



# **Economic and Social Impact of ISDB-T**

Yasushi Furukawa  
Ministry of Internal Affairs and Communications

Digital TV Seminar in Cuenca  
04-05 Dec 2008  
DiBEG/ARIB/MIC JAPAN



# Why did we adopt ISDB-T? What ISDB-T can do?

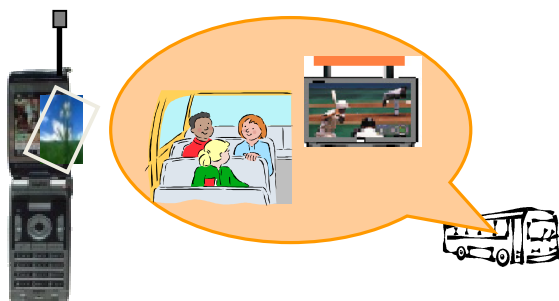


- Broadcasting of high quality images and audio (Hi-vision)



- Mobile one-segment broadcasting reception

- Enjoy digital TV on your mobile phone and inside vehicles
- Information about evacuation routes and personal safety in case of disaster



- Data broadcasting services
  - news and weather by the remote control.
  - Receive live information
  - Participate in interactive viewing

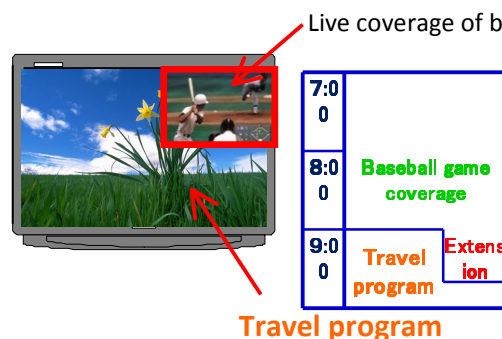


- Close-captioned broadcasting
  - Hearing-impaired and senior person friendly broadcasting
  - Enjoy close-captioned broadcasting



Caption

- Multiple network viewing
  - View several programs at once



- Variable speech rate
  - Speech at slower and more comfortable speed.

Summer in Hokkaido is...  
↓ (Slow and comfortable to hear)  
Summer in Hokkaido is...





