

_telecom
_internet
_media

FTTH Panorama APAC

Situation at end 2010

New Delhi, 26th May 2011

IDATE

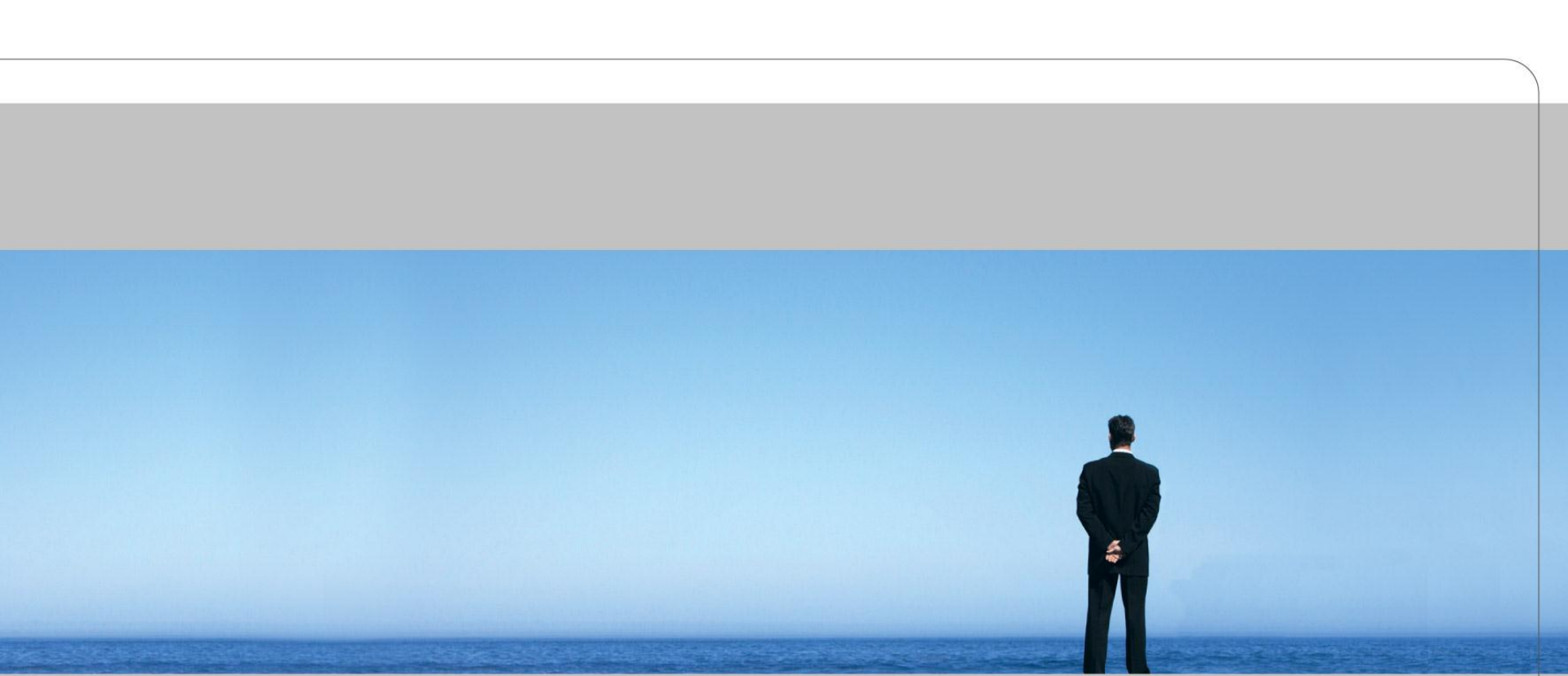
Consulting & Research

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Understanding
the
Digital World

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- ▶ **Study Background**
- ▶ **FTTH/B Worldwide Status**
- ▶ **FTTH/B in Asia Pacific**
 - ▶ Overview
 - ▶ APAC FTTH/B leaders
- ▶ **Challenges & Drivers for FTTH in APAC**



Study Background

Objectives, available results

Background of the Study

- ▶ **IDATE has been commissioned by the FTTH Council APAC to provide a comprehensive overview of FTTH/B deployments in 14 countries in the Asia Pacific region**
- ▶ **Methodology used**
 - Desk research
 - Direct contacts with FTTH players (questionnaires, phone interviews)
 - Information exchange with FTTH Council APAC members
 - Direct contacts with IDATE's partners in several countries in APAC region
- ▶ **Objectives: to provide a complete summary of the status of FTTx in APAC, twice a year**
 - Identification of **new projects**
 - **Characterization of each project:** organization initiating the project, Key parameters & Figures (Homes and Buildings passed), Technical parameters, Financing & Business model
 - We distinguished **FTTH/FTTB and FTTN** (FTTN/C+VDSL, FTTx+LAN, FTTLA)

Available results for APAC

About 70 projects listed in APAC at end 2010

Quantitative



Qualitative



	December 2010	
	FTTH/B subscribers (*)	FTTH/B Homes/Buidings passed
Telekom Malaysia	30 000	750 000
Jalenas	1 500	10 000
TIME DotCom	na	30 000
Maxis (1)	na	-
Total FTTH/B	31 500	790 000
	FTTN subscribers (**)	FTTN Homes/Buidings covered
Total FTTN	0	0
Total Malaysia (***)	31 500	790 000

KT

Identification Operator/Organisation

KT is a prominent South Korea's integrated wireline and wireless telecommunication service provider which started FTTH/B pilot project in 2001.

Key parameters

KT started to be involved in FTTH through pilot in six villages. Then, In February 2007 it announced its intention to deploy a nationwide FTTH network which should be completed by 2015.

800 additional IT villages are planned to be built by the year 2014 and gradually increase FTTH/B facility investment which is currently concentrated in urban areas.

To reach it plans to invest Won 500 billion (~463 million USD) from 2008 to 2015 among which Won 60 billion (~55,56 million USD) in 2009, 70 billion (~64,81 million USD) in 2010, 65 billion in 2011 and 62 billion (~57,40 million USD) in 2012.

