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School of Science
and Technology

Mobile Handset Population in Finland 2005-2009

Department of Communications and Networking
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Agenda

- Data collection
- Mobile handsets vs. data terminals
- Top mobile handset models in Finland
- Concentration of mobile handset population

- Penetration of handset features
- Mobile handsets by
 - Manufacturer
 - Operating system
 - Input method

Data Collection

- Data collected using mobile operators' reporting systems in 2005-2009
 - Ticket (CDR) and subscriber information systems of Finnish GSM/UMTS operators
 - Data collected in September/October 2005–2009
- Feature information from public sources and market research company GfK
- About 80-99% of Finnish mobile terminals included annually
 - Participating operators: TeliaSonera, Elisa, DNA
 - 2005-2007: DNA, Elisa (+Kolumbus), Sonera,
 - 2008-2009: DNA, Elisa (+Saunalahti +Kolumbus), Sonera (+TeleFinland),
 - Comprehensive sample of ~ 4 – 6 millions
- Includes all mobile terminals observed at the operators' network
 - Terminals of both postpaid and prepaid subscribers
 - Mobile handsets and data terminals, limited data on other terminal types
 - Some error due to
 - Mobile subscriber churn during the observation period
 - Slight differences in operator-specific data sets
 - Unidentified terminals and missing feature-data of handset models
 - No data on Apple iPhone obtained from the exclusive distributor Sonera

Mobile handsets vs. data terminals

Terminal type	2005	2006	2007	2008	2009
Mobile handsets	99.4%	98.7%	98.2%	95.0%	92.2%
Data terminals (data cards, USB modems, embedded data modules)	0.6%	1.3%	1.8%	5.0%	7.8%

- Share of data terminals continues to grow
 - Rather consistent with the growth of mobile broadband subscriptions in Finland*
- Other remarks
 - Other device types (e.g. desktop phones) excluded due to incomplete data

* Ficora, 2009. *Market review 2/2009: Markets and investments*. Sept. 8, 2009. [Online] Available at: http://www.ficora.fi/attachments/englantiav/5kDli6iUq/Market_Review_2_2009.pdf

Top mobile handset models in Finland

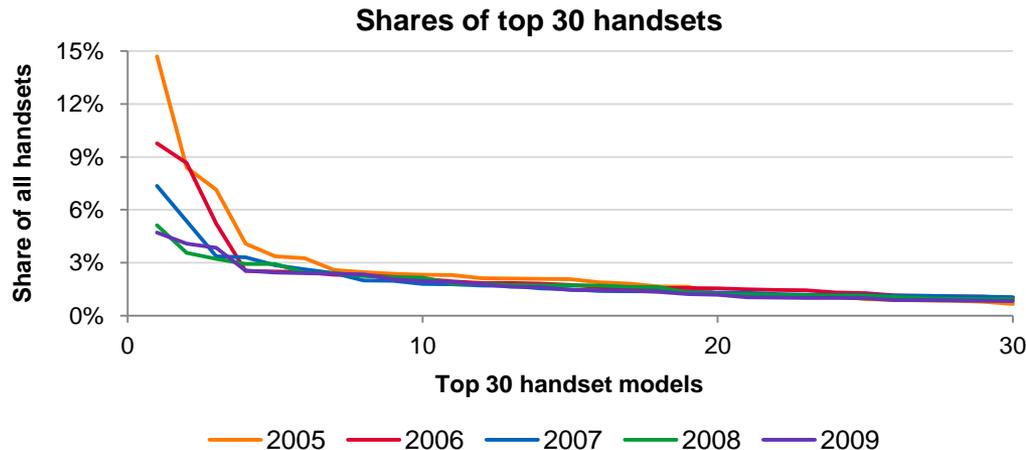
- Data capable phones becoming more popular
 - Unlike 2008, packet data feature in top 3
- Features of top 15:
 - Packet data in 11 devices
 - WCDMA (3G) capability in 5 devices
 - Symbian OS in 4 devices
- However, smartphones (e.g., Symbian) not in top ranks of the list
 - Low-end covered with smaller number of models, i.e., high-end more fragmented

Top 15 handset models in Finland (Q3/2009)

