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Mobile Handset Population in Finland 2005-2008

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Contents

- Data collection

- Mobile handsets and data terminals
- Top mobile handset models in Finland
- Concentration of mobile handset population
- Penetration of handsets features I
- Penetration of handsets features II
- Mobile handsets by manufacturer
- Mobile handsets by OS and software platform
- Mobile handsets by form factor
- Mobile handsets by input method
- Mobile handsets by age and introduction year

- Summary

Data collection

- Data collected using mobile operators' reporting systems in 2005-2008
  - Ticket (CDR) and subscriber information systems of Finnish GSM/UMTS operators
  - Data primarily from 2 weeks or 1 month in Sep – Oct, 2005–2008

- About 80-99% of Finnish mobile terminals included
  - Participating operators: TeliaSonera, Elisa, DNA
    - 2005-2007: Sonera, Elisa (+Kolumbus), DNA
    - 2008: Sonera (+TeleFinland), Elisa (+Saunalahti+Kolumbus), DNA
  - Very comprehensive sample of about 4 – 6 millions
    - Survey studies with similar results commonly with max 10^3 respondents

- Data includes all mobile terminals observed at the network during the observation period
  - 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, and differences in operator-specific data sets
  - Some error due to unidentified terminals, and missing feature-data of handset models
  - No data on Apple iPhone obtained from the exclusive distributor Sonera

Mobile handsets and data terminals

Terminal type	2005	2006	2007	2008
Mobile handsets	99.4%	98.7%	98.2%	95.1%
Data terminals (data cards, USB modems, embedded data modules)	0.6%	1.3%	1.8%	4.9%

- Share of data terminals growing, particularly since fall 2007
  - Consistent with the growth of mobile broadband subscriptions observed by FICORA
- Other remarks
  - Number of mobile subscriptions in Finland grown by almost 1 million between measurements in 2005 and 2008
  - Other device types (e.g. payment terminals, desktop phones) excluded due to incomplete data

Top mobile handset models in Finland

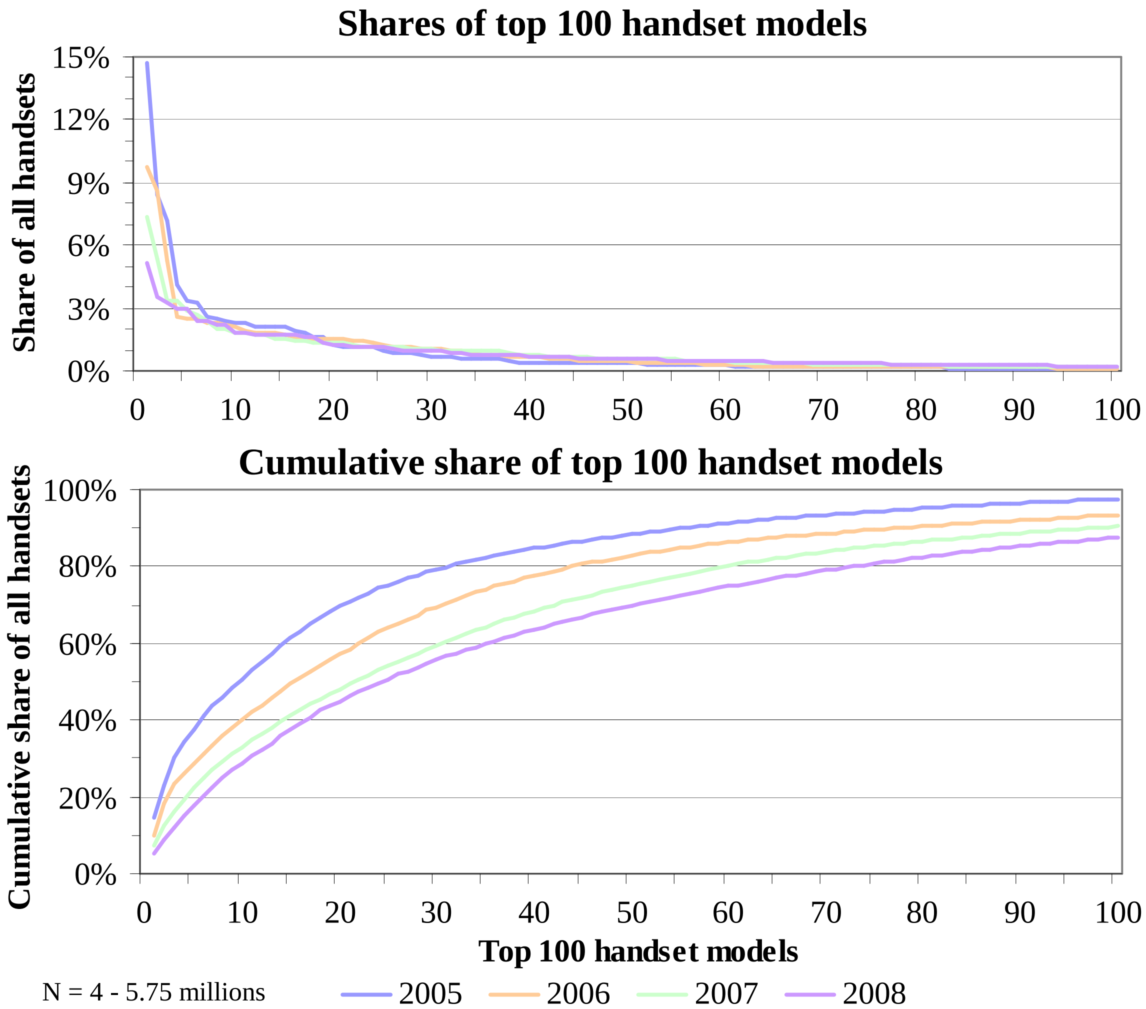
Top 15 handset models in Finland (2008)

