



## IPTV - Market, Services, Regulation, Standards

Reinhard.Scholl@itu.int  
ITU Telecommunication  
Standardization Bureau

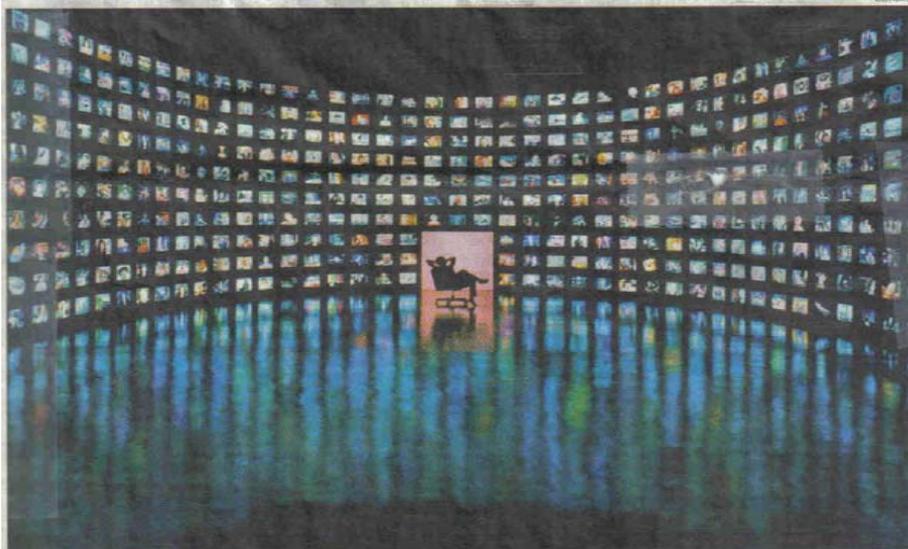


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# Swisscom offers IPTV - 1 November 2006

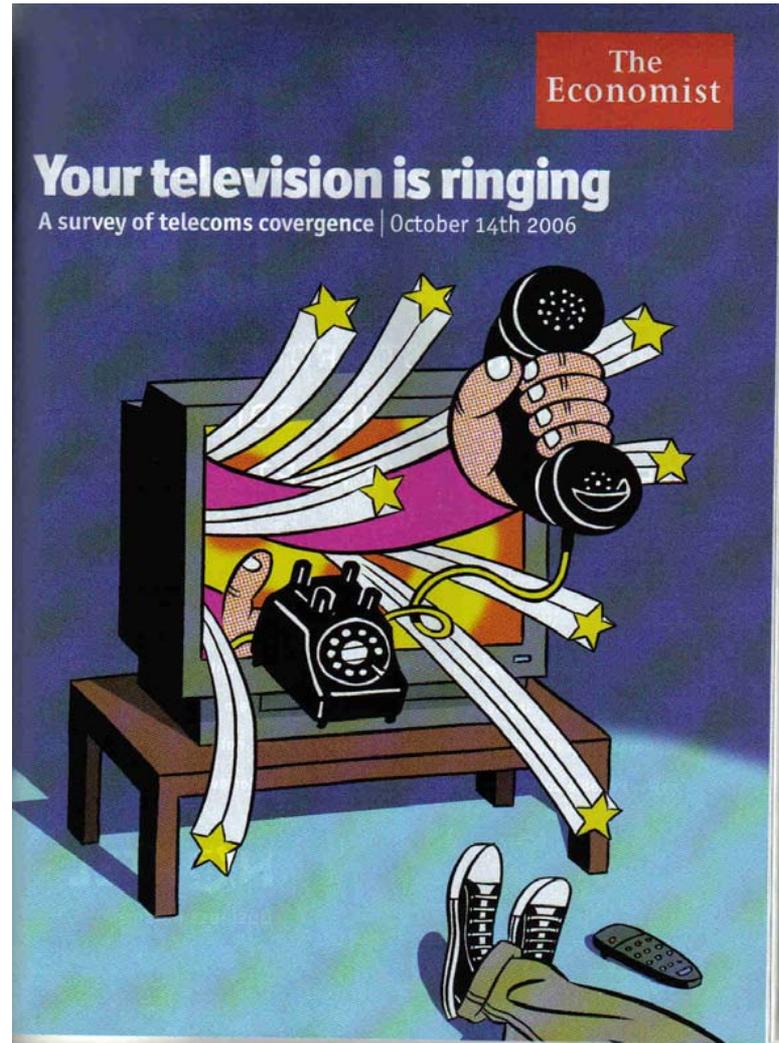
L'opérateur lance Bluewin TV qui propose une centaine de chaînes  
(Tribune de Genève, 1 Nov 06)