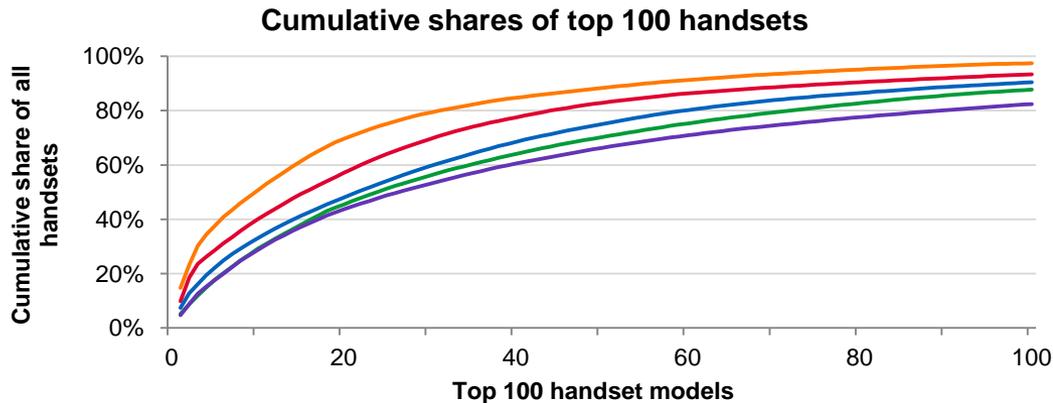
Rank	Model name	Share of all handsets	Change from 2008	Packet data*
1	Nokia 2760	4.7%	↑	GPRS/EDGE
2	Nokia 3120 Classic	4.1%	↑	WCDMA
3	Nokia 1100	3.9%	↓	-
4	Nokia 2600 Classic	2.5%	↑	GPRS/EDGE
5	Nokia 3310	2.4%	↓	-
6	Nokia 3110 Classic	2.4%	↑	GPRS/EDGE
7	Nokia 2610	2.4%	↓	GPRS
8	Nokia 1600	2.3%	↓	-
9	Nokia 6300	2.1%	↑	GPRS/EDGE
10	Nokia E51	2.0%	↑	WCDMA
11	Nokia N95 / N95 8GB	1.9%	↓	WCDMA
12	Nokia 2310	1.8%	↓	-
13	Nokia E90 Communicator	1.6%	→	WCDMA
14	Nokia 6060	1.6%	↓	GPRS
15	Nokia N73 / N73 Music Edition	1.5%	↓	WCDMA

* All WCDMA marked devices have GPRS/EDGE/WCDMA capability

Concentration of handset population



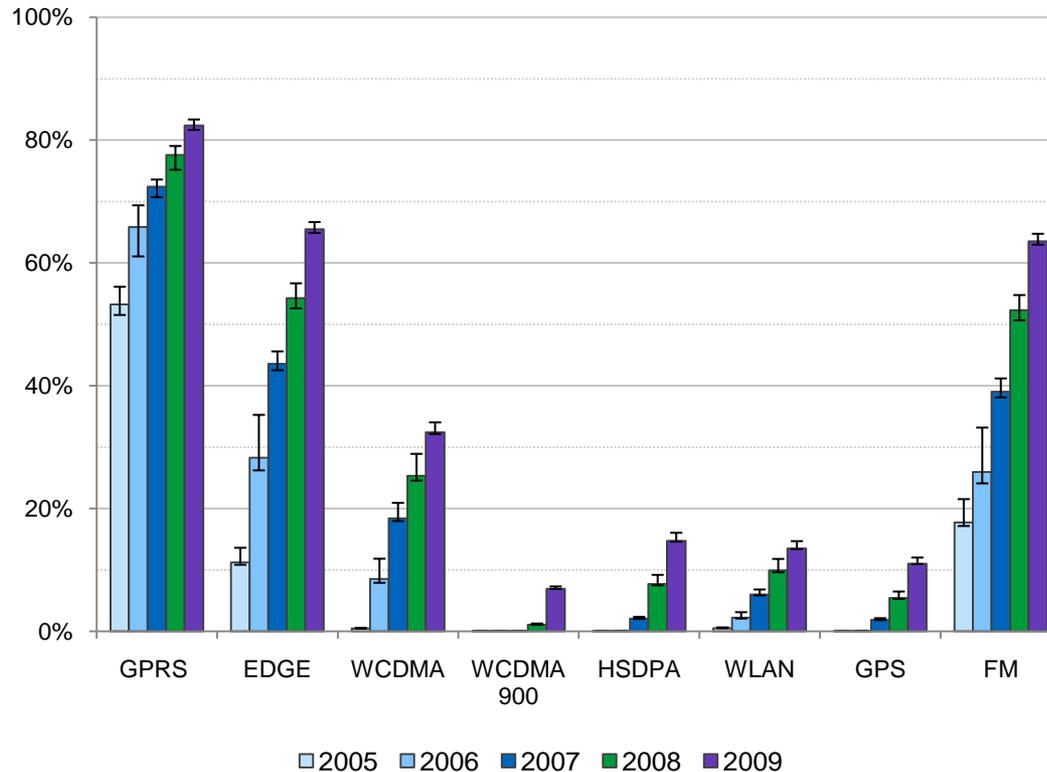
- Fragmentation of handset population increasing
 - Top 50 in 2009: 66%
 - 2008: 70%
 - Large number of models with marginal shares