### **ISDB-T system provides a variety of competitive functions.**

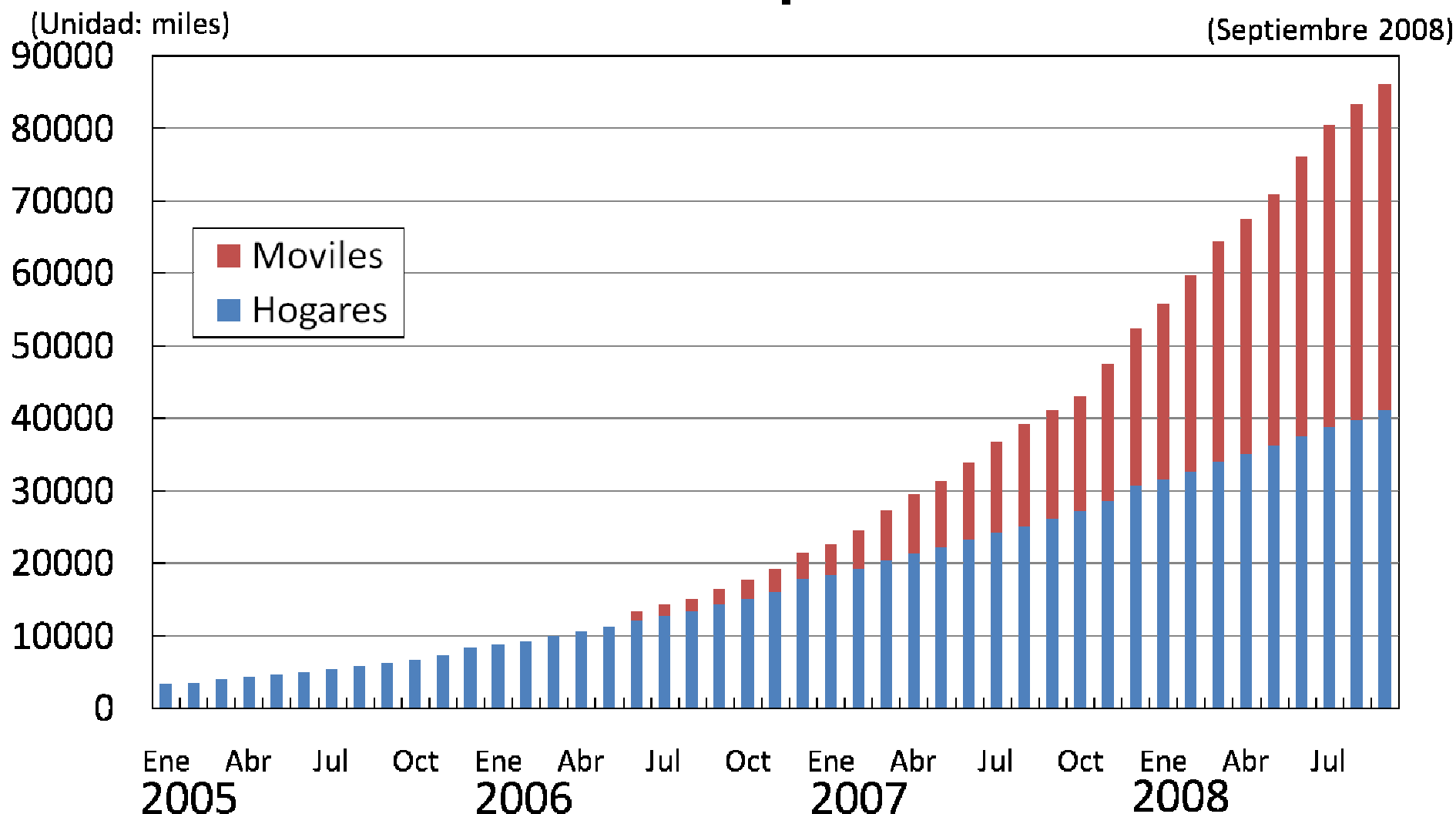
- a. HDTV with high quality audio (5.1 surround)
- b. SDTV multi-programs
- c. EPG (Electronic Program Guide)
- d. Data broadcasting
- e. Captioning
- f. Emergency Warning System
- g. Interactive service
- h. One-seg (mobile reception) service



1. **Emergency Warning System** is a TV remote activation system and transmits alert to viewers.
2. **One-seg service(Mobile TV)** is now very popular in Japan.  
**45 million in two and a half years** after the service launched.
3. The results of **ISDB-T Field trial tests show the excellent features** such as quality indoor reception, mobile reception by handset.
4. ISDB-T shows **a strong robustness** under all interference such as multipath or impulse noise. ISDB-T would be the best option to mountainous lands like the areas in South American Countries.
5. **Brazil has already adopted ISDB-T** in South American Countries
6. ISDB-T contributes to **Solution of Digital Divide, Disaster Relief, Emergency Cases** in your country as well.



# 86.2 millones de receptores en mercado



45.1 millones de receptores de moviles fueron enviados a finales de Septiembre de 2008.

41.1 millones de receptores de hogares fueron enviados a finales de Septiembre de 2008.

