



Aalto University
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Mobile Handset Population in Finland 2005-2013

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May 12th, 2014

Data collection: handset population

Data from mobile operators' accounting systems

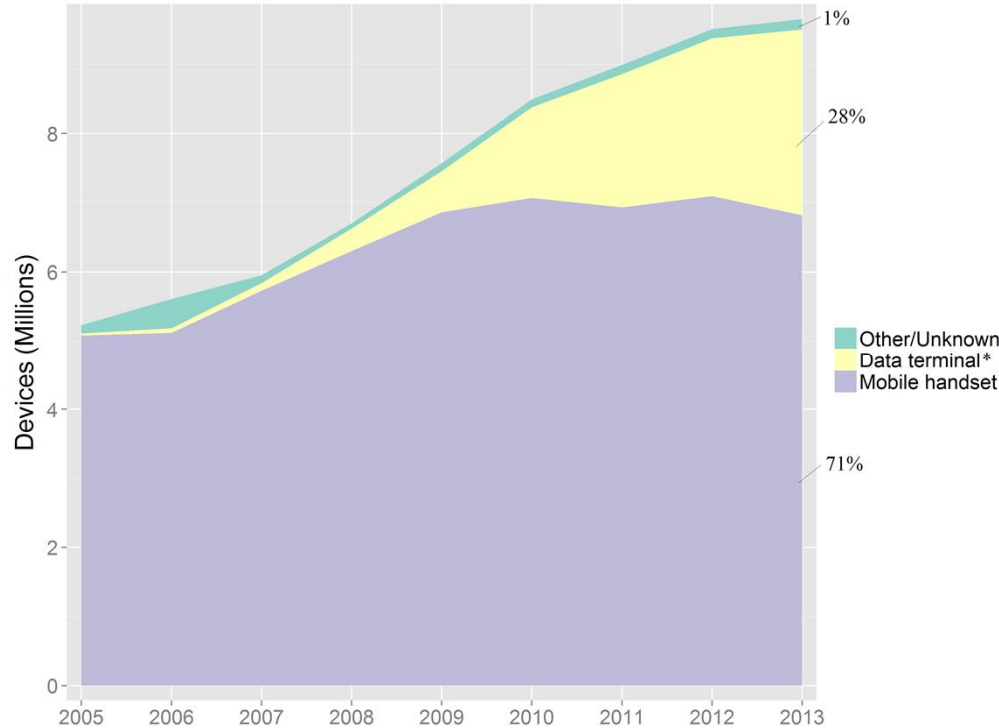
- Data from DNA, Elisa, and TeliaSonera
- Collected in the end of September, annually 2005-2013
- Feature information from GfK and public sources

Data represents 80-99% of devices in use in Finnish mobile networks

- Includes devices observed at operators' network
- Some error due to
 - *No data on Apple iPhone between 2005 and 2010*
 - *Mobile subscriber churn during the observation period*
 - *Differences in operator-specific data sets*
 - *Unidentified terminals and missing feature-data of handset models*

Share of data terminals is increasing

Share of device types in Finnish mobile device population



* Data terminals include USB modems, data cards, tablets, embedded data modules

** Share of M2M devices is estimated based on the data from GSMA report "From concept to delivery: the M2M market today"

Size of device population is growing:

