Empower your Business

Take your business to new levels with the power of txtNation

Mobile Marketing Guide

INTRODUCTION

The development of new and innovate mobile technologies, such as: multimedia services, mobile solutions, remote data accessing capability would be ended in a revolution for the mobile industry.

Throughout this document we will look at developments in both the *markets* and *technologies,* moving through from the billing (micro-billing) to the actual solutions that these mobile services operate on.

SECTION 1

WHAT COMPANIES ARE LOOKING FOR

PROFIT, PRODUCTIVITY AND POPULARITY

Nowadays, the market is turning from a specialist market into a mass consumer market, that's why many companies might wish to enter the mobile market and also to:

- Generate revenue
- Increase productivity
- Improve brand awareness

GENERATING REVENUES

Many traditional companies whose main business is not related with telecom have a chance to do business in this sector.

Today, many other companies have the opportunity to enter this market and generate revenue. So far, companies such as media, telemedia and distribution groups have mainly use premium rate voice calls to generate new revenues. However, revenue can also be generated from SMS and other mobile data service.

PRODUCTIVITY – INCREASING BUSINESS EFFICIENCY

Mobile phones increase productivity with the growing number of options for mobile voice and data transmission.

There are three main points that will show us how mobile phones can help us to increase our business:

- Costumer relationship.
- Improving communication between employees.
- To improve machine efficiency.

INCREASING BRAND AWARENESS

Mobile phone technology enhances local campaigns, television, radio and press, providing a personal relationship with the consumer. It's a great way for a company to show its commitment to clients and allows the company to initiate several types of marketing campaigns and promotional operations.

PUBLIC SERVICE AND NON-PROFIT ORGANIZATIONS

Local, national and international non-profit services, including governmental agencies can benefit from high-quality mobile. There are also many other companies that can take advantage the use of mobile services.

This mobile technology can take several forms:

- Real-time alerts.
- Information updates: news, elections, etc.
- Opinion polls, voting, surveys.

SECTION 2

TYPICAL MODELS

Business Billing Solutions

There are two basic business models:

- The Standard Mobile Business: the user pays for all messages sent and all pages browsed. If the client sends a reply, it's the client who pays.
- The Premium Model: the user pays for a service at a pre-defined price. Revenues generated his way are shared among several parties.

There are another payments methods as the SMS billing solutions, prepaid scratch cards and credit cards.

The following sections details each model:

Standard Model

It consists of billing the sender of a message, this model is used for SMS and MMS messaging.

- **Standard MO (Mobile Originated).**

There is a huge difference between the price of an MO SMS and an MO MMS. Sending a local MO MMS would cost more than twice as it costs an MO SMS.

Sending and MMS message abroad is not widely available in Europe at this time.

- **Standard MT (Mobile Terminated).**

There is an advantage of going through a third-party service provider: is that one connection gives access to all the operators.

A yearly subscription fee covers connection costs, the fee for this traffic is calculated at a discount volume-based rate, but for MMS services it seems to be around twice as much as for an SMS.

Mobile operators often apply high interconnection fees, whereas service providers can provide low prices for direct connections.

- **Standard Browsing.**

There are two main models:

- Subscription fee, which give you unlimited access.
- Pay-per-Kb, where you have to pay for the quantity of content downloaded.

Premium Model

The Premium Model was recently adopted and adapted to MMS and Browsing, in Europe because of the success of SMS services. There are two models which Premium model follows:

- **Premium Fee**

There is a Premium fee which is included in the bill from their network operator to end-users to access value-added services over their mobile phones.

- **Revenue-sharing**

Revenue generated by Premium fees is shared among several parties, including mobile operators and service and content providers.

This is very complicated because mobile operators each have a specific revenue sharing model. By connecting to a third-party service provider, this can simplify matters.

- **Billing models**

Browsing is a way to view information displayed on a website. So operators either re-develop their own billing system or use the Premium SMS model as a way to bill the service.

- **Premium MT**

Is ideal for the delivery of content such as logos, ringtones or alerts.

- **Premium MO**

Is ideal for interactive services; such as TV Voting, Multimedia Content and many others, where users request special content or services.

Pay-per-use model is by far the most popular among service providers, but it also exists another type of billing model that is the pay-per-period.

OTHER SUPPORT

Although not very popular, these support are:

- Credit Card
- Prepaid / Scratch Card
- IVR (users call a Premium phone number)

The difference between these supports and the Premium SMS, MMS or browsing models, is that the client is not billed on her mobile phone bill, is billed directly to his bank or to another account or simply purchases a prepaid card.

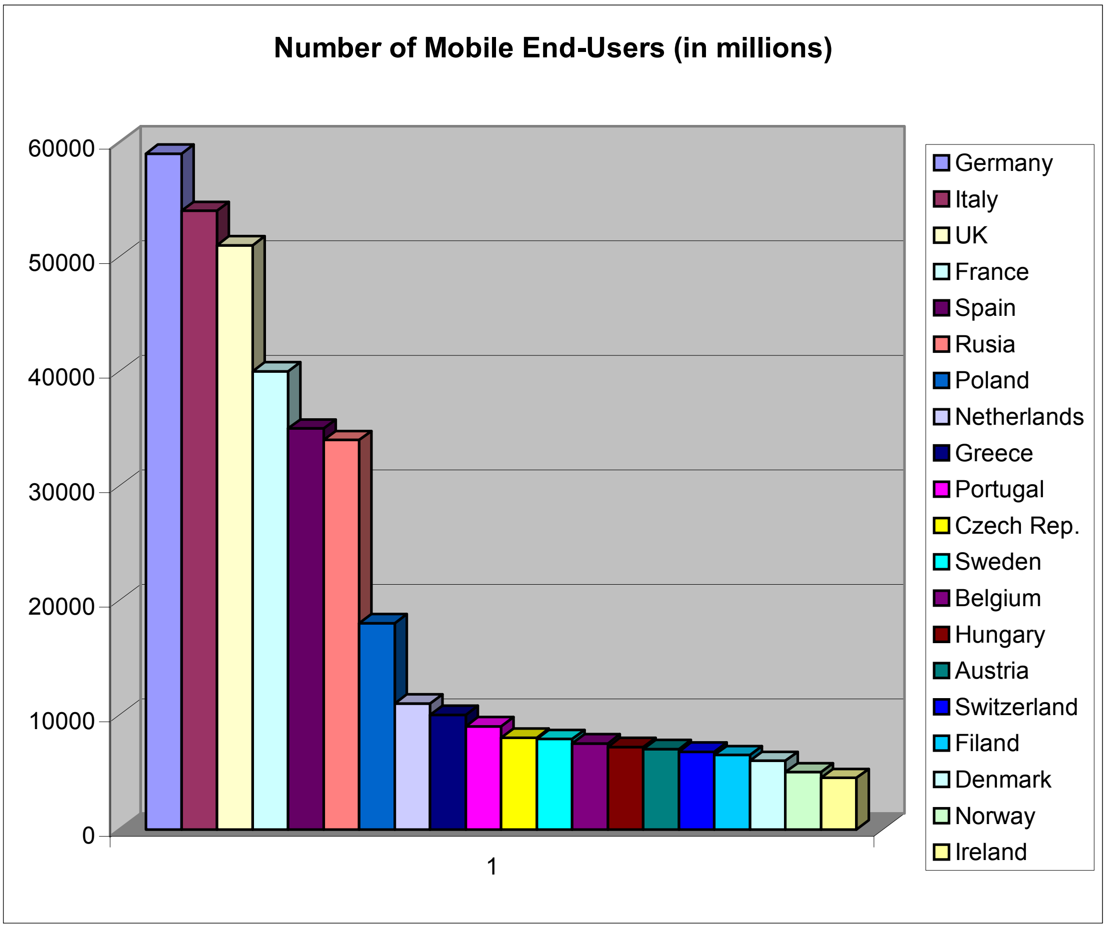
SECTION 3

MULTIMEDIA MARKET IN A NUTSHELL

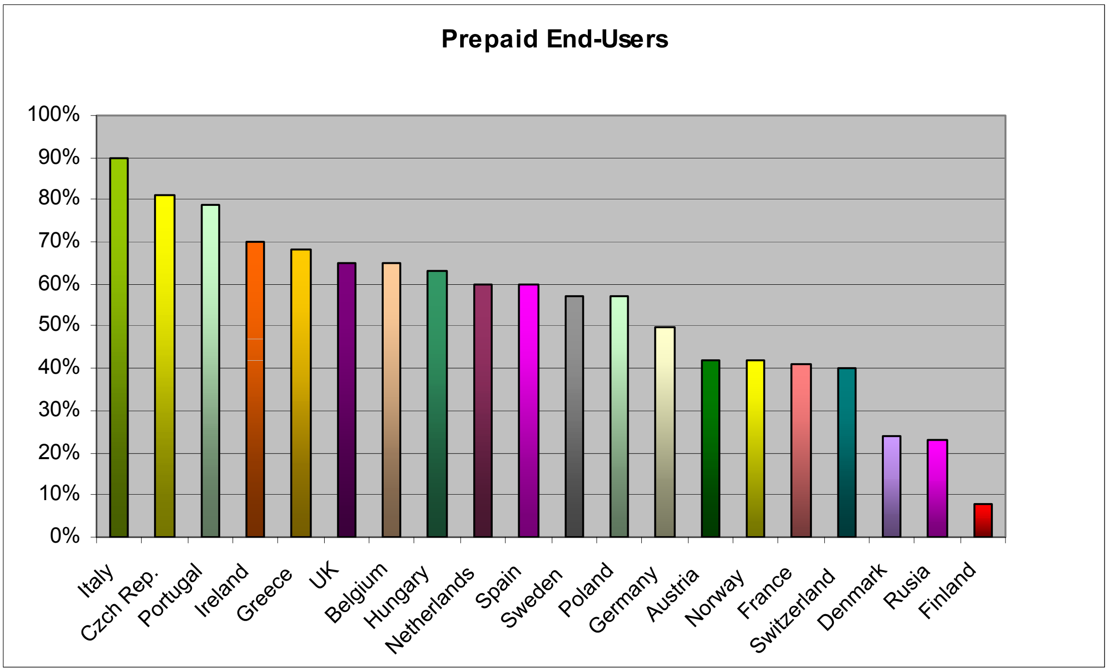
EUROPE AND BEYOND
Recently has exceeded the number of mobile telephone subscribers, eight out of ten people in Europe now own a mobile phone, this year will be the year of interactive and multimedia services.

A MARKET WHERE GROWTH IS DRIVEN BY RENEWAL
After a period of mobile market maturity, Europe is now reaching a saturation point and the number of new subscriptions tends to stabilize.

Germany, Italy and the UK are the largest markets for mobile services with 59.2, 53.5 and 50 million mobile phone users respectively.



In this mature market, new costumers are either people who have for a long time resisted using a mobile phone or children whose parents may place restrictions on how to use the mobile. Both of these end-users often prefer prepaid cards.



As a result the prepaid market has reached the 63% of the total market, nonetheless there are significant differences between individual countries.

A Market Boosted by Mobile Data Services

Operators need to rely on mobile data services if they are to boost their revenues. Non-voice revenue grew significantly in the past year, thanks to SMS tremendous success and more recently to MMS and browsing.

The market of these value-added services can be quite similar from one country to another, there are some differences between countries in terms of pricing.

	AVERAGE END-USER PRICE (€)		**AVERAGE END-USER PRICE (€)**
Logos and Images **Black and white** **colour**	 1.40 1.90	**Java Games** **Black and white colour**	 3.40 4.20
Ringtones **Monophonic** **Polyphonic**	 1.50 2.30	**Quiz**	0.60
		Chat	0.60
		Vote	0.50
Adult Content	2.00	**Information services**	0.40
Chat	1.00		

A Market Open To Third Parties

Operators want to duplicate the success of Premium SMS into another channels to generate additional revenue from mobile data services.