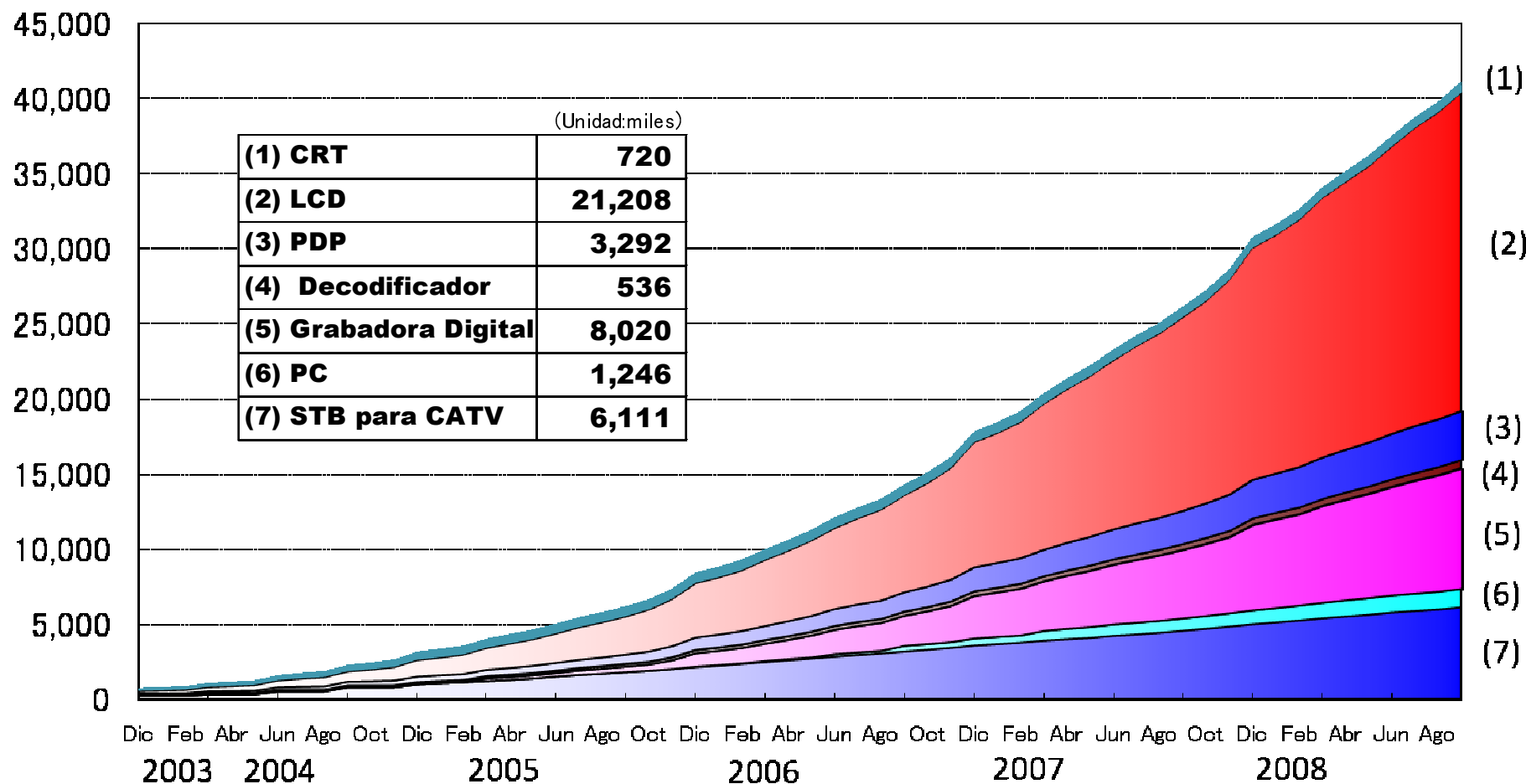


### Receptores fijos de TV Digital Terrestre en el mercado

**41,133,000**

(Septiembre 2008)

(Unidad: miles)



Fuente: Japan Electronics and Information Technology association (JEITA), Japan Cable Laboratory



## La tecnología que prioriza la vida humana.

### Texto

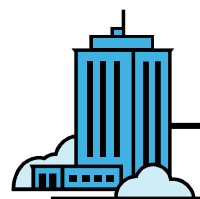
Las posibilidades de inundaciones fluviales se han incrementado. Los residentes en las zonas circundantes deben evacuarse. Las zonas afectadas son las siguientes:

### Imagen



**Activación de control por radiodifusión**  
**Comunicación no congestionada**  
Ahorro de energía característica necesaria

