



Aalto University
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Engineering

Mobile Handset Population in Finland 2005-2015

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Data collection: handset population

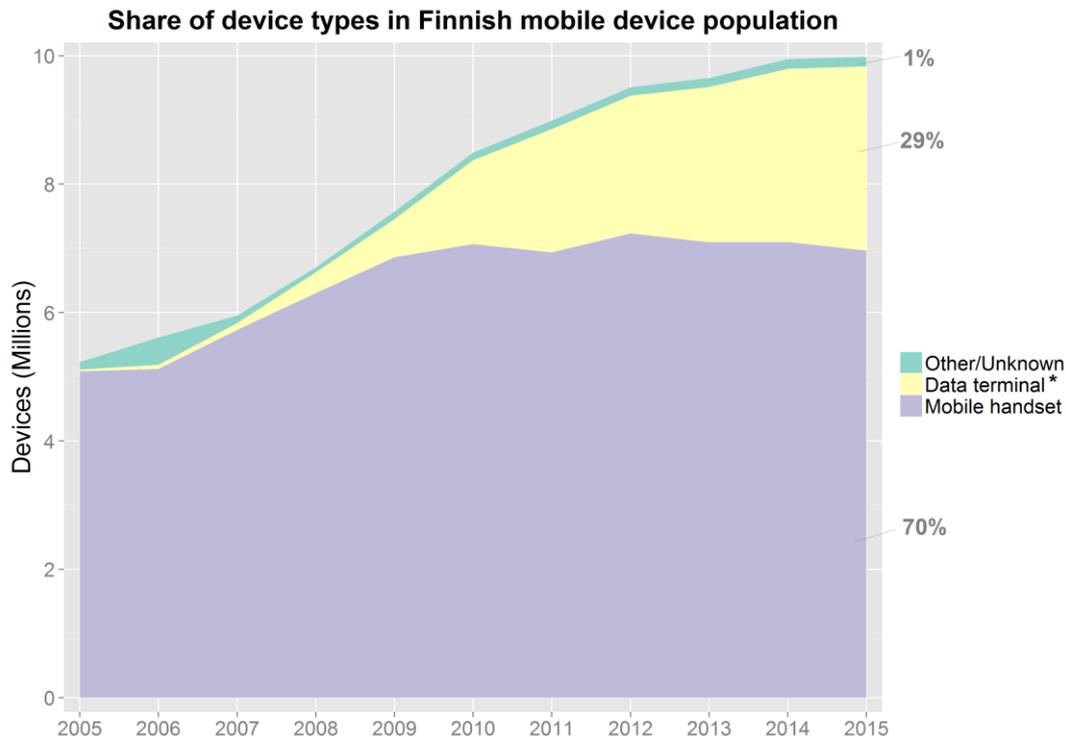
Data from mobile operators' accounting systems

- Data from DNA, Elisa, and TeliaSonera
- Collected in September, annually 2005-2015
- 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 2007 and 2010*
 - *Mobile subscriber churn during the observation period*
 - *Differences in operator-specific data sets*
 - *Unidentified terminals and missing feature-data of handset models*

The number of mobile devices stays relatively stable



* Data terminals include USB modems, mobile Wi-Fi routers, tablets, M2M devices

** Share of M2M devices is estimated based on the numbers reported by Finnish communications regulatory authority (FICORA). Because the information source has been changed, the estimates for the previous years have been adjusted

*** Mobile Wi-Fi router is a device for sharing cellular Internet connection over Wi-Fi

- Exact size of device population depends on the definition
- Here, size of the population is assumed to equal the total number of mobile subscriptions as reported by operators
- Relative shares of handsets and data terminals are based on operators' data and FICORA's report

Major categories of data terminals:

- Share of M2M devices is ~10% out of all devices (~9% in 2014**)
- Share of USB modems is ~5,5% (~8% in 2014)
- Share of mobile Wi-Fi routers*** is ~6% (~3,5% in 2014)
- Tablets with cellular connectivity account for ~6,5% out of all devices (~5% in 2014)

