Multimedia – Seed for Growth

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Multimedia

Nokia Capital Market Days 2003

Mobility in Convergence

Games
Presence
Mode
Imaging
Enterprise
See What I See

OTA music
Information services
Adv. mobile games
Mobile multiplayer

Brand development is a long term effort

Value
Brand extensions
Preference retention
Awareness building
Image creation

Top 10 Global Brands 2003 by Value
(Source: Interbrand Corp, BusinessWeek 2003)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Brand</th>
<th>Value 2003</th>
<th>Value 2002</th>
<th>Country</th>
</tr>
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<tr>
<td>1</td>
<td>Coca-Cola</td>
<td>70,453</td>
<td>69,637</td>
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<td>2</td>
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<td>Nokia</td>
<td>29,440</td>
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<td>9</td>
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<td>10</td>
<td>Nokia</td>
<td>21,371</td>
<td>21,010</td>
<td>Germany</td>
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</table>

Nokia is the clear leader in brand preference
Mobile Multimedia Opportunity

Nokia focus areas in consumer multimedia
- Imaging
  - Audiovisual communication with imaging optimised devices
- Media and Music
  - Discover & Consume
  - Create & share
  - Music, video, radio, www, e-mail
- Games
  - Console quality games
  - Multiplayer games
  - Online services
- Enhancements
  - Intellegent devices around the mobility
  - Car, home, office

Nokia focus areas in consumer multimedia

Active and passive fun states
- Mobility brings fun to life:
  - In case you're bored and need excitement
  - In case you're stressed and need calmness and relaxation

Where's convergence impacting?
- Mobility has already taken over
  - Portable FM radios
  - Pagers
  - Watches
  - Alarm clocks
- Mobility starts to impact the market
  - Portable CD & cassette players
  - MP3 players
  - Digital cameras
  - PDAs
- Mobility will have a long term impact
  - Laptops
  - Web browser devices
  - Video camcorders
  - Traditional analog media

Multiradio unites several worlds to a mobile terminal
- Multiradio: cellular + any complementing radios
  - "One radio fits all" will not happen because of maximum e2e performance needs, maximum data rate needs, and pricing, flexibility for the user

Consumer acceptance requirements of services
- Convenient
- Ubiquitous
- Reachable
- Secure
- Customized
- Localized
- Spontaneous

Multiradio unites several worlds to a mobile terminal
- Cellular world: p2p communications, elementary data services
  - Personal
  - Trustworthy
  - Security
  - Global
  - Roaming
- Internet world: email, www & content downloading
  - richest available content, browsing just for the fun of it
- Broadcasting world: mass media
  - "CNN news, Sugar Bowl on the road"
- Proximity world: local services personal area
  - "local info, local commerce, cable replacement"
Imaging

Imaging
Audiovisual communication with imaging optimised devices

It's not just about camera phones

Volumes of camera phones exceeded volumes of digital cameras in Q2 2003...
...and Nokia is today the world’s biggest camera manufacturer

Current camera industry

• Still and video camera industry volumes are approximately 100 million devices annually

Trends:
• Rapid migration from analog to digital photography
• Megapixel race over, focus on true picture quality
• Online and home printing adding to traditional printing services
• Convergence of mobile and photographic industries

Connected mobile imaging industry

Nokia strategy
• Industry leading range of imaging optimised terminals
• Improving features as costs decline and network capabilities improve
  • VGA in 2003 - megapixel cameras in 2004
  • Increasing memory size
  • Improving editing capabilities (on the device and on PC & web)
  • Improving video capabilities
• Business system development
  • MMS with operators
  • Cooperation with e.g. Kodak and HP

Nokia business model
• Higher priced devices
• Multiple device ownership
• Application revenue

Widening the definition of media

Media

Media and E-mail
Create & share
Word, PDF, video, audio, e-mail
What is mobile media?

**Key media types**
- Video content (sports, music, news, cartoons)
- Music (MP3, AAC)
- Magazines and newspapers in www format
- Context sensitivity

**Key technologies**
- High speed connectivity with EDGE, WCDMA, WLAN, DVB-H, UWB
- Easy to use UI – series 90
- Video player
- Music player
- HTML & WITML browsers
- Messaging (SMS, MMS, e-mail, chat)

Mobile media doesn’t yet exist today

- Several competing product categories
  - Media device from Nokia
  - Some PDAs
  - DVD players
  - Analog TV phones
  - Portable music devices
- Several competing memory media
  - DVD
  - Hard drive
  - Memory cards
  - Streaming
  - Solid state
- Business system still to be developed
- Airtime cost needs to come down for mass market streaming video services
  - EDGE
  - WCDMA
  - CDMA2000 EV-DV
  - DVB-H
  - WLAN
  - UWB

Nokia in media business

**N-Media business unit**
- Mobile content
- Media devices

**Media business unit starting points**
- Devices: Nokia 3300 & Nokia 7700
- Symbian based Series 90 – optimised for media consumption with all key applications
- Extensive content agreements with leading global players
- Extensive billing agreements with leading mobile operators
- MMC card as a distribution channel

New space, new consumer segments

**Current games industry market size:**
- 30 billion euros in total, of which 30% in devices and 70% in games
- Compelling games experience
- Fixed location
- Pocketable
- No wireless elements

Off-line

On-line

N-Gage games offering

- All key games publishers support N-Gage platform
- Steady flow of new games titles with 100 titles by the end of 2004
- N-Gage Arena is the key differentiator and most games will increasingly take advantage of Arena features in 2004
- Community functionality has been proven to be extremely important
- Typical customer: 20-30 years old male
Enhancements
Intelligent devices around the mobility
Car, imaging, audio, power, messaging, etc

Enhance the limited usage
Utilize phone UI, memory & modem
Optimal Mobile Experience
On the Road
At Home & Work
About Me & Street

Cooperation with Operators

Nokia and Operator Partners
Nokia brings the most value added to its operator partners
- World class brand - creates consumer pull
- Ease of use – enables higher ARPU
- High quality – less need for customer service
- Enabling operator differentiation
- Wide product range
- Have the best support resources (marketing, sales, logistics and CSM)
- Best partner for end to end data services market

Nokia - offering of ARPU enhancing features

Typical example of product variation
Assembly To Order Engine
- 160 Custom Transceivers
- 260 Sales Package Variants*
- 2 variants
  - 1 for APAC
  - 1 for Europe

Source: Global Mobile Daily
*May 2003

"Orange says Nokia’s Mobiles Easier to Use than Motorola’s It said Orange customers using Motorola handsets sent on average 14 text messages a month compared with 45 a month sent by owners of Nokia phones"
Summary

Market opportunity in consumer multimedia

- **Imaging**
  - Camera and mobile imaging market—EUR 25 billion

- **Games**
  - Current games industry (device & software)
    - ~EUR 30 billion

- **Media and Music**
  - Current device market size—EUR 1 billion

- **Enhancements**
  - Current market size impossible to quantify
  - Area expected to grow in-line with other units