MOBILE SERVICES

1. MOBILE MARKET DATA

The following charts estimate for each Member State the number of mobile subscribers and the penetration rate at August 2000, and the growth in the penetration rate since August 1999.

Figures are taken from FT Mobile Communications (July 2000) and include both analogue and digital (second-generation) mobile subscribers.

EU average is a simple, rather than a weighted average.

Chart 1

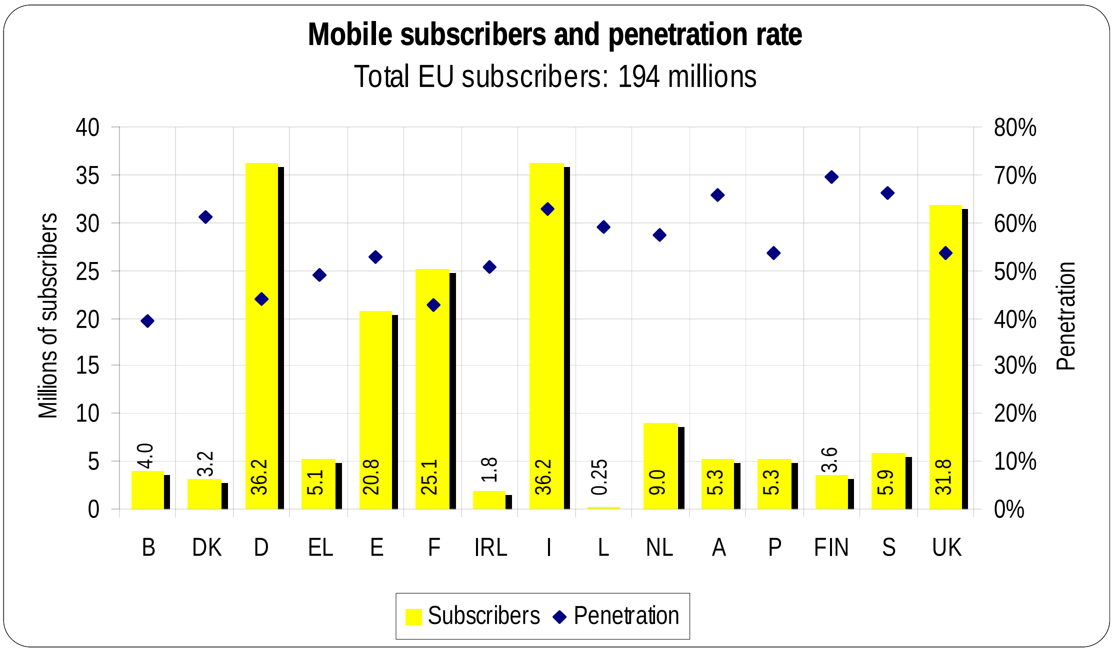
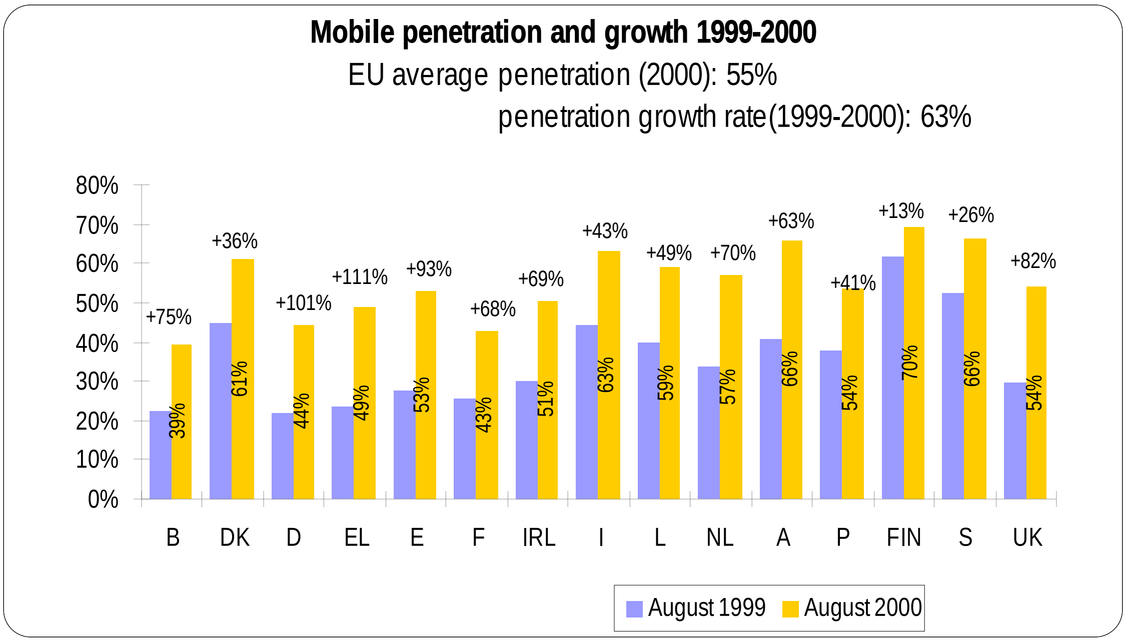


Chart 2



2. MOBILE OPERATORS

This section shows the number of mobile licences granted in each Member State for the provision of analogue, GSM 900, DCS 1800 and UMTS services.

The data on the number of licensed operators have been provided by the national regulatory authorities and indicate the position in August 2000.

Chart 3 shows the number of operators licensed to provide digital mobile services (second-generation). This indicates the real magnitude of the choice of operators for customers of digital mobile services, since very often operators have licences for both GSM 900 and DCS 1800. Mobile network operators have been identified as having only GSM 900 or only DCS 1800 frequencies, or both (in which case they have usually been granted a GSM 900 licence which has subsequently been extended to the DCS 1800 band).

Information on mobile service providers[1] has been included where available (without distinction between local and national coverage).

In Finland, 38 local telephone companies have been awarded licences to operate a local DCS 1800 service, but spectrum has been allocated to the two mobile operators, Radiolinja and Suomen 2 G, in which those companies participate. In the following charts we have only included Radiolinja and Suomen 2 G as national operators.

In the Netherlands, one “national” operator has been assigned several small local lots of DCS 1800 frequencies, which together allow coverage of the whole country.

The figure for France does not include 2 local analogue and 2 local GSM 900 licences granted to France Caraïbe Mobiles and Saint Martin Mobiles (both subsidiaries of France Telecom) for the overseas departments[2].

In the UK, the number of DCS operators is dependent on the expected sale of Orange by Vodafone.

