per day.
Italy	Telecom Italia - Tin.it, ADSL giornaliero kit	128 / 256	154.80	74.53	No	100	1	Call set up of €0.5 only applies to first time of connection per day.
Italy	Telecom Italia - Tin.it, ADSL giornaliero on site	128 / 256	154.80	82.53	No	100	1	Call set up of €0.5 only applies to first time of connection per day.
Italy	Telecom Italia - Tin.it, ADSL forfait base	128 / 256	154.80	98.53	No	100	1	-
Italy	Telecom Italia - Tin.it, ADSL forfait kit	128 / 256	154.80	106.53	No	100	1	-
Italy	Telecom Italia - Tin.it, ADSL forfait on site	128 / 256	154.80	114.53	No	100	1	-
Italy	Telecom Italia - Tin.it, ADSL forfait senza fili	128 / 256	154.80	138.53	No	100	1	-
Italy	Telecom Italia - Tin.it, ADSL 640 base	128 / 640	154.80	73.27	No	100	5	-
Italy	Telecom Italia - Tin.it, ADSL 640 on site	128 / 640	154.80	81.27	No	100	5	-

**Notes:**

- Prices are in euro, including VAT
- Installation and normalised monthly rental charges include any applicable modem price and incumbent access charge.

<b>Part 8 Country</b>	<b>Provider / Package</b>	<b>Bitrate</b>	<b>Installation</b>	<b>Monthly rental per 1Mb/s</b>	<b>Excess Usage charges apply</b>	<b>Webspace MB</b>	<b>Email accounts</b>	<b>Comment</b>
<b>Italy</b>	Telecom Italia - Tin.it, ADSL 1200 base	256 / 1280	188.40	43.30	No	100	5	-
<b>Italy</b>	Telecom Italia - Tin.it, ADSL 1200 kit	256 / 1280	188.40	45.30	No	100	5	-
<b>Italy</b>	Telecom Italia - Tin.it, ADSL 1200 on site	256 / 1280	188.40	47.30	No	100	5	-
<b>Italy</b>	Telecom Italia - Tin.it, ADSL 1200 senza fili	256 / 1280	188.40	53.30	No	100	5	-
<b>Italy</b>	Telecom Italia - Tin.it, ADSL family	128 / 256	154.80	114.53	No	100	2	-
<b>Italy</b>	Libero / Italia Online, Libero ADSL Free Solo Connettivita	128 / 256	34.95	-	Yes	50	1	-
<b>Italy</b>	Libero / Italia Online, Libero ADSL Free	128 / 256	34.95	-	Yes	50	1	Customer is obliged to 12 month contract
<b>Italy</b>	Libero / Italia Online, Libero ADSL Light Solo Connettivita	128 / 300	-	29.79	No	50	1	Call set up only applies after exceeding daily usage allowance (20 minutes) and is only charged once a day
<b>Italy</b>	Libero / Italia Online, Libero ADSL Light	128 / 300	-	41.75	No	50	1	Call set up only applies after exceeding daily usage allowance (20 minutes) and is only charged once a day
<b>Italy</b>	Libero / Italia Online, Libero ADSL Fast Solo Connettivita	128 / 640	-	43.27	No	50	1	-
<b>Italy</b>	Libero / Italia Online, Libero ADSL Fast	128 / 640	-	49.93	No	50	1	Modem rental is included in the monthly rental.
<b>Luxembourg</b>	Luxembourg online, Basic 256 Flexi	64 / 256	131.50	115.20	Yes	10	3	-
<b>Luxembourg</b>	Luxembourg online, Basic 256 Flat	64 / 256	131.50	156.80	No	10	3	-
<b>Luxembourg</b>	Luxembourg online, Pro 512	128 / 512	131.50	115.20	Yes	10	3	-
<b>Luxembourg</b>	Luxembourg online, Pro 512 Flat	128 / 512	131.50	128.00	No	10	3	-
<b>Luxembourg</b>	Luxembourg online, Top 1024	192 / 1024	131.50	92.63	Yes	10	3	-
<b>Luxembourg</b>	Luxembourg online, Top 1024 Flat	192 / 1024	131.50	106.11	No	10	3	-

**Notes:**

- Prices are in euro, including VAT
- Installation and normalised monthly rental charges include any applicable modem price and incumbent access charge.

Part 9 Country	Provider / Package	Bitrate	Installation	Monthly rental per 1Mb/s	Excess Usage charges apply	Webspace MB	Email accounts	Comment
Luxembourg	P&T, LuxDSL Start	64 / 256	138.50	99.36	No	0	0	-
Luxembourg	P&T, LuxDSL Run	128 / 512	138.50	75.44	No	0	0	-
Luxembourg	P&T, LuxDSL Express	192 / 1024	138.50	72.63	No	0	0	-
Luxembourg	P&T, SpeedSurf Junior - LuxDSL Start	64 / 256	154.00	123.36	Yes	10	1	-
Luxembourg	P&T, SpeedSurf Start - LuxDSL Start	64 / 256	154.00	179.04	Yes	10	1	-
Luxembourg	P&T, SpeedSurf Run - LuxDSL Run	128 / 512	154.00	127.92	Yes	10	1	-
Luxembourg	P&T, SpeedSurf Express - LuxDSL Express	192 / 1024	154.00	102.46	Yes	10	1	-
Netherlands	Het Net, ADSL Instap Surfen	128 / 384	143.95	39.90	Yes	25	25	-
Netherlands	Het Net, ADSL Voordeel Surfen	128 / 384	143.95	49.90	Yes	25	25	-
Netherlands	Het Net, ADSL Surfen	320 / 1024	143.95	25.10	Yes	25	25	-
Netherlands	Planet Internet, ADSL Economy	128 / 384	143.95	53.90	Yes	25	20	-
Netherlands	Planet Internet, ADSL Standard	320 / 1024	143.95	26.59	Yes	25	20	-
Netherlands	Planet Internet, ADSL Comfort	320 / 2048	143.95	23.76	No	25	20	-
Netherlands	Planet Internet, ADSL Advanced	640 / 4096	143.95	17.29	No	25	20	-
Netherlands	Zon Zonnet, Budget	64 / 256	268.95	47.84	No	20	1	Fair use policy applies
Netherlands	Zon Zonnet, Family	128 / 768	268.95	33.14	No	20	1	Fair use policy applies
Netherlands	Zon Zonnet, Lite	384 / 1024	268.95	25.42	No	20	1	Fair use policy applies
Netherlands	Zon Zonnet, Basis	320 / 2048	268.95	22.49	No	20	1	Fair use policy applies
Netherlands	Zon Zonnet, Plus	256 / 1536	268.95	30.86	No	20	1	Fair use policy applies
Netherlands	Zon Zonnet, Extra	640 / 4096	268.95	19.03	No	20	1	Fair use policy applies

**Notes:**

- Prices are in euro, including VAT
- Installation and normalised monthly rental charges include any applicable modem price and incumbent access charge.

