

Cable Television in Japan Evolution to 4K and IP

Japan Cable Laboratories

ITU Workshop

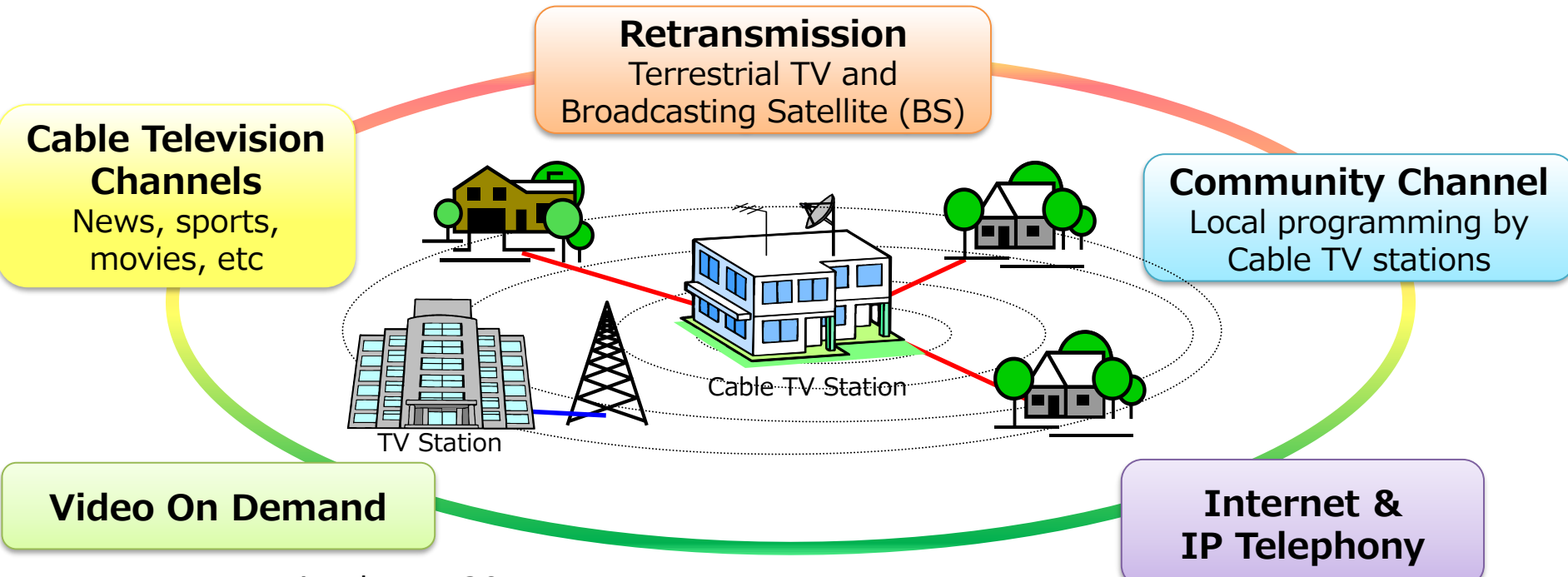
The Future of TV for the Americas

26 November 2018

Bogota, Colombia

Japanese Cable Television

- The first Japanese cable television station began operation in 1955, two years after Japan Broadcasting Corporation (NHK) started television broadcasting, to retransmit NHK programs to a spring resort 150 kilometers north of Tokyo.
- As of March 2018, cable television reaches 52.6% of Japanese households, with 31.2 million subscribers (households).