> Activación de señal de control <

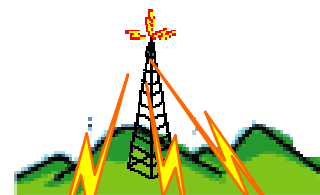


Agencia Meteorológica



Estación deTV

**Master Control**  
(Botón "Al aire")



**ACTIVAR!**

Instrucciones de  
Evacuación

Emergencia



**Dentro y fuera de hogar.**



1. **ISDB-T will bring various benefits to the people**, data broadcasting, bi-directional services, and mobile /portable reception anywhere and anytime. Convergence of broadcasting with telecom services will generate univeersal services and new ICT businesses.

2. Viewers can watch TV with interior antennas because of its robustness, Other standards require more rooftop antennas.

**Thus ISDB-T reduces cost for viewers.**

Broadcasters can provide both fixed and mobile TV service with only one transmitter, while the other standards requires two transmitters,

**Thus ISDB-T is a cost effective system for broadcasters.**

3. Japanese manufactures are producing the many kinds of products Variety of Studio equipment, transmitter. Receiver.

**The businesses are expanding from broadcasting equipment to other business fields, mobile phones, car TV, telecommunications, computer products, game terminals and portable terminals etc.**





## ISDB-T

**UN TRANSMISOR  
UNA FRECUENCIA**



**ROBUSTO**

**TV Móvil gratis**



**Móvil Gratis**

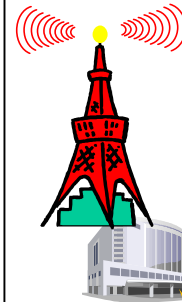
