



Connecting Mobile Videophones to Broadband



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“Broaden your life”

Video Captures All of Communication

- > An image says more than 1000 words
 - Gives the opportunity to hear and see
 - Gives much more emotional value
 - Can give complementary accurate info making life more efficient
- > Broaden Your Life
 - Communication services
 - Content delivery services


**Video enables the complete communication experience
— users can more effectively share emotions, show
things or exchange information.**

Drivers behind Mobile Video

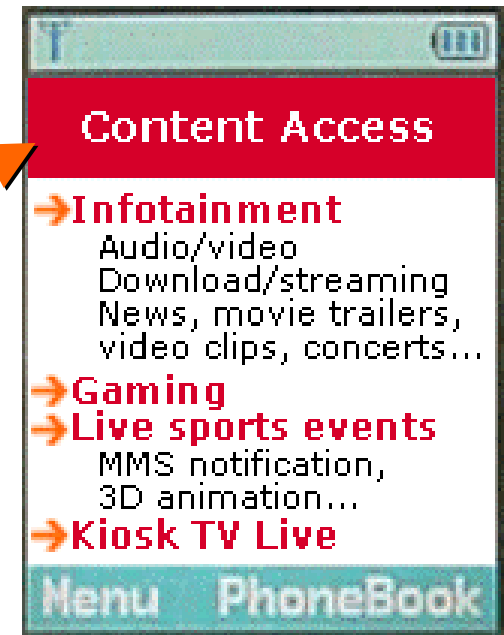
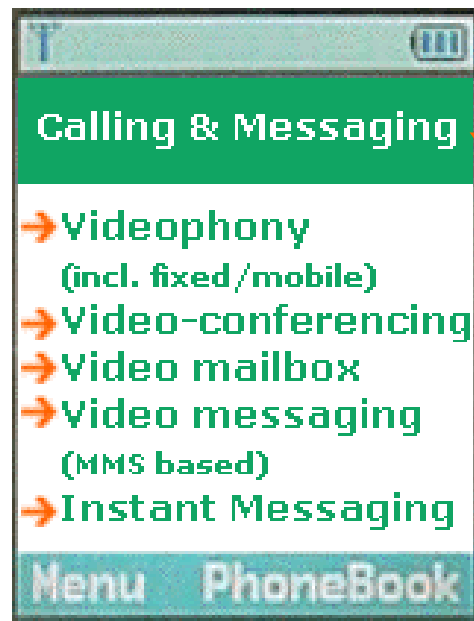
> Emotional Benefits

- Sharing emotions
 - search of partners and new friends, creating a community
- Sharing a passion
 - The favourite football player/singer/models
 - The favourite movie trailer
 - Photos and video to remember best events of the life and send them to friends (video-messaging)

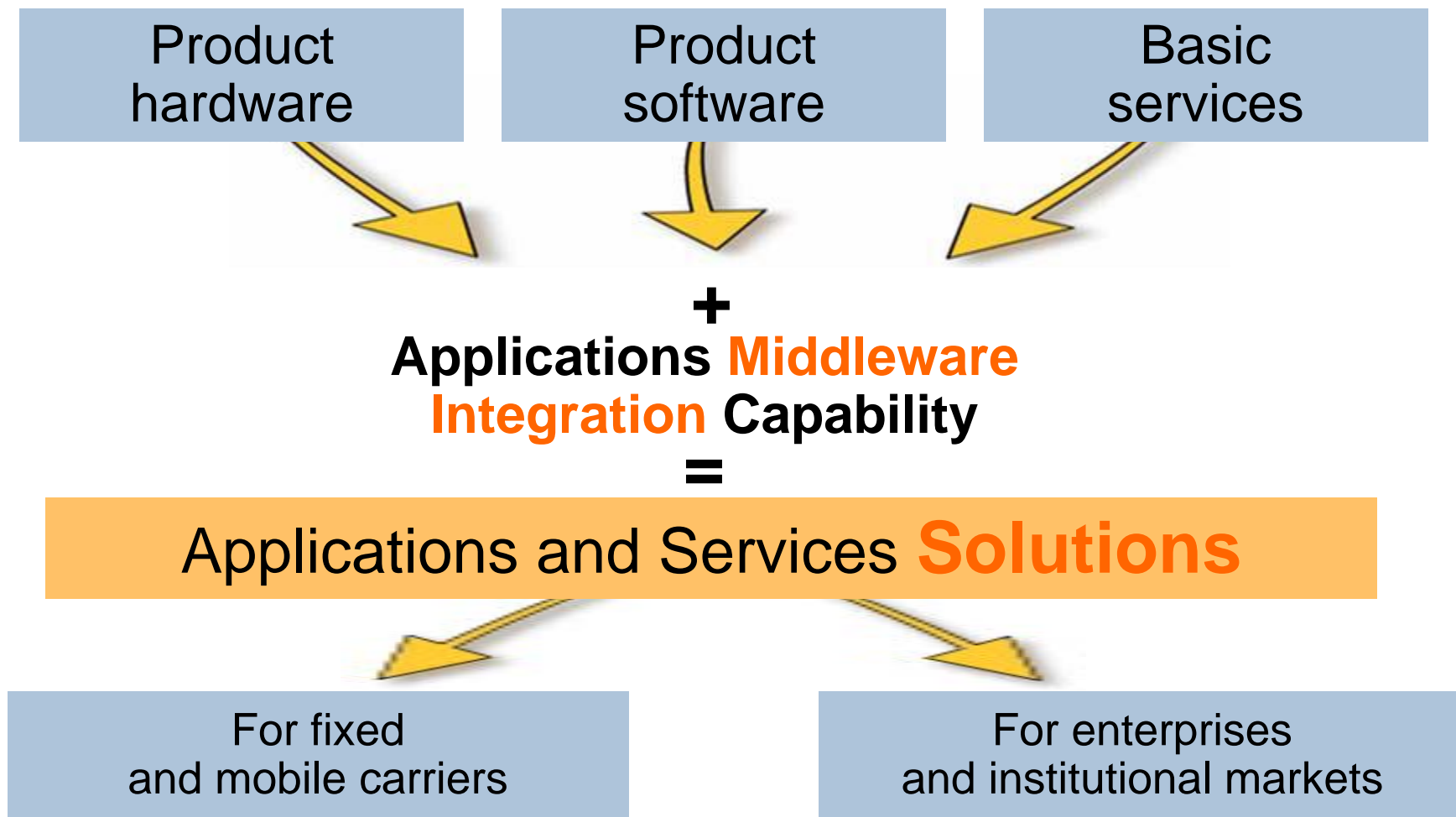
> Making life more efficient

- Having more accurate info
 - Video web-Cams
- Connecting mobile videophones to wireline broadband video services
 - Mobility  Move Freely !