It offers Internet up to 50 Mbps symmetrical for around USD 25.40 per month without engagement or USD 21.71 with a three years contract.

100 Mbps offers costs from around USD 24.5 to USD 30.60 per month.

Figures

Number of Households/Business Units passed **5,500,000 FTTH/B Homes passed at Dec 2010 (IDATE estimates)**

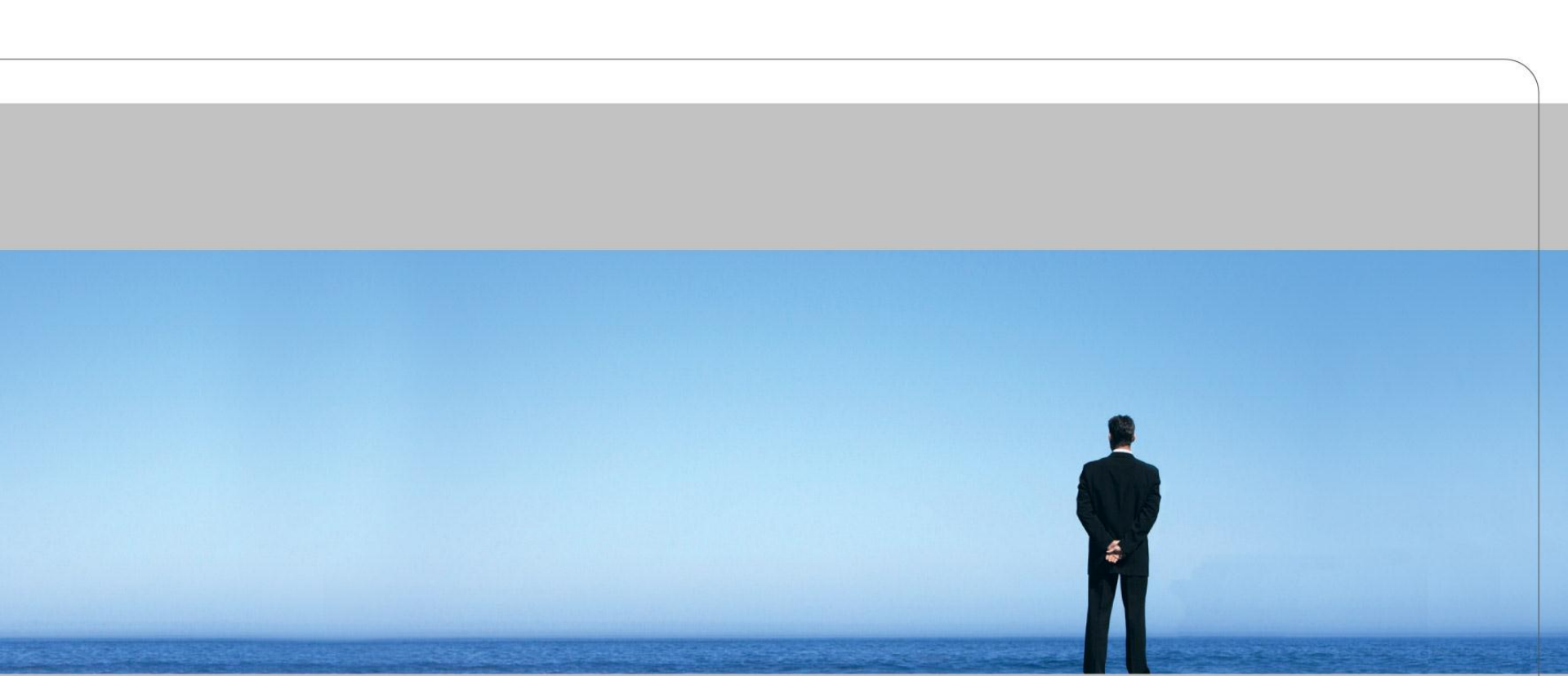
FTTx subscriber base **2,503,142 FTTH subscribers and 2,513,567 FTTB+LAN subscribers at Dec 2010**

Technical parameters

EPON and most recently GEPON FTTB and FTTH

Dasan Networks Inc., Ubiquoss Inc., Corecess Inc., Dongwon Systems Corp., Comtec Systems Co. Ltd., Auvitek and Samsung Electronics are the main FTTH/B providers