All the major operators have launched Premium Browsing offers, each with specific conditions saying how other companies can launch their own services.

	Premium SMS		**Premium MMS**		**Premium Browsing**	
	Type of Premium SMS	**Range of end-user prices**	**Type of Premium MMS**	**Range of end-user prices**	**Service Name (Operator)**	**Range of end-user prices**
Austria	MT-P MO-P	€ 0.20 to € 10.00	n/a	n/a	t-zones (T-Mobile)	
Belgium	MT-P MO-P	€ 0.15 to € 2.00	MT-P	€ 0.50 to € 4.00	i-mode (base) WAP(Proximus) WAP(Mobistar)	
Czech Rep.	MT-P	3 KRC	n/a	n/a	t-zones	n/a

	MO-P	to 30KRC			(T-Mobile)	
Denmark	MT-P	0.50 DKK to 30 DKK	n/a	n/a	n/a	n/a
Finland	MT-P MO-P	€ 0.24 to € 20	MT-P	n/a	n/a	n/a
France	MO-P with mandatory MT	€ 0.00 to € 1.50	n/a	n/a	Orange Gallery V-Life (SFR) i-mode (Bouygues)	
Germany	MT-P MO-P	€ 0.29 to € 4.99	MMS + P-SMS	€ 0.19 to € 10.00	t-zones (T-Mobile) V-Life (Vodafone) i-mode (Eplus) O2 Active (O2)	
Greece	MT-P MO-P	€ 0.29 to € 4.99	n/a	n/a	V-Life (Vodafone)	
Hungary	MT-P MO-P	60 HUF to 799 HUF	n/a	n/a	777 Mobile (Wesley) PannonW@P V-Life (Vodafone)	
Ireland	MT-P MO-P	€ 0.09 to € 1.90	n/a	n/a	V-Life (Vodafone)	
Italy	MT-P MO-P	€ 0.16 to € 5.00	n/a	n/a	i-tim (TIM) V-Life (Vodafone) i-mode (Wind)	
Netherlands	MT-P MO-P	€ 0.25 to € 5.00	n/a	n/a	i-mode (KPN) V-Life (Vodafone) t-zones (T-Mobile) Orange Gallery	
Norway	MT-P	0 NOK to 60.00 NOK	MO + MT-P	n/a	Telenor Netcom	
Poland	MT-P	0.50 PLN to 0.50 PLN	MOP	1.16 PLN to 26.00 PLN	ERA OMNIZ (ERA)	
Portugal	MT-P MO-P	€ 0.20 to € 3.00	n/a	n/a	Ivone (TMN) V-Life (Vodafone) Optimus Zone	
Spain	Toll free MO + MT-P	€ 0.17 to € 1.39	n/a	n/a	i-mode (Movistar) V-Live (Vodafone)	
Sweden	MT-P MO-P	2 SEK to 30 SEK	MT-P MO-P	3-30 SEK	V-Live (Vodafone) TeliaGO (Telia) Comvig GoLife (Tele 2)	
Switzerland	MT-P toll free MO	0.20 CHF to 3 CHF	MT-P (Sunrise)	0-3 CHF	V-Live (Vodafone) Sunrise Live	
UK	MT-P MO-P	£0.00 to £5.00	n/a	n/a	V-Live (Vodafone) Orange World O2 Active t-zones (T-Mobile)	

AUSTRIA

THE AUSTRIAN TELECOM MARKET

Mobile and fixed telecom market overview
Austria is one of the most developed mobile markets in Europe with a penetration rate of 83.5% and more than 6.88 million users.

Australian Mobile Telecom Operators
There are four mobile operators in the Austrian market.

	A1 Mobilekom	T-Mobile	One

	www.a1.net	www.t-mobile.at	www.one.at
Main Shareholders	Telekom Austria AG (100%)	Deutsche Telecom (100%)	E.ON (50.1%) Telenor (17.45%) Orange (17.45%) TDC (15%)
End-User market share in millions	2.89 (42.8%) 3.05 (44.3%)	2.18 (32.3%) 2.01 (29.2%)	1.35 (20.0%) 1.39 (20.2%)
Total turnover in millions (€)	1538.3 391.4	889.3 273	619.7 327.5
Monthly ARPU (€)	35.8 35.2	35.0 30.0	35.0 35.0

A1 Mobilekom, a subsidiary of telecom Austria, dominates the market with a share of 44.3%. T-Mobile is the second largest operator, following by the industrial group ONE and Telering.

Networks

- GPRS Networks

A1 Mobilekom was the first operator to launch a GPRS Network in Austria, following by T-Mobile, One and Telering.

- UMTS

Telefonica Móviles sold its UMTS license to Mobilekom Australia. The sale has been approved by the Austrian regulator.

Also 3G Austria launched its UMTS network and is estimated to have around 5000 subscribers.

Mobile data market
Austrian end-users send one average around 20 SMS per month.

Mobile data use and trends
Customization services are very successful among Austrian mobile end-users, particularly the young.

Mobile data services in Austria

	Most common end-user prices
Logos and images **Black and white colour**	€ 0.50 € 1.10
Ringtones **Monophonic** **Polyphonic**	 € 1.00 € 2.00
Games **Black and white colour**	€ 3.00 € 5.00
Quiz	€ 0.50
Chat	€ 0.50
Adult Chat	€ 2.00
Vote	€ 0.50

Third party offer
Premium SMS is available on all Austrian operators, recently has been launched the Premium Browsing services.

Third party services in Austria

	A1 Mobilekom	**T-Mobile**	**One**	**Telering**
Premium SMS				
Type of Premium SMS	MT-P MO-P	MO-P	MT-P MO-P	MO-P
Range of end-user prices (including VAT)	€ 0.20 to € 10.00	€ 0.30 to € 10.00	€ 0.30 to € 10.00	€ 0.30 to € 10.00
Short Code Number of digits	10	10	10	10
Average lead time for cross network short code activation	6 weeks	6 weeks	6 weeks	6 weeks
Premium MMS				
Launch date	Not yet available	Not yet available	Not yet available	Not yet available
Premium Browsing				
Name	n/a	t-zones	n/a	n/a

BELGIUM

THE BELGIAN TELECOM MARKET

Mobile and fixed telecome market overview
There were around 8 million mobile end-users in Belgium at the end of the first quarter of the last year, with a penetration rate of more than 76%.

Belgian mobile telecome operators
There are three mobile operators in the Belgian market.

Proximus now dominates the Belgian mobile market with a share of over 54%.

Mobistar, which is own by the orange group, is the second largest operator in Belgium with a market share of around 32%.

Base, the third operator, it has around 14% of the Belgian mobile market.

Prepaid users represent more than 67% of all Belgian mobile users, Proximus also dominates the prepaid market with a 50% share.

Networks

- GPRS Network

Proximus was the first Belgian operator to launch its GPRS network and Mobistar and Base followed.

- UMTS

All three Belgian operators plan to launch UMTS services in the third quarter of the last year.

MOBILE DATA MARKET

Recently about 82% of Belgian mobile end-users were active SMS users.

It is estimated that an average Belgian mobile end-users sent 54 SMS per month in the last year.

Mobile data use and trends
According to Belgian operators, mobile data revenue accounted for around 15.7% of total revenue.

Mobile data use and trends
The tree most popular SMS applications among Belgian mobile end-users are logos and ringtones, voting and information services.

	Most common end-user price	Minimum **end-user price**	Maximum **end-user price**
Logos and images			
Black and white	€ 3.00	€ 1.00	€ 4.00
colour	€ 3.00	€ 1.00	€ 4.00
Ringtones			
Monophonic	€ 3.00	€ 1.00	€ 4.00
Polyphonic	€ 3.00	€ 1.00	€ 4.00
Adult content	€ 4.00	€ 1.00	€ 4.00
Games			
Black and white	€ 3.00	€ 3.00	€ 3.00
Colour	€ 5.00	€ 5.00	€ 5.00
Quiz	€ 0.50	€ 0.50	€ 0.50
Chat	€ 1.00	€ 0.50	€ 1.00
Adult Chat	€ 0.50	€ 0.50	€ 1.00
Vote	€ 0.50	€ 0.50	€ 0.50
Information services	€ 1.00	€ 0.50	€ 1.00

Third party offer
Operators estimate that Premium SMS represents over 8% of the volume and 12.3% of the total SMS revenue.

Belgium is one of the few countries where it is possible to launch Premium MMS service.

	Proximus	**Mobistar**	**Base**
Premium SMS			
Type of Premium SMS	MO-P MT-P	MO-P MT-P Toll free MO with MT-P	MO-P MT-P
Range of end-user prices (including VAT)	€ 0.15 to € 2.00	€ 0.15 to € 2.00	€ 0.15 to € 2.00

Short Code Number of digits	4	4	4
Average lead time for cross betwork short code activation	5 weeks	5 weeks	5 weeks
Premium MMS			
Type of Premium MMS	MT-P	n/a	n/a
Range of end-user prices (including VAT)	€ 0.50 to € 4.00	n/a n/a	n/a n/a
Short Code Number of digits Available for postpaid and prepaid	4 yes	n/a n/a	n/a n/a
Premium Browsing			
Name	n/a	n/a	i-mode
Available for postpaid and prepaid	yes	yes	yes
Number of users	n/a	n/a	20000

CZECH REPUBLIC

THE CZECH TELECOM MARKET

Mobile and fixed telecom market overview
There are more than 8.8 million mobile end-users in the Czech Republic. The penetration rate reaches 86%, with most end-users using prepaid cards.

The Czech Republic is the second largest mobile market in Easter Europe.

Czech mobile telecom operators
There are three mobile operators in Czech Republic.

Eurotel Praha and T-Mobile dominate the Czech mobile market with a share of 45% and 40% respectively.

Oskar (Cesky Mobile), the largest operator, has gained a market share of over 15%.

There are more than 7.19 million prepaid users in the Czech Republic, making up around 84% of the market.

Czech Mobile Telecom Operators

	Eurotel Praha **www.eurotel.cz**	**T-Mobile** **www.t-mobile.cz**	**Oskar** **www.oskarmobile.cz**
Main share holders	Cesky Telecom (51%) Atlantid West B.V (49%)	T-Mobile International (92.13%) STET mobile holdings N.V (7.17%)	Telesystem International Wireless (TIW) Cesky Mobile a.s. ClearWave N.V
End-user market share in millions	3.99 (44.96%)	3.55 (39.97%)	1.33 (15.055)
Total turnover in millions (CZK)	14,139	5,700	4,858
Monthly ARPU (CZK)	545	472	661

Networks

- GPRS

Eurotel Praha was the first operator to launch GPRS services, followed by T-Mobile and Oskar.

- UMTS

Eurotel Praha and T-Mobile each own a UMTS license and plan to launch their third generation services in the next few years. Oskar is still negotiating to obtain a UMTS license.

MOBILE DATA MARKET
SMS traffic in the Czech Republic has shown a tremendous increase over the last three years, to the point were it has now reached one of the highest levels in the Eastern Europe.

Around 1.2 billion SMS messages are sent across the three Czech mobile operators.

Mobile data use and trends
Over the last year, customization services have proved a great success among Czech end-users, especially the young.

Mobile data services in the Czech Republic

	Most common end-user price
Logos and images	
Black and white	20 CZK
colour	30 CZK
Ringtones	
Monophonic	20 CZK
Polyphonic	30 CZK
Adult services	
Content	30 CZK
Chat	15 CZK

Third party offer
Only Premium SMS is available in all operators. Premium Browsing is available with T-Mobile (t-zones) and Premium MMS.