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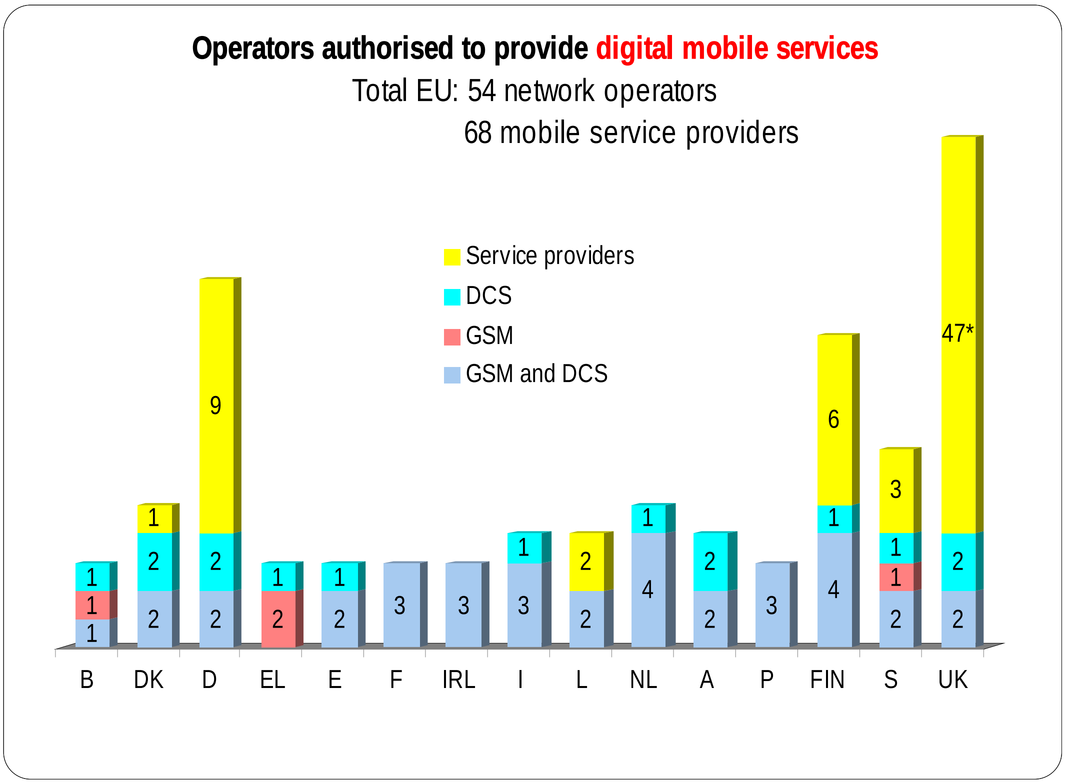
[1] Mobile service providers are defined as entities authorised to offer mobile service under their own brand name (dealing with marketing, billing, etc.), using a third party’s mobile network.

[2] Département de la Réunion, Antilles Françaises, Guyane; Île de Saint Martin et Saint Barthélémy)

All the operators are active on the market apart from one digital operator in Finland and one in Ireland (both GSM 900 and DCS 1800 frequencies).

Chart 3

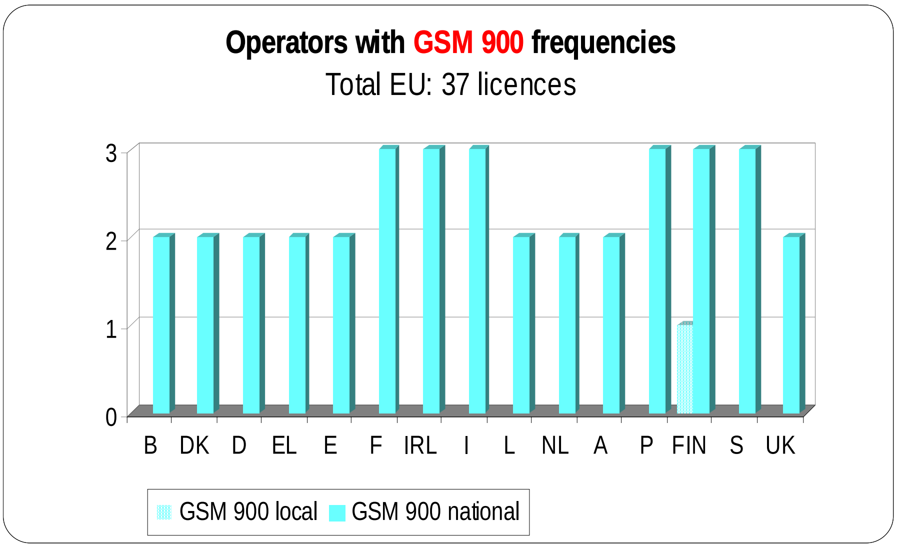


* Figure for UK is not to scale.

The figure for Finland in Chart 3 includes one local GSM network operator and one local mobile service provider.

Figures for mobile service providers do not distinguish between local and national operators.

Chart 4



In the following chart, the 2 local DCS 1800 frequencies in Austria have been granted as an extension of 2 national GSM licences.

Chart 5

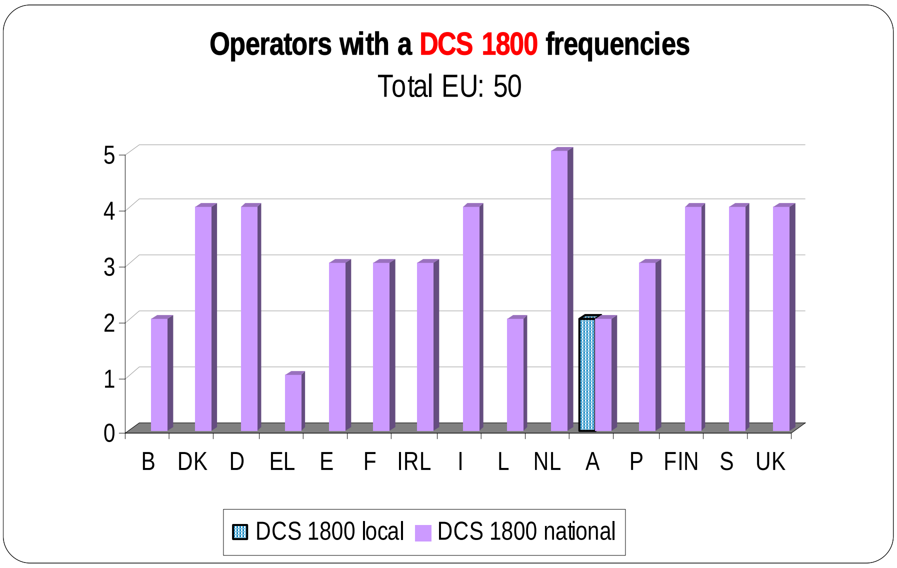


Chart 6 shows the number of analogue licences in each Member State and the date on which the phasing-out of these networks is expected to be completed.

In Sweden and Finland, the leading operators have also been granted an NMT 450 analogue licence. The phasing-out of this network in Sweden is expected to be completed by December 2004; no date has been set yet for the phasing-out of this network in Finland.

Apart from in the UK, only the subsidiary of the incumbent fixed network operator has an analogue licence.

