



Impregnating Wireless Communications into People's Life

Prof Caj Södergård



VTT IN BRIEF 2006

45 Knowledge Centres
2 700 employees
233 M€ turnover (est. 2006)

7 Knowledge Clusters

- Digital Information Systems
- Telecommunications
- Microtechnologies and Sensors
- Materials and Building
- Industrial Systems
- Biotechnology
- Energy and Pulp&Paper

9 Key Customer Sectors

- Biotechnology, pharmaceuticals and foods
- Electronics
- Energy
- ICT
- Real estate and construction
- Machines and vehicles
- Transport and logistics
- Pulp and paper
- Process industry and environment



Caj Södergård 12.9.06



Mobile & Wireless Communication Research

VTT IN BRIEF 2006

45 Knowledge Centres
2 700 employees
233 M€turnover (est. 2006)

7 Knowledge Clusters

- Digital Information Systems
- Telecommunications
- Microtechnologies and Sensors
- Materials and Building
- Industrial Systems
- Biotechnology
- Energy and Pulp&Paper

9 Key Customer Sectors

- Biotechnology, pharmaceuticals and foods
- Electronics
- Energy
- ICT
- Real estate and construction
- Machines and vehicles
- Transport and logistics
- Pulp and paper
- Process industry and environment



Caj Södergård 12.9.06



> Hybrid Media

Linking mobile media to print with 2D codes

- Enables links from print to electronic media: updatable/personalized content, audio and video files
- VTT developed and patented a reading programme for a camera phone. The programme interprets matrix codes ("ubiboxes")
- PrintAccess: Tekes/Fenix-project 2003-2005
 - Technical University of Helsinki, VTT, M-Real, Stora-Enso, Edita, UPC Print
- Developed further into UpCode for UPC
- Used by several publishers (e.g. Kauppalehti, Eniro) and by VTT and TEKES (visiting cards)



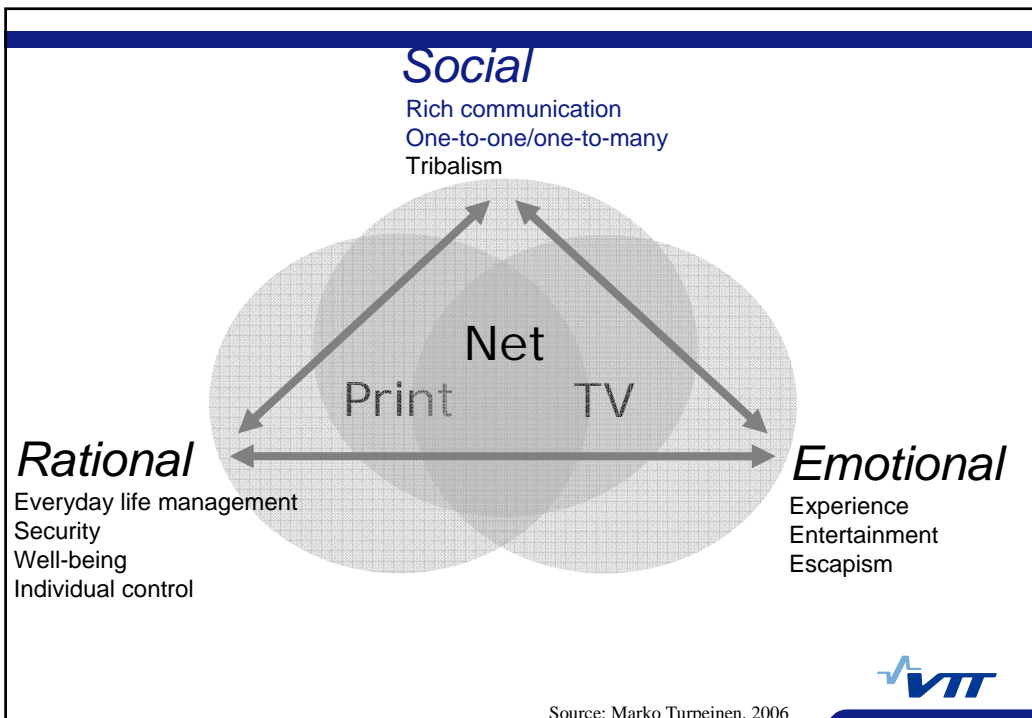
Caj Södergård 12.9.06



How to increase the usage of mobile and wireless communications in people's daily life?