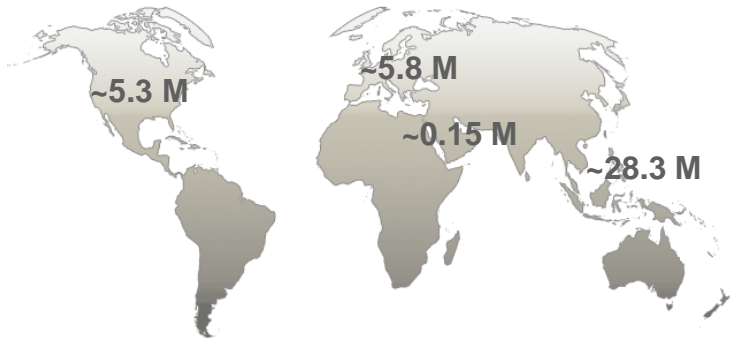
Tecknovus supplied EPON access



FTTH/B Worldwide Status

FTTH/B Global Picture: APAC Strong leadership

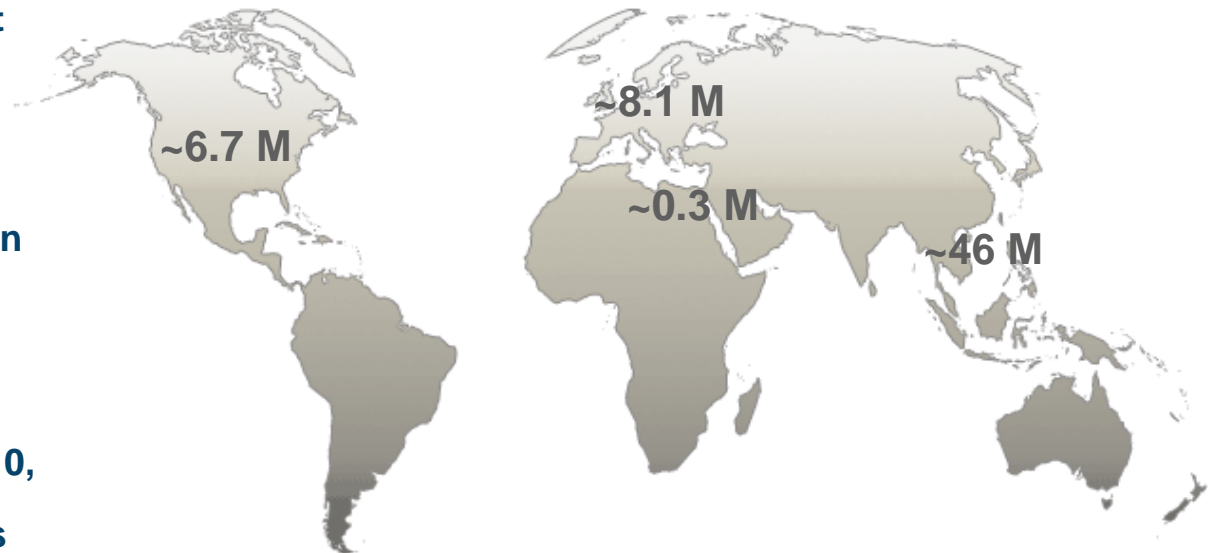
FTTH/B subs worldwide from December 2009 ...



Global FTTx market: 98 M subscribers at end 2010, 62% being FTTH/B

... to December 2010

- ▶ **Asia is still the leading market** (~75% of worldwide FTTH/B subscribers at end 2010)
- ▶ **Europe, including Russia, becoming a huge competitor, in particular thanks to Eastern countries**
- ▶ **USA: a little slow down in deployment from telcos in 2H10, but acceleration from local authorities due to the Stimulus BB program awards**



Source: IDATE

FTTH/B Global Picture: APAC Strong leadership

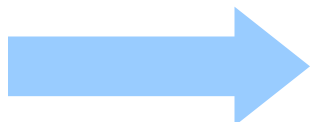
Top 10 FTTx players worldwide at end 2010

Rank	Player	Country	Technology & architecture	FTTx subscribers
1	China Telecom (*)	China	FTTH & FTTx/LAN EPON LAN/DSL	20 000 000
2	China Unicom (**)	China	FTTH/B GEPON/EPON & FTTx/LAN	15 000 000
3	NTT	Japan	FTTH/B GEPON	14 724 000
4	KT	South Korea	FTTB EPON/GEPON	5 016 709
5	Verizon	USA	FTTH BPON/GPON	4 082 000
6	AT&T	USA	FTTN/VDSL2	2 751 000
7	ER Telecom	Russia	FTTB	2 716 000
8	SK Broadband	South Korea	FTTB/LAN GEPON	2 136 208
9	Chunghwa Telecom	Taiwan	FTTB GEPON	2 044 683
10	KDDI	Japan	FTTH/B EPON/GEPON	1 833 000

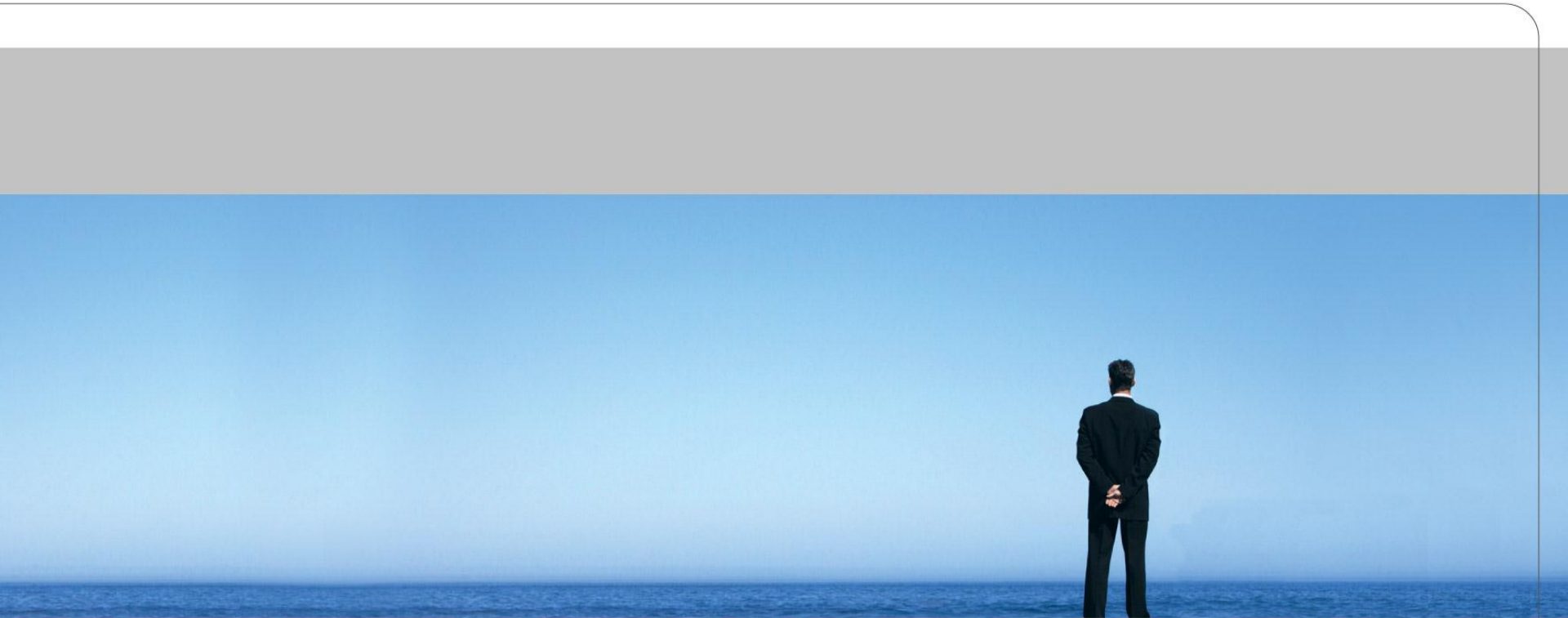
(*) Among which 7 million FTTH/B subscribers and 13 million FTTx/LAN subscribers