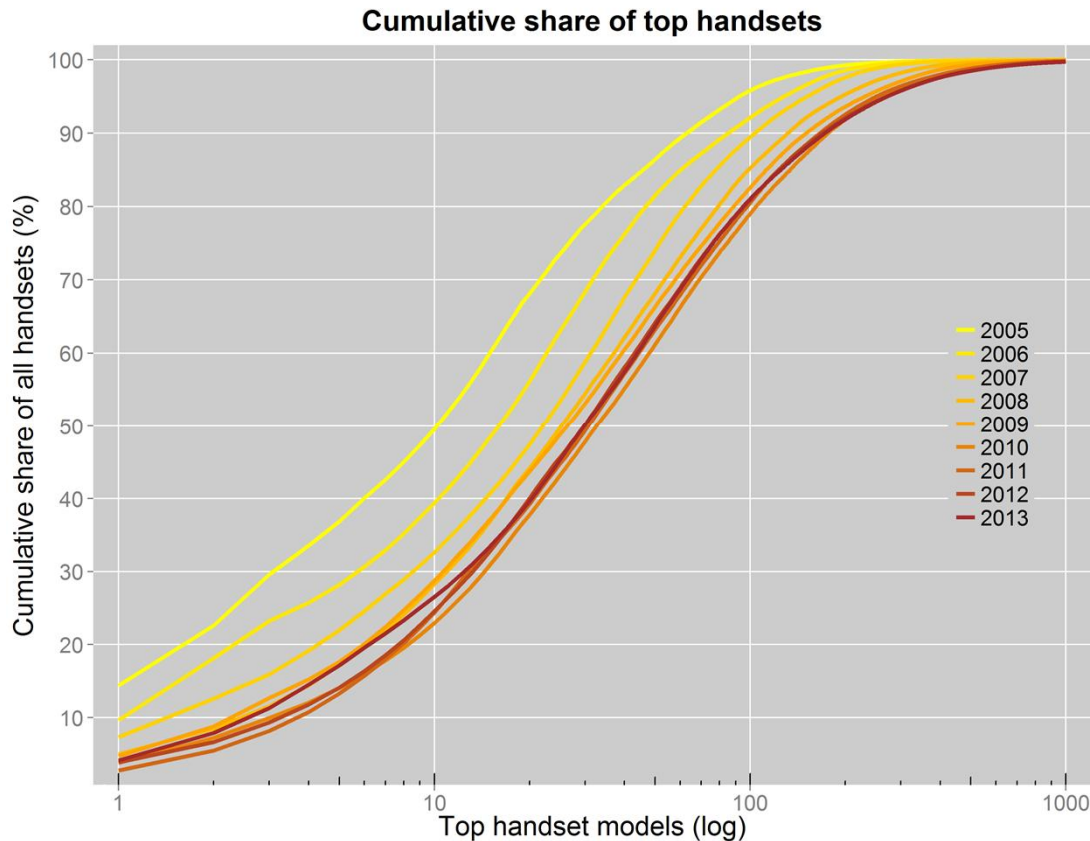
- Exact size depends on definition
- Here, size of the population is assumed to equal total number of mobile subscriptions
- Relative shares of handsets and data terminals based on operators' data and estimates of GSMA

Major categories of data terminals:

- Share of M2M devices is ~11%** out of all devices
- Share of USB modems is ~10%
- Tablets with cellular connectivity account for about 4% out of all devices

Other/Unknown and Data terminals excluded from the rest of the analyses

Cumulative share of top models is slowly increasing



Top models' share reached minimum in 2010, and is now slightly increasing:

Top 1 model:

14% (2005)

4% (2010)

4% (2013)

Top 10 models:

50% (2005)

23% (2010)

27% (2013)