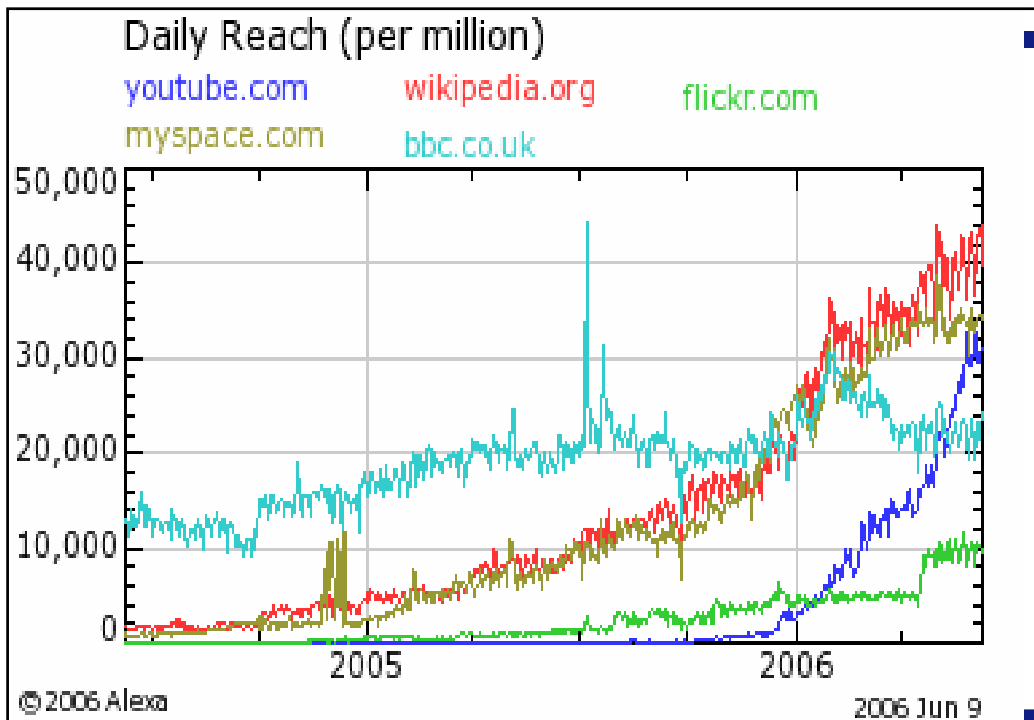
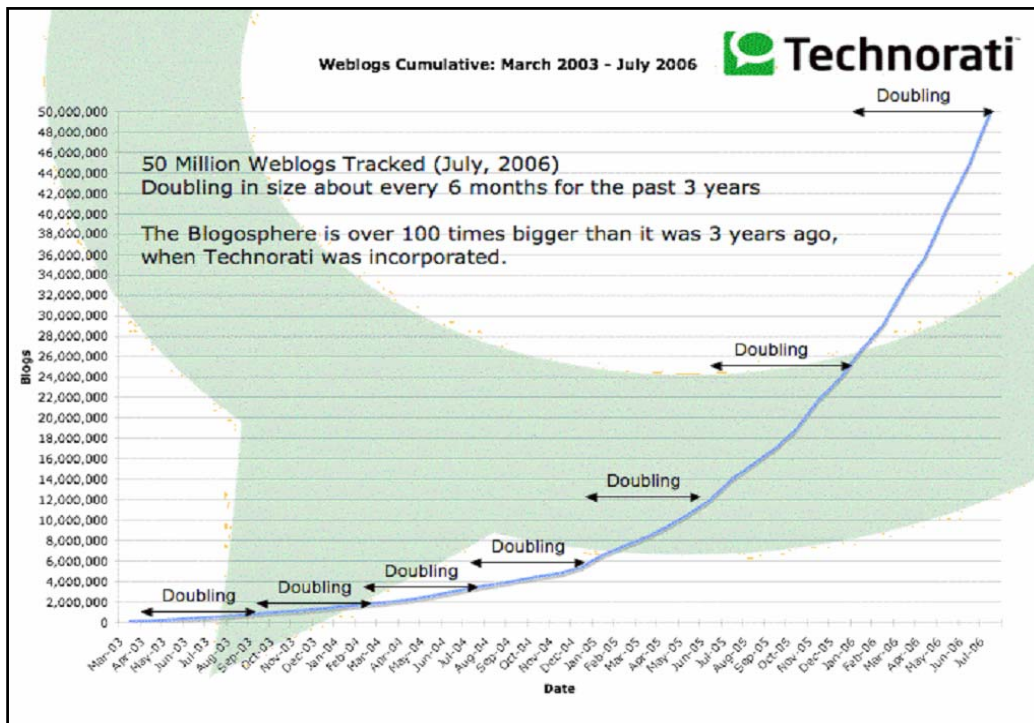
- It should address people's needs for
 - **Rational** life management, security, well-being, control
 - **Emotional** experience, entertainment, escapism
 - **Social** rich communication, one-to-one, one-to-many, tribalism
- Compare with media