**HDTV o  
Multi SDTV**



**Fijo 16:9**

**Gratuidad absoluta**

## Otros estándares

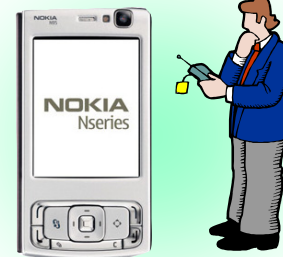


**DOS** transmisores  
**DOS o MÁS** frecuencias



**Además  
NO inmune**

**TV Móvil PAGA**



**Móvil paga**

**Modelo SDTV**



**Fijo 4:3**



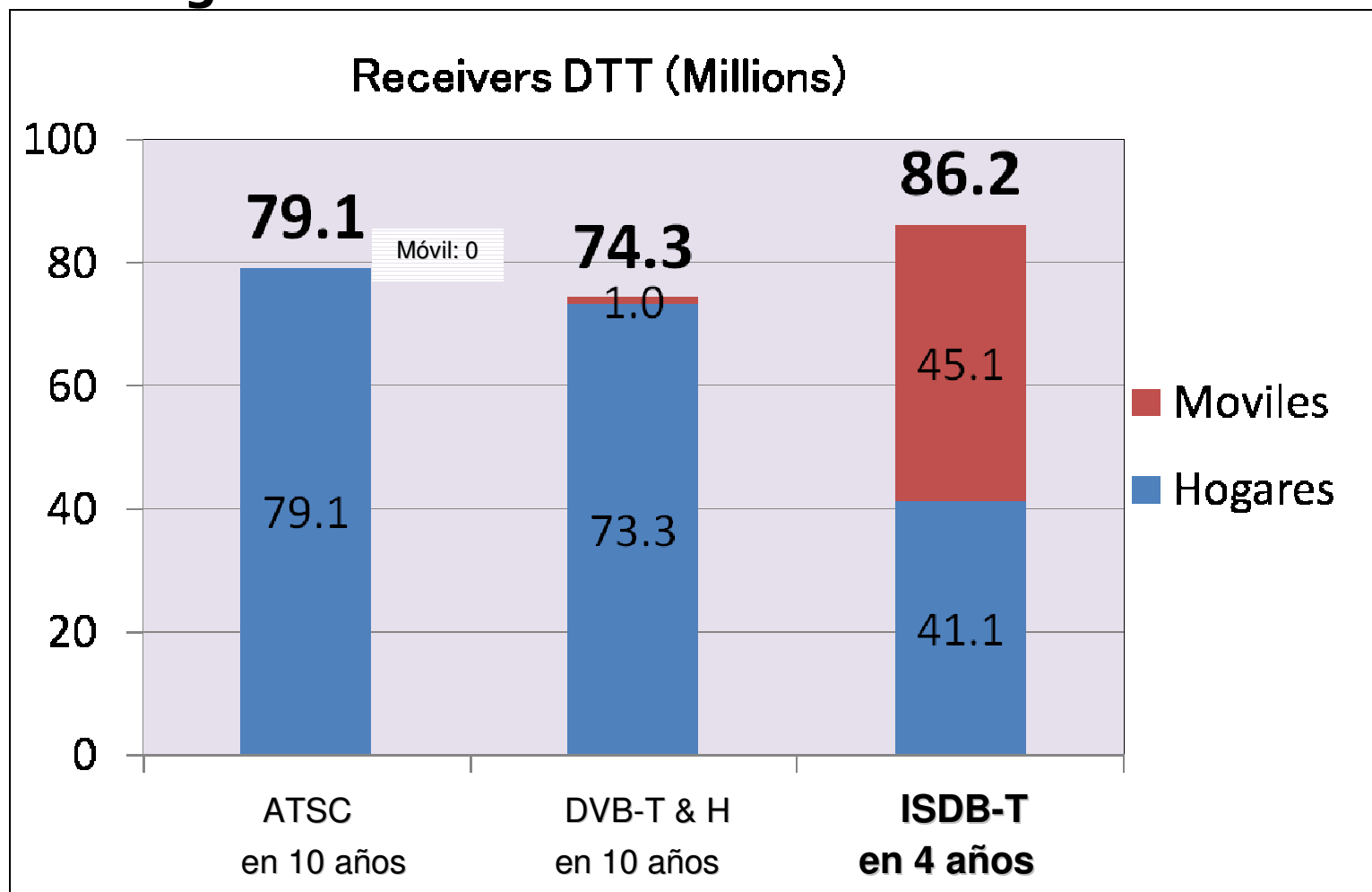
1. Price of transmitters depend not on the digital TV standard.  
Prices of receivers are determined only by the mass production mechanism, that is, the more the production, the lower the price.
2. Japan and Brazil adopt ISDB-T, Total populations is more than 300 million it is enough market for mass production.
3. ISDB-T receivers have shipped, 86.2 million in 4.5 years  
DVB receivers have shipped 74.3 million in 10 years.  
Thus ISDB-T is rapidly penetrating. Receiver price is expecting to be cheaper.
4. One-seg service is diffusing drastically  
One-seg can associate with 3G and GSM in South American countries.
5. ISDB-T Set Top Boxes will be at a price of under USD 30.  
and provided while people are using analog TV after analog switched-off.
6. Low battery consumption thanks to one segment(429kHz) reception  
(Re charge lifetime of Mobile handset is 4 to 5 hours at average.  
Some handsets longer for 7 hours



The largest number of receivers has been shipped!