## Swisscom enterre la télé de grand-papa



Pour un peu moins de 30 francs, en plus de l'abonnement au téléphone fixe, Swisscom offre chaînes TV et stations de radio en qualité numérique. Une vraie révolution. Comment en profiter sans se faire piéger? Notre guide. PAGES 3 ET 12

o From "Tribune de Genève", 1 Nov 06



o From "The Economist", 14 Oct 06

- o Market
- o Services
- o Regulation
- o Standards

## o Market

- o Services
- o Regulation
- o Standards



# Demise of fixed-line telephony continues

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## o Voice revenue is falling:

- France Telecom: -10% annually
- Deutsche Telekom: - 6%
- BT: - 5%

*(Source: Forrester, quoted in The Economist 14 Oct 06)*

## o Global revenues

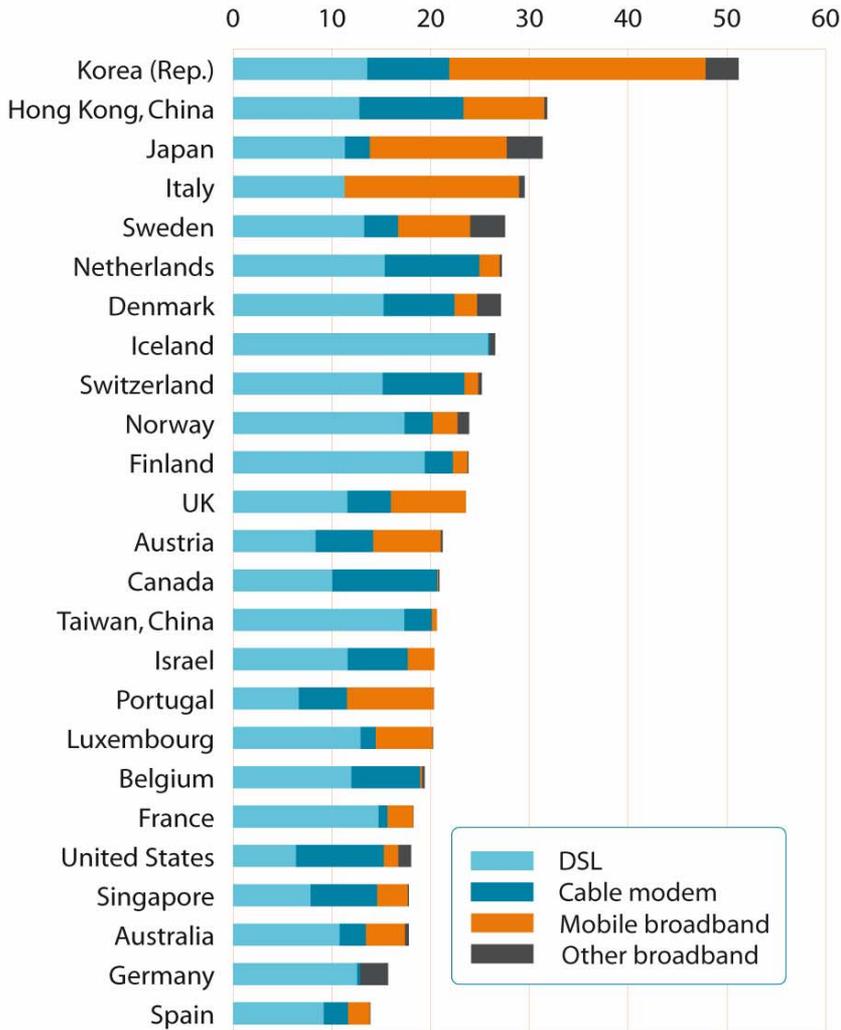
- in 2005
  - from fixed-line voice calls: \$ 600 bio
  - From data: \$ 202 bio
- prediction for 2010
  - Fixed-line phone calls will account for less than half of operators' revenues in developed countries