Chart 6

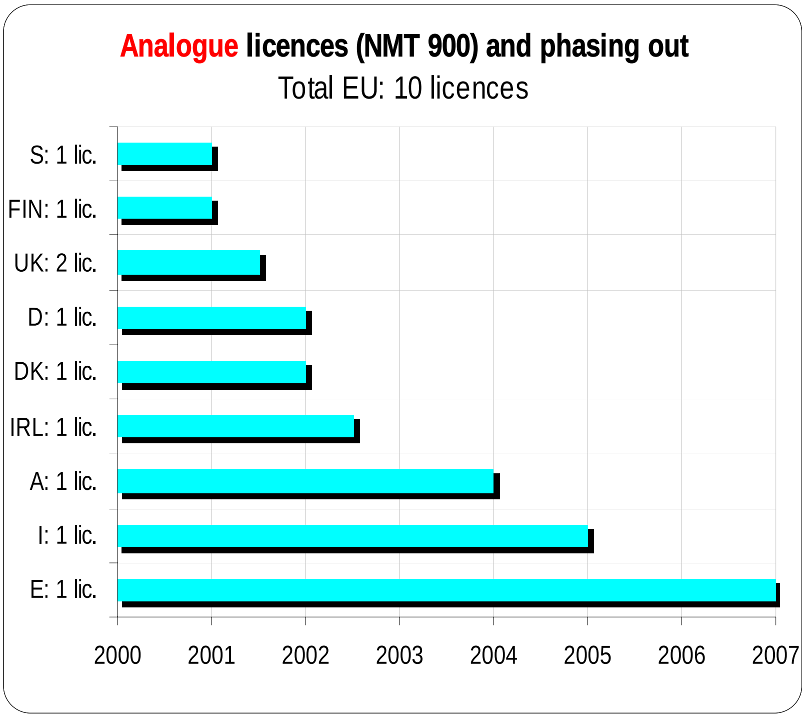
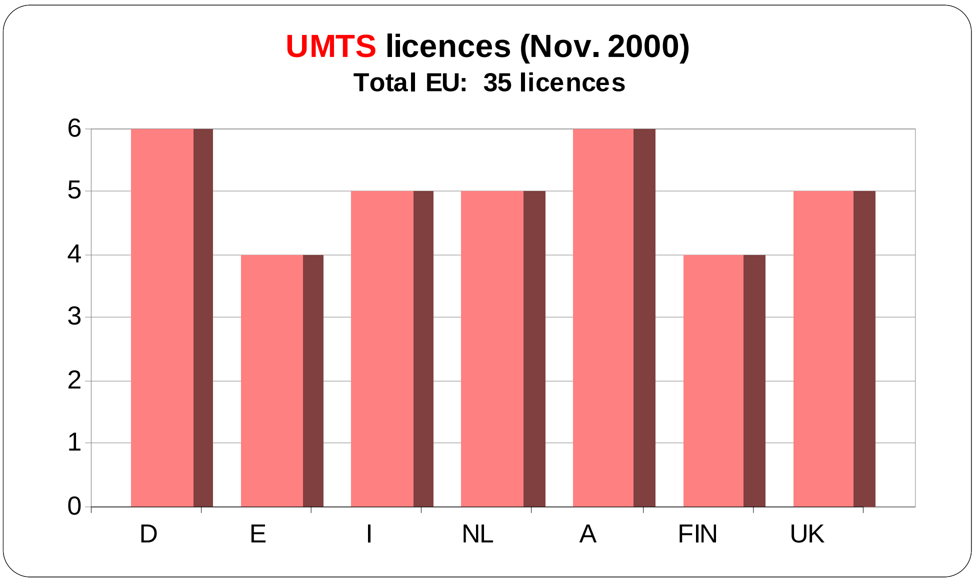


Chart 7



In Italy and Austria the auctions were completed by mid November, but the licensing process is still under way.

The figure for Finland does not include 2 local UMTS licences.

2.1 OPERATORS' MARKET SHARES

The following charts show the market shares, in terms of subscribers, of the main competitors in the mobile market.

Since in 9 countries the incumbent's subsidiary is still providing the analogue service on the basis of a de jure or de facto monopoly, the operators' market shares have been calculated on two different relevant markets: the overall mobile market (including analogue, DCS 1800 and GSM 900 subscribers) and the digital market only (DCS 1800 and GSM 900).

The data concerning shares of the mobile market are based on estimates of the number of mobile subscribers, taken from FT Mobile Communications, and refer to July 2000. They have been compiled on the same basis in each country, and are therefore comparable. However, different figures might be obtained if the underlying raw data were collected/estimated on a different basis (number of subscribers, pre-paid card, minutes of conversation, etc.) or if a different method of calculation were used.

Apart from in Greece and the United Kingdom, the leading operator is a subsidiary of the incumbent fixed network operator.