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

Top handset models in use in Finland

September 2015

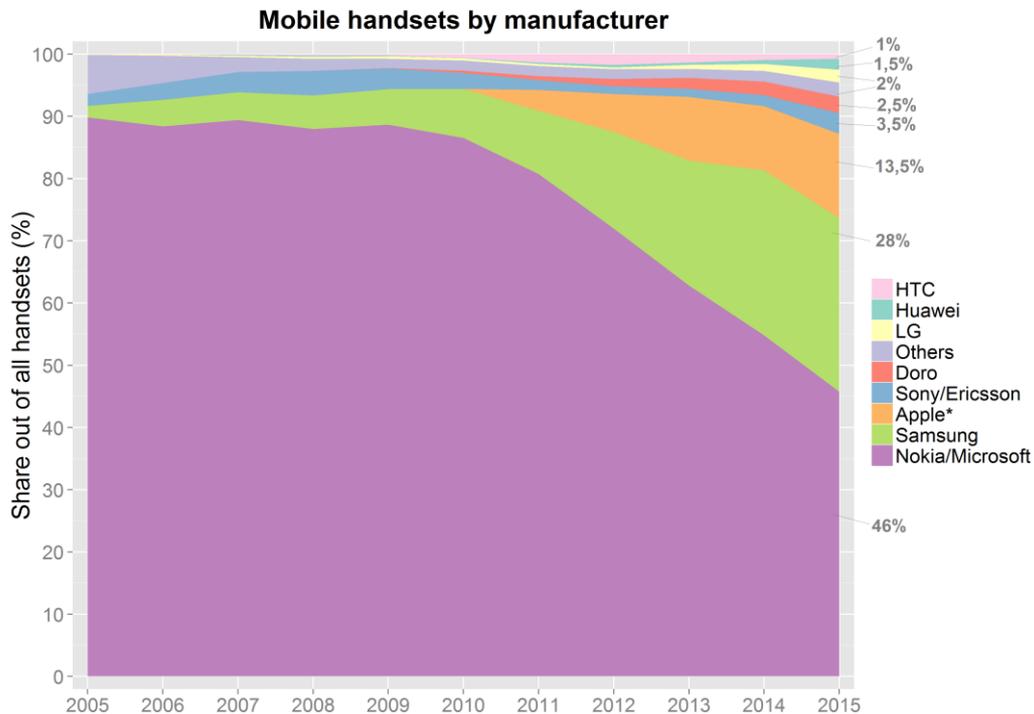
Rank	Model name	Intro year	Share	Change from '14	Smartphone	4G (LTE)
1	Apple iPhone 4S	2011	3,1 %	→	Yes (iOS)	No
2	Samsung Galaxy Trend Plus	2013	3,0 %	↑	Yes (Android)	No
3	Apple iPhone 5S	2013	2,9 %	↑	Yes (iOS)	Yes
4	Nokia C2-01	2010	2,6 %	↓	No	No
5	Apple iPhone 6	2014	2,5 %	↑	Yes (iOS)	Yes
6	Nokia 301	2013	1,9 %	↑	No	No
7	Apple iPhone 5	2012	1,9 %	↓	Yes (iOS)	Yes
8	Samsung Galaxy S III LTE*	2012	1,9 %	↑	Yes (Android)	Yes
9	Samsung Galaxy Xcover 2	2013	1,6 %	→	Yes (Android)	No
10	Nokia Lumia 520	2013	1,5 %	↓	Yes (WP)	No
11	Apple iPhone 4	2010	1,5 %	↓	Yes (iOS)	No
12	Samsung Galaxy S4 Mini	2013	1,4 %	↑	Yes (Android)	Yes
13	Nokia Lumia 925	2013	1,4 %	↑	Yes (WP)	Yes
14	Nokia Lumia 625	2013	1,4 %	↑	Yes (WP)	Yes
15	Nokia Lumia 635	2014	1,3 %	↑	Yes (WP)	Yes



