



HELSINKI UNIVERSITY OF TECHNOLOGY  
Networking Laboratory

# Mobile Data Adoption in Finland 2005-2006

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Antero Kivi

27.02.2006



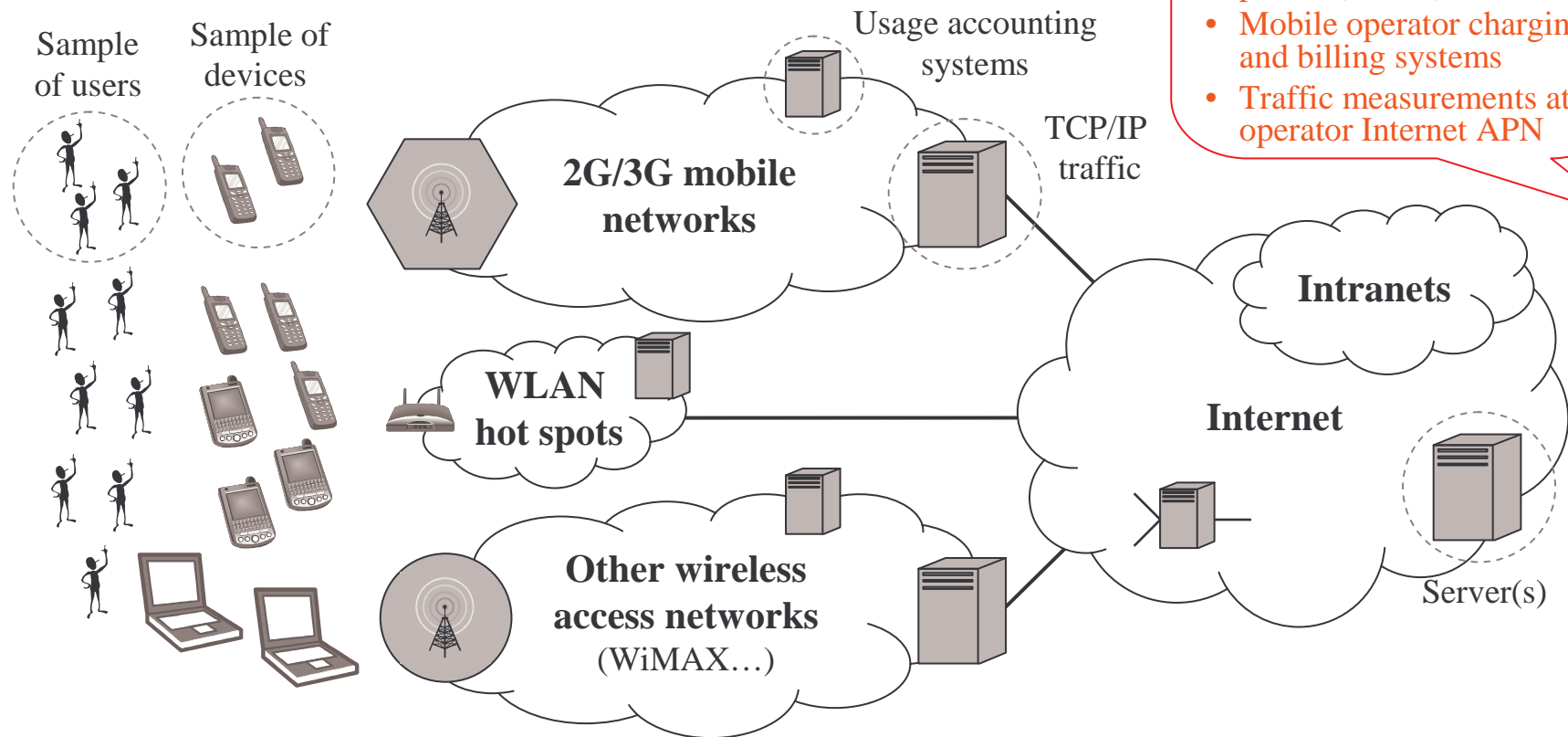
# Agenda

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- Measurement description
- Mobile terminal installed base
- Mobile subscriber packet data usage
- Conclusions



