Thinking about Mobile TV

Mario Agati

2° Convegno Nazionale sulla Mobile TV

ERICSSON
TAKING YOU FORWARD

Agenda – Thinking about Mobile TV

- Facts
- Experiences
- User perspective and Business Models
- Ericsson proposition
- Keywords - Conclusion

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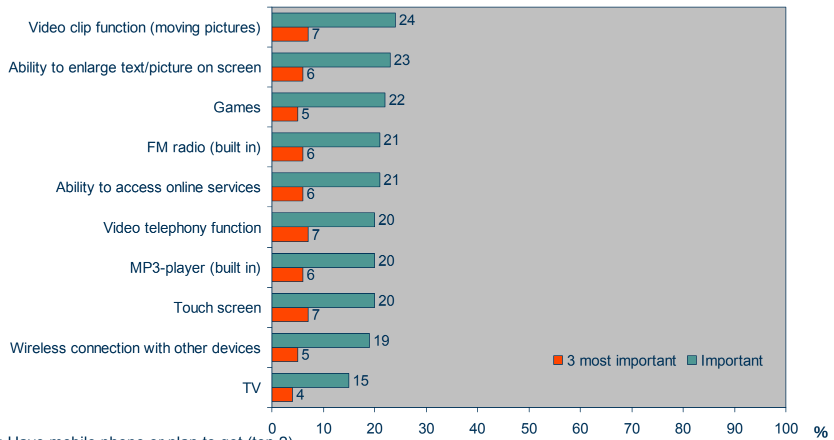
Fact n.1 :Mobile TV hard to grasp

- Features, such as video clip functionality, games and TV appeal more to those who are highly interested in new technology. Such functions are not yet important to the majority of end users.



Base: Have mobile phone or plan to get (top 2)

Source: C&E Lab Global 10 survey 2005

Moving beyond voice

- Interest in new mobile services differs between countries. In China, information updates are the most popular services, while e-mail tops the list in Japan. In Italy, video telephony is the most popular service.

% Interest (top 2 boxes)	Total	France	Germany	Italy	Spain	Sweden	UK	China	Japan	Brazil	US
Positioning services (like GPS)	35	36	29	24	20	44	38	30	47	47	33
E-mail	25	20	19	14	10	24	25	18	58	39	21
Video telephony	23	25	10	25	16	15	21	36	24	45	17
Browsing the internet	21	14	10	11	13	17	23	33	37	37	19
Information updates	20	11	10	13	8	10	16	43	37	40	17
Multimedia/picture messaging	20	21	13	16	15	17	26	18	24	39	13
Yellow Pages - request information service	19	20	8	14	10	22	19	17	27	37	22
Share a picture while talking	19	20	11	17	13	14	22	19	20	39	14
Walkie talkie anywhere	19	14	12	16	11	18	23	23	17	29	26
Music download service	18	15	8	10	12	14	18	28	29	32	15
Photo editing	18	19	10	12	14	13	18	20	22	38	9
Financial/transaction service	17	10	11	6	6	23	20	21	27	34	12
TV in your mobile	16	11	7	9	9	10	14	30	25	36	11
Instant product info	16	12	6	14	8	17	15	20	20	33	14
Personal home page	13	18	8	6	9	6	12	24	11	27	11
Music video/movie trailers	13	10	6	7	8	6	13	22	24	29	9
Share a video clip while talking	13	10	6	11	7	9	17	17	14	26	9
Game download service	10	9	4	4	6	7	10	17	14	20	12
Banners	9	9	2	4	5	3	7	19	13	23	7

NB. When comparing interest figures from different countries, please be aware of cultural differences in the answering patterns. For example, Brazil and China show higher aspirations in their answers.

Base: All

Source: C&E Lab Global 10 survey 2005

Fact n.2 : Barriers are still alive

Browsing
Complicated
Too much click and scroll
Things are hard to find

No need
Tried, but did not meet expectations
Not interesting
Does not make sense for my lifestyle

Handset restrictions
Small display and key pad
Limited memory
Multitasking not possible

Slow
Perceived long waiting time
Stress factor due to costs
Bad coverage, such as in rural areas

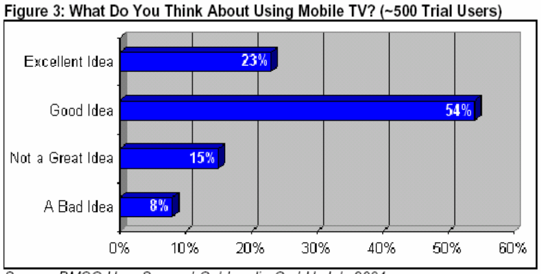
Limited content
Not enough information
Limited version compared to fixed Internet

Cost
Complex cost structure
Too expensive

Fact n.3 : Early technology (i.e. better perception after trial)

In a July 2004 survey of approximately 500 participants in a mobile TV trial led by Broadcast Mobile Convergence (BMCO) Forum in Berlin, the vast majority (77%) responded positively.

Figure 3: What Do You Think About Using Mobile TV? (~500 Trial Users)

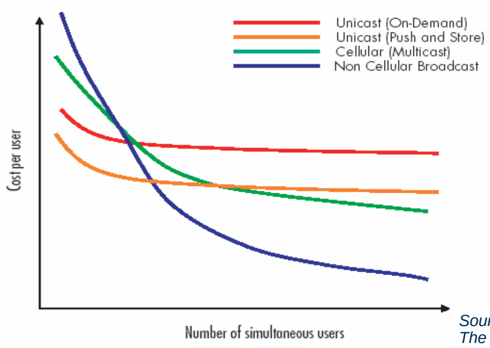


Source: BMCO User Survey / Goldmedia GmbH, July 2004

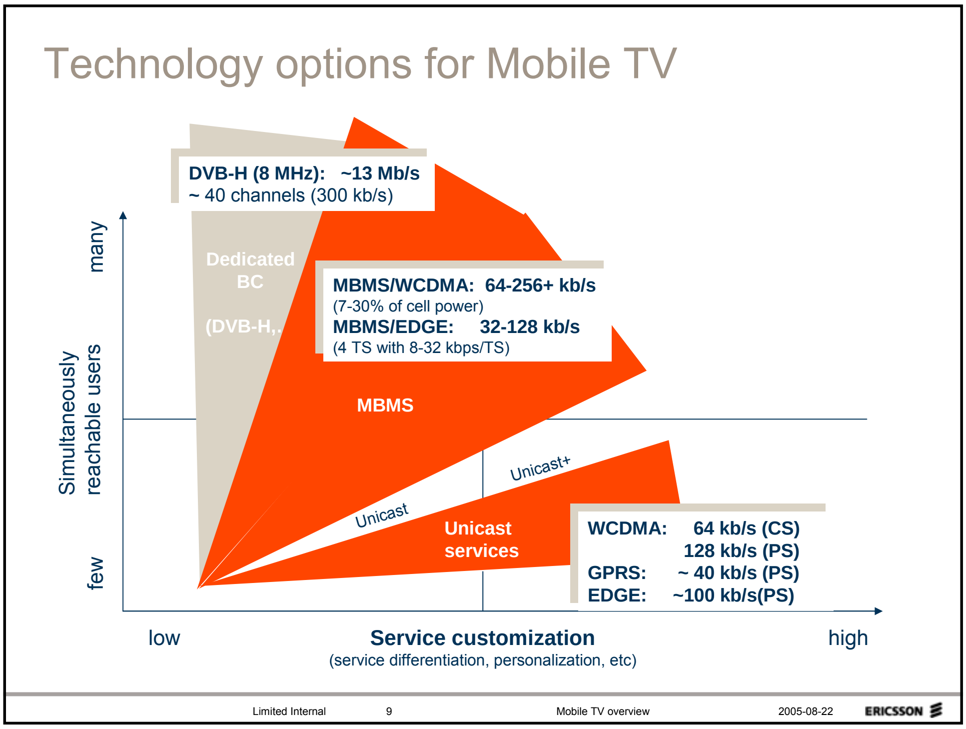
Fact n. 4: Different technologies for different services

