Convergence Terminals & Digital Services
Anssi Vanjoki
Executive Vice President,
Digital Convergence Unit
Nokia Mobile Phones

Agenda
- Mobile Imaging – The next wave of Mobile Communication
- Convergence Terminals
- Club Nokia
- Summary
Mobile Communication Paradigm Shift
- from 'listen to what I say' to 'see what I mean'

- Complete personal connectivity
- Imaging is the next wave of Communications
- Applications and services must comprise a natural migration path for fast market penetration and growth.
- Application and service platforms must facilitate open competition and global deployment.
- Profitability throughout the value chain is best ensured by services that provide end-user delight.

Capturing a Moment

“Snap Happy’s”
- Variety of cameras
- Capture situation
- Low awareness of technology (e.g. film speed)
Portability & simplicity are the key.

“Hobbyists”
- ‘Serious’ photographers
- Broad range of subjects
Time dedicated, desire for high quality reproduction.

“Event Clickers”
- Prompted by events
- Typically automatic compact camera
- Willing to invest more to quality
Important not to lose the Moment. Quality fairly critical.

Capturing the moment is the most important motivation for photography
Metcalf's law in action - SMS growth in Europe

From Photograph to Image

- The photograph is no longer a tangible, individual item with intrinsic value.
- It is now an image - with a more cavalier attitude.
- Versatile means of sharing
Multimedia Messaging - Person to Person

- Text
- Graphics
- Digital images
- Audio clips

- Standardized presentation and timing
- Own content creation
- Content & storage services

Multimedia Messaging as a Service platform

Examples of mobile services...

Entertainment

News

Advertising
Learning the SMS lesson -
What is needed for the fast MMS service growth

- Easy to Use
- Flexible charging model
- Guaranteed delivery
- Inter-operator delivery
- Sufficient penetration

These issues have been taken into account in Nokia technology choices

Convergence Terminals
# Mobile Terminal Services Environment - making the mobile services tornado happen

<table>
<thead>
<tr>
<th>Key user benefits</th>
<th>Mobile, real time, life enhancing, easy and familiar to use, fun, and fast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key applications</td>
<td>Message and email</td>
</tr>
<tr>
<td>Key function</td>
<td>Content transport and messaging</td>
</tr>
<tr>
<td>Key technologies</td>
<td>MMS</td>
</tr>
<tr>
<td>Common transport</td>
<td>From WAP/WSP to WAP NG (TCP/IP)</td>
</tr>
<tr>
<td>Radio network</td>
<td>GSM/GPRS/EDGE/WCDMA or CDM A2000</td>
</tr>
</tbody>
</table>

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## One Size Does Not Fit All

**Better Displays**  
**More Features**  
**User Interface Segmentation**  
**Smaller size**  
**Better Input**
Increased Functionality
= More Pixels & Keys

Nokia UI categories

Series 30
Cost driven platform
XHTML
Java
MMS
Nokia OS

Series 40
Size driven Colour platform
XHTML
Java
MMS
Nokia OS

Series 60
One-hand operated Feature Platform
XHTML
Java
MMS
Nokia OS

Series 80
Two-hand operated Feature Platform
HTML
Java
MMS
Symbian OS
Symbian OS

Series 30
Series 40
Series 60
Series 80
Consumption Led Changes

**HOW WILL I BE ENABLED?**
- Don’t tell me about the technology!
- What I want to know is what can I do with it?

**HOW IS THIS BENEFIT RELEVANT?**
- ... to me as a working mother?
- ... to me in my social circle?
- ... to me in my active lifestyle?
- ... to me in my career?

A need to take a **HOLISTIC** view of the consumer and a new approach to segmenting & targeting permitted by the consumer.

The Market Has Evolved and Expectations Have Changed

**FROM**
- Product
- Needs
- Having
- Tech Feature Driven
- Developing Markets

**TO**
- Services
- Desires
- Enabling
- Tech Benefit Driven
- Established Markets

Adoption %

Technology-led adoption

Consumption-led changes

Time
Values Based Segments

- **GO OUT**
  - Experiencers
    - %
  - Acceptors
    - %
  - Impressors
    - %
  - Maintainers
    - %
  - Independents
    - %
  - Copers
    - %

- **STAY IN**
  - I’ll make my own mind up
  - Others
    - %

Different Life Strategies

- ME

I want to experience it all for myself!

I need to look as though I’m managing!