# Sources of data on mobile service usage





Mobile operator charging and billing systems:

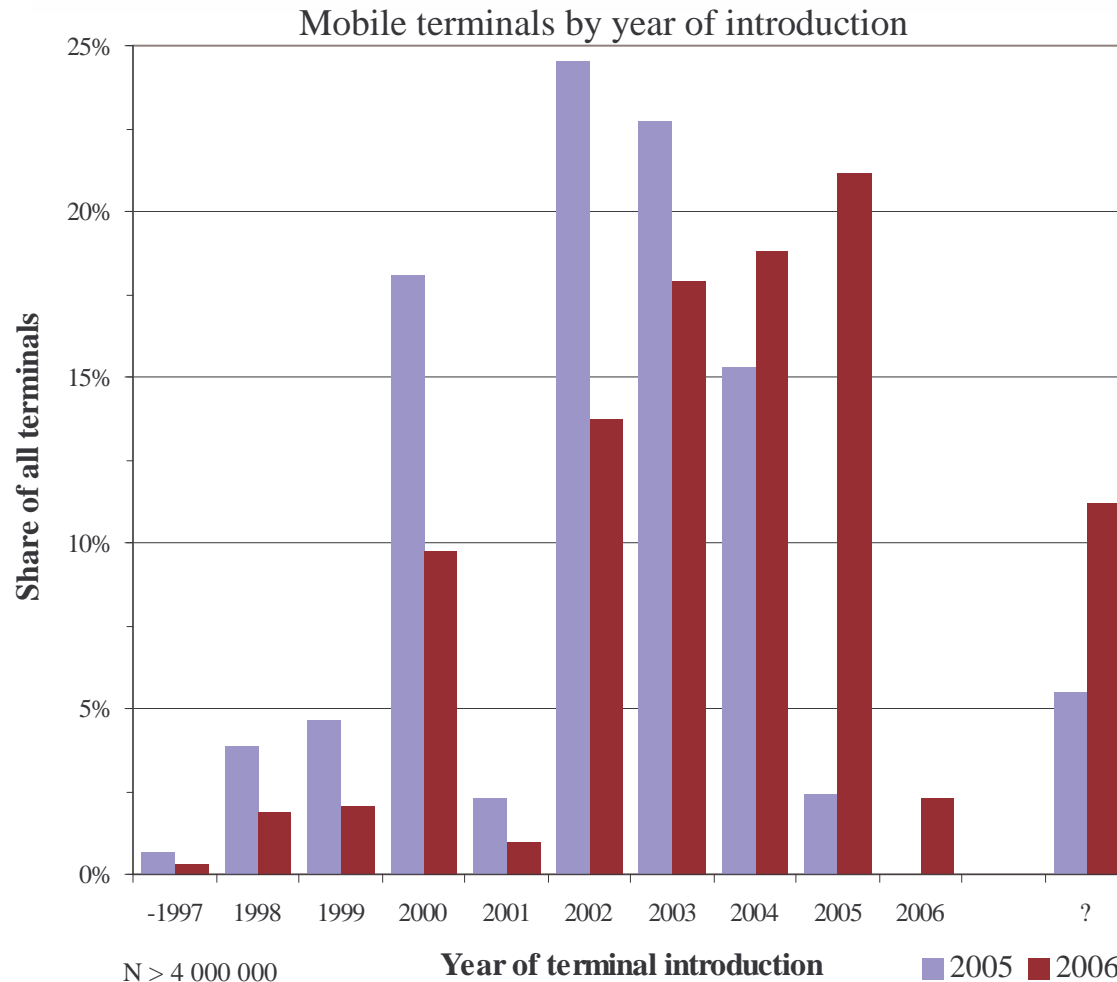
## Measurement description

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- Data collected using mobile operators' charging-oriented reporting systems
  - Ticket (CDR) and subscriber information systems of Finnish GSM/UMTS operators
  - Data primarily from 2 weeks / 1 month in Sep – Oct 2005 and 2006
- About 80-90% of Finnish mobile terminals/subscribers included
  - Operators included in 2005 and 2006: Sonera, Elisa (+Kolumbus), DNA
  - No data on: Saunalahti, TeleFinland, others