FIGURE 2.3

COST ECONOMICS OF MOBILE VIDEO DELIVERY MECHANISMS



Source: "Mobile TV: Fact or Fiction?", May 2005, The Shosteck Group


Technology options for Mobile TV
DVB-H (8 MHz): ~13 Mb/s
~ 40 channels (300 kb/s)
Dedicated BC
(DVB-H,..
MBMS/WCDMA: 64-256+ kb/s
(7-30% of cell power)
MBMS/EDGE: 32-128 kb/s
(4 TS with 8-32 kbps/TS)
MBMS
Unicast+
Unicast
Unicast services
WCDMA: 64 kb/s (CS)
128 kb/s (PS)
GPRS: ~ 40 kb/s (PS)
EDGE: ~100 kb/s(PS)
many
Simultaneously reachable users
few
low
Service customization
(service differentiation, personalization, etc)
high
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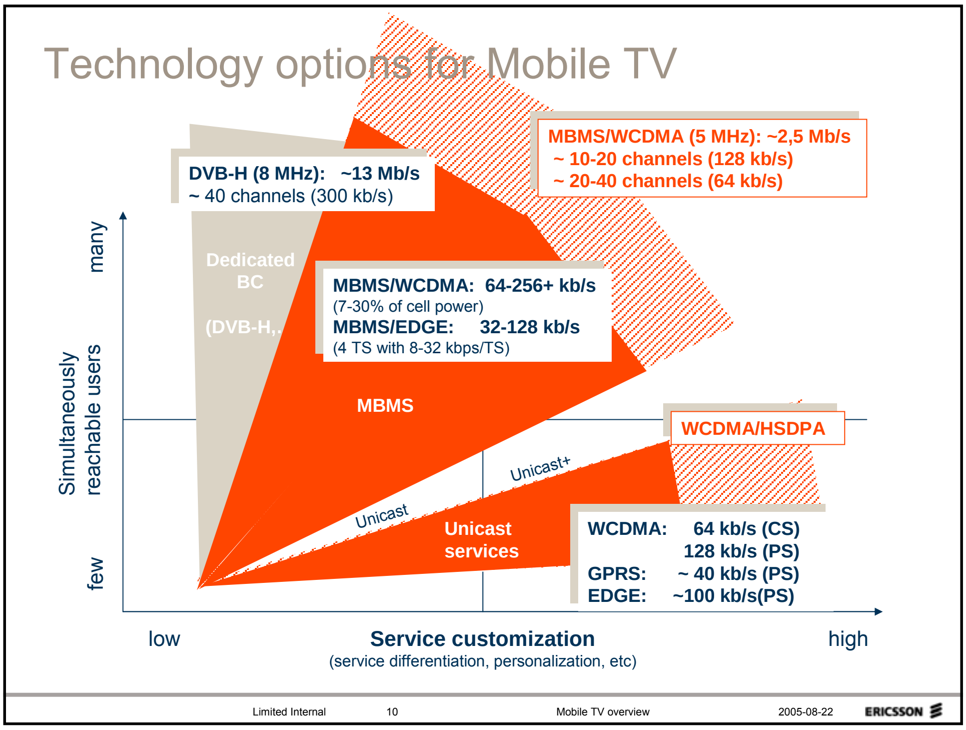
Technology options for Mobile TV
MBMS/WCDMA (5 MHz): ~2,5 Mb/s
~ 10-20 channels (128 kb/s)
~ 20-40 channels (64 kb/s)
DVB-H (8 MHz): ~13 Mb/s
~ 40 channels (300 kb/s)
Dedicated BC
(DVB-H,..
MBMS/WCDMA: 64-256+ kb/s
(7-30% of cell power)
MBMS/EDGE: 32-128 kb/s
(4 TS with 8-32 kbps/TS)
MBMS
WCDMA/HSDPA
Unicast+
Unicast
Unicast services
WCDMA: 64 kb/s (CS)
128 kb/s (PS)
GPRS: ~ 40 kb/s (PS)
EDGE: ~100 kb/s(PS)
many
Simultaneously reachable users
few
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(service differentiation, personalization, etc)
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Different Mobile TV services
Analysis

	User distribution control	Broadcaster distribution control, event based	Broadcaster distribution control, schedule based
Consumption time = Distribution time	TV-on demand (streaming) •"Video-on-Demand"	Live-TV-alert •Ex: SMS alerting CNN Breaking News	Live TV •"Regular TV" program on mobile
Consumption time ≠ Distribution time	TV-on-demand (download) •"Video-on-Demand"	Push-TV (event based download) • Ex: MMS video Breaking News	Push-TV (schedule based download) •Ex: EZTV

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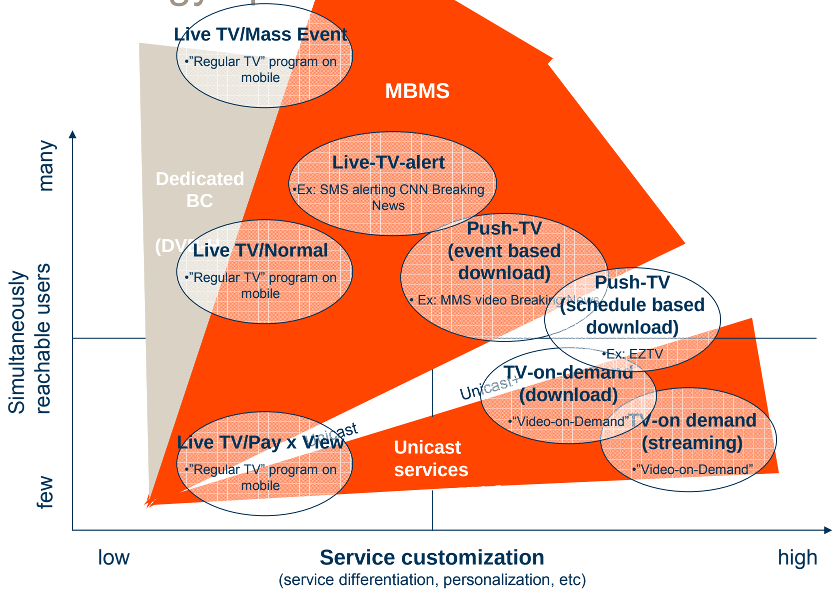
Technology options for Mobile TV - Services