Top handset models in use in Finland

September 2013

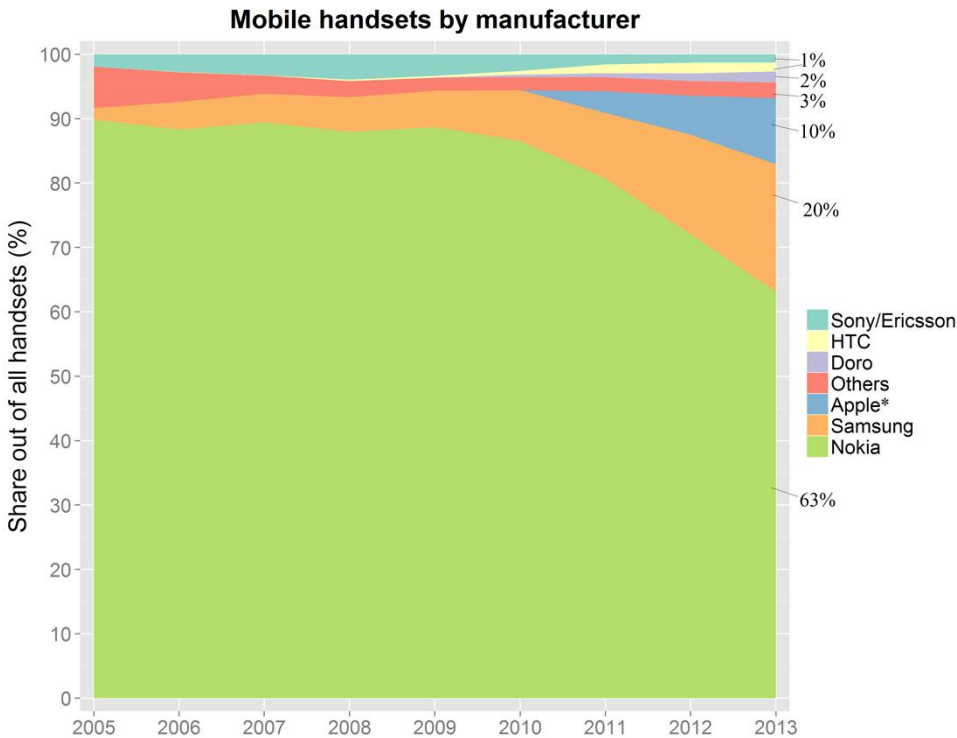
Rank	Model name	Intro year	Share	Change from '12	Smartphone
1	Nokia C2-01	2010	4,2%	→	No
2	Apple iPhone 4S	2011	3,8%	↑	Yes (iOS)
3	Nokia Lumia 800	2011	3,4%	↑	Yes (WP)
4	Apple iPhone 4	2010	3,3%	↓	Yes (iOS)
5	Apple iPhone 5	2012	2,6%	↑	Yes (iOS)
6	Samsung Galaxy Xcover	2011	2,4%	↑	Yes (Android)
7	Nokia C5-00	2010	2,0%	↓	Yes (Symbian)
8	Nokia 3720 Classic	2009	1,8%	↓	No
9	Samsung Galaxy S II	2011	1,7%	↑	Yes (Android)
10	Nokia C1-01 / C1-03	2010	1,5%	↓	No
11	Nokia Lumia 920	2012	1,4%	↑	Yes (WP)
12	Nokia 2760	2007	1,4%	↓	No
13	Nokia Lumia 820	2012	1,4%	↑	Yes (WP)
14	Samsung Galaxy S III	2012	1,4%	↑	Yes (Android)
15	Nokia 113	2012	1,3%	↑	No



Top 15:

- Nokia C2 is the most popular handset model (same as 2012)
- 10 smartphone models
- All handsets are capable of mobile Internet connectivity

Nokia is the most popular handset manufacturer



Although Nokia dominates handset population, its share is decreasing:

- 72% (2012) → 63% (2013)

Shares of Samsung and Apple are growing:

- Samsung 15% → 20%
- Apple 6% → 10%

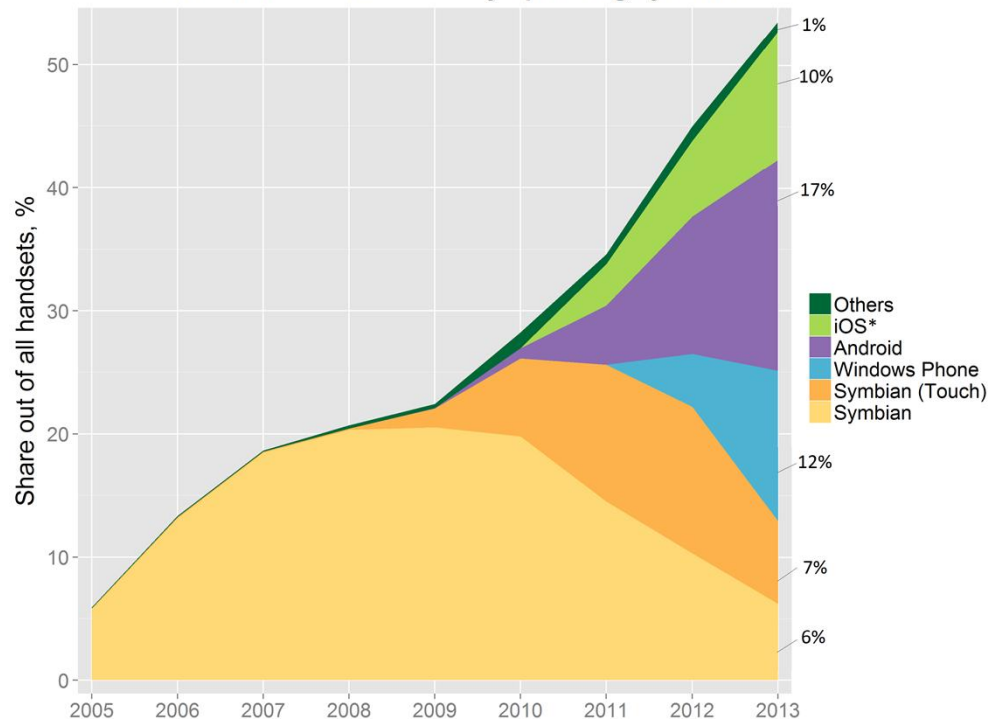
Other popular manufacturers:

- Doro ≈ 2%
- HTC and Sony/Ericsson > 1%

* No data on Apple iPhone in 2007-2010

More than half of mobile handsets are smartphones

Share of mobile handsets by operating system



* No data on Apple iPhone in 2007-2010

** Smartphone is defined as a handset with possibility to install native 3rd party applications

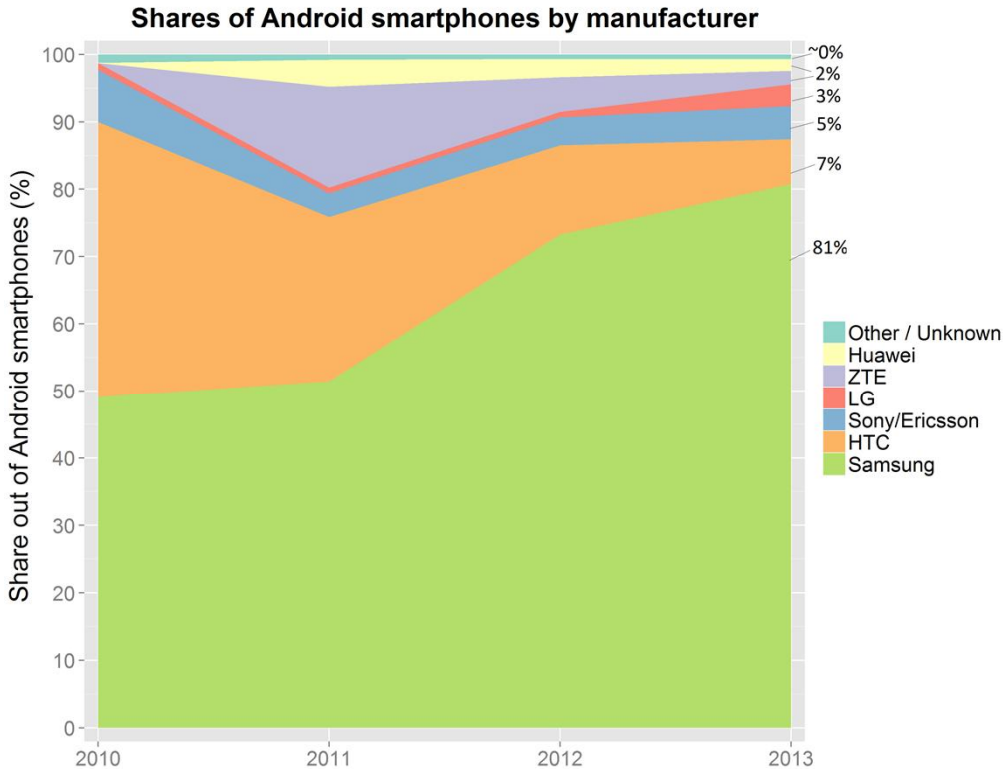
Share of smartphones** among all handsets is 53%

Android has the largest share (17%) out of all smartphone operating systems

Total share of Nokia among smartphones remains stable:

- Share of Windows Phone (Almost all produced by Nokia)
4% (2012) → 12% (2013)
- Share of Symbian
22% → 13%

Samsung is the leading manufacturer of Android smartphones



Android handsets in use are mainly and increasingly produced by Samsung:

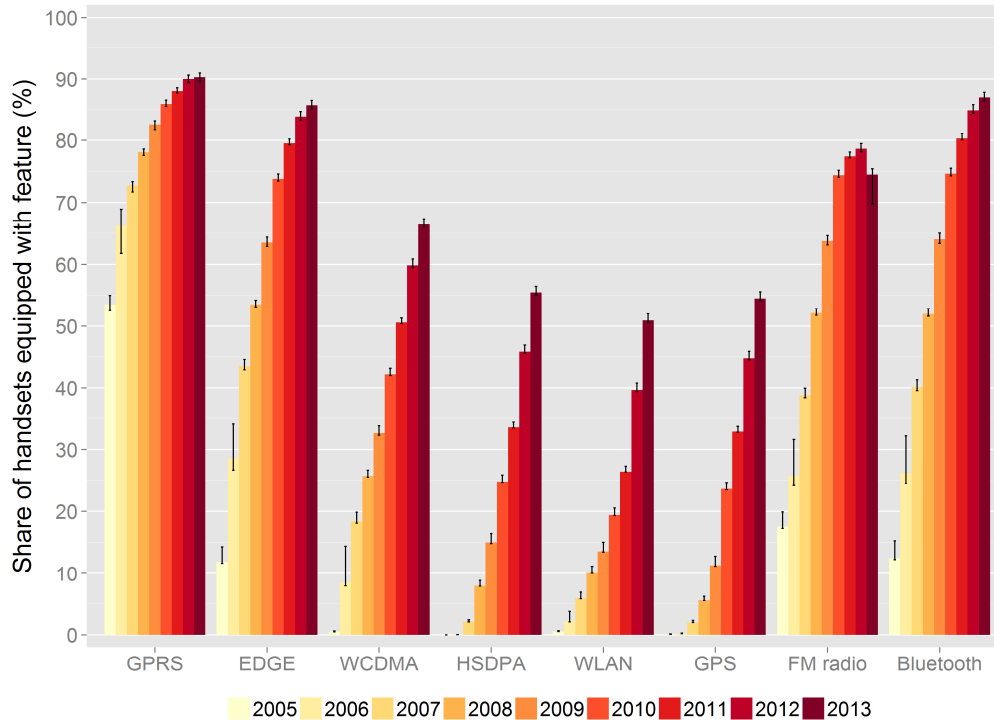
- 73% (2012) → 81% (2013)

Second largest manufacturer is HTC with a decreasing share:

- 13% → 7%

More than half of handsets equipped with WLAN and GPS

Diffusion of handset features in Finland in 2005-2013



* Nokia Lumia WP8 devices became capable of FM radio only after an OS update. It is assumed here that all Lumia users updated their devices.

** Presence of NFC in some handset models is optional

HSDPA, WLAN, and GPS are spreading fast:

- HSDPA 46% → 55%
- GPS 45% → 55%
- WLAN 40% → 51%

Penetration of FM radio* decreased:

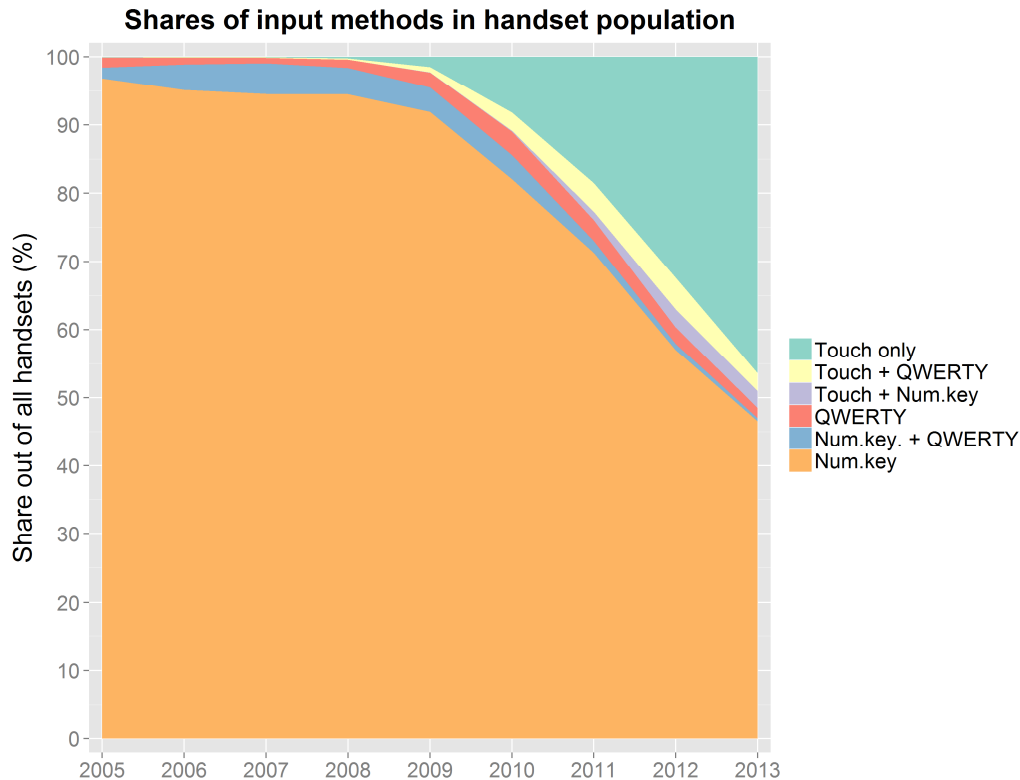
- 79% (2012) → 75% (2013)
- Many high-end devices (iPhones, Samsung Galaxy S4) do not include FM radio