- Apple iPhone 4S continues to be the most popular handset model
- 5 Apple, 4 Samsung, and 6 Nokia/ Microsoft models in Top 15
- The most popular handset not produced by Apple, Nokia/ Microsoft, or Samsung is ranked 53rd
- Top 15 handsets constitute ~30% of all handsets, Top 50 ~58%

* Only LTE version of Samsung Galaxy S III (GT-I9305)

Nokia/ Microsoft, Samsung, and Apple constitute 87,5% of total handset base



* No data on Apple iPhone in 2007-2010

In 2015, Nokia/ Microsoft handsets for the first time formed less than half of the total population:

- 55% (2014) → 46% (2015)

The growth of Samsung's share has slowed:

- 26,5% (2014) → 28% (2015)

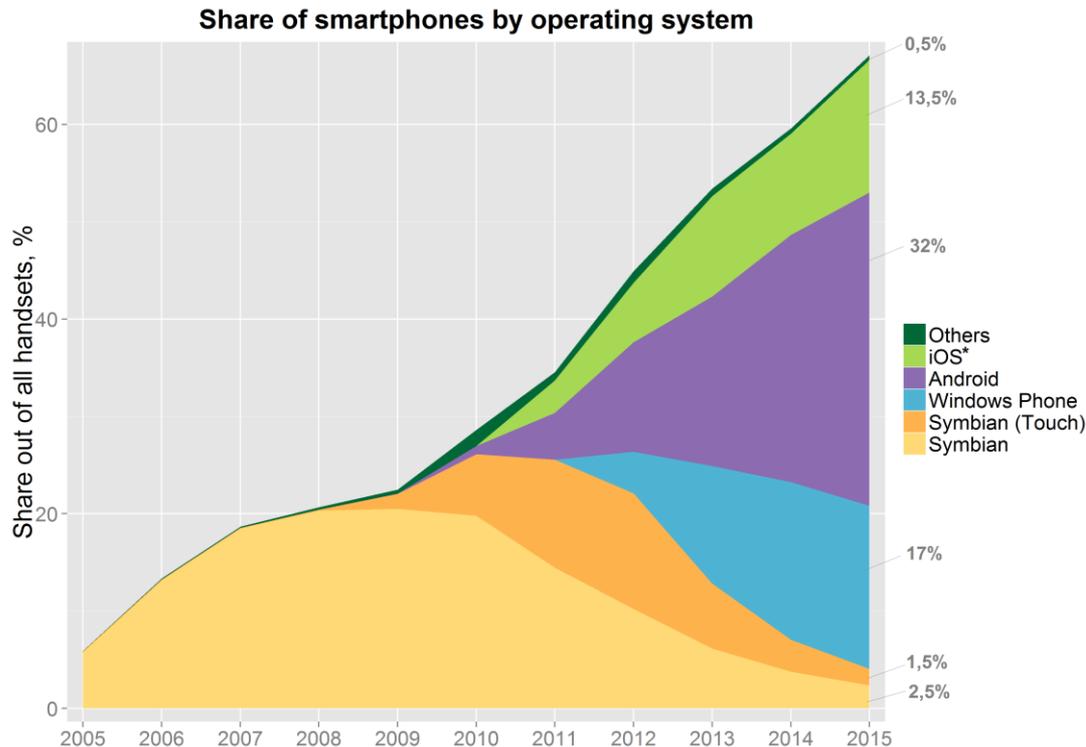
After the slowdown in 2014, the share of Apple has continued fast growth:

- 10,5% (2014) → 13,5% (2015)

Most popular vendors among "Others":