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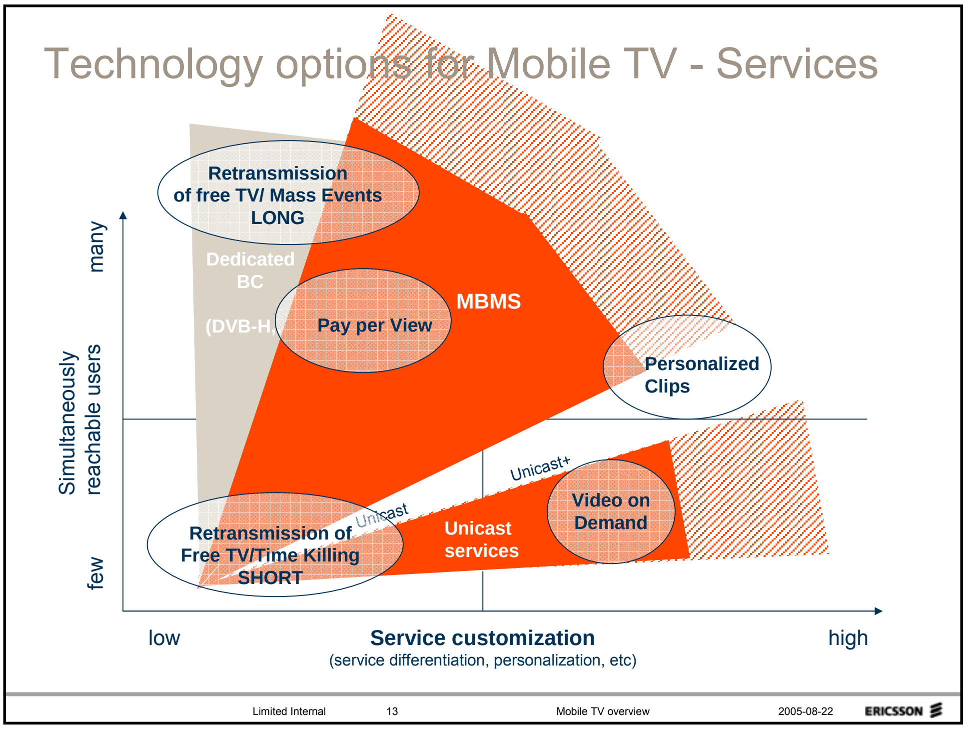
Technology options for Mobile TV - Services
Retransmission of free TV/ Mass Events LONG
Dedicated BC
(DVB-H,
Pay per View
MBMS
Personalized Clips
Unicast+
Video on Demand
Unicast
Unicast services
Retransmission of Free TV/Time Killing SHORT
many
Simultaneously reachable users
few
low
Service customization
(service differentiation, personalization, etc)
high
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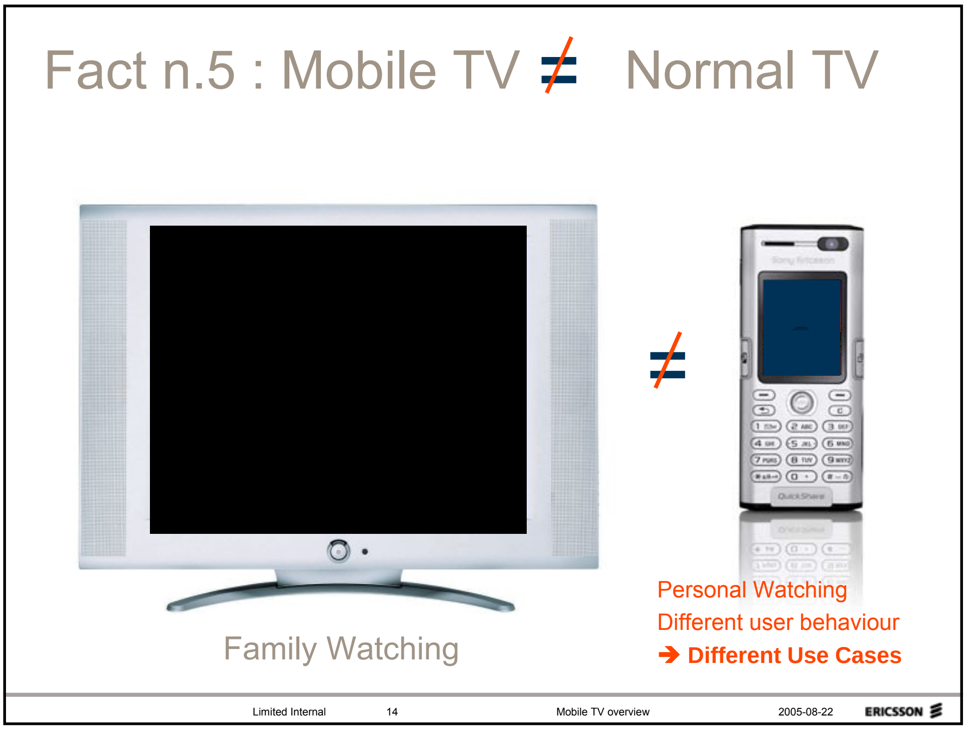
Fact n.5 : Mobile TV ≠ Normal TV
≠
Family Watching
Personal Watching
Different user behaviour
➔ Different Use Cases
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Fact n.6 : Mobile Terminals fast improving

Better Displays
- higher resolution
- more pixels
- brighter…

Enhanced Sound
- 3D, polyphonic

More Personalization
- features, color
- shape, skins, …

More Applications
- Sharing, Collaboration
- team, chat, …enterprise

More Multimedia Support
- 3D acceleration, video, …

Better Camera
- higher resolution
- snapshot/ video mode

More…
- advanced speech recognition
- gestures
- positioning …

More Security
- DRM
- Privacy, SSO

More Openness
- Java, …
- Device management

More Storage
- Gigabytes/HD
- Memory cards
- Short vs. long-term memory

More CPU Performance
- Moore's law
-2x power / 18 months

More Communications
- More bandwidth
- New link types (,USB, WiFi …)
- Adhoc/PAN support
- MBMS/DVB-H

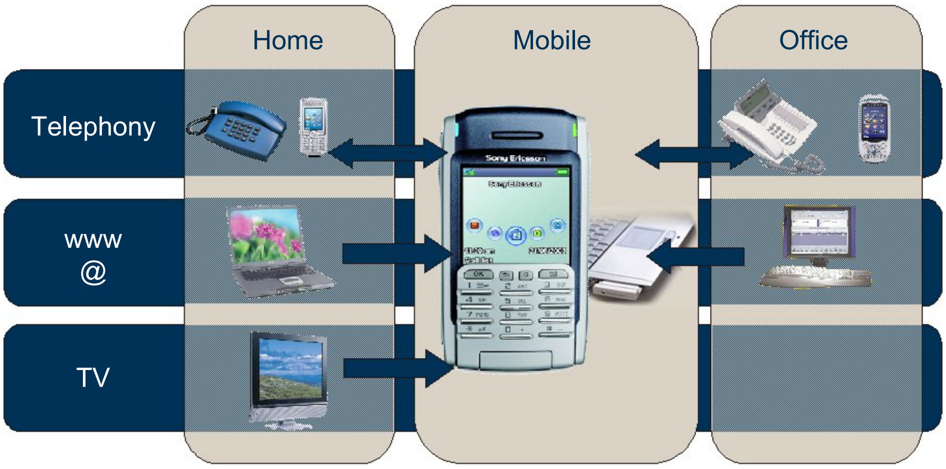
Reduced Power Consumption
- New display technologies
- OS enhancements,
- MRAM technologies …

Improved Network Support Services
- Backup, Sync, …
- Tighter Integration with "fixed" services

Fact n.7 : 3G penetration in Italy. 3G is a reality

- **Coverage**: 70 % of the population
- **Subscribers**: 6.6 million of 3G subscribers registered in the networks
- **Sites**: 18.000 3G sites activated
- **Terminals** : more than 20 types of 3G terminals available

"La Tentazione": il Mobile Triple Play



Agenda – Thinking about Mobile TV

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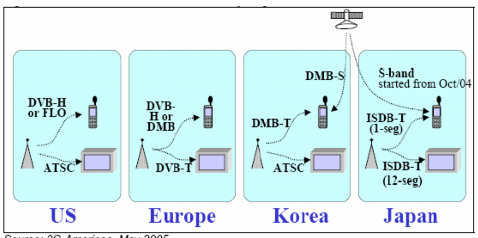
Mobile TV is happening today

