Mobile communications indicators

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Mobile communications developments

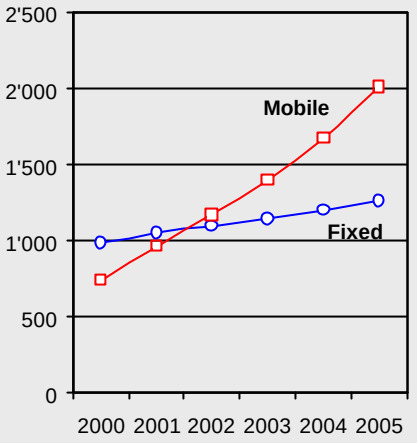
Increasing demand for additional mobile indicators

- Mobile passes fixed
  - In almost all countries there are now more mobile than fixed-line telephone subscribers. Greater analysis of mobile market to analyze this trend, requiring additional indicators.
- Mobile termination
  - Mobile termination rates have become subject of intense regulatory debate in many countries. Requires a number of indicators to analyze properly.
- Mobile multimedia
  - Use of mobile phones for non-voice applications is growing. High-speed 2.5 and 3G technologies offer considerable scope for providing access to Internet from mobile networks. A new set of indicators is emerging to track this.

Mobile passes fixed

- Mobile passed fixed in 2002 globally; since then the gap has grown
- Today almost every country has more mobile than fixed line subscribers
- Mobile sector is at least (if not more) as important to analyze as fixed

Worldwide fixed-line and mobile telephone subscribers, millions

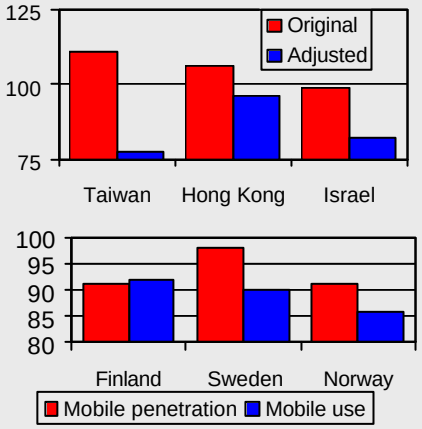


Source: TMG, Inc. (2004 estimate and 2005 forecast).

Fine tuning mobile penetration

- Penetration (subscribers ÷ population * 100) is the most widely used mobile indicator
- At end 2003, three countries already exceeded 100
- Important to be precise about subscribers
  - Taiwan: 20-30% have 2nd SIM card
  - Hong Kong: 24% of prepaid non-active
  - Israel: ~ 20% double counted (due to churn and "liberal" counting policies) or non-resident subscribers
- Survey-based data may be more useful indicator

Mobile subscribers per 100 inhabitants, 2003



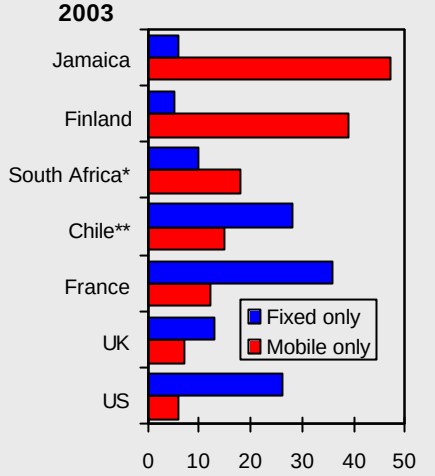
Note: Age ranges for mobile use: Finland: 15-74, Sweden: 16-75, Norway: 9-79. *Source*: TMG, Inc. adapted from national regulatory & national statistical agencies.

Mobile passes fixed

Universal service implications

- Mobile is increasingly supplanting fixed for universal service
- Universal service is measured by % of households with a telephone
- Useful indicators for tracking universal service:
  - Percentage of households with fixed *and* mobile
  - Percentage of households with *only* fixed
  - Percentage of households with *only* mobile