Rank	Model name	Share of all handsets	Number of handsets*
1	Nokia 1100 / 1108	5.1%	295100
2	Nokia 3310	3.6%	205100
3	Nokia 1600	3.2%	185200
4	Nokia 2760	2.9%	168300
5	Nokia 2610	2.9%	168200
6	Nokia 2310	2.4%	139200
7	Nokia 6060	2.4%	138400
8	Nokia 3510i / 3530	2.2%	125000
9	Nokia N73	2.2%	124400
10	Nokia E90 Communicator	1.8%	104900
11	Nokia 6151	1.8%	103300
12	Nokia 6131	1.7%	100500
13	Nokia N95	1.7%	100500
14	Nokia 3110 Classic	1.7%	99500
15	Nokia N70	1.7%	98800

* Based on estimated number of 5 750 000 handsets

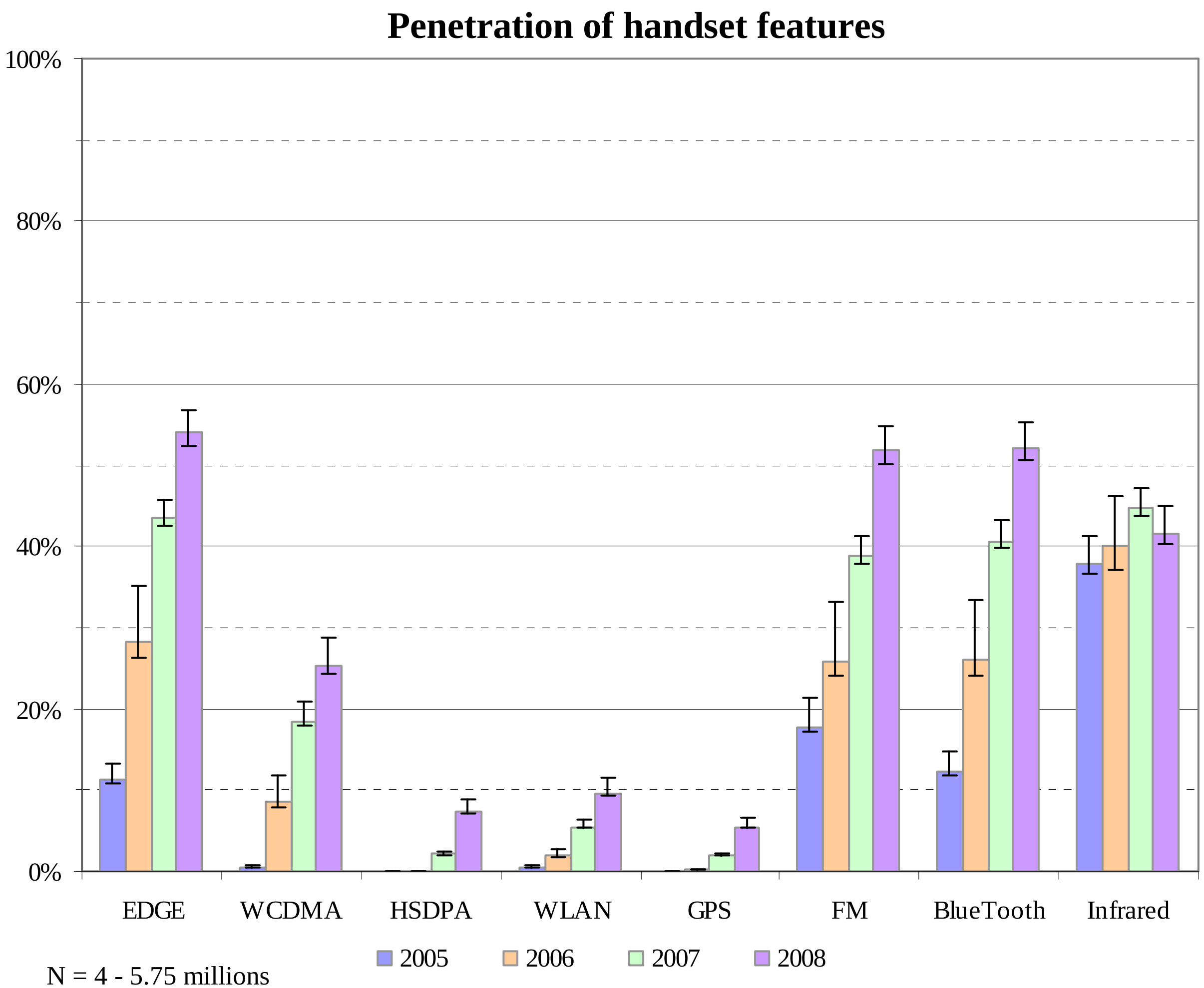
- Top 3 – basic telephones
  - GSM-only, basic phone OS, no packet data capabilities
- Top 10 – mostly 2G devices
  - 3G among top 15: Nokia N73, E90, 6151, N96, N70
- Handset population not as primitive as top list suggests!
  - Low-end covered with smaller number of models, i.e. high-end more fragmented
  - In low-end, units per model 2x as high as in high-end
  - → other metrics needed

Concentration of mobile handset population



- Fragmentation of handset population increasing
  - Top 50 in 2008: 70%
    - 2007: 75%
    - 2006: 83%
    - 2005: 88%
  - Broader handset offering? More models available?
  - Growing popularity of high-end handsets?
  - Less "hit" models?
- Large number of different handset models, with marginal shares
  - Over 1000 different handset models identified