Source: Ericsson

Mobile TV services



Source: 3G Americas, May 2005

Operator	Country	Launch Date	Techno-logy	Channels	Price
Orange	U.K.	June 2005	UMTS streaming	10	£10 for 1GB of data (~20 hours viewing)
Orange	France	Dec. 2004	UMTS streaming	50	Free weekends with 3G sub; €0.20 per minute at other times
Rogers Wireless	Canada	Apr. 2005	UMTS streaming	8	$9 (US$7.25)/ month, plus data-transport costs of $16
SFR	France	June 2005	UMTS streaming	20	€7 per month
SK Telecom	Korea	Jan. 2005	DMB-S	14 x TV, 22 x radio	$13 ($20 activation fee)
Sprint	U.S.	Aug. 2004	CDMA 1X streaming	>15	$9.99 per month
Verizon	U.S.	Feb. 2005	EV-DO streaming	Downloads only (not real-time)	$15 per month, unlimited
Vodafone	Germany	Nov. 2004	UMTS streaming	3 live, 15 special mobile channels	Free until end 2005, then 2 hours/mo. free and €3/hour thereafter

Source: Unstrung Insider

Vodafone Germany

- 100K users after 6 months (out of 400K 3G handset subscribers
- 800K individual sessions/month
- 1.8 million minutes of use (2.25 mins per session)
- Marketed as a "free" service as part of a larger subscription package (i.e. focus was customer acquisition)

GZSZmobile Preview auf die aktuelle Folge, Rückblick auf die letzten fünf Folgen, Archiv und viel mehr.

Eurosport (live) Das Live-Programm des Sportsenders - Sie verpassen keine Minute mehr!

CNNmobile (live) Der Livestream des CNN-Programms - aktueller können Nachrichten nicht sein.

Wetter-TV (live) Die Morgenshow, das Businesswetter, Städtewetter und aktuelle Wetterkarten.

Fashion TV (live) Alles vom Catwalk, Berichte von den Modemessen und Interviews.

CinemaTV Film und Filmstarts der Woche, Top 5-Kinofilme, Interviews und Making-Ofs.

Fußball Die Highlights aus Bundesliga und Champions-League.

MTV mobile News und Infos, die Highlights aus den populärsten MTV-Shows, die MTV Charts und natürlich jede Menge Musik.

RTLmobile Video VIP-News, Comedy, TV & Film, Wetter und mehr - eine bunte Mischung aus dem Programm von RTL.

ProSieben mobile Das Beste aus den Rubriken TV & More, Live & Specials, Boulevard, Lifestyle, Comedy und ProSieben Moviezone.

SAT.1 mobile Das Beste aus den Rubriken TV & More, Live, Boulevard, Magazin, Comedy, Verliebt in Berlin und Sat1 Film Film.

Comedy Die witzigsten Comedy-Clips aus den bekannten Shows TV Total, Rent-a-Pocher, Ladykracher und vielen mehr.

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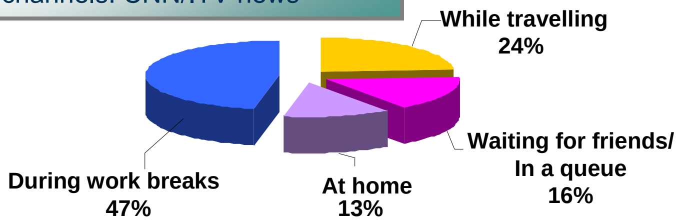
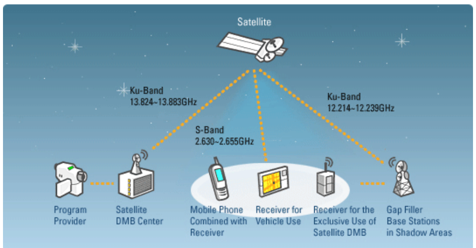
Orange France

- 59% of mobile broadband customers are regular video and live TV users
- 700K accesses per month
- 1.1 million minutes of use (1.5 mins/access)
- Average 25 minutes of TV per user per month
- Most popular channels: CNN/ITV news



SK Telecom, S. Korea

- Digital Media Broadcasting (DBM)
- 11 video, 25 audio and 3 data channels
- US$13 per month
- 100K subscribers after 5 months (below SKT's target of 600K after 12 months)
- Peak times: 8-9am, 12am-1pm, 7-8pm, 11-12pm



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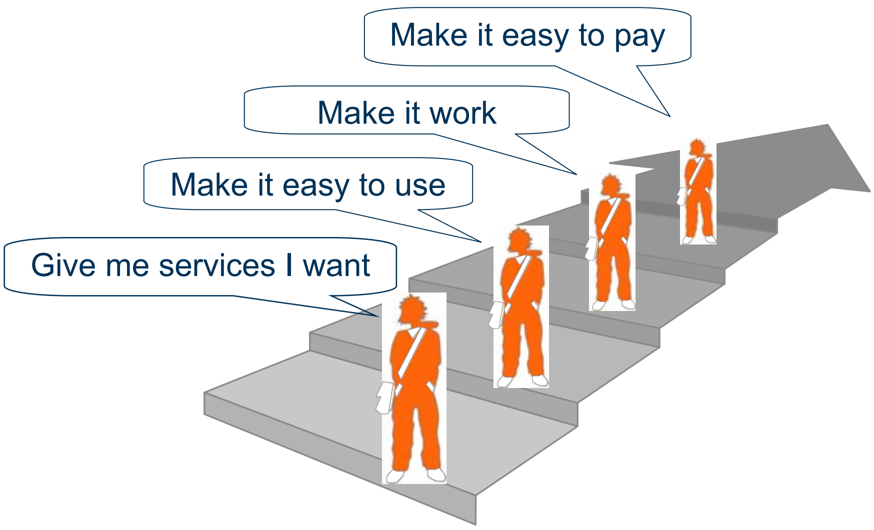
The Logic behind

*The Key quality of the mobile terminal is not that it is mobile but that it is **personal***

Consumer expectations



Personalized content is key

Why?
– Rational and emotional reasons

What?
– Content should be recognized

When?
– Situation based usage

4 to 5 channels is perceived to be enough for the individual

Source: Ericsson Consumer Lab's mobile TV usage survey, 2005

Mobile TV enables freedom of choice
- User perspective

TV-on demand

- Select Content
- Select Occasion
- Interactive & Personalized

"Push TV"

- Selected themes
- View when it happens
- Theme groups and latest information
- Interactive & Personalized

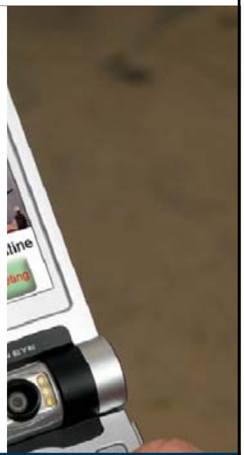
Live TV

- "Regular" TV
- Time schedule based
- Same or modified content as regular TV
- Interactive & Personalized