# Finnish mobile terminal base is renewing

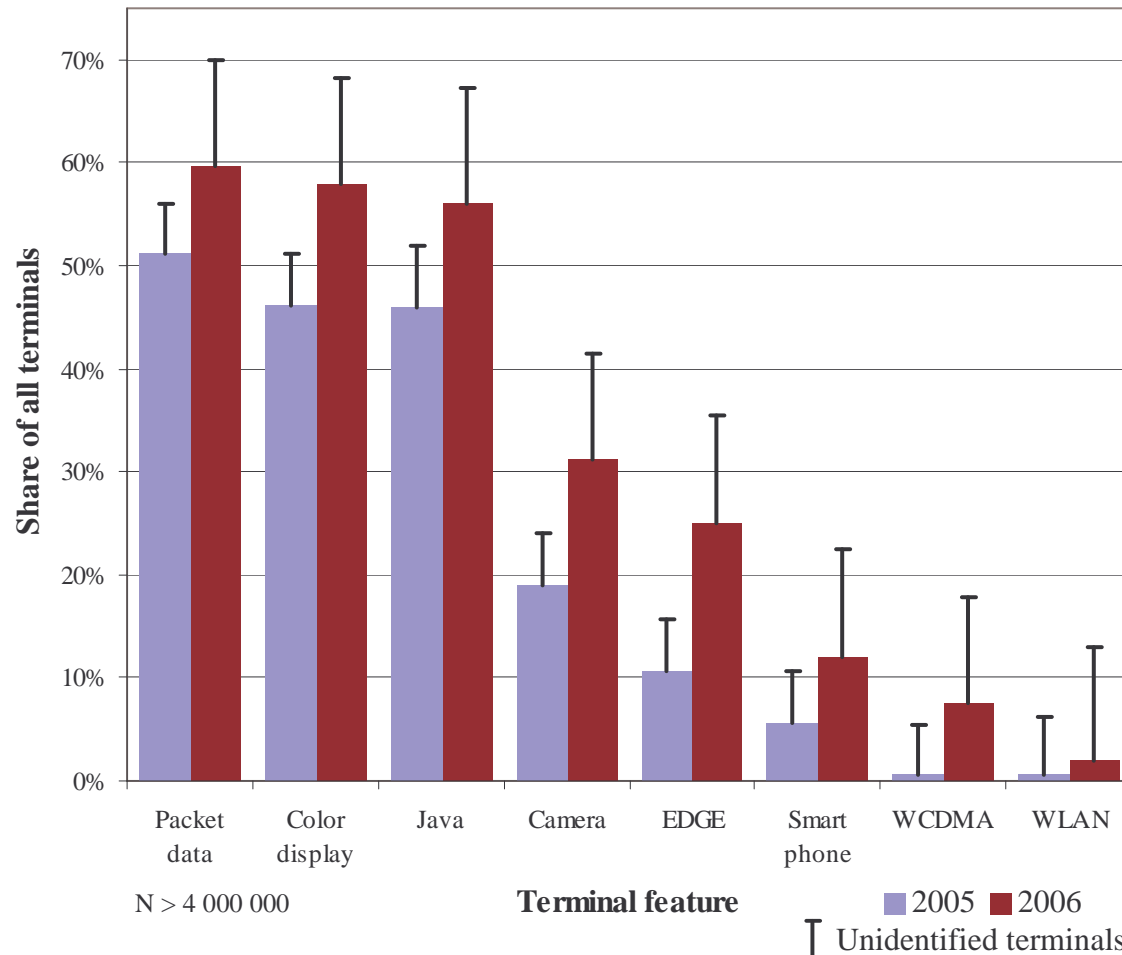


- Mobile terminal base renewed by more than one year in 2005-2006
  - Average “age” down from 2,9 (2005) to 2,6 (2006) (age = measurement year – year of introduction)
  - Average year of introduction up from 2002 to 2004
- Bell curve (product life cycle) broken by 2005 and 2001
  - Many terminals from 2005 (in 2006 data) due to changed market focus towards advanced handsets
  - Very few terminals from 2001