<b>Part 10</b>	<b>Provider / Package</b>	<b>Bitrate</b>	<b>Installation</b>	<b>Monthly rental per 1Mb/s</b>	<b>Excess Usage charges apply</b>	<b>Webspace MB</b>	<b>Email accounts</b>	<b>Comment</b>
<b>Norway</b>	Telenor, Online ADSL	128 / 704	295.00	49.50	Yes	50	Yes	-
<b>Norway</b>	Telenor, Online ADSL opgradert	128 / 704	295.00	56.59	Yes	50	Yes	-
<b>Norway</b>	Telenor, Online ADSL Ekstra	256 / 1024	295.00	50.61	Yes	50	Yes	-
<b>Norway</b>	Telenor, Online ADSL Ekstra Unlimited usage	256 / 1024	295.00	69.05	No	50	Yes	-
<b>Norway</b>	Tele2, ADSL Medium for Tele2 fixed customers	128 / 704	114.66	46.52	No	10	10	-
<b>Norway</b>	Tele2, ADSL Large for Tele2 fixed customers	256 / 1024	114.66	43.24	No	10	10	-
<b>Norway</b>	Tele2, ADSL Medium for non Tele2 fixed customers	128 / 704	114.66	60.70	No	10	10	-
<b>Norway</b>	Tele2, ADSL Large for non Tele2 fixed customers	256 / 1024	114.66	52.46	No	10	10	-
<b>Portugal</b>	PT (Telepac & Sapo), SAPO ADSL PT LIGHT	128 / 256	50.00	70.67	Yes	25	2	Calls over allowance are charged per 10 minute block
<b>Portugal</b>	PT (Telepac & Sapo), SAPO ADSL PT STANDARD	128 / 512	50.00	55.98	Yes	25	2	National traffic is limited to 20 GB, extra national traffic is charged at €0.001 per MB
<b>Portugal</b>	PT (Telepac & Sapo), SAPO ADSL PT PRO	128 / 512	50.00	71.98	Yes	25	2	No limitations to national traffic
<b>Portugal</b>	Media Capital Multimedia, VIA ADSL Standard 512/128	128 / 512	305.00	78.40	No	5	5	-
<b>Portugal</b>	Media Capital Multimedia, VIA ADSL Standard 256/128	128 / 256	305.00	173.33	No	5	5	-
<b>Spain</b>	Terra, Terra ADSL Plus	128 / 256	134.71	130.04	No	10	5	-
<b>Spain</b>	Terra, Terra ADSL Home	128 / 256	134.71	92.49	Yes	10	5	Max. use of €52.20 per month
<b>Spain</b>	Terra, Terra ADSL Bono Libre	128 / 256	134.71	111.05	Yes	10	5	-
<b>Spain</b>	Terra, Terra ADSL 256 - 14 horas	128 / 256	134.71	92.49	Yes	10	5	-
<b>Spain</b>	Terra, Terra ADSL 256 - 24 horas	128 / 256	134.71	130.04	No	10	5	-
<b>Spain</b>	Terra, Terra ADSL 512	128 / 512	180.03	139.16	No	10	5	-
<b>Spain</b>	Terra, Terra ADSL 2048	300 / 2048	180.03	76.17	No	10	5	-

**Notes:**

- Prices are in euro, including VAT
- Installation and normalised monthly rental charges include any applicable modem price and incumbent access charge.



<b>Part 11 Country</b>	<b>Provider / Package</b>	<b>Bitrate</b>	<b>Installation</b>	<b>Monthly rental per 1Mb/s</b>	<b>Excess Usage charges apply</b>	<b>Webspace MB</b>	<b>Email accounts</b>	<b>Comment</b>
<b>Spain</b>	Wanadoo Espana, ADSL Go	128 / 256	-	92.49	Yes	50	10	Maximum use of €48.72 per month
<b>Spain</b>	Wanadoo Espana, ADSL Speed	128 / 256	-	120.64	No	50	10	-
<b>Spain</b>	Wanadoo Espana, ADSL 256 with Router	128 / 256	-	120.64	No	50	10	-
<b>Sweden</b>	Telia Sonera, Telia Bredband 250	64 / 250	151.14	106.02	No	5*10	5	-
<b>Sweden</b>	Telia Sonera, Telia Bredband 500	400 / 500	151.14	46.39	No	5*10	5	-
<b>Sweden</b>	Telia Sonera, Telia Bredband 2000	400 / 2048	151.14	20.42	Yes	5*10	5	-
<b>Sweden</b>	Telia Sonera, Telia Bredband 8000	800 / 8000	151.14	5.68	No	5*10	5	-
<b>Sweden</b>	Tele2, Bredband ADSL 1	400 / 500	64.70	44.41	No	10	5	-
<b>Sweden</b>	Tele2, Bredband ADSL 2	400 / 500	157.66	44.41	No	10	5	-
<b>UK</b>	BTOpenworld, BT Broadband	250 / 500	102.35	55.89	No	0	0	The stated modem price is the online price; the offline price is €50
<b>UK</b>	BTOpenworld, BT Yahoo! Broadband	250 / 500	116.97	59.87	No	15	10	-
<b>UK</b>	BTOpenworld, BT Yahoo! Broadband - connection line only	250 / 500	-	59.87	No	15	10	-
<b>UK</b>	Freeserve, Connection only pack	256 / 512	-	54.57	No	150	Unlimited	-
<b>UK</b>	Freeserve, Freeserve Broadband	256 / 512	73.09	54.57	No	150	Unlimited	-

**Notes:**

- Prices are in euro, including VAT
- Installation and normalised monthly rental charges include any applicable modem price and incumbent access charge.

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### 3.3 Cable Modem Access

The overall summary of the Cable modem information collected covers 21 different providers in the 6 countries specified by the Commission for comparison (Austria, Belgium, Ireland, the Netherlands, Portugal and the UK – these countries have been chosen as it has been estimated that, approximately, cable modem connections represent more than 40% of total broadband connections). The number of providers covered in each country is summarised in Table 3.10 below:

**Table 3.10** Number of Cable modem providers covered in each country

Austria	4
Belgium	4
Ireland	2
Netherlands	4
Portugal	4
UK	3

*Please see the section on data collection for more details.*

Prices for a Cable modem connection to an ISP will normally consist of up to six elements:

- Cable modem transport service installation;
- ISP service registration;
- Cable modem transport service monthly charges;
- ISP service monthly charges;
- Modem / router charges; and
- Some providers apply traffic charges (e.g. per Mbyte transferred) if traffic goes above a certain threshold per month (e.g. above 1 Gbyte / month). In some cases a similar charge is levied if usage goes over a certain time limit. This all relates to the ISP service more than the Cable modem service, and is not found with all providers.