- Motorola ~ 0,4%
- Caterpillar, Jolla, OnePlus

Number of Android and iOS smartphones grows fast

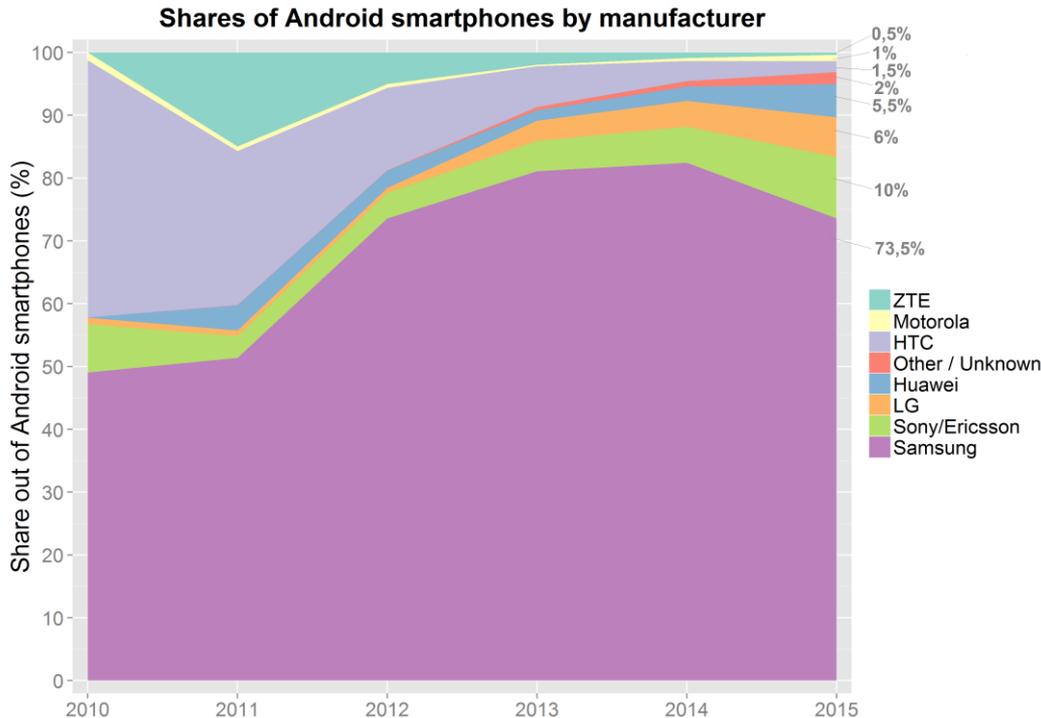


* No data on Apple iPhone in 2007-2010

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

- Two out of three handsets in Finland are smartphones** (67%)
- Android has the largest share (32%) out of all smartphone operating systems
- The growth of the number of Windows Phone smartphones has slowed: 16% (2014) → 17% (2015)
- Windows Phone and Symbian smartphones are mostly produced by Nokia/Microsoft

Samsung is still the leader among Android smartphones, but losing the ground



Android handsets in the mobile population of Finland are mainly produced by Samsung. However, its share is decreasing:

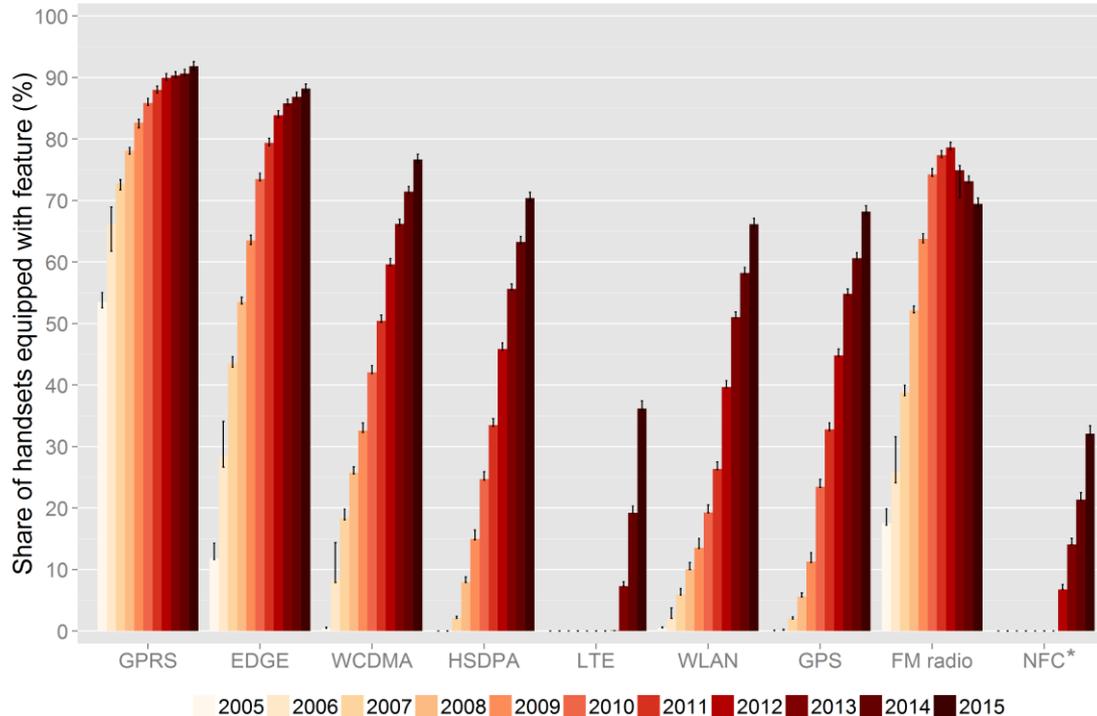
- 82,5% (2014) → 73,5% (2015)