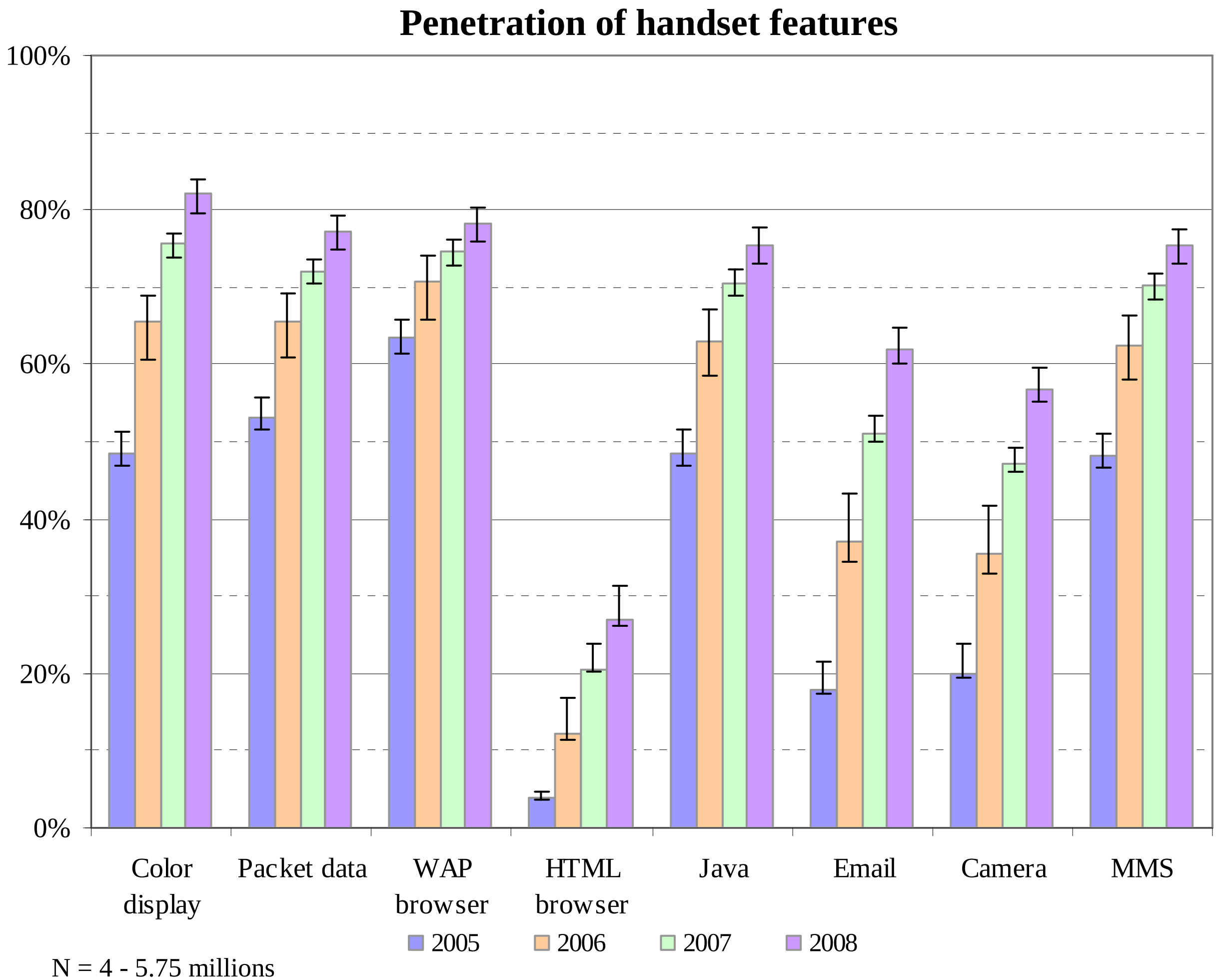
Penetration of handset features I



N = 4 - 5.75 millions

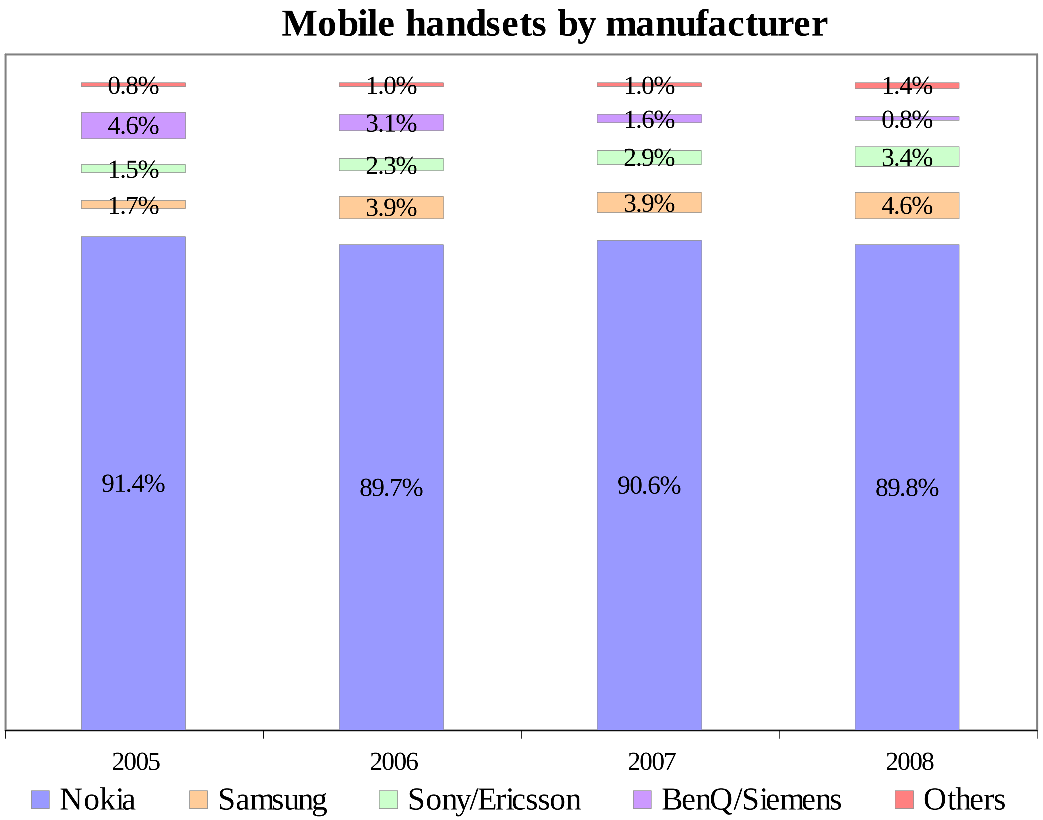
- Features offering higher data transmission speeds spreading
  - EDGE 44%→ 54%
  - WCDMA 18%→ 25%
  - HSDPA 2%→ 7%
  - WLAN 6%→ 10%
- Especially 3G (WCDMA), due to handset bundling
  - Very steep S curve, growth comparable to more mature features

Penetration of handset features II



- Many features nearing saturation with 70-80% penetration
  - Color display, packet data, WAP browser, Java, …
- But… feature penetration is not adoption
  - E.g. email and MMS not adopted by over 60% of users

