2004. 10. 12

Digital Broadcasting Workshop

Industrial Review of Digital Broadcasting

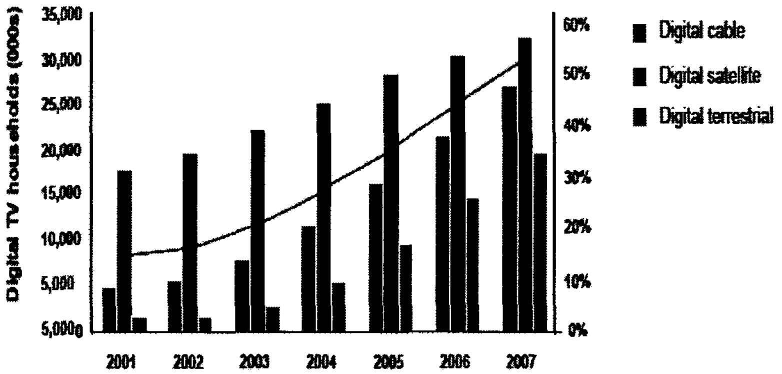
Kook [illegible]

KISDI KOREA INFORMATION STRATEGY DEVELOPMENT INSTITUTE

Content

Content

I. Europe (forecasting)



Source : Datamonitor

대체로 전망대로 현상이 전개
그러나 초기 예측과는 달리 디지털 케이블이 다소 저조
***DTTB**의 진입과 **IP-TV**가 새로운 변수로 등장*

Korea Information Strategy Development Institute

2

I. Europe (DTTB)

-Stage 1: around 2000 ; Stage 2: 2004-2005; Stage 3: 2007-8
pay model trial/ subsidy trial/ switch off start

	Legislation in place	Soft launch	Full launch	Switch off date
Operational Platforms				
UK (October 2002 relaunch)	July 1996	September 1998	November 1998	2006 to 2012
Sweden	May 1997	April 1999	September 1999	2008
Spain (2004 relaunch)	October 1998	May 2000	May 2000	2012
Finland	May 1996	August 2001	October 2002	2007
Germany, Berlin	Spring 2002	November 2002	1Q 2003	ongoing 2010
Netherlands	1999	April 2003	4Q 2003	start 2004
Italy	2001	December 2003	2Q 2004	2006
Next To Launch				
Germany (other regions)	2002	2004	2004	2010
France	August 2000	March 2005	2006	2010
Switzerland	2003	2005	2006	2015
Austria	2001	2005	2006	2012
Norway	March 2002	2005	2006	2006-2008
Portugal	2000			2010
Denmark	December 2002			2011
Belgium	2002			Flanders 2005
Ireland	March 2001			2010
Greece				

-Most countries will start by 2006 and switch off around 2010

3

Korea Information Strategy Development Institute

I. Europe (DTTB)(2)

	1998	1999	2000	2001	2002	2003 1Q	2004 1Q	Penetration
UK	247	552	774	1,217	1,260	1,400	3,000	12.0%
Sweden		15	35	83	100	140	200	4.8%
Spain			3	150	150	130	130	1.0%
Finland				5	10	97	300	13.1%
Germany						120	170	0.5%
Netherlands						3	12	0.2%
Italy							25	0.1%
TOTAL	247	567	812	1,455	1,520	1,890	3,837	

-Source:EBU(2004)

- Meaningful mkt in UK, Finland–

UK

DTV coverage

-DTT: 54%(1998) to 73%(2004)
-Dsat: 98% -Dcable: 50%

-UK PSB are obliged to make their services universally available

-But neither DTT nor Dsat alone can deliver universal coverage:
Multi-occupancy dwellings
Planning restrictions
Terrain Shielding
-Both DTT and Dsat are required.