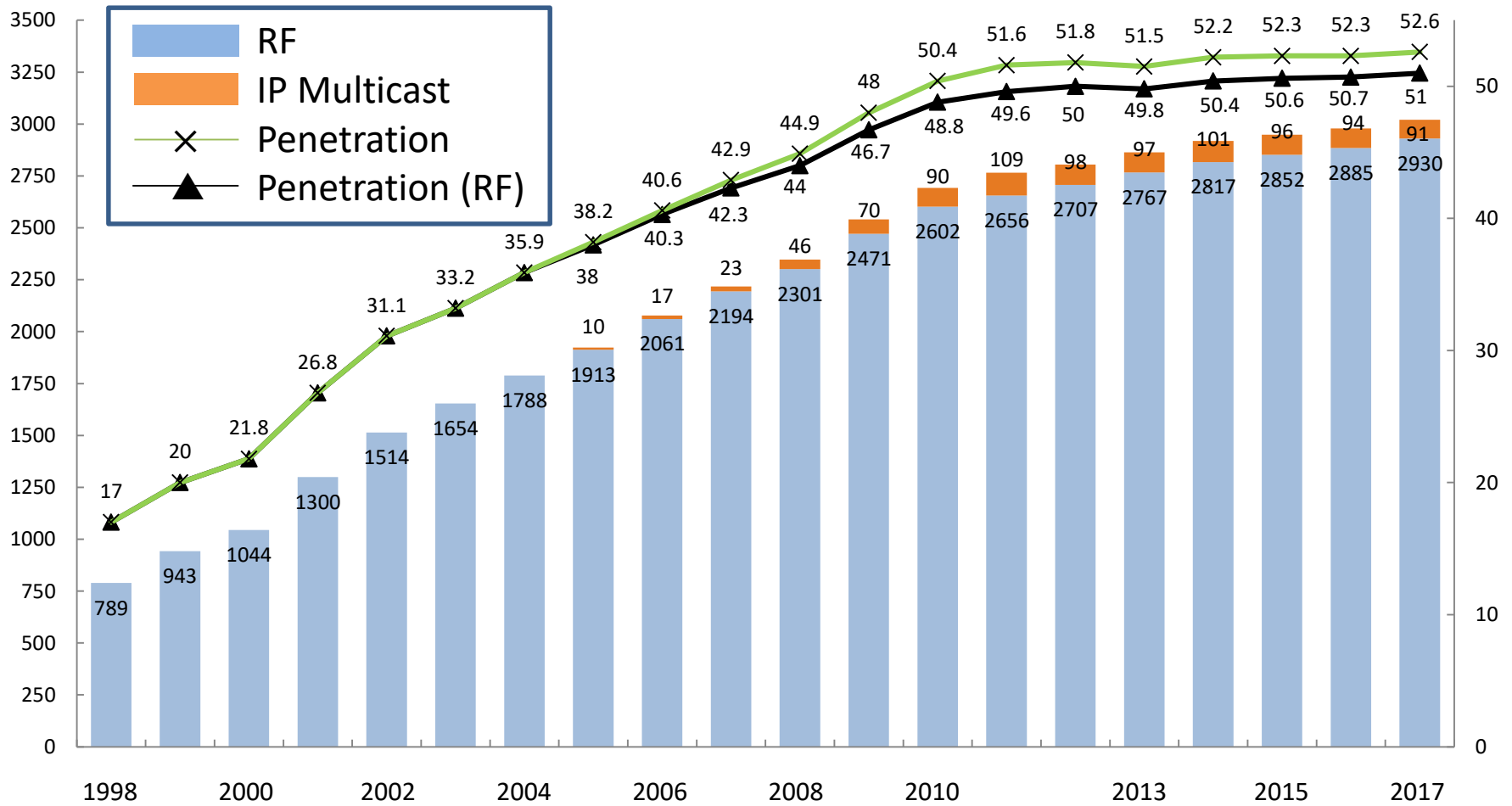


Fiscal year 2017
 Number of Commercial Operators: 291
 Total Commercial Revenues: 503.1 billion JYen

Yearly Increase of Cable Television Subscribers

[10K households]

[Penetration %]

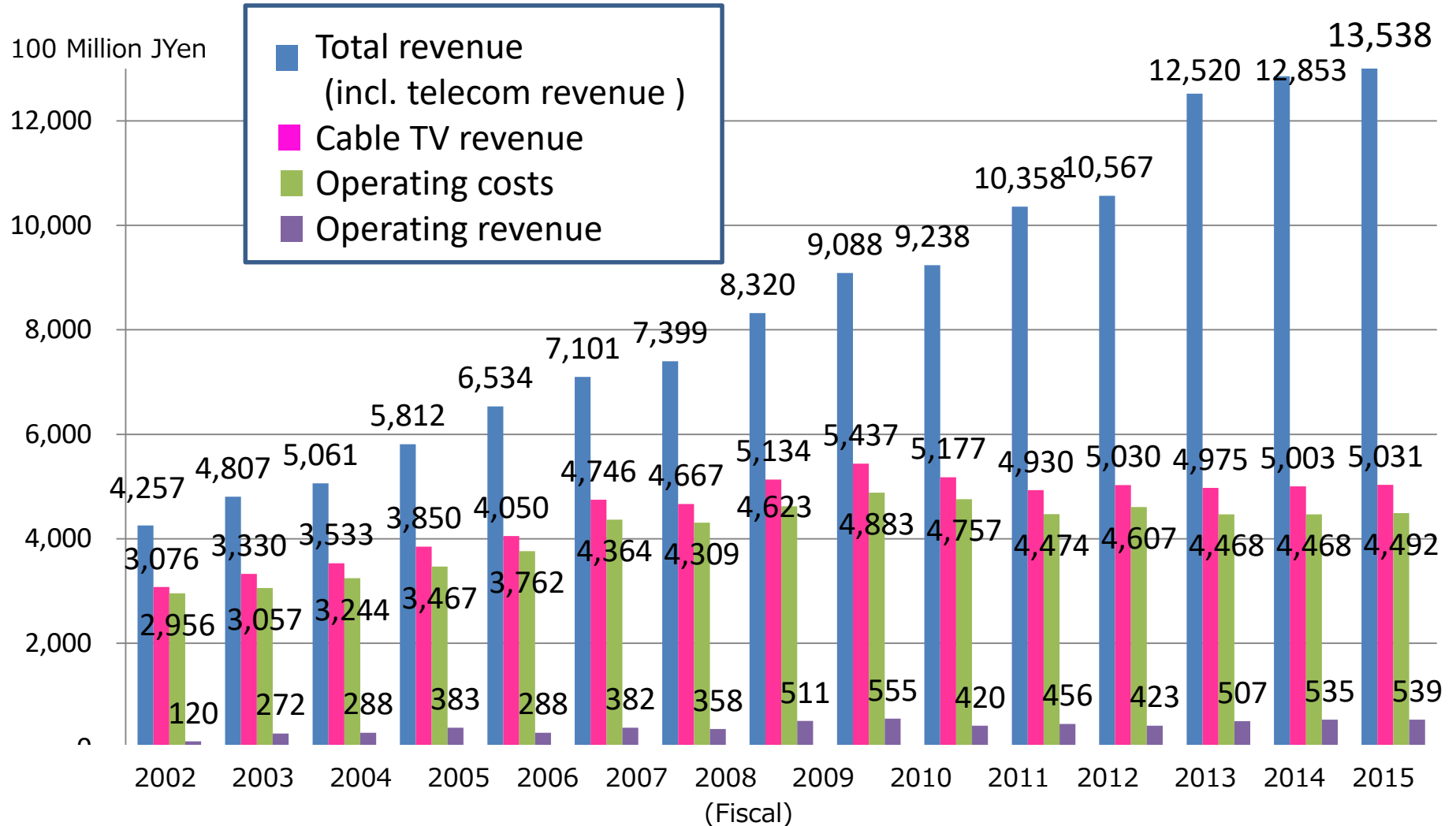


(Source: MIC)

Fiscal year

(Mar 2018)