# Features enabling data usage are spreading

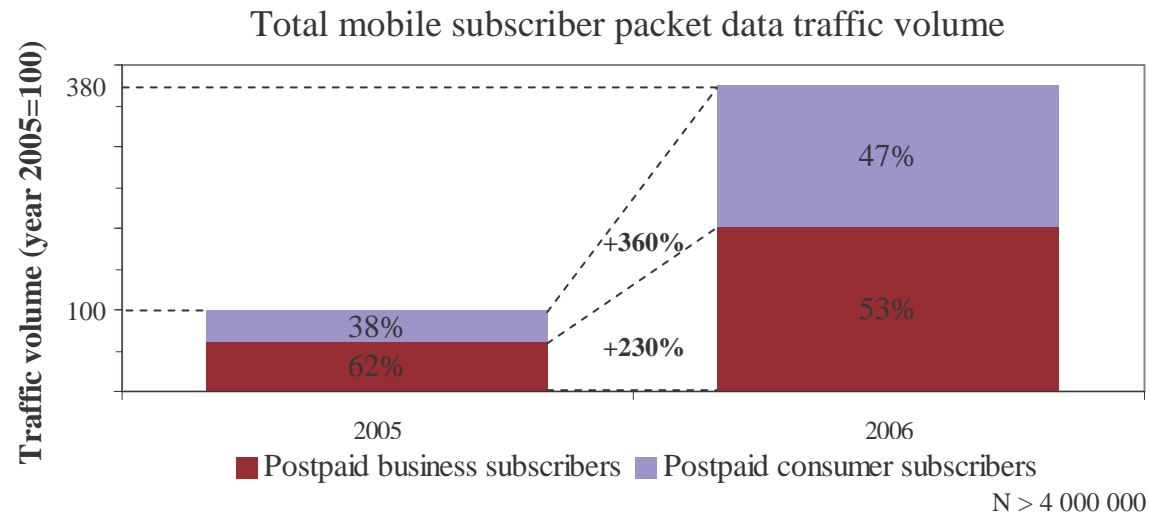
Penetration of terminal features



- Key features for packet data usage spreading
  - Packet data 51 % à 60 %
  - Java 46 % à 56 %
  - EDGE 11 % à 25 %
  - Smart phones 6 % à 12 %
  - WCDMA 0,5 % à 8 %
  - WLAN 0,7 % à 2 %
  - HSDPA 0 % à 0,1 %
- Unidentified terminals (T) somewhat increase the figures of all features
  - 10-11% in 2006, 5-6% in 2005
  - Unknown profile likely somewhat more advanced than identified terminal base