*(Source: Informa, quoted in The Economist 14 Oct 06)*

## o New core product: broadband Internet access



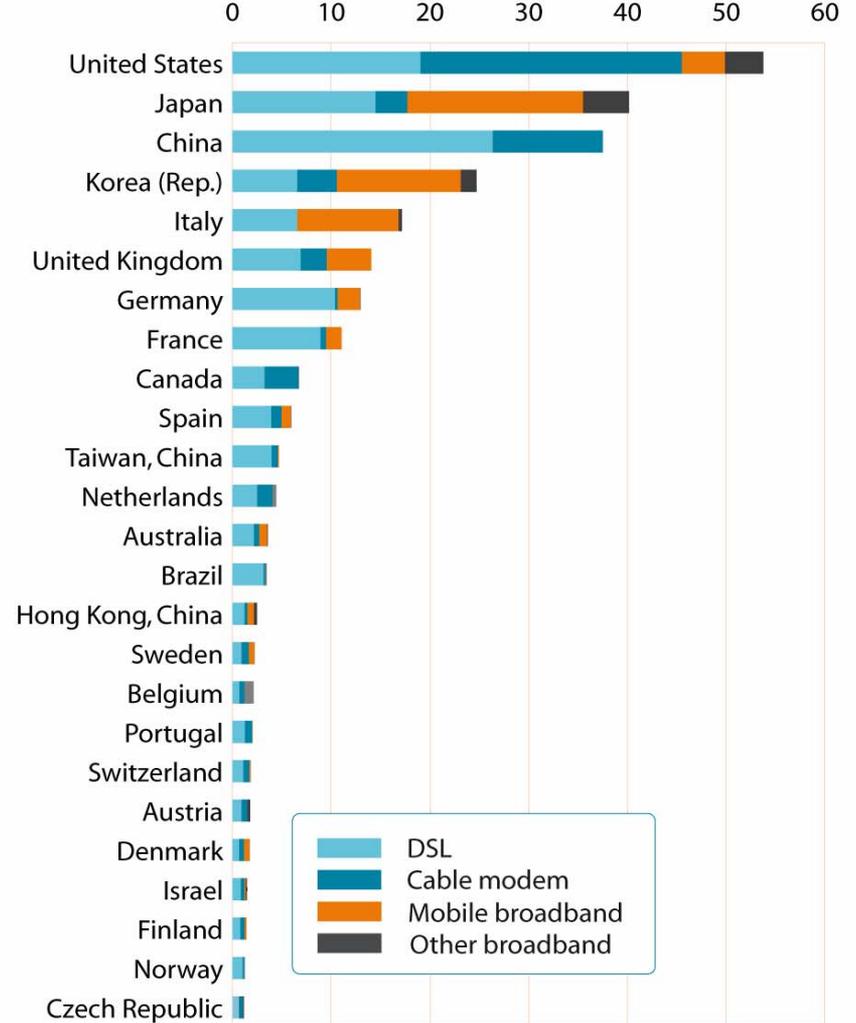
### Broadband penetration per 100 inhabitants, 2005



Source: ITU Information Society Statistics Database



### Number of broadband subscribers, in millions, 2005



Source: ITU Information Society Statistics Database



# Broadband offerings differ in countries

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o Economies with at least three BB technologies competing, e.g. DSL, cable, mobile, fibre:

- Korea, Japan, Hong Kong; lesser extent Sweden, UK

o Economies with two BB technologies competing:

- DSL vs cable: US, Canada, China, NL, CH
- DSL vs 3G mobile: Italy; Portugal, South Africa

o Economies with only one dominant BB technology, usually DSL:

- Iceland; lower levels of penetration: Brazil, Poland, Ireland (all more than 90% on DSL)

o The greater the competition, the faster the growth.  
Korea: DSL, cable, mobile, FFTH, public WiFi, metro Ethernet, Satellite *(Source: ITU Information Society Statistics Database)*

# IPTV to the rescue?

Telecom incumbents are responding to demise of fixed-line telephony by:

- Reducing call charges, increasing monthly rental fee
  - Launching VoIP services
  - Bundling services
  - Expanding broadband internet access
  - Jumping into television/video services as new business opportunity
- o But times are changing (risk vs. opportunity)
- Consumption of TV is changing
  - Delivery of TV is changing



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# Definition of IPTV

Definition of IPTV by ITU-T's IPTV Focus Group:

"IPTV is defined as multimedia services such as television/video/ audio/text/graphics/data delivered over IP based networks managed to provide the required level of QoS/QoE, security, interactivity and reliability."

*(underlined highlights are mine)*

QoS: Quality of Service

QoE: Quality of Experience



# IPTV vs Internet TV

ITU-T	<u>IPTV</u>	<u>Internet TV</u>
Users	Customers & IP-address known, closed network	Any users (gen. unknown)
Video Quality	Controlled QoS	Best effort
Video format	MPEG-2, -4, MS VC1	Windows Media, Real-Networks, QuickTime etc
Receiver dev.	Set-top box w/ TV; PC	PC
Resolution	Full TV display	QCIF/CIF
Reliability	Stable	Subject to contention
Security	Users authenticated	Unsafe
Copyright	Content protected	Often unprotected
Customer rel.	Onsite installation & customer support	Generally no

*Based on James Thompson, Cullen Int'l, ITU Global IPTV Workshop, who adapted from EBU Technical Review, April 2005*



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# IPTV is still in its infancy

- o Worldwide:
  - no large scale deployment yet
  - roughly 5 mio IPTV subscribers in 2006
- o In Europe:
  - France and Italy are the early leaders
  - Subscribers at end June 2006:

— France:	France Télécom:	300,000 subs.
	Free:	1.26 mio
— Italy:	FastWeb:	870,000
- o USA: e.g. Verizon's IPTV service seems to be proving popular (FFTP(remises); \$18 bio project to upgrade network)
- o World's success story: PCCW, Hong Kong

- o Market
- o **Services**
- o Regulation
- o Standards



# Swisscom offering

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- o 120+ channels; 70 radio stations
- o Live events: exclusive rights for Swiss Ice hockey Natl League; German Bundesliga (German soccer), UEFA Cup (European soccer)
- o Video on Demand - 500 films
- o - Personal video recorder made simple
  - One touch suffices to record
  - Storage capacity: 100 hours
  - Pause ("Live-pause"), fast-forward, rewind
  - "catch-up TV"
- o Automatic serial recording (e.g. daily news)

*From: website Swisscom, June 2007*



# Swisscom offering

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- Recording can be programmed from anywhere via Internet or mobile phone
- TV-Guide (EPG = Electronic Programming Guide)
- Image within image: keep watching main program, but zap thru other channels shown on small window
- Parent Control: block individual channels or shows
- Set limit of monthly expenses (for video downloads)

*From: website Swisscom, June 2007*



# Swisscom offering

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- o One-time installation fee CHF 95.-

## Monthly fees:

- o Subscription Bluewin TV Plus CHF 29.-
- o Copyright "tax" CHF 2.25
- o Internet access via ADSL CHF 9.- (300 kbit/s downstream)  
or 49.- (3500 kbit/s down)  
or 69.- (5000 kbit/s down)
  