The Cable modem charges and the ISP charges may be combined, showing the customer only one charge for installation and one for monthly rental. With this in mind, this report will deal with all six main charge types, where relevant, where the Cable modem installation and ISP service registration charges added together are shown as “Non-recurring”, and the Cable modem rental and ISP service rental added together are shown as “Recurring”. Any applicable modem or router charges are also added, either to installation, to rental or to both. As previously mentioned, Teligen has assumed a usage level of **40 hours or 10 Gigabits per month** (with each session lasting 60 minutes), and therefore if any appropriate charges are applicable in the comparison, these will apply up to this usage level and will be considered as such in the results, shown as “Usage”.

The marketing of the Cable modem services are often closely bundled with the offerings of Cable TV and telephone, and it can be difficult to separate the costs of the individual services. The prices used in this study are those that are clearly marked as

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prices for the Cable modem service, and should not include charges related to the underlying Cable TV service. In the summary table (**Table 3.13**) any information relating to the associated TV service is detailed.

### **3.3.1 Presentation of price data**

Data for Cable modem services are shown in two different ways, as with ADSL services. The offerings from the 21 providers listed in this report are spread over 33 different bitrate combinations. In general the installation charges for these different bitrates are the same, while the rental will increase with the bitrate, although not proportionally. Most providers will offer between 1 and 3 of these bitrate combinations.

The bitrate combinations consist of an upload bitrate and a download bitrate; the former is normally lower than the latter. There are some bitrate combinations that are more common than others are. In particular 128/1024 kb/s and 256/1024 kb/s are common speeds offered by several providers. Some cable modem service providers offer speeds with a download rate of less than 256 kb/s – in contrast to the ADSL comparison, where such speeds are omitted, the cable modem comparison will look at all speeds offered. This is because the speed of the service is set by the service provider as part of the overall cable service (possibly including TV and telephone service), and alternative access methods such as ISDN are not always available to customers of such services.

The nature of the cable modem service is such that the actual bitrate available to a user at a given time may depend on other users' activity. It is thus difficult to provide a guarantee on the available bitrate, and several providers may market a maximum bitrate instead of a nominal bitrate. In such cases additional information has been sought from the providers as to which bitrate can be expected under normal conditions.

### **3.3.2 Results of Cable Modem Access Comparison**

The following tables show the summary price data as discussed above, firstly looking at the comparison of the best prices per provider normalised to 1024 kbit/s speed, followed by the comparison of the cheapest actual prices per provider:

Table 3.11 Best normalised Cable Modem prices per provider

Cheapest for each provider			Normalised prices per month @ 1024 kb/s				
All prices in Euro, including VAT			40 hours / 10 GB per month. 60 minutes per session				
Country	ISP	Package	Speed Up/Down	Non- recurring	Recurring	Usage	Total
Belgium	Telenet	Mono	128 / 4000	0.27	10.41	-	10.68
Belgium	Coditel	Coditel.net	128 / 4000	0.51	13.62	-	14.13
Netherlands	Multikabel/Quicknet	XL-Ierate	512 / 4096	0.24	18.89	-	19.13
Netherlands	UPC	Chello Plus	384 / 3000	0.50	24.19	-	24.69
UK	Wight Cable	Wight365.net	128 / 512	0.96	27.49	-	28.45
Netherlands	Casema/Wanadoo	Power	256 / 2048	1.21	31.09	-	32.30
Austria	UPC Telekabel	chello student	128 / 1024	1.83	31.11	-	32.94
Austria	Kabelsignal	kable@net power - 1536/256	256 / 1536	1.18	33.14	-	34.32
UK	Telewest	Blueyonder 2 Mb	256 / 2048	0.71	37.03	-	37.75
Belgium	Brutelecom	@home	128 / 1024	1.47	36.89	-	38.36
Austria	Liwest	24 speed privat xl	256 / 1024	1.58	38.40	-	39.98
UK	NTL	1Mb Broadband	256 / 1024	2.41	40.93	-	43.34
Netherlands	Essent Kabelkom	@Home Breedband	128 / 1024	1.93	42.62	-	44.55
Portugal	TV Cabo	Speed On	128 / 640	1.83	46.67	-	48.50
Portugal	CaboVisao/Netvisao	Net 512K	512 / 512	2.75	46.00	-	48.75
Portugal	TVTEL	NETSONIC LIGHT	256 / 768	3.45	19.98	30.00	53.43
Ireland	Chorus	Broadband	128 / 512	2.20	56.00	-	58.20
Ireland	NTL	Always On 600	128 / 600	2.51	56.26	-	58.78
Austria	tplus	tplus Power max	512 / 1024	2.00	60.80	-	62.80
Portugal	Bragatel	Sonic	128 / 640	4.40	60.88	81.92	147.20

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**Notes for Table 3.11:**

- Prices in euro, including VAT;
- Cheapest normalised price is based on total cost, including non-recurring, recurring and usage charges, and assumes a 3 year service lifetime;
- The non-recurring charge is discounted (depreciated) over 3 years, and is shown as a proportionate charge per month with the same normalisation factor as the rental charge;
- The recurring charge is normalised to 1024 kbit/s, as previously explained, and is applicable to the respective bitrate combination shown in the table;
- A usage charge applies if the assumed usage (40 hours or 10 Gigabits per month, 60 minutes per session) exceeds the usage limit for the package in question.

The cost of subscribing to a Cable modem service is largely dependent upon the monthly rental charge, and the service is often supplied as part of a larger offer including TV and telephone services. Adding the installation charge to the cost does not significantly alter the numbers, and would not change the ranking between countries. Charges for excessive usage have more of an effect on the total cost, although usage limits are generally higher than with equivalent ADSL services – this highlights the relevance of such charges that are not always considered to have much of an impact on overall cost.

As previously discussed, this normalisation comparison has various implications. For example, as the monthly price per unit (i.e. per Mbit/s) will normally decrease with increasing bitrate, the offerings with higher total bitrates will be favoured. Service providers offering only “low speeds” will fall behind in the comparison. Also, the prices shown are not actual prices paid by the customer. Tracing the calculations back to the origin requires information about the actual bitrates involved.