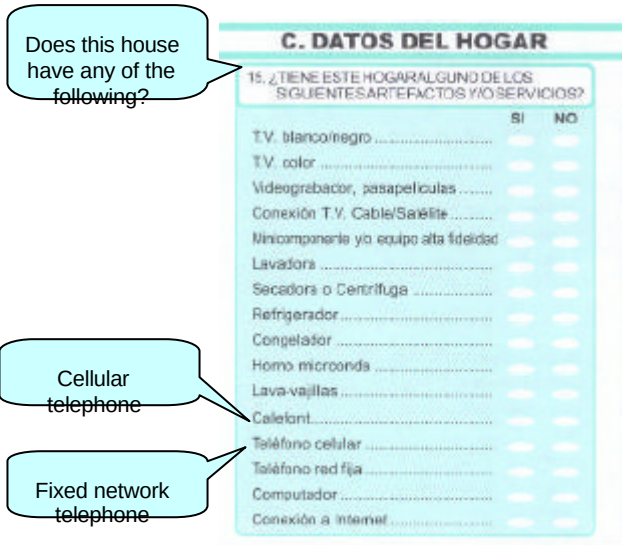
Households with a telephone, %, 2003



Note: * 2001, ** 2002.
Source: TMG, Inc. adapted from telecom regulators & national statistical agencies.

Tracking Universal Mobile Service Household survey

- Data for monitoring universal service cannot be obtained from administrative records
- Therefore regulators need to work with national statistical offices to make sure the needed questions are asked in regular household surveys
- Need to distinguish households that only have a mobile phone

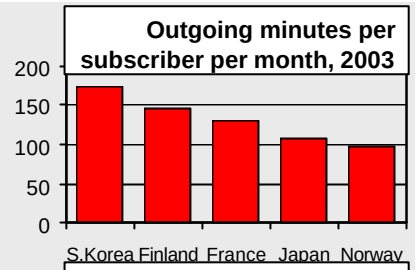


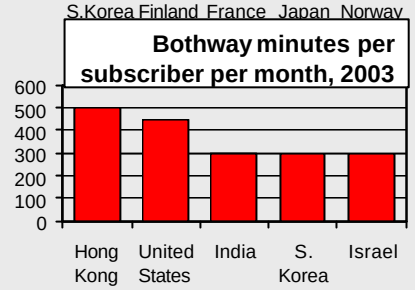
Source: INE Chile, Household & Population Census 2002.

Mobile usage

Who talks the most?

- Mobile traffic indicators have a number of important analytical uses.
- Minutes of Use (MOU) per subscriber per month. Most operators include outgoing *and* incoming but some do not…incoming may only include interconnect traffic
- Mobile traffic must be clearly defined to perform meaningful analysis.





Source: TMG, Inc. adapted from telecom regulators and national statistical agencies.

Mobile traffic in Portugal

4th Quarter 2003

Voice traffic (000s)	Minutes		MOU
By traffic origin (*i.e.*, outgoing)	**2.633.572**	**100%**	**79**
Own network - Own network	1.776.705,6	67,5%	65
Own network - National FTS	219.507,8	8,3%	8
Own network - International networks	116.301,6	4,4%	4
Own network - Other national LMS	521.150	19,8%	2
By traffic termination (*i.e.*, incoming)	**2.712.946,8**	**100%**	**99**
Own network - Own network	1.776.705,6	65,5%	65
National FTS- Own network	301.575,3	11,1%	11
Other national LMS - Own network	521.765,1	19,2%	19
International networks - Own network	112.900,8	4,2%	4

http://www.anacom.pt/template12.jsp?categoryId=105839

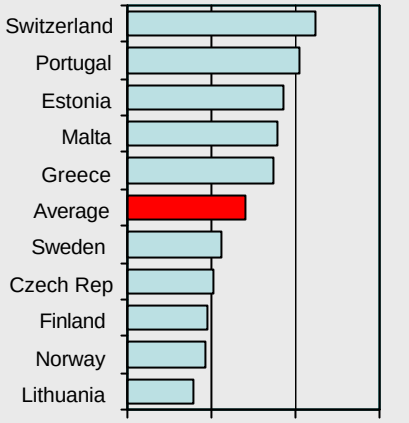
Mobile termination rates (MTR)

- MTR major regulatory issue in many countries
- US regulator (FCC) has launched a Notice of Inquiry into foreign MTRs*
- Independent Regulators Group (IRG) publishes MTR for European countries**
- Methodology for calculating country averages:
  - multiple operators
  - multiple directions (fixed>mobile, mobile>mobile, mobile>fixed)
  - multiple times (peak, off-peak, weekend)
  - one time call set-up
  - volume triggers