55% DTV Penetration

-the total no. of DTV households grew by 630,000 over the quarter(2.4% increasing)

-Sky's subscriber reaching 7,032,000 in the UK at the end of Q2 2004

-Freeview , reaching 3,889,000 in the same period

-Free-to-View digital satellite homes are around 305,000
→FTV DTV total households , 4.2million

-D.Cable is now around 2.47 million (total Cable subscriber , 3.36 million)

UK

D.Sat-Pay TV Homes(Q2, 2004)

-Pay TV Homes	7,032,000*
-ARPU(annualised)	£ 380 (-2)**
-Churn	9.7% (+0.3%) **
-Base package price	£ 13.50

*these figures are for the UK and exclude Sky's subscribers in the Republic of Ireland.
** these figures are compared with data of Q1, 2004

D.Sat-Free-to-View Homes(Q2, 2004)

-FTV Homes	305,000

6 Korea Information Strategy Development Institute

UK

D.Cable Homes(Q2, 2004)

	ntl	Telewest Broadband
-Connected DTV Homes	1,408,700	1,052,855
-TV Penetration rate	26.6%	27.5%
-ARPU(annualised)	£ 496.56 (-6.36)*	£ 539.76(-0.84) *
-Churn	14.4%(+2%)*	15.2%(+0.8%)
-Base package price	£ 19	£ 13.50

* these figures are compared with data of Q1, 2004

TV over ADSL Homes(Q2, 2004)

	Home choice	Kingston Interactive
-Homes passed	1,247,906	105,000
-TV Homes connected	3,870	5,204
-churn	0.3%	5%

7 Korea Information Strategy Development Institute

UK

D.Terrestrial TV Homes(Q2, 2004)

	Q1 2004	Q2 2004
-ITV Digital STB	500,000	500,000
-Freeview adapters	2,832,800	3,264,785
-IDTV's	596,400	659,700
D. Terrestrial units in mkt	3,929,200	4,424,485
-Adjustment for 2^{nd} sets	- 461,133	-535,426
-Total DTT households	3,468,067	3,889,059

STB have reduced in price and a number are now available for around £ 50, compared with £ 99 since launch. It has also been possible to obtain free-to-air digital decoders at lower prices.

Freeview may be around 6 million by 2006

pay TV *Freeview TV*

Positives 35%(5.1 mil.) *Unsures 25%(3.7m)* *Negatives 40%(5.8m)*

8 Korea Information Strategy Development Institute

Sweden

- *An early starter but slow progress*
- *After 4 years, 200,000 DTT households (5%) but strong recent growth*
- *A pay model:Boxer*
- *Teracom(transmission company) has invested 220 million euro.*
- *Government currently reviewing key aspects : must carry 2004.9*

- *Terrestrial broadcasting mkt share changing(98%(1985)->32%(2003)*
- *Cable (2%(1985)->44%(2003)*
- *Digital Mkt: 1 million have digital TV DTT 200,000; D.Sat 650,000; D.cable 170,000*
- *Over 34% endorse the idea of Mobile TV (UK 24%, Finland 21%) (negative attitude 32%: UK 48%; Fin 45%)*

Sweden - channel line-up

❑ 21 channels free/pay mix

Mux 1	Mux 2	Mux 3	Mux 4
SVT1	TV 4	Kanal 5	Eurosport
SVT2	TV 4 +	Canal +	MTV
SVT24	MediTeve	Canal + Yellow	Nickelodeon
SVT Children	TV4/CNN	Canal + Blue	VH1
	DTU7	1 vacant	Discovery
	Regional Ch		Animal planet
			E!/Style

9 Korea Information Strategy Development Institute

Finland

DTV Coverage

-94% coverage by Sept. 2004(100% before the end of 2005)

- ***MHP applications are broadcast but only 10% of boxes can use them.***
- ***A free model with no single commercial operator: chs. and mux allocated separately.***
- ***STB market is Open market.***
- ***Strong growth expected to continue through 2004 (already 420,000 at end of March 2004)***

Finland - channel line-up

15 free chs., 4 radio stations, pay channels

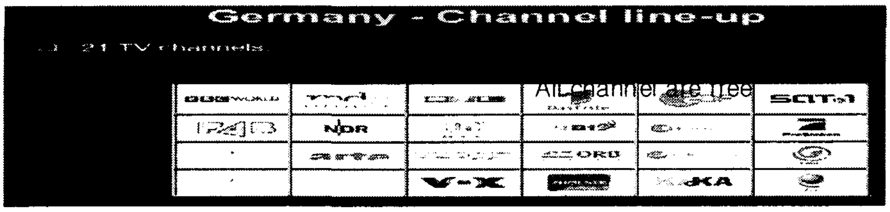
YLE TV1 D* YLE TV2 D* +YLE Rinnakkainen	MTV3 D*	NELONEN D* +Nelonen Plus
YLE FST (Swedish speaking)	SUB-TV (for young people)	Canal+ (3 Pay-TV-channels)
YLE 24 (24h news channel)	URHEILUKANAVA (sports channel)	Vizor (shopping channel
YLE TEEMA (culture and education	WELLNET (home, health, etc.)	Local channels
4 digital radio services		