- Remark:
 - share of top 10 handsets unchanged from 2008

Penetration of handset features (1/2)

Penetration of handset features in Finland 2005-2009 (1)



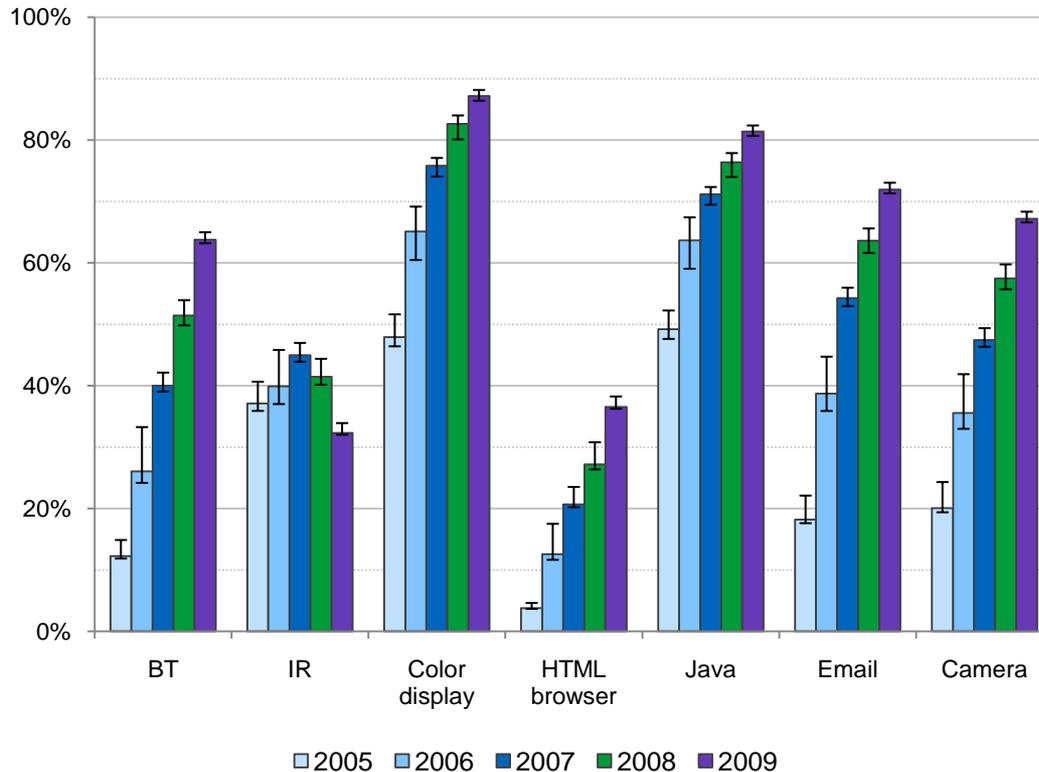
N = 4-6 Millions

Upper and lower error margins presented with $\bar{\pm}$

- Features providing higher data transmission speeds continue to spread fast
 - For example:
 - **EDGE** 53%→65%
 - **WCDMA** 25%→32%
 - **WCDMA 900** 1%→7%
 - **HSDPA** 8%→15%
 - **WLAN** with slower pace
- Also GPS has gained >10% penetration
 - Still not part of a typical handset