*http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-247A1.pdf

** http://irgis.anacom.pt/admin/attachs/388.pdf

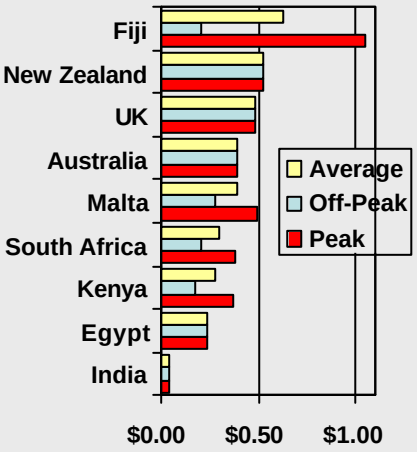
Average MTR, July 2004, € per minute
Top 5 countries by highest, lowest MTR



Source: TMG, Inc. adapted from IRG.

Price benchmarks
Fiji mobile tariffs

Prepaid prices, per minute, US$, August '03



Source: ITU. 2004. *Bula Internet: Fiji ICT Case Study*. http://www.itu.int/ITU-D/ict/cs/fiji/index.html

- "I wish to advise you that you have **multiple errors** in your report in regards to mobile.. it will undermine your integrity…as its not the full facts for example **familyfone tariffs are the cheapest** …"—Vodafone Fiji
- "We compare prepaid tariffs since this is the most popular mobile service today. … December 2003 figures show that close to **92 percent of your subscribers are using prepaid**. The prepay familyfone service is indeed much cheaper (around US$ 0.08 per minute) IF customers call someone from their "family" group (a maximum 5 people). Since this **group is limited** and specific conditions apply, we cannot use this package for comparison. Also, I see that the peak tariff using the familyfone service to any other person (outside your "family" group) is still 0.99 cents Fiji per unit (so US$ 1.18) - exactly the same tariff we use for our peak comparison."—ITU

Another way to compare mobile prices: UK

2nd Quarter 2003

Estimated retail revenues generated by mobile telephony (£m)	
Calls & fixed charges	2,316
Text & picture messages	460
Call volumes (millions)	
All voice calls (minutes)	15,128
Text & picture messages	5,277
Price per minute/message (£)	
Voice calls	0.15
Text & picture messages	0.09

Source: TMG, Inc. adapted from OFCOM.

Key mobile performance indicators

2003

	Bharti (India)	**China Mobile**	**TIM Sul (Brazil)**	**MTN (South Africa)**	**Vodacom (South Africa)**
A. Subscribers (000s) Average	4'788	129'650	1'890	5'497	8'800
B. Minutes/User/Month	295	240	90	155	96
C. Average Revenue per User per Month (ARPU) US$	10.58	12.32	13.00	26.85	23.41
D. Calculated revenue per minute US cents (¢) [C / B]	3.6¢	5.1¢	13.7¢	17.3¢	20.1¢
E. EBITDA per User per month	3.92	7.16	5.50	9.05	9.44
F. Calculated cost per minute US cents [C – E / B]	2.5 ¢	4.1¢	7.9¢	11.5 ¢	14.6 ¢
G. MTR	0.6 ¢	7.0¢	10.4¢	14.9¢	14.9¢

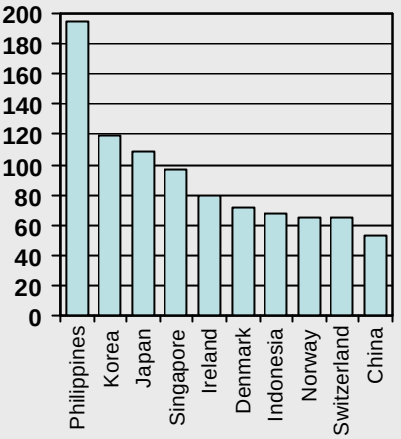
Source: TMG, Inc. adapted from mobile operators reports.

Non-voice mobile applications

Who texts the most?

- Text messaging (*i.e.*, Short Messaging Service (SMS)) has emerged as a major mobile application
- Popular indicator is SMS per subscriber (per month). Should refer to only *outgoing* SMS sent by subscribers to enhance comparability.