Consumer acceptance of technology benefits

Price/Image map based on value and user profiles

- Mobile Warrior
  - %
  - (location, connectivity, PIM)

- Enhanced Features
  - %
  - (enhanced UI, mess’g, PIM, browser)

- Video Imaging
  - %
  - (video imaging)

- Still Imaging
  - %
  - (still imaging, location w/emergency)

- Dependability
  - %
  - (battery life, durability)

- Information Interest
  - %
  - (high speed internet with graphics)

- Imaging
  - PIM
  - %
  - (still imaging, mess’g, PIM, connectivity)

- Entertainment
  - %
  - (still imaging, M P3)

- Size
  - %
  - (small size, color)

- Size
  - %
  - (small size, color)

Rational → Feeling → Emotional

- Rational
- Feeling
- Emotional
### Product category matrix

<table>
<thead>
<tr>
<th>STYLE</th>
<th>Voice</th>
<th>Entertainment</th>
<th>Imaging</th>
<th>Media</th>
<th>Business Applications</th>
</tr>
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<tbody>
<tr>
<td>Premium</td>
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<tr>
<td>Fashion</td>
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<tr>
<td>Classic</td>
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<td>Active</td>
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<td>Expression</td>
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<tr>
<td>Basic</td>
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<td><img src="image27" alt="Phone" /></td>
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<td><img src="image29" alt="Phone" /></td>
<td><img src="image30" alt="Phone" /></td>
</tr>
</tbody>
</table>

### Personalised devices with Java technology!

- **A Business Woman**: Calendar, Chess, Speedracer
- **A Teenage Girl**: Music, Games, Screensaver
- **A School Boy**: Tools, Calendar, Games
Product Categories as Business Platforms

- The application driven terminal is a platform focusing on a certain use. During the terminal’s life cycle it can be enhanced by software downloads. Terminals will be differentiated through their life time.
- Product categories provide developers a way to optimise their development and marketing efforts and to offer preferred applications to targeted user segments.

Nokia 9210/9290 Communicator
Nokia 5510 - New innovation in design

- Full qwerty keyboard for easy input
- Music Player (AAC & MP3)
- FM radio
- Multiple Chat and SMS sending & concatenation
- Headset
- Exciting Games
- Club Nokia services
  - Games levels
  - High score sending
  - Graphics & screensavers

Nokia 7650, Imaging Phone

- Big graphical color display (176x208 pixels, 35x41mm)
- Totally new, Graphical User Interface
- Integrated Digital Camera & picture storing, viewing and transfer
- Bluetooth, GSM 900/1800, GPRS, HSCSD
- Available in Q2-2002

- Size: 138 cc
- Weight: 152 g
- Talk/Standby: 2-4 h / 12 days
Nokia's first GSM/GPRS/WCDMA is Imaging Phone

- Big color display with Graphical User Interface
- Integrated Digital Camera & picture storing, viewing and transfer
- GSM 900/1800, GPRS, HSCSD & WCDMA
- MMS, Java, xHTML, SyncML, MIDI, Bluetooth
- Available in H2-2002
- Data speeds 64-128 kbits
New Digital Mobile Services market

- From one application to multiple applications
- From single brand to multiple brands
- Applications are segmented
- Content goes digital, new delivery mechanisms evolve
  - New combinations of brands, new brands
- Some applications are terminal specific, e.g. imaging
  - New business models emerge in the field of content distribution.
  - Terminal features extend to services and the functionality is required from day one.
  - Operators provide access, trust, billing and security for the new services

Mobile operators will become The Portals for mobile digital services

Club Nokia accelerates mobile services offering

- Close to 50 co-operation agreements with operators so far
- Practical implementation in H1-2002
- 4W-drive: win-win-win-win business model:
  - convenient and easy-to-use service for the consumer, services available from day one
  - more traffic and a wide service offering for operators
  - easy and trusted way for content players to reach the mobile customers
  - increased loyalty for Nokia phone users, a new revenue opportunity
- Incremental profit share split is based on case-by-case analysis depending on Brand strength and value added by each partner
Club Nokia@ operators

Technology enablers:
- Java MIDP
- XHTML
- SyncML
- MIDI, WAW
- AAC, EPOC
- DRM

Club Nokia@operators

Digital Media Flow

CONTENT CREATION AND AGGREGATION
CONTENT ADAPTATION
CONTENT DISTRIBUTION
CONTENT RECEPTION

Digital
Mass
Media

CONTENT CREATION AND AGGREGATION
CONTENT ADAPTATION
CONTENT DISTRIBUTION
CONTENT RECEPTION

Club Nokia Services today

- Personalization of your phone:
  - ringing tones libraries & composition
  - operator logos, caller group graphics, downloadable profiles, animated screensavers
- Entertainment
  - Symbian OS games for Nokia 9210 and Nokia 7650
  - New Game & game level downloads
  - Highscore sending
- Personal information management
  - PhotoZone services
  - Photo album, editing, etc
  - upload, download of pictures
  - Digital postcard service
- CRM - customer support
- Club Nokia in mobile phone, in Web and via WAP (mobile.club.nokia.com)
Club Nokia services with Nokia 7650

- Services complete the total product offering
- Messaging and imaging services make the end-user delight of 7650 real

Planet of the Apes with 20th Century Fox

- First major cross-media campaign with the film industry
- A significant step in bringing mobile consumers a fully integrated movie experience
- Demonstrating the converging world of entertainment
Summary

- Messaging is the killer application
  - SMS, MMS, IM, E-mail, Presence
- Mobile Terminals become multi application devices, but optimized for one use motivation
  - New Categories, new form Factors
  - Added functionality, added complexity
- Club Nokia is an integrated natural part of Nokia's total terminal offering
• Consumers have become techno aware and have specific mobile needs.
• This combined with spontaneous, ethical and emotions seeking transaction culture will shape consumer behavior and mobilize many aspects of our daily life.