Other Android handset manufacturers have increasing shares:

- Sony/Ericsson 6% → 10%
- LG 4% → 6%
- Huawei 2% → 5,5%

LTE presents in every third handset in Finland

Diffusion of handset features in Finland in 2005-2015



The share of LTE increased almost twofold within a year:

- 19% (2014) → 36% (2015)

The penetration of NFC* is growing fast:

- 21% (2014) → 32% (2015)

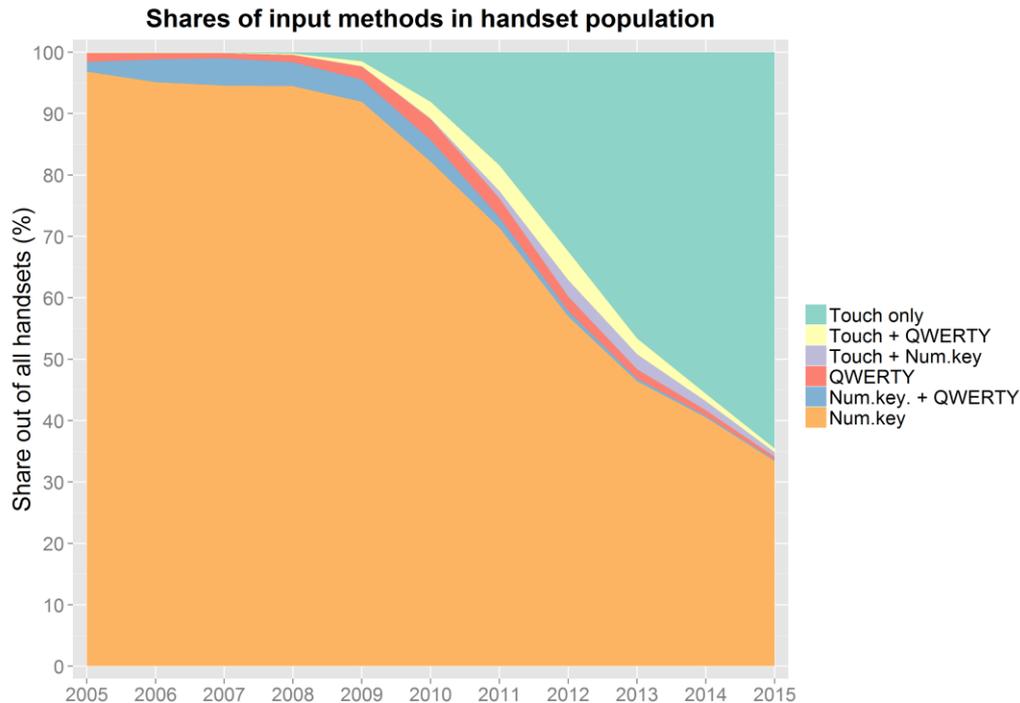
About 8% of handsets are not capable of mobile Internet connectivity:

- Diffusion of GPRS is 92%

Camera presents in 91% of all handsets, Bluetooth – in 92%

* No full information on the presence of NFC is available until 2012, thus these years are excluded from the graph. The presence of NFC in some handset models is optional.