Chart 8

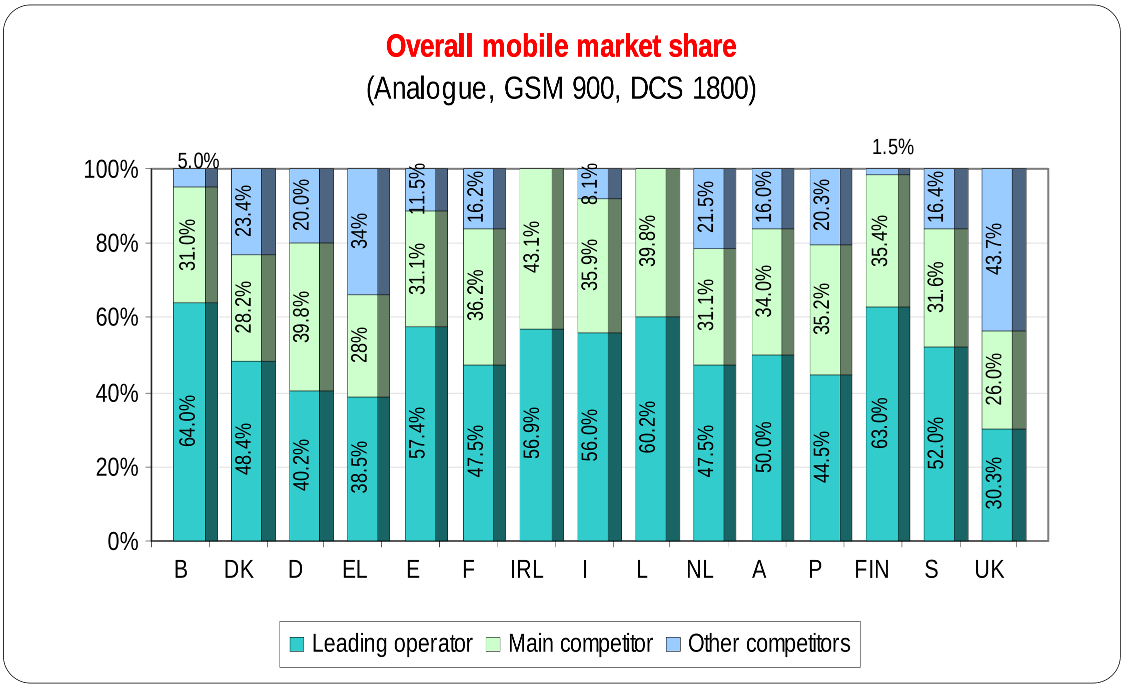


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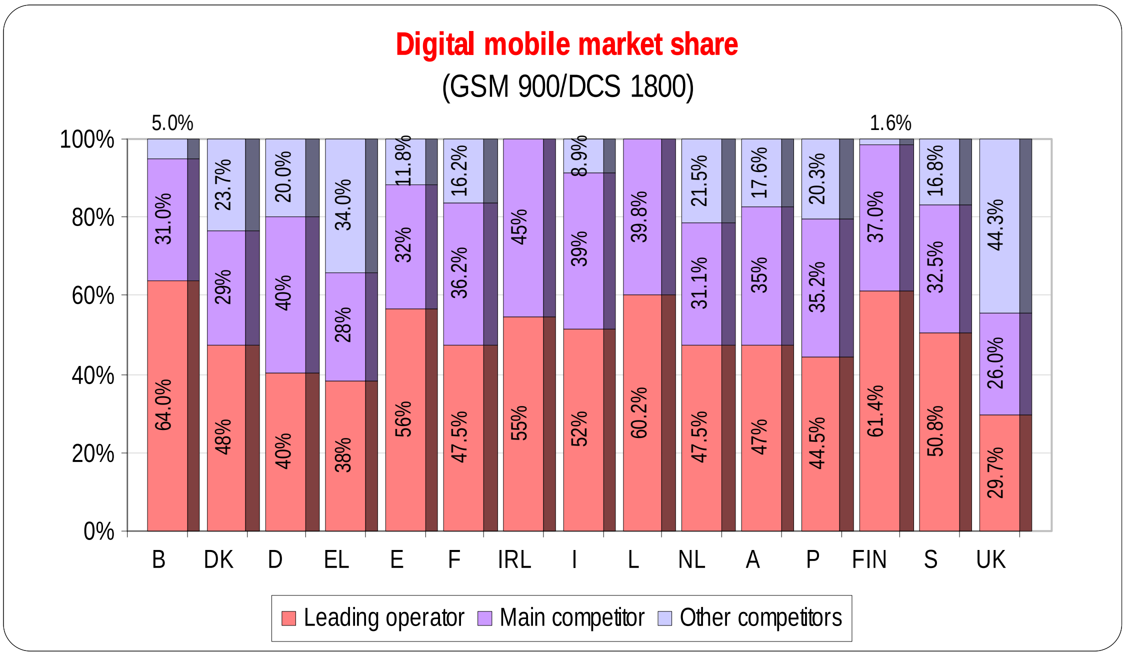
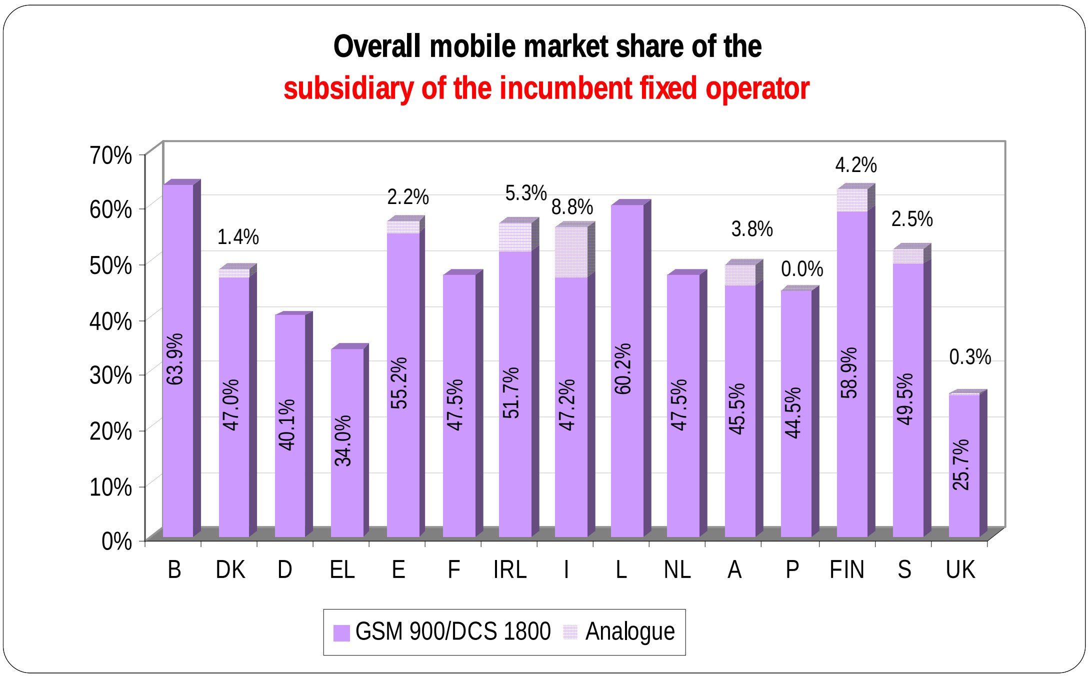
Chart 9



The following chart shows the share of the overall mobile market held by the mobile subsidiary of the incumbent fixed operator. Where the incumbent still operates the analogue service, the shares of the overall mobile market of their analogue and digital services are indicated separately.

Chart 10



Overall mobile market share of the
subsidiary of the incumbent fixed operator
70%
60%
50%
40%
30%
20%
10%
0%
63.9%
1.4%
47.0%
40.1%
34.0%
2.2%
55.2%
47.5%
5.3%
51.7%
8.8%
47.2%
60.2%
47.5%
3.8%
45.5%
0.0%
44.5%
4.2%
58.9%
2.5%
49.5%
0.3%
25.7%
B
DK
D
EL
E
F
IRL
I
L
NL
A
P
FIN
S
UK
GSM 900/DCS 1800
Analogue

3. FREQUENCY ALLOCATION TO MOBILE OPERATORS OF FIRST AND SECOND GENERATION

Table 1 provides information on the assignment of spectrum to operators of analogue, GSM 900 and DCS 1800 services in the 15 EU Member States. Analogue frequencies are not indicated if the phase-out of the service was completed by August 2000: this is the case for France Telecom (France), KPN Mobile (The Netherlands) and TMN (Portugal).

The various methods of assigning spectrum are identified as follows:

- **first come first served**: spectrum is assigned in order of application, until it is full. In order to contain demand, it is usual to apply rules ("need" criteria) on who may receive assignment, for what uses, and what bandwidth is appropriate for specific uses. The NRA may set a standard price calculated to reflect the market value of the frequencies assigned. This approach is used where spectrum is not scarce and there is no competition for licences. <u>This category includes cases where a mobile licence is assigned to a subsidiary of the incumbent because the latter holds the concession for telecommunications services</u>.
- **beauty contest**: licences are assigned to the "best qualified" among those applicants who meet the minimum criteria set by the NRA. Economic criteria are not taken into consideration (applicants do not bid a price). The NRA sets a standard price calculated to reflect the market value of the frequencies assigned.
- **beauty contest with economic criteria**: licences are assigned to those applicants who offer the best combination of money, plan, and qualifications.
- **auction**: licences are assigned to those applicants offering the most money.
- **other**: other definitions are used when the previous ones are not considered appropriate.

The date of assignment refers to the date of the first allocation of spectrum to the operators, although in some cases (e.g. in France, Italy and Sweden) frequencies have been released gradually.

In the case of Belgacom (Belgium), Entreprise des Postes et Télécommunications (Luxembourg) and all Swedish GSM operators, the duration of spectrum licences and operating licences does not correspond to the actual period of use of the assigned spectrum (the spectrum was already in use before formal licences were issued).

Table 1: Assignment of analogue, GSM 900 and DCS 1800 spectrum

.	Method of assignment	Spectrum assigned	Initial assignment	Duration of licence for:	
				Spectrum	Operations
BELGIUM					
Belgacom	First come first served[3]	2x12 MHz (GSM)	Apr. 95[3]	15 years	
	Extension of GSM licence	4.4 MHz (DCS)	May 99	Duration of GSM licence	
Mobistar	Beauty contest	2x12 MHz (GSM)[4]	Nov. 95	15 years	
KPN-Orange	Beauty contest	2x15 MHz (DCS)	Sep. 98	15 years	
DENMARK					
TeleDanmark	First come first served	2x 4.5 MHz (analogue, NMT) 2x5.8 MHz (analogue NMT)	Jan. 82, Dec. 95 (reissue) Jan. 87, Feb. 97 (reissue)	10 years 10 years	
	First come first served	2x8.8 MHz (GSM)	Nov. 1991	10 years	
	Beauty contest	2x14.4 MHz (DCS)	Mar. 1997	10 years	
Sonofon	Beauty contest	2x8.8 MHz (GSM)	Sep. 1991	10 years	
	Beauty contest	2x7.2 MHz (DCS)	Mar. 1997	10 years	
Telia	Beauty contest	2x14.4 MHz (DCS)	Mar. 1997	10 years	
Mobilix	Beauty contest	2x14.4 MHz (DCS)	Mar. 1997	10 years	
GERMANY					
DT Mobil	First come first served[5]	2x5.6 MHz (analogue)	1986	20 years	
	First come first served[5]	2x12.5 MHz (GSM)	Feb. 1990	20 years	
	Auction	2x5.0MHz (DCS)	Oct. 1999	10 years	
Mannesmann Mobilfunk	Beauty contest	2x12.5 MHz (GSM)	Feb. 1990	20 years	
	Auction	2x5.0 MHz (DCS)	Oct. 1999	10 years	
E-Plus Mobil	Beauty contest	2x22.5 MHz (DCS)	May 1993	19.5 years	
Viag Interkom	Beauty contest	2x22.5 MHz (DCS)	May 1997	19.5 years	
GREECE					
Panafon	Beauty contest	2x10 MHz (GSM)	Sep. 1992	20 years	
Telestet	Beauty contest	2x10 MHz (GSM)	Sep. 1992	20 years	
Cosmote	Direct allocation	2x25MHz (DCS)	Dec. 1995	25 years	

[3] Belgacom Mobile was assigned frequencies prior to January 1994 (date from which the operator started commercial operations). However, conventionally, the licence is considered to be valid from April 1995, i.e. when the Royal Decree of 7 March 1995, which opened the mobile sector to competition, entered into force. The frequency assignment was subject to the payment of the same concession fee as Mobistar.