Table 3.12 Cheapest Cable Modem prices per provider

Cheapest for each provider			Monthly cost for usage profile				
All prices in Euro, including VAT			40 hours / 10 GB per month. 60 minutes per session				
Country	ISP	Package	Speed Up/Down	Non- recurring	Recurring	Usage	Total
UK	Wight Cable	Wight365.net	128 / 512	0.60	17.18	-	17.78
Netherlands	Multikabel/Quicknet	Easy	64 / 128	1.07	19.00	-	20.07
Netherlands	Essent Kabelkom	@Home Budget	32 / 64	2.17	17.95	-	20.12
Austria	UPC Telekabel	chello light	64 / 256	2.06	19.98	-	22.04
Netherlands	Casema/Wanadoo	Easy	64 / 256	2.72	19.95	-	22.67
Netherlands	UPC	Chello Entry	64 / 400	1.65	22.95	-	24.60
Portugal	TVTEL	TVTELNET 128 SL	128 / 128	3.45	24.98	-	28.43
UK	NTL	150k Broadband	64 / 150	3.02	26.30	-	29.32
Ireland	NTL	Always On 150	64 / 150	1.79	30.00	-	31.79
Ireland	Chorus	Broadband	128 / 512	1.38	35.00	-	36.38
Portugal	TV Cabo	Speed On	128 / 640	1.38	35.00	-	36.38
Belgium	Telenet	Mono	128 / 4000	1.10	41.95	-	43.05
Belgium	Brutelecom	@home	128 / 1024	1.65	41.50	-	43.15
Austria	Liwest	24 speed privat classic	128 / 320	1.98	42.15	-	44.13
Austria	Kabelsignal	kable@net speed	128 / 1024	2.06	43.00	-	45.06
Austria	tplus	tplus Basic	128 / 600	2.99	42.88	-	45.87
UK	Telewest	Blueyonder	256 / 512	1.61	46.77	-	48.38
Portugal	CaboVisao/Netvisao	Net 512K	512 / 512	2.75	46.00	-	48.75
Belgium	Coditel	Coditel.net	128 / 4000	2.06	54.90	-	56.96
Portugal	Bragatel	Sonic	128 / 640	3.30	45.66	61.44	110.40

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**Notes for Table 3.12:**

- Prices in euro, including VAT;
- Cheapest price is based on total cost, including non-recurring, recurring and usage charges, and assumes a 3 year service lifetime;
- The non-recurring charge is discounted (depreciated) over 3 years, and is shown as a proportionate charge per month;
- The recurring charge is applicable to the respective bitrate combination shown in the table;
- A usage charge applies if the assumed usage (40 hours or 10 Gigabits per month, 60 minutes per session) exceeds the usage limit for the package in question.

These prices are shown together with the bitrates provided at those prices, so that the reader is able to assess the suitability of the service and the value for money. Again, as with the normalisation comparison, it is evident that the cost of subscribing to a Cable modem service is largely dependent upon the monthly rental charge, and the service is often supplied as part of a larger offer including TV and telephone services. Overall costs are affected the most by any applicable charges for excessive usage, although in this study the affect of such charges is less apparent due to the higher usage limits than with equivalent ADSL services.

As previously discussed, this comparison also has various implications. For example, the prices are not directly comparable – the reader needs to analyse these price tables (including the full table below) to determine the actual value of any price/bitrate combination. Also, the providers offering low bitrates will usually also have the lowest prices – this means that the low-bitrate services will be favoured using this method of presentation.

### **3.3.3 The full list of providers**

In Table 3.13 below all the packages covered in this survey are listed, including the cheapest applicable installation charge (usually the self-install option, if available, plus any applicable modem price and incumbent access charge), and the monthly rental for each package normalised to 1 Mbit/s speed (again, this calculation includes any applicable modem price and incumbent access charge). There is also an indication of whether excess usage charges apply, the amount of webspace included and the number of email addresses included in the standard offering. Other comments are included where necessary, notably relevant information regarding the associated Cable TV services.

**Table 3.13 List of all Cable Modem packages with service information**

Part 1 Country	Provider / Package	Bitrate	Installation	Monthly rental per 1Mb/s	Excess Usage charges apply	Webspace MB	Email accounts	Comment
Austria	UPC Telekabel, chello light	64 / 256	75.00	19.98	No	5	1	Deposit for modem is €70, on exceeding monthly usage allowance speed is lowered to 64Kbps; only available in combination with other UPC products.
Austria	UPC Telekabel, chello classic	128 / 1024	75.00	49.05	No	10	1	Deposit for modem is €70
Austria	UPC Telekabel, chello plus	128 / 1536	75.00	69.00	No	30	3	Deposit for modem is €70
Austria	UPC Telekabel, chello student	128 / 1024	75.00	35.00	No	0	0	Deposit for modem is €70; Unlimited GB per month through university server; if university server not available, through chello server (1GB per month); Email and webspace through university.
Austria	Kabelsignal, kable@net speed	128 / 1024	75.00	43.00	No	10	6	Deposit for modem is €75
Austria	Kabelsignal, kable@net power - 1536/256	256 / 1536	75.00	58.00	Yes	10	6	Deposit for modem is €75
Austria	Kabelsignal, kable@net power - 1536/256	256 / 1536	75.00	70.00	Yes	10	6	Deposit for modem is €75
Austria	Kabelsignal, kable@net power - 1536/512	512 / 1536	75.00	85.00	Yes	10	6	Deposit for modem is €75
Austria	Kabelsignal, kable@net power - 2048/512	512 / 2048	75.00	110.00	Yes	10	6	Deposit for modem is €75
Austria	Liwest, 24 speed privat classic	128 / 320	71.95	42.15	No	20	25	Customer needs to be TV subscriber for eligibility, PC installation for €144.62; Deposit for modem is €72.67
Austria	Liwest, 24 speed privat standard	128 / 768	71.95	42.15	No	20	25	Customer needs to be TV subscriber for eligibility, PC installation for €144.62; Deposit for modem is €72.67, after exceeding monthly usage allowance speed is lowered to 128 Kbps down and 64 Kbps up

**Notes:**

- Prices are in euro, including VAT
- Installation and normalised monthly rental charges include any applicable modem price and incumbent access charge.



Part 2 Country	Provider / Package	Bitrate	Installation	Monthly rental per 1Mb/s	Excess Usage charges apply	Webspace MB	Email accounts	Comment
Austria	Liwest, 24 speed privat xl	256 / 1024	71.95	48.00	No	20	25	Customer needs to be TV subscriber for eligibility, PC installation for €144.62; Deposit for modem is €72.67, after exceeding monthly usage allowance speed is lowered to 320 Kbps down and 128 Kbps up
Austria	Liwest, 24 speed privat xxl	256 / 1536	71.95	69.00	No	20	25	Customer needs to be TV subscriber for eligibility, PC installation for €144.62; Deposit for modem is €72.67, after exceeding monthly usage allowance speed is lowered to 320 Kbps down and 128 Kbps up
Austria	tplus, tplus Basic	128 / 600	108.90	42.88	No	20	5	Deposit for the modem is €72
Austria	tplus, tplus Power	128 / 1024	108.90	69.00	Yes	20	15	Deposit for the modem is €72
Austria	tplus, tplus Power pro	256 / 1024	108.90	79.20	Yes	20	15	Deposit for the modem is €72
Austria	tplus, tplus Power max	512 / 1024	108.90	91.20	Yes	20	15	Deposit for the modem is €72
Belgium	Brutelecom, @home	128 / 1024	59.99	41.50	No	10	2	Customer can also choose to buy the modem for €99.50
Belgium	Brutelecom, @turbo	512 / 1024	59.99	92.50	No	10	3	Customer can also choose to buy the modem for €99.50
Belgium	Coditel, Coditel.net	128 / 4000	75.00	54.90	Yes	10	1	-
Belgium	Telenet, Mono	128 / 4000	40.00	41.95	Yes	50	2	After 20 GB of traffic, account is blocked until next month
Belgium	Telenet, Duo	128 / 4000	40.00	45.00	Yes	50	4	75€per extra installed PC (max 2 in total), after 20 GB of traffic account is blocked until next month, for an additional 4€per month upload speed is 192kbps instead of 128kbps
Belgium	Telenet, Quattro	128 / 4000	40.00	50.00	Yes	50	8	75€per extra installed PC (max 4 in total), after 20 GB of traffic account is blocked until next month, for an additional 4€per month upload speed is 192kbps instead of 128kbps