Exciting new services in communication and content



Alcatel Strategy

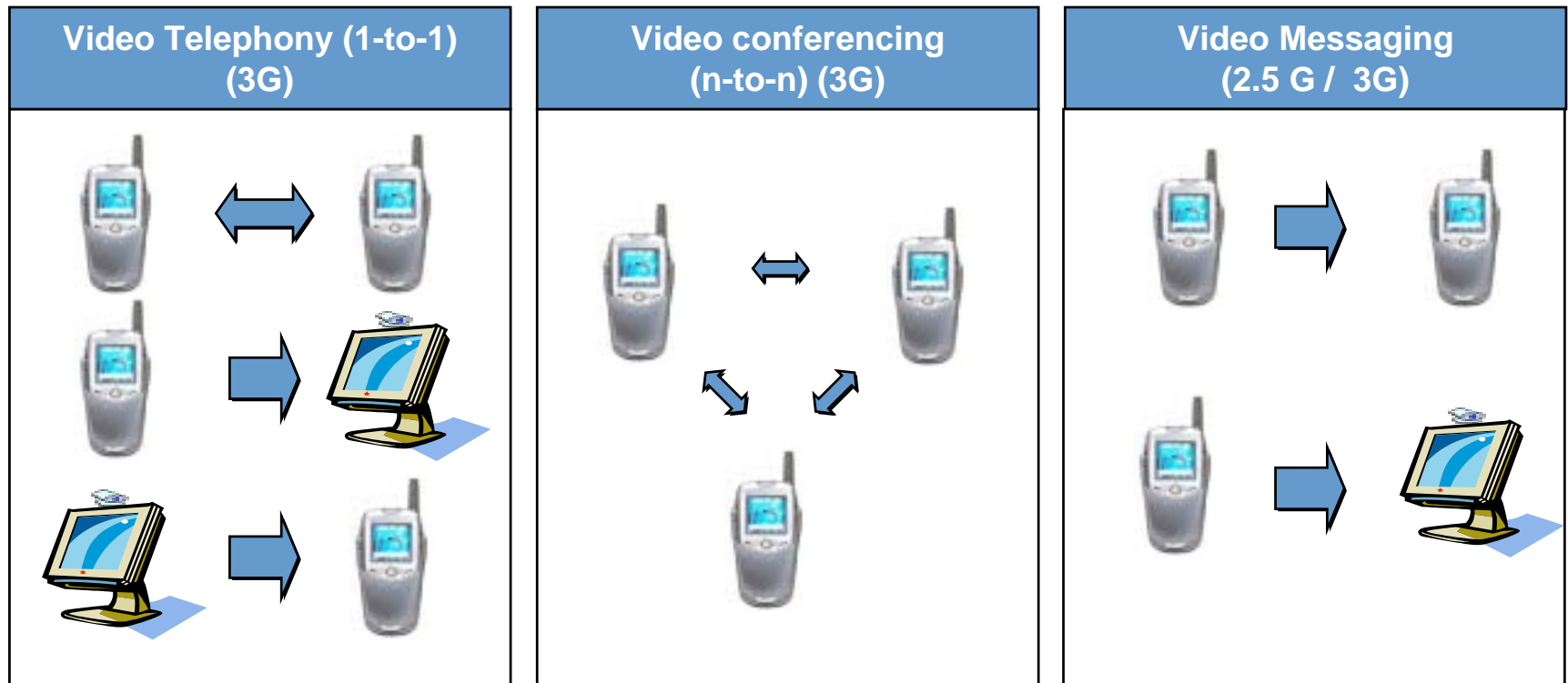




Theme 1: Video Communication Services



Video communication is based on three core services



**Several additional use cases,
beyond P2P mobile-to-mobile video telephony**

Some 3G launch examples around the world

First commercial launches...

Asia

NTT DoCoMo (Japan) “FOMA”

SKT (Korea) “June”

... have focused on different aspects

Mail (video), games, sound clips download

June most successful service is TV Content (broadcast and VOD) used by 1,3 mi subscribers

Europe

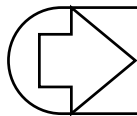
Hutchison 3G (UK, Italy, Sweden)

Vodafone Europe (6 countries)

‘3’ has focused on low price voice offer

Vodafone is first focusing on Mobile data

Source SK Telecom



**Finding:
Video-telephony has not been the core offer so far**

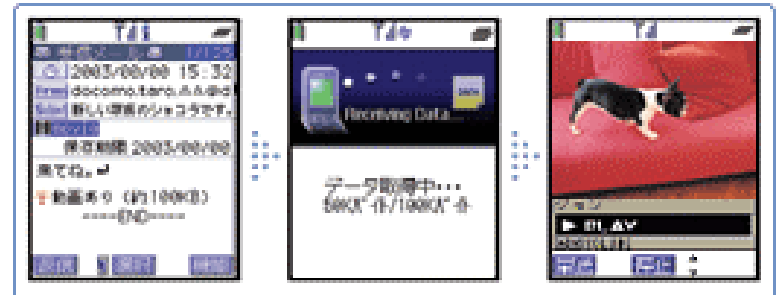
Japan shows the way to video communication services

Example of DoCoMo's FOMA



Send i-motion mail

- Email short video clips & recordings to PC and mobiles
- Send a short movie or an i-motion clip



Video Conference

- For max 8 people, 4 displayed in parallel



Fixed screen mode 4 screen mode

Screen Switch mode



Download Software/Games/Video Clips for enjoying later

- Downloaded Games (tennis, horse racing, etc.)
- Multiplayer games
- MusicBox, Ring tones, Screensavers, Stand by Images



Short audio/video content transmitted via Packet Switched Network

- Hollywood Channel (Tomb Raider, Charlie's Angels...)
- Princess Collection, Tsutaya Online (Japanese Movie Clip, Game preview ...)