	Eurotel Praha www.eurotel.cz	T-Mobile www.t-mobile.cz	Oskar www.oskarmobile.cz
Premium SMS			
Type of Premium SMS	MO-P	MO-P	MO-P MT-P
Range of end-user prices (including VAT)	3 CZK to 30 CZK	3 CZK to 30 CZK	3 CZK to 30 CZK
Short Code Number of digits Average lead time for cross short code activation	7 6 weeks	7 6 weeks	7 3 weeks
Premium Browsing			
Name	n/a	t-zone	n/a

DENMARK

THE DANISH TELECOM MARKET

Mobile and fixed telecom market overview
Denmark has a mobile penetration rate of 82.5% with 4.8 million mobile end users.

	Millions	Penetration Rate
Mobile subscribers	4.54	84.4%
Wired fixed lines	3.65	67.9%

Danish mobile operators
Denmark has one of the most fragmented operators markets in Europe with more than seven operators. The four largest operators in Denmark account for more than 86% of the market between them.

TDC Mobile leads the market with a share of around 35.2%.

Sonofon, a subsidiary of the Norwegian mobile operator Telenor, is in second place with 23.7%.

Orange and Telia have 12.6% and 10% of the Danish mobile market respectively.

Other operators include Danish MVNOs like Debitel Telmore and Tiscali (Song Network), who together make up about 14% of the market.

All these operators use the TDC network.

Danish mobile operators

	TDC Mobile www.tdc.dk	SONOFON www.sonofon.dk	Orange www.orange.dk	Telia www.telia.dk
Main shareholders	TDC (100%)	Sonofon (100%)	Orange (53.65)	TeliaSonera (100%)
End-user market share in millions	1.6 (35.2%)	1.07 (23.7%)	0.57 (12.6%)	0.45 (10%)
Total turnover in millions (DKK)	5,152	4,013	1,793	2,118
Monthly ARPU (DKK)	214	253	233	185

Networks

- GPRS

There are about 141,000 GPRS mobile end-user in Denmark and GPRS traffic reach around 325,000 MB.

- UMTS

Four Danish operators hase the UMTS network licenses: TDC Mobile, Telia, Orange and HI3G Denmark.

Nowadays, no other Danish operator has launched its commercial offer.

MOBILE DATA MARKET

Danish end-users exchange on average 57 SMS messages per month and it's increasing a 32%.

Since the beginning of this year TDC's Mobile subscribers has been able to exchange MMS with other subscribers on the Sonofon and Telia networks.

More than 500,000 messages were sent on Danish networks. And more than 100,000 MMS-enable phones had been sold.

The MMS market in Denmark

	TDC	Sonofon	Orange	Telia	Others	Total
MMS volume	242,143	116,000	27,890	102,116	9,371	497,520
Market share	49%	23%	6%	21%	2%	100%

Mobile data use and trends

Mobile data services in Denmark

	Most common end-user price
Logos and images Black and white colour	 10-15 DKK 5-10 DKK
Ringtones Monophonic Polyphonic	 10 DKK 10-15 DKK
Adult content	Not allowed
Games Black and white Colour	 20-30 DKK 30 DKK
Quiz	3-12 DKK
Chat	3 DKK
Adult chat	Not allowed
Vote	3-10 DKK
Information services	0-10 DKK

Third party offer
Operators extended the range of tariffs available to up to 30 DKK.

Premium SMS short codes in Denmark are among the most expensive in Europe. As a result, most services providers share one number of many applications and introduce keywords to differentiate them.

Third party services in Denmark

Third party offer	TDC Mobile	Sonofon	Orange	Telia
Premium SMS				
Type of Premium SMS	MT-P	MT-P	MT-P	MT-P
Range of end-user prices (including VAT)	0.5 DKK to 30 DKK	0.5 DKK to 30 DKK	0.5 DKK to 30 DKK	0.5 DKK to 30 DKK
Short Code Number of digits Average lead time for cross short code activation	 4 4 weeks	 4 4 weeks	 4 4weeks	 4 4 weeks
Premium Browsing				
Launch date	Not yet available	Not yet available	Not yet available	Not yet available

FINLAND

The Finish Telecom Market

Mobile and fixed telecom market overview
Subscriber numbers continue to remain relatively stable at around 87% of the total market.

One interesting point of the Finish market is that 39% of end-users between 15 and 74 year old communicate exclusively by mobile phone.

The Finnish telecom market

	Millions	Penetration rate
Mobile subscribers	4.23	87%
Wired fixed lines	2.85	54.7%

Finnish mobile telecom operators
There are three main mobile operators in Finland.

Sonera, which merged with the Swedish operator Telia, dominates the market with 2.4 million subscribers.

Suomen 2G bought Telia, as a result of the merge, Suomen also 2G also owns the operator DNA and now this two operators work under the name of DNA Finland.

Radiolinja, a subsidiary of the Elisa Communication Group, has 1.35 million customers.
They claim to have made the world's first GSM call and launched the first GSM network in the world.

More than ten MVNO also compete in the Finnish market, including Saunalahti and Tele2.

Most end-users are postpaid subscribers; they represent more than 94% of the Finish market.

Finnish mobile telecom operators

	TeliaSonera www.teliasonera.fi	**Radiolinja** www.radiolinja.fi	**DNA Finland** www.dnafinland.fi
Main shareholders	Swedish state (45.3%) Finnish state (19.1%)	Elisa Communication (100%)	Finnet AB
End-user market share in millions	2.411	1.348	n/a
Total turnover in millions (€)	1.320	739	n/a
Monthly ARPU (€)	37.7 (3Q03)	38.4	n/a

Networks

- GPRS

TeliaSonera estimated that there were 112.000 GPRS users, representing 5% of the total number of end-users.

- UMTS

TeliaSonera is the only Finnish operator to have launched its UMTS network. So far, only a few hundred end-users have signed up.

Mobile data market

The Finnish market is quite mature, the total value of the data market represented €188 million and the monthly data ARPU is €3.40.

Each Finnish end-user exchanges 30 SMS per month, which represent an increase of 9%. The total SMS market was estimated at 1.6 billion SMS.

The terminal base is renewing very rapidly: over 50% of handsets have colour screens and 65% are Java-enabled.
Mobile data use and trends
The two most successful services are ringtone services (24% of the market) and logos and images (14%). Information services represent about 10% of the market.

Mobile data services in Finland

	Most common end-user price

Logos and images Black and white	€ 0.95 € 1.17
Ringtones Monophonic Polyphonic	€ 1.17 € 1.21
Adult content	€ 1.04
Games Black and white Colour	€ 4.00 € 7.00
Quiz	€ 0.40
Chat	€ 0.36
Adult chat	€ 0.40
Vote	€ 0.40
Information services	€ 0.36

Third party offer
Finnish was one of the first countries where Premium SMS services were launched. Premium SMS is using for many services, including mobile applications, vending machines, buying cinema tickets and paying parking fees.

Third party services in Finnland

	Radiolinja www.radiolinja.fi	**TeliaSonera www.teliasonera.fi**	**DNA Finland www.dnafinland.fi**
Premium SMS			
Type of Premium SMS	MO-P MT-P	MO-P	MO-P MT-P
Range of end-user prices (including VAT)	€ 0.16 to € 20	€ 0.16 to € 20	€ 0.16 to € 20
Short Code Number of digits Average lead time for cross short code activation	5-6 4 weeks	5-6 4 weeks	5-6 4 weeks
Premium Browsing			
Name Launch date	n/a 2000	n/a n/a	n/a n/a

FRANCE

THE FRENCH TELECOM MARKET

Mobile and fixed telecom market overview
France is one of the largest mobile markets in Europe, with more than 40.1 million subscribers. Mobile penetration reached 65.5% in France.

French telecom market

	Millions	**Penetration rate**
Mobile subscribers	40.1	66.5%
Wired fixed lines	34.0	57.2%

French mobile telecom operators
There are three operators in France; Orange, a subsidiary of France Telecom, dominates the market with a share of 49.5% and 19.3 million subscribers.

SFR, a subsidiary of Vivendi Universal (Cegetel), has 35.3% of the market with 13.9 million subscribers.

Bouygues telecom, a subsidiary of the French industrial group Bouygues, has 6 million subscribers.

There are more than 16.8 million of prepaid users.

French mobile telecom operators

	Orange **www.orange.fr**	**SFR** **www.sfr.fr**	**Bouygues telecom www. Bouygues telecom.fr**
Main shareholders	France Telecom (100%)	Vivendi Universal (56%)	Bouygues (67.1%) E.on, BNP Paribas
End-user market share in millions	19.3 (49.2%)	13.9 (35.3%)	6.0 (15.5%)

Total turnover in millions (€)	7,651	6,146	2,945
Monthly ARPU (€)	31.3	n/a	n/a

Networks

- GPRS

All three French operators launched their GPRS network together.

- UMTS

None of the French operators are ready for the commercial launch of their UMTS networks.

MOBILE DATA MARKET

The total mobile data market represents €245 million and is increasing day by day.

French mobile users sent more than 2 billion SMS messages, and average of 17.6 SMS per month.

Bouygues Telecom has more than 360,000 users. Approximately 200 services are live.

SFR has reach more than one million v-live subscribers.

Mobile data use and trends

The most common use of mobile data services in France is for customization services, with 45% of mobile data traffic being generated by the download of logos and ringtones.

Mobile data services in France

	% of total data services	**Most common end-user price**	Minimum **end-user price**	Maximum **end-user price**
Logos and images				
Black and white	20%	€ 2.50	€ 2.00	€ 3.00
colour	5%	€ 2.50	€ 2.00	€ 3.00
	15%			
Ringtones	25%			
Monophonic	12%	€ 2.50	€ 2.00	€ 3.00
Polyphonic	12%	€ 2.50	€ 2.00	€ 3.00
Adult content	n/a	n/a	n/a	n/a
Games				
Black and white	2%	€ 2.50	€ 2.00	€ 4.00
Colour	1%	€ 4.00	€ 3.00	€ 6.00
	1%			
Quiz	10%	€ 0.35	€ 0.05	€ 0.50
Chat	20%	€ 0.35	€ 0.05	€ 0.35
Adult Chat	20%	€ 0.35	€ 0.05	€ 0.35
Vote	20%	€ 0.35	€ 0.05	€ 0.50
Information services	3%	€ 0.50	€ 0.05	€ 0.75

Third party offer

There are 37.6 million Premium SMS sent across all three French operator networks (0.3 Premium SMS per user per month).

Premium SMS traffic represents 1.54% of the total French traffic and generate revenue for more than 20.36.

Also, the three operators has launched a common "open" WAP Premium Portal, called "Gallery". Due to specific handset requirements, Gallery is currently accessible to 6 million users on all three operators.

Approximately 100 services are live, with Premium rates up to €4.

Third party services in France

	Orange www.orange.fr	**SFR** www.sfr.fr	**Bouygues telecom** www.bouyguestelecom.fr
Premium SMS			
Type of Premium SMS	Premium MO with Mandatory MT	Premium MO with Mandatory MT	Premium MO with Mandatory MT
Range of end-user prices (including VAT)	€ 0.00 to € 1.50	€ 0.00 to € 1.50	€ 0.00 to € 1.50

Short Code Number of digits Average lead time for cross short code activation	5 8 weeks	5 8 weeks	5 8 weeks
Premium MMS			
Launch date	Not yet available	Not yet available	Not yet available
Premium Browsing			
Name	Orange World Gallery	V-Live Gallery	i-mode Gallery
Number of active users	World: n/a Gallery: 3 million	V-Live: n/a Gallery: 2 million	i-mode: 360000 Gallery: 1 million
Type of Premium Browsing (Gallery)	Per download (1 content) Subscription base (1, 30 days)	Per download (1, 5, 25 content) Subscription base (1, 30 days)	Per download (1 content) Subscription base (1, 7, 30 days)
Range of end-user prices (including VAT)	Gallery €0 to €4	Gallery €0 to €4	i-mode: €0 to €4 Gallery: €0 to €45

GERMANY

THE GERMAN MOBILE MARKET

Mobile and fixed telephone market overview
Germany is still the largest mobile market in Europe, with more than 60 million mobile subscribers. The mobile penetration rate rose nearly 75%.