Penetration of handset features (2/2)

Penetration of handset features in Finland 2005-2009 (2)

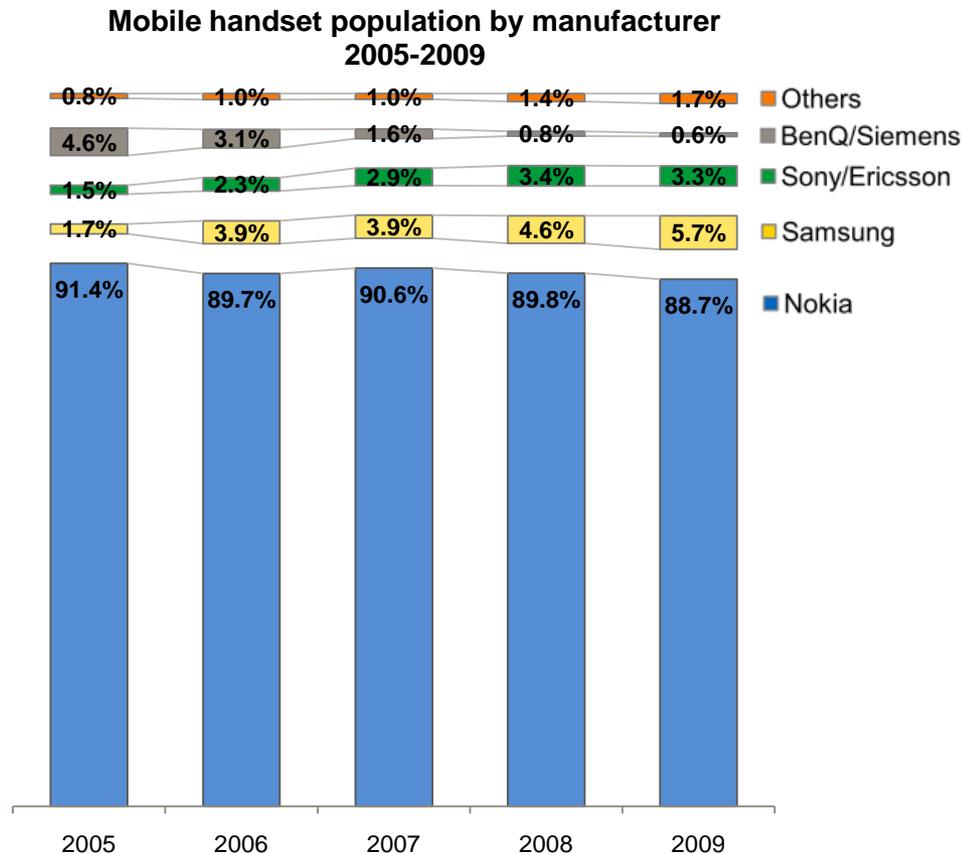


N = 4-6 Millions

Upper and lower error margins presented with \pm

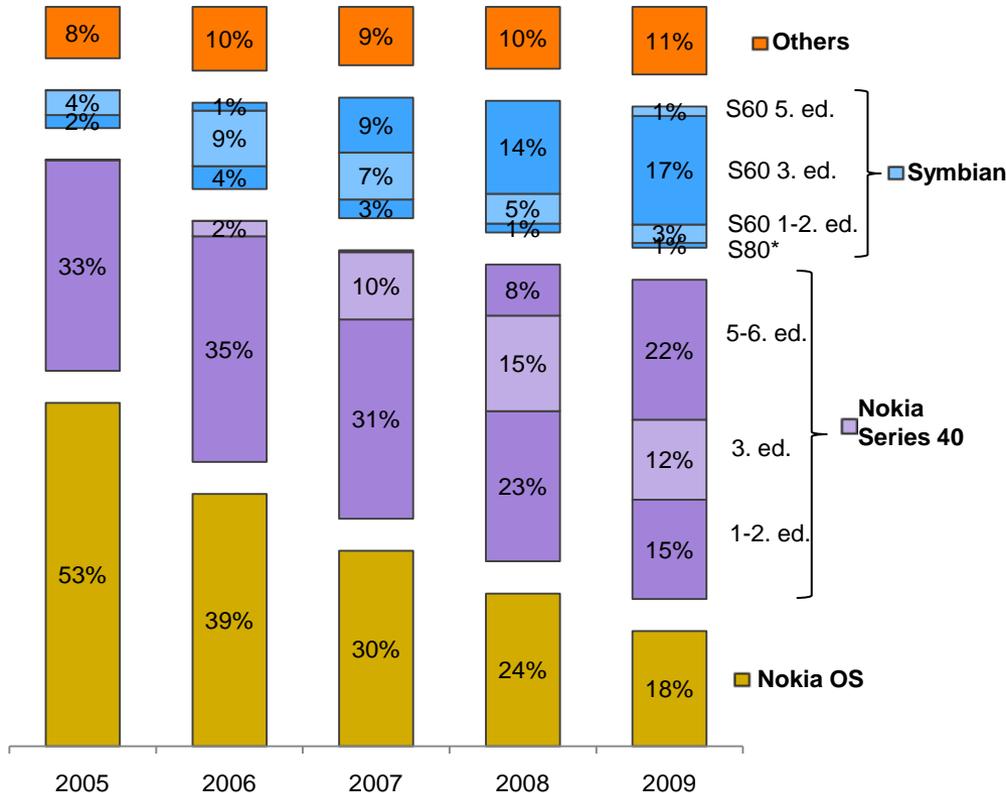
- Some features close to saturation (>80%)
 - GPRS
 - Color display
 - Java
- HTML capable browser in more than 1/3 of devices
 - Penetration of WAP/XHTML-MP capable handsets closer to GPRS and Java penetrations
- Bluetooth continues to substitute Infrared

Mobile handsets by manufacturer



- About 89% of devices manufactured by Nokia
 - First non-Nokia handset ranked 60th
 - Nokia's position has not changed notably during the past years
- Share of Samsung and Others continues to grow
 - Largest manufacturer in Others is LG (0,4%)

Mobile handsets by operating system



- Share of Nokia Series 40 slowly increasing (~50%)
 - 2008: 46%
 - Substitutes Nokia OS
 - Newer versions (5.-6. ed.) spreading quickly

- Symbian share 22%
 - 2008: 20%
 - Somewhat slower growth than Series 40
 - How will other smartphone OSs (e.g., MeeGo, Android,...) affect the share of Symbian in the future?

* Includes also S90 & UIQ

Mobile handsets by input method

Input method	2005	2006	2007	2008	2009
Numeric keypad	98%	99%	99%	98%	96%
QWERTY	3%	5%	5%	5%	7%
Touch screen	0.1%	0.1%	0.1%	0.3%	2%

- Numeric keypad in 96% of handset population
 - About 92% of handsets have numeric keypad as the only input method
- Penetration of QWERTY (7%) and Touch screen (2%) increasing
 - Clear change since 2008
 - Discards of Nokia Communicators slowing the diffusion of QWERTY handsets
 - Different input method combinations available
 - Num. keypad and QWERTY, QWERTY and touch screen, QWERTY only, touch screen only, touch + num. keypad

Conclusions

- Typical handset manufactured by Nokia (89%) and has a numeric keypad (96%)
 - However, also other input methods (QWERTY & Touch screen) penetrating increasingly
 - Most popular mobile phones starting to have packet data functionality
- Nokia Series 40 (50%) the largest development platform, share of Symbian (22%) growing slowly
- What will happen in 2010?
 - How fast will QWERTY and Touch screen diffuse to the device population?
 - Penetration of emerging OS alternatives?

Further information

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- MoMI/MoMI2 project:
 - <http://www.netlab.tkk.fi/tutkimus/momi/>