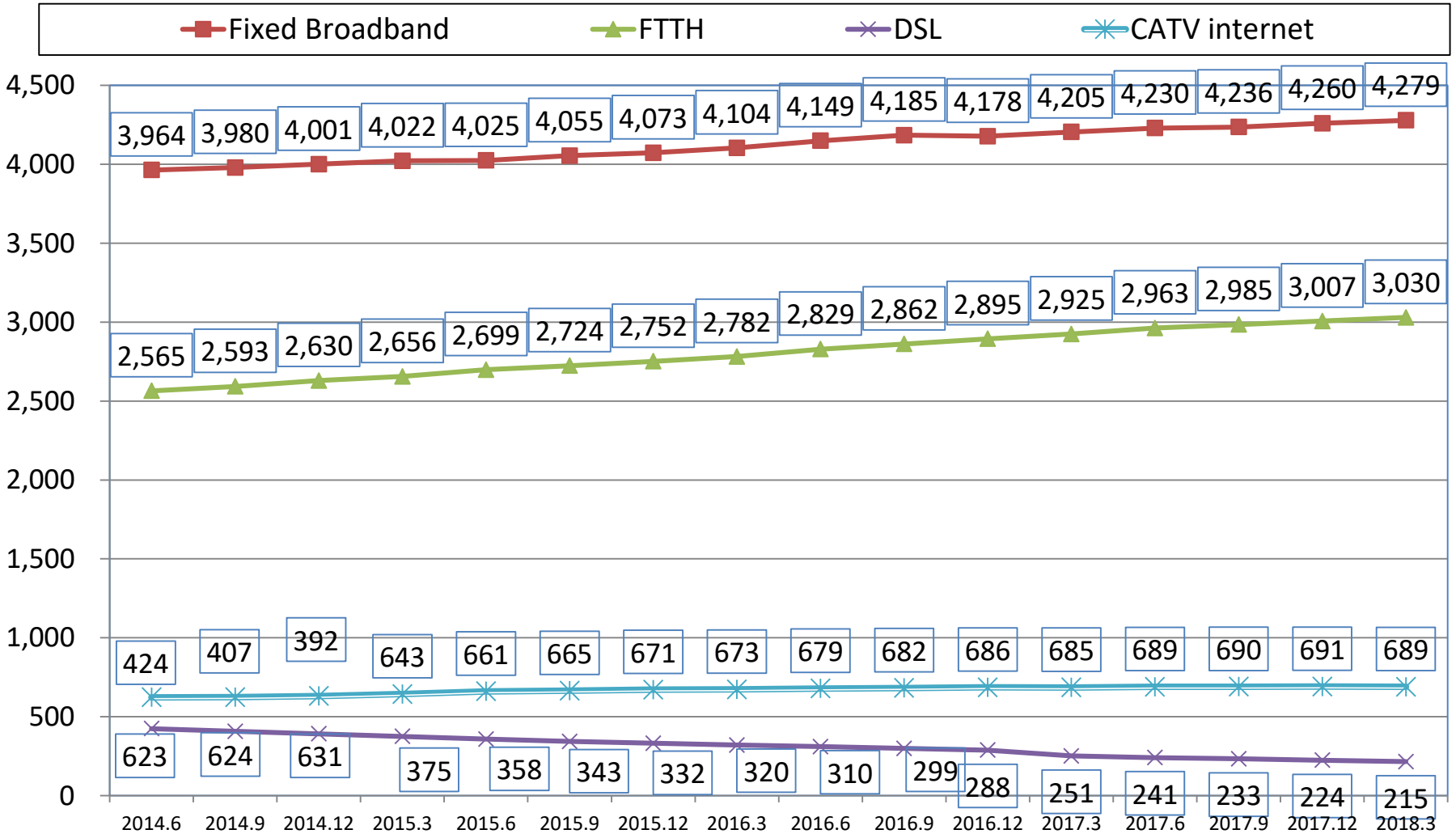
Yearly Increase of Cable Television Revenue



(Source: MIC)

Broadband Services Subscribers

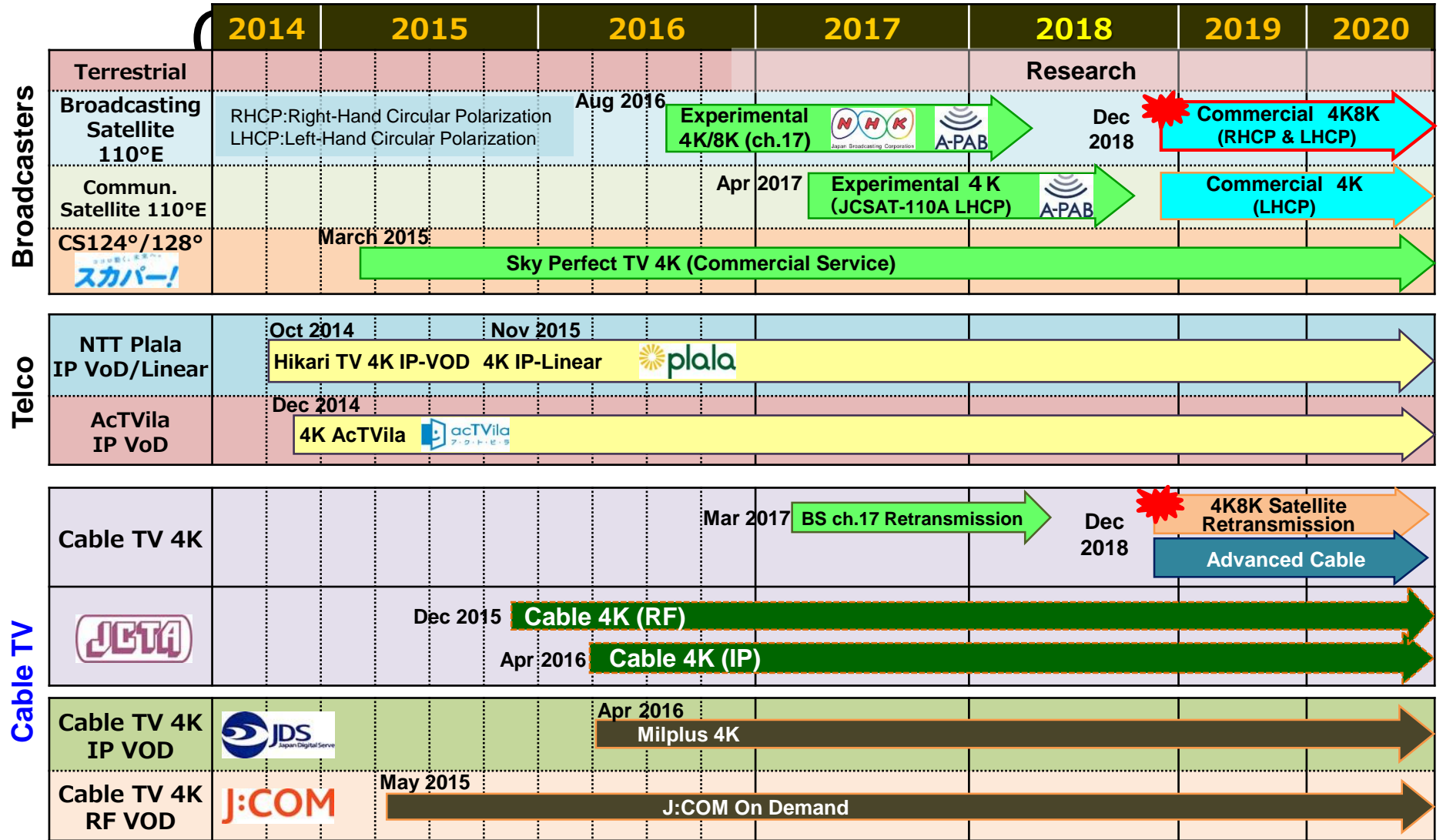
(10k subscribers)