**Notes:**

- Prices are in euro, including VAT
- Installation and normalised monthly rental charges include any applicable modem price and incumbent access charge.

Part 3 Country	Provider / Package	Bitrate	Installation	Monthly rental per 1Mb/s	Excess Usage charges apply	Webspace MB	Email accounts	Comment
								75€per extra installed PC (max 2 in total), after 20 GB of traffic account is blocked until next month, for an additional 4€per month upload speed is 192kbps instead of 128kbps
<b>Belgium</b>	Telenet, Gaming	192 / 4000	40.00	51.95	Yes	50	2	
<b>Belgium</b>	UPC, Chello Classic	128 / 1024	49.95	49.86	No	10	1	-
<b>Belgium</b>	UPC, Chello Plus	128 / 1536	49.95	58.95	No	20	3	-
<b>Ireland</b>	Chorus, Broadband	128 / 512	50.00	35.00	No	Optional	5	-
<b>Ireland</b>	NTL, Always On 150	64 / 150	65.00	30.00	No	55	15	Customer needs to be TV subscriber for eligibility, usage allowance is 1 GB per day
<b>Ireland</b>	NTL, Always On 600	128 / 600	65.00	40.00	No	55	15	Customer needs to be TV subscriber for eligibility, usage allowance is 1 GB per day
<b>Netherlands</b>	Casema/Wanadoo, Easy	64 / 256	99.00	19.95	No	20	2	Usage allowance is based on fair use policy
<b>Netherlands</b>	Casema/Wanadoo, Basic	128 / 512	99.00	32.95	No	20	2	Usage allowance is based on fair use policy
<b>Netherlands</b>	Casema/Wanadoo, Premium	128 / 1024	99.00	49.50	No	20	4	Usage allowance is based on fair use policy
<b>Netherlands</b>	Casema/Wanadoo, Power	256 / 2048	99.00	69.95	No	20	8	Usage allowance is based on fair use policy
<b>Netherlands</b>	Essent Kabelkom, @Home Budget	32 / 64	79.00	17.95	No	25	5	Usage allowance is based on fair use policy
<b>Netherlands</b>	Essent Kabelkom, @Home Basis	64 / 312	79.00	29.95	No	25	5	Usage allowance is based on fair use policy
<b>Netherlands</b>	Essent Kabelkom, @Home Breedband	128 / 1024	79.00	47.95	No	25	5	Usage allowance is based on fair use policy
<b>Netherlands</b>	Multikabel/Quicknet, Easy	64 / 128	39.00	19.00	No	n/a	1	Usage allowance is based on fair use policy
<b>Netherlands</b>	Multikabel/Quicknet, Family	128 / 384	39.00	29.00	No	n/a	3	Usage allowance is based on fair use policy
<b>Netherlands</b>	Multikabel/Quicknet, Power	128 / 1024	39.00	46.00	No	15	4	Usage allowance is based on fair use policy
<b>Netherlands</b>	Multikabel/Quicknet, Power Plus	256 / 1536	39.00	59.00	No	20	5	Usage allowance is based on fair use policy

**Notes:**

- Prices are in euro, including VAT
- Installation and normalised monthly rental charges include any applicable modem price and incumbent access charge.

Part 4 Country	Provider / Package	Bitrate	Installation	Monthly rental per 1Mb/s	Excess Usage charges apply	Webspace MB	Email accounts	Comment
Netherlands	Multikabel/Quicknet, XL-lerate	512 / 4096	39.00	85.00	No	25	5	Usage allowance is based on fair use policy
Netherlands	Multikabel/Quicknet, X-tra	1024 / 1536	39.00	99.00	No	25	5	Usage allowance is based on fair use policy
Netherlands	UPC, Chello Entry	64 / 400	59.95	22.95	No	10	1	Usage allowance is based on fair use policy
Netherlands	UPC, Chello Light	128 / 768	59.95	32.95	No	10	1	Usage allowance is based on fair use policy
Netherlands	UPC, Chello Classic	128 / 1500	59.95	49.95	No	10	1	Usage allowance is based on fair use policy
Netherlands	UPC, Chello Plus	384 / 3000	59.95	79.95	No	30	3	Usage allowance is based on fair use policy
Portugal	Bragatel, Speed	128 / 128	120.00	15.16	Yes	5	3	Customer needs to be TV subscriber for eligibility
Portugal	Bragatel, Turbo	128 / 256	120.00	35.52	Yes	5	5	Customer needs to be TV subscriber for eligibility
Portugal	Bragatel, Sonic	128 / 640	120.00	45.66	Yes	5	5	Customer needs to be TV subscriber for eligibility
Portugal	TV Cabo, Speed On	128 / 640	50.00	35.00	Yes	15	5	Usage allowance only applies to national traffic; international traffic is restricted to 1 GB, after that charged at €2.99 per 100 MB.
Portugal	TV Cabo, NetCabo Speed Light	128 / 640	50.00	26.50	Yes	15	5	No traffic limitation, after 10 hours access is charged per 30-minute block.
Portugal	CaboVisao/Netvisao, Net 128K	128 / 128	100.00	29.00	Yes	10	5	For contracts more than 12 months modem is free of charge.
Portugal	CaboVisao/Netvisao, Net 256K	256 / 256	100.00	36.00	Yes	10	5	For contracts more than 12 months modem is free of charge.
Portugal	CaboVisao/Netvisao, Net 512K	512 / 512	100.00	46.00	Yes	10	5	For contracts more than 12 months modem is free of charge.
Portugal	CaboVisao/Netvisao, 1 Mbit	1024 / 1024	100.00	105.00	Yes	10	5	A television and telephone subscription is included in this package. For contracts more than 12 months modem is free of charge.

**Notes:**

- Prices are in euro, including VAT
- Installation and normalised monthly rental charges include any applicable modem price and incumbent access charge.