Doraemon Sta.

Video messaging has been the clear success driver for video communication in Japan

Video messaging is the most successful service

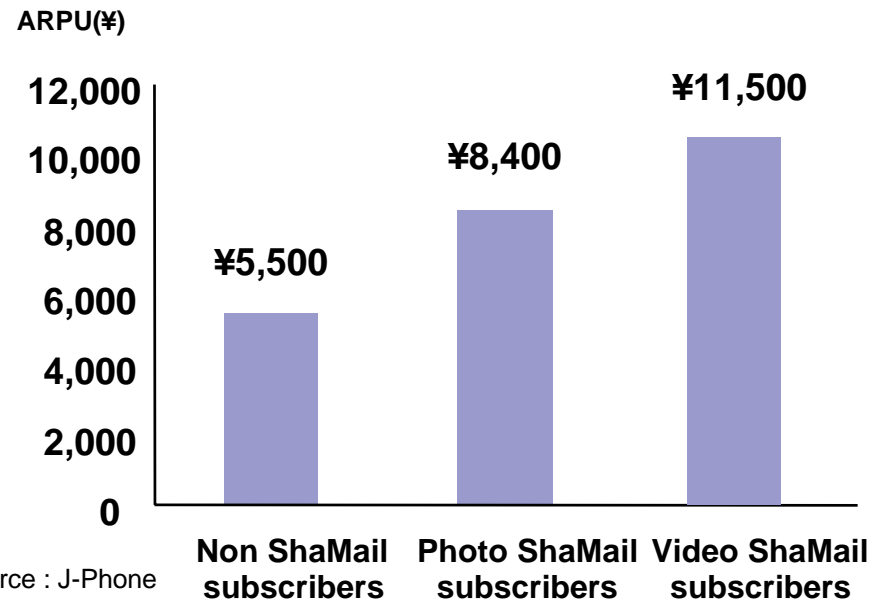
Top 3 applications

- **Movie mail**
- **Game, Horoscope**
- **„Chaku-uta“ song clip download**
„Chaku-movie“
- **User numbers??**

Source : FOMA, DoCoMo

Users of video messaging services generate more ARPU

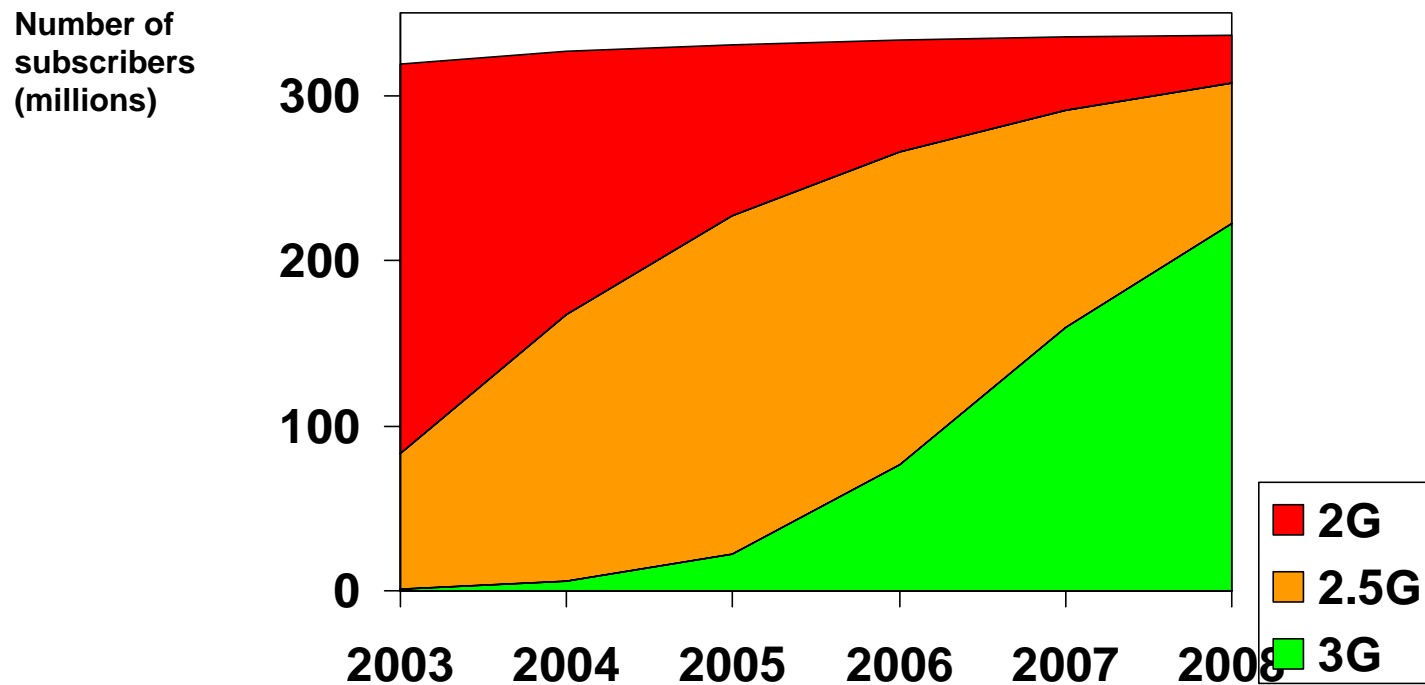
J-Phone's ARPU per type of user



Video mails application have the potential to double the ARPU

Mobile-to-mobile video telephony market is limited by the penetration of compatible handsets...