Users prefer to select when to watch Mobile TV

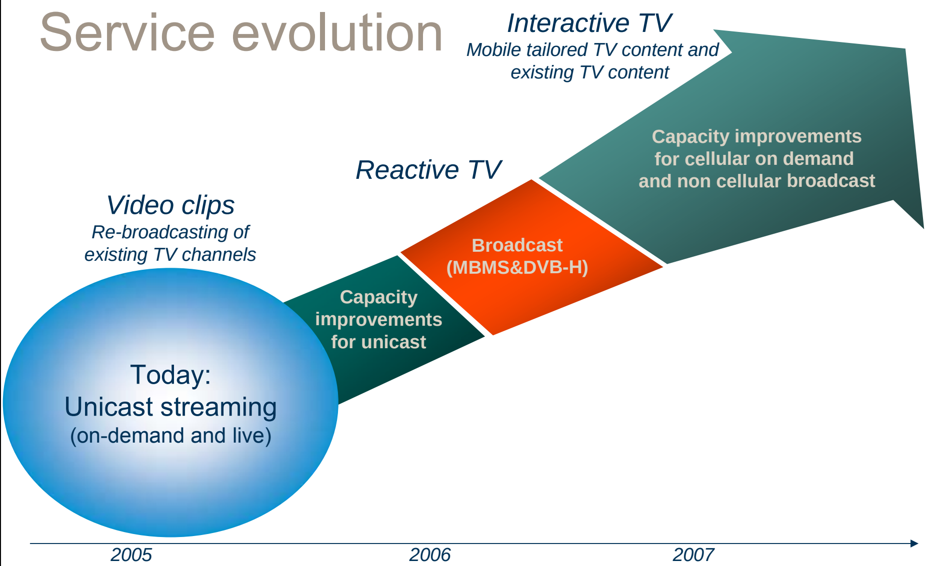
Payment Methods for Mobile TV
- Understandable and reasonable cost structure is key

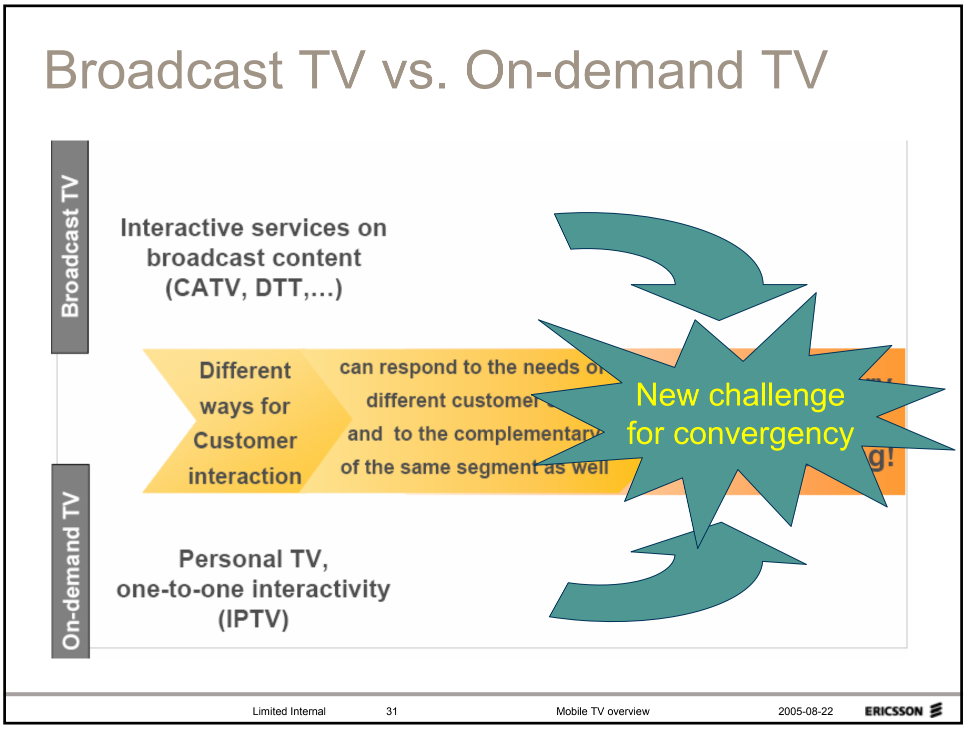
- Subscription
  – Monthly fee, cable TV model
- Advertising
  – Free TV model
- Interaction
  – Voting & Greeting model
- Pay per view
  – Transaction based fees



A good mixture will stimulate usage of the service

Mobile TV
Service evolution




Broadcast TV vs. On-demand TV
Broadcast TV
Interactive services on broadcast content (CATV, DTT,...)
Different ways for Customer interaction
can respond to the needs of
different customer
and to the complementary
of the same segment as well
New challenge for convergency
On-demand TV
Personal TV, one-to-one interactivity (IPTV)
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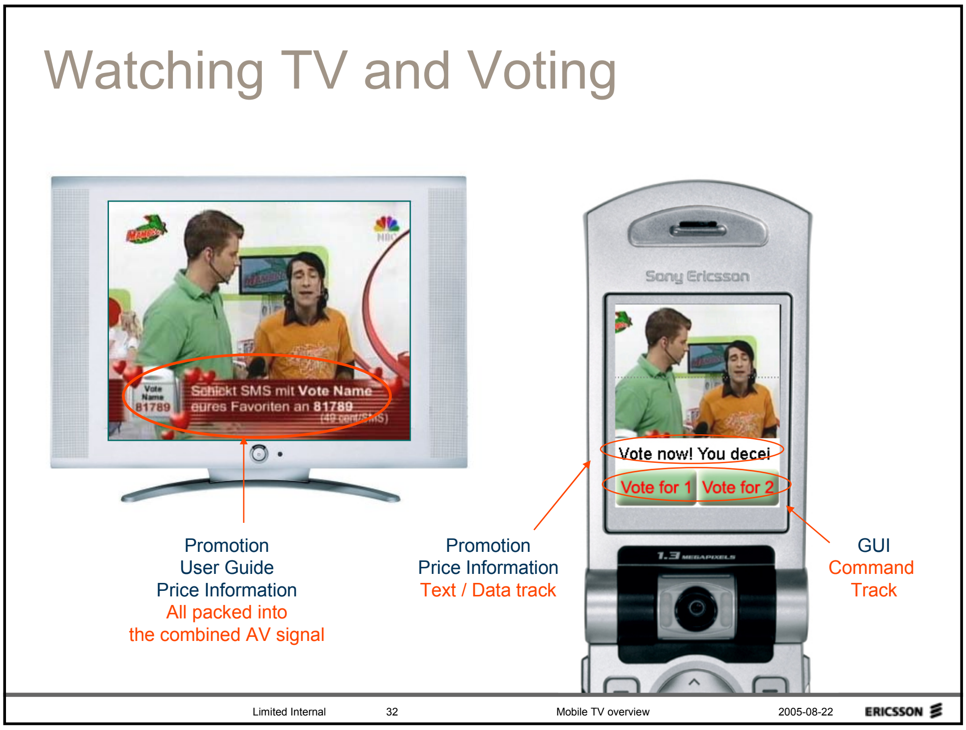
Watching TV and Voting
Schickt SMS mit Vote Name
eures Favoriten an 81789
Sony Ericsson
Vote now! You decei
Vote for 1
Vote for 2
Promotion
User Guide
Price Information
All packed into
the combined AV signal
Promotion
Price Information
Text / Data track
GUI
Command
Track
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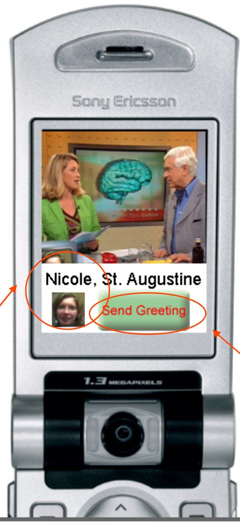
Watching TV and Greeting

SMS-to-TV / MMS-to-TV

Greeting Message
Promotion
User Guide
Price Information
All packed into
the combined AV signal