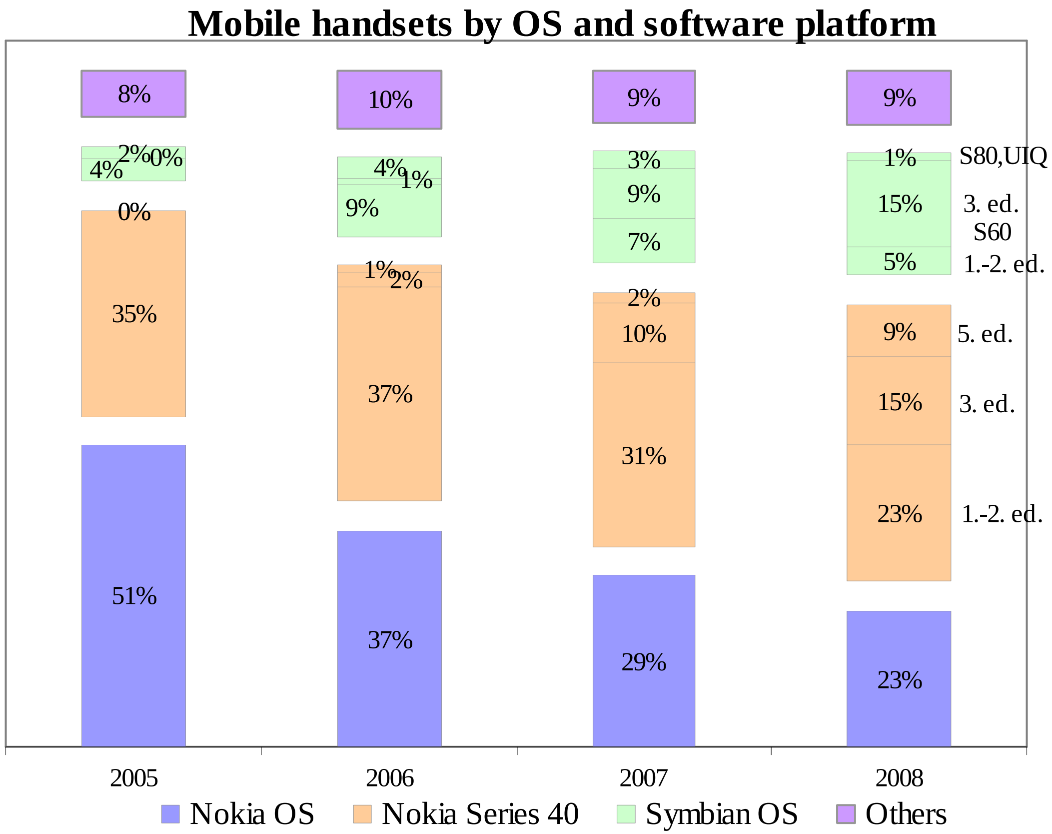
Mobile handsets by manufacturer



- Nokia’s 90% market share remarkable
  - First non-Nokia handset ranked 67th !
- Share of Samsung and Sony/Ericsson still growing
  - BenQ/Siemens and Motorola decreasing
- Remark on ”market share”
  - Share of handset population not same as share of unit sales
  - But… handset retail data (collected by GfK) gives similar results

N = 4 - 5.75 millions