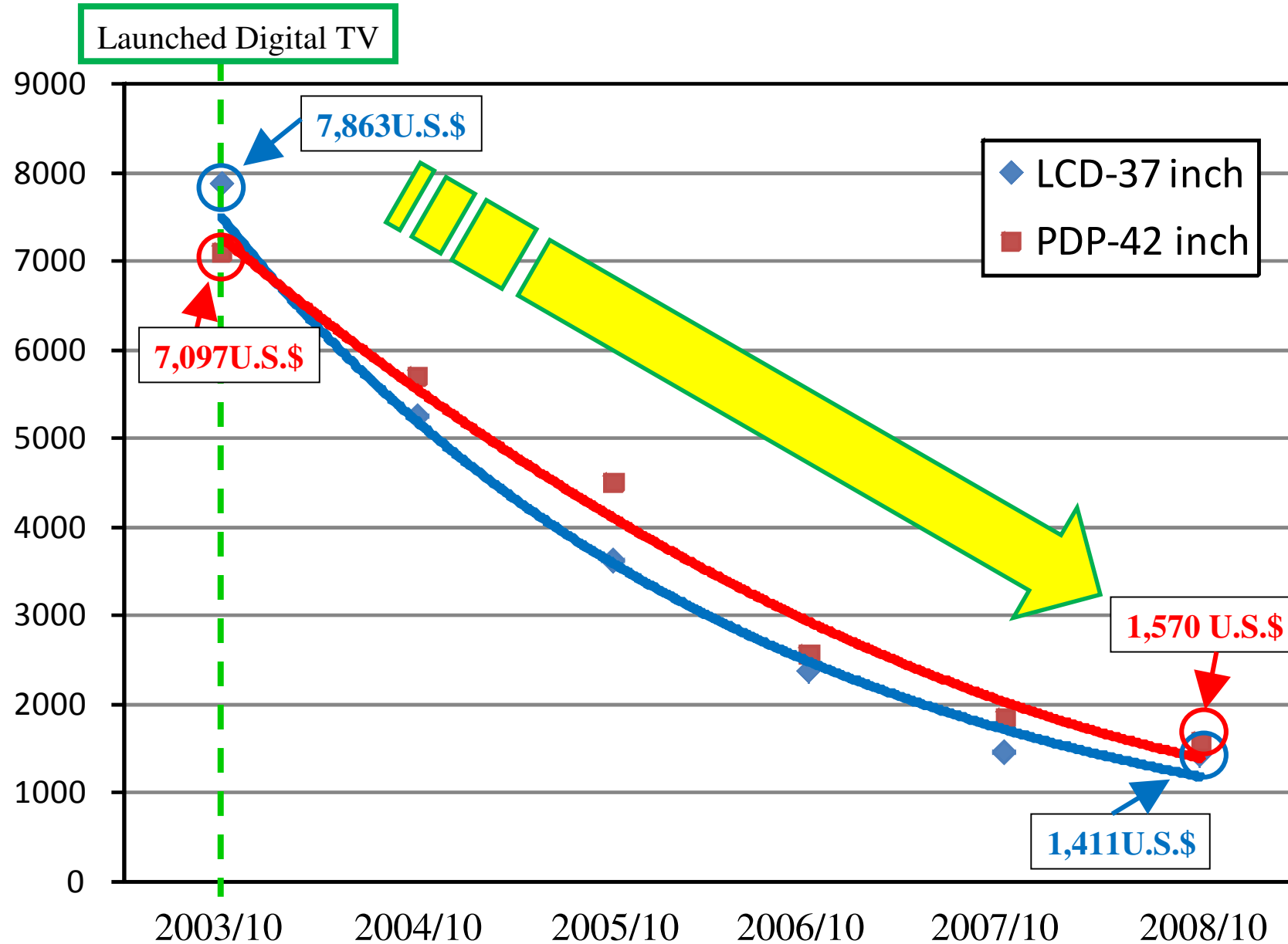
**ISDB-T** representa la **penetración más rápida** con una **mayor tasa de crecimiento** frente a otras tecnologías.