Promotion
Price Information
Text / Data track

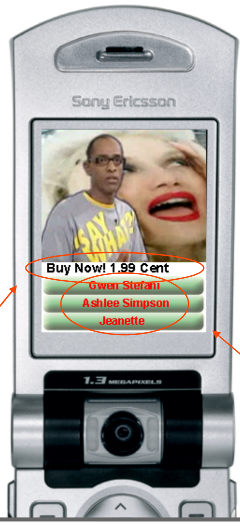


GUI
Command
Track

Content Promotion / Advertising

Promotion
User Guide
Price Information
All packed into
the combined AV signal

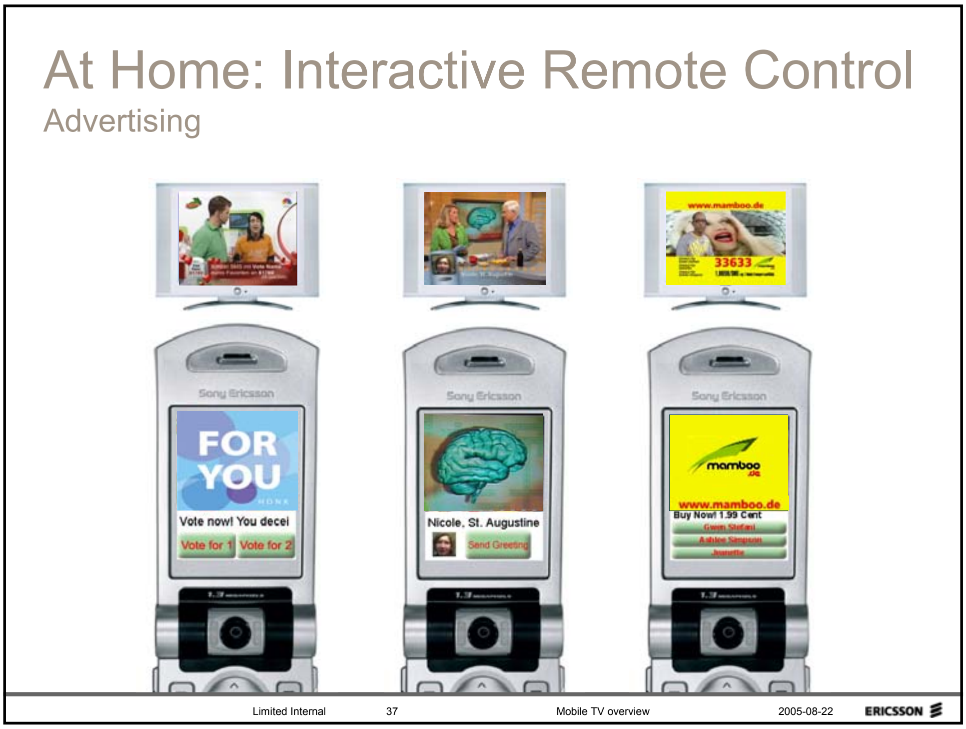
Promotion
Price Information
Text / Data track



GUI
Command
Track

At Home: Interactive Remote Control
TV Signal off

At Home: Interactive Remote Control
Advertising


At Home: Interactive Remote Control
Advertising
www.mamboo.de
33633
FOR YOU
Vote now! You decei
Vote for 1
Vote for 2
Nicole, St. Augustine
Send Greeting
www.mamboo.de
Buy Now! 1.99 Cent
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Business Models
Usage on Move
Sony Ericsson
€
Subscription
"Cable (pay-) TV Model"
Nicole, St. Augustine
Send Greeting
€
Interaction
"Vote & Greet Model"
MOTION EYE
€
Transaction
"Ring tone Model"
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Business Models
Usage at home
Mobile Marketing Approach
“sponsored by…”
for free or low price:
- get your ring tone
- vote your favourite
€
Advertising
“Free TV Model”
€
Interaction
“Vote & Greet Model”
€
Transaction
“Ring tone Model”
FOR YOU
Nicole, St. Augustine
Send Greeting
Limited Internal 39 Mobile TV overview 2005-08-22 ERICSSON


Business Models
Usage at home
Mobile Marketing Approach
“sponsored by…”
for free or low price:
- get your ring tone
- vote your favourite
€
Advertising
“Free TV Model”
€
Interaction
“Vote & Greet Model”
€
Transaction
“Ring tone Model”
Coke music
make it real
Nicole, St. Augustine
Send Greeting
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Design Sample
Sony Ericsson
Who is the hottest?
Britney
Christina
Madonna
Channel
TV: off
1.3 MEGAPIXELS
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Design Sample
Sony Ericsson
Your choice: Madonna
Casting your vote costs you 0.50 Euro. Proceed?
Yes
No
Channel
TV: off
1.3 MEGAPIXELS
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Design Sample
Sony Ericsson
Your choice: Madonna
Current result:
M
B
C
Time remaining: 3 min,
You can vote several times.
OK
Channel
TV: off
1.3 MEGAPIXELS
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Design Sample
Sony Ericsson
Who is the hottest?
Britney
Christina
Madonna
Channel
TV: off
1.3 MEGAPIXELS
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Agenda – Thinking about Mobile TV

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Media at hand

A few obvious…

- *Media industry is interested in finding new channels for his content*
  - *Mobile users are obvious targets*
- *Telecom industry is interested in pushing for value of his own assets*
  - *End user relation, network, sites, IT systems, services*
- *Mobile handsets will be a key interface to reach content*
  - *Several benefits: mobile, interactive, instant, personal*
- *A pure broadcast proposition is not fitting with this benefits*
  - *Broadcast media like DVB-H should be integrated with unicast/multicast media like existing GPRS/UMTS and MBMS*
- *The network operators can add value on top of bearers creating personalization services*
  - *Managed Internet capabilities with QoS, anti-spam, anti-virus, charging, positioning, interactivity*

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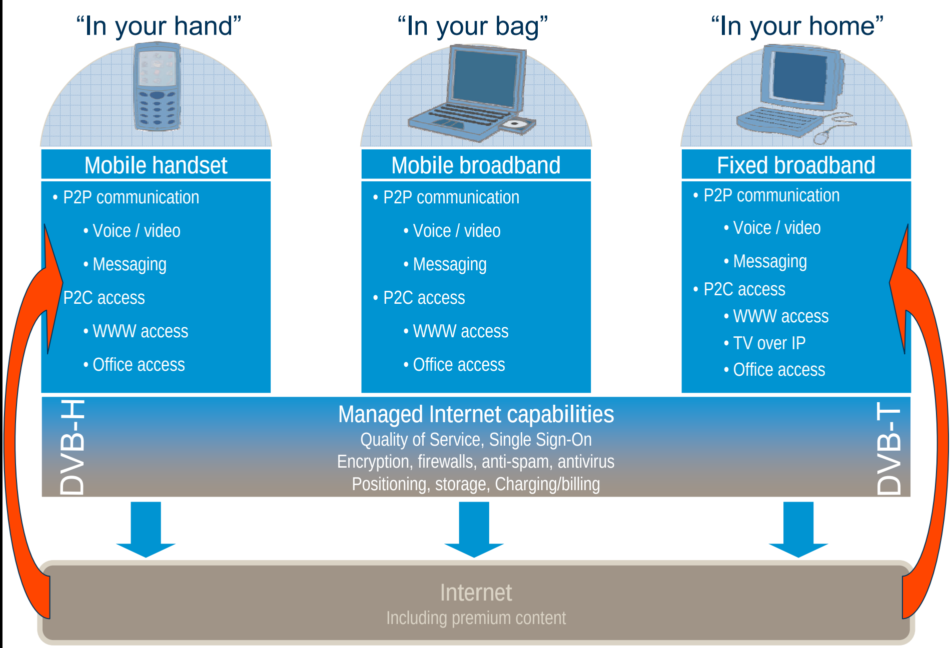