*Simulcast

- *Fourth mux experiment: for mobile stations / point-to -multipoint principle*

Germany

- ***Berlin launched November 2002 based on a free model and completed analog shut-ff in August 2003***
- ***Open market for receivers developing with about 20 models available***
- ***Very little migration from cable***
- ***At national level, government wants to set up common DTT fund.***



- ***Next stages of island-by-island roll-out***
- ***The local media authority coordinated all the region's terrestrial broadcasters and provided financial incentives.***

France

- *Boyon Report(Oct. 2002)*

-government take intermediate postion and 'chaperone' DTT
-reappraisal of role of France Televisions, the public broadcaster

- *CSA announced March 1,2005 launch date 14 free-to-air channels, plus 14 more pay channels in Sept. 2005*

-Free offer: TF1, M6, France 2, France 3, France 5+Arte, La Chaine parlementaire, TMC, NT1, Direct 8, NRJ TV, 3 music channels
-Pay offer: Canal+, Paris Premiere(M6), Match TV, I-tele(Canal +), LCI(TF1), Planete, CinemaCinemaPremier, TPS Star, Eurosport, Sport+, TF6, Canal J, AB1, Comedie et Cuisine TV

- *Coverage 35% at launch, 65% by September*
- *Strong opposition from commercial broadcasters throughout*
- *Total of 29 channels will be available by the end of 2005*

12

Korea Information Strategy Development Institute

Italy

- *FTA model with subsidies*

-Italy emphasizes the role of DTT in making e-government services available and bridging the digital divide.

- *120 Million(EURO) allocated to facilitate purchase of STBs*
- *Subsidy is restricted to MHP-compatible equipment.*
- *Subsidy became available on Feb. 24 2004, and is limited to the first 700,000buyers, or about 150(euro) per unit*
- *5 MUXs with 50% coverage in 2004*

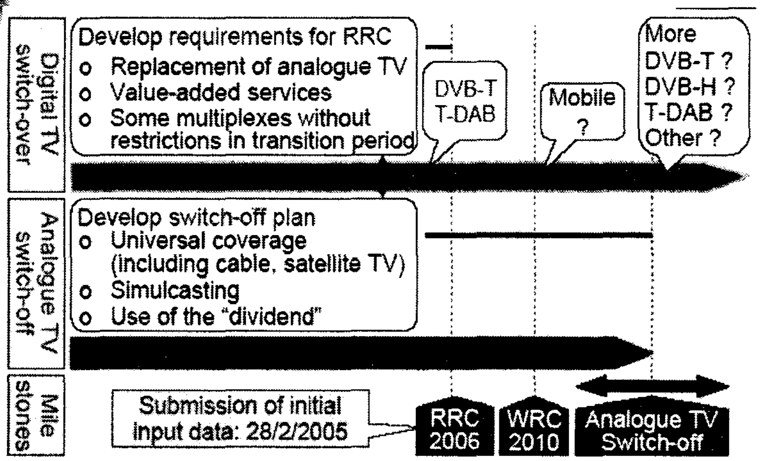
2 Muxs - RAI
1 Mux - Mediaset
1 Mux – Telecom/La7
1 Mux – another operator

- *In December 2006, ASO*

13

Korea Information Strategy Development Institute

Europe Roadmap for Digital TV



Source: IBC

II. US

DTV Sale

- ***DTV is estimated to be dominant in the annual revenue last year.***
  More DTV, less ATV

•(units Mil)	2003	2004	2005	2006	2007
ATV	21.8	19.8	16.7	13.5	
DTV	4.3	5.7	9.4	15.6	23(new data)

•(dollars Bil)	2003	2004	2005	2006
ATV	5.5	4.6	3.5	2.5
DTV	4.3	5.8	7.4	9.8

- ***6 months 2004, 2.8 million ($2.7 billion)***
- ***June 2004, total of 11.7 million units since 1998***