Mobile handsets by OS and software platform

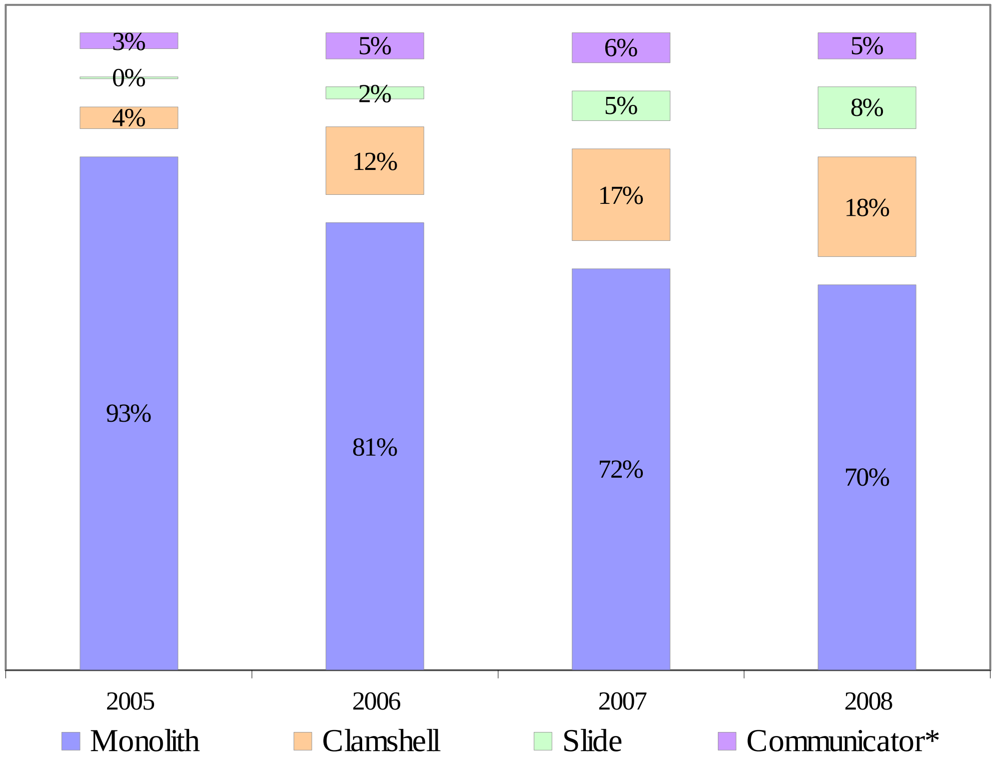


N = 4 - 5.75 millions

- 47% of Finnish handsets running Nokia S40
  - Substitutes basic Nokia OS
  - Newer versions (3.-5. ed.) of S40 spreading quickly
- Symbian share at 21%, mostly S60 3rd ed.
  - Only 2% point growth since 2007 ←→ S40 now also benefiting from handset bundling?
  - S40 also substituting Symbian, what is max share of Symbian?