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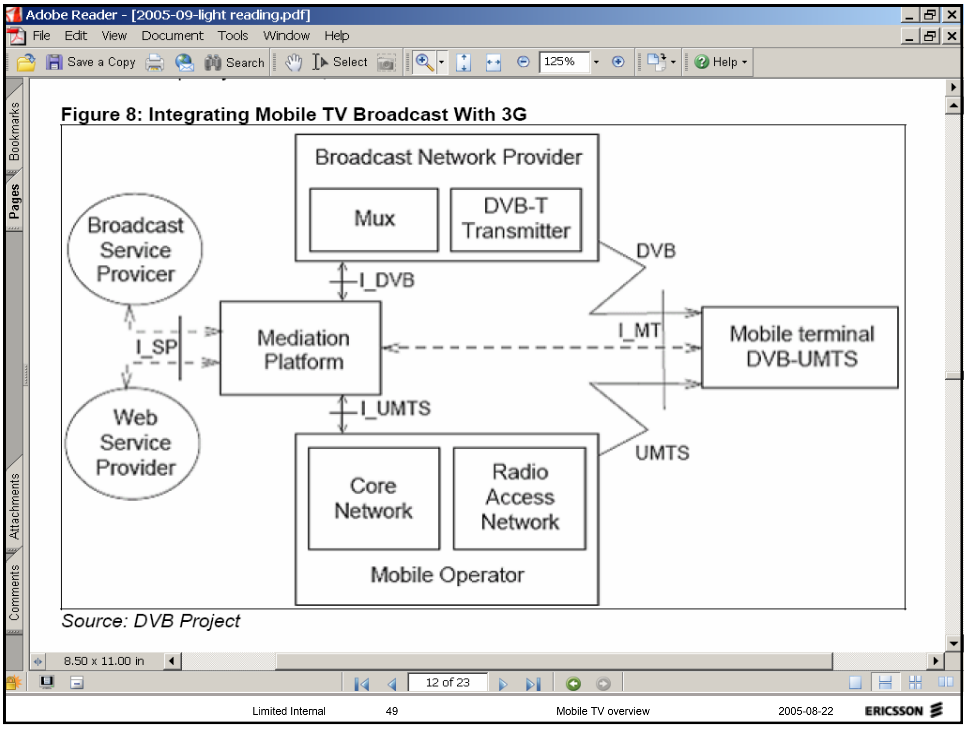
Adobe Reader - [2005-09-light reading.pdf]
Figure 8: Integrating Mobile TV Broadcast With 3G
Broadcast Network Provider
Mux
DVB-T Transmitter
Broadcast Service Provicer
Web Service Provider
I_SP
I_DVB
Mediation Platform
DVB
I_MT
Mobile terminal DVB-UMTS
I_UMTS
UMTS
Core Network
Radio Access Network
Mobile Operator
Source: DVB Project
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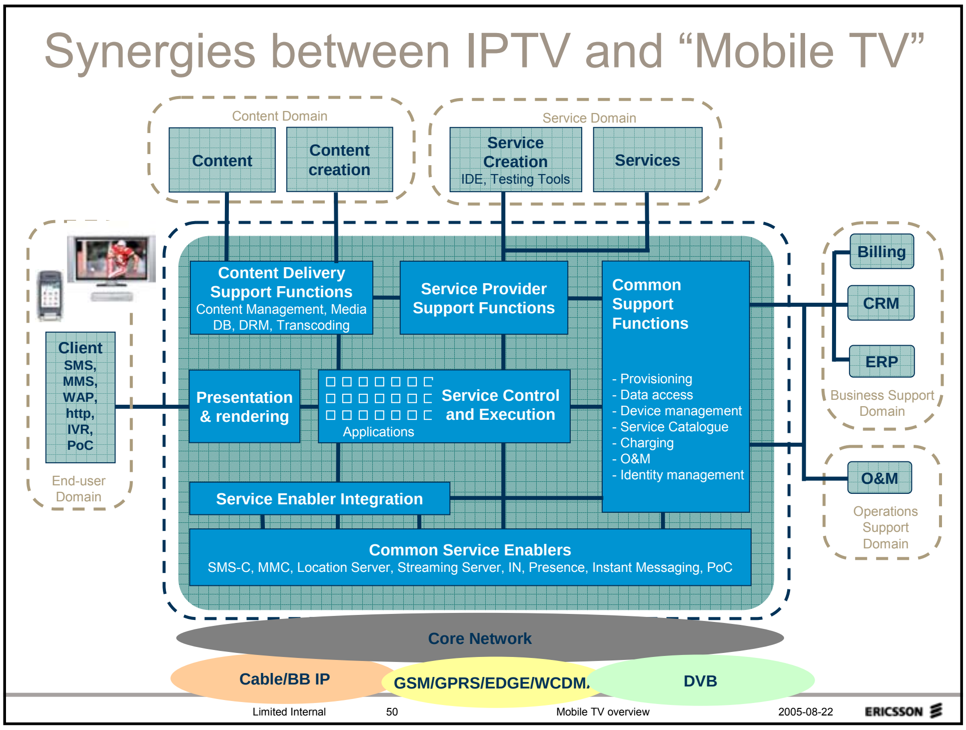
Synergies between IPTV and "Mobile TV"
Content Domain
Content
Content creation
Service Domain
Service Creation
IDE, Testing Tools
Services
Content Delivery Support Functions
Content Management, Media DB, DRM, Transcoding
Service Provider Support Functions
Common Support Functions
- Provisioning
- Data access
- Device management
- Service Catalogue
- Charging
- O&M
- Identity management
Client
SMS, MMS, WAP, http, IVR, PoC
End-user Domain
Presentation & rendering
Service Control and Execution
Applications
Service Enabler Integration
Common Service Enablers
SMS-C, MMC, Location Server, Streaming Server, IN, Presence, Instant Messaging, PoC
Billing
CRM
ERP
Business Support Domain
O&M
Operations Support Domain
Core Network
Cable/BB IP
GSM/GPRS/EDGE/WCDMA
DVB
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IPTV
Interactive
Personalised
TV
Full convergency between Broadcast and Interactive TV
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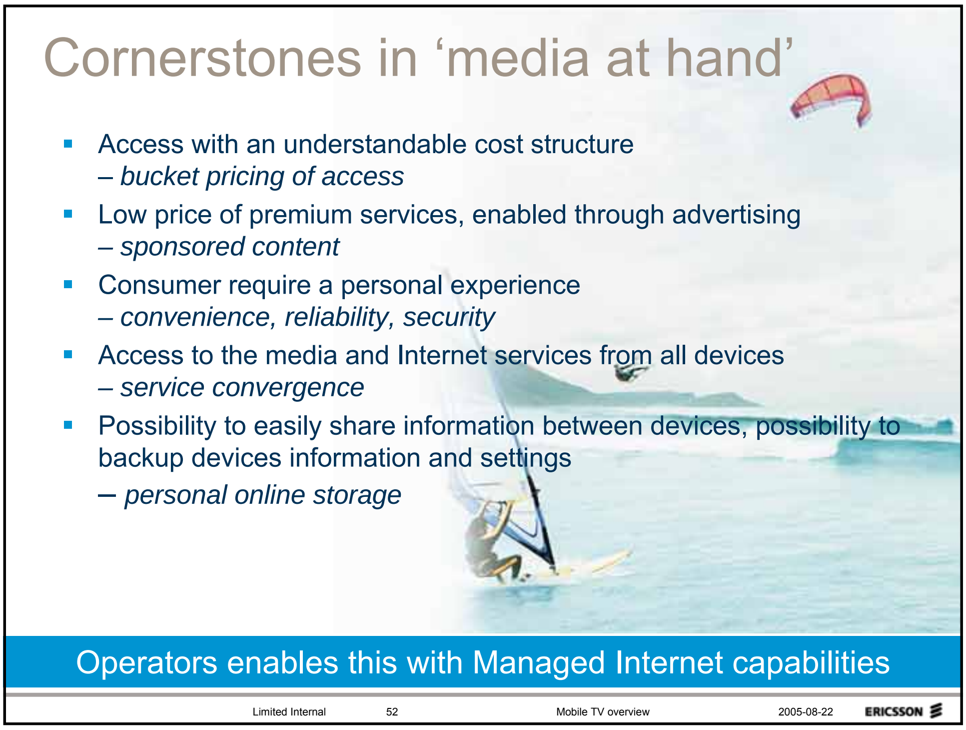
Cornerstones in ‘media at hand’
Access with an understandable cost structure
– bucket pricing of access
Low price of premium services, enabled through advertising
– sponsored content
Consumer require a personal experience
– convenience, reliability, security
Access to the media and Internet services from all devices
– service convergence
Possibility to easily share information between devices, possibility to backup devices information and settings