Estadísticas oficiales: "DVB Worldwide" y JEITA



## Current Situation of ISDB-T in Japan -4





### Conversor en fase de desarrollo.



#### [principales especificaciones]

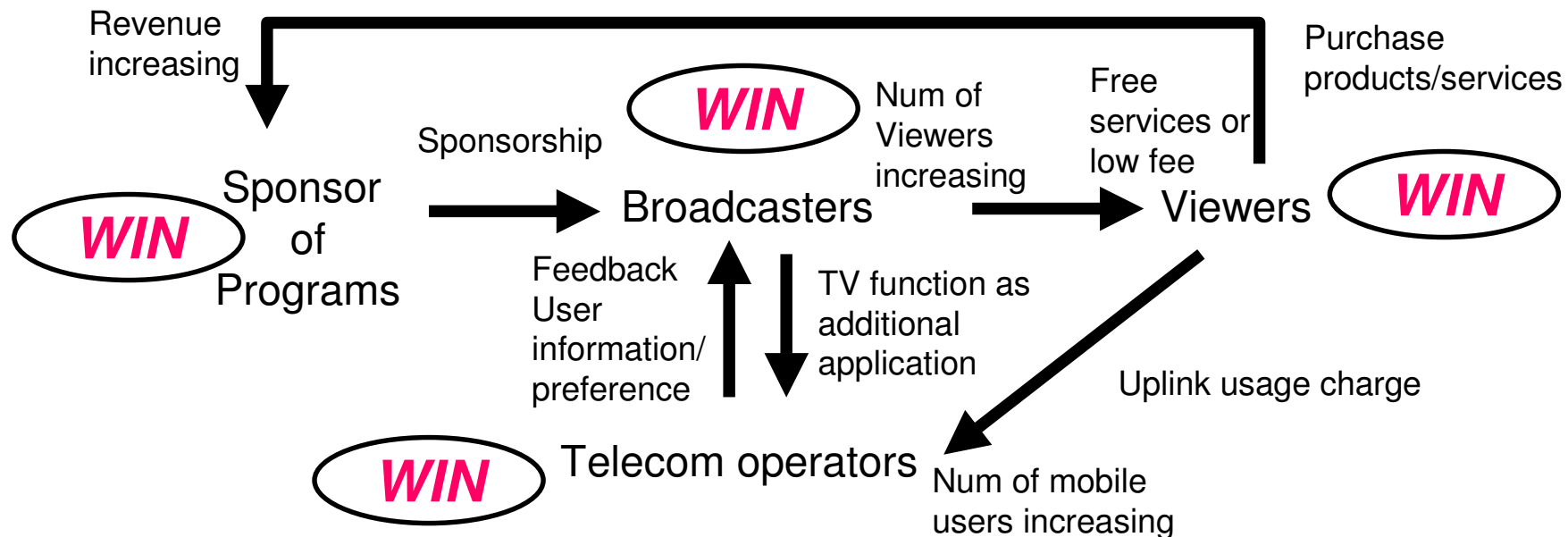
Item		Especificaciones
Señal de salida	Video Audio	Video: Definición Estándar Audio: (L, R) dos dispositivos (cerrado-subtítulos)
Banda de frecuencia		VHF y UHF
Potencia eléctrica		21W
Tamaño		H100 × W25 × D131 (mm)



**Costo aprox.  
USD 30**



1. Broadcasters avails mobile TV services with no additional transmitters.
2. Broadcasters can utilize the same contents as fixed service for mobile service. So mobile TV services are independent from mobile telecom services.
3. Viewers can enjoy mobile TV free of charge/ at low usage fee
4. Interactive services is based on convergence of broadcasting and telecom.





1. Broadcasting is a basic infrastructure supporting democratic societies
2. Providing information to the people equally, nationwide and at low cost/free of charge.
3. HDTV service is current/future trends in the world and mobile TV reception is expanding drastically now.
4. Both HDTV and Mobile functions should be availed at global scale.
5. Digital TV is a fundamental element in the modern societies to share the culture, education, information among the people in the nation and in the world.
6. ISDB-T satisfy increasing requirements of the people.  
ISDB-T offers high quality audio/videos, a variety of data information, mobile services, ISDB-T would save the people's lives by the Emergence Warning Broadcast System in case of natural disasters, hurricanes, earthquakes and tsunamis



1. ISDB-T performs more distinctive functions than other standards  
Both Mobile and Fixed reception with Emergency Warning Broadcasting system in a single 6MHz bandwidth.
2. ISDB-T endorses various services to the people in your country.

Finally, we would greatly appreciate it if you would adopt ISDB-T which will provide the highest performances, make the most benefits, and contribute to the economical and social development of your esteemed nations.

THANK YOU