Source: CEA

II. US

1,233 stations on the air in 207 of 210 markets representing 99.7% Coverage of 106 million US TV households

84.7% of the USD homes have access to 5 or more DTV signals in their market

- *Consumer Access to Digital Television Enhancement Act of 2003*
- *FCC Approval of 'Plug & Play'*

→ To promote the digitalization of 70 mil. Cable houses

16 Korea Information Strategy Development Institute

II. US

D Sat

- ***21million digital subscribers***
- ***The greatest challenge for both providers, is how to keep growing at the same pace while using new technology to avoid capacity constraints.***

- ***Satellite platforms were the first in the US to deliver HDTV, but they now must expand their HDTV channels as their able competitors are offering HDTV themselves.***

-Besides keeping up with the competition, HD chs. also add additional revenue.
-Two providers charge an additional $ 10 per month for an HD channel package.

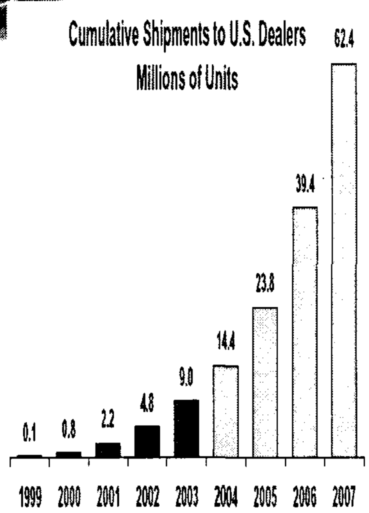
D. Cable

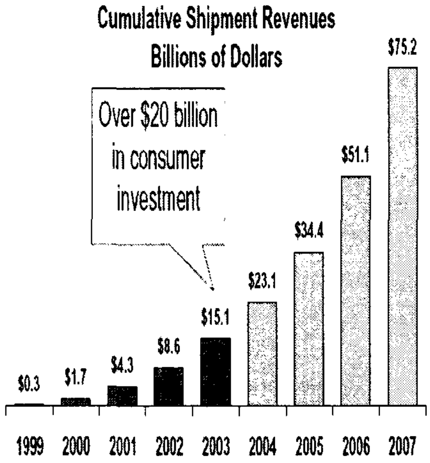
- ***22.2 million digital subscribers***
- *Cable networks – including Bravo, Comcast SportsNet, Discovery, ESPN, HBO, MSG Network, Showtime, and STARZ! – are investing substantial sums to produce and convert programming to new high-definition resolution (HDTV) formats.*

Other programmers such as MTV Networks, Discovery Communications, A&E Television Networks, and The International Channel are taking advantage of digital technology to offer more channels of specialized programming.

17 Korea Information Strategy Development Institute

II. US





Source: NABA

II. US

HDTV Program Production for Broadcast Networks (2004)

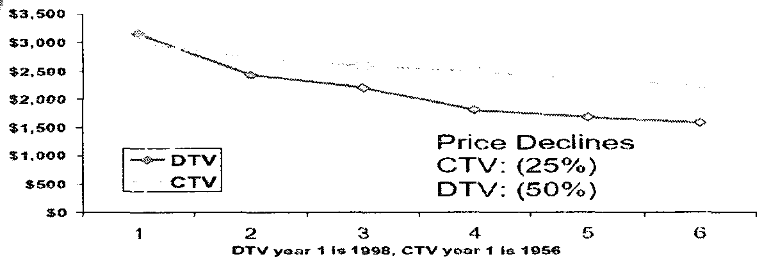
Net	Show	Format F = Film	Production Company
ABC	Married to the Kelly	1080/24P	20th Century Fox
	According to Jim	1080/24P	Touchstone
	Less Than Perfect	1080/24P	Touchstone
	George Lopez	1080/24P	Warner Brothers
CBS	Yes Dear F	1080/24P	20th Century Fox
	Still Standing	1080/24P	20th Century Fox
	Listen Up!	1080/24P	. . .
	Big Brother	1080/24P	Our House Productions
FOX	That 70's Show F	1080/24P	Carsey-Werner
	Malcolm in the Middle F	1080/24P	Regency
	Bernie Mac Show	1080/24P	Regency