Part 5 Country	Provider / Package	Bitrate	Installation	Monthly rental per 1Mb/s	Excess Usage charges apply	Webspace MB	Email accounts	Comment
Portugal	TVTEL, TVTELNET 128 SL	128 / 128	125.37	24.98	No	25	5	Customer needs to be TV subscriber for eligibility
Portugal	TVTEL, TVTELNET 256 1G	256 / 256	125.37	17.48	Yes	25	5	Customer needs to be TV subscriber for eligibility
Portugal	TVTEL, NETSONIC 512 SL	256 / 512	125.37	49.98	Yes	25	5	Customer needs to be TV subscriber for eligibility
Portugal	TVTEL, NETSONIC 768 4G	256 / 768	125.37	32.98	Yes	25	5	Customer needs to be TV subscriber for eligibility
Portugal	TVTEL, NETSONIC 768 SL	256 / 768	125.37	89.98	No	25	5	Customer needs to be TV subscriber for eligibility
Portugal	TVTEL, NETSONIC 1024 6G	256 / 1024	125.37	49.98	Yes	25	5	Customer needs to be TV subscriber for eligibility
Portugal	TVTEL, NETSONIC LIGHT	256 / 768	125.37	19.98	Yes	25	5	Customer needs to be TV subscriber for eligibility
UK	NTL, 150k Broadband	64 / 150	109.66	26.30	No	55	15	-
UK	NTL, 600k Broadband	128 / 600	109.66	36.54	No	55	15	-
UK	NTL, 1Mb Broadband	256 / 1024	109.66	51.16	No	55	15	-
UK	Telewest, Blueyonder	256 / 512	58.48	46.77	No	30	5	Prices quoted are based on payment via direct debit, by any other payment method an additional £ 2.00 incurs
UK	Telewest, Blueyonder 1Mb	256 / 1024	58.48	61.39	No	30	5	Prices quoted are based on payment via direct debit, by any other payment method an additional £ 2.00 incurs
UK	Telewest, Blueyonder 2 Mb	256 / 2048	58.48	83.32	No	30	5	Prices quoted are based on payment via direct debit, by any other payment method an additional £ 2.00 incurs
UK	Wight Cable, Wight365.net	128 / 512	21.93	17.18	No	N/a	4	Customer needs to be TV subscriber for eligibility

**Notes:**

- Prices are in euro, including VAT
- Installation and normalised monthly rental charges include any applicable modem price and incumbent access charge.

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## 4 Discussion

### 4.1 Comparing different access methods

This report deals with 3 different technologies for accessing the Internet: Dial up through PSTN, ADSL on a PSTN line, and Cable modem on a Cable TV connection. The properties of these 3 options are widely different, as is the availability and price structures.

A direct comparison of prices between these technologies will not make sense. The table below shows some of the areas of difference:

**Table 4.1** Comparing the properties of the different access options

	<b>Dial up</b>	<b>ADSL</b>	<b>Cable Modem</b>
Speed (Upload/Download)	56/56 kb/s	64/256 kb/s to 800/8000 kb/s	64/128 kb/s to 512/4096 kb/s
Dependence on other users	Independent of other users	Independent, limitations on number of systems per cable	Depending on other users traffic on cable segment
Price structure	Usage sensitive (in most cases)	Fixed (Charge for excess traffic in most cases)	Fixed (Charge for excess traffic in some cases)
Price dependency	PSTN charges	PSTN charges	Cable TV charges
Availability	Everywhere	Depending on local network facilities	Only in cable networks, where facilities exist
Typical user	Home, Small business	Home, Small to medium business	Home

It is of course also possible to use ISDN (directly or as a basis for ADSL) for Internet access. That was outside the scope for this report.

### 4.2 Assumptions used in comparisons

In order to provide an insight into the price relationships between the 3 options a number of assumptions have to be created. Changing these assumptions may also change the results of this analysis. A comparison with Cable modem in this study is not possible for all countries, as the scope of the Cable modem analysis only covers 6 of the 17 countries. The results of the Cable modem comparison will therefore be analysed with the appropriate results from the ADSL and dial-up comparisons, for the same 6 countries.

#### 4.2.1 Speed

Those users who would want to migrate from Dial up access to ADSL or Cable modem are the ones who seek faster access, i.e. higher bitrates, and are prepared to pay a price for that. A comparison of prices cannot be based on the same or even similar bitrates, as they are not available.

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On ADSL and Cable Modem the best option would be to select the “entry-level” speed offered in any country, i.e. the cheapest option in real price (not normalised), by any provider. This price can be compared with the lowest price of dial up access in each country. As previously mentioned, the lowest speed for ADSL considered in this study is 256 kb/s – speeds lower than this are considered to be akin to ISDN (integrated services digital network) levels of service. For Cable modem access all available speeds are considered for each of the 6 countries in the Cable modem comparison.

Using this approach one would model the actual circumstances an end user would have in each country when wanting to move from dial up to fixed access. The speed achieved by a user in one country will not necessarily be the same as that achieved in another country, but the step from the dial up access conditions will in any case be significant, and offer the user an access speed way beyond what was previously available.

#### **4.2.2 Dependence on other users**

In the analysis below the assumption is that the user can utilise the bitrate capacity fully in any case, i.e. that no outside actions will degrade the performance.

#### **4.2.3 Availability**

It must be assumed that “our end user” lives in an area where all three access options are available (of course, within the service coverage scope for each service type), and that all providers in question can offer service in that area. This is clearly not the case in real life, but a full comparison of prices would otherwise become extremely difficult. Again, in the comparisons that follow, Cable modem will be considered for the 6 countries that the Cable modem analysis covers.

#### **4.2.4 Dial up usage**

There are two ways to look at this: Define a usage volume and compare prices on that basis, or define a price (e.g. the price of fixed access) and calculate the usage volume. This report will do both.

The dial up prices for the “40 hour peak” profile and the “20 hour off-peak” profile, provide a comparable basis for the fixed access services (an analysis of fixed access versus the “unlimited / 150 hour peak” profile is also discussed below, along with comments on the associated caveats of this particular comparison). On the other hand it is also possible to find the number of hours of access that would produce the same cost on dial up as the price of a fixed access service.

#### **4.2.5 Fixed charges**

In order to make a reasonable comparison the same type of charge will have to be included for both dial up and fixed access. This means that the price of the telephone

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line should not be included in the equation for dial up, as that is excluded from the data we have for ADSL, and not relevant for Cable modem. Other charges, such as ISP monthly rentals and installation, should be included. Depreciation of nonrecurring charges should be 3 years for all 3 services (although it should be noted that very few ISPs have nonrecurring charges for dial-up services).

### **4.3 Comparison of “Always on” dial up with fixed access**

This comparison will show the cost faced by a heavy user with 150 hours usage per month. Bear in mind that 150 hours per month for a single user is quite a lot. It means 5 hours a day, 7 days a week, and as such this level of usage has been assumed to be during peak hours. Some service providers in some countries offer unlimited dial-up access to the Internet for a flat rate, with no additional usage charges – this type of package is included in this study and will usually be the cheapest alternative for this “always on” comparison, in those countries where it is offered.