Cellular subscribers by handset generation in Western Europe



By 2005, 3G terminals will still be a limited proportion of the market

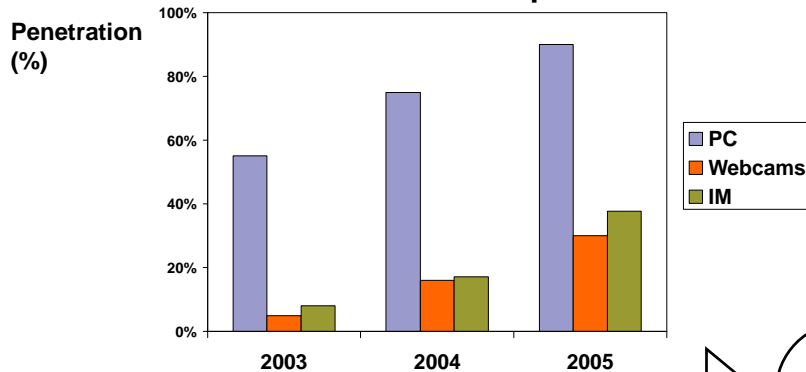
Source : Analysys, 2003

...and must be complemented with mobile-to-fix services

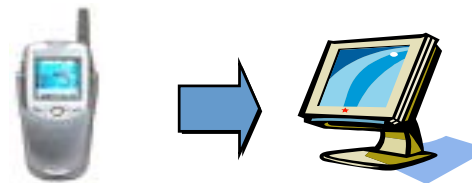
Increasing penetration of key enablers have been boosting fix video potential...

- Permanent and broadband residential Internet
- Web-Cams
- Instant Messaging services (Yahoo!, MSN, AOL)
 - including video features
 - spreading the use of PC as an interpersonal communication device

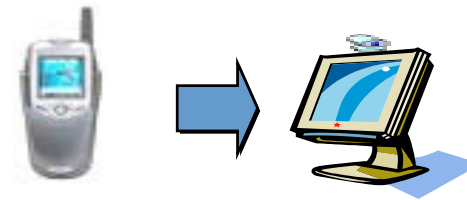
Penetration of fix video enablers in Western Europe



...making it a major opportunity for video telephony



Potential market:
100 million PC(*)



Potential market:
30 million webcam-equipped PC(*)

Source : Forrester Research, 2003
: Alcatel estimates
(*) in Western Europe

**Expand addressable market by
Leverage on existing huge installed hardware base,
Leverage on adoption of applications in fixed market**

Various emerging uses will also support development of video communication services

Usually identified service...

Video telephony

...will be completed quickly by new uses

Video messaging, Video MMS

“See what I see”

Video conferencing

Domestic application of video conferencing

- Distant relatives n-to-n

Deaf people 1-to1

Healthcare video-telephony

- Care of the elderly, children ...

Remote video surveillance, maintenance ...

Premium services (chatting, dating, etc.)

Expand service offer

Source : Analysys, 2003

Operators must adapt their strategies to consumers issues

Possible Consumers' issues

- 1** **Tariff perception**
- Video telephony is perceived as an expensive extension of voice



possible strategy

- Pricing model must be fine tuned**
- Primarily based on airtime
 - Reasonable extra-cost compared to voice

-
- 2** **Privacy**
- P2P Video telephony is perceived as very intrusive



- Communicate on unidirectional video communication services**
- “See what I See” services
 - Video-MMS

- Allowing easy and full control of video**
- e.g. Avatar systems

Strategy to overcome privacy issues

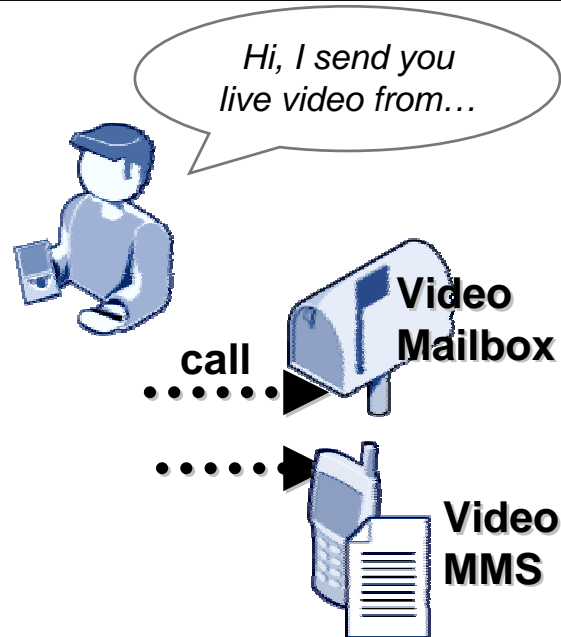
Examples

"See what I see" (video unidirectional)



**Disclose emotion & videos
about something**

P2P Video messaging



**Send video message
about something**

Avatars



**In the videophone call,
replace your
video with a cartoon
character animation**

Conclusion

Finding

- > P2P video communications services have a real potential, through
 - Sharing information about something or somebody else
 - Sharing emotional information
- > Operators must build on existing services and move smoothly to video communication
 - Launch 2 services at first



Two services must be launched in priority:

- **Video messaging (build on MMS)**
- **“See what I see” (fun and emotion sharing)**
 - **Mobile-to-fixed convergence**



Theme 2: Video content delivery



What is Video Content Delivery ?

- > Delivery of **pre-recorded** video clips and any **live contents**
 - Streamed (in real-time) or downloaded (not-real time)

Examples of content

- > Own shot clips
- > High-end sports
 - Tournaments, league matches etc.
- > Music
 - CD releases - clips
 - Live concerts
- > Movies
 - New releases, trailers
 - Cannes Film Festival

Examples of applications

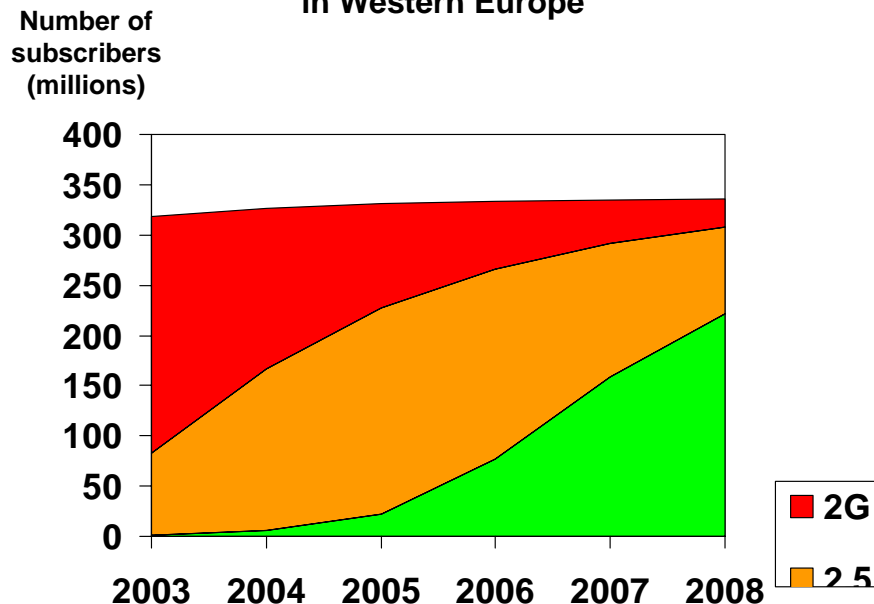
- > Push/alerts
- > Voting/community
 - TV movies
- > Live cams
 - Traffic, Weather, Events, Clubs, Bars, Restaurants
- > Instant replays
- > Archived footage
- > See what I saw: user generated content