(**) Among which 5.5 million FTTB subscribers and 9.5 million FTTx/LAN subscribers

Source: IDATE



7 Asian telcos among the 10 leading players worldwide



FTTH/B in Asia Pacific

Overview

Overview: Projects

About 70 FTTx projects in Asia at end 2010

**From significant FTTH/B
deployments by
incumbents**

Japan, South Korea

...to national programs

**Australia, NZ,
Singapore**

**...and new entering
players on the market**

**India, Thailand,
Vietnam...**

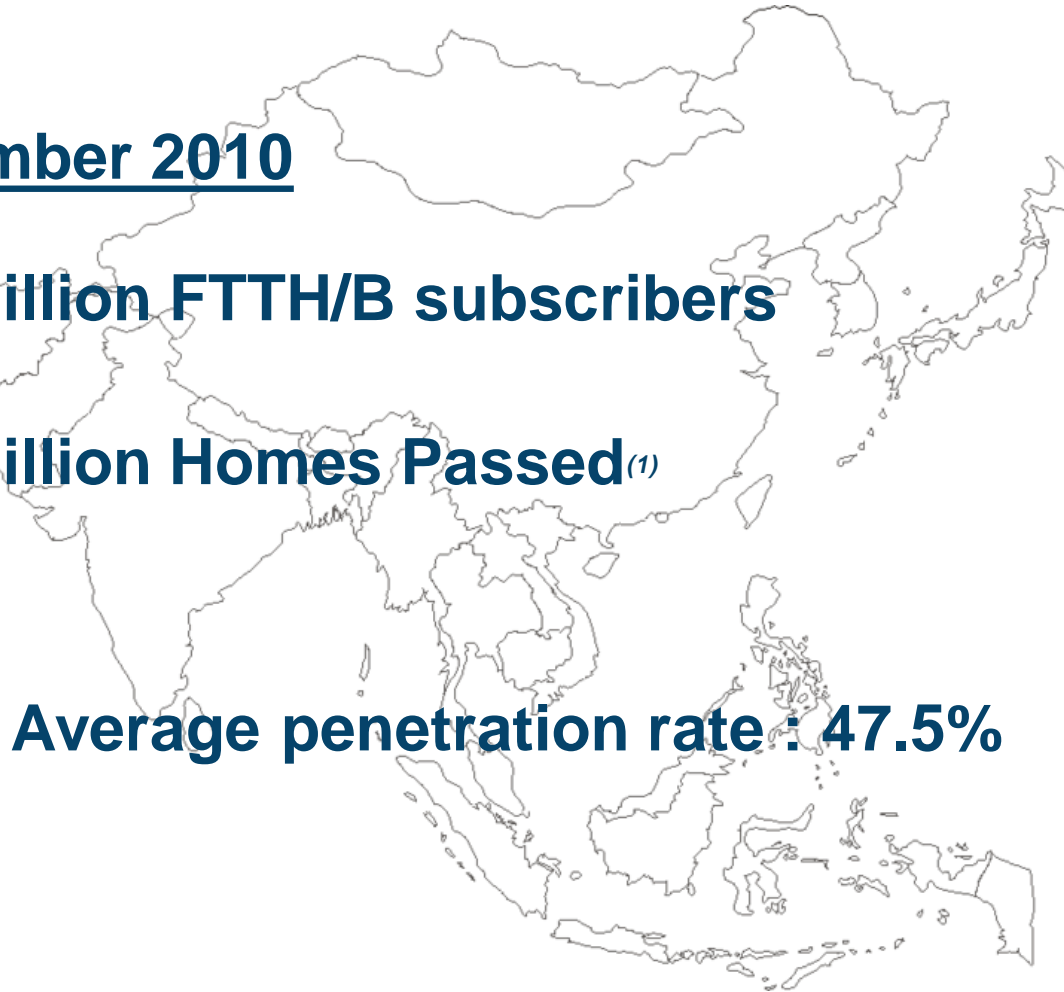
FTTH in Asia – Overall Figures

In December 2010

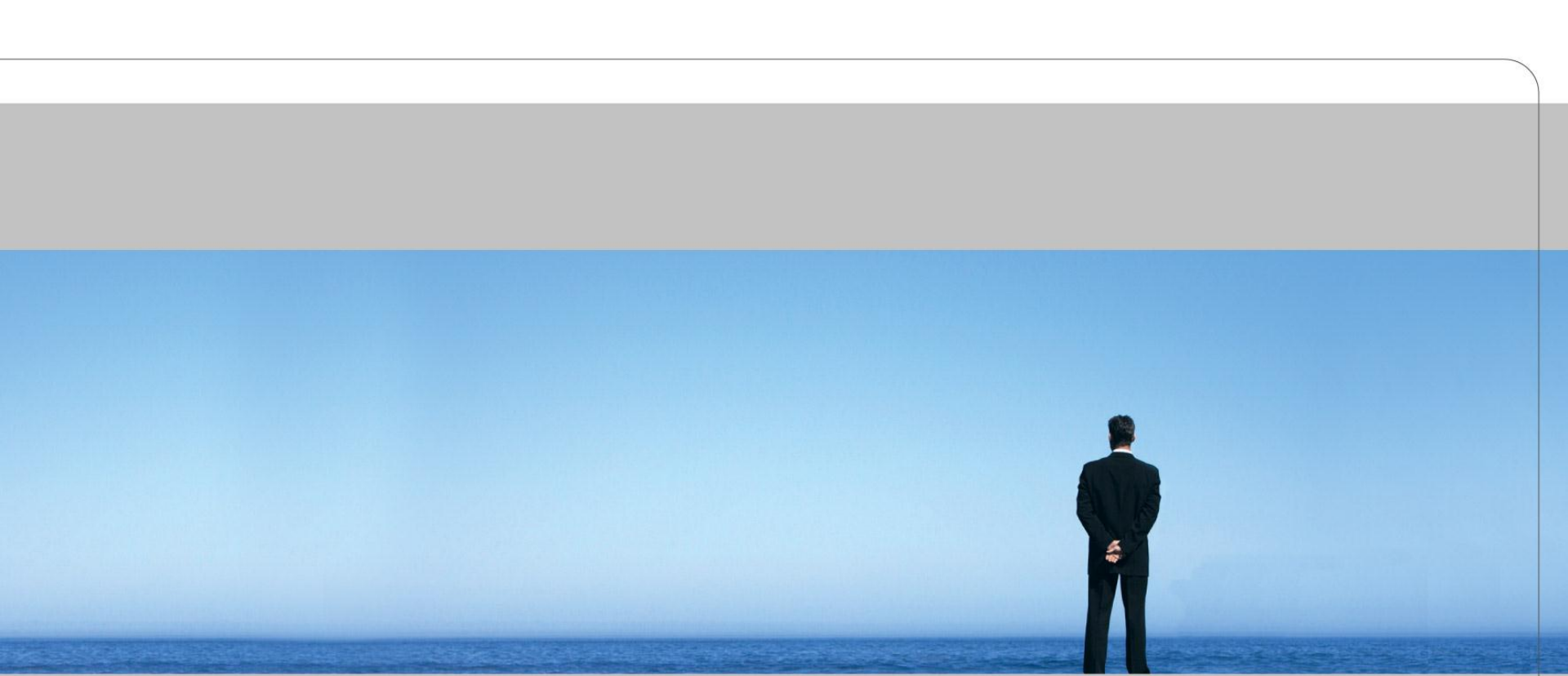
> 45.9 million FTTH/B subscribers

> 96.8 million Homes Passed⁽¹⁾

Average penetration rate : 47.5%



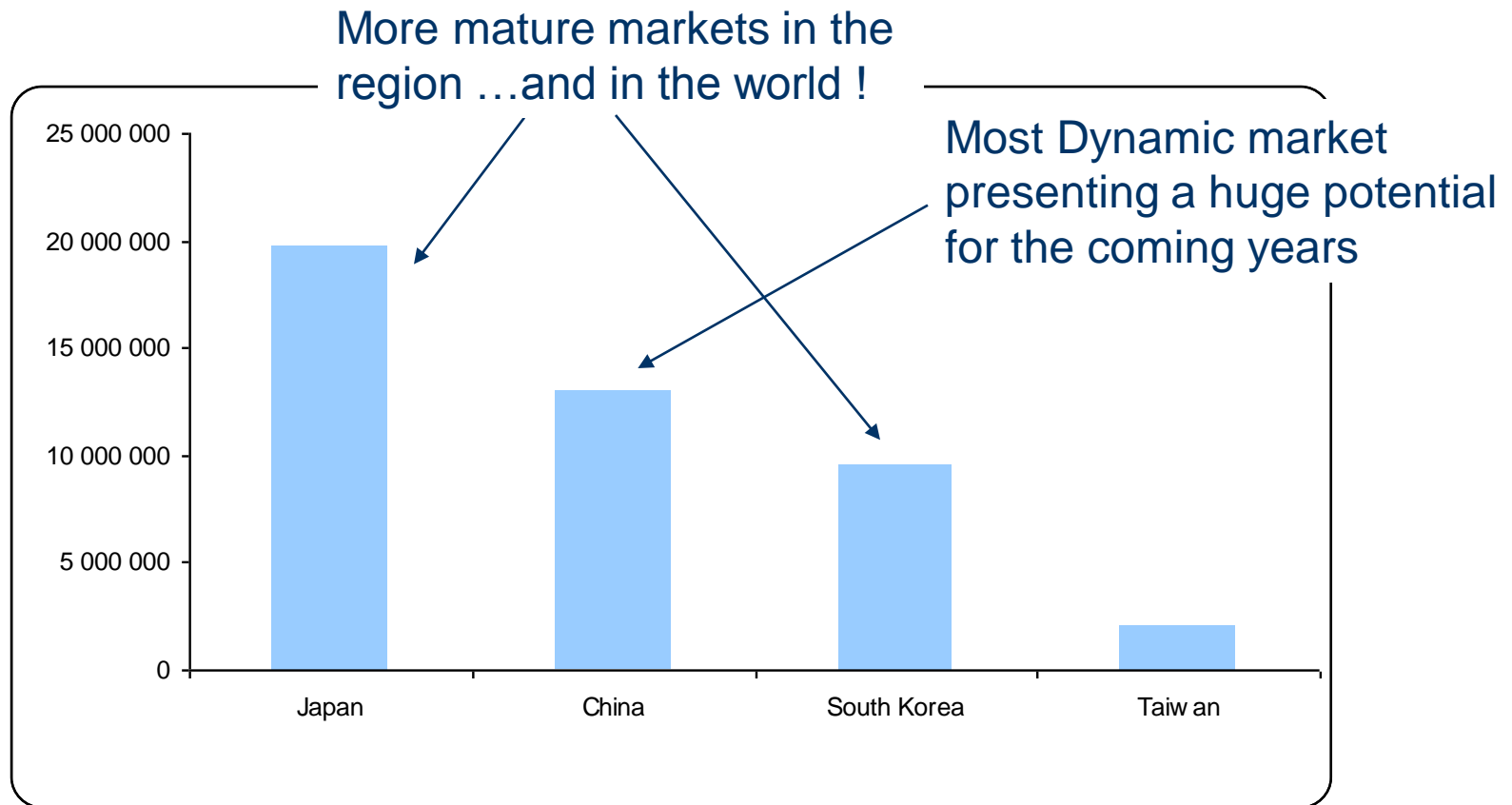
(1) Our figures have already been processed to avoid overestimating homes passed when one home is passed by several operators in some countries.