Net	Show	Format F = Film	Production Company
NBC	Happy Family	1080/24P	NBC Studios
	Passions	NTSC 525	NBC Studios
	Tracy Morgan	1080/24P	Carsey-Werner
	Will and Grace F	1080/24P	NBC Studios
UPN	Half & Half	1080/24P	CBS Productions
	All of Us	1080/24P	Warner Brothers
	Eve	1080/24P	
WB	What I Like About You	1080/24P	Tollins/Robbins Productions
	Grounded for Life	1080/24P	Carsey-Warner

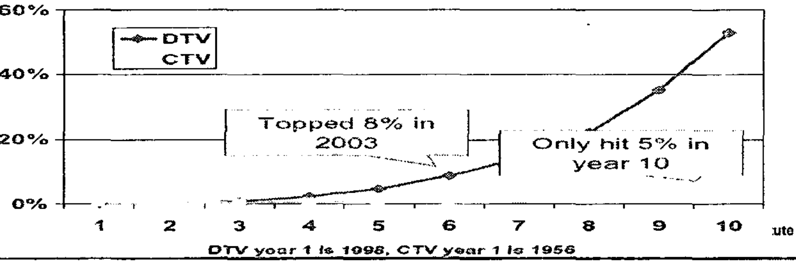
Source : NABA

II. US

DTV v. CTV Pricing

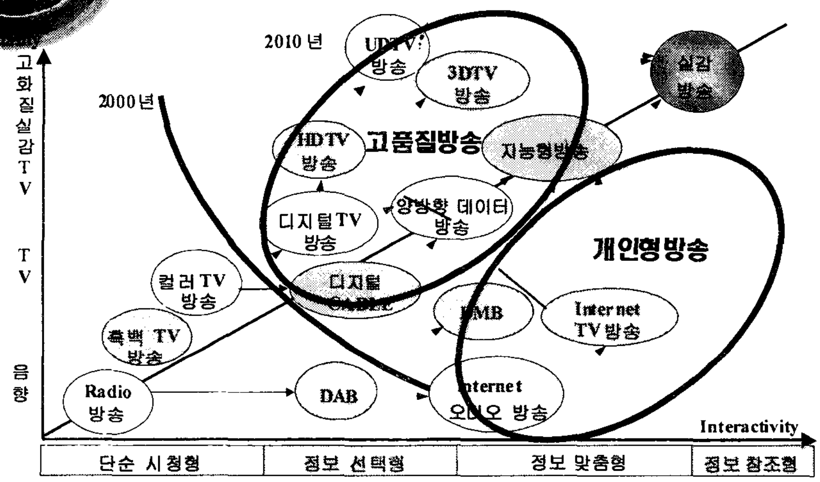


DTV v. CTV Penetration (includes sets and monitors)



Source: NABA

III. Trends : HD , Mobile and IP



출처: ETRI (2003)

III. Trends : HD , Mobile, & IP

디지털TV 기술은 품질(Quality)과 양방향성(Interactivity)의 2축으로 진화

디지털 방송 서비스는 고품질방송과 개인형방송으로 발달

언제 어디서나 시청자의 선호에 따라 시청가능한 지능형방송으로 발전하기까지는 향후 약 5년이 소요될 것으로 예측되며, '10년 이후 3D방송을 안경없이 시청할 수 있는 실감방송으로 발전할 전망

-인프라 측면에서는 현재 아날로그 방송망의 디지털화 및 방송□통신망의 융합, 그리고 홈네트워크를 포함하는망으로 발달

-수신기 측면에서는 HD급 디지털TV로부터, 에이전트 기능을 갖는 지능형 TV 또는 초고선명TV(UDTV), 3DTV 등으로 발전

보행은 물론 차량에서도 자유롭게 시청할 수 있는 이동형 TV를 거쳐 몸에 부착된 정보 기기를 이용하여 시청할 수 있는 착용형 TV로 발전

HDTV

US, Canada, Japan, Korea, China ----

How about EU?

Already, HDTV is available in Europe via satellite.

Euro 1080 has begun the transmission and other broadcasters, including TF1 and TPS, have also shown an interest.

Europe will require a high level of consumer purchase of HD-enabled televisions before widespread HD programmes are transmitted. Products will need to become more easily available and at a more affordable price.