This service is already available on 2,5 G...today

Already 150 millions GPRS phones are installed today

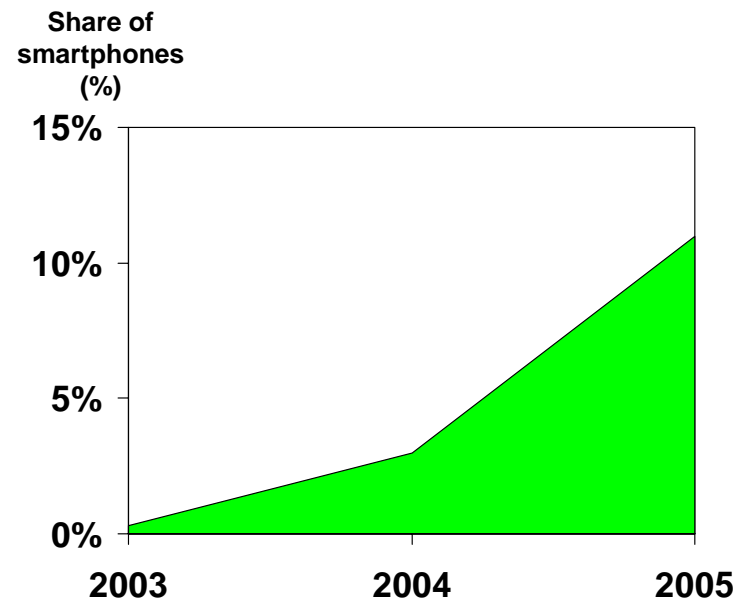
Cellular subscribers by handset generation in Western Europe



Source : Analysys, 2003

A growing % of handsets has media players

Penetration of smartphones



Source : Alcatel estimates, 2004

Penetration of 2.5G or 3G video compatible handsets is sufficient for launching video services

Mobile Video Challenges

1 Video Challenges

- Need for compression to achieve manageable bitrates + storage
- Need for significant video processing, real-time adaptations to various conditions and types of screens
- Mass market terminals with embedded media players corresponding with selected video server

2 Network Challenges

- Enough bandwidth
- Real-Time Quality Of Service
- Coverage, jitter, ...

3 Content Challenges
















- Mobile video isn't like watching TV at home
- Appealing content with a mobile character, adapted to mobile terminals & usage

How different are they in the Wireless Network?

① Advanced encoding & compression standards

- MPEG-1, MPEG-2, **MPEG-4** : industry standards
- Real, MS Mediaplayer, Quicktime : proprietary

② Mobile Radio Technology

Technology	Transmission Speed	Images	Video Communication	Video Content Delivery
GSM	10 kbit/s			
GPRS	20 kbit/s			
EDGE	100 kbit/s	 		 
UMTS	384 kbit/s	  	  	  