# Mobile data traffic volume is growing rapidly

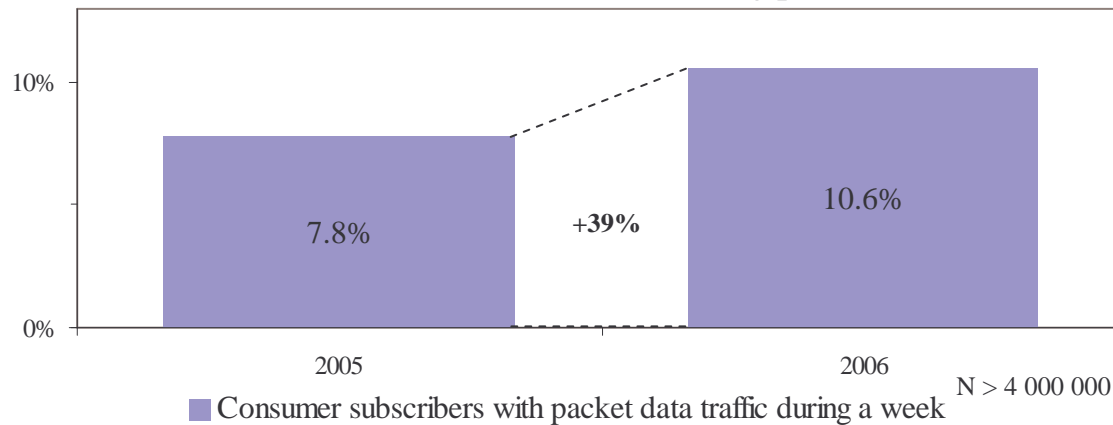


- Mobile subscriber packet data usage grown almost 4x
  - Statistics Finland: total mobile network data traffic 34 000 GB in 2005 (650 GB/week)
- Consumer subscriber packet data usage up almost 5x
  - More users?
  - More usage per user?



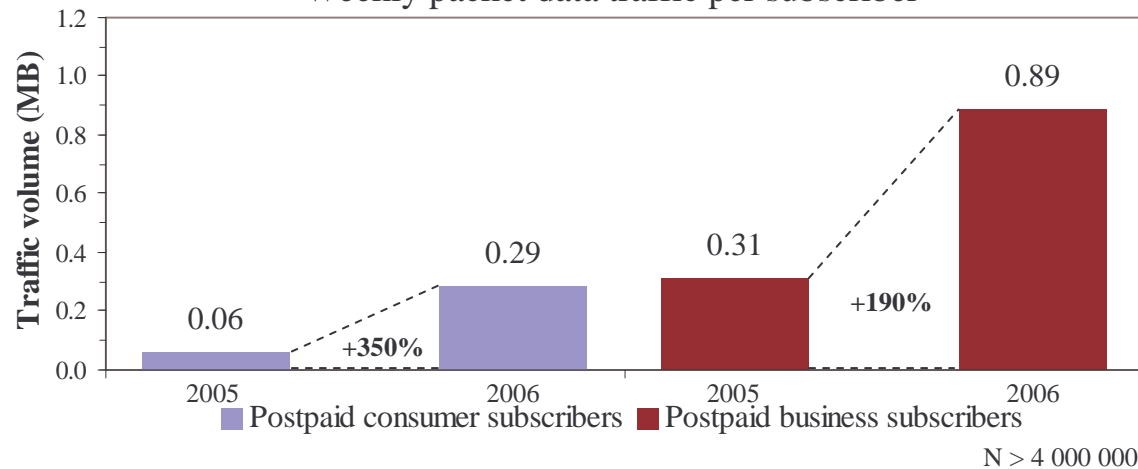
# But... growth mainly comes from old users

Share of consumer subscribers using packet data



- Only 3 percentage point increase in share of weekly users
  - 39% more (100 000) packet data using consumer subscribers
- High growth results from increased average traffic per subscriber
  - Business subs. still generate 3x as much traffic per subscriber

Weekly packet data traffic per subscriber



- Why is average usage growing?
  - Lower price/MB?
  - More capable terminals and networks (3G, HSDPA)?
  - More laptop usage?
  - More data services?
  - New data-intensive services?
  - Better usability?
  - More marketing?
  - ...?





## Conclusions

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- Mobile terminal base has improved due to changed market focus towards advanced handsets
- Consumer masses have not started using mobile data services, despite improved 3G penetration
- Existing users have acquired more capable terminals and price/MB has decreased
- Critical mass for data service adoption has not yet been achieved in Finland
  - Improvements in terminal base nevertheless lay the enabling conditions for mass market adoption in the (near?) future



## Further information

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- A slide set with the complete results of the Finnish mobile data service usage measurements 2005-2006
  - Distributed to COIN project partners in March 2007, and eventually published
- Publications on the topic
  - A. Kivi (2007). Measuring Mobile User Behavior and Service Usage: Methods, Measurement Points, and Future Outlook. Submitted for publication.
  - A. Kivi, Mobile Internet usage measurements - Case Finland, Master's thesis, Helsinki University of Technology, 2006.
- COIN project web site
  - <http://www.netlab.tkk.fi/tutkimus/coin/>
- Contact [antero.kivi\(at\)tkk.fi](mailto:antero.kivi(at)tkk.fi)