According to IMS Research, it is expected that by 2008 the European, Middle East and African (EMEA) region will account for approximately 4.7 million HD-enabled televisions shipped, or about 15% of total worldwide shipments.

While the HDTV market in Europe is growing, it not yet mainstream. And if the demand for HDTV is low, its impact on the widespread uptake of DTT will be limited.

2004 HD Bend Wagon Effect

-2005 Germany, France 2006 UK------

From D.Sat to another / HD terrestrial broadcasting?

IPTV

III. Trends : HD , Mobile, & IP

TV over xDSL

US, Canada: Cable is setting the pace
- -Canada-shorter loop length allows DSL deployment
- -US-long loop length, Some small IOCs are starting
- DBS/DSL combo showing up

EU: Leading-aggressive CLECS & small ILECs
- Some growth-driven ILECs
- Few fear driven ILECs where cable is strong
- Broadcasters, pushing for DSL video

Asia-Pac: CLECs, attacking incumbents with triple play services
- ILECs, waiting to get TV licenses

Latin-A: incumbents, searching mass market TV service for DSL (low PC & high TV penetration)

IT is useful in urban high density areas,

2004 Hot Issue is IP-TV

24 Korea Information Strategy Development Institute

IPTV (cases)

III. Trends : HD , Mobile, & IP

Reliance, Bell Canada for IPTV
- -India's Reliance Infocomm and Bell Canada , trial the delivery of services over an IP broadband network using IPTV technology being developed by MSTV
- -MS planned IPTV solution will enable telephone and cable companies to deliver video content and services to their subscribers using two-way broadband networks

Softbank(Japan)
- aggressive roll-out of triple play services/gaming -broadcasting

Swisscom for IPTV
- -Bluewin (Internet provider of Swisscom) will be one of the first companies in Europe to conduct pay-TV trials using IPTV

First live video –over ADSL launched in Italy
- -Italian broadband provider FastWeb , 120 live ch.s (Rome, Naples and Genoa) to TV not to PC

FT/TPS service in France->TPSL
- -France satellite TV firm(TPS) -France Telecom concluded a strategic agreement to launch digital TV services over ADSL(2003)

25 Korea Information Strategy Development Institute

IPTV

III. Trends : HD , Mobile, & IP

Go to Triple Play solutions

converged home appliances

Open middleware platforms that allow unified operations of triple play

Service providers, reshaping their residential broadband brands in bundles

-the role model is the US cable industry

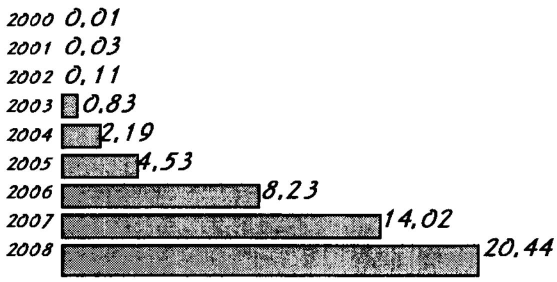
-telco CLECs actually act like cable operators (just using DSL)

Cable or CLEC Triple Play stimulates incumbents to go for the same

"Triple Play" to "Quadruple Play"

By converging mobile services with fixed line ones

IPTV subscribers Worldwide (in Millions)



Source: Strategy Analytics, Dec. 2002

26

Korea Information Strategy Development Institute

DMB; Mobile TV

III. Trends : HD , Mobile, & IP

Interest in Mobile TV

How	*Terminal , Platform*	*Standardization*
What	*Content, Applications*	*Content Strategy*
When	*sooner better*	*Service Strategy/Spectrum*
Who	*Broadcaster or Telco*	*Industrial Structure Reform*
Concept	*New s. or added s.*	*Mkt effects*

0 Spectrum is main factor in most countries.

DAB frequency is allocated in most countries.

Therefore DMB is real today.

DVB-H ? DVB-H isn't real today but Soon it can be through switching-off Analogue Broadcasting and industrial Reform.