- o Fixed phone line CHF 25.25

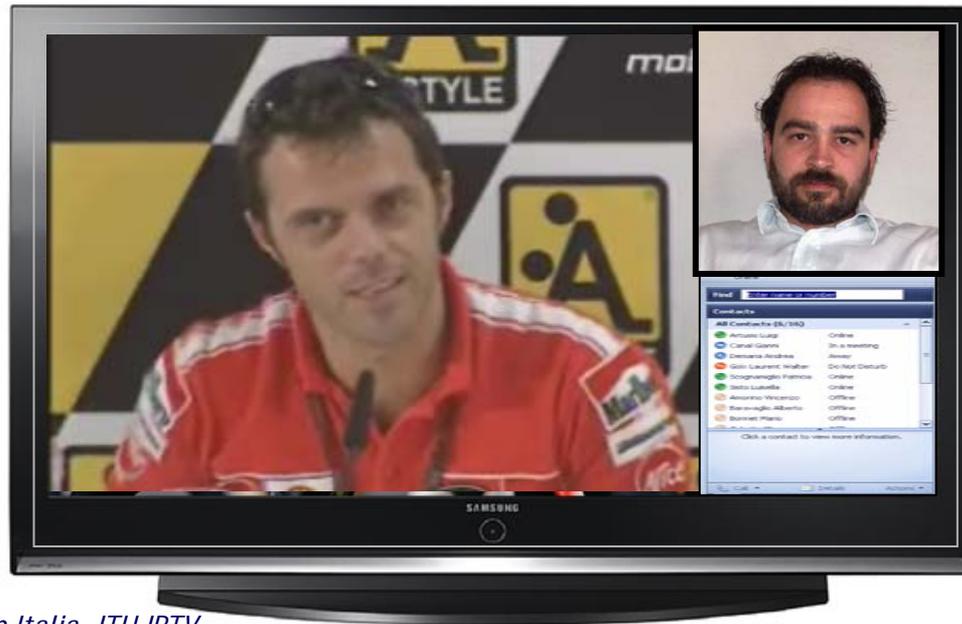
## Supplementary services:

- o Live-events CHF 1.-/event
- o Video on demand (500 films) >= CHF3.50/film/24h

*From: website Swisscom, June 2007*

# An interactive IPTV service concept

My picture is now on the TV... **all spectators can see the video coming from my house...** and I can talk with the cameramen and with the champion... let's start my **PERSONAL INTERVIEW...** What an unforgettable race !!



*From: Gianluca D'Errico, Telecom Italia, ITU IPTV  
Global Workshop, Korea, 12-13 October 2006*



# Movie Trailer Channel On-Line Ticket Booking via IPTV



Jun 8 17:18 Back ↶ Exit ✕



Charlie and The Chocolate Factory  
Original English Version/ Chinese Subtitle  
UA Langham Place House A

		SCREEN															
	A	14	13	12	11	10	9	8	7	6	5	A	1				
17:10	B	15	14	13	12	11	10	9	8	7	6	5	B	4	3	2	1
17:10	C	15	14	13	12	11	10	9	8	7	6	5	C	4	3	2	1
17:10	D	15	14	13	12	11	10	9	8	7	6	5	D	4	3	2	1
17:10	E	15	14	13	12	11	10	9	8	7	6	5	E	4	3	2	1
17:10	F	15	14	13	12	11	10	9	8	7	6	5	F	4	3	2	1
17:10	G	15	14	13	12					7	6	5	G	4	3	2	1
17:10	H	15	X	X	X	X	X	X	X	X	X	X	H	4	3	2	1
17:10	I	X	X	X	X	X	X	X	7	6	5	I	4	3	2	1	
17:10	J					11	X	X	8	7	X	X	J	4	3	2	1
17:10	K	X	X	13	12	X	X	9	8	7	6	5	K	4	3	2	1
17:10	L	15	14	13	12	11	10	9	8	7	6	5	L	4	3	2	1