(Source: MIC)

4K

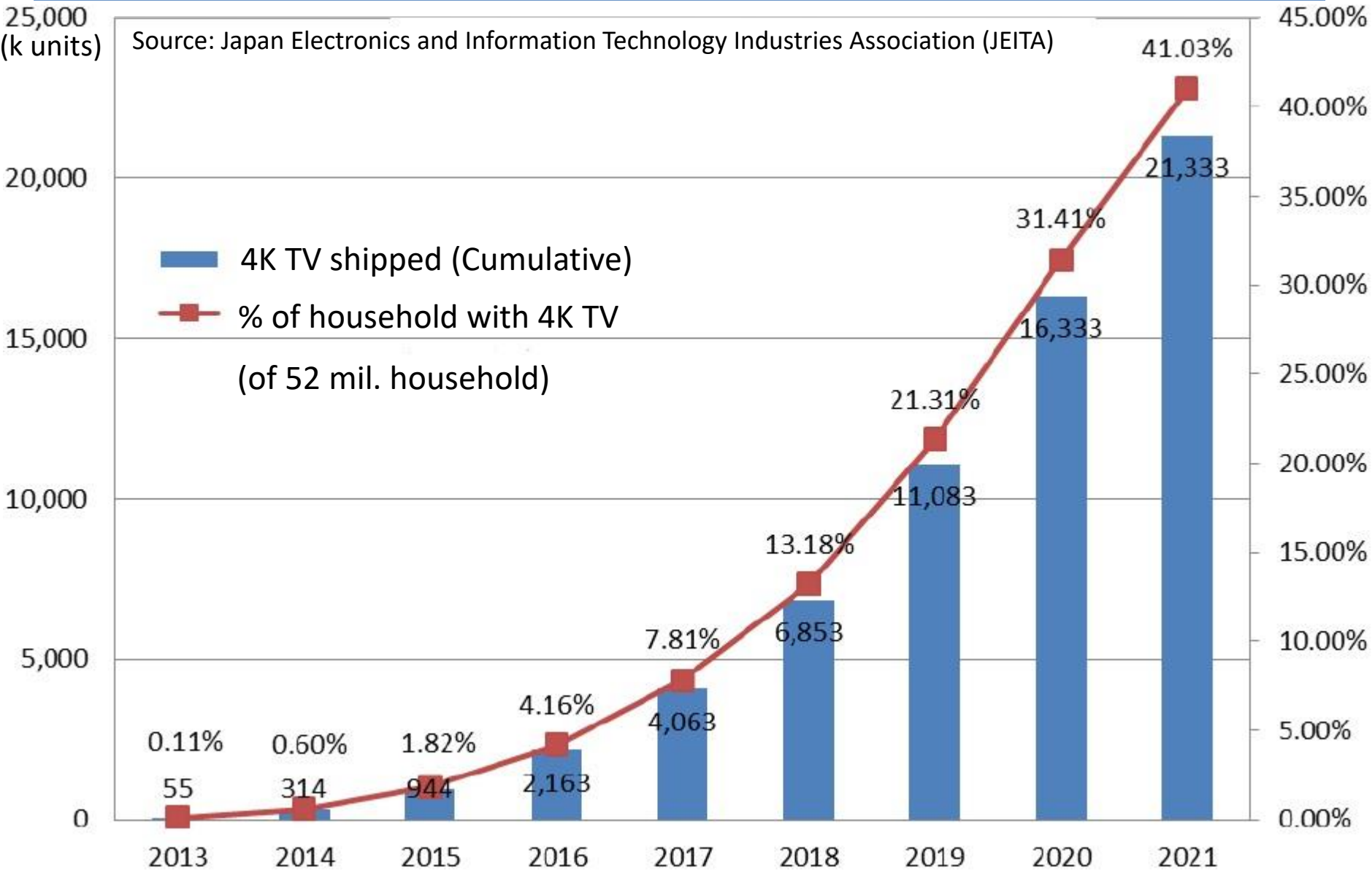
Overview of 4K/8K Services in Japan



 : The Association for Promotion of Advanced Broadcasting Services

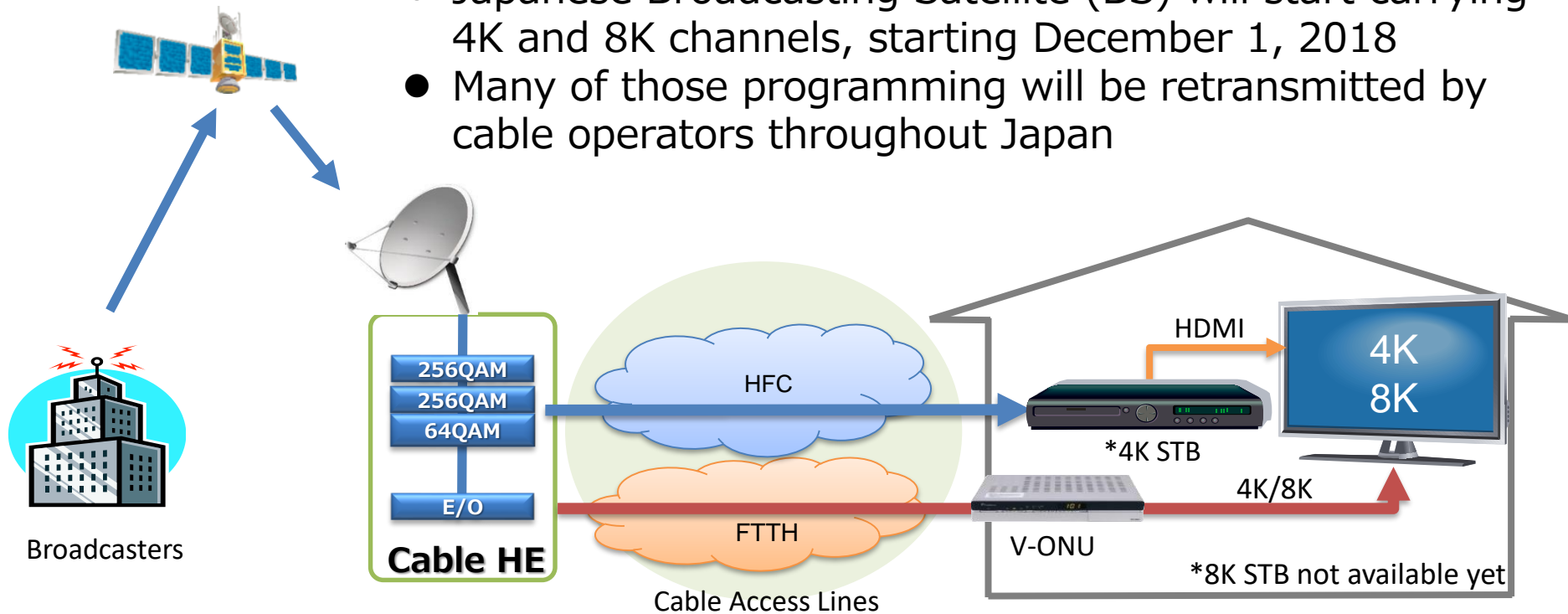
 : Japan Cable and Telecommunications Association