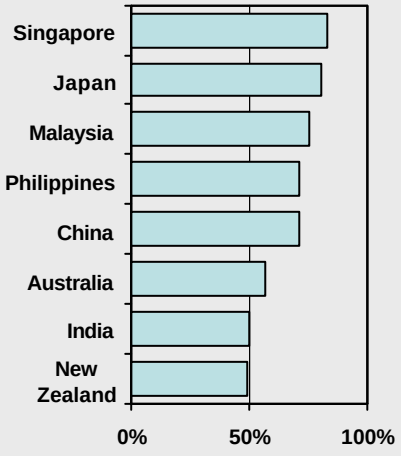
SMS sent per subscriber per month 2003



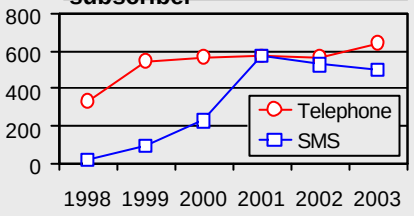
http://d-two-indicators.blogspot.com/2004/10/top-sms-countries-2003.html

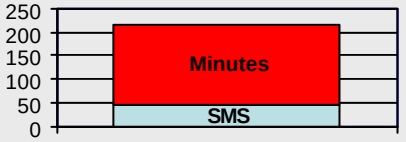
Alternate SMS indicators

% subscribers using SMS, 2003



Switzerland, number of mobile communications per subscriber





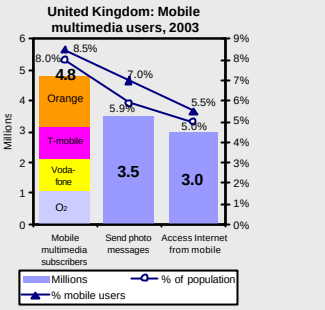
Belgacom, Units of Use (UoU), subscriber/month, 2003

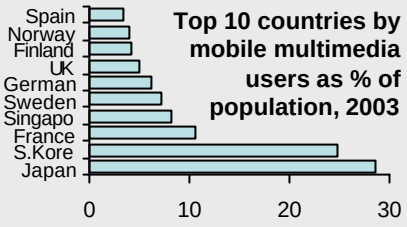
Source: TMG, Inc. adapted from telecom regulators and national statistical agencies.

Top mobile multimedia countries

- As mobile *multimedia** develops, increasingly important to have appropriate indicators
- Existing indicators often vague or unrealistic
  - Subscriptions versus actual users versus handsets
  - High-speed subscription not necessarily needed for multimedia use
  - Conceptual and granularity problems remain
  - What is the denominator?
- Useful to cross-check operator data with surveys

* Non-voice, non-text applications (e.g., MMS, WAP, download ringtones/logos, etc.)





Top 10 countries by mobile multimedia users as % of population, 2003

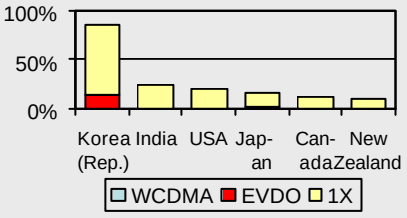
http://reports.tmgtelecom.com/ssmi

High-speed mobile subscribers

Who is ahead?

- Transition to 2.5/3G generating much interest
- Technologies have different speeds and functionalities
- Therefore preferable to collect indicators by type of network subscriber connected to:
  - GPRS subscribers
  - CDMA1X 2000 subscribers
  - CDMA EV-DO subscribers
  - WCDMA subscribers
- Other issues
  - Active subscribers / users
  - Subscribers vs. handsets

% Mobile subscribers using 3G, 2003



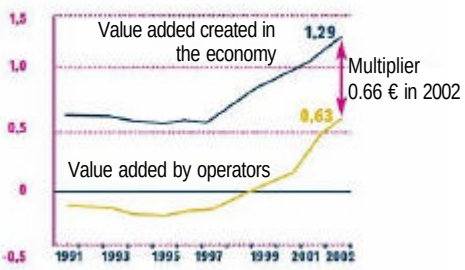
Mobile multimedia indicators

USERS
Text messaging (e.g., SMS) users
Mobile multimedia users
- MMS users
- WAP users
- Mobile Internet users
SUBSCRIBERS / HANDSETS
High-speed mobile subscribers
Internet-enabled handsets
TRAFFIC
SMS sent
MMS sent
REVENUE
Mobile data revenue
-Text messaging revenue
-WAP/High-speed data/other

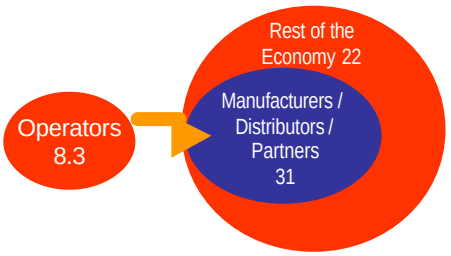
http://d-two.info/files/MobileMultimediaIndicators.htm