The “unlimited” 150 hour/month profile was originally defined by the OECD to portray a usage of someone with a permanent need for Internet access, at a time where very little information was available on fixed access pricing. Also, it was produced by the OECD with the intention of showing overall price relationships between services, and not for inter-country or inter-provider comparisons. As previously mentioned, this profile is no longer part of the OECD benchmark for dial-up services, as it is acknowledged that DSL and cable modem technologies are on the whole more suited to such “always-on” usage. Such a high level of dial-up usage produces costs way beyond the fixed access costs and as usage hours increase broadband alternatives become noticeably less expensive – in fact, the OECD currently place less emphasis on the comparison of dial-up access prices in general, in favour of broadband access services.

The cheapest provider and package in each country is chosen for both dial up and fixed access. It is not assumed that the user will stay with the same provider, even if possible. Table 4.2 shows the providers selected, and Table 4.3 lists the corresponding bitrates for the selected fixed access service.

**Table 4.2 List of providers selected for the different access options**

	<b>ADSL</b>	<b>Cable</b>	<b>Dial up 150 hour Peak</b>	<b>Dial up 40 hour Peak</b>	<b>Dial up 20 hour Off-peak</b>
<b>Austria</b>	UTA	UPC Telekabel	T-Online.at	Telekom Austria	UTA Telekom AG
<b>Belgium</b>	Tiscali	Telenet	Tiscali	Tiscali	Tiscali
<b>Denmark</b>	Tele2	-	Cybercity	Cybercity	Cybercity
<b>Finland</b>	Elisa Internet Oy	-	MTV3	MTV3	MTV3
<b>France</b>	France Telecom	-	Tiscali	Tiscali	Free Telecom
<b>Germany</b>	FreeNet	-	Arcor	Arcor	Freenet.de
<b>Greece</b>	OTEnet	-	ACN	ACN	ACN
<b>Iceland</b>	Siminn Internet	-	Og Vodafone	Og Vodafone	Og Vodafone
<b>Ireland</b>	EsatBT / IOL	NTL	Connect-Ireland	Connect-Ireland	UTVip
<b>Italy</b>	Liberio / Italia Online	-	Tiscali	Tiscali	Wind.it
<b>Luxembourg</b>	P&T	-	Tele2	Luxembourg Online	Crosscomm
<b>Netherlands</b>	Zon Zonnet	Multikabel/Quicknet	ZON	Wanadoo	Wanadoo
<b>Norway</b>	Tele2	-	Tiscali	Tiscali	Tiscali
<b>Portugal</b>	Media Capital Multimedia	TVTEL	Jazztel	Oninet	Telepac
<b>Spain</b>	Wanadoo Espana	-	Terra	Terra	ya.com
<b>Sweden</b>	Telia Sonera	-	Tiscali	Tiscali	Tiscali
<b>UK</b>	Freeserve	Wight Cable	Tiscali	Tiscali	Clara.net

**Notes:**

- Cheapest provider for each profile is shown here;
- Bitrates corresponding to fixed access services are shown in the table below;
- Cable service providers shown for countries covered in this study – other counties may also have Cable modem provision, but are outside the scope of the comparison.



**Table 4.3 Bitrates selected for cheapest fixed access service in each country**

	ADSL		Cable modem	
<b>Austria</b>	128 / 768	kbit/s	64 / 256	kbit/s
<b>Belgium</b>	128 / 3000	kbit/s	128 / 4000	kbit/s
<b>Denmark</b>	128 / 256	kbit/s	n/a	
<b>Finland</b>	256 / 256	kbit/s	n/a	
<b>France</b>	128 / 512	kbit/s	n/a	
<b>Germany</b>	196 / 768	kbit/s	n/a	
<b>Greece</b>	128 / 384	kbit/s	n/a	
<b>Iceland</b>	128 / 256	kbit/s	n/a	
<b>Ireland</b>	128 / 512	kbit/s	64 / 150	kbit/s
<b>Italy</b>	128 / 300	kbit/s	n/a	
<b>Luxembourg</b>	64 / 256	kbit/s	n/a	
<b>Netherlands</b>	64 / 256	kbit/s	64 / 128	kbit/s
<b>Norway</b>	128 / 704	kbit/s	n/a	
<b>Portugal</b>	128 / 512	kbit/s	128 / 128	kbit/s
<b>Spain</b>	128 / 256	kbit/s	n/a	
<b>Sweden</b>	64 / 250	kbit/s	n/a	
<b>UK</b>	256 / 512	kbit/s	128 / 512	kbit/s

**Table 4.4 Price comparison of cheapest service in each country for each type of access**

	ADSL	Cable Modem	PSTN Peak 150h
<b>Austria</b>	46.47	22.04	164.59
<b>Belgium</b>	37.03	43.05	192.59
<b>Denmark</b>	47.37	-	52.95
<b>Finland</b>	41.80	-	94.68
<b>France</b>	26.74	-	10.00
<b>Germany</b>	25.96	-	62.67
<b>Greece</b>	67.70	-	62.52
<b>Iceland</b>	322.10	-	166.76
<b>Ireland</b>	113.41	31.79	184.25
<b>Italy</b>	27.38	-	14.95
<b>Luxembourg</b>	34.86	-	220.50
<b>Netherlands</b>	22.35	20.07	169.48
<b>Norway</b>	40.95	-	62.80
<b>Portugal</b>	57.39	28.43	138.63
<b>Spain</b>	45.24	-	6.84
<b>Sweden</b>	36.67	-	75.57
<b>UK</b>	40.92	17.78	7.30
EEA average	35.35	22.39	47.23

**Note:**

- Prices in euro per month, including VAT
- The EEA average is a weighted average with population (Eurostat 2003 statistics) – for Cable modem the average is calculated across the relevant countries only.
- For ADSL and Cable modem the cheapest option in each country is selected, i.e. generally the lowest bitrate from the cheapest provider.
- PSTN cost includes 150 hours of usage per month. The cheapest provider in each country is selected – this in some cases will be the provider that offers flat-rate “unlimited” access.
- Basic line rental not included (e.g. telephone line rental).

The averages show that the price levels for ADSL and Cable Modem are significantly lower than for dial-up access, as previously highlighted through Teligen and OECD research. ADSL overall is generally more expensive than Cable modem – this is to be expected as some Cable modem providers offer lower speeds than their ADSL counterparts, and also the cable modem service is often offered on the back of the cable TV service, rather than a separate service in its own right. The price relationships between the fixed access services and PSTN dial up shows a much larger discrepancy in price, with dial up costs being much more expensive. The dial up costs however are usage sensitive, and this merely suggests that a comparison with 150 hours a month usage is not necessarily relevant, as no dial up users would in reality have such heavy usage.