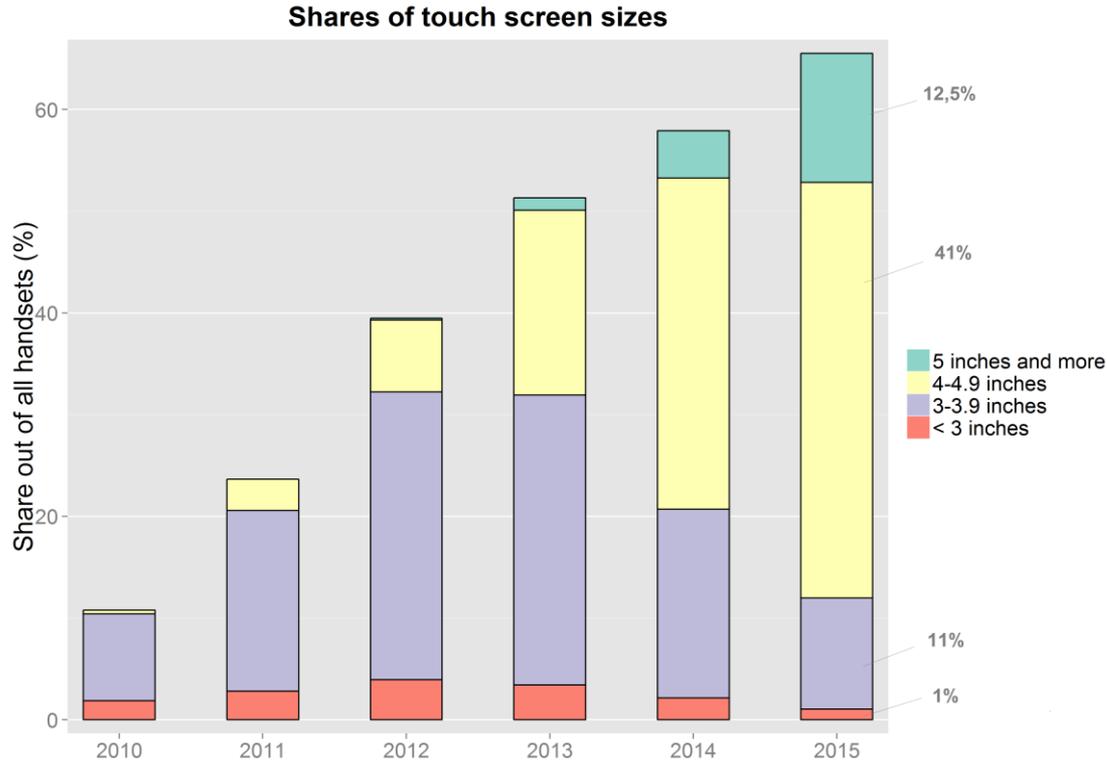
Touch screen devices increasingly dominate handset population



Share of all touch screen handsets is 65,5% (58% in 2014)

About 1,5% of handsets use multiple input methods: touch screen + QWERTY, touch screen + numeric keypad, or numeric keypad + QWERTY

More than half of handsets have a display of 4" and more



Share of handsets with displays of 5" and more is growing fast:

- 5% (2014) → 12,5% (2015)

Out of handsets with displays of 5" and more:

- 76% are Android devices
- 20% are Windows Phone devices

Summary

- Out of top 15 popular handset models in use in Finland, 13 are smartphones: five Apple, four Samsung, and four Nokia/ Microsoft
- The fastest-growing smartphone OS in 2015 was Apple iOS (10,5% in 2014 out of all handsets → 13,5% in 2015), followed by Android (25,5% → 32%) and Windows Phone (16% → 17%)
- Samsung started to lose its share among Android smartphone manufacturers (82,5% in 2014 → 73,5% in 2015)
- Every third handset in use in Finland is LTE-capable (36%)

Further information

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