**3 GPP
Defines for
mobile**

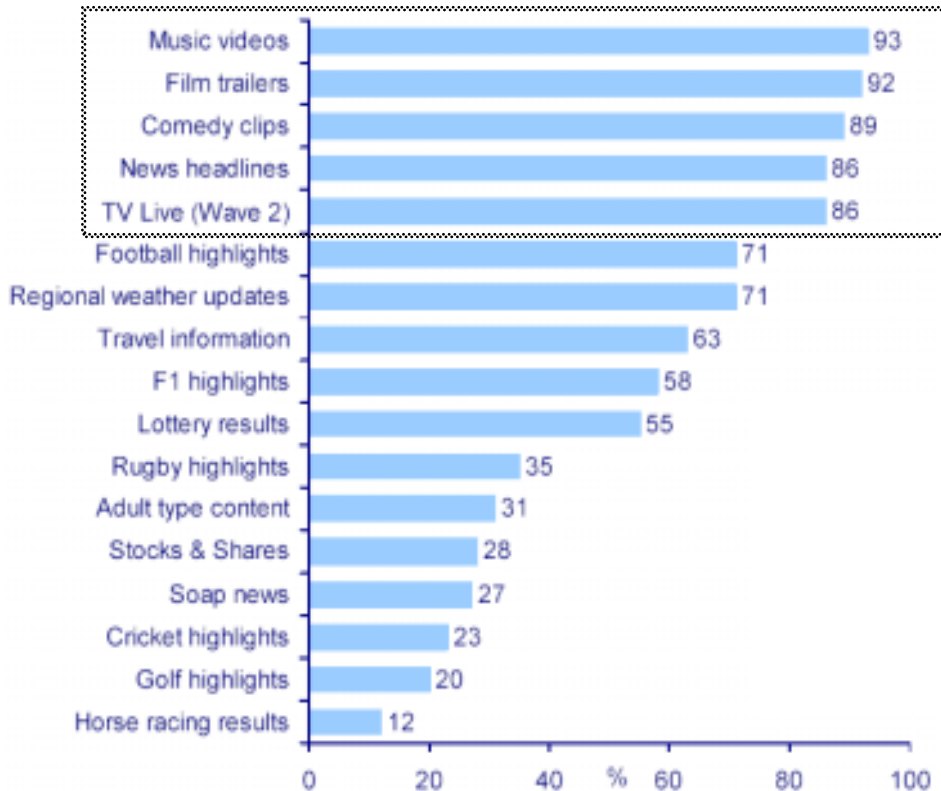
**MPEG-4
+
IETF
protocols**

③ Shifting Value Chain in Mobile content delivery

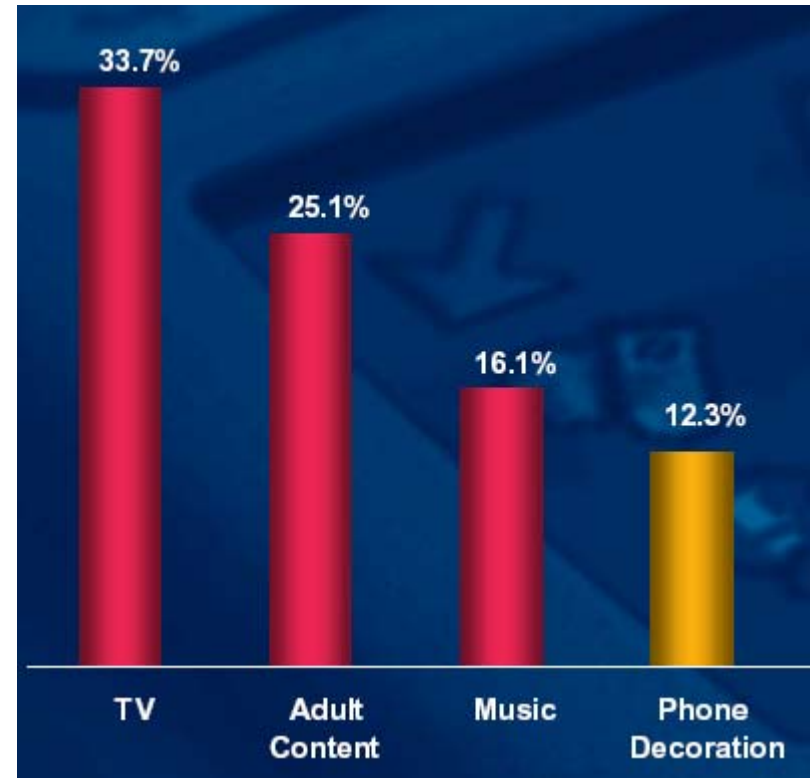
Key success factors of Wireless Mobile Video

- > **Mass availability** and diffusion of **Camera** enabled **Terminals**
 - Today 5% of the MMS terminals in the market are camera-enabled
 - Today 25% of the MMS terminals sales are camera enabled.
- > **Ergonomics**
 - Intuitive and easy navigation
 - Rapid access
- > **Usefulness**
 - Addressing end user values: Information, Entertainment & “Infotainment”
 - Personal Profiling and Terminal Personalization
- > **Quality of Service - Interoperability**
 - Fluent and smooth picture
 - Compatible with various devices
 - Connection stability
- > **Economics**
 - End-user Value for price

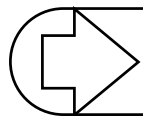
Service usage will mainly be driven by a rich and often renewed content TV- like ...



O2 Mobile data from Mobile Survey



SKT data from June Service



**Typical TV content (Live broadcast, Trailers, news etc.)
is consistently the most popular service**

A lesson from Korea: SK Telecom

Evolution of services with increasing bandwidth

Main Service

- Text Based Service Oriented
- Provide downloadable low-volume contents in consideration of low-tier network
- News / Weather
- Travel / Humor
- GVM
- 2, 4 Gray Screen Saver
- 1, 4, 16 Poly Bell



Text Based Information **Screen Saver** **M-Trade (GVM)**


1996 / 9,6kbps (2G): Text based content

2000 / 144 kbps (2,5G): pictures / animations

2003 / 384 kbps+ (3G): Video, VOD, TV

Main Service

- Text Based Service + Low Quality Multimedia Service
- More invigorated Magician (GVM, SK-VM) Services / Wavelet & VOD launch
- NATE Air
- NATE Photo
- GAME (GVM / SK-VM)
- 4 Gray, 256 / 65,000 Color Screen Saver
- 16, 32, 40 Poly Bell



NATE Air **Screen Saver** **GAME (GVM)**



Main Service

- Furnish multimedia services with the ability to transmit large volume of data at much faster speed.
- Mobile Multimedia (Streaming / VOD)
- CD-quality MOD
- Multimedia Message
- Display Phone
- Live Bell / Live Screen



VOD **Live Screen** **TV**

A lesson from Korea: SK Telecom

A very rich video content offer



Very rich content with exclusivity agreement with pop stars and with TV channels. Shorter films versions and Director's cut versions



1,3 m subscribers of June© services, end 2003



Example of TV content

Service Category	Description
Real-time Broadcasting	Live broadcasting of the programs of major TV stations and some Cable TV stations <ul style="list-style-type: none"> • KBS1 / KBS2 • MBC / SBS • YTN / m.net / ongame.net
VOD	VOD services by genre including rerun, preview, sectional view and highlight. Such information as TV program schedule and viewer rate is also offered <ul style="list-style-type: none"> • June VOD Top 20 • Soap Opera • News / Sports / Entertainment • Current issues/Educational contents • Music • Game
TV Game online Game version	Unlike broadcast TV story, a different story of drama is offered "e.g. 'A modest lady' will be offered"

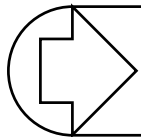
A strong penetration of services for June (10% in one year)