– personal online storage
Operators enables this with Managed Internet capabilities
Limited Internal
52
Mobile TV overview
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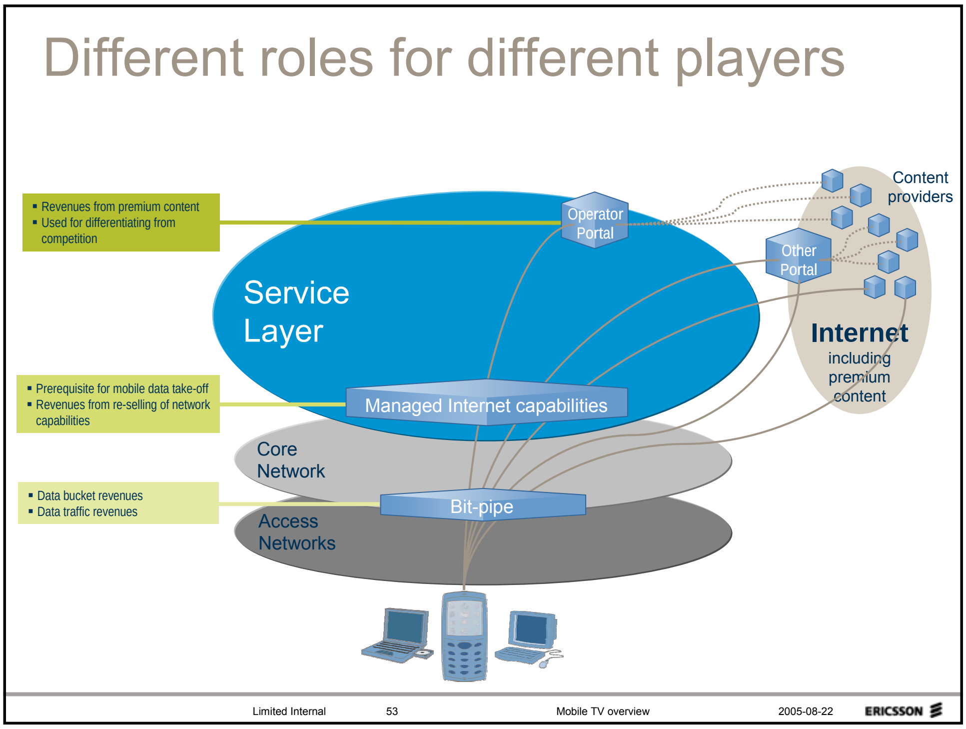
Different roles for different players
▪ Revenues from premium content
▪ Used for differentiating from competition
▪ Prerequisite for mobile data take-off
▪ Revenues from re-selling of network capabilities
▪ Data bucket revenues
▪ Data traffic revenues
Service Layer
Operator Portal
Other Portal
Content providers
Internet
including premium content
Managed Internet capabilities
Core Network
Bit-pipe
Access Networks
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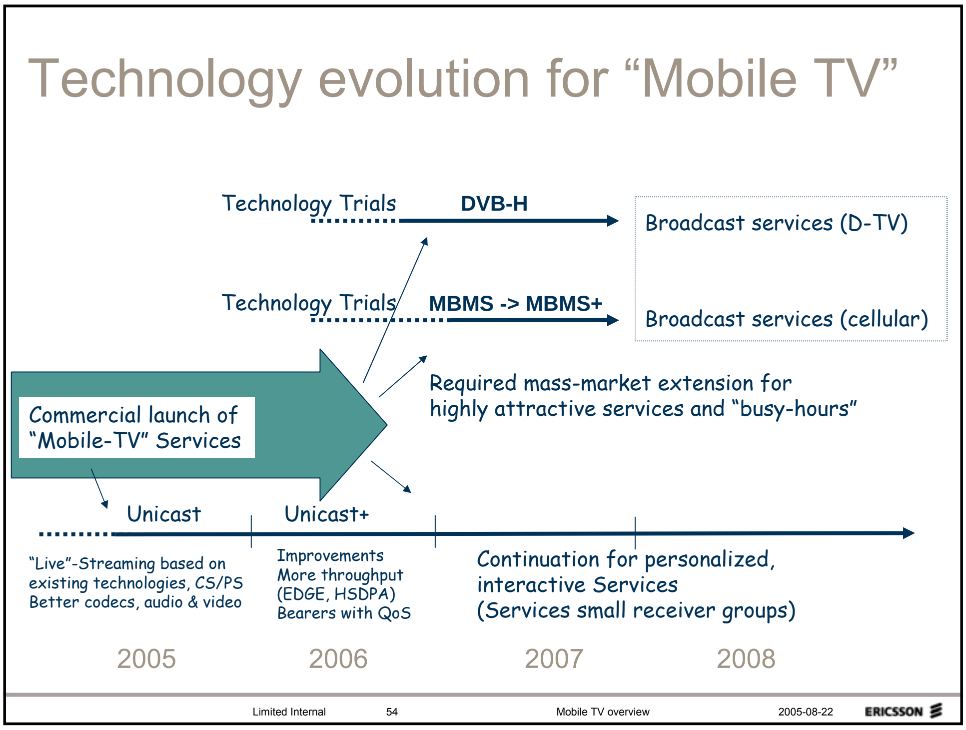
Technology evolution for "Mobile TV"
Technology Trials
DVB-H
Broadcast services (D-TV)
Technology Trials
MBMS -> MBMS+
Broadcast services (cellular)
Commercial launch of "Mobile-TV" Services
Required mass-market extension for highly attractive services and "busy-hours"
Unicast
Unicast+
"Live"-Streaming based on existing technologies, CS/PS
Better codecs, audio & video
Improvements
More throughput
(EDGE, HSDPA)
Bearers with QoS
Continuation for personalized, interactive Services
(Services small receiver groups)
2005
2006
2007
2008
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Agenda – Thinking about Mobile TV

- Facts
- Experiences
- User perspective and Business Models
- Ericsson proposition
- **Keywords - Conclusion**

Key words

- Ericsson is willing to support and drive the “Media at Hand” proposition
- “Media at Hand” is an open world where any user can access to any content at any time
- In order to get end user attention mobile content should be INTERACTIVE and PERSONALIZED (IPTV)
- Different technolgies and business models will support this vision and Ericsson is actively driving a proposition to support industry leverage around broadcast and telecom industry cooperation

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