APAC FTTH/B leaders

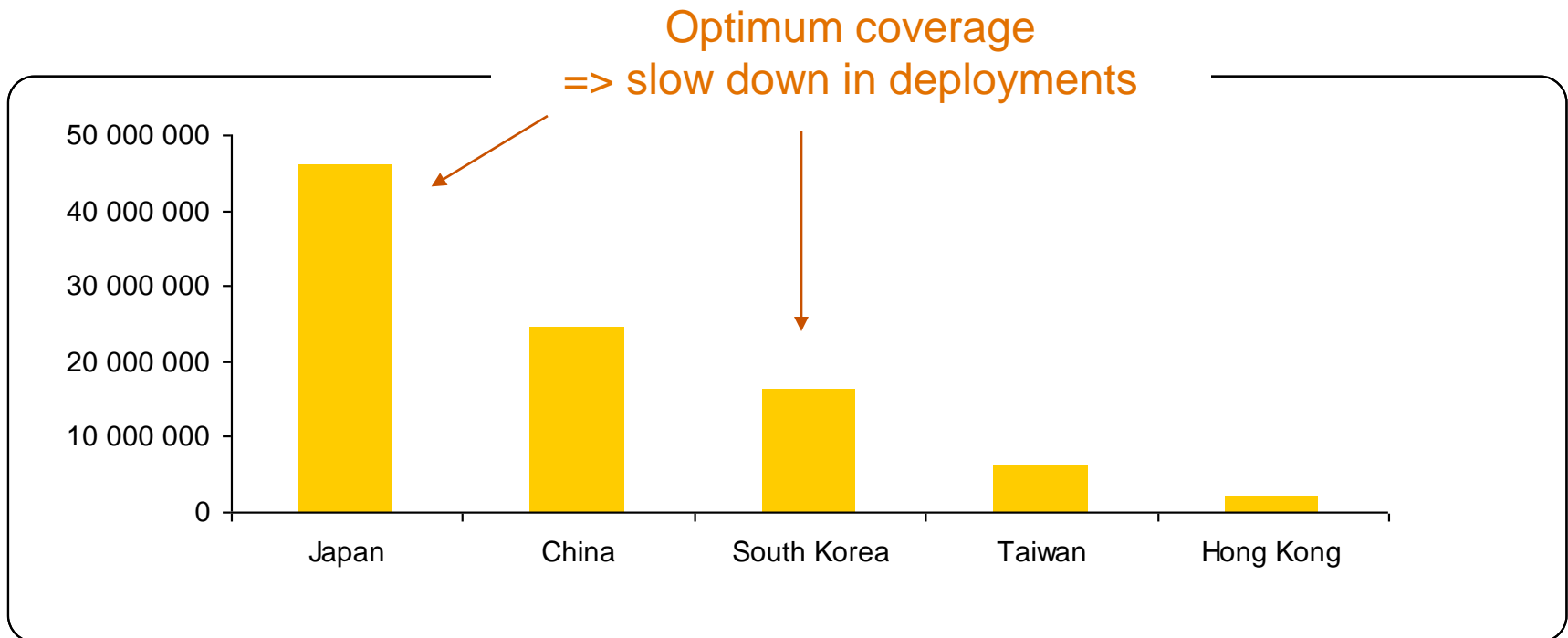
FTTH/B subscribers evolution

► Only 4 countries > 1 M FTTH/B subscribers at end 2010



FTTH/B Homes Passed evolution

► 5 Countries > 2 M FTTH/B Homes Passed at end 2010



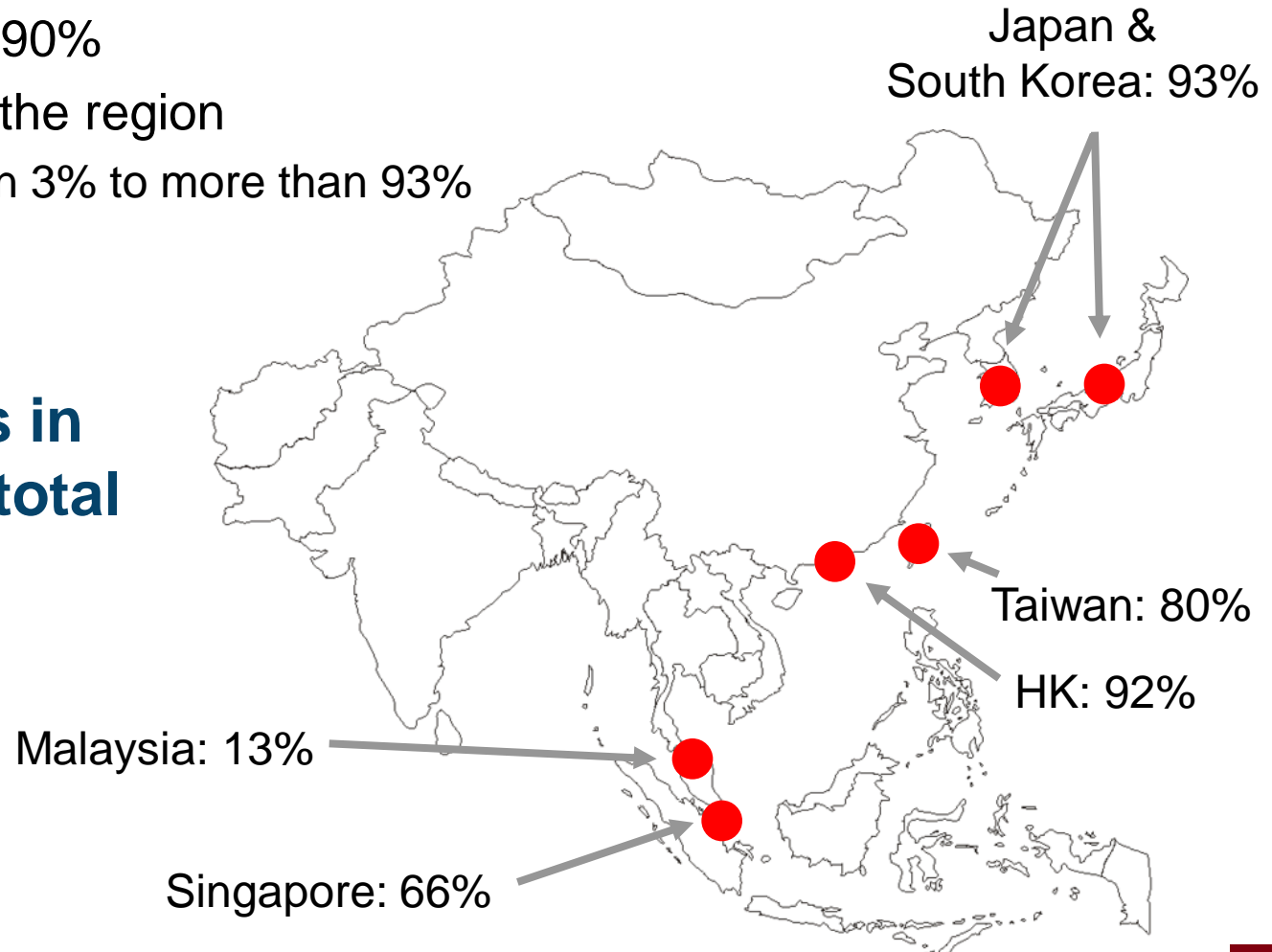
Source: IDATE for FTTH Council APAC

FTTH/B Homes Passed in total HH

► Number of Homes Passed not representative of effective coverage (HP in total households)

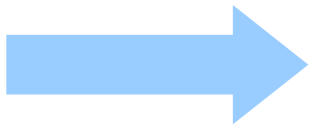
- 3 countries > 90%
- huge gaps in the region
from less than 3% to more than 93%