Shipment of 4K TV in Japan



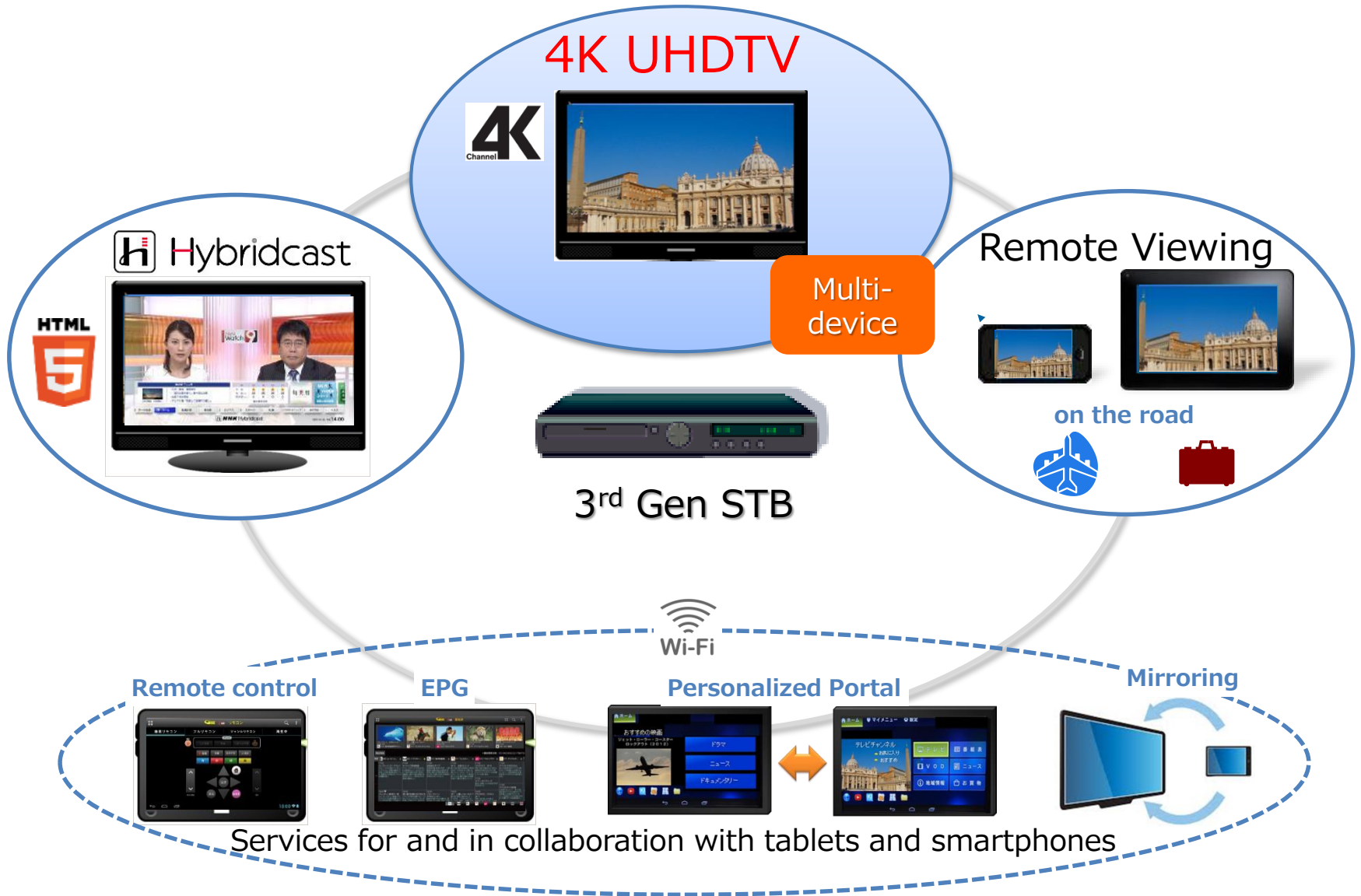
Retransmission of 4K8K Satellite service

- Japanese Broadcasting Satellite (BS) will start carrying 4K and 8K channels, starting December 1, 2018
- Many of those programming will be retransmitted by cable operators throughout Japan



- This “retransmission” will benefit cable operators because:-
 - 4 million 4K panel TV sets have been sold in Japan, but they cannot receive this 4K DTH services which use new technology
 - Consumers with such 4K panel TVs will have to use either a new satellite receiver, or a new cable STB

JLabs 3rd Generation STB



4K services supported by 3rd Gen. STB

RF/IP	Service	CAS/DRM	Multiplexing	HDR
RF	Cable 4K	Multi2 (64 bit)	MPEG-2 TS	
	Advanced Cable	ACAS (AES128*)	MPEG-2 TS	HLG**
	Satellite 4K Re-transmission	ACAS (AES128*)	MMT : MPEG Media Transport (ISO/IEC 23008)	HLG**
IP	Cable 4K IP	Marlin (AES128)	MPEG-2 TS	
	Video on Demand	Multiple DRM based on CENC (Common Encryption Scheme) (ITU-T J.1005/1006)	MPEG-2 TS	