[4] Mobistar is also entitled to request up to 2x15 MHz in the DCS 1800 frequency band.

[5] Under monopoly regime.

.	Method of assignment	Spectrum assigned	Initial assignment	Duration of licence for:	
				Spectrum	Operations
SPAIN					
Telefonica Movil	First come first served	2x16.6 MHz (analogue)	Dec. 1991	15 years[6]	
	First come first served	2x11.8 MHz (GSM)	Feb. 1995	15 years	
	Beauty contest	2x13.4 MHz (DCS)	Jul. 1998	25 years	
Airtel Movil	Beauty contest	2x11.8 MHz (GSM)	Dec. 1994	15 years	
	Beauty contest	2x13.4 MHz (DCS)	Jul. 1998	25 years	
Retevision Movil	Beauty contest	2x13.4 MHz (DCS)	Jul. 1998	25 years	
FRANCE					
France Telecom Mobiles	Extension of authorisation for analogue services[7]	Between 2x10.8 on average (GSM)	Mar. 1991	15 years	
	Extension of authorisation for analogue services	Between 2x13.2 on average (DCS)	Nov. 1998	Duration of GSM licence	
SFR	Extension of authorisation for analogue services[8]	Between 2x10.8 on average (GSM)	Mar. 1991	15 years	
	Extension of authorisation for analogue services	Between 2x13.2 on average (DCS)	Nov. 1998	Duration of GSM licence	
Bouygues Telecom	Beauty contest	Between 2x3.1 on average (GSM)	Nov. 1998[9]	15 years	
	Beauty contest	Between 2x23.2 on average (DCS)	Dec. 1994	15 years	
IRELAND					
Eircell	First come first served	2x10 MHz (analogue)	Dec. 1985	Renewable annually	15 years
	First come first served	2x7.5 MHz (GSM)	Jul. 1993	Renewable annually	15 years
	Operator had to justify requirement	2x14.4 MHz (DCS)	Jan. 2000	Renewable annually	15 years
Esat Digifone	Beauty contest	2x7.5 MHz (GSM)	May 96	Renewable annually	15 years
	Operator had to justify requirement	2x14.4 MHz (DCS)	Jan. 2000	Renewable annually	15 years
Meteor	Beauty contest	2x4.8 MHz (GSM)	Jun. 2000	Renewable annually	15 years
	Beauty contest	2x14.4 MHz (DCS)+	Jun. 2000	Renewable annually	15 years

[6] From the assignment of spectrum.
[7] The provision of analogues services was mandatory for FT's. The authorisation to provide analogue services is in the process of being abolished and frequencies have already been given back.
[8] The authorisation to the provision of analogue services had been granted by means of a beauty contest procedure. As for FT, it is in the process of being abolished and the operator has given back the frequencies.
[9] Although the assignment of the licence dates back to Dec. 1994.

.	Method of assignment	Spectrum assigned	Initial assignment	Duration of licence for: Spectrum	Duration of licence for: Operations
ITALY					
TIM	First come first served	2x11.8 MHz (analogue)	Jul. 1990	15 years	
	First come first served	2x8.2 MHz +2x2.3MHz in large cities (GSM)	1994	15 years	
	Extension of GSM licence	2x4.8 MHz (DCS)	Jul. 1999	Same as GSM licence	
OPI	Beauty contest	2x8.2 MHz + 2x2MHz in large cities (GSM)	1994	15 years	
	Extension of GSM licence	2x4.8 MHz (DCS)	Jul. 1999	Same as GSM licence	
WIND	Beauty contest	2x4.8 MHz outside large cities (GSM)	Jul. 1999	15 years	
		2x9.8 MHz (DCS)	Jul. 1998	15 years	
Blue	Beauty contest	2x9.8 (DCS)	Aug. 1999	15 years	
LUXEMBOURG					
Entreprise P. et T.	Beauty contest	2x11.6 MHz (GSM)	Jun. 1993	15 years[10]	
	Beauty contest	2x9.8 MHz (DCS)	May 1998	15 years	
Millicom	Beauty contest	2x11.6 MHz (GSM)	May 1998	15 years	
	Beauty contest	2x9.8 MHz (DCS)	May 1998	15 years	
NETHERLANDS					
KPN-Mobile B.V.	First come first served[5]	2 x 16 MHz (GSM)	Sep. 1994	15.6 years	15 years
	Auction	2x16.2 MHz(DCS)	Feb. 1998	15 years	13 years
Libertel	Beauty contest	2x7.4 MHz (GSM)	Apr. 1995	15 years	15 years
	Auction	2x9 MHz (DCS)	Feb. 1998	15 years	15 years
Dutchtone	Auction	2x14.8 MHz (DCS)	Feb. 1998	15 years	15 years
	Auction	2x5MHz (E-GSM)	Feb. 1998	Same as DCS licence	
Telfort	Auction	2x16.8 MHz (DCS)	Feb. 1998	15 years	15 years
	Auction	2x6.2 MHz (E-GSM)	Feb. 1998	Same as DCS licence	
Ben Netherlands	Auction	2x15.6 MHz (DCS)	Feb. 1998	15 years	15 years
AUSTRIA					
Mobilkom Austria	First come first served[5]	2x11 MHz (analogue) but 2x8 since 1.01.2000	Nov. 1990	15 years[11]	
	First come first served[5]	2x8 MHz (GSM)	Jan. 1994	20 years	
	Extension of GSM licence	2x5 MHz (DCS) but only locally	Aug. 1999	Duration of GSM licence	

[10] Officially the licence has a duration of 15 years beginning in 1998, but use of the frequencies had started earlier.
[11] According to the national frequency plan usage ends in 2005.