The Fourth Screen

after Cinema, TV Set, PC; now mobile phone



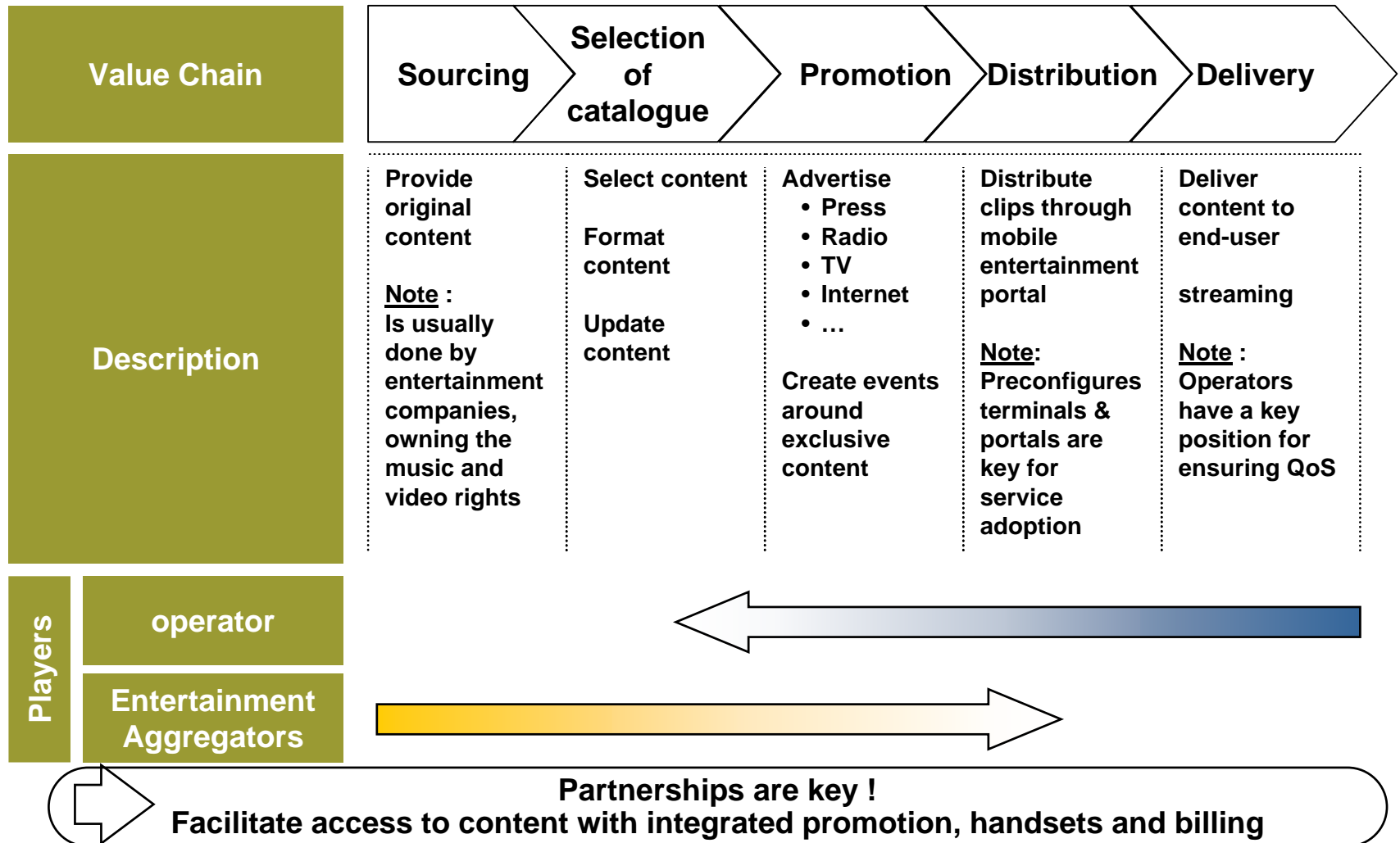
- > Ovum Research suggests strong interest at the high end
- > Consistent 'wow!' factor
 - one study reports 94% of triallists showed friends & family
- > Music & news content draw most interest
 - But we all know that is really soccer and sex...
- > Willingness to pay for news low in UK - but more willing to pay for sports & music
 - one UK operator tested GPRS streaming video pricing
 - bundle at £5.00 per month, or pay-per-view at 35p per clip
 - 40% 'very likely' to adopt



"There's a market for video - if the price is right"

Ovum Mobile Video 2003

Video content delivery value chain goes from content sourcing to content delivery



Main drivers for adoption of video content

End-user benefits ...

Emotional Benefits - Sharing a passion

Favorite football player/singer/models
Favorite movie trailer
Photos and video to remember best events of life and send them to friends (video-messaging)

Sharing emotions

Search of partners and new friends
Creating a community

Rational benefit - Making life more efficient

Having more accurate info: Video web-Cams ...

... and purchase driver

Easy access to services

SMS initiated subscription

Hype – New – Feature Richness

New handsets, PDAs, Camera

Have FUN

Chatting, sharing emotions with video,...

Brand

Brand related mobile content

Making Life Easy:

Advanced Voice Services
voice / video mails, personal assistant,
Traffic info via web cam,

Making Life more efficient / secure

Conclusion

Finding



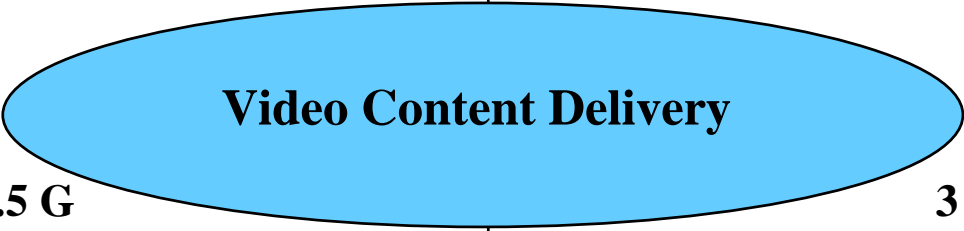
- > TV content is obviously key for success
- > 2.5G network and terminals are good enough for good quality video content services

Recommendation

- > Launch video content services with 2.5G terminals now
- > Concentrate on TV like content first

TV content services like news clips, live TV or VOD delivered on a 2.5G terminal secure success and fix the path for 3G services

Alcatel's Video offering

	Download & store	Real-Time / Streamed
Video Communication (person to person)	 2.5 G	 3 G
Video Content Delivery (machine to person)	 2.5 G 3 G	

Source: OVUM - modified

Alcatel's Video offering

=> a comprehensive portfolio of 6 video services



Video Communication				Video Content Delivery		
Video Telephony P2P	Video Conf P2P	Video Mail Box P2P	Video MMS P2P	Video Streaming & Download Circuit-switched M2P	Packet-switched	Video MMS push/pull