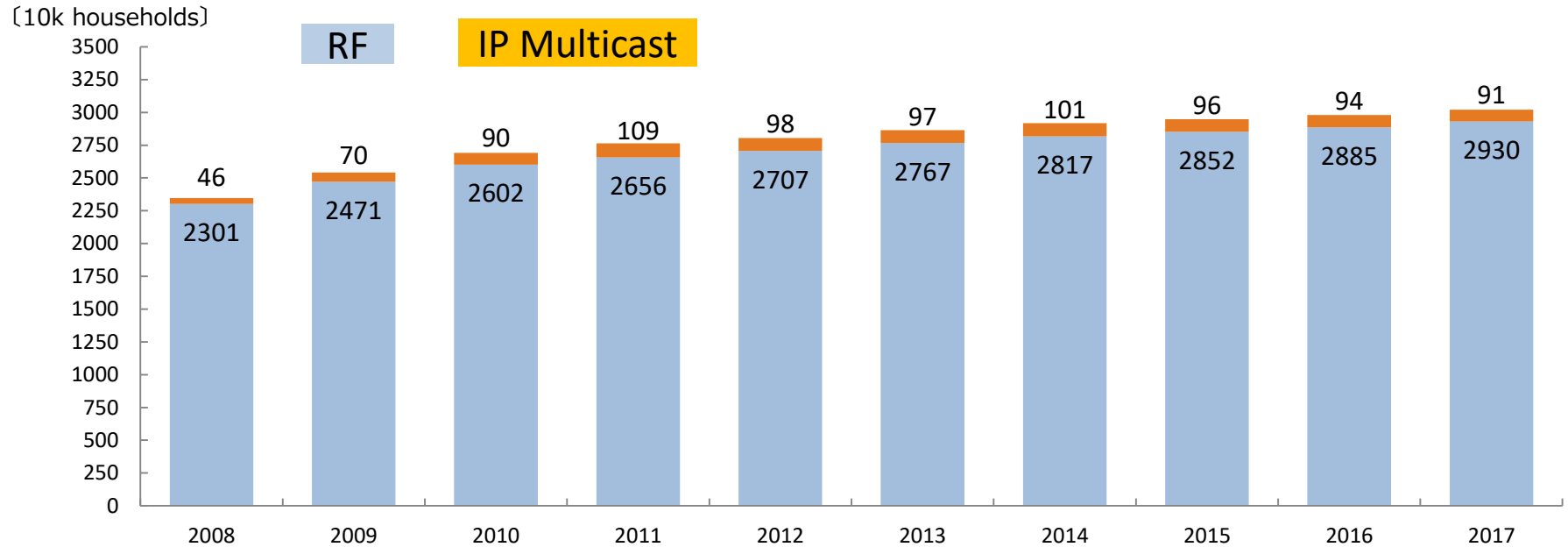
* In compliance with MovieLabs (United States) specification for Enhanced Content Protection (ECP)

**Hybrid Log Gamma (ITU-R BT.2100)

Migration to IP

IP Multicast in Japan

IP Multicast services yet to take off in Japan, especially in cable TV.



(Source: MIC Japan 2017)

- Most of the 1 million IP multicast subscribers above are actually belong to Telco (NTT and KDDI).
- Currently only a few cable operators provide IP multicast
- IP retransmission of 4K/8K satellite services may change this situation

IPTV vs. Internet TV

In Japan, ***IPTV*** and ***Internet TV*** is not the same...