Top 6 countries in terms of HP in total households

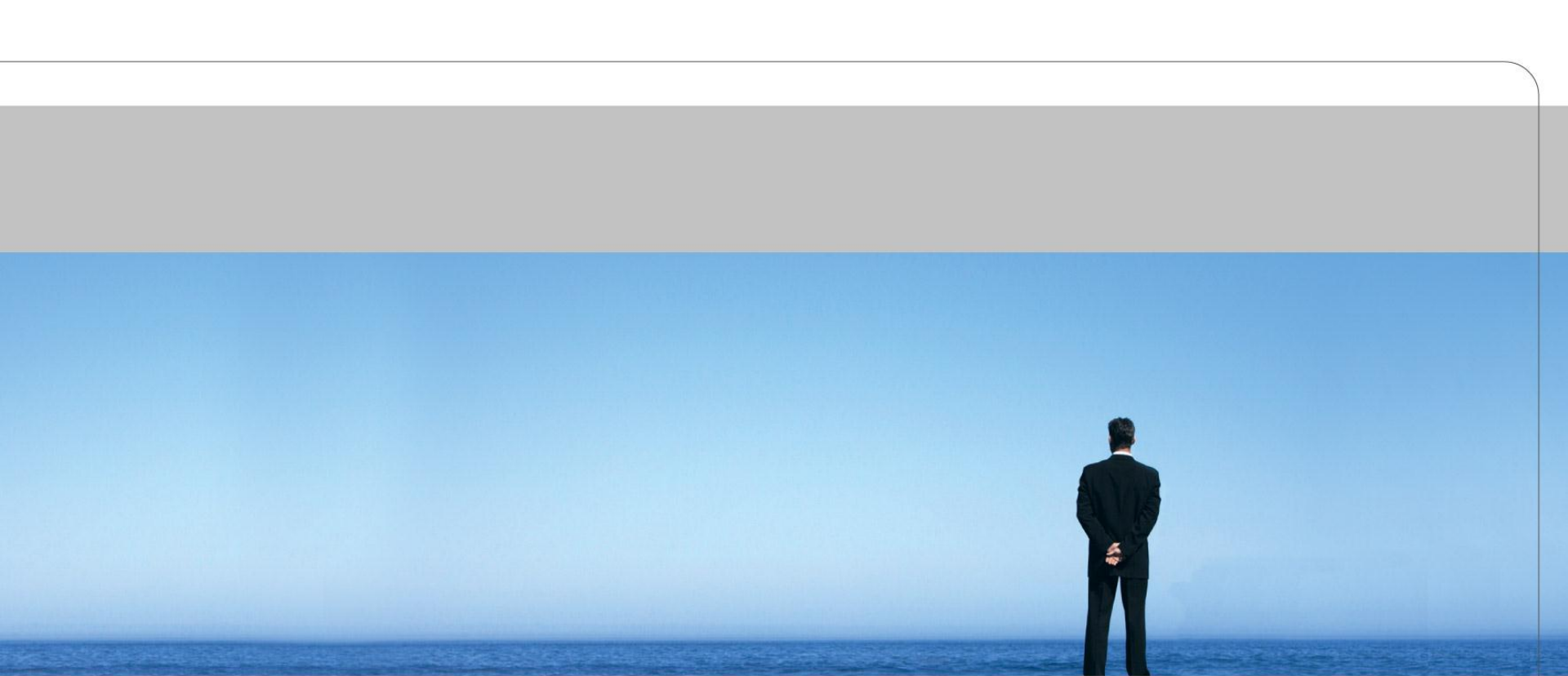


FTTH/B leading countries

- ▶ **Pioneers Japan and South Korea always heading Asian FTTH/B market in terms of number of subscribers**
- ▶ **FTTH/B in China: migration from a potential to an effective market ... SARFT initiative**
- ▶ **India: many players involved in a market to be created**
- ▶ **National programs: deployments are accelerating but no large commercial services before several months**
- ▶ **Smaller countries show a real dynamism: Vietnam, Taiwan**