Mobile and fixed telecom market

	Millions	Penetration rate
Mobile subscribers	62.2	74.9%
Wired fixed lines	53.7	64.3%

German mobile telecom operators
There are four mobile operators in Germany.

Two operators dominate the market: T-Mobile, a subsidiary of Deutsche Telekom and D2- Vodafone, owned by the Vodafone group. They have 25.62 million and 23.8 million end-users respectively, accounting for a total of 80% of the market between them.

Eplus, the third operator, has 8.1 million mobile subscribers and O2 5.3 million.

Eplus, which is owned by KPN, is the only operator to offer an i-mode service in Germany.

Mobile service providers like Debitel. Mobilecom, Talkline, Victorvox, Hutchinson Telecom and RSL,they represent about 15 million end-users. It is estimated that up to 305 of new T-Mobile and Vodafone customers sign up through one of these service providers.

German mobile telecom operators

	T-Mobile **www.t-mobile.de**	**Vodafone** **www.vodafone.de**	**Eplus** **www.eplus.de**	**O2** **www.o2online.de**
Main shareholders	German State (Deutsche Telekom)	Vodafone (99.8%)	KPN (77.5%)	MmO2 (100%)
End-user market share in millions	41.5%	37.6%	12.6%	8.3%
Total turnover in millions (€)	7.800	6.830	2.200	1.651
Monthly ARPU (€)	25	27	25	29

Networks

- GPRS

All four German operators have launched GPRS commercial offers. They estimate that between 10% and 13% of their end-users use the GPRS network.

O2 was the first German company to offer WAP over GPRS at a flat rate of € 4.95 a month.

- UMTS

Operators are forecasting a take-up of 3.8 million end-users.

MOBILE DATA MARKET

German mobile end-users exchange around 36 billion SMS, around 48 SMS per end-user per month.

According to T-Mobile, mobile data increased to account for about 19.3% of service revenue. On average the operator receive between 14-17% of their total revenue from mobile data services (70% of which is SMS).

Today one MMS is sent for every 1.000 SMS, but operators estimate that ii will be one message out of every four.

Currently, MMS handset represents about 10% of the market.

Mobile data use and trends
The most successful data services in Germany are logos and ringtones.
It is estimate that these customization services represent about 40% of total data SMS services.

Mobile data services in Germany

	% of total data services	Most common end-user price	Minimum end-user price	Maximum end-user price
Logos and images				
Black and white	5%	€ 1.49	€ 0.99	€ 1.99
colour	8%	€ 1.99	€ 1.29	€ 3.00
Ringtones				
Monophonic	10%	€ 1.99	€ 1.29	€ 3.00
Polyphonic	30%	€ 2.49	€ 1.29	€ 3.00
Adult content	2%	€ 1.99	€ 1.49	€ 2.99
Games				
Black and white	7%	€ 2.99	€ 1.99	€ 3.99
Colour	10%	€ 3.99	€ 2.99	€ 4.99
Quiz	4%	€0.29 to €1.49	Free	€ 0.59
Chat	10%	€0.99 to €1.99	€ 0.29	€ 0.49
Adult Chat	8%	€0.29 to €1.49	€ 0.99	€ 2.99
Vote	4%	€ 0.49	Free	€ 0.59
Information services	2%	Subscription	Free	€ 0.99 / SMS

Third party offer
There are 400 SMS service providers in Germany, 25 MMS service providers and 100 Browsing service providers.

Premium Browsing revenue represents 7.5% of German operators global revenue.

Third party services in Germany

	T-Mobile www.t-mobile.de	Vodafone www.vodafone.de	Eplus www.eplus.de	O2 www.o2online.de
Premium SMS				
Type of Premium SMS	MO-P	MO-P	MO-P	MO-P
Range of end-user prices (including VAT)	€ 0.29 to € 0.79	€ 0.29 to € 4.99	€ 0.40 to € 4.99	€ 0.40 to € 4.99
Short Code Number of digits	5	5-6	5-6	5
Average lead time for cross short code activation	8 weeks	6 weeks	4weeks	4 weeks
Premium MMS				
Type of Premium MMS	MMS + P-SMS	MMS + P-SMS	MMS + P-SMS	MMS + P-SMS
Range of end-user prices (including VAT)	€ 0.19 to € 10.00		€ 0.39 to € 2.99	€ 0.93 to € 4.99
Short Code number of digits	5	5	5	5
Premium Browsing				
Name	t-zones	V-live!	i-mode	O2 active
Number of subscribers in millions	n/a	1.5	0.3	n/a
Available fos postpaid and prepaid	yes	yes	yes	yes

GREECE

THE GREEK TELECOM MARKET

Mobile and fixed telecom market overview
The Greek market is one of the most dynamic in Europe, with about 10 million mobile users and a penetration rate of 91.5%.

The Greek telecom market

	Millions	Penetration rate
Mobile subscribers	10.3	91.5%
Wired fixed lines	6.1	57%

Greek mobile telecom operators
There are four main operators in Greece.

Cosmote and Vodafone dominate the market with a market share of 37.4% and 35.2% respectively.

Stet Hellas is the third largest operator with about 26% of the market. It was bought by the Italian telecom group TIM.

Q-Telecom is a virtual mobile operator using the Vodafone network. It has a small market share but has shown significant growth.

The prepaid user represents 70% of the total number of end-users.

Greek mobile telecom operators

	Costome www.costome.gr	**Vodafone** www.vodafone.gr	**STET Hellas** www.telestet.gr	**Q-Telecom** www.qtelecom.gr
Main shareholders	OT (58.95%) Telenor B-invest (9%) WR Com Enterprices ltd (7.03%) Free Float (25.02%)	Vodafone Group (51.88%) France Telecom (10.85%)	TIM International N.V (80.25%)	Private
End-user market share in millions	3.85 (37.42%)	3.66 (35.24%)	2.67 (25.93%)	0.14 (1.40)
Total turnover in millions (€)	622.0	618.2	380.6	23.3
Monthly ARPU (€)	28	31.7	24.3	21

Networks

- GPRS

STET Hellas was the first operator to launch its GPRS Network. Followed by Vodafone and Costome. Q-Telecom plans to launch its GPRS Network soon.

- UMTS

Greek operators had launched their commercial UMTS.

MOBILE DATA MARKET
It is estimated that the average data ARPU represents about 13% of the global ARPU.

	Data ARPU	Data ARPU as % of total ARPU
Vodafone	€ 3.86	12.7%
Cosmote	€ 3.80	14.7%

According to Cosmote, the average number of SMS per end-user per month stood at 38, compared to 42 a year ago; this fall is attributed to different SMS usage patterns. The operator claims to have approximately 200.000 MMS users who currently send an average of 17.000 MMS per day.

Mobile data use and trends
Logos and ringtones are the most popular services in Greece. Java games are available, mainly on operators' sites, at quite a high end-user price.

Mobile data services in Greece

	MOST COMMON END-USER PRICE
Logos and images Black and white colour	 € 2.00 € 2.00
Ringtones Monophonic Polyphonic	 € 2.00 € 2.50
Games Black and white Colour	 € 2.50 € 5.00

Third party Offer

Since Greek operators have been offering MMS services, there were more than 100.000 MMS users in the first quarter.

Third party services in Greece

	Vodafone www.vodafone.gr	COSMOTE www.cosmote.gr	STET Hellas www. telestet.gr
Premium SMS			
Type of Premium SMS	MO-P	MO-P	MO-P
Range of end-user prices (including VAT)	€ 0.25 to € 1	€ 0.25 to € 1	€ 0.25 to € 1
Short Code Number of digits Average lead time for cross short code activation	4 4 weeks	4 4 weeks	n/a 4 weeks
Premium MMS			
Launch date	n/a	n/a	n/a
Premium Browsing			
Name	V-Live	i-mode	Proprietary WAP
Number of active users	107.000	n/a	n/a

HUNGARY

THE HUNGARIAN TELECOM MARKET

Mobile and fixed telecom market overview

Hungary reached a penetration rate of 67.9%. Hungary is the third largest market in Eastern Europe.

The Hungarian telecom market

	Millions	Penetration rate
Mobile subscribers	7.30	71.5%
Wired fixed lines	3.63	35.9%

Hungarian mobile telecom operators

There are three operators in the Hungarian mobile market.

Westel, owned by local fixed-line operator Matav, has 50% of the market share.

Pannon GSM, owned by Norwegian operator Telenor Mobile, is the second largest operator with a market share of 38%.

One – Vodafone Hungary, in which the Vodafone Group has an 84% satake, has a 12% market share.

There are 4.3 million prepaid users in Hungary, representing 63.2% of end-users.

Hungarian mobile telecom operators

	Westel www.westel.hu	Pannon GSM www.pgsm.hu	One www.Vodafone.hu
Main shareholders	Matav (100%)	Telenor Mobile (100%)	Vodafone International Holding B.V. (83.82%) Antenna Hungarian Rt (16.17%)
End-user market share in millions	3.25 (47.79%)	2.71 (39.85%) – 2.60	0.83 (12.20%)
Total turnover in millions (€)	n/a	38,496	n/a

Monthly ARPU (€)	1.45	1.47	1.17

Networks

- GPRS

Westel introduce a GPRS tariff for postpaid subscribers with no monthly fee: the users pay according to the amount of data transmitted.

Vodafone Hungary has also launched its GPRS services.

- UMTS

Hungary's UMTD tender has not yet taken place. Some analysts predict that license may not be granted until the next year.

MOBILE DATA MARKET

Hungarian mobile end-users sent over 1.3 billion SMS messages, which represents an average of 16 SMS per end-user per month.

	Westel	Pannon GSM	One
Total SMS volume (in millions)	600	500	150
Monthly SMS volume	50	41.6	12.5
Monthly SMS volume/end-user	14.7	17.0	16.6

Pannon concluded a deal with Westel, allowing subscribers to send MMS messages between network.

There are around 300,000 active WAP users, and now it has more than 1 million WAP pages that have being view on its network everyday.

Pannon GSM launched its WAP service, PannonW@P, and has sold more than 500,000 WAP phones.

Vodafone and Westel have launched the WAP service too.

Mobile data use and trends

The Hungarian mobile data market is more developed than those neighbouring countries. Customization services have proved very successful among Hungarian mobile users and there are many service providers.

Mobile data services in Hungary

	MOST COMMON END-USER PRICE
Logos and images Black and white colour	 180 ft 240 ft
Ringtones Monophonic Polyphonic	 240 ft 250 ft
Games	800 ft
Chat	21 ft
Information services	40 ft

Third party offer

Westel was the first operator to launch Premium SMS.

Third party services in Hungary

	Westel www.westel.hu	Pannon www.pgsm.hu	Vodafone www.vodafone.hu
Premium SMS			
Type of Premium SMS	MO-P MT-P	MT-P	MO-P MT-P
Range of end-user prices (including VAT)	60 HUF to 400 HUF	60 HUF to 799 HUF	n/a
Short Code Number of digits	4 -5	4 - 5	5
Average lead time for cross short code activation	4 weeks	4 weeks	4 weeks
Premium Browsing			
Name	777 mobile	PannonW@P	V-Live

IRELAND

THE IRISH TELECOM MARKET

Mobile and fixed telecom market overview
With 83% of the population owning a mobile phone, Ireland is the most advance market in Europe. New subscriptions have established and market growth now reflects population growth.