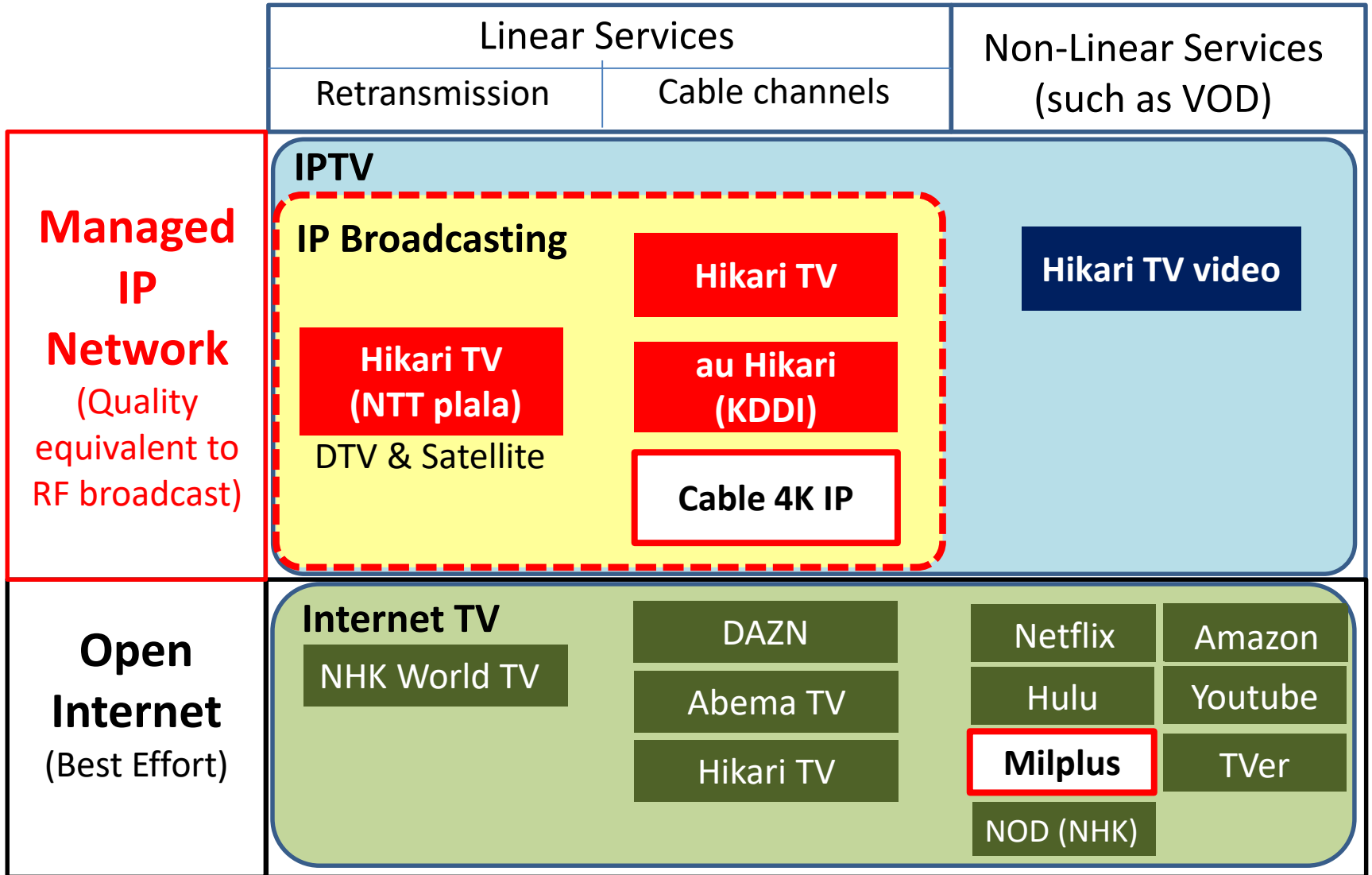
● IPTV

- Transmitted over quality managed IP network by means of
 - Priority control, or
 - Fixed bandwidth assignment
- Video and audio quality equivalent to RF Broadcasting
- Special case of IPTV which makes use of **IP multicast** is called “IP Broadcasting”

● Internet TV

- Transmitted over open internet (best effort network)
- Video and audio quality subject to network conditions such as congestion
- In most cases, unicast is used

Classification of Broadcasting over IP



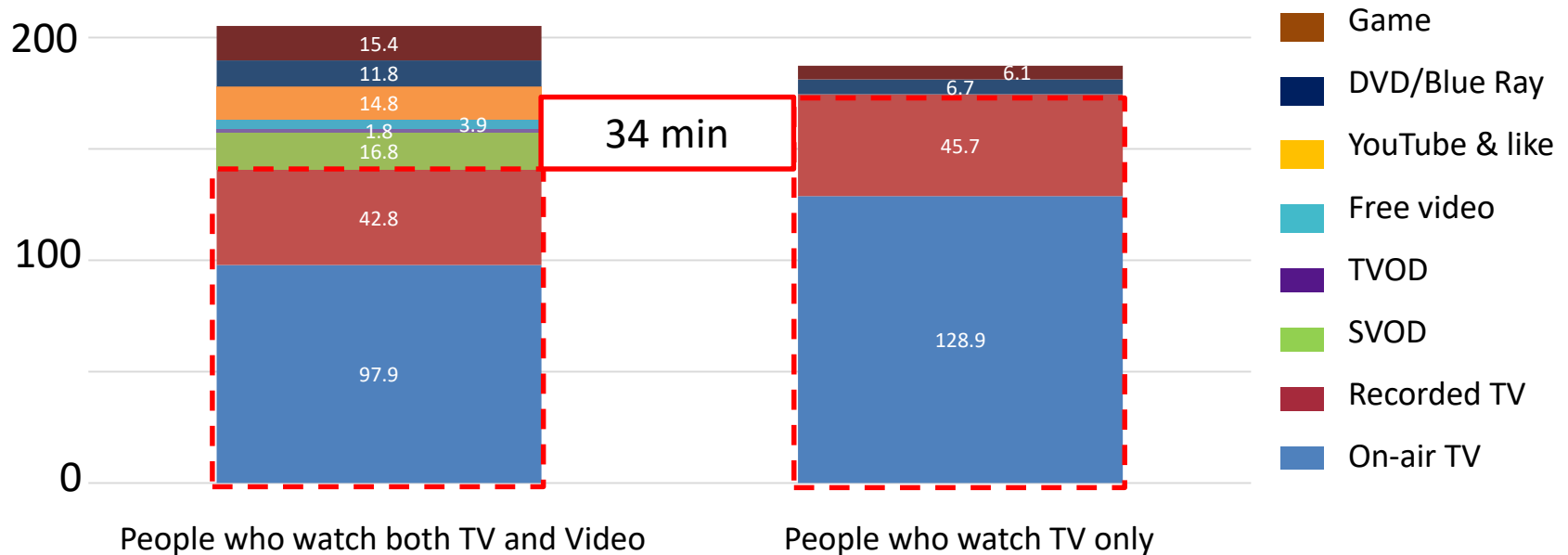
Cable services

Those watching Internet TV on TV sets spend less hours watching ordinary TV programs

- People who watch IP video in addition to TV programs spend more time doing so than those who just watch TV programs
- However, the former spend 34 minutes less to watch TV programs than the latter