27

Korea Information Strategy Development Institute

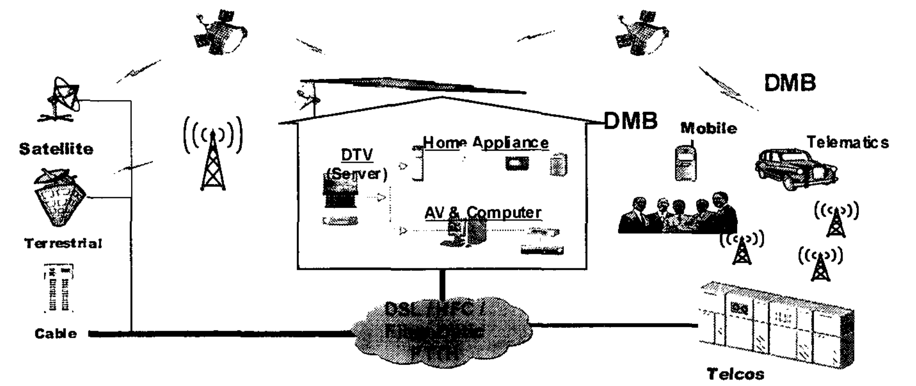
Concept

III. Trends : HD , Mobile, & IP

사실상 하나의 네트워크 개념, 하나의 콘텐츠 개념 그리고 단말:

- 플랫폼과 단말이 다르더라도, 동일한 콘텐츠를 이용할 수 있다.
- 궁극적으로는 원하는 시간, 원하는 장소, 보유한 단말로 모든 디지털 서비스와 네트워크에 접속 가능

이를 위해서 법제도, 산업구조 변혁 불가피

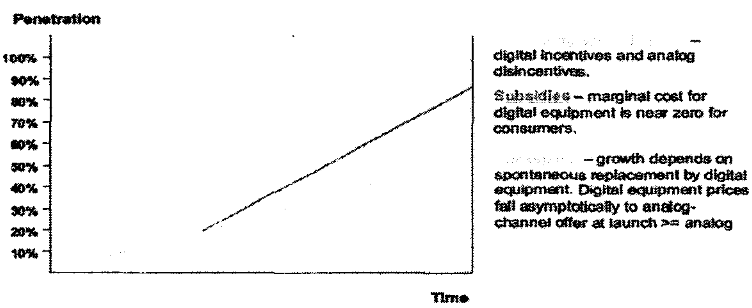


28

Public Policy

IV. Summary

DTT penetration scenarios



-It is a chance and a risk, Therefore Policy is very important.
-Policy must be focused on the solution of Egg & Chicken conflict
- To choose Subsidy needs to establish the new role of DTT

29

Public Policy(2)

IV. Summary

-Should public policies support DTT?

Benefits for policy makers, regulators, competition authorities
Promotes competition in the electronic communications area;
Contributes to Information Society objectives;
Stimulates content industry;
Insures a more efficient use of spectrum;
Reduces simulcast in order to use analogue frequencies
Diversity and access for a wider range of the population

-Especially Action Plan of DTV is important from the start of DTB to switch-off ATB
Plan and Do and Check and Feedback and Renew and Do--

30

Korea Information Strategy Development Institute

HDTV

IV. Summary

HDTV is a wise choice.

HDTV Mkt is there and here.
HDTV Mkt is large enough to drive Korea up to the advanced country.

But Terminal Mkt won't satisfy Us without HD content Mkt.
It is time to invest in HD content Mkt

Prepare to the Next stage of HDTV

31

Korea Information Strategy Development Institute

Mobile TV

IV. Summary

DMB is a wise choice.

DMB Mkt is here and there.
DMB Mkt is large enough to give Korean manufacturers a chance to dominate Mobile Mkt.

But Domestic Success is necessary to make foreign markets.
It is time to start DMB services.
The content for DMB services is a main factor to success in DMB.

Prepare to the content of DMB

IPTV

IV. Summary

IPTV Can be A bomb or A Candy box.

IPTV STB Mkt is there.
IPTV STB Mkt is large enough to extend Korean makers' life cycle.
But Terminal Mkt won't satisfy Us without sufficient Standardization.
It is time to go global strategy.

How about domestic Mkt ?
Here are not enough discussion of IPTV.

Prepare the regulation reform for BCN

Kook Jin Kim, Ph.D.

570-4171/ kkj0123@kisdi.re.kr

Thank You!

34

Korea Information Strategy Development Institute