The Irish telecom market

	Millions	Penetration rate
Mobile subscribers	3.2	83%
Wired fixed lines	1.9	52%

Irish mobile telecom operators
There are three mobile operators in Ireland.

Vodafone Ireland, formerly known as Eircell, dominates the market with 1.75 million subscribers and a market share of 55%.

O2, formerly Digifone, accounts for 40% of the market.

Meteor is the latest operator to enter the market and has a market share of 5% with over 156,000 customers.

There are over 2.21 million prepaid users, representing around 72% of the Irish market.

Irish mobile telecom operators

	Vodafone www.vodafone.ie	**O2** www.o2.ie
Main shareholders	Vodafone (100%)	MmO2 (100%)
End-user market share in millions	1.76 (55%)	1.2 (40%)
Total turnover in millions (€)	n/a	592
Monthly ARPU (€)	47	45

Networks

- GPRS

Vodafone Ireland and O2 launched commercial services on their GPRS networks. O2 announced that the total number of GPRS customers had reached over 525,000.

- UMTS

O2 Ireland was awarded a UMTS license, at a total cost of €114 million. The license fee comprised an up-front payment of €44 million, with the reminder of the fee to be phased over fifteen years.

O2 Ireland has commenced a limited 3G-network launch among selected business and individual customers. O2's 3G network coverage extends to more than 35% of the population and covers major urban centers such as Dublin and county and the cities of Cork, Limerick, Galway, Waterford and Kilkenny. Initial customers have been equipped with Nokia 6650 handsets and are using O2's 3G networks for their voice and data communications.

Vodafone Ireland coverage to approximately 33% of the population.

MOBILE DATA MARKET

With more than 82 SMS sent per user per month, Ireland is the most active SMS market in Europe. Over one year the market has grown by 29%.

Mobile data use and trends
Data revenue in Ireland recorded a strong growth, representing 19.1% of service revenues for the year ended. As a result of this growth of data usage, Irish mobile data ARPU is the second highest in Europe.

Mobile data services in Ireland

	MOST COMMON END-USER PRICE
Logos and images	
Black and white	€ 1.50
colour	€ 4.00
Ringtones	
Monophonic	€ 2.50

Polyphonic	€ 4.00
Games Black and white Colour	 € 2.50 € 4.00
Quiz	€ 0.50
Chat	€ 1.00
Vote	€ 0.25
Information services	€ 0.25

Third party offer
SMS is mainly use for peer-to-peer communication but value added services like test competitions, SMS voting, chat services; game and information alerts are also quite popular among subscribers.

Third party services in Ireland

	Vodafone www.vodafone.ie	**O2** www.o2.ie
Premium SMS		
Type of Premium SMS	MO-P MT-P MO-P	MT-P
Range of end-user prices (including VAT)	€ 0.20 to € 1.90	€ 0.09 to € 1.69
Short Code Number of digits Average lead time for cross short code activation	5 8 weeks	5 8 weeks
Premium Browsing		
Name	V-Live	n/a
Number of end-users	100,000	n/a

ITALY

The Italian Telecom Market

Italian mobile telecom operators
With more than 53.5 million mobile customers and penetration rate of around 92.6%, the Italian mobile market is the second largest in Europe.

Mobile and fixed telecom market

	Millions	**Penetration rate**
Mobile subscribers	53.5	92.6%
Wired fixed lines	29	50.8%

Italian mobile telecom operators
There are three main operators in Italy.

TIM (Telecom Italia Mobile) dominates the Italian market with a 45% share.

Vodafone Omnitel, a subsidiary of the Vodafone Group and the American operator Verizon, is the second largest operator with 38% of the market. Half of its customers are 15 to 25 years old.

Wind, owned by the Italian electricity group Enel and Orange, has 17% of the market.

H3G is a new entrant that offers only UMTS services.

There are around 48.3 million prepaid users, which represent 90.7% of the total number of mobile end-users.

Italian mobile telecom operators

	TIM www.tim.it	**Vodafone** www.vodafone.it	**Wind** www.wind.it
Main shareholders	Telecom Italia (56%)	Vodafone (76.6%) Verizon (23.4%)	Enel (73.4%) Orange (26.6%)
End-user market share in millions	25.7 (45.0%)	18.6 (38.0%)	9.00 (17.0%)
Total turnover in millions (€)	10,867	6,802	2.872
Monthly ARPU (€)	28.00	29.58	n/a

Networks

- GPRS

TIM was the first operator to launch GPRS services, and nowadays there are more than 3.5 million GPRS service users.

- UMTS

H3G, under the brand name “3”, had obtain around 300,000 customers. TIM and Vodafone launched a trial version of their UMTS service.

MOBILE DATA MARKET

Each Italian end-user sent on average 37 SMS per month.
TIM was the first operator in Europe to present and launch MMS services. Over 10 million messages were sent.

The SMS market in Italy

SMS volume	26,964
Monthly SMS volume	2,247
Monthly SMS volume/user (*)	42

All figure in millions, except (*)

Mobile data use and trends
With an average end-user price of € 0.26, infotainment services are the most popular data services in Italy and represents around 34% of the total mobile data services.

Customization services are also popular, especially among young mobile customers. Downloading logos and ringtones represents 27% of mobile data use.

According to the operator TIM, Italian end-users downloaded around 4 million rigtones in the third quarter of this year.

Mobile data services in Italy

	% of total data services	Most common end-user price	MINIMUM end-user price	MAXIMUM end-user price
Logos and images				
Logo	10%	€ 2.00	€ 1.00	€ 2.00
Picture message		€ 2.00	€ 1.00	€ 2.00
Wallpaper		€ 3.00	€ 1.50	€ 3.00
Ringtones				
Monophonic	17%	€ 2.00	€ 1.00	€ 2.00
Polyphonic		€ 3.00	€ 1.50	€ 3.00
Adult content	Not allowed			
Games				
Black and white	15%	€ 5.00	€ 4.00	€ 5.00
Colour		€ 0.26	€ 0.15	€ 1.00
Quiz	3%	€0.30	€ 0.26	€ 0.52
Chat & Communication	17%	€0.52	€ 0.13	€ 1.00
Adult Chat	Not allowed			
Vote	4%	€ 1.00	€ 0.15	€ 1.00
Information services	34%	€ 0.26	€ 0.15	€ 2.00

Third party offer
Vodafone is the only operator offering Premium SMS services via third party service providers.

DoCoMo signed a licensing agreement to provide Wind with the patents, technologies and know-how necessary to launch its i-mode service.

Third party services in Italy

	TIM www.tim.it	VODAFONE www.vodafone.it	Wind www.wind.it
Premium SMS			
Type of Premium SMS	MT-P	MO-P MT-P	MT-P
Range of end-user prices (including VAT)	€ 0.30 to € 5.00	€ 0.16 to € 4.00	€ 0.30 to € 5.00
Short Code Number of digits	5	7	5
Average lead time for cross short code	5 weeks	5 weeks	5 weeks

activation			
Premium Browsing			
Name	i.tim	V-Live	i-mode
Number of subscribers	500,000	430,000	n/a

THE NETHERLANDS

THE DUTCH TELECOM MARKET

Mobile and fixed telecom market overview
The mobile penetration rate in the Netherlands reaches 79% with nearly 13 million mobile users.

The Dutch telecom market

	Millions	Penetration rate
Mobile subscribers	12.9	79%
Wired fixed lines	10.2	63%

Dutch mobile telecom operators
There are five mobile operators in the Dutch market.

KPN mobile dominates the market with around 5 million customers and a market share of 40%.

Vodafone, formerly Libertel, is in second place with around 26% of the market.

T-Mobile, formerly Ben, has 1.8 million customers, around 14% of the Dutch market.

Orange, formerly Dutchtone and Telfort (owned by Greenfield Kapital Partners) share the remaining 20% of the market.

Tele2 plans to offer SMS services soon.

Dutch mobile telecom operators

	KPN Mobile www.kpn.nl	Vodafone www.vodafone.nl	T-Mobile www.t-mobile.nl	Telfort www.telfort.nl	Orange www.ogange.nl
Main shareholders	Royal KPN (85%) NTT Docomo (15%)	Vodafone (100%)	T-Moile (100%)	Greenfield Kapital Partners (100%)	Orange (100%)
End-user market share in millions	5.034 (40%)	3.351 (26%)	1.840 (14%)	1560 (12%)	1.141 (8%)
Prepaid Customers	3.07 (61%)	1.94 (58%)	0.96 (53%)	n/a	n/a
Monthly ARPU (€)	€ 38.00	€ 36.50	€ 38.00	€ 27.00	n/a

Networks

- GPRS

KPN mobile was the first Dutch mobile operator to launch a GPRS network. Vodafone. Telfort, T-Mobile and Orange followed suit launched its GPRS network.

- UMTS

Dutch mobile operators have not yet launched UMTS services. However a joint venture called RANN has been set up by T-Mobile and Orange to develop a UMTS network.

MOBILE DATA MARKET

SMS penetration varies between different operators as they target different market segments.

O2 end-users sent around 26 SMS messages per end-user per month for the equivalent period and each KPN end-user sent 16 SMS per month.
KPN launched I-mode services and there were more than 175,000 mobile users subscribe to I-mode services in the Netherlands.

Vodafone estimated that they are 135,000 V-Live users.

T-Mobile launched its t-zones services and has about 150,000 active users.

Mobile data use and trends
Customization services such as logos and ringtones represents 43% of all mobile data traffic. Chat services represents 26% of data traffic in the same period.

Mobile data services in the Netherlands

	% of total data services	Most common end-user price	MINIMUM end-user price	MAXIMUM end-user price
Logos and images Black and white Colour	43%	 € 1.20 € 2.20	 € 0.90 € 1.10	 € 1.10 € 2.10
Ringtones Monophonic Polyphonic		 € 2.20 € 3.30	 € 1.10 € 2.20	 € 2.20 € 3.30
Adult content		€ 1.10	€ 0.90	€ 1.10
Games Black and white Colour		 € 3.30 € 4.40	 € 3.30 € 3.30	 € 5.50 € 5.50
Quiz	7%	€0.90	€ 0.70	€ 1.10
Chat	26%	€0.70	€ 0.50	€ 1.10
Adult Chat		€ 0.90	€ 0.70	€ 1.10
Vote	4%	€ 0.90	€ 0.70	€ 1.10
Information services	4%	Depends on the service € 0.70	€ 0.40	€ 1.10

Third party offer
Premium SMS is ht only third party offer available an all operators.

Third party services in the Netherlands

	KPN Mobile	Vodafone	T-Mobile	Telfort	Orange
Premium SMS					
Type of Premium SMS	MT-P MO-P	MT-P MO-P	MT-P	MT-P MO-P	MT-P MO-P
Range of end-user prices (including VAT)	€ 0.25 to € 2.50	€ 0.25 to € 5.00	€ 0.25 to € 3.00	€ 0.25 to € 1.50	€ 0.25 to € 1.50
Short Code Number of digits Average lead time for cross short code activation	4 3 weeks	4 3 weeks	4 3 weeks	4 3 weeks	4 3 weeks
Premium MMS					
Type of Premium MMS	n/a	n/a	n/a	MMS+ P-SMS	MMS+ P-SMS
Short Code Number of digits	4	4/6 (6 is possible but not used)	4	4	4
Premium Browsing					
Name	i-mode	V-Live	t-zones	n/a	
Number of active users	188,000	n/a	n/a	n/a	n/a
Available for postpaid and prepaid	Yes	Yes	Yes	n/a	Yes

NORWAY

THE NORWEGIAN TELECOM MARKET

Mobile and fixed telecom market overview
Norway had over 3.8 million mobile subscribers with a penetration rate of 87%.