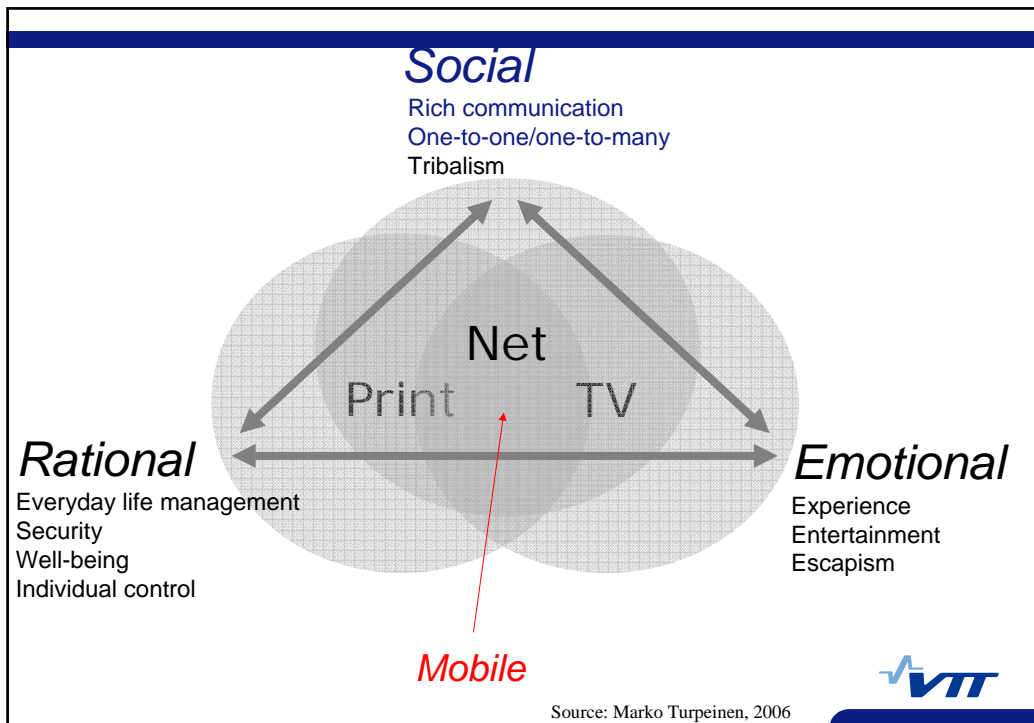
Caj Södergård 12.9.06



Source: Marko Turpeinen, 2006



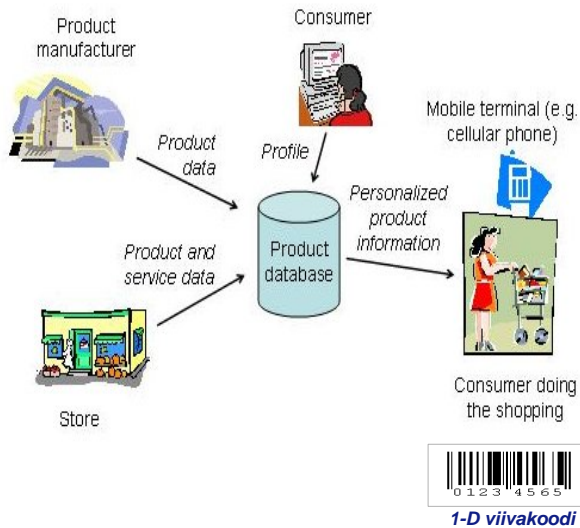




High potential applications of mobile and wireless communications

- **Mobile experiences (mobile tv, music, radio)**
- **Wellbeing and (preventive) health care**
- **Intelligent infrastructure and transport**
- **Product security**
- **Product identification and logistics**
- **Linking electronic and printed media – printed intelligence**

UTILITY MEDIA: MANAGING NUTRITION AND PHYSICAL ACTIVITY (TIVIK/HyperFit)



- Delivers *personalised* information about the food products to the mobile phone & PC
- The product is identified by reading its bar code with a camera phone
- Physical activity is also monitored

www.vtt.fi/tivik



New Potential Technology

- 3D screens, extremely low-cost (printed electronics)
- New sensors, sensor networks
- New network architectures (peer-to-peer, GRID,...)
- Intelligent environments, ubiquitous computing
-
- Quantum computing, nano materials



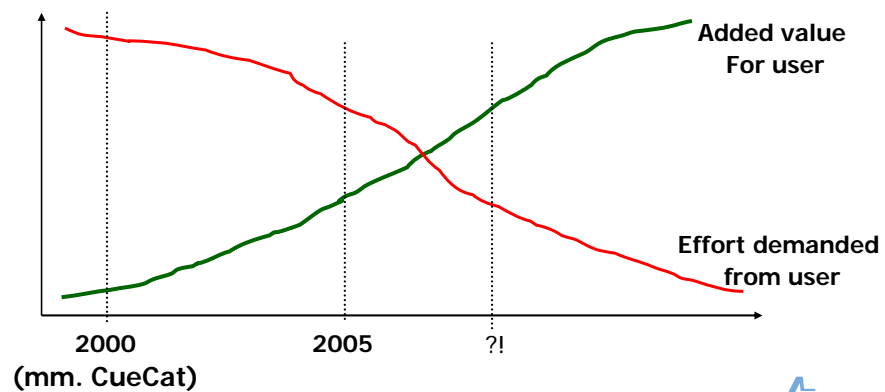
Sources for frustration

- Mobile data has not caught on (except SMS)
- 3G phones are starting to spread because of allowing bundling of phone and services

Caj Södergård 12.9.06



Success criteria: Added value > Effort



Caj Södergård 12.9.06