Impact of mobile on French economy

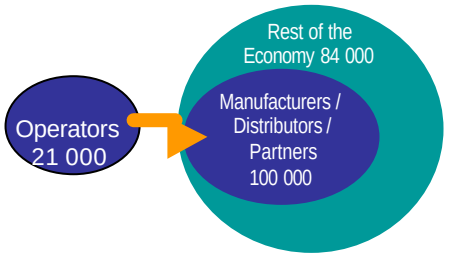
For each 1 Euro spent by operators



Source: AFOM. *La décennie du mobile. 1992 - 2002, l'émergence de la filière mobile :quel impact sur l'économie française ?* July 2003. www.afom.fr



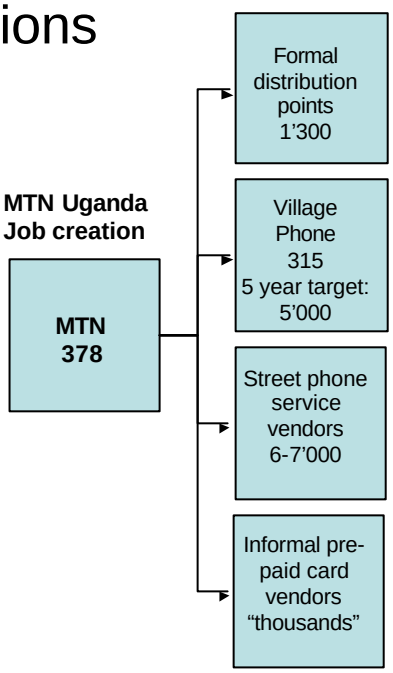
Accumulated value added 1991-2002 of the mobile industry (billions of Euros)



Employment at the end of 2002 for the mobile industry in France

Mobile communications employment chain

- MTN Africa: 6 063 employees
- "Businesses in related industries have also created several times this amount of jobs as part of the wider economic impact of MTN's investment activities"
  —MTN South Africa



Source: MTN, Econ One.

Revision to ITU mobile indicators I

~~8~~	~~Cellular mobile telephone subscribers~~
~~8.1~~	~~Cellular mobile subscribers: prepaid~~
~~9~~	~~Digital cellular mobile subscribers~~
~~***9.1***~~	~~***High-speed mobile subscribers***~~
~~***9.1.1***~~	~~***GPRS subscribers***~~
~~***9.1.2***~~	~~***CDMA2000 1x subscribers***~~
~~***9.1.3***~~	~~***WCDMA subscribers***~~
~~***9.1.4***~~	~~***CDMA2000 EV-DO subscribers***~~
~~10~~	~~Mobile Internet ***multimedia*** subscribers***users****~~
~~***10.1***~~	~~***SMS users***~~
~~***10.2***~~	~~***MMS users***~~
~~***10.3***~~	~~***WAP users***~~
~~***10.4***~~	~~***Mobile Internet users (i.e., accessing Internet from PC using mobile network)***~~
~~11.1~~	~~Percent coverage of mobile cellular network (land area)~~
11.2	Percent coverage of mobile cellular network (population) ***Disaggregated by network (e.g., 1G, 2G, 3G?)***

* If subscribers, then should only include those using in last month.

Revision to ITU mobile indicators II

23.1	Fixed to mobile traffic (minutes)
27	Outgoing mobile minutes
27.1.1	***Outgoing/originating mobile minutes to same mobile network***
27.1.2	***Outgoing/originating mobile minutes to other mobile networks***
27.1.3	***Outgoing/originating mobile minutes to international***
27.1.4	***Roaming minutes out (own subscribers)***
27.2.1	***Incoming international minutes to mobile network***
27.2.2	***Incoming/terminating off-net minutes to mobile network***
27.2.3	***Incoming/terminating fixed minutes to mobile network***
27.2.4	***Roaming minutes in (foreign subscribers)***
27.3	SMS ***sent***
38.2	Mobile communications staff
43	Revenue from mobile communications ***services***
43.1	***of which from data (split by messaging and data)***
43.1.1	Text and multimedia messaging revenues
43.1.2	Data transmission revenues
47	***Mobile operating expenses and/or EBITDA***
46.2	Mobile communications investment

Thank you!

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