**An heterogenous region, from more mature to challenging markets !
Main national plans on their ways...**



Challenges & Drivers for FTTH in APAC

Challenges and drivers for FTTH

► Demography: a huge market potential

- India and China are the most populated countries in the world
- MDUs are dominating in large cities especially in China

► Low competition from other networks

- As in Eastern Europe, the gap between copper and fibre networks is important: end users will need fibre to benefit from higher bandwidth
- Cablecos are less dominating the broadband market than in Europe or in the US ... but it could change (SARFT in China)

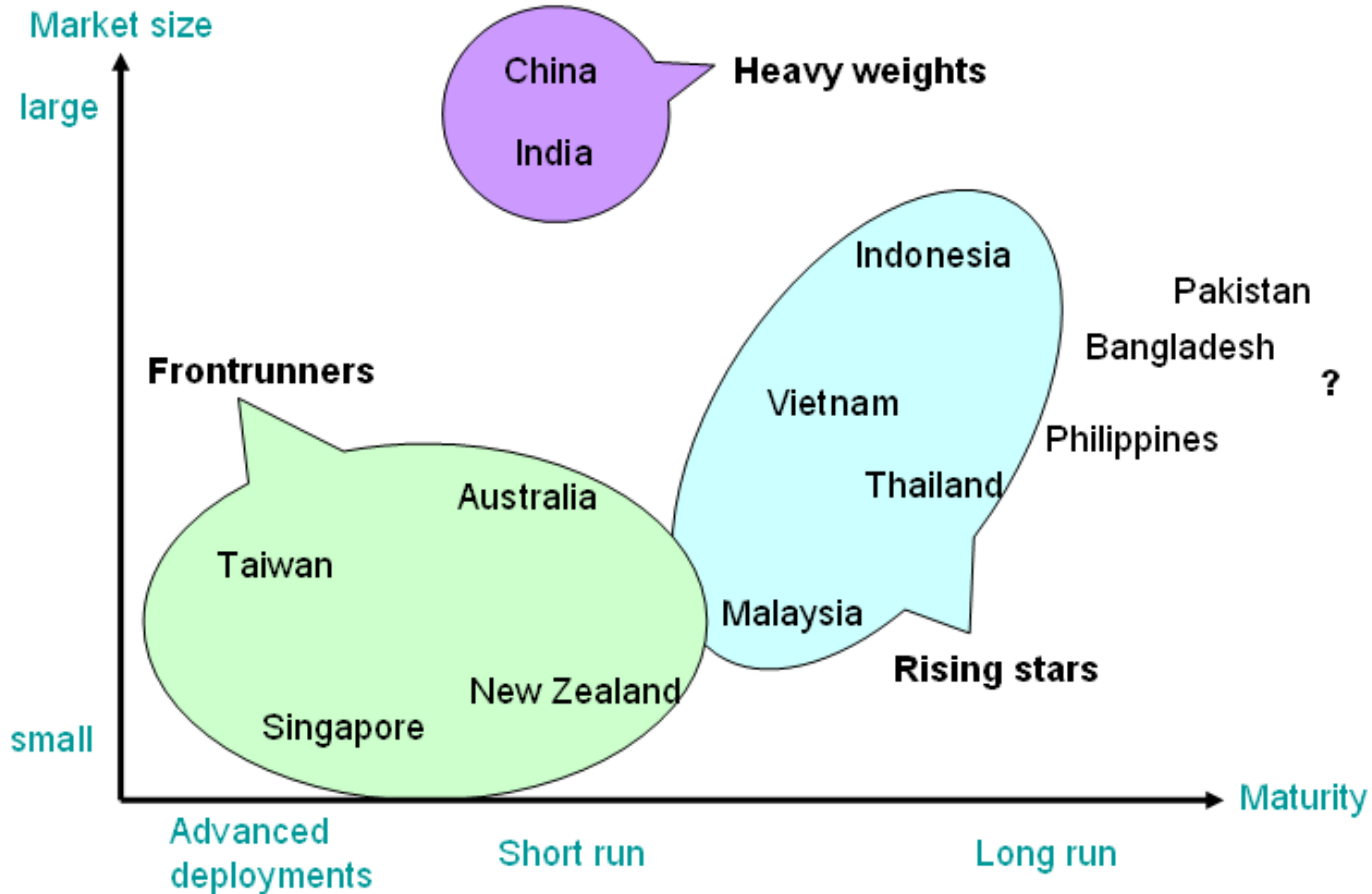
► A key driver for mass market migration: NBN programs

- Some incumbents are deeply involved in national FTTH/B deployments (Malaysia)

► Some free room for new entrants also

- In large countries (India) or in challenging markets (Vietnam)

FTTH/B APAC Markets evolution



Thank you!

World FTTx Markets



4th edition

FTTx Watch Service - 2011

- **Database**
 - Database on 68 countries
 - Rollouts by 150+ FTTx market players
 - Operator market share by country
 - Vendor market share by technology
 - Forecasts up to 2015
- **Monthly insights**
- **In-depth market reports**
- **Analyst access**



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FTTx Watch Service Calendar - 2011

		January	February	March	April	May	June	July	August	September	October	November	December
Database	Markets, Operators & Vendors market shares, FTTx projects, Forecasts up to 2015					DB1						DB2	
Insights	Monthly		I-1	I-2	I-3	I-4	I-5	I-6		I-7	I-8	I-9	I-10
Reports	FTTx Strategies FTTx Business Models				R-1					R-2			
Complementary Reports	Telcos TV Strategies Telcos backhaul strategies					CR-1					CR-2		
Consulting Hours		5 hours - on demand											
Analyst Brief		30 min. Conference Call - on demand											
On-Site Presentation		Optional Report Presentation											