The Norwegian telecom market

	Millions	Penetration rate
Mobile subscribers	3.8	87%
Wired fixed lines	2.17	49.5%

Norwegian mobile telecom operators
Telenor and Netcome are the two main mobile operators currently offering services in the Norwegian market.

Telenor launched its first services five years after the creation of Netcom and today dominates the Norwegian market with a share of 62%.

Prepaid cards represent more than 48% of the Norwegian market.

Norwegian mobile telecom operators

	Telenor www.telenor.no	**Nentcom** www.netcom.no
Main shareholders	Telenor ASA	TeliaSonera
End-user market share in millions	2.36 (62%)	1.2 (40%)
Total turnover in millions (€)	17500	4279
Monthly ARPU (€)	354	364

Networks

- GPRS

Norwegian operators launched their GPRS networks and estimate that there were 155,000 users. Netcom estimates that 60,000 of its customers use the GPRS network.

- UMTS

The Norwegian government is to auction the country's two vacant third generation mobile telephony (UMTS) licenses. To encourage interest in the auction, the governments has proposed relaxing the conditions for UMTS development by allowing operators a longer period of time to build up coverage.

The two existing UMTS licensees in Norway, Telenor Mobile AS and NetCom AS, will be granted and extra 15 months to meet their coverage obligation, subject to payment of a compensatory fee.

MOBILE DATA MARKET
On average, on Norwegian mobile end-user sends 70 SMS per month, which is one of the highest usage rages in Europe.

The SMS market in Norway

SMS volume	3,356
Monthly SMS volume	288
Monthly SMS volume/user (*)	72

All figure in millions, except (*)

Mobile data use and trends

	Most common end-user price
Logos and images	
Black and white	10 NOK
colour	15 NOK
Ringtones	
Monophonic	10 NOK
Polyphonic	15 NOK
Games	
Black and white	10-30 NOK
Colour	30 NOK
Quiz	5-10 NOK
Chat	5-10 NOK
Adult chat	10-15 NOK
Vote	5-10 NOK
Information services	3-15 NOK

Third party offer
Both operators launched premium MMS. It is possible to launch a Premium MMS service up to 60 NOK. The business model is very similar to Premium SMS.

Third party services in Norway

	Telenor www.telenor.no	NETCOM www.netcom.no
Premium SMS		
Type of Premium SMS	MT-P MO-P	MT-P
Range of end-user prices (including VAT)	0 NOK to 60 NOK	0 NOK to 60 NOK
Short Code Number of digits Average lead time for cross short code activation	4 6 weeks	4 6 weeks
Premium MMS		
Type of Premium MMS	MO+MT-P MO-P	MO+MT-P
Range of end-user prices (including VAT)	7 NOK to 60 NOK	7 NOK to 60 NOK
Short Code Number of digits Average lead time for cross short code activation	4 6 weeks	4 6 weeks

POLAND

THE POLISH TELECOM MARKET

Mobile and fixed telecom market overview
Poland is the largest mobile market in Eastern Europe. With more 16.8 million mobile end-users and a penetration rate of 43.5%.

The Polish telecom market

	Millions	Penetration rate
Mobile subscribers	16.80	43.5%
Wired fixed lines	12.10	32.6%

Polish mobile telecom operators
There are three mobile operators that competed in the Polish market and each of them has a significant market share.

Prepaid cards remain very popular and are used by almost 55% of mobile users.

Polish mobile telecom operators

	PTC ERA (Era GSM) www.era.pl	PTK Centertel (idea) www.idea.pl	Polkomtel (Plus GSM) www.plusgsm.pl
Main shareholders	Elektrim/Vivendi (51%) DeutscheTelecom (49%)	TP S.A (6.6%) France Telecom Mobile International (34%)	Vodafone Group KGHM, PKN ORLEN Telenergo, Tele Damark Others
End-user market share in millions	6.0 (35.70%)	5.5 (33.20%)	5.3 (31.10%)
Total turnover in millions (€)	2,870	1,117	1,313
Monthly ARPU (€)	79	81	84.7

Networks

- GPRS

All three Polish mobile operators launched their GPRS offer together.

- UMTS

Each of the Polish operators plans to launch its UMTS networks soon.

Mobile Data Market

Polish mobile operators estimated that 450 million SMS per month were send through their networks in the fourth quarter of this year, which represent an average of 25 messages per end-user per month. It is estimated that over 80% of mobile users in Poland and send SMS messages regularly.

PTC Era is the only operator to offer browsing services. Called ERA OMNIX, this browsing service offers 8 main pages and 40 sub-pages and the number of active users was estimated at 100,000 at the third quarter of the last year.

Fixed SMS offered by the fixed Telecom operator TelekomuniKacja Polska S.A. (TP S.A) at an end-user price of 1.15 PLN.

Mobile data use and trends

Ringtones, logos, quizzes, information services and java games are the most popular Premium SMS services among Polish end-users.

Mobile data services in Poland

	Most common end-user price
Logos and images	
Black and white	1.22 PLN
Colour	2.44 PLN
Ringtones	
Monophonic	2.44 PLN
Polyphonic	3.66 PLN
Adult content	2.44 PLN
Games	
Black and white	10.98 PLN
Colour	10.98 PLN
Quiz	1.22 PLN
Chat	1.22 PLN
Adult chat	2.44 PLN
Vote	1.22 PLN
Information services	10.98 PLN

Third party offer

The first edition of the reality TV Show Big Brother saw the real launch of Premium SMS in Poland.

With a range of end-user prices from 0.61 PLN to 10.98 PLN, Premium SMS is used for many services, including entertainment, mobile applications, voting, bank account information and traffic reports.

Third party services in Poland

	TIM www.tim.it	**VODAFONE** www.vodafone.it	**Wind** www.wind.it
Premium SMS			
Type of Premium SMS	MO-P	MO-P	MO-P
Range of end-user prices (including VAT)	0.61 PLN to 10.98 PLN	0.61 PLN to 10.98 PLN	0.61 PLN to 10.98 PLN
Short Code Number of digits	4 - 5	4 - 5	4 - 5
Average lead time for cross short code activation	3 weeks	3 weeks	3 weeks
Premium MMS			
Type of Premium MMS	MO-P	MO-P	MO-P
Range of end-user prices (including VAT)	1.16 PLN to 26.00 PLN	1.16 PLN to 26.00 PLN	1.16 PLN to 26.00 PLN
Premium Browsing			
Name	ERA OMNIX	n/a	n/a

PORTUGAL

The Portuguese Telecom Market

Mobile and fixed telecom market

With 9.18 million mobile end-users out of 10.10 million inhabitants in the first half of the last year (a penetration rate of 91.9%), the Portuguese mobile market is one of the most dynamic in Europe.

The Portuguese telecom market

	Millions	**Penetration rate**
Mobile subscribers	9.18	91.9%
Wired fixed lines	4.26	42.2%

Portuguese mobile telecom operators
There are three mobile operators in Portugal.

TMN, a subsidiary of the Portuguese operator PT, dominates the Portuguese mobile market with 50% of the market share.

Vodafone, formerly Telecel, has 30% the market.

Optimus, jointly owned by Sonae and Orange, is the newest operator and it has 20% of the market share.

In the first half of the last year, there were around 7.25 million prepaid users in Portugal, making up around 79% of the number of end-users.

Portuguese mobile telecom operators

	TMN www.tmn.pt	**Vodafone Telecel** www.vodafone.pt	**Optimus** www.optimus.pt
Main shareholders	PT (100%)	Vodafone Group (100%)	Sonae (79.8%) Orange (20.2%)
End-user market share in millions	4.51 (50%)	2.76 (30%)	1.91 (20%)
Total turnover in millions (€)	1.50	1.06	0.57
Monthly ARPU (€)	27.1	31	24.1

Network

- GPRS

Optimus was the first mobile operator to launch a GPRS network in Portugal. TMN and Vodafone launched their GPRS networks one year later.

- UMTS

The launch of UMTS services in Portugal is schedule for the last quarter of this year.

Mobile Data Market

The average number of SMS messages sent by each Portuguese end-user in the second quarter of the last year was 64, around 21 SMS per month.

The SMS market in Portugal

SMS volume	553
Monthly SMS volume	184.3
Monthly SMS volume/user (*)	21.6

TMN estimates that around 25,000 of its customers are active browsing users and Vodafone 19,000.

Mobile data use and trends
Portuguese subscribers are very enthusiastic about new value-added services. In particular, SMS-based services like handset personalization (downloading ringtones and logos) and television voting have proved very popular.

Mobile data services in Portugal

	Most common end-user price
Logos and images	
Black and white	€ 2.00
Colour	€ 2.00
Ringtones	
Monophonic	€ 1.50
Polyphonic	€ 2.00
Games	
Black and white	€ 3.00
Colour	€ 3.00
Quiz	€ 0.60
Chat	€ 0.30
Adult chat	€ 0.30
Vote	€ 0.60
Information services	€ 0.60

Third party offer
The Premium SMS market is growing rapidly in Portugal. Access to Premium SMS services is standardized and service providers can choose from a wide range of tariffs.

Third party services in Portugal

	TMN www.tmn.pt	Vodafone Telecel www.vodafone.pt	Optimus www.optimus.pt
Premium SMS			
Type of Premium SMS	MO-P toll free MO with one MT-P	MO-P MT-P	MO-P MT-P
Range of end-user prices (including VAT)	€ 0.20 to € 3.00	€ 0.20 to € 3.00	€ 0.20 to € 3.00
Short Code Number of digits Average lead time for cross short code activation	4 4 weeks	4 4 weeks	4 4 weeks
Premium Browsing			
Name	Inove	V-Live	Optimus Zone

RUSSIA

The Russian Telecom Market

Mobile and fixed telecom market overview
The Russian mobile market is a relatively new market that has seen an impressive growth rate, especially over the last two years.

The mobile penetration rate in Russia rose to 23.3%. In the Moscow Licensed Area mobile phone penetration exceeded 65% and in the St. Petersburg Licensed Area 53%.

The Russian telecom market

	Millions	Penetration rate
Mobile subscribers	33.87	23.3%

Russian mobile telecom operator
There are three main mobile operators in the Russian market.

MTS (Mobile TeleSystem) dominates the market with a market share of 37%.

VimpelCom (Bee-Line) is the second largest operator in Russia with a market share of 31%, while Megafon, the third operator, has 17% of the market.

According to the Russian Telecommunications Ministry there are around 70 mobile operators in the Russian market, the majority of which are regional operators.

The other operators hold the remaining 20% of the Russian market and are Uralsvyazinform, SMART, N. Norvgorod Cellular, Yeniseytelecom, Yekaterinburg-2000 and Dal Telecom International.

In the first half of the last year, there were around 8.46 million prepaid users, accounting for around 25% of the total mobile end-user base.

Russian mobile telecom operators

	MTS www.mts.ru	VimpelCom www. vimpelcom.ru	Megafon www.megafonmoscow.ru
Main shareholders	AFK Systema DeTeMobile	Telenor Alfa-Group Vimpelcom	Telecominvest Sonera Telia
End-user market share in millions	12.4 (37%)	10.6 (31%)	5.8 (17%)
Total turnover in millions (€)	722.4	379.0	n/a
Monthly ARPU (€)	18.8	14.4	n/a

Networks
All three main Russian mobile operators have offered GPRS service since 2002.

Mobile Data Market

Most end-user prices in Russia are set in USA dollars. Although customization services seem quite successful, there are very few services that propose colour images and polyphonic ringtones.