Diffusion of LTE took off during 2013:

- Penetration ~7% in September 2013 (~0,1% in 2012)
- Pattern of diffusion is similar to the diffusion of WCDMA after launch

Share of NFC is estimated** between 10% and 15%

Touch screen handsets are spreading fast



Share of all touch screen handsets is 51%

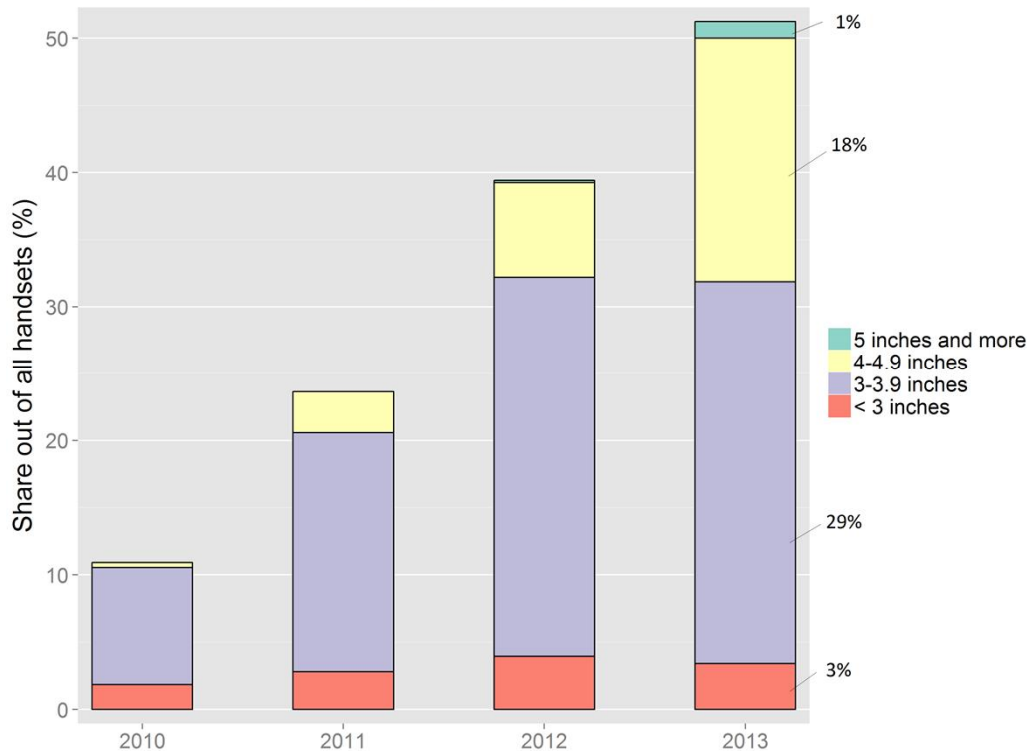
Share of touch only* devices increasing rapidly:

- 32% (2012) → 46% (2013)
- Touch only devices mostly substitute devices with numerical keypad

* Handsets with touch screen as the only input method

Number of handsets with large touch screens is growing

Shares of touch screen sizes



- Share of large screen (4-4,9") handsets is growing rapidly, whereas shares of smaller displays remain stable
- Handsets with displays of 5" and more account for about 1% of all handsets
- Nearly all largest screen handsets (5 inches and more) are Samsung devices

Summary

- The share of smartphones in use (53%) exceeded the share of mobile phones for the first time in 2013
- Android is the most popular smartphone OS (17% of all handsets), followed by Symbian (13%), Windows Phone (12%) and Apple iOS (10%)
- Diffusion of advanced features (HSDPA, WLAN, GPS) continued, whereas penetration of FM radio decreased
- Display size of new touch devices is generally larger than 4 inches. Share of handsets with display diagonal of 5 inches and more is about 1%

Further information

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