**Alcatel
Applications**

Softswitch MMIC
Instant Messaging
MM Phone

Video
Mailbox

MMS Proxy
Relay/Server

Control &
Payment
Chain

Control &
Payment
Chain

MMS Proxy
Relay
/Server

 packetvideo™

**Application
Partners**

 RADVISION

**Content
Partners**





 asiadigital tv
CANALPLUS

 kamera



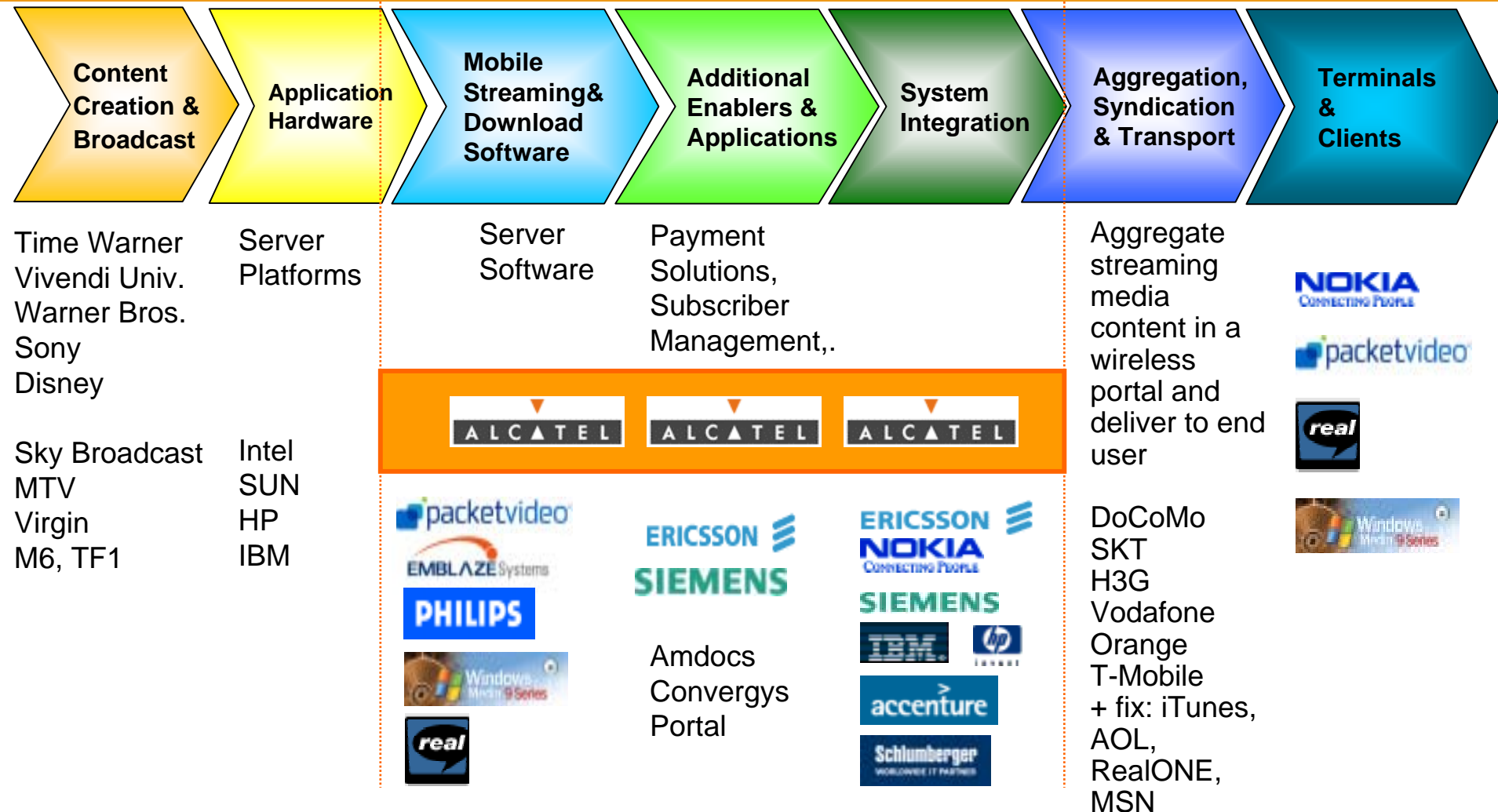








Role of Alcatel in the Technical Delivery Chain for Video Content Delivery



Worldwide Network of 3G Reality Centres

A worldwide business environment

- > Live end-to-end environment
- > Alcatel networks, terminals and applications



Business Support

Interoperability

Service innovation

Orange/Alcatel Partnership Enabling the 3G Value Chain



Orange 3G Developer Centres



- > **Building upon Alcatel's 3G Reality Centres worldwide Program**
- > Part of Sep '03 agreement making **Alcatel a supplier of choice for Orange's 3G/UMTS deployment in Europe**
- > Objectives of Orange's 3G Developer Centres:
 - **Educate and evangelise Orange developer partners** about the benefits of working with Orange, and developing 3G services
 - **Enable applications testing** on a range of Orange handsets
 - **Showcase innovative 3G services**

Already open...	...Mid 2004
Maidenhead, UK Vélizy, France	Riswijk, Netherlands Dallas, USA Shanghai, China Yokosuka, Japan

Alcatel Video Solution for 3

Video Services

- > Fixed/mobile video calls
- > Videoconferencing
- > Video streaming

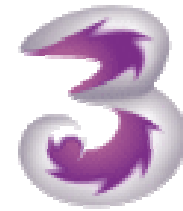


**Innovative
and Billable
Services**

Payment Solution

- > Real Time Charging for voice, SMS, WAP, video, MMS, download,...
- > Prepaid and postpaid convergence

**Deployed
in 7 countries
including
Hong Kong/
Australia**



Music on Mobile: The Magic Equation



- > Music is part of **everyone's daily life** and mobile phones are in **everyone's pocket**
- > Reach of mobile phones is **much larger** than that of any other player
- > Ringtones represent today **10% of the global music market**
- > Ringtones and wallpapers with music artists already represent **70% of the global mobile content market**

2.5G and 3G are enabling enriched music and video end-user experience



Enhanced Personalisation of Mobile Services with Audio and Video Content



Alcatel

- > Applications and Platforms
- > Leadership in video
- > E2E solution integration

Universal Mobile

- > 1st class content
- > Service design expertise

Mobile Content Kiosk

Attractive Services

- > Voice/video mailbox
- > Music/video ringtones and ring-back tones

Enhanced User Experience

- > Attractive content
- > Richer expression of individuality
- > User-friendly



Alcatel – Universal Mobile:
a unique combination to bridge the mobile and music worlds

A World Premiere: Video Mailbox Greeting



**Created by Universal Mobile
Powered by Alcatel**

Have your favourite star
greet your video-callers !

www.alcatel.com