A similar comparison using the 40 hour peak profile and the 20 hour off-peak profile will show slightly different results:

**Table 4.5 Price comparison of cheapest service in each country for each type of access**

	<b>ADSL</b>	<b>Cable Modem</b>	<b>PSTN Peak 40h</b>	<b>PSTN Off-Peak 20h</b>
<b>Austria</b>	46.47	22.04	27.91	12.00
<b>Belgium</b>	37.03	43.05	52.88	9.95
<b>Denmark</b>	47.37	-	14.09	14.09
<b>Finland</b>	41.80	-	29.28	14.64
<b>France</b>	26.74	-	10.00	14.94
<b>Germany</b>	25.96	-	19.24	10.54
<b>Greece</b>	67.70	-	23.81	13.25
<b>Iceland</b>	322.10	-	45.75	13.16
<b>Ireland</b>	113.41	31.79	55.67	9.99
<b>Italy</b>	27.38	-	14.95	10.24
<b>Luxembourg</b>	34.86	-	32.20	9.20
<b>Netherlands</b>	22.35	20.07	39.54	15.65
<b>Norway</b>	40.95	-	25.93	13.83
<b>Portugal</b>	57.39	28.43	46.77	9.14
<b>Spain</b>	45.24	-	6.84	11.48
<b>Sweden</b>	36.67	-	22.50	12.61
<b>UK</b>	40.92	17.78	7.30	7.31
EEA aver.	35.35	22.39	17.46	11.24

**Note:**

- Prices in euro per month, including VAT
- The EEA average is a weighted average with population (Eurostat 2003 statistics) – for Cable modem the average is calculated across the relevant countries only.
- For ADSL and Cable modem the cheapest option in each country is selected, i.e. generally the lowest bitrate from the cheapest provider.
- PSTN cost includes 40 hours of peak usage and 20 hours of off-peak usage per month. The cheapest provider in each country is selected.
- Basic line rental not included (e.g. telephone line rental).

Although price levels for fixed access vary between countries the prices within these countries are reasonably uniform. There does not seem to be an obvious correlation between the competitiveness of the telecoms market in each country and the prices for fixed access. There is in fact more variation in the price levels for dial up services.

Again it is not necessarily the countries with well developed competitive markets that come out as the cheapest.

## 4.4 Calculating dial up hours to match fixed access

Another way of comparing the dial up and fixed access services will be to calculate what number of hours of dial up service will produce the same cost as with the fixed access service. Again, this approach is not perfect, in that the number of hours will depend heavily on the choice of packages. As dial-up packages with low or no fixed charges become more popular, the number of hours in this calculation will go up.

The cheapest provider is again chosen for each country, and in the case of dial-up, the providers and packages used are the same as with the 40 hour peak profile and the 20 hour off-peak profile used earlier. Due to the inconsistency in coverage of the fixed services the ADSL and Cable modem hour comparison will be considered separately; the same assumptions will nonetheless apply to both.

**Table 4.6** Number of dial up hours per month to match cost of ADSL fixed access

	Peak hours vs. ADSL	Off-peak hours vs. ADSL
<b>Austria</b>	26.5	57.5
<b>Belgium</b>	28.0	74.4
<b>Denmark</b>	94.4	47.2
<b>Finland</b>	57.1	57.1
<b>France</b>	67.0	15.8
<b>Germany</b>	54.0	49.3
<b>Greece</b>	97.4	87.5
<b>Iceland</b>	281.6	489.7
<b>Ireland</b>	75.1	207.0
<b>Italy</b>	33.3	53.5
<b>Luxembourg</b>	3.3	55.8
<b>Netherlands</b>	3.4	15.8
<b>Norway</b>	37.4	45.9
<b>Portugal</b>	49.1	125.6
<b>Spain</b>	224.4	58.8
<b>Sweden</b>	37.2	43.5
<b>UK</b>	184.4	92.0
EEA average	89.1	56.8

**Note:**

- Calculations are based on the cheapest packages for ADSL access, in each country. See table 4.3 for bitrate information.
- The selection of dial-up provider and package corresponds to the 40 hour profile for peak and 20 hour profile for off-peak, and as such may be different. See Table 4.2 for details.
- The EEA average is a weighted average with population (Eurostat 2003 statistics).

- The result will be a function of both the price of the dial up access, and the price of the fixed access. The cheaper the dial up access, the more hours you can have to match the cost of the fixed access. And inversely, the cheaper the fixed access, the fewer hours of dial up access you can have to match the cost of fixed access.
- For some countries the high cost of the fixed access will result in a large number of hours, as is the case with Iceland. On the other hand, for some countries the cheapest dial-up package will be a flat-rate package with no usage charges – please bear this in mind as in some cases this will also have a direct affect on the results (for example Spain and the UK).

**Table 4.7** Number of dial up hours per month to match cost of Cable Modem fixed access

	Peak hours vs. Cable	Off-peak hours vs. Cable
<b>Austria</b>	-8.6	16.7
<b>Belgium</b>	32.6	86.5
<b>Ireland</b>	16.4	43.6
<b>Netherlands</b>	1.1	12.9
<b>Portugal</b>	24.3	62.2
<b>UK</b>	57.5	28.7
EEA average	37.1	34.7

**Note:**

- Calculations are based on the cheapest packages for Cable modem access, in each country. See table 4.3 for bitrate information.
- The selection of dial-up provider and package corresponds to the 40 hour profile for peak and 20 hour profile for off-peak, and as such may be different. See Table 4.2 for details.
- The EEA average is a weighted average with population (Eurostat 2003 statistics), calculated across the 6 relevant countries only.
- The result will be a function of both the price of the dial up access, and the price of the fixed access. The cheaper the dial up access, the more hours you can have to match the cost of the fixed access. And inversely, the cheaper the fixed access, the fewer hours of dial up access you can have to match the cost of fixed access.
- Similar price factors will affect the Cable modem comparison, as did with the ADSL comparison. The variation in hours is evidently much less for Cable modem, however, generally representing the lower cost of Cable modem access as discussed earlier in this section.

Overall these comparisons suggest that on average a usage level of between **56 and 90 hours per month** will justify the cost of ADSL access, and a usage level of between **34 and 38 hours per month** will justify the cost of Cable modem access. There are of course great variations between countries, and for the individual user in each country the local situation will have to be considered. For example, the way in which modem or router equipment is offered as part of the service varies both within and between countries, and this alone can directly affect the results of the comparison. More significantly, ADSL and Cable modem values in some countries can appear quite high in comparison to others, and this on occasion can be attributed exclusively to the structure of excess usage charges – those providers that offer lower limits of data transfer may appear more expensive when we consider the usage assumptions detailed in the Methodologies (**Section 2.2.2**); if we assume different levels of usage in our comparison we will achieve different results.