Mobile handsets by form factor

Mobile handsets by form factor

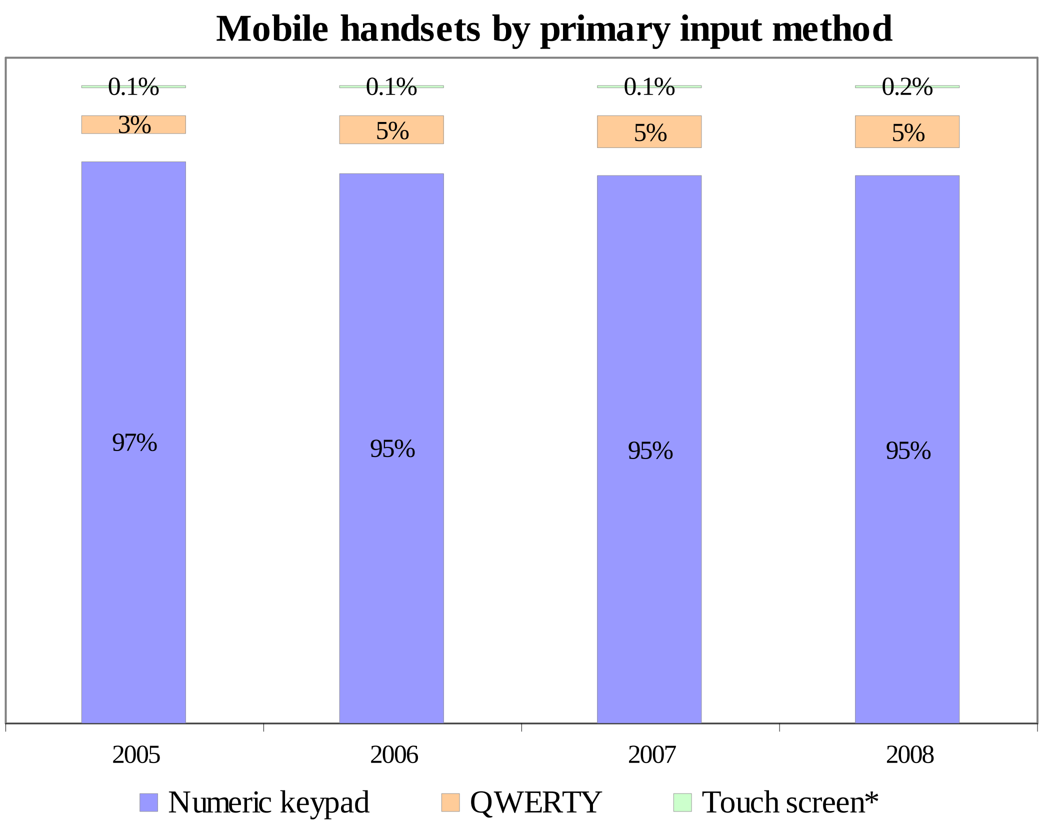


N = 4 - 5.75 millions

- Monolith most popular, but decreasing
  - A.k.a. candybar, slab
- 1/5 of handsets with clamshell form factor
  - A.k.a. flip
- Other remarks
  - Popularity of Slide form factor growing
  - Communicator* form factor with a small but stable share

* Handsets with both monolith and flip forms (e.g. Nokia Communicator and Nokia E70)