.	Method of assignment	Spectrum assigned	Initial assignment	Duration of licence for:	
				Spectrum	Operations
Max.Mobil.	Beauty contest with economic criteria	2x8 MHz (GSM)	Jan. 1996	20 years	
	Extension of GSM licence	2x5 MHz (DCS) but only locally	Aug. 1999	Duration of GSM licence	
Connect Austria	Auction	2x16.8 MHz (DCS)	Aug. 1997	20 years	
Tele.ring	Auction	2x14.8 MHz (DCS)	May 1999	20 years	
PORTUGAL					
TMN[12]	Direct allocation[13]	2x8 MHz (GSM)	Mar. 1992	15 years	
	Extension of GSM licence	2x6 MHz (DCS)	Apr. 1998	Duration of GSM licence	
Telecel	Beauty contest[13]	2x8 MHz (GSM)	Oct. 1991	15 years	
	Extension of GSM licence	2x6 MHz (DCS)	Apr. 1998	Duration of GSM licence	
Optimus	Beauty contest[13]	2x7.8 MHz (GSM)	Nov. 1997	15 years	
	Contextual to GSM	2x6 MHz (DCS)	Nov. 1997	Duration of GSM licence	
FINLAND					
Suomen 2 G Oy	First come first served	2x2.1 MHz (GSM) from Jan. 2001: 2x8.6 MHz (GSM + E-GSM)	Aug. 2000	Max 20 years	20 years
Finnet Group/ Suomen 2 G Oy	First come first served	2x7.2 MHz (DCS)	Jun. 1996[14]	Max 20 years	20 years[15]
Oy Radiolinja	First come first served	2x9 MHz in the Helsinki area + 2x8.4 MHz in the rest of the country (GSM)	Feb. 1996	Max 20 years	20 years
	First come first served	2x7.2 MHz (DCS)	Jun. 1996	Max 20 years	20 years
Sonera OyJ	First come first served	2x4.5 MHz (NTM 450) 2x2.1 MHz (NTM 900)	NTM 450: 1981 NTM 900: 1986	Max 20 years	20 years
	First come first served	2x12.4 MHz in the Helsinki area + 2x11.6 MHz in the rest of the country (GSM)	Feb. 1990	Max 20 years	20 years
	First come first served	2x7.2 MHz (DCS)	Jun. 1996	Max 20 years	20 years
Telia Mobile Finland	First come first served	2x7.2 MHz (DCS)	Jun. 1996	Max 20 years	20 years

[12] Same licence for GSM and DCS services.
[13] However, in 1992, following the award of a GSM licence to the new operator Telecel, TMN had to present a formal request and to fulfil minimum conditions.
[14] This date refers to the granting of the spectrum licence to the Finnet Group. However, in August 2000 a spectrum licence for DCS 1800 was given to Suomen 2 G Oy, a new operator comprising almost all local companies of the Finnet Group. The new licence has replaced the one granted to the Finnet Group.
[15] 36 local licences to operate the service were granted to as many operators belonging to the Finnet Group. All the licences were granted between November 1997 and October 1999.

.	Method of assignment	Spectrum assigned	Initial assignment	Duration of licence for:	
				Spectrum	Operations
Alands Mobiltelefon	First come first served	2x8.2 MHz in Åland (GSM)	Feb. 1993	Max 20 years	20 years
SWEDEN					
Telia	First come first served	4.5 MHz (NTM 450) 2x1.9 MHz (NTM 450)	1981 1986	NMT450: ends Dec. 2004 NMT900: ends Dec. 2000	
	First come first served	2x7.2 MHz (GSM)	1992	10 years[16]	
	Beauty contest	2x15 MHz (DCS)	Feb. 1996	10 years	
Europolitan	Beauty contest	2x7.2 MHz (GSM)	1992	10 years[16]	
	Beauty contest	2x8.4 MHz (DCS)	Feb. 1996	10 years	
Tele2	Beauty contest	2x7.2 MHz (GSM)	1992	10 years[16]	
Netcom	Beauty contest	2x8.4 MHz (DCS)	Feb. 1996	10 years	
UNITED KINGDOM					
One2One	Beauty contest	2x30 MHz (DCS)	Mar. 1993	Renewable annually	25 years[17]
Orange Personal Comm.	Beauty contest	2x30 MHz (DCS)	Feb. 1994	Renewable annually	25 years[17]
Vodafone	Beauty contest	2x8.2 MHz (Analogue)	Jul. 1992	Renewable annually	25 years[17]
	Beauty contest	2x12.2 MHz (GSM)	Jul. 1992	Renewable annually	Same licence as analogue
	Extension of licence[18]	2x5.8 MHz (DCS)	Jul. 1996	Renewable annually	Same licence as analogue
BT Cellnet	Beauty contest	2x8.1 MHz (Analogue)	Jul. 1992	Renewable annually	25 years[17]
	Beauty contest	2x12.2 MHz (GSM)	Jul. 1992	Renewable annually	Same licence as analogue
	Extension of licence[18]	2x5.8 MHz (DCS)	Jul. 1996	Renewable annually	Same licence as analogue

4. FEES AND CHARGES PAID BY MOBILE OPERATORS OF FIRST AND SECOND GENERATION

The following chart shows the amount of fees paid by mobile operators in 1999 per 2x1 MHz expressed as euro per 1 000 inhabitants.

The figures include the annual fee/charges actually paid and part of the initial (one-off) fee and charges paid by the operator, which are spread over the duration of the licence. In order to make the figures comparable, the amount obtained has been divided by the number of MHz assigned to each operator and the population of the country concerned.

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[16] A licence was granted only in 1995, although operations started in 1992.
[17] Subject to 10 years' notice, but notice cannot be given prior to 15 years of holding a licence.
[18] Following public consultation.

For Chart 11: Fees/charges paid by mobile operators in 1999 per 2x1 MHz (€ per 1000 inhabitants), please return to the index page "Sixth Report on the Implementation of the Telecommunications Regulatory Package" and click on the hyperlink: "Chart 11"

Notes to the Chart "Fees/charges paid by mobile operators in 1999 per 2x1 MHz":

i. This chart is based on the information concerning the spectrum assigned and the duration of the spectrum licence set out in the table "Assignment of analogue, GSM 900 and DCS 1800 spectrum". Where the spectrum licence is described as renewable, the longest possible duration has been taken into account.

ii. Where spectrum is not assigned nationwide, the frequencies assigned to an operator have been weighted by the percentage of population living in the area covered by those frequencies.

iii. Unlike the information set out in the previous table, the chart only takes account of frequencies for digital services (i.e. it excludes frequencies for analogue services), except in the case of Eircel (Ireland), TIM (Italy) and Telefónica Móviles España (Spain), for which it is not possible to separate the fees for the two services.

iv. Meteor (Ireland), Suomen 2G Oy (Finland) and Tele2 (Sweden) are not included, because they did not have any frequencies in 1999. Likewise, frequencies assigned during 2000 have not been taken into account in the case of Eircell and Esat Digifone (Ireland) and in the case of French operators.

v. For the purposes of this chart, all frequencies are assumed to have been assigned to the operators on the date of the first assignment of spectrum, which is not necessarily the case for all operators.

vi. In the case of Belgacom (Belgium), Entreprise des Postes et Télécommunications (Luxembourg) and all Swedish GSM operators, the duration of the licences, rather than the actual use of the assigned spectrum, has been considered.