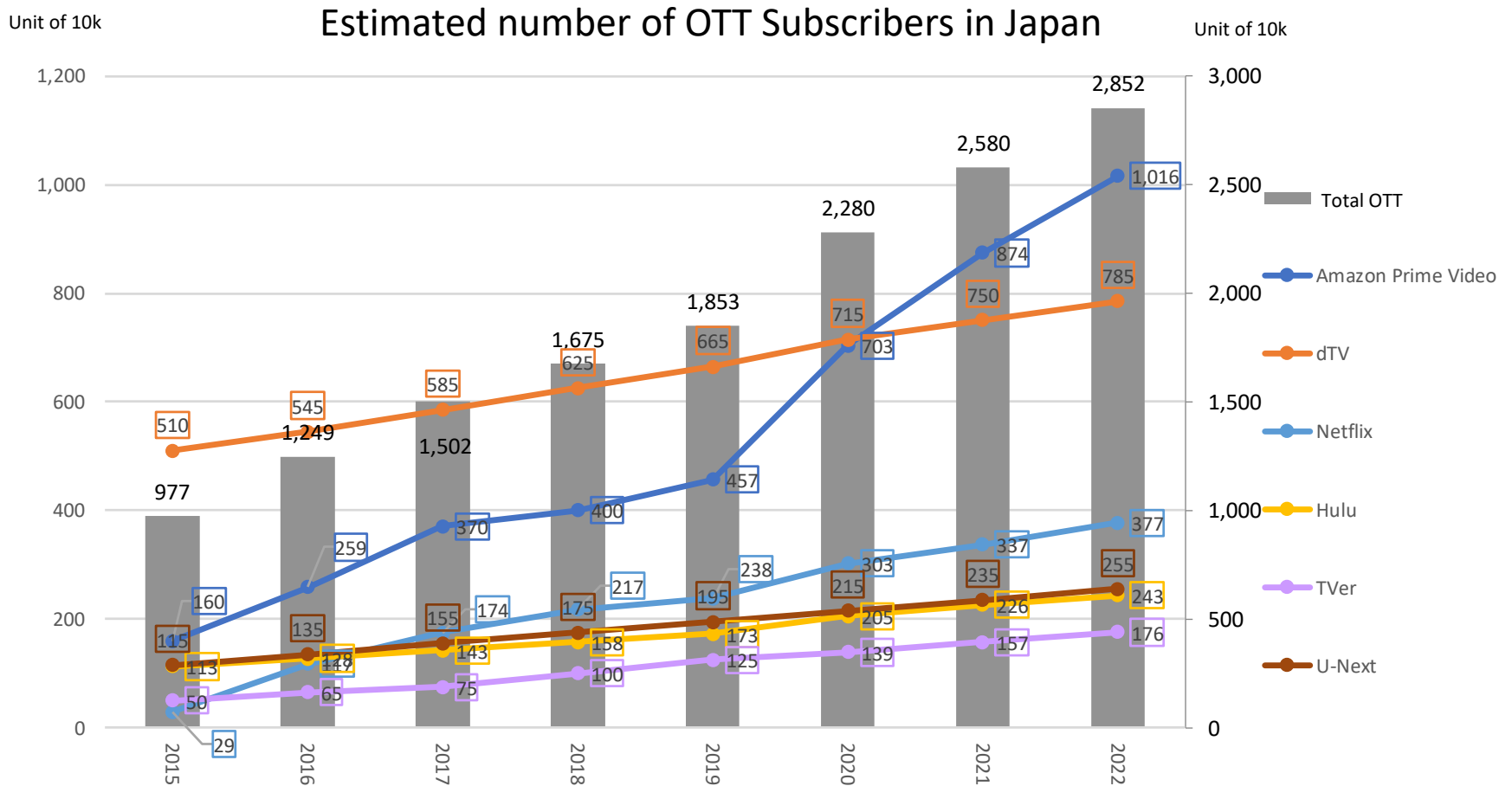
MINUTES SPENT ON WATCHING TV AND VIDEO USING TV SETS

(min/day)

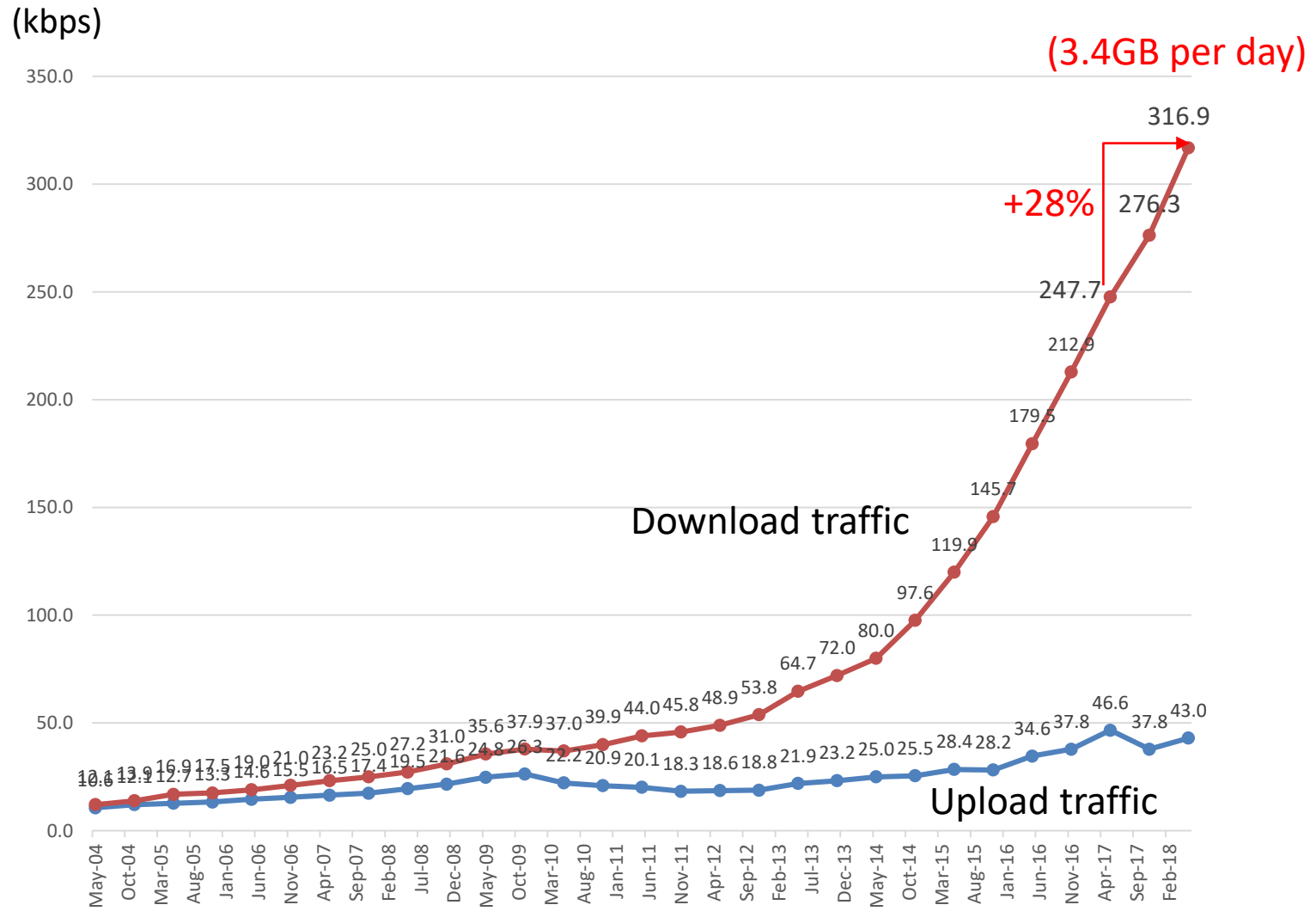


Increase of OTT Subscribers in Japan

- The increasing number of OTT subscribers will affect TV viewing on cable television



Increase of broadband traffic per subscribers



(Source: MIC Japan)

Partnership with OTT providers

OTT is doing some harm to cable operators, but they can co-operate with OTT in various ways such as:

- Reselling
- Incorporating OTT channels into cable channels (Unified EPG)
- Charging cable subscribers use of OTT services on behalf of OTT providers



JLabs

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Thank you very much