Mobile data services in Russia

	Most common end-user price

Logos and images Black and white Colour	 $0.50 – $0.75 n/a
Ringtones Monophonic Polyphonic	 $0.40 – $0.75 $0.95
Games	$1.90
Adult chat	$0.50 – $0.75

SLOVAKIA

THE SLOVAK TELECOM MARKET

Mobile and fixed telecom market overview
There were 3.2 million mobile end-users in Slovakia in the first half of the last year. Slovakia is a very dynamic market: the penetration rate reached is 60%.

The Slovak telecom market

	Millions	Penetration rate
Mobile subscribers	2.9	53.2%
Wired fixed lines	1.4	26%

Slovak mobile telecom operators
There are two operators in Slovakia.

Orange Slovensko, formerly known as Globtel, dominates the market with a market share 56% (about 1.73 million customers).

EuroTel Bratislava was historically the first operator in Slovakia. Owned by the fixed line operator Slovenske Telekomunikacie and an American consortium (AT&T Wireless Systems and Verizon), they now have around 1.3 million customers.

The prepaid share tends to decrease: this can be seen in quite clearly in Slovakia, where prepaid customers represented 73% of the market (2.6 million) in the first half of the last year, compared with 90% of the year before.

Slovak mobile telecom operators

	Orange www.orange.sk	**Eurotel Bratislava** www.eurotel.sk
Main shareholders	Orange (64%) AIG (American Investment Group) + BERD (36%)	Slovenske Telekomunikacie (51%) AT&T Wireless Systems et Verizon (49%)
End-user market share in millions	1.9	n/a
Total turnover in millions (€)	13,415	9,100
Monthly ARPU (€)	660	564

Networks

- GPRS

Both Slovak operators launched their GPRS offers on the same year.
- UMTS

Each operators won a UMTS license the last year and they both plan to launch their UMTS offers before the end of this year.

MOBILE DATA MARKET
Although it is difficult to find relevant figures about the SMS market, operators estimated that SMS represent about 10% of the monthly ARPU.

Only a few MMS-enabled phones have been launched in the Slovak market and the use of MMS is still very much at an early-adopter level.

As a result, the mobile services market concentrates mainly on customization services (black and white logos, monophonic ringtones) and SMS chat. A black and white logo cost about 20 to 30 SKK.

SPAIN

The Spanish Telecom Market

Mobile and fixed telecom market overview
The Spanish mobile market has a penetration rate of 86% with 35.3 million mobile subscribers.

Spain saw the second largest surge in its customer base of any European country, behind Greece and ahead of Denmark.

The Spanish telecom market

	Millions	Penetration rate
Mobile subscribers	35.3	85.7%
Wired fixed lines	18.1	43.8%

Spanish mobile telecom operators
Spain has three mobile operators.

With more than 18 million subscribers and a 53.5% market share, Telefónica MoviStar estimated is monthly data ARPU at €3.52, 12.2 of its global ARPU. Vodafone estimated approximately the same revenue per user (€ 3.30), which represents 10.64% of its global monthly ARPU, while Amena estimated for the same period that 15% of its global ARPU was generated by data services.

Mobile Data Market

The revenues for SMS account for the 13% of total mobile telephony service revenue.

The SMS market in Spain

SMS volume	18,942
Monthly SMS volume	1,578
Monthly SMS volume/user (*)	44.7

Spaniards sent more than 8.9 billion SMS messages the last year, 42 SMS per end-user per month. During this period Movistar dominated the SMS market with more than 4.5 million SMS sent by its subscribers.

MMS services were launched in the second half of 2002, there were over 500,000 MMS-enable handsets sold in the next year.

The MMS market in Spain

	MoviStar	Vodafone	Amena
Number of active users	180,000	90,000	125,000

Mobile data use and trends
Customization services represent 50% of the total mobile data usage. Vote services account for significant part of data traffic, thanks to the popularity TV shows like Gran Hermano, Operación Triunfo and La Isla de los Famosos.

Mobile data services in Spain

	% of total data services	Most common end-user price	Minimum end-user price	Maximum end-user price
Logos and images				
Logo	50%	€ 1.04	€ 1.04	€ 1.04
Picture messages		€ 2.08	€ 2.08	€ 3.12
Ringtones				
Monophonic	50%	€ 1.04	€ 1.04	€ 2.08
Polyphonic		€ 2.08	€ 2.08	€ 3.12
Adult content	5%	€ 2.08	€ 2.08	€ 3.12
Games				
Black and white	5%	€ 3.12	€ 3.12	€ 5.20
Colour		€ 4.16	€ 3.12	€ 5.20
Quiz	5%	€0.70	€ 0.70	€ 1.04
Chat	5%	€0.71	€ 0.71	€ 1.04
Adult Chat	10%	€ 1.04	€ 1.04	€ 1.04
Vote	20%	€ 0.70	€ 0.70	€ 1.00
Information services	5%	€ 0.33	€ 0.17	€ 0.70

Third party offer
There are about 30 mobile service providers in Spain, although only 5 or 6 of them generate around 80% of the total Premium SMS traffic.

	Telefónica MoviStar www.tme.es	Vodafone www.vodafone.es	Amena www.amena.es
Type of Premium SMS	MO-P Toll free MO with MT-P	Toll free MO with MT Premium	MO-P Toll free MO with MT Premium

	Toll free MO		
Range of end-user prices (including VAT)	€0.17 to € 1.04	€0.17 to €1.39	€0.17 to €1.16
Short Code Number of digits Average lead time for cross network short code activation	4 4 weeks	4 4 weeks	4 4 weeks

SWEDEN

The Swedish Telecom Market

Mobile and fixed telecom market overview
The mobile penetration rate in Sweden is one of the highest in Europe, around 92%.

The Swedish mobile telecom operators
There are three main mobile operators in Sweden.

Teila, which is partly owned by the Swedish government, dominates the market with a share around 46%.
Tele2 is at second place with a market share of 38%.
Vodafone, formerly Europolitan, has only 16%.

Swedish mobile telecom operators

	Teila www.teila.se	**Tele2** www.tele2.se	**Vodafone** www.vodafone.se
Main shareholders	Swedish state 46% Finnish state 19% Private and financial 35.6%	Invink 30% Kinnevik 26% Private and financial 44%	Vodafone 71% Private and financial 26%
End-user market share in millions	3.78 (46%)	3.13 (38%)	1.32 (16%)
Total turnover in millions (SEK)	8.188	4.989	n/a
Monthly ARPU (SEK)	273	n/a	384

Networks

- GPRS

Telia launched its GPRS service first. At least 2million subscribers used it.

- UMTS

PTS, (the Swedish National Post and Telekom Agency) granted four new licenses for the provision of mobile telecommunications services based on UMTS technology.

These licenses went to Europolitan (now Vodafone), Hi3G, Orange and Tele2. Orange has given notice that it does not intend to develop a network in Sweden and its license is being bought out by Telia and Tele2, who are building their networks in collaboration after Telia missed out on the4 licenses granted by PTS.

Building permit problems and technical issues have meant that the new networks still don't cover 99.98% of the Swedish population.

Mobile Data Market

SMS represents almost 10% of the total monthly ARPU for mobile telecom services. For private customers only, the corresponding share is approximately 14%.

PTS published a report that revealed a lack of effective competition in the Swedish mobile market. Compared at the other Nordic countries, SMS prices were up to six times higher in Sweden, which has resulted in a much lower usage of SMS. Cheap SMS is essential for using more advanced mobile services. Following the publication of this report, Telia lowered their SMS prices.

The SMS market in Sweden

SMS volume	1.673
Monthly SMS volume	139.5
Monthly SMS volume/user (*)	17

All figure in millions, except (*)

Mobile data use and trends
Sweden is a very advanced market – many users have a camera, colour screen, java-enabled phone. Result: colour images, polyphonic ringtones and games are quite popular in Sweden.

	Most common end-user price
Logos and images Black and white Colour	 10 SEK 15 SEK
Ringtones Monophonic Polyphonic	 10 SEK 15 SEK
Adult content	Not allowed
Games Black and white Colour	 15-30 SEK 30 SEK
Quiz	5-10 SEK
Chat	5-10 SEK
Adult chat	10 SEK
Vote	3-10 SEK
Information services	3-10 SEK

Third party offer
Premium SMS: 3 million premium messages (3% of the total SMS volume) are sent every month. Premium MMS with similar range of end-user prices to premium SMS.

Third party services in Sweden

	Telia www.telia.se	**Tele2** www.tele2.se	**Vodafone** www.vodafone.se
Premium SMS			
Type of Premium SMS	MO-P MT-P	MO-P MT-P	MO-P MT-P
Range of end-user prices (including VAT)	2 SEK to 30 SEK	3 SEK to 30 SEK	2 SEK to 30 SEK
Short Code Number of digits Average lead time for cross short code activation	5 4 weeks	5 4 weeks	5 4 weeks
Premium MMS			
Type of Premium MMS	MO-P MT-P	MO-P MT-P	MMS SMS-P
Range of end-user prices (including VAT)	3 SEK to 30 SEK	3 SEK to 30 SEK	3 SEK to 30 SEK

SWITZERLAND

The Swiss Telecom Market

Mobile and fixed telecom market overview
The mobile penetration rate in Switzerland is at 80% with more than 5.8 million mobile end-users and a year-to-year market growth of around 2%.

Swiss mobile telecom operators
There are three main mobile operators in Switzerland.

Swisscom dominates the market with a share of 62.5%.
Sunrise and Orange have approximately the same market share.
The Swiss market will soon have five operators, as the Communication has granted two new GSM 18000 MHz licenses to the Swiss company In&Phone and the Swedish company Tele2.

The 40.2% of the total Swiss end-user base are prepaid end-users.

Swiss mobile telecom operators

	Swisscom www.swisscom.ch	**Sunrise** www.sunrise.ch	**Orange** www.orange.ch
Main shareholders	Swisscom Mobile AG 75% Vodafone 25%	TDC Group 100%	Orange Communications 87.5%, others
End-user market share in millions	3.65 (62.8%)	1.18 (20.2%)	0.99 (17.0%)

Total turnover in millions (CHF)	2,016	947.6	314
Monthly ARPU (CHF)	n/a	454	573

Networks
UMTS licenses are granted in Switzerland. Commercial UMTS offers are planned, depending on the operator.

MOBILE DATA MARKET

Approximately 35 SMS per month per user are sent in Switzerland. Orange Switzerland recorded the third highest European volume of SMS monthly usage. Its customers sent 68 SMS messages per end-user per month, which represented and increase of 20.7%.

The SMS market in Switzerland

SMS volume	4,642
Monthly SMS volume	386.8
Monthly SMS volume/user (*)	66.3

All figure in millions, except (*)

Mobile data use and trends
Customization services are quite popular in Switzerland. Many providers now offer colour and animated logos with special branded content.

	Most common end-user price
Logos and images	
Black and white	CHF 1.00
Colour	CHF 2.00
Ringtones	
Monophonic	CHF 1.00
Polyphonic	CHF 2.00
Games	CHF 6.00
Chat	CHF 0.40
Adult chat	CHF 0.60
Vote	CHF 0.20
Information services	CHF 0.20

Third party offer
Mobile operators offer both Premium SMS and Premium MMS to third parties.