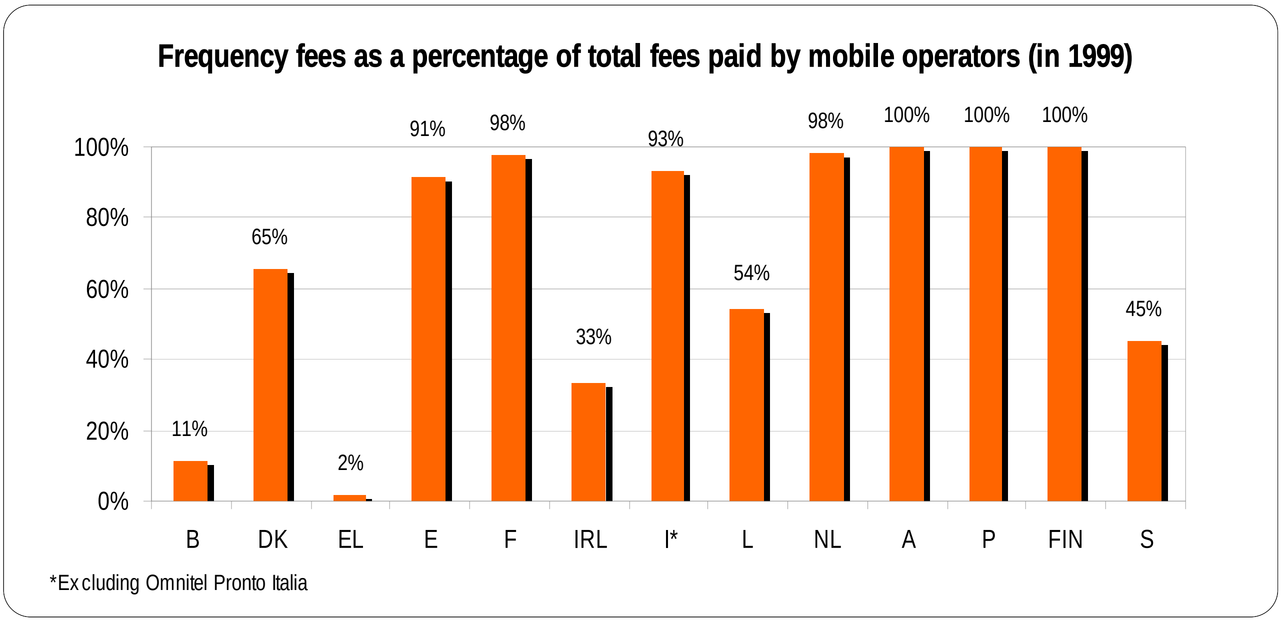
vii. In some countries the above fees also cover the cost of numbering resources (which is explicitly excluded in The Netherlands and Denmark).

viii. The fees paid by German operators are not included, as they have not yet been calculated by the regulator (as at 15 September 2000).

ix. The fees paid by UK operators refer to frequency fees only and do not include the annual licence fees paid under the Telecommunications Act, the amount of which is considered confidential. The fees paid by Swedish operators are not included because this information was not provided.

x. The fees paid by Italian operators include only part of the refarming costs for the liberation of DCS frequencies

Chart 12



Nature of fees and charges paid by 2G[19] mobile operators in 1999.

The classification of these fees varies from country to country, ranging from administrative fees (intended to cover the costs of the licensing procedure only), to licence fees (rights or royalties), frequency fees and charges to cover the cost of spectrum refarming. The chart shows frequency and frequency-related fees/charges (as opposed to administrative and other licence fees) as a percentage of the total fees/charges paid in 1999.

UK operators are excluded from this chart because information on the total amount of fees paid could not be provided. Omnitel Pronto Italia is excluded from the estimates concerning the Italian operators because it not possible to ascertain which of the fees/charges paid relate to frequencies.

[19] In a few cases, analogue frequencies might also be covered. Please refer to the notes to the Chart "Fees/charges paid by mobile operators in 1999 per 2x1 MHz".

5. FREQUENCY ALLOCATION AND FEES/CHARGES PAID BY MOBILE OPERATORS OF THIRD GENERATION

Table 2: Assignment of 3G spectrum (as of 1 September 2000)

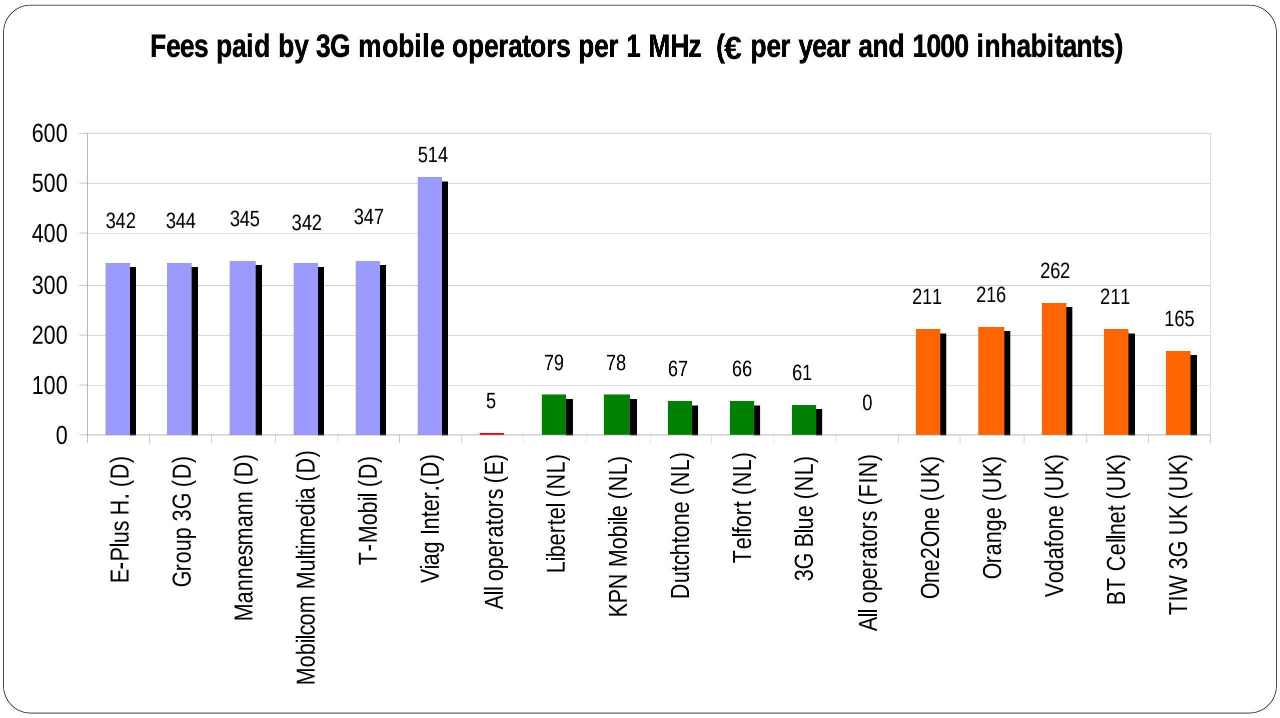
Date	Method	Duration of licence[20]	Licensees	Spectrum assigned	One-off spectrum fees (€)
GERMANY					
Aug. 2000	Auction	20 years	E-Plus Hutchinson	2x5+5 MHz	8 432 000 000
			Group 3G	2x5+5 MHz	8 459 000 000
			Mannesmann Mobil.	2x5+5 MHz	8 485 000 000
			Mobilcom Multimedia	2x5+5 MHz	8 431 000 000
			T-Mobil	2x5+5 MHz	8 535 000 000
			Viag Interkom	2x5 MHz	8 445 000 000
SPAIN					
Mar. 2000	Beauty contest	20 years	Telefonica Movil	2 x15+5 MHz per operator	131 321 145 per operator
			Airtel Movil		
			Retevision Movil		
			Xfera Movil		
THE NETHERLANDS					
Jul. 2000	Auction	16.5 years	Libertel	2 x15+ 5 MHz (A)	713 800 000
			KPN Mobile	2 x15+ 5 MHz (B)	711 070 000
			Dutchtone	2x10+ 5 MHz (C)	435 630 000
			Telfort	2x10+ 5 MHz (D)	430 000 000
			3G Blue	2x10+5 MHz (E)	394 970 000
FINLAND					
Jun. 2000[21]	Beauty contest	20 years	Oy Radiolinja	2x15+5 MHz per each operator	0[22]
			Sonera OyJ		
			Suomen Kolmege Oy		
			Telia Mobile Finland		
Not yet assigned	Beauty contest	As above	Tele 1 Europe	2x15+5 MHz (only Åland province)	0[22]
			Ålands Mobiltelefon		

[20] The duration is intended from the date of granting of spectrum unless specified.
[21] However, the national and local licences were granted respectively in March and September 1999.
[22] Finnish operators did not pay any fee for the initial assignment of spectrum. Annual frequency fees according to the general regulation will apply when commercial operations start.