Aug 13 Sun 21:40  
\$60 per ticket

Powered by  BROADBAND TV

Use **↕** **↔** to pick seat. Toggle with **ENTER** to select and deselect seats.  
Highlight and click  to confirm

- Hong Kong's first-ever instant box office on TV through partnership with UA Cinemas and Cityline
- Customers can preview theatrical trailers then pick the seats and purchase tickets from UA Cinemas by clicking on the buttons on their remote control
- More customers using  Movie Ticketing than Cityline on Internet

*From: Paul Berriman, PCCW (Hong Kong), ITU IPTV Global Workshop, Korea, 12-13 October 2006*



- o Market
- o Services
- o Regulation**
- o Standards

# Is the regulatory framework ready for large scale IPTV?

- o Communication, broadcasting, entertainment, information services - so far separate regulators, separate rules
- o EU:
  - TV regulated by Television Without Frontiers Directive (TWF, 1997)
    - covers traditional TV, pay-per-view, near VoD, but not VoD
  - VoD regulated by information society services under Electronic Commerce Directive 2000 - lighter regulatory regime
  - Regulatory frameworks for telecoms and broadcasting currently under review
  - New directives into force around 2009

# Is the regulatory framework ready for large scale IPTV? cont'd

- Should incumbent telcos share their NGN with rivals?
  - Verizon, ATT (USA): no need bec. competition comes from cable operators (95% of US-homes)
  - BT (UK): yes, bec. cable reaches only 50% of homes
- **Must carry:** Cable operators must offer certain channels - why not telcos as well?
- **Net-neutrality** (= all data have equal priority): could telcos use prioritisation tools in an anticompetitive way?
- **Bundling services** can raise antitrust issues, e.g. Italy:
  - Telecom Italia: dominant in both fixed and mobile
  - Fastweb: only in fixed-line market
  - Vodafone: only in mobile market

- o Market
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# ITU-T's Focus Group on IPTV (FG IPTV)

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- o Created in April 2006
- o Meetings about every 3 months
- o Strong participation: meetings average 150 input docs + close to 200 participants
- o Open to basically anybody (even to non-members of ITU)
- o All FG IPTV documents publicly available at no charge
- o Mission statement of FG IPTV

“To coordinate and promote the development of global IPTV standards taking into account the existing work of the ITU study groups as well as Standards Developing Organizations (SDOs), Fora and Consortia.”

## Collaboration With Other Standards Developing Organizations (SDOs)

- Liaison relationship with almost all SDOs involved with the development of IPTV related specifications
- Used ATIS IPTV Interoperability Forum, DSL Forum and Home Gateway Initiative (HGI) related documents as input to prepare FG IPTV specifications
- Good working relationship with DVB project and ETSI TISPAN
- Regional and national bodies and related SDOs benefit from contributing to FG IPTV and having their work incorporated into globally recognized and accepted standards
- ITU-T standards compliant products are key to global interoperability

# Major Achievements

- Agreed to a unique functional architecture covering legacy and NGN (IMS and non-IMS) based platforms
  - Facilitates alignment between those of other SDOs with that of ITU-T
- In depth discussion on home network architecture and other related issues
- Captured vast number of requirements covering home network, metadata, middleware, public interest, QoS/QOE, security, unicast and multi-cast.



# Acknowledgments

ITU-T

- o [www.itu.int/ITU-T/iptv](http://www.itu.int/ITU-T/iptv)
- o Mailing list: [fgiptv@itu.int](mailto:fgiptv@itu.int)
  - to subscribe, send email to [tsbiptv@itu.int](mailto:tsbiptv@itu.int)
- o Presentations at ITU-T Global IPTV Workshop, Seoul, 12-13 October 2006
  - [www.itu.int/ITU-T/worksem/iptv](http://www.itu.int/ITU-T/worksem/iptv)  
in particular papers by James Thomson, Cullen International, and Reza Tadayoni, CICT Denmark
- o ITU Internet Report 2006, "digital.life" (Dec 2006)
- o The Economist, 14 Oct 2006
- o Swisscom website