Third party services in Switzerland

	Swisscom www.swisscom.ch	**Sunrise** www.sunrise.ch	**Orange** www.orange.ch
Premium SMS			
Type of Premium SMS	MT-P	Toll free MO with MT Premium	MO-P MT-P
Range of end-user prices (including VAT)	0.20 CHF to 3.00 CHF	0.20 CHF to 3.00 CHF	0.20 CHF to 3.00 CHF
Short Code Number of digits	3 - 5	3 - 5	3 - 5
Average lead time for cross short code activation	6 - 8 weeks	6 - 8 weeks	6 - 8 weeks
Premium MMS			
Type of Premium MMS	MO-P MT-P	MO-P MT-P	MMS SMS-P
Range of end-user prices (including VAT)	0 CHF to 3.00 CHF	0 CHF to 3.00 CHF	0 CHF to 3.00 CHF

THE UNITED KINGDOM

THE UK TELECOM MARKET

Mobile and fixed telecom market overview
The mobile penetration rate in the UK reached 85% with more than 50 million subscribers.

UK mobile telecom operators
There are four main operators that compete in the UK mobile market, each with a significant market share. Each operator has more than 12 million end-users and Orange leads the market with a share of 26.5%.

Virgin Mobile, the virtual operator using the T-Mobile Network, recruited 370,530 new customers. Tesco Mobile, a virtual mobile operator using the 02 Network.

Prepaid phone users represent more than 70% of the local market. T-Mobile had the highest number of prepaid customers, 81% of their total user base.

UK mobile telecom operators

	Orange www.orange.co.uk	**Vodafone** www.vodafone.co.uk	**O2 (Formerly known as BT Cellnet)** www.o2.co.uk	**T-Mobile (Formerly known as One2One)** www.t-mobile.co.uk
Main shareholders	France Telecom	Vodafone	mmO2	Deutche Telekom
End-user market share in millions	13,313 (26.50%)	12,430 (24.74%)	12,280 (24.44%)	012,212 (24.30%)
Total turnover in millions (£)	676	857	589	512
Monthly ARPU (£)	50.9	70.6	48.4	41.4

Networks

- GPRS

Since the GPRS network was launched in the UK 6 million GPRS users subscribed, which is an increase of over 300%.

- UMTS

First the third-generation mobile operator Hutchinson 3G launched UMTS services. Now the number of customers reaches 400,000.

MOBILE DATA MARKET
Revenues from SMS traffic represented £434 million, around 17% of UK operators' revenues. On average, each UK mobile user sends around 35 SMS messages per month.

The UK is one of the most advanced markets in terms of text messaging use, with over a billion person-to-person text messages being sent per month.

According to Mobile Data Association, messaging peaks at certain times of the year (messages per day):
New Years Day: 100 million
Valentine's Day: 78 million

Monthly SMS volume per user

Orange	33.9
O2	47.5
Vodafone	35.8
T-Mobile	27.3
Average	36.1

Mobile data use and trends
The UK ringtone market is worth over £60m per annum. Adults aged 15-34 are also spending £49.2m each year on logos for their handsets and £90m on SMS alerts.

	Most common end-user price
Logos and images	
Black and white	£1.50
Colour	£1.50
Ringtones	
Monophonic	£1.50
Polyphonic	£3.00
Adult content	£1.50

Games Black and white Colour	 £3.00 £4.50
Quiz	£0.25 to £0.50
Chat	£0.50 to £1.50
Adult chat	£1.00
Vote	£0.25
Information services	£0.50

Third party offer
Vodafone was the first mobile operator to launch premium SMS in the UK. Cross-network premium SMS on all four UK networks only became available in 2002.

Third party services in the UK

	Vodafone www.vodafone.co.uk	**Orange** www.orange.co.uk	**O2** www.O2.co.uk	**T-Mobile** www.t-mobile.co.uk
Premium SMS				
Type of Premium SMS	MO-P MT-P	MO-P MT-P	MT-P	MO-P MT-P
Range of end-user prices (including VAT)	£0.12 to £1.50	£0.10 to 1.50	£0.10 to £5.00	£0.00 to £5.00
Short Code Number of digits Average lead time for cross short code activation	5 4 weeks	5 4weeks	5 4 weeks	5 4 weeks
Premium MMS	Not yet available	Trial phase	Trial phase	Not yet available

THE UNITED STATES

The US Telecom Market

Mobile and fixed telecom market overview
The mobile penetration rate in the United States reached 50% with 150 million subscribers.

UK mobile telecom operators
From the outset, the US mobile market has been very fragmented and even today there are dozens of local and regional operators who between them account for around 20% of the market, nearly 30 million end-users.

Recently, however, the trend has been towards merger and consolidation. Between 8 of the larger wireless carriers has merged into Verizon Wireless and T-Mobile.

Currently Verizon Wireless dominates the US market with a 23% share.
Cingular and AT&T are the next two largest operators, each with around 15% of the market.

There are three other main operators: Sprint PCS (11.10%), Nextel (7.98%) and T-Mobile (7.71%). The first MVNO to offer services in the United States was Virgin Mobile USA.

The majority of US mobile end-users are postpaid users. Prepaid services have seen mainly to be marketed to customers with bad credit rating or who are too young to sign a contract.

US mobile telecom operators

	Verizon www.verizon.com	**Cingular** www.cingular.com	**AT&T** www.att.com	**Sprint PCS** www.sprintpcs.com	**Nextel** www.nextel.com	**T-Mobile** www.t-mobile.com
Network type	CDMA	GSM/TDMA	GSM/TDMA	CDMA	IDEN	GSM
End-user market share in	34.6 (23.41%)	22.0 (14.88%)	21.9 (14.81%)	16.4 (11.10%)	11.8 (7.98%)	11.4 (7.71%)

millions						
Total turnover in billions ($)	19.3	14.727	15.631	12.074	8.721	5.003
Monthly ARPU ($)	53.98	51	60	62	69	50

Networks
In the United States, different technologies and standards for wireless phones co-exist. Verizon and Sprint have CDMA networks, while Cingular, AT&T and T-Mobile each have a GSM network and Nextel uses the iDEN technology developed by Motorola.

These different technologies have all taken different routes towards 3G, but each operator has put some kind of 2.5G solution in place and they are all working rolling our their 3G offering soon.

MOBILE DATA MARKET
Data services in the United States are most commonly used for downloading games, videos and ringtones.

Verizon sold 3.2 million BREW handsets in six months, which accounted for 40% of its total sales. 2 million applications were being downloaded each month. The turnover generated by data applications represented 1.5% of total turnover.

SOLUTIONS

MBILL
www.m-bill.net

Mobile Billing
mBILL means 'Mobile Billing'. All is possible through our secure mobile messaging platform. Features include:

- Billing
- Security
- Flexible

Market Application
Our Premium Rate Solution makes all you require possible, through a revenue share made from the traffic sent into the network operators. Our Reverse Billing is part of our mBILL platform. mBILL offers several premium rate advantages:

- One short number across all UK and European networks
- Develop leading mobile systems with this billing service
- Free, friendly advice and excellent customer support
- Free trials and 24.7 technical support
- SMS and MMS options available

The Solution
Bill customers for content. Micro-bill using a variety of charging tariffs at rates customers will pay for, targeting users under their normal card transaction price.

mBILL deliverers across the SMS and MMS medium.

mCHAT
www.mchat.net

Mobile Chat
Our chat service combines all necessary tools into one powerful application: completely web based, highly configurable and easy in use with optional text chat related services. We help you making your text chat business profitable, *e.g. mobile dating, mobile flirt.*

Set up chat services via *one-to-one*, *one-to-many* and *live operator chat*.

The potential of SMS text chatting is enormous. Sending text messages is one of the most popular means of communicating in an increasingly mobile world. Ever since text messaging was invented, people have used it to 'chat' with each other. So much so that they don't even mind talking to absolute strangers.

mCHAT Model
Fully managed and branded service for mobile chat:

- Web based and automatic
- Allows users to hat at any premium rate tariff, anywhere
- Protected and managed chat system, branded to you
- People can chat to each other or to your operators
- Operators can work from anywhere they can see the internet
- Multiple chat ability
- Fully customized

The Solution
Through the medium of mobile messaging (SMS; txt / MMS; picture, video, sound),
people can engage in full mobile chat.

mCHAT delivers across the SMS and MMS medium.

mENABLE
www.m-enable.com

Mobile Enable
The Mobile Enable solution gives websites the possibility to charge for access, using SMS. The end users are charged via their mobile phone bill. mENABLE enables websites to a profitable business model as well as the possibility to charge end users for low-high value services.

mENABLE Model
mENABLE offers the possibility for application and content providers to easily generate revenues via Premium SMS billing. With mENABLE you get access to a billing solution that works for everyone with a mobile subscription. End-users are simply charged via their mobile phone bill or prepaid account for any services received.

The Solution
Through the medium of mobile messaging (SMS; txt / MMS; picture, video, sound),
people can access charged areas of your website.

mFUSION
www.m-fusion.net

Mobile Fusion
The Mobile Fusion solution provides the best in mobile campaign generation, quickly and easily. Set up a mobile campaign in just minutes. mFUSION provides clients easy access to campaign management and the end user's responses. Optional modules include:

- Competitions & Quizzes
- Bulk Messenger
- Passwords
- Shouts
- Subscriptions & Alerts
- Voting & Surveys

mFUSION Model
Our mFUSION model is based around 'high-value' information across all market segments, for delivery to mobile users. Precise demographics matched to the information the user inputs, allows advertisers unparalleled opportunities, including:

- Advertisement
- Branding
- Content

The Solution
Through the medium of mobile messaging (SMS; txt / MMS; picture, video, sound),
people can request or interact with *your marketing.*

mFUSION delivers across the SMS and MMS medium.

MPUSH
www.mpush.com

Mobile Push
mPUSH means 'Mobile Push'. mPUSH enables any website owners to mobilise their content to readers mobile phones! By opening up a new simple to integrate channel you create additional profit, increase functionality and enhance customer experience, all from your content. Modules:

YOUR CONTENT:
- ANIMATIONS
- TEXT MESSENGER
- IMAGES
- VIDEO

OUR CONTENT:
- ANIMATIONS
- RINGTONES
- JAVA GAMES
- WALLPAPERS & LOGOS

mPUSH Model
Our mPUSH model enables content providers to offer premium services that will deliver real revenues now and into the future. mPUSH will extend your business to the mobile phone user, enabling extra revenues that everyone can share via; txt, images, video, and sound.

The Solution
Through the medium of mobile messaging (SMS; txt / MMS; picture, video, sound), people can 'push' your information to their mobile phone. It's simple to integrate and mPUSH makes it easy for web content providers to offer services to mobile phone users.

MVERIFY
www.mverfiy.net

Mobile Verification

- **SMS-authorised** (with built in **mobile verification**) automated bank debit via debit/credit card.
- **Faster, more economic** electronic processing of payments.
- Present your customers with the ability to **pay from their mobile phones**, whenever, wherever in the world!
- Promote **'impulse purchases'** to increase sales.

CONCLUSION

The mobile (cell) phone is fast on its way to becoming an indispensable and universal tool that can be personalized to suit the needs of each end-user. Numerous interactive and original mobile services are now available on the market. For the average consumer, these include polyphonic ringtones, full colour and animated images and video games. There is also a multitude of data-related services that can be used by small businesses and corporations alike.

With SMS and MMS services and GPRS browsing, we have clearly entered the interactive multimedia era. Although these technologies are both complex and varied, the dawn of this era is highlighted by an effort to adapt to the needs of consumers. The focus is now on increasing user-friendliness and making services as practical as possible.

European countries are following the same imperatives. The third-party business model that enables any company to launch a mobile service is now available in most European countries.

Operators and local and international regulations groups have to work together to define a set of standards and develop rules that will ensure the quality of these services.

The development of worldwide services will create new ways to use the mobile phone. Extended corporate services will allow employees to access to their company's data systems over their mobile phones, providing remote interactivity with all kinds of corporate applications.

These services and countless others will be greatly improved as the current 2.5G and the coming 3G networks, with their high-speed data transmission, are fully deployed.