Date	Method	Duration of licence[23]	Licensees	Spectrum assigned	One-off spectrum fees (€)
UNITED KINGDOM					
May 2000	Auction	21 years	TIW 3G UK	2x15+5 MHz (A)	7 185 300 000
			Vodafone	2x15 MHz (B)	9 773 300 000
			BT Cellnet	2x10+5 MHz (C)	6 560 700 000
			One2One	2x10+5 MHz (D)	6 560 700 000
			Orange	2x10+5 MHz (E)	6 710 500 000

Table 2 summarises the situation concerning the assignment of spectrum for the provision of third-generation (3G) mobile services in the EU on 1 September 2000. The last column shows the charges that operators had to pay for the initial assignment of spectrum. Any additional fees or annual charges for spectrum, numbers, etc. are not included.

Chart 13



The chart shows the amount of fees paid for the initial assignment of spectrum divided by the number of MHz assigned to each operator, the duration of the spectrum licence and the population of the country that granted the licence.

Note that, unlike the previous chart on fees and charges paid by 2G operators, this chart shows fees per MHz of spectrum (paired or unpaired).

[23] The duration is intended from the date of granting of spectrum unless specified.

6. NATIONAL DIGITAL MOBILE TARIFFS

This section analyses the tariffs for national mobile services.

The figures are intended to provide an estimate of the average monthly expenditure on (national[24]) digital[25] mobile phone calls of two "standard" consumption profiles: personal and business. Users are assumed to use a post-paid tariff plan available from the incumbent fixed network operator's mobile subsidiary[26]. Lower prices may be charged by other mobile operators: the figures are therefore purely indicative, and do not necessarily reflect the cheapest solution available.

For each operator, the tariff package considered most appropriate for each of the two consumption profiles has been selected, based on an analysis of the range of packages offered[27].

The analysis is provided by Teligen Foundation and is based on a basket of digital mobile calls (defined on an annual basis).

The fixed (i.e. non-recurring) charges include the annual line rental charge plus the charge for activation. Fixed charges for personal profile users include VAT, while for business profile VAT is excluded.

The mobile usage charges include national and international[28] mobile calls. The national calls comprise calls to local fixed-line phones (70%), calls to distant fixed-line phones (20%) and calls to mobile phones in the same network (10%). The personal profile comprises 200 national calls and 2 international calls, and is weighted towards afternoon and evening. The business profile comprises 1 200 national calls and 60 international calls, and is heavily weighted towards business hours. Call duration is three minutes for all calls. Call charges reflect the total charge for each call, including call set-up and minimum charges, as defined in the tariff. The international portion of the baskets follows the basic structure of the international fixed baskets for business and residential users (see tariffs section), the only difference being the call duration (which is always three minutes for the mobile basket).

The mobile subsidiaries of the incumbent fixed operators in Belgium, Ireland, Sweden and the United Kingdom include an amount of free calls or minutes, or other call-related allowances, in the package price; the value of this allowance is deducted from the usage charges.

The basket does not take account of the price of the handset, or handset subsidies. The low fixed charges in Finland and Italy are linked to the fact that the customer pays only for network access, and must buy a handset separately. The fixed charges reflect the minimal cost of connecting a customer to the network. The high rentals charged by some operators are in most cases due to a policy of subsidising disadvantaged users.

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[24] In the sense that it does not include roaming.

[25] Second-generation (GSM 900 and DCS 1800).

[26] Belgacom Mobile in Belgium, Tele Mobile in Denmark, T-Mobil in Germany, CosmOTE in Greece, MoviStar in Spain, France Telecom Mobile in France, EirCell in Ireland, Telecom Italia Mobile in Italy, P&T Mobile in Luxembourg, KPN Mobile in the Netherlands, MobilKom in Austria, TNM in Portugal, Sonera in Finland, Telia in Sweden, BT Cellnet in the United Kingdom.

[27] For the business profile the following packages have been considered: ProxiPro and AnyTime300 for Belgacom Mobile (B), Erherv Plus for Tele Mobile (D), Pro Tel-D1 for T-Mobil (D), Basic Program 2 for CosmOTE (EL), Personal for MoviStar (E), Loft Forfait 5H for France Telecom Mobile (F), Eirtime 250 for EirCell (IRL), Menu Business for Telecom Italia Mobile (I), Business for P&T Mobile (L), Flexible Premium for KPN Mobile (NL), A1 Geschäft for MobilKom (A), Normal for TNM (P), Business for Sonera (FIN), Volym for Telia (S), Net400 for BT Cellnet (UK).
For the personal profile the following packages have been considered: ProxiPro and AnyTime60 for Belgacom Mobile (B), Privat Plus for Tele Mobile (D), Telly-D1 for T-Mobil (D), Basic Program 2 for CosmOTE (EL), Personal for MoviStar (E), Declic for France Telecom Mobile (F), Eirtime 50 for EirCell (IRL), Menu Family for Telecom Italia Mobile (I), Liberty for PTT Mobile (L), Hi for KPN Mobile (NL), A1 Fun for MobilKom (A), Base for TNM (P), Private for Sonera (FIN), Pott for Telia (S), Net100 for BT Cellnet (UK).

[28] Representing 10% of the number of calls to fixed lines.

The charts below show the average monthly expenditure for the personal and business profiles in August 2000, expressed in €-PPP. EU average values are weighted by mobile penetration in Member States at August 2000.

Chart 14

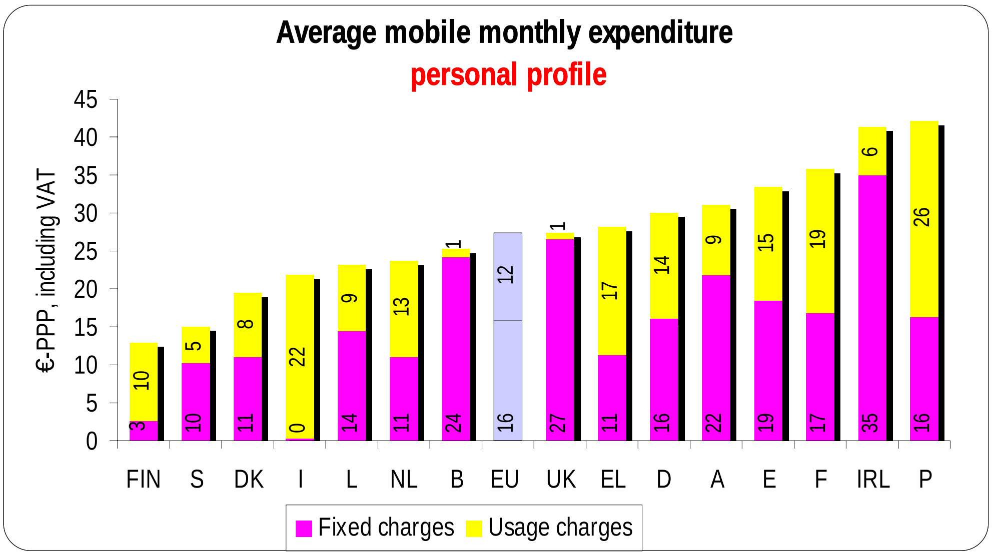

Chart 15