Mobile handsets by primary input method

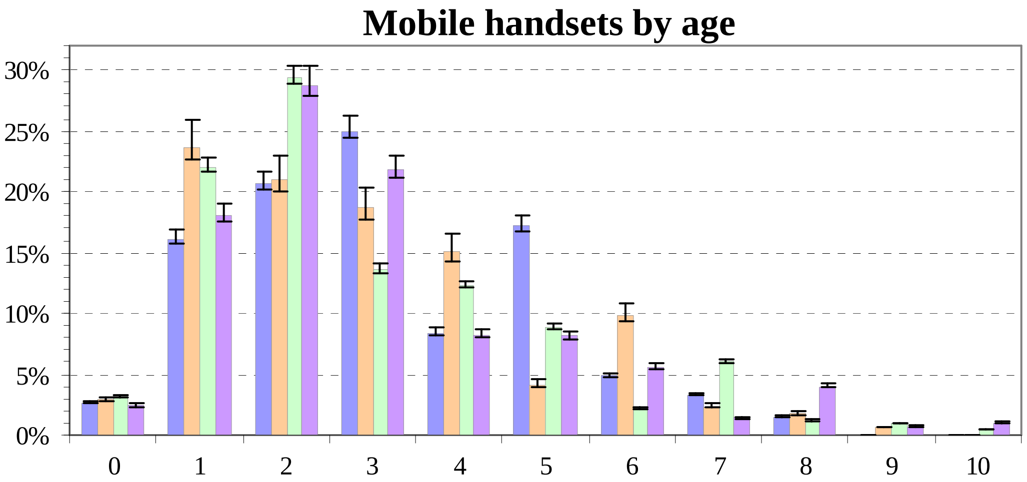


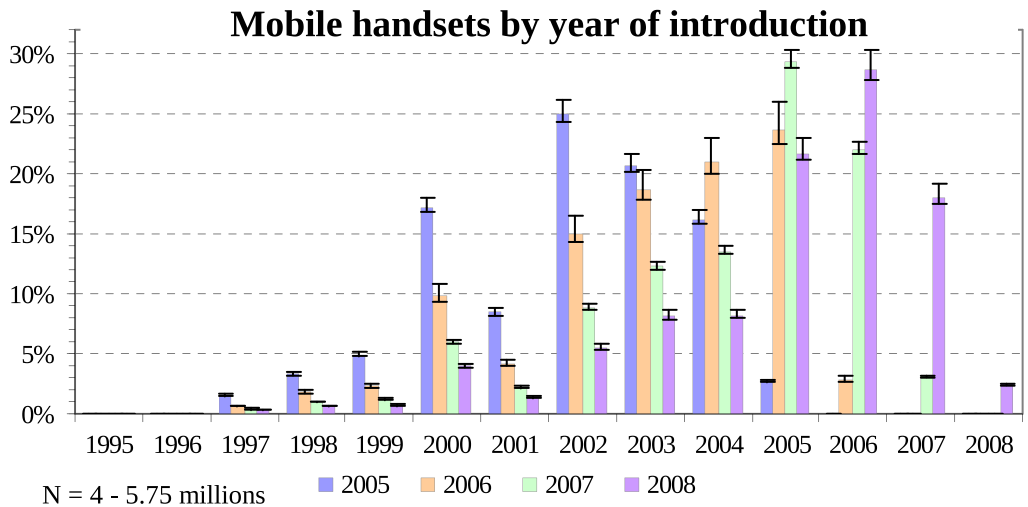
- Numeric keypad still dominant input
- QWERTY handset share stable at 5%
  - Mostly Nokia Communicators and E-series devices
- Touch screen marginal
  - Growth during 2009?

N = 4 - 5.75 millions

* No data on Apple iPhone

Mobile handsets by age and introduction year





- Mobile handset population renewing continuously

- Average age of handsets about 3 years
  - I.e. difference between measurement year and model introduction year
  - 2008: 3.1, 2007: 2.9, 2006: 3.0, 2005: 2.9
  - Not same as average lifetime, or average holding time, or average time handsets have been in use

- Years 2005 and 2001 particular
  - Models introduced in 2005 popular, due to handset bundling and marketing focus towards advanced handsets
  - Fewer or less attractive models introduced in 2001? → Models from 2000 and 2002 more popular

Summary

- Data from mobile operators' CDR and subscriber information systems with 80-99% (4–6 millions) of Finnish mobile handsets in falls 2005-2008

- Typical handset with candybar form factor (70% of all handsets), numeric keypad as primary input method (95%), and made by Nokia (90%)
- Nokia S40 the largest developer platform (47%), share of Symbian (21%) not growing rapidly
- Fragmentation of handset population between different models increasing

- Do handset segments explain diffusion of features?
  - Low-end population limits the penetration of mass market features (e.g. packet data, Java, MMS)
  - High-end population defines the diffusion of emerging features (e.g. WLAN, GPS)
  - Mid-range population (roughly 60% of total) needed in diffusion to mass market
  - → How are new features introduced to mid-range handsets?